

California Department of Fish and Wildlife Report on 2025 and 2027 Stock Assessment Plan and Schedule

California Department of Fish and Wildlife (CDFW) staff attended an internal coordination webinar held by the National Fisheries Service-Northwest Science Center (NWFSC) where the number of age structures available for each 2025 assessment species was discussed, along with projected workload and staffing capacity to age full or subsets of the structures for each species.

The outcome of that discussion is described in the National Marine Fisheries Service (NMFS) report ([Agenda Item I.4.a, REVISED NWFSC/NMFS Report 1, September 2024](#)) that recommends removing redbanded rockfish from further consideration for the 2025 stock assessment cycle. CDFW agrees this recommendation and cautions when and how to recommend redbanded rockfish for a future cycle. As outlined in the NWFSC/NMFS Report, current estimated worktime would be approximately ten person months to reach the target of 6,000 age reads which is a sub-set of the 11,000 total. It's clear there is not enough time on the current schedule to complete even a subset of these reads however it remains unknown whether the ageing workload could be accommodated for the 2027 schedule. CDFW strongly recommends a similar feasibility report should be conducted before reconsideration of the prioritized species list for 2027 with and without redbanded rockfish to better align with a reasonable workload goal for the ageing labs while balancing species assessment needs. CDFW continues to be supportive of choosing quality assessment work over quantity. Quality does not mean that only data rich species or those with robust life history and index of abundance information readily available should be chosen, rather it means deliberately reducing the overall workload and assessing the entirety of ageing and data collection needs prior to finalizing the list. Given the current budgetary constraints and expected reduced workload for groundfish agenda items, reducing the overall assessment workload is prudent.

While the NWFSC/NMFS report does not address chilipepper rockfish specifically, CDFW believes this species' benchmark assessment to be similarly situated to that of redbanded rockfish. During the webinar, it was stated that very little ageing of chilipepper has been conducted since 2017 and that ageing specialists with experience reading this species have since retired. The workload analysis spreadsheet presented during the webinar indicated a target of 7,200 age reads, estimated to require 10 person months for a single reader. In addition to workload, there are further considerations that support postponing the 2025 benchmark chilipepper assessment.

Off California, access to chilipepper has been limited since the early 2000's, with much of its core depth range encompassed by recreational or commercial Rockfish Conservation Areas. As a result, it may be beneficial to have continued discussions about inclusion of Remote Operated Vehicle indices or other approaches that could account for spatial or temporal closures. Also, with recent changes to recreational and commercial management measures, chilipepper mortality off California has increased significantly in recent years (*Figure 1*). This is especially apparent in the 2023 recreational mortality and while CDFW has collected 125 chilipepper otoliths from the recreational fishery, it may be prudent to allow additional otoliths to be collected, given this recent marked increase.

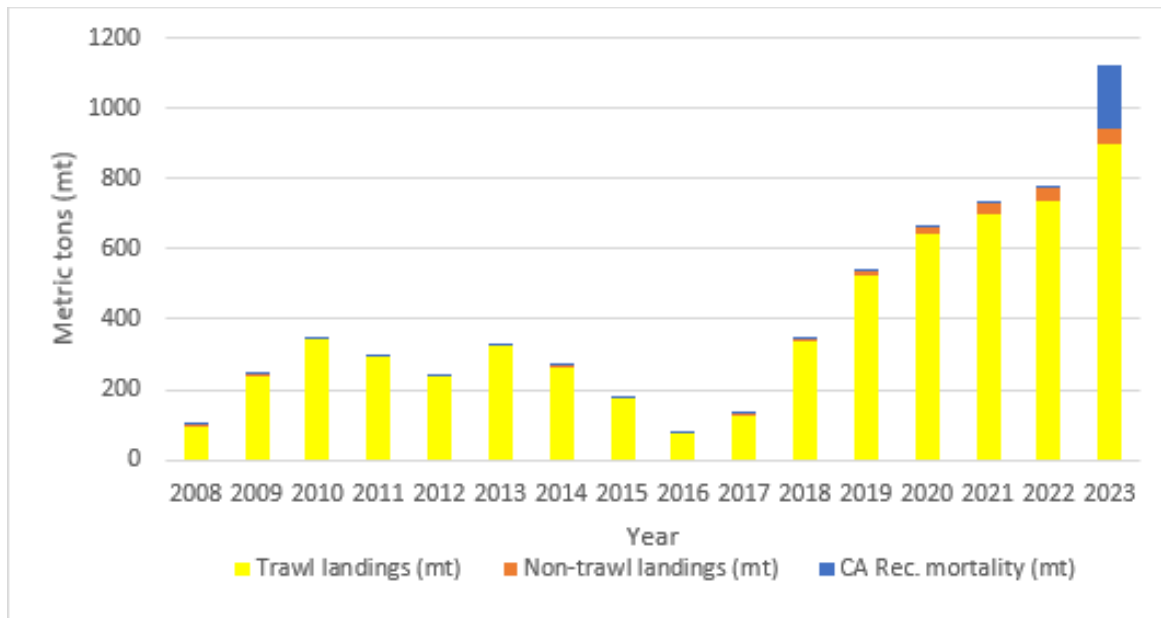


Figure 1. Commercial (trawl and non-trawl) landings and recreational mortality of chilipepper off California, by year from 2008 through 2023.

While mortality of chilipepper has increased in recent years, the 2023 Total Mortality Report indicates that mortality for the species is well within its harvest specifications (roughly 39 and 56 percent north and south of 40° 10' N lat., respectively). Even with a decaying sigma, it appears unlikely that mortality of chilipepper will exceed its harvest specifications during the intervening time prior to the next assessment cycle.

