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Author

Biostatistical Section, Marine Resources Operations

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**THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
FISH BULLETIN No. 121**

**The California Marine Fish Catch For 1961
Catch Localities for Dover Sole, *Microstomus pacificus* (Lockington), Landed
in California, 1950 through 1959**



BY
*THE BIOSTATISTICAL SECTION
MARINE RESOURCES OPERATIONS*
and By
E. A. BEST
1963

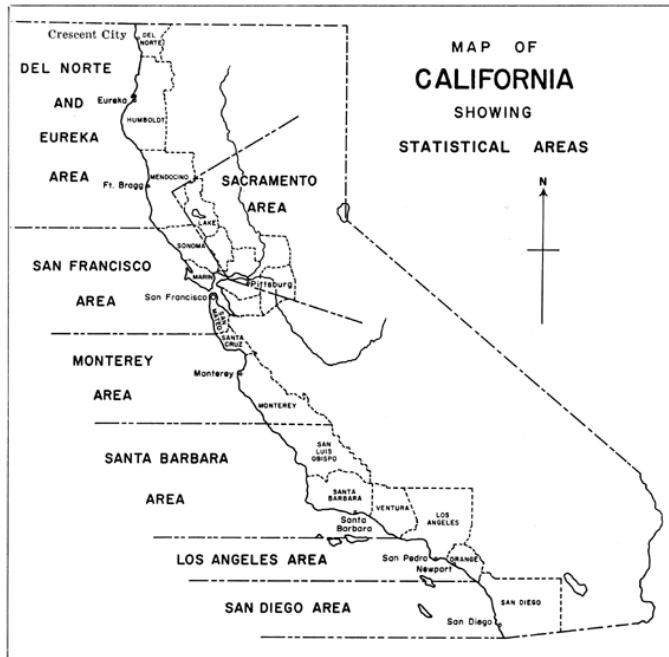


FIGURE 1

(2)

FIGURE 1

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FOREWORD

Catch Bulletins provide records of California's commercial fisheries and their value to fishermen. They also summarize the marine party boat anglers' sport catch.

This report for 1961 is the 21st in the series. Prior records have been published regularly beginning with those for 1926 and 1927. In recent years, a need for faster publication of catch statistics has made it desirable to publish annually instead of biennially.

There has been a change in the title of the bulletin series from *The Marine Fish Catch of California to The California Marine Fish Catch*.

Each wholesale fish dealer or processor completes a record in quadruplicate of all fish received. The triplicate copy of these receipts is sent to the Department of Fish and Game. Party-boat operators record each trip's catch and these records are also sent to the Department. These data are edited and subsequently processed by electric accounting machines.

Published figures are of national and international concern, but they are used primarily by fisheries scientists and legislators to manage and regulate California's important fisheries. Chambers of commerce, members of the fishing industry, educators, and others also find the catch statistics of value in meeting their respective needs.

1. EXPLANATION OF TABLES

The tables of this bulletin summarize the final 1961 records of fish, mollusks, and crustaceans landed by the commercial fishing fleet in California. Records of fish caught by party-boat anglers or used for live bait are also summarized.

The tables also record imports from other states or foreign countries that are destined for processing; however, fish shipped into California to be sold in a fresh state are not recorded.

Annual landings and shipments into California are shown in Table 2 and Figure 2. Weights given are totals of all species landed or imported including deliveries to sardine reduction ships from 1930 to 1938.

The 20 leading species landed and shipped into California are ranked according to pounds and value for 1960 and 1961 in Table 3. Poundages of landings and shipments of each species for 1961 are recorded in Tables 6 to 14.

The value for each variety has been computed from prices paid to the fishermen. These are minimal values, less than wholesale, and do not reflect costs of trucking, unloading, ice, or other items. When the price paid for an individual landing is unspecified, we use the average price for that variety in that area. Tables 15 to 21 show values of each variety landed in the state by each port area.

Species caught and landed in California during 1961 are listed in Table 1, both common and scientific names are given. Some varieties are reported collectively when, for economic or other reasons, dealers are unable to provide a specific separation. For example silver and king salmon are combined as salmon because the price is based on size; for this reason, the dealers do not distinguish species.

Animal food is reported as a separate category for the first time. This grouping consists of trawl-caught fish. In prior years, dealers attempted to separate animal food landings by species. Sampling conducted by the Department's Bottomfish Investigation during 1961 showed the species composition of animal food was:

<i>Species</i>	<i>Percent</i>
Sablefish	28
Arrowtooth flounder	27
Rockfish	13
Pacific hake	12
Dover sole	7
Rex sole	5
English sole	2
30 other species	6
	100

In California, almost all fish and shellfish are landed in a round condition, an exception is salmon which is nearly always eviscerated before landing. However, the condition of fish landed by fishermen cannot always be determined, thus, landing figures are tabulated as reported to the Department's Biostatistical Unit, irrespective of condition.

When landings are reported by units of measure other than pounds, appropriate conversion factors are used to equate them to pounds. Conversion factors are determined periodically by sampling the landings at delivery points. Current conversion factors applied to eight important mollusks and crustaceans when not reported by pounds are:

Abalone, red	50 lbs. per doz.
Abalone, pink	25 lbs. per doz.
Abalone, green	35 lbs. per doz.
Clams, Mexican Pismo	8 lbs. round wt. per 1 lb. cleaned wt.
Clams, Washington	7 lbs. per doz.
Crab, market	2 lbs. each
Oyster, eastern	30 lbs. per 100 oysters
Oyster, giant Pacific	50 lbs. per 100 oysters

Table 22 summarizes the party-boat angler catch from 1936 to 1961, excluding World War II years. The annual catch of the more important sport species together with the total effort expended by party-boat sport fishermen are presented. Total effort for 1960 and 1961 is reported as number of anglers; prior to 1960, angler days were used to measure total effort.

The estimated catch of live bait for ocean sport fishing is given in Table 23. These data are based on the reported catches of 14 boats.

The numbers of fishermen licensed for commercial fishing in California are given by area of residence in Table 4. The sizes of the registered fishing boats of the commercial fleet are listed in Table 5.

TABLE 1
Common and Scientific Names of Fishes, Crustaceans, and Mollusks in the 1961 Catch

Common name	Scientific name	Common name	Scientific name
<i>FISHES</i>			
Anchova.....	<i>Engraulis mordax</i>	Shark.....	<i>Cetorhinus maximus</i>
Barracuda, California.....	<i>Sphyraena argentea</i>	Basking.....	<i>Iurus glaucus</i>
Bass, rock.....	<i>Paralabrax clathratus</i>	Bonito.....	<i>Squidus acanthias</i>
Kelp bass.....	<i>Paralabrax nebulifer</i>	Dogfish.....	<i>Triakis semifasciata</i>
Sand bass.....	<i>Sarda chilensis</i>	Leopard.....	<i>Galeorhinus zypperius</i>
Bonito, Pacific.....	<i>Sarda chilensis</i>	Soupfin.....	<i>Alopias vulpinus</i>
Cakezon.....	<i>Scorpophis marmoratus</i>	Thresher.....	<i>Varying amounts of others</i>
Cabilla, spotted.....	<i>Eucinostomus analogus</i>	Sheepshead, California.....	<i>Pimelometopon pulchrum</i>
Carp.....	<i>Cyprinus carpio</i>	Sierra.....	<i>Scomberomorus sierra</i>
Croaker, white.....	<i>Genyonemus lineatus</i>	Skate.....	
Small amounts of queenfish.....	<i>Seriophis politus</i>	Big.....	<i>Raja binoculata</i>
Flounder.....		California.....	<i>Raja inornata</i>
Starry flounder.....	<i>Platichthys stellatus</i>	Longnose.....	<i>Raja rhina</i>
Small amounts of other flatfishes.....		Smelt.....	
Flounder, arrowtooth.....	<i>Atheresthes stomias</i>	Grunion.....	<i>Leuresthes tenuis</i>
Flyingfish.....	<i>Cypselurus sp.</i>	Jacks-melt.....	<i>Atherinops californiensis</i>
Greenling, kelp.....	<i>Hoplogrammos decagrammus</i>	Surf.....	<i>Hypomesus pretiosus</i>
Groupers.....	<i>Micromesistius sp.</i>	Topsmelt.....	<i>Atherinops affinis</i>
Hake, Pacific.....	<i>Merluccius productus</i>	Smelt, whitebait.....	<i>Alboscionus caputpus</i>
Halfmoon.....	<i>Medialuna californiensis</i>	Sprinckel's starkei.....	<i>Sprinckel's starkei</i>
Halibut, California.....	<i>Paralichthys californicus</i>	Young of several others.....	
Halibut, Pacific.....	<i>Hippoglossus stenolepis</i>	Sole.....	
Hardhead.....		Dover.....	<i>Microstomus pacificus</i>
Sacramento black-fish.....	<i>Orthodon microlepidotus</i>	English.....	<i>Parophrys velutinus</i>
Hardhead.....	<i>Mylopharodon conocephalus</i>	Petrale.....	<i>Eopsetta jordani</i>
Herring, Pacific.....	<i>Clupea pallasi</i>	Rex.....	<i>Glyptocephalus zachirus</i>
Lingcod.....	<i>Ophiodon elongatus</i>	Sand.....	<i>Psettichthys melanostictus</i>
Mackerel, jack.....	<i>Trachurus symmetricus</i>	Varying amounts of others.....	
Mackerel, Pacific.....	<i>Scomberoides dipsas</i>	Splittail.....	<i>Pogonichthys macrolepidotus</i>
Opah.....	<i>Girella nigricans</i>	Spanner.....	<i>Salmo gairdneri</i>
Perch.....		Star-roon.....	<i>Acipenser sp.</i>
Pompano, Pacific.....	<i>Palometa simillima</i>	Swordfish.....	<i>Xiphias gladius</i>
Rockfish.....	All species of <i>Sebastodes</i> and <i>Sebastolobus</i>	Tuna.....	
Sablefish.....	<i>Anoplopoma fimbria</i>	Albacore.....	<i>Thunnus alalunga</i>
Salmon.....		Bigeye.....	<i>Thunnus obesus</i>
King.....	<i>Oncorhynchus tshawytscha</i>	Bluefin.....	<i>Thunnus thynnus</i>
Silver.....	<i>Oncorhynchus kisutch</i>	Oriental.....	<i>Thunnus orientalis</i>
Sanddab.....	<i>Citharichthys sordidus</i>	Skinjack.....	<i>Katsuwonus pelamis</i>
Sardine.....	<i>Sardinops caerulea</i>	Yellowfin.....	<i>Thunnus albacares</i>
Sculpin.....	<i>Scorpaena guttata</i>	Turbot.....	
Sea bass, right.....	<i>Stereolepis gigas</i>	Curlfin.....	<i>Pleuronichthys decurrens</i>
Seabass, white.....	<i>Cynoscion nobilis</i>	Diamond.....	<i>Hypsoplectra guttulata</i> *
Shad.....	<i>Alosa sapidissima</i>	Hourglass.....	<i>Pleuronichthys verticalis</i> *
		Small amounts of others.....	
		Wahoo.....	<i>Acanthocybium solandri</i>
		Whitefish, ocean.....	<i>Caulilatilus princeps</i>
		Yellowtail, California.....	<i>Seriola dorsalis</i>
<i>CRUSTACEANS</i>			
Crab, market.....	<i>Cancer magister</i>	Shrimp, bay.....	<i>Crago franciscorum</i>
Crab, rock.....	<i>Cancer productus</i>		<i>Crago nigericuda</i>
	<i>Cancer antennarius</i>	Shrimp, ocean.....	<i>Pandalus jordani</i>
Lobster, spiny.....	<i>Panulirus interruptus</i>	Small amounts of others.....	
<i>MOLLUSKS</i>			
Abalone.....		Clam—continued.....	
Pink.....	<i>Haliotis corrugata</i>	Pismo.....	<i>Tivela stultorum</i>
Red.....	<i>Haliotis rufescens</i>	Washington.....	<i>Saxidomus nuttalli</i>
Green.....	<i>Haliotis fulgens</i>	Octopus.....	<i>Paroctopus apponyi</i>
White.....	<i>Haliotis sorenseni</i>	Mussel.....	<i>Mytilus sp.</i>
Chit.....		Oyster.....	
Gaper.....	<i>Tresus nuttalli</i>	Eastern.....	<i>Crassostrea virginica</i>
Jackknife.....	<i>Tagelus californianus</i>	Giant Pacific.....	<i>Crassostrea gigas</i>
		Squid.....	<i>Loligo opalescens</i>

TABLE 1
Common and Scientific Names of Fishes, Crustaceans, and Mollusks in the 1961 Catch

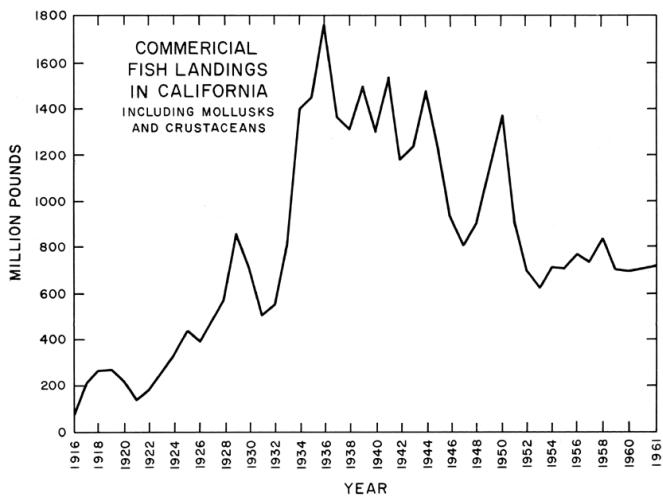


FIGURE 2. Total annual landings and shipments into California. Includes sardine deliveries to reduction ships 1930-38. See Table 2.

