

**California Department of Fish and Wildlife
Report to the International Pacific Halibut Commission
on 2016 California Fisheries**



**California Department of Fish and Wildlife
Marine Region
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Contents

Executive Summary	3
Recreational Fishery	4
California Recreational Allocation and Regulations	4
Catch Estimates, Projections and Inseason Tracking and Monitoring.....	4
Location of Sampled Pacific Halibut	6
Reporting and Coordination with NMFS, IPHC and the PFMC	7
Fishery Closure	8
Angler Compliance with Closed Time Periods	11
Estimating Discard Mortality	11
2016 Noteables	12
California Commercial Fishery	13
Summary	14

Executive Summary

The California Department of Fish and Wildlife (CDFW) is providing this informational report on the Pacific halibut fishery in California during 2016. The California coastline plays a unique part in Pacific halibut management as it is located at the southern extent of the population range and has historically been a minor, and irregular, contributor to harvest removals compared to other management areas. However, recently, a robust recreational fishery in northern California has developed and has prompted science, management and policy discussions about the portion of the stock off California. CDFW is optimistic that Pacific halibut can continue to be a viable and sustainable resource for the local and regional economies of the north coast.

Prior to 2014, California's recreational Pacific halibut fishery was managed within the Area 2A Catch Sharing Plan (CSP) as part of the South of Humbug Management Subarea with southern Oregon. Beginning in 2014, modifications to the CSP provided for California to have a separate subarea and allocation¹. Beginning in 2015, California's recreational fishery received an increased allocation percentage within the Area 2A CSP and in turn, committed to inseason monitoring and tracking of catch against the corresponding California quota (four percent of the Area 2A non-tribal share). In 2016, the National Marine Fisheries Service (NMFS), CDFW and the International Pacific Halibut Commission (IPHC) continued its new management process in California for its recreational fishery, similar to other areas along the west coast, which allows for closure of the fishery inseason upon projected attainment of the quota.

This report provides a detailed summary of the performance of the 2016 Pacific halibut sport fishery off of California. The inseason tracking and projection methodology proved to be successful in monitoring the fishery progression on a weekly basis. The season was scheduled to begin on May 1 and end on October 31, with only the first half of each month open in May, June, July and August, and full months scheduled to be open in September and October as long as there was unharvested quota available. However, following discussions with the IPHC, Pacific Fishery Management Council (PFMC) and NMFS, an inseason fishery closure was implemented on September 24, based on projected early attainment of the 2016 California quota.

Final 2016 recreational catch estimates totaled 30,893 net pounds—or 104 percent of the quota. The average net weight per kept fish in 2016 was approximately 24 pounds, one pound less than the average weight of fish taken in California's 2015 fishery.

Notably, in 2016, a total of four vessels participated across two of the opening days in the directed fishery; the preliminary landings were 1,002 net pounds.

¹ For a detailed summary of the fishery and management measures prior to 2015, please see the CDFW report submitted for the 2015 IPHC Annual Meeting:
http://iphc.int/meetings/2015am/bb/1104_3_CASportReport.pdf

Recreational Fishery

California Recreational Allocation and Regulations

The IPHC set the Area 2A TAC at 1,140,000 net pounds at their annual meeting on January 29, 2016, which resulted in a 2016 California recreational Pacific halibut quota of 29,640 net pounds.

Regulations for California's 2016 fishery provided for a season that would be open May 1-15; June 1-15; July 1-15; August 1-15; and from September 1- October 31; or until the quota was projected to be attained, whichever was earlier. The season was designed to provide some opportunity earlier in the year (May and June) with the bulk of the catch expected in July and August, then some residual late opportunity in September and October when salmon fishing was over. However, partially due to significant effort and catch in the two weeks following the Labor Day holiday, the fishery closed early through an inseason action effective September 24 for the remainder of the year. During 2016, the fishery was actually open May 1-15, June 1-15, July 1-15, August 1-15, and September 1-23 (83 days). The daily bag and possession limit was one fish and there was no size limit.

