

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE SUPPLEMENTAL REPORT
ON ADDITIONAL INSEASON ACTIONS FOR 2023

The California Department of Fish and Wildlife (CDFW) provides the following supplemental update regarding quillback rockfish in the California non-trawl groundfish fishery during 2023. CDFW would also like to reference Agenda Item [F.4.a, Supplemental CDFW Report 3 from April 2022](#), which provides a detailed chronology of season structures, depth constraints and resulting quillback catch estimates for the California recreational fishery by Groundfish Management Area (GMA) for the period 2012 through 2021.

State Actions

As discussed in [CDFW Inseason Report 1](#), mortality of quillback rockfish statewide was tracking close to the federally set harvest limits, and CDFW issued a [press release](#) to prohibit retention of quillback rockfish in the recreational and commercial fisheries effective August 7, 2023. Despite this first action aimed at reducing mortality of quillback rockfish, encounters in the recreational fishery continued, and at increased frequency.

Based on data available through August 6, including newly-available recreational catch estimates for the month of June, it was determined quillback mortality for the area north of 40°10' N. lat. had been met, and CDFW issued a press release (see Appendix 1) announcing the [closure of the nearshore fishery for the Northern GMA](#) (OR/CA border to 40°10' N. lat.) effective August 21 to shift angling opportunity/effort to the 'offshore only' fishery (seaward of the 50 fathom Rockfish Conservation Area (RCA) boundary line) to limit encounters with quillback rockfish.

Recreational fishery data available through August 13 for the area south of 40°10' N. lat. indicated a sudden increase in encounters of quillback rockfish for the week of August 7-13 that doubled the projected take, and it was determined the harvest limit was likely to have been met. CDFW issued a press release (see Appendix 2) on August 21 announcing the same action that was taken in the Northern GMA to [close of the nearshore fishery for the Mendocino GMA \(40°10' N. lat. – 38° 57.5' N. lat.\), San Francisco GMA \(38° 57.5' N. lat. - 37°11' N. lat.\), and Central GMA \(37°11' N. lat. - 34°27' N. lat.\)](#), effective September 1. This action did not apply to the Southern GMA as quillback rockfish are rarely taken south of Point Conception.

An informational briefing document was developed to provide background management and scientific information, and a summary of 2023 take to date which was posted to [CDFW's website](#) (see Appendix 3).

Further Actions

On August 25, 2023, CDFW consulted again with the California Groundfish Advisory Subpanel (GAP) representatives and interested stakeholders on the quillback rockfish take to-date, the series of inseason actions taken to-date and to review the 2022 GEMM report (Agenda Item G.1.b. [NWFSC Report 1: Estimated Discard and Catch of Groundfish Species in the 2022 U.S. West Coast Fisheries](#), September 2023). Action is needed for California commercial fisheries in

2023 to further reduce mortality. A handout (see Appendix 4) was provided to inform the discussion.

It was recommended by commercial representatives that continued discussions occur at the September 2023 Council meeting to consider additional inseason action.

CDFW notes that both the 2024 commercial and recreational management measures will require modification to better ensure quillback harvest targets are not exceeded by year's end, and that commercial non-trawl fisheries are slated to commence Jan. 1. CDFW has requested that National Marine Fisheries Service be available to provide an overview of potential inseason actions available to the GAP for its consideration in preparing for the November Council meeting (e.g., changes to trip limits including zeroing of trip limits, RCA modifications, area closures, season closures, and gear restrictions).

CDFW Recommended Council Action

- **Prohibit take of quillback rockfish in the recreational and commercial fisheries off California.**
- **Close the nearshore recreational fishery in the Northern GMA, Mendocino GMA, San Francisco GMA, and Central GMA.**
- **Consider further commercial non-trawl inseason actions.**

Appendix 1:

Fish And Wildlife Closes Nearshore Groundfish Fishery In Northern Management Area

- August 11, 2023



The California Department of Fish and Wildlife (CDFW) announced that as of 12:01 a.m. Monday Aug. 21, 2023, the 50 fathom Rockfish Conservation Area (RCA) boundary line for the Northern Groundfish Management Area (GMA), from the California/Oregon state line to Cape Mendocino, will take effect. This will be the first ‘offshore only’ fishery in the Northern GMA. In the Northern GMA, recreational boat-based groundfish fishing will only be allowed seaward (away from land) of the boundary line. The 50-fathom RCA boundary line is defined by [straight lines connecting a set of waypoints](#)(opens in new tab) as adopted in federal regulations (50 CFR Part 660, Subpart G). With the exception of sablefish and flatfish as described below, only [shelf rockfish](#), [slope rockfish](#) and lingcod may be taken or possessed. It shall be unlawful to take or possess nearshore species (shallow and deeper nearshore rockfish, cabezon and greenlings) in the Northern GMA.