FIGURE 2. Total annual landings and shipments into California. Includes sardine deliveries to reduction ships 1930-38. See Table 2

TABLE 2

Total Annual Landings and Shipments Into California of Commercial Fish, Mollusks, and Crustaceans, Includes Sardine Deliveries to Reduction Ships During 1930 Through 1938

Year	Thousands of pounds	Year	Thousands of pounds
1916.....	95,063	1941.....	1,529,148
1917.....	209,877	1942.....	1,173,414
1918.....	261,134	1943.....	1,234,049
1919.....	266,270	1944.....	1,459,446
1920.....	222,004	1945.....	1,215,467
1921.....	135,348	1946.....	919,850
1922.....	182,343	1947.....	795,499
1923.....	253,875	1948.....	900,540
1924.....	340,446	1949.....	1,135,325
1925.....	437,502	1950.....	1,366,596
1926.....	394,964	1951.....	904,088
1927.....	487,166	1952.....	694,977
1928.....	583,527	1953.....	618,899
1929.....	856,854	1954.....	713,406
1930.....	702,189	1955.....	710,714
1931.....	502,390	1956.....	772,549
1932.....	556,139	1957.....	738,550
1933.....	821,805	1958.....	832,919
1934.....	1,390,799	1959.....	713,491
1935.....	1,448,017	1960.....	694,663
1936.....	1,764,900	1961.....	725,253
1937.....	1,362,984		
1938.....	1,310,596		
1939.....	1,486,535		
1940.....	1,297,517		

TABLE 2

Total Annual Landings and Shipments Into California of Commercial Fish, Mollusks, and Crustaceans, Includes Sardine Deliveries to Reduction Ships During 1930 Through 1938

TABLE 3
Landings and Shipments of Leading Species Ranked by Pounds and Value

1960				1961			
Species	Thousands of pounds	Rank	Thousands of dollars	Species	Thousands of pounds	Rank	Thousands of dollars
Yellowfin tuna.....	272,648	1	\$53,143	Yellowfin tuna.....	262,310	1	\$35,036
Jack mackerel.....	71,945	2	1,582	Jack mackerel.....	97,806	2	2,029
Skipjack.....	74,799	3	7,896	Skipjack.....	86,748	3	8,830
Ahalone.....	71,112	4	11,629	Ahalone.....	84,114	4	10,010
Sardine.....	57,533	5	1,186	Pacific mackerel.....	44,110	5	954
Pacific mackerel.....	38,809	6	757	Sardine.....	43,109	6	1,146
Market crab.....	14,876	7	2,517	Bluefin tuna.....	22,004	7	2,855
Rockfish.....	13,111	8	672	Bluefin crab.....	21,111	8	2,513
Bladder lump.....	13,150	9	1,653	Rockfish.....	10,531	9	587
Giant Pacific oyster.....	10,657	10	288	Squid.....	10,286	10	231
Dover sole.....	9,185	11	521	Giant Pacific oyster.....	10,047	11	291
Salmon.....	8,038	12	3,610	Bluefin tuna.....	9,562	12	2,277
Ahalone.....	5,059	13	714	Pacific bonito.....	8,513	13	218
Ahalone.....	4,266	14	496	Dover sole.....	7,827	14	481
Sabefish.....	2,910	15	227	Ahalone.....	7,527	15	12
Squid.....	2,561	16	77	Ahalone.....	4,854	16	607
Petrale sole.....	2,478	17	266	Almond-seed animal food.....	3,777	17	75
English sole.....	2,376	18	164	English sole.....	3,646	18	261
Ocean shrimp.....	2,057	19	203	Petrale sole.....	3,503	19	209
Pacific halibut.....	1,901	20	14	Sabefish.....	2,030	20	176
All others.....	14,854		1,712	All others.....	16,575		2,038
Totals.....	694,663		\$70,338	Totals.....	726,253		\$74,214

TABLE 3
Landings and Shipments of Leading Species Ranked by Pounds and Value

TABLE 4
Licensed Commercial Fishermen

Area of residence	Number of fishermen by season ¹	
	1960-1961	1961-1962
Eureka.....	1,126	1,321
Sacramento.....	91	128
San Francisco.....	1,185	1,229
Monterey.....	677	696
Santa Barbara.....	566	627
Los Angeles.....	2,190	2,287
San Diego.....	1,506	1,589
Alaska, Washington and Oregon fishermen licensed in California.....	565	500
Mexican nationals licensed in California.....	22	43
Other registry.....	23	14
Totals.....	7,951	8,434

¹ The season is from April 1 to March 31.

TABLE 4
Licensed Commercial Fishermen

TABLE 5

Number of Fishing Boats by Length

Season ¹	Up to 24 feet	25 to 39 feet	40 to 64 feet	65 to 84 feet	85 to 99 feet	100 feet and over	Total
1960-1961.....	694	1,620	1,052	135	48	100	3,649 ²
1961-1962.....	830	1,725	1,048	123	44	102	3,872 ³

¹ The season is from April 1 to March 31.

² The owners of 530 boats were issued fishing party licenses in 1960-61.

³ The owners of 544 boats were issued fishing party licenses in 1961-62.

TABLE 5
Number of Fishing Boats by Length

TABLE 6
Origin of Shipments of Fresh Fish Into California During 1961

Shipped from:	Species	Pounds shipped to each area				Total pounds
		Eureka	San Francisco	Los Angeles	San Diego	
Continental United States:						
Salmon.....	---	---	24,145	---	---	24,145
Shad.....	7,780	7,780	2,700	---	---	10,480
Sturgeon.....	---	---	18,260	---	---	18,260
Sucker.....	---	---	166,440	---	---	166,440
Oregon, Washington, Canada and Alaska:						
Halibut, Pacific.....	---	---	6,840	---	---	6,840
Sablefish.....	---	---	246,054	---	---	246,054
Salmon.....	1,111	1,111	328,422	---	---	329,533
Shad.....	5,989	5,989	129,299	---	---	135,288
Smelt.....	---	---	4,080	---	---	4,080
Steelhead.....	---	---	1,563	---	---	1,563
Sturgeon.....	---	---	16,229	---	---	16,229
Miscellaneous.....	---	---	48,590	---	---	48,590
Mexico and Central America:						
White, seabass.....	---	---	2,776	---	---	2,776
Shark.....	---	---	42,679	---	---	42,679
Tuna, albacore.....	375,220	375,220	3,316,032	---	---	3,594,312
Tuna, bluefin.....	---	---	428,552	75,650	---	504,242
Tuna, skipjack.....	---	---	850,442	3,074,404	---	3,924,846
Tuna, yellowfin.....	142,310	142,310	4,899,395	3,874,238	---	8,915,943
Mollusk:						
Clam, jackknife.....	---	---	940,400	242	242	940,400
Clam, Pismo.....	---	---	---	2,442	2,442	2,442
Mussel.....	---	---	---	---	---	---
South America:						
Tuna, albacore.....	23,330	23,330	---	---	---	23,330
Tuna, skipjack.....	---	---	6,395,517	10,185,523	---	16,581,040
Tuna, yellowfin.....	---	---	890,002	7,114,113	---	8,004,115
Japan:						
Sablefish.....	---	---	168,000	---	---	168,000
Tuna, albacore.....	2,437,510	2,437,510	22,427,515	1,626,945	26,491,670	26,491,670
Tuna, bigeye.....	182,480	182,480	278,916	---	---	461,396
Tuna, oriental.....	90,190	90,190	60,725	---	---	150,915
Tuna, skipjack.....	174,370	174,370	664,516	---	---	838,886
Tuna, yellowfin.....	16,758,125	16,758,125	32,581,371	2,244,749	51,584,245	51,584,245
Australia:						
Tuna, bluefin.....	---	514,970	102,413	---	---	617,383
China (Formosa):						
Tuna, albacore.....	---	62,730	---	---	---	62,730
Tuna, yellowfin.....	---	490,344	489,546	---	---	988,890
Africa:						
Tuna, albacore.....	---	118,665	---	---	---	118,665
Tuna, yellowfin.....	---	963,013	---	---	---	963,013
Total pounds.....	1,111	22,359,026	75,431,519	28,198,306	---	125,989,962

TABLE 6
Origin of Shipments of Fresh Fish Into California During 1961

TABLE 7
Origin of Commercial Fish Landings and Shipments Into California During 1961

Species	Landings from				Shipments ¹	Grand total
	California waters	Waters north of State	Waters south of State	Total pounds		
Fish:						
Anchovy.....	7,711,573	---	---	7,711,573	---	7,711,573
Barracuda, California.....	478,362	---	231,017	709,379	---	709,379
Bonito, Pacific.....	8,439,400	---	73,572	8,512,972	---	8,512,972
Cabezon.....	4,952	---	---	4,952	---	4,952
Cabrilla, spotted.....	---	---	11,071	11,071	---	11,071
Carp.....	338,550	---	---	338,550	---	338,550
Croaker, white.....	889,164	---	---	889,164	---	889,164
Flounder.....	295,598	19,739	---	315,337	---	315,337
Flounder, arrowtooth.....	60,659	---	---	60,659	---	60,659
Flyingfish.....	32,802	---	---	32,802	---	32,802
Greenling, kelp.....	881	---	---	881	---	881
Grouper.....	---	202,271	202,271	202,271	202,271	202,271
Hake, Pacific.....	3,275	---	---	3,275	---	3,275
Halfmoon.....	5,907	---	---	5,907	---	5,907
Halibut, California.....	545,472	---	109,082	654,554	---	654,554
Halibut, Pacific.....	3,947	14	---	3,961	6,840	10,801
Hardhead.....	99,266	---	---	99,266	---	99,266
Herring, Pacific.....	1,401,248	---	---	1,401,248	---	1,401,248
Lingcod.....	1,361,726	78,217	---	1,439,943	---	1,439,943
Mackerel, jack.....	97,806,304	---	---	97,605,304	---	97,605,304
Mackerel, Pacific.....	44,110,194	---	---	44,110,194	---	44,110,194
Opaheye.....	2,337	---	---	2,337	---	2,337
Perch.....	118,245	---	---	118,245	---	118,245
Pompano, Pacific.....	11,265	---	160	11,425	---	11,425
Rock bass.....	---	---	2,584	2,584	---	2,584
Rook-fish.....	10,324,292	166,723	339,742	10,880,762	---	10,880,762
Sablefish.....	1,562,897	53,551	100	1,616,528	44,054	2,030,582
Salmon.....	8,637,907	---	---	8,637,907	353,678	8,991,585
Sanddab.....	558,037	4,907	---	562,964	---	562,964
Sardine.....	43,169,064	---	---	43,169,064	---	43,169,064
Sculpin.....	26,718	---	---	26,718	---	26,718
Sea bass, giant.....	12,509	---	327,854	340,363	---	340,363
Seabass, white.....	458,491	---	235,733	664,224	2,776	697,000
Shad.....	---	---	---	---	145,768	145,768
Shark.....	610,122	---	13,850	623,972	42,679	666,651
Sheephead, California.....	9,651	---	2,951	12,602	---	12,602
Sierra.....	299,317	---	782	782	---	782
Skate.....	299,317	---	---	299,317	---	299,317
Smelt.....	491,265	---	---	491,265	4,080	495,345
Smelt, whitebait.....	335,852	---	---	335,852	---	335,852
Sole, Dover.....	6,716,070	1,110,547	---	7,826,617	---	7,826,617
Sole, English.....	3,415,573	230,345	---	3,645,918	---	3,645,918
Sole, petrale.....	3,158,923	231,816	---	3,390,739	---	3,390,739
Sole, rex.....	1,161,485	47,344	---	1,208,829	---	1,208,829
Sole, sand.....	76,028	1,102	---	77,130	---	77,130
Sole, miscellaneous.....	34,484	---	---	34,484	---	34,484
Splittail.....	738	---	---	738	---	738
Steelhead.....	---	---	---	---	1,563	1,563
Sturgeon.....	---	---	---	---	34,489	34,489
Swordfish.....	360,643	---	8,212	368,855	---	368,855
Tuna, albacore.....	20,594,360	143,709	8,385,175	29,123,244	30,291,007	59,414,251
Tuna, bigeye.....	---	---	---	---	461,396	461,396
Tuna, bluefin.....	13,762,432	---	7,120,218	20,882,650	1,121,625	22,004,275
Tuna, oriental.....	---	---	---	---	150,915	150,915
Tuna, skipjack.....	578	---	65,402,282	65,402,860	21,344,772	86,747,632
Tuna, yellowfin.....	---	---	101,854,056	101,854,056	70,455,206	262,310,262
Turbot.....	71,367	---	---	71,367	---	71,367
Wahoo.....	---	---	---	9,294	---	9,294
Whitefish, ocean.....	8,447	---	16,744	25,191	---	25,191
Yellowtail, California.....	80,689	---	300,080	380,769	---	380,769
Miscellaneous.....	1,496	---	418	1,914	215,030	216,944
Miscellaneous (animal food).....	3,455,392	321,741	---	3,777,133	---	3,777,133

TABLE 7
Origin of Commercial Fish Landings and Shipments Into California During 1961

TABLE 7—Continued
Origin of Commercial Fish Landings and Shipments Into California During 1961

Species	Landings from				Shipments ¹	Grand total
	California waters	Waters north of State	Waters south of State	Total pounds		
Crustacean:						
Crab, market.....	11,711,225	102	----	11,711,327	----	11,711,327
Crab, rock.....	151,782	----	----	151,782	----	151,782
Lobster, spiny.....	412,453	----	6,269	418,722	----	418,722
Shrimp, bay.....	2,050	----	----	2,050	----	2,050
Shrimp, ocean.....	2,002,709	----	----	2,002,709	----	2,002,709
Mollusk:						
Abalone.....	4,553,766	----	----	4,553,766	----	4,553,766
Clam, gaper.....	220	----	----	220	----	220
Clam, jackknife.....	5,823	----	----	5,823	342	6,065
Clam, Pismo.....	----	----	----	----	940,400	940,400
Clam, Washington.....	1,976	----	----	1,976	----	1,976
Mussel.....	3,065	40	----	3,105	2,442	2,442
Octopus.....	3,065	40	----	3,105	----	3,105
Oyster, eastern.....	105,726	----	----	105,726	----	105,726
Oyster, giant Pacific.....	10,047,550	----	----	10,047,550	----	10,047,550
Squid.....	10,285,791	----	----	10,285,791	----	10,285,791
Total pounds.....	322,200,110	2,409,882	274,653,517	599,263,509	125,989,962	725,253,471

¹ For origin of shipments refer to Table 6.