Catch Estimates, Projections and Inseason Tracking and Monitoring

CDFW continued active quota management and weekly inseason catch monitoring during the 2016 season as part of its commitment to actively track and monitor the fishery to ensure that catches remained within the allowable quota. This tracking/monitoring process used 2016 field sample data from the CDFW California Recreational Fishery Survey (CRFS) sampling program to evaluate catch to date inseason. As in 2015, the method relied on the relationship between prior years' monthly catch estimates and field observations (sample data) collected in those same months². The relationship CDFW derived between sample data and estimates for use in 2016 was one sampled fish represented 108.4 pounds of projected catch.

The inseason monitoring approach described below was effective in ensuring catches were actively tracked during the 2016 season in order to allow for timely and responsive management when needed (i.e., closure of the fishery when attainment of the California quota was projected).

The CDFW CRFS sampling program is designed to provide 20 percent coverage for primary sample sites and modes [party-charter boaters (PC), or private-rental boaters (PR)] and 10 percent coverage for secondary sample sites. CRFS samplers are

² For a detailed description of the inseason catch tracking and projection methodology, see the CDFW report submitted to the PFMC in November 2014: http://www.pcouncil.org/wp-content/uploads/G1b_Sup_CDFW_Rpt2_NOV2014BB.pdf

assigned a day, site, and mode to sample and collect catch and effort data for the full day for that site and mode for whichever species anglers are targeting.

The CRFS program generates monthly estimates of catch for all species, incorporating catch and effort information from all modes. However, these estimates are not available until approximately six weeks after a month ends. Therefore, each week, CDFW staff tallied CRFS observations of Pacific halibut including sampler examined fish (A) and angler reported kept fish (B1) received from the prior week. This total was multiplied by 108.4 pounds to generate a preliminary projected weekly estimate of total catch. Because production of final monthly catch estimates involves the six-week lag time, these weekly projections were used to estimate catch for any weeks for which monthly CRFS estimates were not yet available. This approach allowed for very timely estimation of cumulative catch during the season (i.e., with one week lag time rather than six weeks). The preliminary catch projection, in conjunction with the cumulative total, was used by CDFW staff to monitor the progress of the fishery throughout the season.

Once a Pacific halibut monthly catch estimate was available, this value replaced the combined weekly preliminary projections for that month (Table 1). Any significant differences between monthly catch estimates and weekly projections were investigated.

Table 1. Preliminary 2016 Pacific halibut catch estimates in California by month. CDFW projection values for May through September are provided in strikeout to illustrate the process of replacing the projections with CRFS estimates when those estimates became available.

Month	Net Pounds Accrued	
	CDFW Projection	CRFS Estimate
May	4,014	2,322
June	4,664	5,658
July	4,770	5,558
August	8,889	11,025
September	7,154	6,331
Total		30,893

Inseason action to close the fishery was considered based on the cumulative weekly projections combined with available monthly CRFS estimates. This method of catch tracking and estimation involved using the best available information as it became available during the season. This near real-time information allowed CDFW, NMFS, PFMC and IPHC to coordinate during the season on projecting and determining a closure date.

Final 2016 recreational catch estimates totaled 30,893 net pounds—or 104 percent of the quota. Consistent with previous years' estimate data, approximately 86 percent of the recreational catch is from PR modes and 14 percent of the recreational catch is from PC modes.

Location of Sampled Pacific Halibut

A total of 272 Pacific halibut were examined by CRFS samplers throughout the 2016 season. Similar to other years, the greatest number of Pacific halibut observed by samplers (132 fish), were encountered in Trinidad (Figure 1) followed by Eureka and Fields Landing (Figure 2). One Pacific halibut was sampled at the Santa Cruz harbor. The majority of sampled fish (and estimated catch) occurred in August and September.



Figure 1. Sport fishing boat using the launch facilities in Trinidad, CA. CDFW photo.