Given these considerations and the need for significant evaluation of model inputs and data streams prior to inclusion in benchmark assessments, the chilipepper assessment may benefit from postponement. The case for postponement of this assessment may even be furthered if additional workload considerations are factored in. For example, there may be challenges reaching reader agreement with age one fish and the two other midwater species slated for assessment in 2025 (benchmark of yellowtail rockfish north and update of widow rockfish), which may add additional workload burden that is difficult to estimate or project.

The NWFSC report, coupled with the information provided during the webinar, serve as stark reminders that ageing and assessment capacity is limited. Estimated ageing capacity and ageing workload provided during the webinar leaves little room for error to reach ageing targets for the 2025 assessment cycle, and also presumes Fourier-Transform Near Infrared Spectroscopy/Neural-Network modeling success to attain the target levels in the plan. As a result, CDFW recommends a less ambitious and more realistic approach with fewer assessments that are of higher quality. Specifically, **CDFW recommends postponing the redbanded rockfish and chilipepper benchmark assessments for a future assessment cycle.**

Biological Data Available from CDFW for 2025 Assessment Species

Since November 2021, CDFW has made efforts to increase collection of biological data from groundfish stocks off California. Within the constraints of staffing and funding availability, these efforts have strived to collect representative random samples from the fishery where possible. In some instances, weather by virtue of how a particular species' biological data is obtained from a sampling project or because of lacking resources, collection of samples may not have been taken under ideal circumstances, they nonetheless hold significant value for assessment purposes. These samples may still be used to develop California specific growth curves and incorporated into the assessment as a 'ghost fleet', while providing informative value to the stock assessment model.

Summary of sampling projects specific to 2025 assessments

In effort to provide transparency and upfront information for upcoming stock assessments, CDFW offers the following information on sampling projects and data availability. CDFW collects biological data from the California recreational fishery through several different sampling processes and maintains biological data from past collection efforts, including both fishery independent and commercial efforts. While stock assessors may use their discretion when considering whether certain data meet criteria for being considered representative of the fishery from which they were collected, CDFW provides a brief description of sampling methods and available data to aid in those considerations.

The California Recreational Fisheries Survey (CRFS) collects angler surrendered copper, quillback and yelloweye rockfishes that were kept/retained by anglers erroneously due to species misidentification or inaccurate interpretation of authorized take per the regulations. This began with yelloweye rockfish, a prohibited species, and was subsequently expanded in 2021 to include copper and quillback rockfishes (in exceedance of a sub-bag limit). These CRFS angler surrendered fish are part of standardized CRFS sampling procedures and can be associated with raw sample data including length. In the case of species kept in excess of a bag or sub-bag limit, it is up to angler discretion to determine which fish to surrender. Analysis of length data across both kept and surrendered fish of a given species may allow evaluation of length bias in surrendered fish and determine whether these data are representative of the recreational fishery.

The Rockfish Biological Groundfish sampling project is conducted by CDFW's groundfish project staff, began in 2021 and is the largest and most species diverse set of biological data from California's recreational fishery. Sampling design and protocols were subsequently refined in 2022, in consultation with NMFS science center staff to address potential bias issues and be more representative of the fishery. Each day of the week is sampled monthly and groundfish are randomly collected from both the Private/Rental and Party/Charter modes based upon a priority ranking. For example, generally nearshore rockfish species are prioritized over shelf or slope rockfish. Within nearshore rockfish species, a sub sample of the species present is taken, except for copper and quillback rockfishes for which 100 percent of the catch is sampled. Given this, CDFW believes that quillback rockfish collected under this project are considered representative of the recreational fishery.

Recent commercial collections from the commercial fishery undertaken by CDFW groundfish project staff are limited to a pilot project conducted in 2019. This commercial pilot project involved obtaining randomly selected fish from participating fish businesses, either at the time of landing, or in the case of multiple landings utilizing the same gear type, after the landing had occurred. For nearshore rockfish, samples were obtained for both the live and dead fishery, with this disposition noted in the data. However, due to limited funding, sampling occurred over roughly four months, from late February to early June.

CDFW's biological data from fishery independent surveys include the International Pacific Halibut Commission's Fishery Independent Setline Survey (FISS) conducted off California and a conglomeration of collections done by CDFW in the 70's to the early 2000's. For those species scheduled for benchmark 2025 assessments, redbanded and quillback rockfishes are represented in the FISS collection, while only quillback rockfish are represented in CDFW's historic collections.

The number of biological data collected through each sampling project are provided below in Table 1, and, while only a portion of CDFW's collections may be considered representative of its fishery, for those that aren't, they can nonetheless provide valuable California specific growth information to the assessments.

Table 1. Counts of available biological data for benchmark assessment species scheduled in 2025, by year and sampling project. Note, counts for two sampling projects are provided for the years 2021 through 2023; the top number provides the count for data collected by the Recreational Biological Groundfish sampling project, while the bottom number in parenthesis represents the count of Data collected through the CRFS project. Shaded cells indicate

otoliths which have been aged and italicized-bolded numbers indicate collections which are likely to be representative of the recreational fishery.

Sampling Project	CDFW Historic				FISS	Comm. Pilot	Rec. Bio. Groundfish (CRFS)			Total
	Year	1983	1984	1987			1998	2017	2019	
Quillback rockfish	2	1	1	1	5	6	2 (36)	42 (44)	9 (17)	166
Sablefish									15	15
Yellowtail rockfish - north						83		3	10	96
Chilipepper									124	124
Redbanded rockfish					2					2