Fishing for and retention of sablefish and flatfish are not affected by this action and may be targeted, taken and possessed year-round in all depths. However, no gear may be deployed shoreward of the 50-fathom RCA boundary line when shelf rockfish, slope rockfish or lingcod are possessed onboard the vessel. Vessels may transit shoreward of the 50-fathom RCA boundary line with shelf rockfish, slope rockfish or lingcod in possession if no gear is deployed. Additionally, vessels fishing in the adjacent Mendocino GMA and transiting back to the Northern GMA must adhere to the 'offshore only' provisions effective in the Northern GMA and may not return with nearshore species aboard. Changes in retention allowances described here for boat-based modes do not apply to shore-based anglers or divers.

CDFW is carefully monitoring the harvest of quillback rockfish from both the recreational and commercial fisheries throughout the state. The quillback rockfish harvest limit specified in federal regulation for 2023 has been exceeded in the Northern GMA, and additional in-season action authorized by Title 14, Section 27.20 (e) to adjust the fishing depth is necessary to prevent further overage.

CDFW took in-season action on Aug. 7 to prohibit retention of quillback rockfish, the first in what is likely to be a series of steps to reduce the total impacts to quillback rockfish. CDFW anticipates that additional action(s) may be needed for this and other GMAs in the remainder of 2023 and in 2024, in response to the most recent quillback rockfish stock assessment indicating the population is in severe decline.

CDFW urges anglers to use best fishing practices to reduce impacts to quillback rockfish and other prohibited groundfish species. These include reducing mortality when releasing fish by utilizing a [descending device \(PDF\) \(opens in new tab\)](#) and relocating to different fishing grounds or switching targets if quillback rockfish or other prohibited species are encountered.

CDFW recommends reviewing the [Summary of Recreational Groundfish Fishing Regulations](#) page before each trip to ensure anglers are up to date on the most recent groundfish regulations.

For information on groundfish visit [CDFW's Marine Region Groundfish page](#).

Pursuant to California Code of Regulations Title 14, section 27.20(e), when federal harvest limits are exceeded or projected to be exceeded, CDFW has authority to make in-season changes, including adjustments to bag and sub-bag limits, seasons and depths.

Appendix 2:

Fish And Wildlife Closes Nearshore Groundfish Fishery In Mendocino, San Francisco And Central Management Areas

- August 21, 2023



The California Department of Fish and Wildlife (CDFW) announced that as of 12:01 a.m. Friday, Sept. 1, 2023, the 50-fathom Rockfish Conservation Area (RCA) boundary line for the Mendocino Groundfish Management Area (GMA) (Cape Mendocino to Point Arena), San Francisco GMA (Point Arena to Pigeon Point) and Central GMA (Pigeon Point to Point Conception), will take effect.

In these GMAs, recreational boat-based groundfish fishing will be ‘offshore only’ and allowed only seaward (away from land) of the 50-fathom boundary line, defined by [straight lines connecting waypoints \(opens in new tab\)](#) (50 CFR Part 660, Subpart G). [Shelf rockfish, slope rockfish](#) and lingcod may be taken seaward of the 50-fathom boundary line, while it will be unlawful to take or possess nearshore rockfish as defined in Title 14, Section 1.91(a)(1), cabezon or

greenlings at any depth. In the Southern GMA from Pt. Conception to the U.S.-Mexico border, these same 'offshore only' rules will take effect as originally planned on Sept. 16.

During the 'offshore only' fishery, fishing gear shall not be deployed shoreward of the 50-fathom RCA boundary line when shelf rockfish, slope rockfish or lingcod are possessed onboard the vessel, however vessels may transit shoreward of the 50-fathom RCA boundary line with these species in possession if no gear is deployed. Additionally, vessels fishing in the adjacent Southern GMA and transiting back to the Central GMA must adhere to the 'offshore only' provisions effective in the Central GMA and shall not return with nearshore species aboard. These changes do not apply to shore-based anglers or divers.