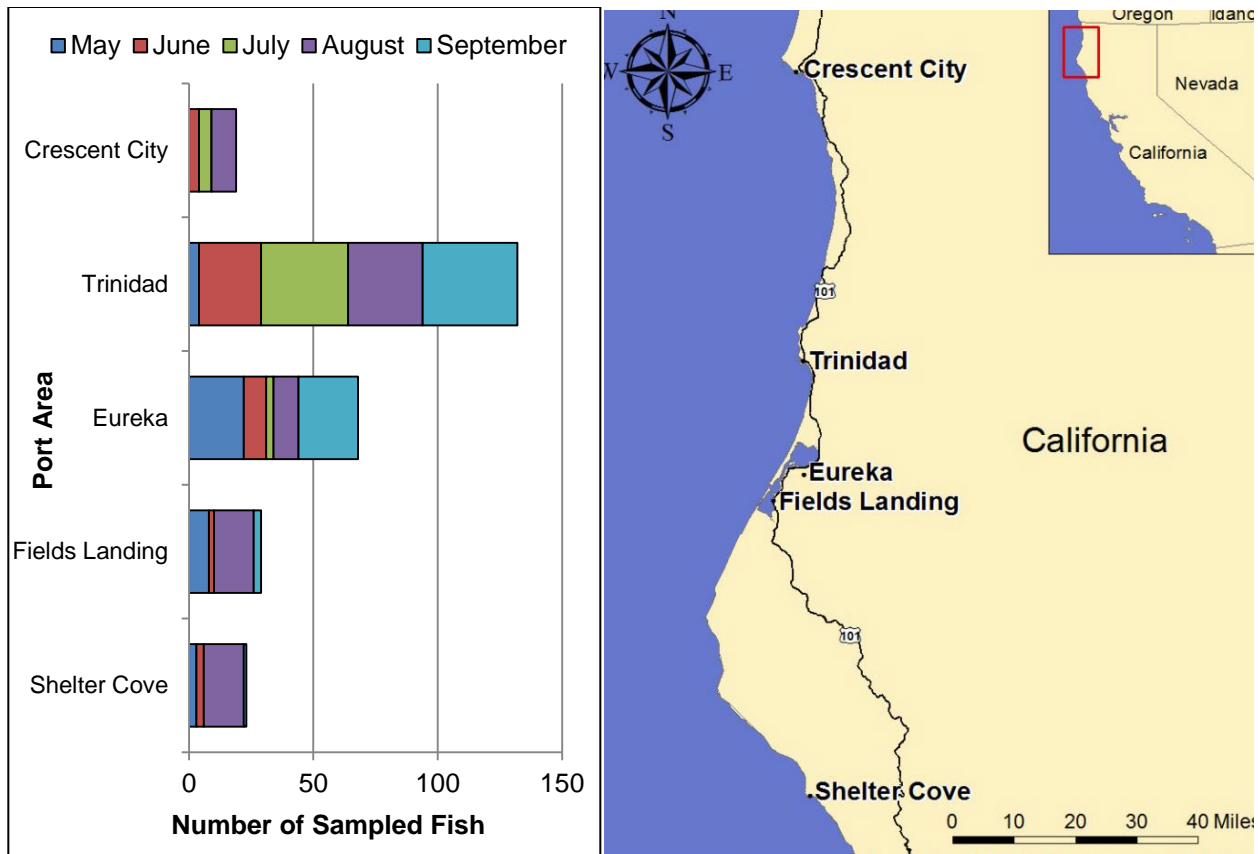


Figure 2. Northern California port areas where Pacific halibut are most often encountered and number of sampler examined Pacific halibut by month and port area during 2016. Sample data for the PR and PC modes are from CRFS. Not shown in the figure is one Pacific halibut that was sampled at the Santa Cruz harbor on July 3.

Reporting and Coordination with NMFS, IPHC and the PFMC

The weekly projection and cumulative total projected catch were provided by CDFW staff to NMFS, the IPHC, and PFMC for discussion to evaluate the catch status to date. CDFW also posted weekly updates to its Pacific halibut webpage (<https://www.wildlife.ca.gov/Conservation/Marine/Pacific-Halibut#28555772-2015-in-season-tracking>) and Pacific halibut inseason catch tracking “thermometer” to inform the public of projected catch to date throughout the season (Figure 3).