TABLE 7
Origin of Commercial Fish Landings and Shipments Into California During 1961

TABLE 8
Monthly Landings and Shipments Into California During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS:													
Fish:													
Anchoa.....	696,420	604,980	690,155	56,340	407,860	300,760	560,030	1,561,192	1,165,301	63,1726	720,000	265,590	7,711,475
Barnacle, California.....	64,064	85,372	36,292	88,266	101,301	333,110	43,377	54,710	15,630	81,120	32,500	45,344	709,273
Bonito, Pacific.....	689,696	1,305,574	160,794	305,038	18,668	97,158	278,462	83,974	646,637	711,892	846,349	2,634,427	8,512,972
Codfish.....	797	494	563	115	897	547	17	155	104	250	249	761	8,162
Caribou, spotted.....	5,380	1,160	2,804	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	11,160
Carp.....	69,880	32,945	30,035	26,908	21,003	21,182	23,246	16,050	16,100	27,695	27,300	12,027	338,580
Croaker, white.....	38,336	121,789	111,844	60,530	131,830	140,584	95,356	56,933	42,652	57,289	19,128	9,301	889,161
Flounder.....	22,617	25,302	12,523	10,629	2,398	15,803	7,331	47,490	61,025	62,539	19,186	27,522	515,337
Gilt-head, arrowtooth.....	41,103	28,400	1,400	10,100	6,000	17,100	10,000	9,000	10,000	7,000	6,000	6,000	93,100
Flyingfish.....	---	---	---	---	55	13,131	12,331	7,115	170	---	---	---	32,802
Greenling, kelp.....	32,929	33,237	36,783	86	17,736	9,635	645	---	497	110	74	---	881
Grouper.....	32,929	33,237	36,783	86	17,736	9,635	645	---	497	110	74	---	881
Hake, white.....	2,448	20	---	---	---	---	---	---	---	11,219	60,004	202,271	342,437
Halibut.....	1,454	20	---	---	---	---	---	55	16	30	171	4,191	5,997
Halibut, California.....	58,014	53,872	53,956	58,539	27,555	39,452	60,694	74,530	60,030	44,326	40,535	77,051	654,554
Halibut, Pacific.....	20,480	5,570	10,785	6,500	637	445	1,218	1,549	98	14	3,961	3,961	3,961
Herring, Pacific.....	741,229	71,060	965	138,735	111,314	73,162	24,559	300	5,479	100	1,655	231,620	1,401,243
Lingcod.....	34,099	38,217	58,698	71,055	189,827	172,122	219,968	317,757	133,174	88,799	59,237	37,157	1,439,943
Mackerel, blue.....	2,189,280	3,752,949	1,950,635	3,194,014	3,910,769	8,996,324	9,946,321	3,763,394	9,058,144	20,817,009	20,259,024	13,359,747	97,009,364
Mackerel, Pacific.....	777,280	937,708	807,017	8,833,387	5,869,806	1,042,098	3,414,198	2,581,183	2,868,807	6,380,870	7,134,674	3,738,679	44,110,194
Opah.....	814	8	---	---	---	---	63	12	12	12	12	12	12
Perch.....	6,342	8,662	17,785	36,756	72	---	0,243	15,072	4,879	6,363	6,147	6,894	118,245
Pompano, Pacific.....	3,914	8,400	7,474	5,767	260	1,380	7,000	3,431	3,754	1,260	86	229	11,111
Rock bass.....	---	435	533	1,036	---	---	185	---	85	---	---	2,581	2,581
Rockfish.....	1,112,573	830,790	971,102	1,000,121	1,075,812	1,079,967	954,984	881,322	682,080	806,583	735,710	650,099	10,320,762
Sablefish.....	174,283	120,972	196,913	95,516	77,412	72,515	93,500	156,080	130,108	186,559	189,846	106,592	1,616,323
Salmon.....	53,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202
Sardine.....	36,018	22,260	39,799	22,671	53,000	50,000	50,000	57,043	61,281	54,864	54,322	43,505	8,564,294
Sardine.....	184,965	358,612	478,670	569,070	503,920	521,323	492,472	1,356,480	16,658,490	8,399,059	8,084,854	5,560,900	43,169,094
Solefish.....	1,438	1,584	1,405	2,578	631	1,738	1,446	4,289	3,504	2,046	2,682	3,287	26,718
Sea bass, giant.....	15,554	26,235	20,097	19,901	16,945	11,310	15,566	22,826	21,483	45,900	36,148	75,918	340,363
Sebastodes.....	53,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202	50,202
Shark.....	42,223	29,303	30,992	33,553	52,726	78,024	64,346	45,094	51,933	55,030	55,559	79,889	623,972
Sheepshead, California.....	1,003	993	529	100	523	6181	987	1,617	1,288	2,215	1,255	1,474	12,902

TABLE 8
Monthly Landings and Shipments Into California During 1961

TABLE 8—Continued
Monthly Landings and Shipments Into California During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds	FISH CUCULIN NO. 12
LANDINGS—Continued:														
Fish—Continued:														
Sierra.....	14,060	782	22,519	35,986	62,330	38,061	38,917	11,886	15,757	25,150	14,900	18,424	792	
Sole, blacktail.....	13,087	22,519	35,986	62,330	38,061	38,917	11,886	15,757	25,150	14,900	18,424	299,317		
Sole, petrale.....	7,243	79,978	28,070	29,470	37,000	52,638	85,113	69,938	69,927	41,321	6,371	2,598	491,265	
Sole, whitetail.....	17,021	14,151	62,330	35,986	31,400	31,400	3,531	3,531	3,531	3,531	3,531	3,531	332,382	
Sole, Dover.....	180,145	242,333	481,920	792,137	1,128,050	871,022	1,093,235	693,173	679,338	668,813	139,561	7,820,617		
Sole, English.....	210,716	188,966	350,340	302,102	383,023	306,006	207,531	300,006	421,782	425,148	399,455	3,616,018		
Sole, petrale.....	405,900	102,784	188,791	244,062	288,203	266,265	314,556	161,457	223,643	243,857	299,137	315,264	3,390,730	
Sole, sand.....	140,111	87,452	87,452	110,900	102,263	82,331	77,893	77,893	116,306	115,830	101,698	35,055	1,208,820	
Sole, sand.....	14,421	1,058	832	1,024	1,024	533	533	533	2,870	2,870	1,921	1,921	1,920	
Sole, miscellaneous.....	4,736	3,532	4,684	3,277	3,183	2,741	3,529	2,978	1,466	1,524	1,015	1,805	34,484	
Spittail.....	329	134	166	-----	-----	42,563	10,083	105,485	53,343	3,399	-----	109	738	
Swordfish.....	-----	-----	-----	-----	-----	32,563	8,298,963	10,032,557	2,295,551	3,935,551	182,157	-----	385,855	
Tuna, albacore.....	2,061	216	-----	-----	74,173	589,566	3,768,708	7,128,403	5,448,753	715,667	26,430	128,643	29,123,541	
Tuna, bluefin.....	718,906	667,198	332,042	998,160	7,685,104	3,473,268	11,039,793	6,691,798	7,679,969	9,961,557	10,674,914	5,500,565	65,402,860	
Tuna, skipjack.....	718,906	667,198	332,042	998,160	7,685,104	3,473,268	11,039,793	6,691,798	7,679,969	9,961,557	10,674,914	5,500,565	65,402,860	
Tuna, yellowfin.....	20,429,491	20,175,537	36,220,025	18,691,262	36,909,006	14,888,900	7,075,274	8,885,342	7,819,956	8,879,975	9,802,412	11,977,551	191,854,056	
Tuna, yellowfin.....	20,429,491	20,175,537	36,220,025	18,691,262	36,909,006	14,888,900	7,075,274	8,885,342	7,819,956	8,879,975	9,802,412	11,977,551	191,854,056	
Wahoo.....	-----	-----	-----	-----	-----	2,462	6,802	-----	2,035	3,385	3,751	25,191	9,294	
Whitefish, ocean.....	3,031	1,855	6,802	8,165	1,233	1,409	400	400	400	400	400	400	30,909	
Yellowtail, ocean.....	4,936	11,222	9,692	23,067	50,311	168,269	10,297	29,877	32,250	26,101	123	301	1,914	
Miscellaneous.....	7	30	163	208	473	435	51	18	105	105	123	301	1,914	
Miscellaneous (animal food).....	113,457	54,077	86,790	337,073	532,067	491,740	460,851	379,544	297,376	335,669	344,348	120,292	3,777,133	
Crustaceans:														
Crab, market.....	3,015,307	2,801,668	758,337	1,026,290	714,373	160,907	9,320	-----	-----	254,994	2,070,231	11,711,327		
Crab, rock.....	7,488	4,535	4,821	11,042	11,892	14,965	20,912	19,127	17,136	11,631	14,697	13,536	151,782	
Lobster, rock.....	62,244	39,991	21,295	-----	-----	-----	-----	-----	-----	162,470	58,335	37,252	418,722	
Shrimp, bay.....	-----	195	-----	-----	-----	-----	-----	-----	850	170	175	3,050		
Shrimp, ocean.....	-----	-----	-----	-----	295,162	389,225	782,657	315,985	239,680	-----	-----	2,002,709		
Mollusks:														
Clams, market.....	263,345	-----	99,997	547,128	381,449	530,300	540,551	458,393	478,110	449,048	332,428	473,150	4,553,746	
Clam, paper.....	40	30	-----	-----	-----	40	20	20	20	669	386	107	220	
Clam, jackknife.....	77	269	343	536	641	772	930	999	669	386	107	124	5,823	
Clam, Washington.....	341	501	541	402	-----	-----	-----	-----	140	48	48	1,976		
Oysters.....	154	119	167	-----	110	252	866	154	145	271	415	472	3,109	

TABLE 8
Monthly Landings and Shipments Into California During 1961

Oyster, eastern.....	9,100	8,775	5,850	7,375	8,060	7,150	6,500	6,630	7,973	19,913	7,500	10,800	105,726
Oyster, giant Pacific.....	1,239,456	1,068,470	1,055,141	498,755	429,808	283,969	304,708	411,247	633,389	1,384,881	1,484,323	1,253,186	10,047,450
Squid.....	49,750	1,114,930	195,115	309,575	45,187	365,980	1,122,354	315,440	1,016,985	525,550	1,390,355	3,427,140	10,285,791
Total pounds.....	35,074,079	35,446,057	45,803,755	39,256,723	34,810,065	37,075,361	48,197,563	51,317,849	68,397,997	65,697,733	64,360,827	53,225,472	599,263,509
SHIPMENTS:¹													
Fish:													
Halibut, Pacific.....			41,000	19,000		1,440			5,400				6,840
Sablefish.....			40,000	24,160	32,744	17,157		52,468	36,919		70,625	20,042	168,000
Salmon.....							1,169		5,097	611	20,962	145,196	61,142
Seabass, white.....									2,776				382,728
Shad.....			2,700				1,601	55,433	20,254			40,000	20,000
Shark.....			12,208	5,588		10,569		4,050	834	2,880	10,900		
Smelt.....								4,050					42,679
Steelhead.....								1,563					1,563
Burgoo.....							10,313	1,223	10,727	5,058		3,668	
Tuna, blue.....												3,500	
Tuna, kahala.....													34,489
Tuna, longtail.....													
Tuna, yellowfin.....													
Mollusk:													
Clam, rockknife.....													242
Clam, Pismo.....	32,640	25,200				56		186					940,400
Mussel.....								262,888	144,392	311,440		163,340	2,442
Total pounds.....	13,677,553	7,188,469	11,251,576	8,639,464	7,891,013	10,407,215	9,275,911	15,130,978	7,562,177	10,814,070	10,562,843	13,279,993	135,889,962
Grand total.....	48,751,632	42,634,528	37,005,381	47,896,187	62,701,078	48,082,576	57,472,474	66,456,927	76,280,174	76,512,403	74,923,670	66,505,460	725,253,471

MARINE FISH CATCH FOR 1981

¹ For origin of shipments refer to Table 6.