CDFW is carefully monitoring the harvest of quillback rockfish from both the recreational and commercial fisheries throughout the state and has taken a series of steps in an effort to reduce quillback rockfish mortality. On Aug. 7, retention of quillback rockfish was prohibited statewide, followed by closure of the recreational nearshore fishery in the Northern GMA, on Aug. 21. Newly available recreational data from the Mendocino, San Francisco and Central GMAs for the second week of August showed double the estimated recreational take and indicated the 2023 quillback rockfish harvest limit specified in federal regulations has been exceeded. This additional in-season action authorized by Title 14, Section 27.20 (e) to adjust the fishing depth is necessary to prevent further overage.

CDFW urges anglers to use best fishing practices to reduce impacts to quillback rockfish and other prohibited groundfish species. These include reducing mortality when releasing fish by utilizing a [descending device \(PDF\)\(opens in new tab\)](#) and relocating to different fishing grounds or switching targets if quillback rockfish or other prohibited species are encountered. CDFW recommends reviewing the [Summary of Recreational Groundfish Fishing Regulations](#) page before each trip to

ensure anglers are up to date on the most recent groundfish regulations, including a complete list of authorized species.

For details regarding the quillback population estimates and how these changes were developed, please see CDFW's [Quillback Rockfish In-Season Informational Briefing \(PDF\)](#) (opens in new tab). For information on all groundfish regulations visit [CDFW's Marine Region Groundfish page](#).

Pursuant to California Code of Regulations Title 14, section 27.20(e), when federal harvest limits are exceeded or projected to be exceeded, CDFW has authority to make in-season changes, including adjustments to bag and sub-bag limits, seasons and depths.

Appendix 3:

California Department of Fish and Wildlife (CDFW) Quillback Rockfish Inseason Informational Briefing Northern, Mendocino, San Francisco, Central Groundfish Management Areas

August 21, 2023

Background information:

- Stock (or population) assessments are conducted by National Marine Fisheries Service (NMFS) scientific staff using data collected from state and federal surveys and fishery monitoring efforts. The assessments determine how healthy the population is for a given species in a specific geographic area.
- The Pacific Fishery Management Council (Council) reviews and approves these assessments and uses them to recommend harvest limits to NMFS. The approval process includes significant public input as well as review by both scientific and fishing industry advisory bodies.
- The 2021 quillback rockfish stock assessment concluded that the population status of quillback rockfish in California is in severe decline, and the population is estimated at only 14 percent of the unfished population, resulting in very low federal harvest limits in 2023 and 2024. These restrictive limits are needed to prevent overfishing.
 - Quillback rockfish are one of approximately 90 species of federal groundfish that are managed under a federal Fishery Management Plan and are important to both recreational and commercial fisheries in California.
 - When recreational anglers go fishing for nearshore rockfish, it is impossible to know which species might be caught. Minimizing catch of one species, like quillback, often requires closing fishing in areas and depths where other groundfish are found. In this case, closing nearshore waters inside of the 50 fathom (fm) boundary line and prohibiting the take of nearshore groundfish is necessary to minimize catch of quillback rockfish.
- NMFS is currently in the process of formally declaring the California stock of quillback rockfish as overfished and is developing a rebuilding plan for the species.
- While the 2021 quillback rockfish stock assessment was conducted on the entire stock in California, separate harvest limits were established for the areas north and south of 40°10' N lat. (near Cape Mendocino) based on the estimated quillback biomass in those areas.
- The Overfishing Limit (OFL) is the estimate of the maximum amount of a stock that can be caught in a year without further depleting the stock. A harvest target or an 'annual catch limit' (ACL/ACT) is set below the OFL; these numbers are specified in federal regulations to guide management.
- Catches are tracked during the season by looking at commercial fish landings, and through surveys of actual/observed and reported recreational catch. This includes dockside sampling of recreational anglers by CDFW staff.
- Current catch to date (combined commercial and recreational) north of 40°10' N lat. and south of 40°10' N lat. indicated an overage to the OFLs which required immediate action to significantly reduce all fisheries impacts to quillback rockfish.



Illustration by
Amadeo Bachar



– At the time the northern nearshore closure was announced, North of 40°10' N lat. catch was estimated at approximately 150 percent of the OFL (1.05 metric tons or 2,315 pounds).

– At the time the southern nearshore closure was announced, South of 40°10' N lat. catch was estimated at approximately 111 percent of the OFL (1.06 metric tons or 2,337 pounds).