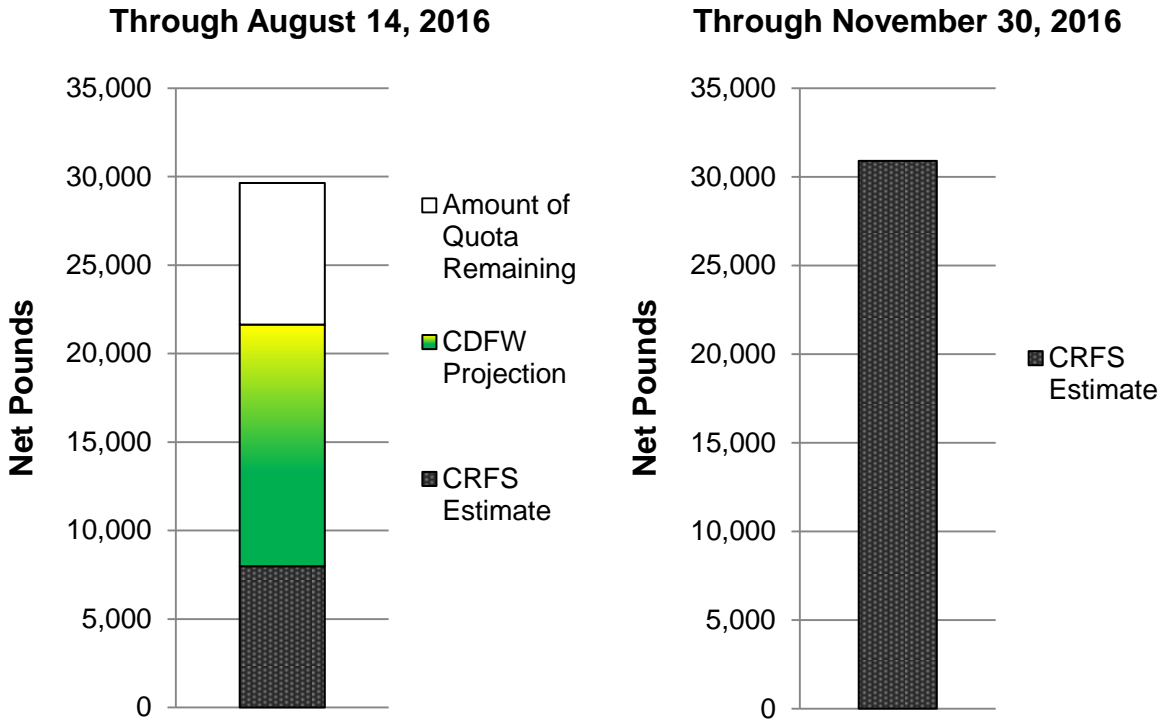


Figure 3. Examples of the CDFW online Pacific halibut inseason catch tracking "thermometer." The figure on the left shows catch projections (colored gradient) combined with monthly estimates (grey stippled). The figure on the right shows the full season with monthly estimates, which replaced all projections. The "thermometer" was updated weekly during the open season, with a final update when the preliminary 2016 season total became available.

Fishery Closure

Provisions in the CSP allow for flexible inseason management of the recreational Pacific halibut fisheries in Area 2A. These provisions include modifications to sport fishing periods, or the length of the season via inseason changes. Notice of any inseason action is provided to the public by NMFS on their halibut hotline.

Catch projections through September 18 showed more than 95 percent of the quota had already been taken. Good weather forecasts and the potential for high catch rates, similar to those seen during the August open period, prompted CDFW to hold conference calls with NMFS, the IPHC, and PFMC on September 20. Based on then-current fishery trends and predicted weather conditions, CDFW, NMFS, PFMC and IPHC determined that a fishery closure effective Saturday, September 24 was necessary to avoid exceeding the quota.

CDFW provided notice of the early closure to its constituents through a variety of methods: a news release (<https://cdfgnews.wordpress.com/2016/09/21/recreational-pacific-halibut-fishery-to-close-saturday-sept-24/>) the details of which were carried in

several local north coast news publications; information on its Pacific halibut webpage (<https://www.wildlife.ca.gov/Conservation/Marine/Pacific-Halibut>); CDFW Marine Region blog; CDFW groundfish regulations hotline; and a flyer posted at local harbors (Figure 4), launch ramps, and tackle shops which was also handed out to the public by CRFS samplers (Figure 5). NMFS updated its Pacific halibut hotline with the closure information, and the IPHC posted a news release about the closure to its website. CDFW staff is also aware that a number of local organizations posted the information online or in printed media, and provided notice by marine radio.