TABLE 8—Cont'd.

TABLE 9

Monthly Landings and Shipments of Commercial Fish Into the Eureka Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM: California waters:													
FISH													
Cod.....	18,328	8,233	1,927	5,734	15	7,405	1,613	18,032	40,033	53,784	15,504	5,639	15 182,881
Poisoner.....	56	1,000	16,100	4,017	2,000	8,500	5,271	13,575	3,000	404	50,114	50,114	50,114
Haddock, California.....	-----	-----	-----	-----	-----	216	-----	-----	-----	-----	216	-----	216
Haddock, Pacific.....	-----	-----	-----	607	446	1,218	1,549	98	-----	-----	-----	-----	3,917
Herring, Pacific.....	9,315	5,546	18,765	32,393	94,979	75,790	97,80	225,945	50,510	36,281	24,816	9,251	70 684,000
Percy.....	3,911	2,610	5,496	20,496	7,146	10,792	2,329	3,025	2,306	2,840	60,951	-----	60,951
Rockfish.....	132,645	100,346	124,278	228,273	204,544	177,731	190,27	322,811	131,388	109,315	161,979	67,535	1,650,682
Sardine.....	34,157	11,155	21,777	20,400	33,813	60,400	60,400	85,717	84,003	37,146	50,000	10,000	296,882
Salmon.....	6,350	6,455	292,797	506,541	653,516	1,365,622	1,210,388	134,401	-----	-----	-----	4,154,901	12
Sanddab.....	-----	-----	6,322	7,041	4,574	15,058	10,359	17,777	5,289	5,824	7,558	1,900	98,607
Shark.....	-----	-----	-----	-----	-----	185	40	-----	-----	146	765	-----	1,136
Smelt.....	1,100	614	1,083	4,184	22,630	47,991	78,311	57,106	54,819	25,630	3,477	35	296,882
Smelt, whitechin.....	9,106	46,053	61,806	95,804	22,824	32,075	33,244	5,565	740	55,264	600,670	102,383	307,247
Sole, Dover.....	47,254	25,238	79,952	341,242	817,084	645,580	693,301	830,408	621,401	557,264	500,670	5,168,706	12
Sole, rock.....	104,212	56,273	56,273	145,273	152,000	90,000	90,000	137,616	200,000	190,000	190,000	128,000	1,288,000
Sole, petrale.....	20,932	37,988	58,736	77,736	83,963	96,000	121,556	72,148	81,466	101,530	63,905	171,753	1,700,901
Sole, rex.....	32,551	19,629	16,565	67,115	58,625	53,014	53,848	72,832	54,408	56,173	45,913	28,247	556,920
Sole, sand.....	1,716	1,643	128	665	-----	2,271	5,388	54,408	493	535	191	7,642	12
Sole, miscellaneous.....	335	100	-----	-----	-----	-----	11,311	562,048	567,470	268,976	-----	435	435
Turbot.....	1,255	55	-----	345	-----	-----	56	606	2,482	2,074	622	119	1,440,002
Miscellaneous (animal food).....	39,579	20,252	62,412	173,801	423,155	340,967	334,251	418,871	162,505	201,050	224,630	47,891	2,458,709
Crustacean:													
Crab, rock-set.....	3,649,197	2,814,000	701,463	894,997	673,285	159,900	9,320	-----	-----	-----	1,781,429	10,573,630	12
Crab, rock.....	-----	-----	-----	-----	20	75	-----	15	-----	-----	110	-----	110
Shrimp, ocean.....	-----	-----	-----	-----	295,162	389,235	702,657	315,985	239,680	-----	-----	2,009,709	12

Mollusk:														
Clam, Washington.....	344	501	541	402	140	48	1,976		
Octopus.....	37	126	89	100	26	378		
Oyster, giant Pacific.....	1,115,106	931,700	878,550	432,600	346,500	191,100	228,900	327,900	535,500	1,203,300	1,213,800	1,001,700	8,406,650	
Total pounds.....	5,468,830	3,927,631	2,067,650	2,962,955	3,461,945	2,990,191	3,707,759	5,278,370	2,881,730	3,162,949	2,450,096	3,288,439	41,648,515	
Waters north of State:														
Fish:														
Flounder.....	42	10	1,762	11,342	4,558	1,915	110	10,739		
Haddock, Pacific.....	211	5,681	7,018	10,776	15,755	16,775	16,572	1,255	278	73,217		
Rockfish.....	21,103	13,132	20,498	19,955	18,547	35,886	14,443	8,615	14,438	16,725	16,725		
Sablefish.....	2,754	13,132	5,173	5,504	3,766	3,763	3,135	5,201	11,103	53,531		
Sanddab.....	170	172	569	1,566	839	466	477	560	37	4,907		
Sole, English.....	17,121	27,151	16,031	16,031	111,317	115,124	29,099	81,912	128,357	1,110,547		
Sole, petrale.....	2,583	10,468	8,333	35,264	62,091	62,091	19,468	19,468	3,623	3,623		
Sole, sand.....	4,239	10,851	18,558	31,340	25,510	92,341	29,142	11,038	8,407	231,816		
Tuna, albacore.....	2,852	7,784	3,307	7,347	5,020	9,088	5,008	3,624	3,691	47,344		
Miscellaneous (animal food).....	3,656	61,110	37,702	44,847	54,550	34,098	22,641	25,119	38,018	321,741		
Crustacean:														
Crab, market.....	74	28	102		
Mollusk:														
Octopus.....	40	40		
Total pounds.....	55,440	390,810	261,268	328,810	239,778	389,456	230,151	162,368	208,329	2,266,419	
SHIPMENTS:¹														
Fish:														
Salmon.....	500	611	1,111		
Total pounds.....	500	611	1,111		
Grand total.....	5,468,830	3,927,631	2,123,090	3,353,765	3,723,213	3,319,510	3,947,537	5,688,437	3,111,881	3,325,317	2,658,395	3,288,439	43,916,045	

MARINE FISH CATCH FOR 1951

¹ For origin of shipments refer to Table 6.

TABLE 9—Cont'd.

TABLE 10
Monthly Landings and Shipments of Commercial Fish Into the San Francisco Area During 1961¹

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds	
LANDINGS FROM:														
California waters:														
Fish:														
Atherinidae.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	220,570	
Carp.....	66,880	32,645	39,035	26,898	24,093	21,180	23,546	16,050	18,139	27,695	27,085	11,152	337,400	
Carp, white.....	9,300	2,900	1,100	1,150	1,150	1,100	1,150	1,100	1,150	1,150	1,150	1,150	10,500	
Flounder.....	1,510	6,265	6,935	4,500	1,775	6,623	3,770	18,018	10,305	5,880	2,722	20,235	88,538	
Flounder, arrowtooth.....	2,130	2,045	565	280	500	985	2,310	1,535	-----	-----	-----	-----	10,350	
Hake, Pacific.....	2,405	-----	140	-----	-----	255	1,263	2,685	3,111	684	784	4,560	22,000	
Halibut, California.....	9,011	3,194	363	295	30	1,263	2,685	3,111	684	784	4,560	50,000	30	
Herring.....	20,400	2,870	19,785	5,960	9,750	2,475	175	-----	1,781	7,417	16,103	9,010	99,265	
Hardhead.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
Herring, Pacific.....	741,229	73,735	115	22,184	76,459	65,650	81,105	56,885	45,516	25,546	7,472	223,130	1,039,894	
Lingcod.....	13,455	14,848	16,540	22,184	76,459	65,650	81,105	56,885	45,516	25,546	7,472	16,103	12	
Mackerel, jack.....	-----	-----	-----	-----	-----	-----	555	10,038	516	-----	400	20,809	-----	
Perch.....	1,762	4,422	10,192	4,961	25	32	160	100	100	460	624	654	23,422	
Rockfish.....	282,493	126,653	226,724	246,520	394,094	216,543	152,998	120,015	100,015	100,015	178,475	141,856	98,104	2,172,172
Salmonid.....	75,310	60,938	147,806	85,235	10,130	24,445	15,222	70,015	67,250	75,725	36,618	39,636	372,840	
Sardine.....	-----	-----	-----	167,335	167,095	1,029,316	722,892	650,705	223,575	-----	-----	-----	3,701,733	
Seabass, black.....	21,715	10,895	30,790	12,715	41,215	21,370	45,755	27,374	33,545	29,260	31,322	40,110	348,566	
Seabass, white.....	1,250	1,250	1,250	31	170	1,462	2,310	7,350	5,175	1,175	1,175	1,175	39,966	
Seahorse.....	8,748	3,432	1,250	-----	170	1,462	2,310	7,350	5,175	1,175	1,175	1,175	43,563	
Skate.....	12,100	8,255	10,675	10,600	12,540	10,130	8,250	6,550	10,850	14,630	9,775	15,840	130,195	
Smelt.....	1,190	2,935	18,560	17,821	2,581	2,734	2,708	2,443	3,069	2,464	773	5,255	55,188	
Smelt, whitebait.....	-----	1,014	183	183	178	176	2,708	2,443	3,069	2,464	773	1,175	11,014	
Sole, Dover.....	138,541	20,621	374,524	161,459	133,641	45,427	53,164	82,889	102,730	32,072	36,265	38,042	1,404,951	
Sole, English.....	81,669	58,623	42,205	46,069	102,085	82,783	90,625	74,368	158,260	145,010	114,550	307,728	1,303,973	

TABLE 10
Monthly Landings and Shipments of Commercial Fish Into the San Francisco Area During 1961¹

Sole, petrale.....	93,472	32,411	38,490	37,761	91,705	48,942	127,665	64,278	69,137	74,579	101,007	36,722	816,169
Sole, rock.....	80,510	43,313	41,560	24,664	34,100	18,345	18,290	25,472	48,835	35,135	32,547	10,512	414,553
Sole, sand.....	4,565	3,220	593	15	1,352	2	2,707	2,097	1,161	8,637	1,049	67,133	1,049
Sole, miscellaneous.....	—	—	225	—	1,133	70	38	525	182	643	—	179	2,995
Splitfish.....	329	134	166	—	—	—	—	—	—	—	—	109	738
Tuna, albacore.....	—	—	—	—	—	—	—	—	—	—	—	—	3,432,289
Tuna, bigeye.....	7,265	2,855	1,885	1,780	1,930	4,650	5,590	5,395	1,101,501	1,737,208	538,657	54,562	15,015
Miscellaneous.....	—	30	900	33,515	21,420	11,965	19,150	15,520	33,645	14,965	4,440	2,120	187,185
Miscellaneous (animal food).....	24,375	5,300	—	—	—	—	—	—	—	—	—	—	—
Crab, market.....	253,636	172,810	51,011	29,702	21,907	350	—	—	—	256,912	285,491	1,065,519	MANHATTAN
Shrimp, bay.....	—	105	—	—	—	—	—	—	830	470	270	270	2,050
Mollusk:													
Ahalone.....	1,575	“112	1,200	2,100	1,075	5,125	950	975	1,833	4,650	4,350	2,275	24,108
Oyster, eastern.....	—	15	150	—	110	62	65	65	145	100	340	472	2,447
Oyster, giant Pacific.....	9,100	8,725	5,820	7,475	8,060	2,150	6,020	7,010	10,137	5,220	10,000	10,000	10,000
Oyster, giant Pacific.....	28,456	27,220	28,191	28,080	33,958	45,969	40,233	48,142	55,489	60,731	57,570	76,536	531,875
Total pounds.....	1,990,396	917,345	1,116,574	948,276	1,808,833	1,677,466	1,438,381	2,442,730	3,004,599	1,399,955	976,338	1,281,977	19,081,199
SHIPMENTS:													
Fish:													
Total.....	—	—	—	—	—	1,691	4,888	—	—	—	—	—	15,769
Tuna, albacore.....	637,610	899,810	348,940	149,430	156,570	118,665	—	57,380	6,630	311,580	34,340	—	3,030,455
Tuna, bigeye.....	—	—	—	61,350	—	—	—	—	20,630	—	—	—	182,480
Tuna, oriental.....	—	—	—	—	—	—	202,630	312,940	—	—	—	—	314,470
Tuna, skipjack.....	80,190	—	—	—	—	—	—	—	—	—	—	—	94,160
Tuna, yellowfin.....	1,748,879	724,820	1,747,700	1,698,670	1,493,349	996,820	917,980	1,035,550	916,570	2,035,211	2,028,433	2,215,620	18,364,792
Total pounds.....	2,476,079	1,624,439	2,092,640	1,819,350	1,951,519	1,119,862	1,120,010	1,775,870	1,007,180	2,425,091	2,622,725	2,232,400	22,350,026
Grand total.....	4,467,075	2,541,775	3,209,214	2,767,626	3,760,672	2,797,328	2,856,391	4,216,609	4,012,079	3,825,016	3,599,063	3,688,577	41,440,225

¹ Includes Sacramento area landings.

² For origin of shipments refer to Table 6.

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TABLE 10—Cont'd.