Current in-season information:

- CDFW actively monitors groundfish catch throughout the year for both recreational and commercial fisheries statewide, and in late July determined that the harvest limits for quillback rockfish both north and south of the 40°10' N. lat. management line were at risk of being exceeded. In response to this, retention of quillback rockfish was prohibited in both the recreational and commercial fisheries statewide beginning August 7, 2023.
- CDFW met with California fishing industry representatives on August 1, 2023 to discuss the action taken to prohibit retention of quillback rockfish, catch data to date, and the potential need to take further action to reduce catch, particularly for the Northern Groundfish Management Area (GMA). It was noted that the area south of 40°10' N. lat. could potentially need further action as well.
- In the Northern GMA (OR/CA border to 40°10' N. lat. near Cape Mendocino), recreational catch of quillback rockfish continued and both the ACT/ACL and the OFL for the area north of 40°10' N. lat. were projected to have been exceeded, with more catch expected if additional closures were not implemented. The same situation occurred with catch in the southern area just a few weeks later.
 - 84 percent of the total catch in the northern area is from the recreational sector and 76 percent in the southern area, which is why additional action to restrict fishing was taken for the recreational sector.
 - Commercial retention has been prohibited and any further consideration of closures or depth changes for commercial fisheries will take place at the upcoming September Council meeting.
- Quillback rockfish are a deeper nearshore rockfish species and are almost always encountered in water depths shallower than 50 fm (300 ft.). CDFW took action to move the recreational boat-based fishery to “offshore only” in the Northern GMA starting August 21, allowing only take of shelf rockfish, slope rockfish, and lingcod seaward (away from land) of the 50 fm boundary line, defined by waypoints in federal regulations. Catch of nearshore rockfish (including quillback rockfish), cabezon, and greenlings is prohibited in all depths during an offshore-only fishery.
- Newly available recreational data in the second week of August revealed that recreational catch of quillback rockfish south of 40°10' N. lat. doubled the estimated recreational catch for the year and it was projected that the OFL specified in federal regulations had been exceeded in this area, requiring immediate in-season action.
- In the Mendocino, San Francisco, and Central GMAs (Cape Mendocino to Point Conception), CDFW took action to move the recreational boat-based fishery to “offshore only” starting September 1, which only allows catch of shelf rockfish, slope rockfish, and lingcod seaward (away from land) of the 50 fm boundary line, defined by waypoints in federal regulations. Catch of nearshore rockfish (including quillback rockfish), cabezon, and greenlings is prohibited in all depths during an offshore-only fishery.
- Quillback rockfish are generally not caught south of Point Conception. The Southern GMA (Point Conception to the US/Mexico Border) is scheduled to begin its planned offshore-only fishery on September 16, at which time all five GMAs in California will be offshore-only fisheries.



- The intent of these inseason closures and depth changes is to limit or prevent catch of quillback rockfish. Allowing fishing in nearshore waters for any nearshore species (even healthy species) increases quillback rockfish catch and increases incidental mortality, further exceeding the OFL average.
- Additional actions may be needed for 2023 and 2024.

Season setting process:

- Regulations for the 2023 fishing season were developed through the Council's public process with input from California recreational fishery representatives. The California Fish and Game Commission adopts sport fishing regulations for state waters that mirror the federal regulations, to ensure consistency between state and federal waters. For the GMAs north of Point Conception, these 2023 regulations included a 1-fish sub-bag limit for quillback rockfish, a shortened season length, and allowing fishing at deeper depths for the first time in two decades in an effort to spread fishing effort away from the nearshore waters where quillback rockfish are most commonly found. These measures (in combination) were intended to reduce the overall catch of quillback while still allowing for fishing opportunities for other species of groundfish.
- In 2022 the implementation of the 1-fish quillback sub-bag limit was shown to reduce quillback catch. Recommendations for the 2023 season needed to be finalized by the Council in June of 2022. At that time it was unknown how effective the combined suite of actions (shorter nearshore seasons, new offshore groundfish opportunities and the 1-fish limit) would be on reducing quillback catch in 2023. Even if the 2023 season started with no retention of quillback rockfish, release mortality would still occur and fishery closures still would be needed. Allowing some retention of quillback rockfish did not significantly increase projected catch compared to no retention, and enabled the collection of additional biological data which will be critical in future quillback stock assessments. While 2023 in-season monitoring showed continued reductions in quillback catch compared to the 2022 season, the reductions were not enough to stay under federal harvest limits.
- These in-season actions were not planned in advance of the start of the season. Staff monitor catch in near real-time based on fisheries data from each management area. The initial season structures and stepwise actions to first prohibit quillback retention and then close nearshore waters in the necessary GMAs allowed for the longest seasons possible.