Figure 4. A CDFW CRFS sampler posts the fishery closure flyer in Eureka. CDFW photo.



Pacific Halibut Fishery in California **CLOSED**,



Effective Saturday, September 24

The California Department of Fish and Wildlife (CDFW) announces that the recreational **Pacific halibut fishery in California will close Saturday, September 24 at 12:01 a.m. for the remainder of 2016.**

Based on the latest catch projections, CDFW expects the 2016 quota of 29,640 pounds will be exceeded unless the fishery is closed. Authority to close the fishery resides with the International Pacific Halibut Commission (IPHC) and the National Marine Fisheries Service (NMFS), which took action to close the fishery following consultation with CDFW.

During this season, CDFW field staff sampled public launch ramps and charter boat landings to monitor catches of Pacific halibut along with other marine sportfish. Using this catch information, CDFW conferred with NMFS and the IPHC on a weekly basis to review projected catch amounts and determine when the quota would be attained.

For current information about the Pacific halibut fishery, science or management, please check one of the following resources:

- NMFS Halibut Hotline, (800) 662-9825
- CDFW Recreational Groundfish Regulations Hotline, (831) 649-2801
- CDFW website, www.wildlife.ca.gov/Conservation/Marine/Pacific-Halibut
- IPHC website, www.iphc.int



Version 09/20/16

Figure 5. CDFW flyer announcing the September 24, 2016 closure of the recreational Pacific halibut fishery in California. The flyer was posted at launch ramps and marinas, and provided to tackle shops and the public to notify them of the early season closure.

Angler Compliance with Closed Time Periods

The CRFS program continues its sampling coverage in north coast ports at the same rate when the Pacific halibut fishery is closed, due to the need to collect information on open fisheries (i.e., salmon, groundfish).

One element of the CRFS survey plan is to collect information from anglers at the end of their trip on fish they released. Anglers are asked for the species of fish, and whether the fish was released alive or dead. No Pacific halibut were examined by samplers, or reported by anglers as caught and kept, or caught and released during any of the closed periods of the 2016 fishing season, including the period from September 24 through October 31 when the fishery was originally scheduled to be open but was closed inseason.

In the weeks following the September 23 closure, sampler and angler reports from all five major port areas suggest that anglers were complying with the early 2016 season closure, and that agency, industry and community outreach to raise awareness of the inseason closure worked effectively. Additionally, CDFW enforcement officers along the north coast reported good compliance with the closure; no violations or warnings for Pacific halibut take out of season were issued in 2016.

Estimating Discard Mortality

In recent years, the IPHC requested that state fisheries agencies provide an annual estimate, if possible, of discard mortality in their recreational fisheries. The current sampling protocol of CDFW's CRFS program includes the observation, recording and estimation of the total number of both retained and discarded fish, and documentation of the weight of retained fish when possible. Discarded fish that are returned dead are also documented. However, unlike retained fish, no information on the size of discarded fish is collected.

Using CFRS data from 2004 to 2016, CDFW estimated the weight of fish discarded alive and those discarded dead, assuming that the average weight of a discarded fish is the same as a retained fish in each year. In 2016, no fish were estimated as discarded dead (Table 2). Meanwhile, 151 fish were estimated to have been released alive, and of those, seven percent were estimated to have died, **resulting in a preliminary 2016 discard mortality estimate of 192 net pounds**. Given that the daily bag limit is one fish per person, with no minimum size or slot limit, recreational anglers could be expected to discard smaller fish and retain the larger ones – therefore the estimated discard mortality is likely an overestimate.

In producing these estimates, a mortality rate of seven percent was applied to fish

reported as discarded either dead or alive. This mortality rate was established by the PFMC's Groundfish Management Team as a presumed rate of discard mortality for flatfish³. Application of this rate to discarded fish is also consistent with methods used to estimate discard mortality by the Oregon Department of Fish and Wildlife and Washington Department of Fish and Wildlife.