TABLE 11
Monthly Landings of Commercial Fishing Boats in the Monterey Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM:													
California waters:													
Fish:													
Anchoa.....	187,170	442,725	39,600	6,550	16,050	10,870	315,520	1,362,320	770,841	246,676	352,890	36,300	3,787,512
Bait, Pacific.....	669	358	300	9	752	347	17	101	236	212	564	3,768
Cabeson.....	180	48,697	59,120	20,111	20,265	48,470	10,653	5,269	8,475	11,235	5,483	144	238,138
Croaker, white.....	2,851	5,702	1,822	1,946	75	99	960	753	1,619	18,760
Dolphin.....	132
Flounder, arrowtooth.....	95	110	45	95
Greenside, kelp.....	47	132
Haddock, California.....	1,020	580	47	100	130	4,900	352	711	670	387	1,384	9,957
Hake, Pacific.....	352	550	120	192,735	111,511	73,152	24,500	20,000	21,100	10	10	352,794
Lingcod.....	5,832	7,044	10,863	5,815	18,685	18,350	13,912	7,635	8,811	13,796	14,351	23,607	148,497
Mackerel, jack.....	1,635	2,380	263,983	2,150	18,575	10,518	10,507	7,110	105,685	3,210,447	20,360	3,650,940
Mackerel, Pacific.....	380	635	100	100	130	6,500	3,288	1,310	431	431	55	10,365
Perch.....	81	633	10,300	142	40	29	33	58	12	1,310	431	55	12,967
Pompano, Pacific.....	759	49	142	142	40	29	105	105	12	1,310	431	55	1,250
Roughfish.....	235,098	221,551	387,193	318,840	360,076	283,808	261,840	217,681	235,827	228,218	226,609	261,369	3,228,024
Sablefish.....	62,217	55,486	22,781	3,428	16,188	9,436	43,148	21,025	11,035	16,371	57,744	31,567	350,409
Sanddabs.....	7,550	1,870	2,317	2,058	357,442	128,520	54,773	33,773	21,621	1,777	1,777	654,577	1,154
Sardine.....	28,900	1,870	40	107	190	22,592	261,763	505,375	254,400	30,360	1,169,642	1,169,642
Seabass, white.....	305	327	40	107	70	62	4,463	6,388	1,1621	282	13,406

TABLE 11
Monthly Landings of Commercial Fishing Boats in the Monterey Area During 1961

Shark	5,179	2,869	670	—	100	2,229	7,568	1,148	5,431	4,824	4,376	4,583	38,977	
Skate	1,865	4,469	10,492	6,565	3,750	3,015	9,537	3,712	8,212	10,178	5,047	2,513	64,905	
Smelt	1,835	99	13,740	3,350	211	1,803	8,344	10,078	1,584	6,854	542	802	30,245	
Sole, whitefish	5,328	174	114	—	—	—	—	—	—	—	—	—	12,411	
Sole, Dover	—	110	4,470	4,793	7,630	11,185	13,085	6,535	7,480	1,175	520	60	69,642	
Sole, English	4,250	6,628	22,119	14,500	15,655	16,200	12,630	20,673	26,700	33,020	15,658	12,262	206,715	
Sole, petraleo	1,265	2,587	7,482	12,783	11,157	8,105	7,780	9,262	10,865	18,025	10,238	11,149	106,261	
Sole, sand	11,233	8,455	9,042	5,338	20,010	—	2,323	4,058	5,210	6,153	8,352	7,186	106,261	
Sole, sand, miscellaneous	—	1,349	3,046	2,311	634	—	366	190	177	189	412	603	1,475	
Swordfish	—	—	—	—	—	—	—	—	481	—	—	—	451	
Tuna, albacore	—	—	—	—	—	—	50,574	522,270	1,099,070	198,120	1,716	—	260,187	
Miscellaneous (animal food)	—	—	—	—	—	—	—	—	520	8,158	—	—	80,917	
Crustaceans	—	—	—	—	—	—	—	—	—	—	—	—	—	
Crab, market	4,079	3,542	1,400	185	—	—	—	—	—	—	3,835	2,998	16,639	
Mollusk	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ahalone	—	—	—	—	—	—	—	—	—	—	—	—	—	
Clam, gaper	—	40	20	—	—	40	250	80	20	—	20	—	433	
Oyster	—	—	—	—	—	—	—	—	—	—	—	—	683	
Squid	—	—	—	40	216,700	41,335	338,330	1,117,364	313,440	1,002,250	247,560	292,653	86,730,346,294	
Grand total	572,967	827,189	848,941	875,743	998,128	976,507	2,005,304	2,834,165	3,867,250	4,535,991	1,069,635	485,130	18,997,950	MARINE FISH CATCH

MARINE FISH CATCH FOR 1963

TABLE 11—*Cont'd.*

TABLE 12
Monthly Landings of Commercial Fishing Boats In the Santa Barbara Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM: California waters:													
Fish:													
Anchoa.....	3,395	4,220	3,030	48,815	1,800	3,000	4,100	10,650	1,950	21,275	1,175	29,235	54,130
Baileys, California.....	23,195	1,420	30	300	312	300	271	12,681	291	12,253	1,253	15,211	15,211
Bonito, Pacific.....	1,265	1,639	47	177	300	300	271	291	291	2,639	2,639	21,599	21,599
Cabazon.....	118	141	261	105	70	70	155	14	14	37	97	999	999
Cod, California.....	11	11	106	106	85	100	159	10	10	36	97	1,059	1,059
Flounder.....	98	3,102	1,739	353	80	11	200	447	7	29	5,419	5,419	
Grenning, kelp.....	—	—	—	—	—	—	—	—	—	—	—	31	31
Hake, Pacific.....	—	—	30	—	—	—	—	—	—	—	—	30	30
Hake, Sardine.....	17,077	23,345	19,640	21,059	15,401	16,228	15,395	17,485	5,635	2,845	8,154	25,251	191,414
Lingcod.....	5,394	9,024	11,659	5,073	3,256	5,538	8,357	6,300	2,056	7,108	12,240	7,254	88,469
Mackerel, jack.....	745,220	141,900	382,900	306,402	457,000	126,100	862,914	11	1,130,540	2,821,500	4,000,270	3,710,983	14,791,841
Mackerel, Pacific.....	9,000	—	—	38,100	12,000	—	29,500	41,300	69,600	31,800	1,688,740	588,810	2,477,680
Petraleo.....	300	908	1,404	944	—	—	2,929	3,932	2,175	1,094	2,355	2,122	17,160
Porgy....., Pacific.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Rockfish.....	342,468	278,802	162,677	107,960	165,728	277,225	303,784	151,065	92,641	213,082	122,547	162,999	2,320,948
Sablefish.....	2,613	2,360	1,665	1,355	1,855	100	95	965	225	328	180	905	12,643
Salmon.....	—	—	1,183	1,077	60,477	22,140	19,822	28,838	—	—	—	—	131,637
Sardine.....	—	40	—	178	130	130	130	130	—	—	—	—	56
Sardines.....	20,750	25,300	82,400	—	—	—	—	—	562,070	3,005,460	1,309,800	2,660,355	8,582,290
Seadolphin.....	—	—	—	143	—	—	—	—	—	—	—	—	143
Sea bass, black.....	145	137	—	599	380	330	415	79	16	27	138	—	2,173
Sea bass, white.....	19,692	10,124	14,354	15,111	4,950	11,920	8,270	9,839	9,839	1,274	3,724	9,255	101,719
Shark.....	4,173	1,851	2,431	13,369	11,953	16,584	15,261	6,688	7,094	3,385	5,418	7,508	95,615
Sheepshead, California.....	357	198	75	—	38	38	206	—	—	75	—	54	1,076
Skate.....	125	338	1,945	391	10	98	—	—	—	—	—	41	2,624
Smelt.....	—	—	—	18	170	269	153	26	263	—	—	—	263
Sole, Dover.....	3,343	5,025	6,255	14,306	4,731	1,533	7,495	26,302	2,465	7,416	2,701	1,080	82,741
Sole, English.....	18,955	31,775	227,188	87,403	56,487	36,694	25,283	37,937	25,633	34,568	16,329	38,730	636,582
Sole, petraleo.....	50	100	100,084	100,084	11,703	80,072	62,451	68,151	25,151	36,815	115,100	100,467	886,514
Sole, rock.....	15,527	16,030	17,301	14,616	4,622	617	350	10,780	1,945	13,765	10,664	11,110	110,867

TABLE 12
Monthly Landings of Commercial Fishing Boats In the Santa Barbara Area During 1961

TABLE 12—*Cont'd.*

TABLE 13
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds	FISH BULLETIN NO.
LANDINGS FROM: California waters:														
Fish														
Anadory.....	249,250	358,890	650,535	49,900	489,040	286,899	236,950	184,132	217,500	329,550	367,110	229,725	3,640,361	
Bass, California.....	10,300	27,000	10,170	30,110	8,000	30,250	62,500	1,100	18,100	9,000	1,100	311,584		
Bluefish.....	685,490	1,201,824	160,000	394,802	162,444	81,201	245,353	77,100	638,357	70,000	844,800	2,606,351	8,276,250	
Carp.....														1,150
Croaker, white.....	35,043	75,958	52,592	40,360	11,215	91,919	84,762	50,442	32,974	45,155	12,996	7,015	643,461	
Flyingfish.....														32,802
Halibut.....	1,454	20	—	—	55	13,131	12,331	7,180	170	—	—	4,104	5,927	
Haddock, California.....	12,670	7,192	10,780	29,411	4,806	3,561	1,819	9,504	10,283	9,040	7,224	12,696	127,695	
Herring, Pacific.....														8,470
Lamprey, California.....	28	52	—	—	—	38	—	—	—	—	—	—	143	
Mackerel, jack.....	1,442,611	3,588,698	1,293,240	2,846,060	5,327,504	8,860,200	3,088,361	3,678,625	8,445,097	14,805,572	16,123,293	9,829,585	70,130,714	
Mackerel, Pacific.....	768,280	933,549	801,568	8,781,641	5,534,616	1,037,367	3,384,035	2,632,704	2,802,233	6,309,544	5,462,614	3,176,444	41,544,624	
Opahs.....	814	—	—	—	—	—	65	—	—	—	12	1,446	2,337	
Pike.....	289	653	40	35	47	—	100	275	174	—	—	3,655	9,984	
Pompano, Pacific.....	3,914	330	225	833	163	1,335	765	276	366	1,205	482	—		
Rockfish.....	54,007	40,525	29,128	52,446	24,406	32,439	18,044	17,700	39,441	24,115	23,689	29,651	388,081	
Sablefish.....	—	—	50	—	—	—	213	—	16	20	200	338	387	
Salmon.....	—	—	—	—	—	—	18,031	9	40	—	—	—	18,159	
Sandab.....	—	—	—	—	—	—	78	60	23	38	40	38	18	312
Sardine.....	91,655	333,312	386,270	569,070	505,920	817,133	469,880	529,645	13,084,907	6,834,799	5,394,136	4,704,745	35,429,312	
Sealipin.....	1,011	221	632	820	631	575	1,121	2,388	283	72	55	38	7,837	
Sea bass, giant.....	102	554	799	227	1,210	511	2,111	2,111	321	167	829	—	8,291	
Sea bass, white.....	18,312	10,367	15,539	8,566	24,757	62,298	37,388	60,073	15,480	8,059	4,410	1,067	266,702	
Shark.....	12,289	13,934	24,447	27,007	47,619	29,248	23,555	14,650	13,433	26,397	15,119	261,796		
Shad, California.....	90	90	194	71	196	63	29	960	960	229	223	263	5,353	
Slate.....	—	25	104	—	—	—	22	20	122	—	39	322		
Sole.....	3,418	75,790	6,865	3,908	1,560	240	350	10	6,347	1,376	1,880	101,744		
Sole, miscellaneous.....	—	27	21	31	—	214	819	392	78	331	—	1,713		
Swordfish.....	—	—	—	—	—	38,434	86,321	106,788	28,785	408	—	28,330		
Tuna, albacore.....	—	—	—	—	—	—	4,097,165	3,611,988	1,917,895	1,288,009	68,303	—	10,533,381	
Tuna, bluefin.....	—	—	—	—	947	51,174	1,851,390	3,489,385	7,734,327	590,324	12,530	—	13,730,067	
Tuna, skipjack.....	—	—	—	—	1,537	2,185	45	388	—	578	—	578		
Whiting, ocean.....	1,671	2,565	5,333	3,237	2,433	7,037	2,049	2,792	8,985	5,098	2,472	3,701	45,013	
Yellowtail, California.....	—	—	—	—	163	208	—	201	51	18	88	301	1,030	
Miscellaneous.....	—	—	—	—	—	—	—	—	—	—	—	—		