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California Groundfish Management Area Map



Appendix 4:

Aug. 25 Industry Meeting Handout

Quillback Rockfish Inseason Update Handout

This handout was prepared by California Department of Fish and Wildlife (CDFW) to help inform discussions about quillback rockfish during an August 25 call with industry representatives.

2023 Inseason Actions and Informational Resources

- Effective Aug. 7 - [Quillback Rockfish Retention Prohibited Statewide](#)
- Effective Aug. 21 – [Fish and Wildlife Closes Nearshore Groundfish Fishery in Northern Management Area](#) (“Offshore Only” Fishery)
- Effective Sept. 1 – [Fish and Wildlife Closes Nearshore Groundfish Fishery in Mendocino, San Francisco, and Central Management Areas](#) (“Offshore Only” Fishery)
- [Quillback Rockfish Inseason Informational Briefing](#)
- [CDFW Inseason Report 1](#) to PFMC, Sept 2023

Harvest Specifications and Total Take Through August 20

Table 1. Area-specific quillback rockfish Annual Catch Targets (ACTs), Annual Catch Limit (ACL) contributions, Acceptable Biological Catch (ABC) contributions, and Overfishing Limit (OFL) contributions North and South of 40°10' N. lat. within California. Values were developed and adopted through the 2023-24 SPEX process. ACTs are published in [87 FR 77007](#), pg. 77021.

Area	2023 ACT (=ACL contribution) (mt)	ABC contribution (mt)	OFL contribution (mt)
North 40°10' N. lat.	0.87	0.91	1.05
South 40°10' N. lat.	0.89	0.93	1.06

Table 2. Best estimate of 2023 California quillback rockfish mortality (mt) in the recreational and commercial non-trawl fisheries. CRFS estimates through June, ACVs through August 20; commercial landings data retrieved from PacFIN August 22. Inseason catch estimates are compared to the 2023 quillback rockfish ACT/ACT contributions north and south of 40°10' N. lat.

Area	Recreational Take (mt)	Commercial Landings (mt)	Total Take (mt)	2023 ACT (=ACL contribution) (mt)	% Attainment
North 40°10' N. lat	1.75	0.25	2.00	0.87	230%
South 40°10' N. lat	1.30	0.28	1.58	0.89	178%

Recreational Best Estimate of Catch by Harvest Specification Area

North 40°10' N. lat. (Northern GMA)

Table 3. Number of recreational quillback rockfish N. 40°10' N. lat. encountered by Groundfish Management Area (GMA) and resulting Anticipated Catch Value (ACV) through August 20. As catch estimates become available, the ACV value is replaced with the estimate for that month (shown in ~~strikeout~~). Data are from CRFS, preliminary and subject to change.

Month	Northern GMA	ACV (mt)	CRFS Estimate
January	0	0.00	0.00
February	0	0.00	0.00
March	0	0.00	0.00
April	0	0.00	0.00
May	16	0.08	0.06
June	74	0.36	0.26
July	151	0.74	
August	140	0.69	
Total	381	1.43	0.32
Best Data (CRFS Est. + ACV)		1.75	

Table 4. Number of recreational quillback rockfish by week (Monday-Sunday) and disposition (kept/released) from May 15 (start of boat-based all-depth fishery) through Aug 20 for the area north 40°10' N. lat. (Northern GMA). Data are from CDFW/CRFS. The quillback zero retention inseason action went into effect August 7, 2023.

Week	Number Kept	Number Released	Total Number Fish
May 15-21	4	8	12
May 22-28	0	1	1
May 29-Jun 4	2	1	3
Jun 5-11	12	27	39
Jun 12-18	0	0	0
Jun 19-25	5	14	19
Jun 26 – Jul 2	13	8	21
Jul 3-9	4	1	5
Jul 10-16	29	7	36
Jul 17-23*	18	25	43
Jul 24-30	25	37	62
Jul 31-Aug 6**	13	39	52
Aug 7-13	3	55	58
Aug 14-20	0	30	30
Total	128	253	381

*Data through July 23 were available when the decision was made to prohibit retention of quillback rockfish as announced in the July 28 press release and effective Aug 7.