Table 2. Estimated number of fish and weight of recreationally caught Pacific halibut discards, and estimated total discard mortality (net pounds) in California from 2004-2016. Data from 2016 is preliminary and subject to change. Data are from CRFS.

Year	Discarded Alive			Discarded Dead		Total Discard Mortality (net pounds)
	Estimated Number of Fish	Estimated Net Pounds	Estimated Discard Mortality (7 percent of net pounds)	Estimated Number of Fish	Estimated Discard Mortality (7 percent of net pounds)	
2004	62	1,061	74	*	*	74
2005	37	905	63	5	31	94
2006	205	3,558	249	0	0	249
2007	27	319	22	0	0	22
2008	133	1,559	109	4	4	113
2009	226	3,040	213	0	0	213
2010	63	865	61	0	0	61
2011	24	293	21	0	0	21
2012	157	2,315	162	0	0	162
2013	120	2,095	147	0	0	147
2014	197	2,938	206	0	0	206
2015	117	2,470	173	0	0	173
2016	151	2,743	192	0	0	192
Average	117	1,859	126	1	8	131

* No estimates of discarded dead fish available.

2016 Noteables

While Pacific halibut are most commonly found north of Point Arena, they can occasionally be found south of that location. On July 3, 2016 a CDFW CRFS sampler examined a 31-inch Pacific halibut that was caught near Santa Cruz, California by a recreational angler (Figure 6).

³ PFMC (Pacific Fishery Management Council) and NMFS (National Marine Fisheries Service). 2009. Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish Fishery Final Environmental Impact Statement Including Regulatory Impact Review and Initial Regulatory Flexibility Analysis. Pacific Fishery Management Council, Portland, OR. January 2009, Table 4-56.



Figure 6. Pacific halibut caught near Santa Cruz, CA on July 3, 2016. CDFW photo.

Each year there are several anecdotal reports of large (in excess of 70 pounds) Pacific halibut being caught and or landed in California. Anecdotal information suggests during 2016 anglers began using fishing gear designed to target these larger Pacific halibut, and several anglers had success. In August 2016, an 11 year old caught a 100-pound Pacific halibut out of Shelter Cove

(<https://fishingthenorthcoast.wordpress.com/2016/08/11/kings-still-parked-at-entrance-to-humboldt-bay/>). There was no CRFS assignment at Shelter Cove on this day so additional information about this fish is not available. California north coast CPFV businesses often provide catch reports, sometimes with photographs, of successful angling trips (http://www.norcalfishreports.com/wall-of-fame?fish_id=116).

California Commercial Fishery

Notably, in 2016, a total of four vessels participated across two of the opening days in the directed fishery; the preliminary landings were 1,002 net pounds. The landings were distributed from Crescent City to Eureka and generated an estimated \$9,000 in additional economic support for northern California coastal communities.

Although in previous years there has been very limited interest in the directed fishery, anecdotal information suggests there was renewed consideration of potential opportunity as a result of recent success in the recreational fishery and the IPHC survey results in California waters. Further reports suggest that vessels were augmenting their typical groundfish trips to explore whether Pacific halibut could be successfully caught while abiding by the groundfish fishery Rockfish Conservation Area depth prohibition between 30 and 100 fathoms. Upon further analysis of the landing receipt information, groundfish and Pacific halibut were both recorded on these trips suggesting that abiding by the depth restriction did not preclude successful take of Pacific halibut for the directed fishery.

For the first time, CDFW staff was present during the offloading for one vessel in Eureka (Figure 7), and conducted biological sampling per the IPHC's protocols. Ageing structures for Pacific halibut were collected and provided to IPCH for inclusion in the stock assessment. CDFW anticipates continuing with future sampling efforts into 2017 if there is sufficient participation in the directed fishery.



Figure 7. Commercially caught Pacific halibut in Eureka, CA. CDFW photo.

Summary

CDFW plans to continue participating in the Pacific halibut management process with co-managers at the IPHC, NMFS, PFMC and in Area 2A, and collecting CRFS sample data for use in inseason tracking and monitoring and the catch estimation process in 2017.

For more information about California's Pacific halibut fishery, contact:

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