TABLE 13
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1961

Crustacean:													
Crab, rock.....	7,252	4,213	4,545	5,922	5,388	8,379	12,751	9,003	7,284	3,632	3,046	1,703	73,118
Lobster, spiny.....	25,028	19,064	9,088	78,895	42,250	21,718	197,243	
Mollusk:													
Absconia.....	44,450	11,725	50,549	65,611	99,836	135,832	132,474	99,198	131,440	116,091	115,025	1,002,531
Octopus.....	92	7	49	148	
Squid.....	366,660	438,250	105,075	62,675	27,650	5,320	14,615	268,390	720,405	1,927,570	4,026,590
Total pounds.....	3,840,789	7,255,181	3,692,617	12,885,348	12,243,850	11,325,151	18,835,121	15,358,762	35,116,174	31,478,500	20,246,574	22,502,283	198,630,350
Waters south of State:													
Fish:													
Barracuda, California.....	30,620	14,605	19,775	9,705	5,515	34,218	22,095	49,715	18,770	40,460	207,645
Bonito, Pacific.....	604	31,799	72,138
Cabrilla, spotted.....	5,355	1,730	2,855	11,023
Halibut, California.....	20,967	31,000	36,753	17,738	1,365	545	11,219	55,295	180,623	145
Pompano, Pacific.....	80	100	
Rock bass.....	435	535	160	100	
Salmon.....	26,769	24,862	24,605	12,550	10,647	45,884	60	230	17,575	15,385	25,360	190,500
Sablefish.....	100	100	
Sea bass, giant.....	15,053	19,667	23,160	18,310	12,845	8,455	16,912	20,515	21,149	42,767	32,630	69,158	300,551
Seabass, white.....	15,247	1,373	
Sierra.....	2,341	2,341	2,341	2,341	2,341	2,341	2,341	2,341	2,341	2,341	2,341	2,341	
Tuna, albacore.....	643	1,053	500,250	465,525	50,514	35,777	1,040,250	
Tuna, longfin.....	2,061	216	73,211	538,393	1,905,568	3,452,017	472,568	118,288	125,643	6,680,305
Tuna, skipjack.....	400,631	158,408	249,026	485,500	4,301,899	2,632,374	9,117,465	3,184,911	6,448,474	7,283,942	8,423,337	4,402,392	49,163,840
Tuna, yellowfin.....	19,841,795	16,598,712	33,205,332	15,882,352	24,082,964	12,198,013	5,537,639	7,115,931	6,710,684	5,591,389	7,853,341	9,672,787	164,032,439
Wahoo.....	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402
Yellowtail, ocean.....	1,790	385	2,778	90	495	6,862	385	320	1,555	1,294
Yellowtail, California.....	2,395	6,474	1,150	19,748	418	25,800	163,439	3,910	3,575	8,250	12,402	5,630	252,673
Miscellaneous.....	418	
Crustacean:													
Lobster, spiny.....	3,887	2,382	6,209	
Total pounds.....	20,413,479	16,967,963	33,568,337	16,425,912	28,869,920	15,483,249	17,005,736	16,296,592	13,896,070	13,156,663	16,408,878	14,408,076	222,276,875

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TABLE 13—Cont'd.

TABLE 13—Continued
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
SHIPMENTS:¹													
California waters:													
Fish:													
Hake	—	—	—	—	—	—	—	—	—	—	—	—	—
Sablefish	—	—	—	—	—	—	—	—	—	—	—	—	—
Salmon	40,000	24,160	35,174	17,157	—	—	52,468	36,919	—	76,625	20,042	168,000	414,054
Seabass, white	—	—	—	—	—	—	669	5,097	—	20,692	148,196	61,442	352,567
Shad	—	—	2,700	—	—	—	—	40,045	20,254	—	—	40,000	20,000
Shark	—	12,208	5,588	—	10,569	—	—	834	2,880	10,600	—	—	42,679
Smelt	—	—	—	—	—	—	—	4,050	—	—	—	—	4,050
Sturgeon	—	—	—	—	—	—	—	1,523	—	—	—	—	1,523
Tuna, albacore	5,326,971	2,255,233	2,170,889	2,433,529	1,036,531	485,982	483,522	477,833	2,321,678	3,038,077	2,722,963	2,893,409	25,643,607
Tuna, bigeye	—	—	—	—	—	—	100,383	160,147	—	—	—	—	—
Tuna, skipjack	—	—	—	—	—	—	—	102,418	160,580	257,771	21,441	—	278,916
Tuna, oriental	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuna, yellowfin	—	103,470	1,253,821	—	643,431	519,628	1,276,313	2,297,029	422,628	272,558	1,056,837	7,910,475	—
Mollusk:													
Clam, Pismo	32,640	25,200	—	—	—	262,888	144,392	311,440	—	—	163,840	—	940,400
Total pounds	9,038,397	5,340,015	5,930,977	5,834,696	5,315,051	4,655,290	6,018,957	6,664,776	6,822,330	6,370,892	6,154,032	7,586,126	55,431,519
Grand total.	31,292,665	29,483,159	43,191,931	35,113,956	46,068,821	31,463,890	36,859,794	38,220,130	55,334,574	51,006,055	\$1,807,454	44,496,482	496,328,744

¹ For origin of shipments refer to Table 6.

FISH
MATERIALS
NO. 12

TABLE 13
Monthly Landings and Shipments of Commercial Fish Into the Los Angeles Area During 1961

TABLE 14
Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds	MARINE FISH CATCH FOR 1961
LANDINGS FROM:														
California waters:														
Fish:														
Barracuda, California.....	48	1,549	1,656	1,466	2,016	2,075	1,111	14,473	7,063	4,228	1,780	1,35	12,407	
Blue Pacific.....	2,944	1,807	240	59	142	385	14,473	7,063	5,841	1,780	5,841	1,780	14,473	
Cabron.....	10	—	—	—	—	—	—	—	—	—	—	—	—	10
Cod.....	20	119	103	29	—	—	—	931	453	341	233	233	233	2,186
Haddock, California.....	17,287	19,641	11,269	7,774	7,763	15,256	3,539	19,600	25,731	16,233	9,600	14,257	14,257	165,880
Lingcod.....	45	—	—	—	—	—	—	—	—	17	—	—	—	62
Mackerel, Pacific.....	—	5,779	5,419	13,546	2,890	4,601	663	659	2,499	39,726	3,318	3,318	3,318	77,495
Percy.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Porgy.....	31,550	38,039	34,088	29,756	13,309	21,961	5,532	6,810	4,696	11,605	6,881	12,978	217,205	—
Sanddab.....	—	—	—	—	—	—	—	—	—	20	—	—	—	20
Sardine.....	43,620	—	—	—	—	4,000	—	—	—	—	—	—	—	47,620
Sculpin.....	427	1,363	893	1,615	—	1,163	325	1,901	3,221	1,974	2,627	3,259	3,259	18,738
Seal, giant.....	590	17	—	—	—	623	210	16	140	29	29	29	29	2,032
Seabass, white.....	7,777	2,361	1,564	1,117	945	22,740	3,113	3,475	1,234	1,005	509	189	189	46,038
Shark.....	11,857	4,842	1,229	8,492	13,496	9,265	9,087	2,526	1,978	6,514	6,733	79,352	79,352	—
Sheepshead, California.....	373	658	122	29	177	515	602	—	47	699	371	1,130	1,130	4,723
Sole, black.....	—	37	—	—	—	—	—	—	—	—	—	—	—	41
Sole, miscellaneous.....	—	—	4	1,093	1,896	1,787	3,043	1,624	699	235	50	50	50	10,431
Swordfish.....	—	—	—	—	—	2,334	3,855	16,344	18,264	673	673	673	673	37,501
Tuna, albacore.....	—	—	—	—	—	38	14,076	29,141	1,064,100	687,783	58,342	58,342	58,342	2,921,146
Tuna, bluefin.....	—	—	—	—	—	110	417	14,022	17,812	—	—	—	—	—
Whitefish, ocean.....	—	—	—	—	—	—	—	27	—	—	—	—	—	27
Yellowtail, California.....	16	599	32	82	397	17,453	2,078	692	1,334	975	1,229	1,229	1,229	24,887
Yellowtail, ocean.....	—	—	—	—	—	—	—	—	75	5	5	5	5	89
Crustacean:														
Crab, rock.....	188	—	8,219	5,660	—	—	—	—	—	264	664	—	—	1,116
Lobster, spiny.....	12,862	—	—	—	—	—	—	—	—	57,042	28,813	23,420	23,420	136,646
Mollusk:														
Ablone.....	47,500	—	20,404	71,155	27,229	45,335	32,220	34,030	30,053	21,574	14,025	19,205	19,205	380,640
Blue mackarel.....	77	269	543	536	1,241	772	940	969	669	388	107	124	124	5,821
Squid.....	—	—	—	—	1,852	—	—	—	—	—	—	—	—	1,852
Total pounds.....	176,900	85,206	91,840	136,614	75,758	150,102	208,338	384,661	1,188,754	847,966	138,041	87,420	87,420	3,568,600
Waters north of state:														
Fish:														
Tuna, albacore.....	—	—	—	—	—	—	—	—	—	137,270	—	—	—	137,270
Total pounds.....	—	—	—	—	—	—	—	—	—	137,270	—	—	—	137,270

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TABLE 14
Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1961

TABLE 14—Continued

Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1961

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total pounds
LANDINGS FROM—Continued:													
Waters south of state:													
Fish:													
Barracuda, California.....	1,663	1,871	3,267	6,106	825	848	1,340	3,541	4,118	23,372	
Bonito, Pacific.....	48	796	85	180	375	1,438		
Cod, spotted.....	5,659	1,504	86	4,739	12,288		48
Grouper.....	40	2,213	26	38,667	24,262	18,693	13,754	10,500	802	108,957
Haddock, California.....	56	794	771	109	832	1,397	1,640	
Rock Bass.....	1,026	1,026	1,026	1,026	1,026	1,026	185	217	217	217	217	1,211	
Kochiahi.....	13,843	9,589	21,598	8,411	22,242	5,094	1,820	277	15,582	21,758	22,101	141,142	
Sealab, giant.....	65	5,702	2,108	848	2,173	1,003	181	1,612	588	3,446	3,170	6,375	27,303
Seasass, white.....	5,113	19,028	7,128	220	2,001	15,999	3,376	26,846	40,601	20,301	155,202	
Sole, California.....	56	794	109	109	109	109	1,270	
Sheepshead, California.....	150	150	160	160	160	160	711	442	687	651	651	2,051	
Serra.....	139	139	139	
Swordfish.....	2,802	5,410	8,212	
Tuna, bluefin.....	26,078	3,419,001	3,381,001	567,058	27,754	7,034	7,034	7,034	
Tuna, skipjack.....	251,975	480,728	83,016	512,600	3,933,205	840,301	1,922,328	1,506,887	1,230,938	2,607,614	2,251,577	1,007,183	16,238,442
Tuna, yellowfin.....	587,696	3,570,825	3,002,693	2,807,341	2,838,042	2,700,887	2,417,654	1,751,411	1,117,286	2,785,886	1,917,071	2,306,064	27,819,517
Whitefish, ocean.....	819	510	3,087	706	3,533	12,890	15,561	9,383	909	47,407
Yellowtail, California.....	
Total pounds.....	885,445	4,079,660	3,185,785	3,340,465	6,231,660	3,573,722	7,908,456	6,705,412	3,176,889	5,599,382	4,281,379	3,472,712	52,374,794
SHIPMENTS:¹													
Fish:													
Tuna, albacore.....	224,024	1,044,086	254,543	75,850	104,292	1,626,945	
Tuna, skipjack.....	315,884	116,328	4,776	3,364,610	1,388,257	3,356,496	7,619	1,088,410	1,180,402	2,472,115	13,259,027	
Tuna, yellowfin.....	1,848,593	2,067,545	726,099	623,772	1,266,953	748,691	3,364,910	257,398	930,207	501,180	888,302	13,233,100	
Mollusk:													
Clam, jackknife.....	50	186	242	2,412	
Mussel.....	315	400	765	680	100	212	
Total pounds.....	2,162,477	224,024	3,227,059	985,418	624,143	4,631,565	2,136,994	6,697,821	332,967	2,018,717	1,789,089	3,370,467	28,198,309
Grand total.....	3,204,822	4,388,890	6,473,584	4,462,495	6,921,561	8,355,387	10,153,758	13,877,894	4,686,110	8,603,335	6,202,505	6,631,599	84,278,940

¹ For origin of shipments refer to Table 6.