**Data through Aug 6 were available when the decision was made to close the nearshore fishery in the Northern GMA as announced in the Aug 11 press release and effective Aug 21.

South 40°10' N. lat. (Mendocino, San Francisco, and Central GMAs)

Table 5. Number of recreational quillback rockfish S. 40°10' N. lat. encountered by GMA and resulting ACV through August 20. As catch estimates become available, the ACV value is replaced with the estimate for that month (shown in ~~strikeout~~). Data are from CRFS/CDFW, are preliminary and subject to change.

Month	Southern GMA	Central GMA	SF GMA	Mendocino GMA	Total Sampled Fish	ACV (mt)	CRFS Estimate
January	0	0	0	0	0	0.00	0.00
February	0	0	0	0	0	0.00	0.00
March	0	0	0	0	0	0.00	0.00
April	0	0	0	0	0	0.00	0.00
May	0	4	4	1	9	0.11	0.03
June	0	13	7	0	20	0.24	0.05
July	0	2	12	8	22	0.26	
August	0	2	58	20	80	0.96	
Total	0	21	81	29	131	1.22	0.07
Best Data (CRFS Est. + ACV)						1.30	

Table 6. Number of recreational quillback rockfish by week (Monday-Sunday) and disposition (kept/released) from the start of the boat-based fishery (May 1 for the Central GMA and May 15 for the Mendocino and San Francisco GMAs) through Aug 20 for the area south 40°10' N. lat. The Central GMA was open at all depths during the weeks reported here; the San Francisco and Mendocino GMAs were open >50fm only from May 15-July 15, and all depths from July 15-present. Quillback prohibition was effective Aug 7. Data are from CDFW/CRFS.

Week	Number Kept	Number Released	Total Number Fish
May 1-7	1	1	2
May 8-14	1	0	1
May 15-21	0	3	3
May 22-28	3	0	3
May 29-Jun 4	0	0	0
Jun 5-11	3	4	7
Jun 12-18	2	0	2
Jun 19-25	4	1	5
Jun 26 – Jul 2	6	0	6
Jul 3-9	1	0	1
Jul 10-16	4	1	5
Jul 17-23*	2	3	5
Jul 24-30	2	9	11
Jul 31-Aug 6	10	0	10
Aug 7-13**	5	32	37
Aug 14-20	2	31	33
Total	44	85	131

*Data through July 23 were available when the decision was made to prohibit retention of quillback rockfish as announced in the July 28 press release and effective Aug 7.

**Data through Aug 13 were available when the decision was made to close the nearshore fishery in the Mendocino, San Francisco, and Central GMAs as announced in the Aug 21 press release and effective Sept 1.

Quillback Encounters by Depth

Table 7. Proportion of recreationally-sampled quillback rockfish (total encounters which includes kept and all reported released fish) by 10 fm depth bin from 2018-2022 (2020 not included because of COVID-19 impacts to the data) and Groundfish Management Area (GMA). Reported fishing depths of “zero” were not included, but account for three to 18 percent of total reported quillback encounters each year. Southern Management Area is not shown as no quillback rockfish were sampled in that area during this time frame. Data are from CDFW/CRFS. NOTE: Over the 2018-2022 time frame, RCA depth constraints differed by year and GMA, heavily influencing data shown here.

Depth Bin (fm)	Northern GMA	Mendocino GMA	San Francisco GMA	Central GMA
0-10	4%	2%	3%	1%
11-20	47%	55%	10%	10%
21-30	46%	32%	34%	12%
31-40	3%	9%	47%	46%
41-50	0%	2%	5%	31%
>50	0%	0%	1%	0%

Table 8. Proportion of West Coast Groundfish Observer Program (WCGOP) California commercially sampled quillback rockfish (total encounters which includes kept and all reported released fish) by depth bin from 2018-2022. Note: Due to zero observations, OA pot gear was excluded. Data is summarized to meet confidentiality requirements.

<i>North 40°10' N. lat.</i>					
Depth Bin (fm)	Catch Shares	Directed P Halibut	Nearshore	OA Fixed Gear	Limited Entry Sablefish
1-20	0%	1%	47%	18%	--
21-50	0%	99%	53%	82%	--
50+	100%	0%	0%	0%	--
<i>South 40°10' N. lat.</i>					
1-20	--	--	1%	0%	0%
21-50	--	--	99%	100%	100%
50+	--	--	0%	0%	0%

Discard Mortality Rates

Table 9. Quillback rockfish mortality rates when being released at the surface vs using a descending device at different depths (10 fm depth bins). All rockfish mortality rates can be found in the [November PFMC 2022, H.4.a Supplemental GMT Report 3](#).