TABLE 14

Monthly Landings and Shipments of Commercial Fish Into the San Diego Area During 1961

TABLE 15
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
LANDINGS:							
Fish:							
Anchovy.....	229,570	3,787,512	54,130	3,640,361	----	7,711,573	
Barracuda, California.....	\$3,741	\$54,162	\$1,043	\$80,237	35,779	\$11,983	702,379
Bonito, Pacific.....	----	6	154,371	519,228	35,779	\$1,661	106,733
Cabezon.....	15	160	3,768	21,589	8,046,400	42,277	6,512,972
Cabrilla, spotted.....	\$1	\$8	\$216	\$1	\$215,433	\$2,278	\$218,508
Carp.....	337,400	-----	-----	999	10	4,952	
Croaker, white.....	\$15,283	4,058	238,138	1,039	643,461	2,468	11,071
Flounder.....	202,620	88,538	18,760	5,419	-----	\$248	385,574
Flounder, arrowtooth.....	\$9,946	1,995	\$1,885	\$152	-----	-----	15,678
Flyingfish.....	50,214	10,350	95	-----	-----	-----	60,689
Greenling, kelp.....	\$2,424	\$386	\$4	-----	32,802	-----	\$2,314
Grouper.....	-----	-----	153	728	-----	-----	881
Hake, Pacific.....	-----	3,245	-----	30	189,983	12,288	202,271
Halfmoon.....	-----	\$52	-----	\$1	\$41,055	\$1,884	\$42,939
Halibut, California.....	216	50,050	9,957	191,674	127,820	274,837	654,554
Halibut, Pacific.....	\$43	\$10,000	\$2,452	\$42,973	\$33,118	\$62,114	\$150,700
Hardhead.....	3,931	30	-----	-----	-----	-----	3,961
Herring, Pacific.....	\$963	\$8	-----	-----	-----	-----	\$971
Lingcod.....	99,266	-----	-----	-----	-----	-----	99,266
Mackerel, jack.....	70	1,039,594	352,794	-----	8,500	-----	1,401,248
Mackerel, Pacific.....	\$7	\$8,629	\$22,085	-----	\$425	-----	\$31,146
Pompano, Pacific.....	762,560	445,212	148,497	83,469	143	62	1,439,943
Rock bass.....	\$52,766	\$28,849	\$14,048	\$7,871	\$16	\$5	\$103,555
Seabass, white.....	20,809	3,650,940	14,794,841	79,139,714	-----	-----	97,606,304
Seahorse.....	1,092	\$85,107	\$281,102	\$1,661,935	-----	-----	\$2,029,236
Shark.....	10,393	2,477,680	41,544,624	77,495	44,110,194	-----	
Shoreline, California.....	-----	-----	-----	-----	-----	-----	-----
Opaleye.....	-----	-----	-----	2,337	-----	-----	2,337
Perch.....	60,951	23,422	12,967	17,160	3,658	87	118,245
Pompano, Pacific.....	\$8,687	\$3,902	\$1,647	\$3,839	\$780	\$10	\$18,815
Rockfish.....	-----	-----	1,256	25	10,144	-----	11,425
Sea bass, giant.....	-----	-----	\$774	\$6	\$2,157	-----	\$2,309
Sea bass, white.....	-----	-----	-----	1,373	1,211	-----	2,584
Seahorse.....	-----	-----	-----	-----	\$260	\$252	\$512
Seal.....	2,117,410	2,221,752	3,228,024	2,320,948	584,280	358,348	10,830,762
Seal.....	\$90,286	\$106,376	\$167,663	\$108,625	\$73,749	\$39,486	\$586,685
Sablefish.....	579,899	672,640	350,409	12,643	937	-----	1,616,528
Salmon.....	\$45,578	\$20,649	\$18,501	\$779	\$115	-----	\$85,622
Salmon.....	4,134,901	3,701,733	654,577	133,537	13,159	-----	8,637,907
Sanddab.....	\$2,138,077	\$2,112,593	\$364,405	\$76,250	\$6,567	-----	\$4,697,802
Sardine.....	103,514	346,566	111,984	568	312	20	562,964
Sardine.....	\$8,187	\$22,145	\$7,368	\$34	\$64	\$4	\$37,802
Sardine.....	-----	-----	1,109,644	8,582,290	33,429,512	47,620	43,169,064
Sculpin.....	-----	-----	\$33,845	\$242,878	\$865,824	\$3,441	\$1,145,900
Sea bass, giant.....	-----	-----	-----	143	7,837	18,733	26,718
Sea bass, giant.....	-----	-----	-----	-----	\$29	\$3,450	\$4,766
Sea bass, white.....	-----	-----	-----	2,773	308,335	2,925	308,335
Seabass, white.....	-----	-----	-----	-----	\$287	\$51,205	\$1,744
Seabass, white.....	30,886	13,406	101,479	347,233	201,240	694,224	
Shark.....	1,136	130,246	38,977	98,615	270,426	84,572	623,972
Sheepshead, California.....	\$62	\$4,942	\$2,210	\$8,325	\$34,731	\$9,283	\$50,553
Sierra.....	-----	-----	-----	1,076	3,852	7,674	12,602
Skate.....	101,270	130,195	64,905	2,624	323	-----	299,317
Skate.....	\$59	\$1,522	\$909	\$130	\$333	-----	\$2,653
Sole.....	296,862	56,188	33,485	982	101,744	44	491,285
Sole.....	\$15,145	\$5,701	\$1,987	\$83	\$2,583	\$5	\$26,504

TABLE 15
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

TABLE 15—Continued
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
LANDINGS—Continued:							
Fish—Continued:							
Smelt, whitebait.....	307,247	15,994	12,611	-----	-----	-----	335,852
	\$21,352	\$1,927	\$1,946	-----	-----	-----	\$25,225
Sole, Dover.....	6,279,233	1,404,981	59,642	82,741	-----	-----	7,826,617
	\$375,498	\$73,200	\$2,946	\$4,965	-----	-----	\$450,609
Sole, English.....	1,498,648	1,303,973	206,715	636,582	-----	-----	3,845,918
	\$111,047	\$94,668	\$15,153	\$39,786	-----	-----	\$260,654
Sole, petrale.....	1,806,417	816,169	111,439	856,714	-----	-----	3,390,739
	\$183,291	\$96,880	\$13,306	\$95,609	-----	-----	\$389,086
Sole, rex.....	604,264	414,553	70,455	119,557	-----	-----	1,205,829
	\$42,056	\$26,946	\$3,601	\$7,246	-----	-----	\$79,849
Sole, sand.....	8,744	65,733	240	2,413	-----	-----	77,130
	\$919	\$6,672	\$29	\$265	-----	-----	\$7,855
Sole, miscellaneous.....	435	2,995	11,012	7,898	1,713	10,431	34,684
	\$21	\$185	\$1,036	\$481	\$135	\$2,487	\$4,345
Splittail.....	-----	738	-----	-----	-----	738	-----
	-----	\$258	-----	-----	-----	-----	\$258
Swordfish.....	-----	451	63,352	259,340	45,712	361,855	-----
	-----	\$180	\$26,702	\$115,666	\$19,670	\$162,218	-----
Tuna, albacore.....	1,440,248	3,432,233	1,871,750	683,813	11,993,563	9,701,581	29,123,244
	\$231,328	\$615,751	\$302,662	\$108,863	\$2,172,034	\$1,755,016	\$5,188,654
Tuna, bluefin.....	-----	-----	15	20,419,372	463,263	20,882,650	-----
	-----	-----	\$2	\$2,646,350	\$58,695	\$2,705,047	-----
Tuna, skipjack.....	-----	-----	-----	49,164,418	16,238,442	65,402,860	-----
	-----	-----	-----	\$5,432,668	\$1,787,855	\$7,220,520	-----
Tuna, yellowfin.....	-----	-----	-----	164,034,539	27,819,517	191,854,056	-----
	-----	-----	-----	\$20,815,983	\$3,613,755	\$24,421,738	-----
Turbot.....	7,594	69,994	-----	2,869	-----	-----	71,397
	\$750	\$3,514	-----	\$147	-----	-----	\$8,111
Wahoo.....	-----	-----	-----	9,294	-----	-----	9,294
	-----	-----	-----	\$3,249	-----	-----	\$3,249
Whitefish, ocean.....	-----	-----	45	17,231	7,915	25,191	-----
	-----	-----	\$3	\$861	\$613	\$1,477	-----
Yellowtail, California.....	-----	-----	7,789	300,686	72,294	380,769	-----
	-----	-----	\$547	\$21,197	\$80	1,914	-----
Miscellaneous.....	90	-----	296	1,448	\$335	\$4	\$3,777,133
	\$11	-----	\$27	\$19,340	-----	-----	\$74,995
Miscellaneous (animal food).....	2,760,891	187,185	9,717	-----	-----	-----	-----
	\$55,216	\$3,239	\$153	\$16,387	-----	-----	-----
Crustacean:							
Crab, market.....	10,573,741	1,065,519	16,039	50,028	-----	-----	11,711,327
	\$1,699,198	\$262,971	\$4,629	\$14,130	-----	-----	\$1,980,928
Crab, rock.....	110	-----	-----	77,438	73,118	1,116	151,782
	\$110	-----	-----	\$4,173	\$7,926	\$32	\$12,131
Lobster, spiny.....	-----	-----	-----	78,564	203,512	136,846	415,722
	-----	-----	-----	\$51,318	\$142,925	\$89,476	\$283,719
Shrimp, bay.....	2,050	-----	-----	-----	-----	-----	2,050
	\$267	-----	-----	-----	-----	-----	\$267
Shrimp, ocean.....	2,002,709	-----	-----	-----	-----	-----	2,002,709
	\$190,055	-----	-----	-----	-----	-----	\$190,055
Mollusk:							
Ahalone.....	-----	24,198	683	3,145,494	1,002,531	380,950	4,553,766
	-----	\$4,390	\$128	\$462,373	\$104,060	\$35,992	\$606,943
Clam, gaper.....	-----	-----	220	-----	-----	-----	220
	-----	-----	\$22	-----	-----	-----	\$22
Clam, jackknife.....	-----	-----	-----	-----	-----	5,823	5,823
	-----	-----	-----	-----	-----	\$2,480	\$2,480
Clam, Washington.....	1,976	-----	-----	-----	-----	-----	1,976
	\$270	-----	-----	-----	-----	-----	\$270
Octopus.....	418	2,447	75	17	148	-----	3,105
	\$8	\$93	\$8	\$4	\$32	-----	\$145
Oyster, eastern.....	-----	105,726	-----	-----	-----	-----	105,726
	-----	\$5,107	-----	-----	-----	-----	\$5,107
Oyster, giant Pacific.....	8,406,650	531,575	-----	1,109,325	-----	-----	10,047,750
	\$210,166	\$58,151	-----	\$22,187	-----	-----	\$290,507
Squid.....	-----	-----	3,686,284	2,571,065	4,026,590	1,852	10,285,791
	-----	-----	\$129,020	\$34,195	\$68,049	\$74	\$231,338
Total pounds.....	43,914,934	19,081,199	19,897,950	39,381,567	420,907,225	56,080,634	599,263,509
Total value.....	\$5,496,415	\$3,634,125	\$1,270,361	\$1,770,628	\$35,703,328	\$7,565,571	\$55,440,728

TABLE 15
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

TABLE 15—Continued
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

Species	Eureka	San Francisco ¹	Monterey	Santa Barbara	Los Angeles	San Diego	Total
SHIPMENTS:²							
Fish:							
Halibut, Pacific.....	---	---	---	---	6,840	---	6,840
Sablefish.....	---	---	---	---	\$3,038	---	\$3,038
Salmon.....	1,111	---	---	---	414,054	---	414,054
\$403					\$90,710	---	\$90,710
Seabass, white.....	---	---	---	---	382,567	---	382,567
Shad.....	13,769	---	---	---	228,547	---	228,547
\$27,538					2,776	---	2,776
Shark.....	---	---	---	---	\$694	---	\$694
Smelt.....	---	---	---	---	\$15,919	---	\$15,919
Steelhead.....	---	---	---	---	42,679	---	42,679
Sturgeon.....	---	---	---	---	\$6,486	---	\$6,486
Tuna, albacore.....	3,020,455	---	---	---	4,080	---	4,080
\$495,657					25,433,607	1,626,945	30,240,507
Tuna, bigeye.....	182,480	---	---	---	\$4,346,501	\$279,184	\$5,121,432
\$39,014					278,916	---	278,916
Tuna, bluefin.....	514,970	---	---	---	\$35,841	---	\$74,855
\$74,671					531,005	75,650	1,121,625
Tuna, oriental.....	90,190	---	---	---	\$65,792	\$9,456	\$149,919
\$14,494					60,725	---	60,725
Tuna, skipjack.....	174,370	---	---	---	\$9,910	---	\$9,910
\$23,470					7,910,475	13,259,927	21,344,772
Tuna, yellowfin.....	18,362,792	---	---	---	\$830,600	\$1,461,244	\$2,315,314
\$3,239,197					38,860,314	13,233,100	70,456,206
Miscellaneous.....	---	---	---	---	\$5,615,315	\$1,752,062	\$10,609,574
---					215,030	---	215,030
Total pounds.....	1,111	22,359,026	---	---	75,431,519	26,198,304	125,989,962
Total value.....	\$403	\$3,914,041	---	---	\$11,357,073	\$3,502,226	\$18,773,739
GRAND TOTAL POUNDS.	43,916,045	41,440,225	19,897,950	39,381,567	496,338,744	84,278,940	725,253,471
GRAND TOTAL VALUE.	\$5,496,818	\$7,548,166	\$1,270,361	\$1,770,628	\$47,060,401	\$11,068,093	\$74,214,467

¹ Includes Sacramento area landings.² For origin of shipments refer to Table 6.