Species	Surface Release Mortality Rates (fm)				Descending Device Release Mortality Rates (fm)			
	0-10	11-20	21-30	>30	0-10	10-30	30-50	50-100
Quillback	21%	35%	52%	100%	9%	9%	30%	38%

Recreational Bottomfish Effort

Table 10. Average annual estimated number of angler trips for the bottomfish trip type (includes groundfish, Pacific halibut, and some state managed species) for 2021-2022 by GMA and mode. The

bottomfish trip type includes groundfish, Pacific halibut, and some state managed species. Data are from CRFS/CDFW.

Management Area	Avg Angler Trips for PR (skiff) Mode	Avg Angler Trips for CPFV (Party/Charter) mode
Northern GMA	19,886	5,007
Mendocino GMA	17,908	10,221
San Francisco GMA	39,725	35,542
Central GMA	40,243	39,670
Southern GMA	88,481	333,689

Draft Rebuilding Plan Projections

CDFW provided final 2021/2022 removals for quillback rockfish, and a range of projected removals for 2023 and 2024 for all fishery sectors in California to NMFS for use in drafting the rebuilding plan.

Table 11. California quillback rockfish removals (2021-2022) and range of projected removals (2023-2024) by fishing sector for the area N. 40°10' N. lat. These values were provided to the GMT for NMFS on August 14 for use in the draft quillback rebuilding plan. Data from CDFW and the [Estimated Discard and Catch of Groundfish Species in the 2022 U.S. West Coast Fisheries](#) and [Groundfish Expanded Mortality Multiyear](#) report.

Fishery Sector	2021 Removals (mt)	2022 Removals (mt)	2023 Low Projection (mt)	2023 High Projection (mt)	2024 Low Projection (mt)	2024 High Projection (mt)
OA Fixed Gear	0.08	5.31	3.98	5.31	0.01	5.31
Nearshore	2.20	1.85	1.41	1.52	0.00	1.40
Directed P Halibut	0.00	0.28	0.28	0.28	0.28	0.28
Catch Shares	0.00	0.00	0.00	0.00	0.00	0.00
Catch Shares EM	0.00	0.01	0.01	0.01	0.01	0.01
LE Fixed Gear DTL	0.00	0.00	0.00	0.00	0.00	0.00
Limited Entry Sablefish	0.00	0.00	0.00	0.00	0.00	0.00
Midwater Hake	0.00	0.00	0.00	0.00	0.00	0.00
Incidental	0.00	0.00	0.00	0.00	0.00	0.00
Research	0.00	0.00	0.00	0.00	0.00	0.00
Tribal Shoreside	0.00	0.00	0.00	0.00	0.00	0.00
Other Fisheries	0.00	0.00	0.00	0.00	0.00	0.00
California Recreational	3.05	2.94	1.02	1.83	0.10	1.75
Total	5.33	10.39	6.71	8.96	0.40	8.75

Table 12. California quillback rockfish removals (2021-2022) and range of projected removals (2023-2024) by fishing sector for the area S. 40°10' N. lat. These values were provided to the GMT for NMFS

on August 14 for use in the draft quillback rebuilding plan. Data from CDFW and, [Estimated Discard and Catch of Groundfish Species in the 2022 U.S. West Coast Fisheries](#) report. Data from CDFW and [Groundfish Expanded Mortality Multiyear](#) report.

Fishery Sector	2021 Removals (mt)	2022 Removals (mt)	2023 Low Projection (mt)	2023 High Projection (mt)	2024 Low Projection (mt)	2024 High Projection (mt)
Incidental	0.01	0.01	0.01	0.01	0.01	0.01
Nearshore	2.74	0.62	0.32	0.53	0.00	0.35
OA Fixed Gear - Hook & Line (on going slope)	0.00	0.79	0.60	0.79	0.01	0.79
EFP	0.00	0.00	0.00	0.00	0.00	0.00
Other Fisheries	0.01	0.01	0.01	0.01	0.01	0.01
California Recreational	7.51	6.30	0.14	1.62	0.10	1.50
Total	10.26	7.72	1.07	2.95	0.12	2.65