TABLE 15
Value of Landings and Shipments of Commercial Fish Into California by Area, 1961

TABLE 16
Value of Landings and Shipments by Port, Eureka Area, 1961

	Value	Pounds
EUREKA AREA TOTALS.....	\$5,496,818	43,916,045
Eureka		
Salmon.....	\$712,041	1,382,438
Market crab.....	455,602	2,822,666
Giant Pacific oyster.....	210,166	8,406,650
Albacore.....	150,043	927,739
Dover sole.....	147,409	2,165,036
Petrale sole.....	56,226	492,779
Ocean shrimp.....	50,042	527,318
English sole.....	32,928	440,337
Rockfish.....	19,186	458,614
Rex sole.....	17,851	256,480
Miscellaneous (animal food).....	10,856	542,843
Sablefish.....	5,510	108,278
Flounder.....	6,365	129,646
Lingcod.....	6,267	90,420
Smelt.....	6,171	119,606
Whitebait.....	5,330	76,825
All other.....	5,561	176,647
Totals.....	\$1,902,153	19,424,322
Crescent City		
Market crab.....	\$1,049,358	6,529,921
Salmon.....	709,560	1,382,776
Ocean shrimp.....	51,260	540,153
Albacore.....	17,524	107,708
Lingcod.....	5,455	78,841
Whitebait.....	5,188	74,660
All other.....	6,937	88,198
Totals.....	\$1,845,302	8,802,257
Fort Bragg		
Salmon.....	\$684,047	1,304,377
Ocean shrimp.....	75,593	799,722
Dover sole.....	69,953	1,169,783
Albacore.....	65,206	400,775
Petrale sole.....	45,057	394,891
Market crab.....	41,060	255,513
Rockfish.....	28,309	643,968
Sablefish.....	23,043	293,176
Lingcod.....	19,240	278,050
English sole.....	17,758	239,654
Miscellaneous (animal food).....	14,176	708,841
Rex sole.....	8,986	129,115
Smelt.....	5,475	109,404
All other.....	6,332	105,385
Totals.....	\$1,104,535	6,832,654
Fields Landing		
Dover sole.....	\$157,142	2,627,802
Market crab.....	85,518	519,714
Petrale sole.....	80,882	708,874
English sole.....	56,178	798,636
Rockfish.....	41,970	995,757
Miscellaneous (animal food).....	30,184	1,509,207
Lingcod.....	21,800	315,039
Rex sole.....	15,020	215,806
Sablefish.....	13,979	177,850
Ocean shrimp.....	12,860	135,516
Whitebait.....	7,898	113,646
Salmon.....	7,398	14,338
All other.....	15,828	225,703
Totals.....	\$347,657	8,357,888

TABLE 16
Value of Landings and Shipments by Port, Eureka Area, 1961

TABLE 16—Continued
Value of Landings and Shipments by Port, Eureka Area, 1961

	Value	Pounds
Trinidad		
Market crab.....	\$71,660	445,927
Salmon.....	25,246	51,584
All other.....	77	914
Totals.....	\$96,983	498,425
All other ports		
All other.....	\$188	499
Totals.....	\$188	499

TABLE 16
Value of Landings and Shipments by Port, Eureka Area, 1961

TABLE 17
Value of Landings and Shipments by Port,¹ San Francisco Area, 1961

	Value	Pounds
SAN FRANCISCO AREA TOTALS.....	\$7,548,166	41,440,225
San Francisco		
Yellowfin tuna.....	\$3,239,197	18,362,792
Albacore.....	927,221	5,426,052
Salmon.....	404,993	708,066
Market crab.....	161,955	656,219
Rockfish.....	87,647	1,818,510
Bluefin tuna.....	74,671	514,970
English sole.....	69,268	954,103
Petrale sole.....	65,741	553,839
Dover sole.....	48,478	930,480
Bigeye tuna.....	39,014	182,480
Shad.....	27,538	13,769
Skipjack.....	23,470	174,370
Rex sole.....	18,738	288,280
Sanddab.....	18,416	288,206
Sablefish.....	17,248	561,845
Lingcod.....	16,934	261,325
Oriental tuna.....	14,494	90,190
White seabass.....	8,808	29,725
California halibut.....	7,470	37,388
Sand sole.....	5,898	68,108
All other.....	21,095	813,626
Totals.....	\$5,297,394	32,724,343
Bodega Bay		
Salmon.....	\$797,512	1,397,428
Market crab.....	55,370	224,352
English sole.....	13,193	181,727
Petrale sole.....	8,793	74,076
Dover sole.....	8,216	157,693
All other.....	23,206	336,082
Totals.....	\$906,290	2,371,358
Sausalito		
Salmon.....	\$390,957	700,818
Albacore.....	55,043	306,818
Market crab.....	8,543	34,614
All other.....	591	13,656
Totals.....	\$464,134	1,055,906
Point Reyes		
Salmon.....	\$257,433	451,083
Giant Pacific oyster.....	49,714	454,421
Petrale sole.....	22,100	186,185
Market crab.....	18,688	75,722
Rockfish.....	13,753	294,456
English sole.....	12,112	166,835
Lingcod.....	9,770	150,775
Dover sole.....	8,345	160,173
All other.....	14,876	278,559
Totals.....	\$406,791	2,218,209
Oakland		
Salmon.....	\$171,345	300,237
Albacore.....	124,572	694,383
Dover sole.....	8,161	156,635
All other.....	6,317	49,291
Totals.....	\$310,395	1,200,546
Princeton		
Salmon.....	\$72,898	127,735
Market crab.....	13,185	53,343
All other.....	5,305	30,551
Totals.....	\$91,388	211,629

TABLE 17
Value of Landings and Shipments by Port, San Francisco Area, 1961

TABLE 17—Continued
Value of Landings and Shipments by Port,¹ San Francisco Area, 1961

	Value	Pounds
Tomales Bay		
Giant Pacific oyster.....	\$8,440	77,151
Pacific herring.....	8,107	976,510
Eastern oyster.....	5,107	105,726
All other.....	4,505	38,112
Totals.....	\$26,159	1,197,802
Clear Lake		
Hardhead.....	\$17,669	89,695
Carp.....	7,975	176,050
Totals.....	\$25,644	265,745
Berkeley		
Salmon.....	\$9,355	16,366
All other.....	337	1,495
Totals.....	\$9,692	17,861
Turlock		
Carp.....	\$5,369	118,522
All other.....	1,886	9,601
Totals.....	\$7,255	128,123
All other ports		
All other.....	\$3,044	48,703
Totals.....	\$3,044	48,703

¹ Includes Sacramento area landings.

TABLE 17
Value of Landings and Shipments by Port, San Francisco Area, 1961

TABLE 18
Value of Landings by Port, Monterey Area, 1961

	Value	Pounds
MONTEREY AREA TOTALS.....	\$1,270,361	19,897,950
Monterey		
Rockfish.....	\$160,347	3,122,903
Squid.....	120,002	3,685,784
Albacore.....	110,808	685,270
Salmon.....	69,889	125,505
Jack mackerel.....	54,708	2,346,241
Anchovy.....	40,191	2,810,552
English sole.....	14,612	199,342
Sardine.....	13,004	426,337
Petrale sole.....	12,045	100,876
Lingcod.....	8,422	89,027
Sablefish.....	7,918	149,966
Sandab.....	6,519	99,080
White croaker.....	6,388	122,601
All other.....	13,241	270,774
Totals.....	\$649,024	14,234,258
Moss Landing		
Salmon.....	\$202,507	363,763
Albacore.....	190,691	1,179,289
Jack mackerel.....	30,366	1,303,273
Sardine.....	20,841	683,305
Pacific herring.....	20,330	324,754
Anchovy.....	13,910	972,710
Sablefish.....	5,979	113,242
Rockfish.....	5,174	69,362
All other.....	15,196	184,745
Totals.....	\$504,994	5,194,443
Santa Cruz		
Salmon.....	\$92,029	165,309
All other.....	24,314	303,940
Totals.....	\$116,343	469,249

TABLE 18
Value of Landings by Port, Monterey Area, 1961

TABLE 19
Value of Landings by Port, Santa Barbara Area, 1961

	Value	Pounds
SANTA BARBARA AREA TOTALS.....	\$1,770,628	39,381,567
Morro Bay		
Abalone.....	\$243,343	1,597,786
Albacore.....	91,887	57,181
Rockfish.....	60,189	1,214,882
Sardine.....	56,400	1,992,950
Petrale sole.....	50,101	448,937
Salmon.....	31,619	54,773
Giant Pacific oyster.....	22,187	1,109,325
Jack mackerel.....	19,050	1,002,654
Market crab.....	11,160	44,252
Miscellaneous (animal food).....	8,981	449,073
Lingcod.....	7,393	78,402
White seabass.....	6,137	19,958
Rex sole.....	5,508	90,888
All other.....	18,389	245,064
Totals.....	\$632,324	8,926,125
Port Hueneme		
Jack mackerel.....	\$262,052	13,792,185
Sardine.....	186,152	6,577,810
Pacific mackerel.....	49,379	2,456,660
Squid.....	33,095	2,483,350
Abalone.....	23,032	174,558
Swordfish.....	9,342	22,164
All other.....	10,756	103,303
Totals.....	\$573,808	25,615,030
Santa Barbara		
Abalone.....	\$159,457	1,133,220
Rockfish.....	45,179	1,042,025
Petrale sole.....	42,829	383,771
Spiny lobster.....	39,179	59,980
California halibut.....	36,980	164,944
English sole.....	34,889	558,231
California barracuda.....	20,109	130,578
White seabass.....	19,189	62,402
Swordfish.....	15,797	37,479
Miscellaneous (animal food).....	7,337	396,831
All other.....	15,711	304,224
Totals.....	\$436,656	4,243,685
Avila		
Salmon.....	\$44,277	78,158
Albacore.....	16,209	101,814
Abalone.....	6,147	40,363
All other.....	12,715	118,893
Totals.....	\$79,348	339,228
San Simeon		
Abalone.....	\$27,135	178,167
Totals.....	\$27,135	178,167
Ventura		
Spiny lobster.....	\$12,027	18,412
All other.....	3,379	20,481
Totals.....	\$15,406	38,893
All other ports		
All other.....	\$5,951	40,439
Totals.....	\$5,951	40,439

TABLE 19
Value of Landings by Port, Santa Barbara Area, 1961

TABLE 20
Value of Landings and Shipments by Port, Los Angeles Area, 1961

	Value	Pounds
LOS ANGELES AREA TOTALS.....	\$47,060,401	496,338,744
Terminal Island		
Yellowfin tuna.....	\$26,400,937	202,655,603
Albacore.....	6,469,824	37,387,697
Skipjack.....	6,263,221	57,074,467
Bluefin tuna.....	2,611,710	20,175,436
Jack mackerel.....	1,395,398	66,447,522
Sardine.....	765,224	29,545,346
Pacific mackerel.....	731,682	33,718,042
Pacific bonito.....	159,096	6,239,066
Squid.....	41,754	2,470,625
Bigeye tuna.....	35,841	278,916
Pismo clam.....	17,042	740,960
California yellowtail.....	1,398	161,619
Oriental tuna.....	9,910	60,725
Shark.....	6,518	42,804
All other.....	3,005	163,539
Totals.....	\$44,922,556	457,142,397
San Pedro		
Bluefin tuna.....	\$100,409	774,760
White seabass.....	95,977	288,391
Sardine.....	87,796	3,389,809
California barracuda.....	76,211	505,378
Spiny lobster.....	67,316	95,851
Swordfish.....	60,303	135,209
Pacific mackerel.....	58,711	2,705,598
Jack mackerel.....	57,290	2,728,093
Rockfish.....	57,284	447,581
Giant sea bass.....	50,978	307,469
Grouper.....	40,824	188,912
Anchovy.....	39,138	2,836,119
Yellowfin tuna.....	30,208	238,756
Albacore.....	27,790	153,450
Squid.....	23,616	1,307,415
White croaker.....	21,472	545,852
California halibut.....	18,761	72,408
Pacific bonito.....	13,643	555,031
Shad.....	10,907	9,367
California yellowtail.....	9,219	130,772
Salmon.....	8,547	13,119
All other.....	15,028	129,208
Totals.....	\$669,608	17,709,548
Los Angeles		
Salmon.....	\$225,547	352,567
Sablefish.....	90,719	414,054
Sturgeon.....	22,332	34,489
Shad.....	15,919	131,999
All other.....	71,432	428,481
Totals.....	\$428,949	1,361,590
Wilmington		
Jack mackerel.....	\$156,711	7,462,407
Pacific mackerel.....	79,553	3,666,028
Pacific bonito.....	42,446	1,664,555
Sardine.....	12,252	473,057
Anchovy.....	6,075	440,197
All other.....	5,345	163,606
Totals.....	\$302,382	13,869,850

TABLE 20
Value of Landings and Shipments by Port, Los Angeles Area, 1961

TABLE 20—Continued
Value of Landings and Shipments by Port, Los Angeles Area, 1961

	Value	Pounds
Newport Beach		
Abalone.....	\$102,310	985,912
Jack mackerel.....	52,534	2,501,600
Swordfish.....	51,009	114,369
Pacific mackerel.....	31,501	1,451,652
Shark.....	22,168	166,542
Spiny lobster.....	15,597	22,209
California halibut.....	9,939	38,358
All other.....	12,640	120,899
Totals.....	\$207,698	5,401,541
Santa Monica		
White seabass.....	\$14,295	42,954
Spiny lobster.....	13,016	18,533
All other.....	16,310	292,529
Totals.....	\$43,621	354,016
Long Beach		
Albacore.....	\$17,875	98,703
Rockfish.....	10,589	78,182
Spiny lobster.....	9,579	13,640
All other.....	5,002	133,714
Totals.....	\$43,045	324,239
San Clemente		
Spiny lobster.....	\$31,839	45,336
Totals.....	\$31,839	45,336
Redondo Beach		
Rock crab.....	\$7,623	70,322
All other.....	6,984	31,445
Totals.....	\$14,607	101,767
All other ports		
All other.....	\$6,096	28,460
Totals.....	\$6,096	28,460

TABLE 20
Value of Landings and Shipments by Port, Los Angeles Area, 1961

TABLE 21
Value of Landings and Shipments by Port, San Diego Area, 1961

	Value	Pounds
SAN DIEGO AREA TOTALS.....	\$11,068,093	84,278,940
San Diego		
Yellowfin tuna.....	\$5,365,817	41,052,617
Skipjack.....	3,249,096	29,498,369
Albacore.....	2,033,774	11,326,171
Bluefin tuna.....	68,151	535,913
California halibut.....	60,840	269,202
Spiny lobster.....	59,337	90,619
White seabass.....	55,603	196,337
Abalone.....	35,992	380,950
Rockfish.....	32,875	298,697
Swordfish.....	19,670	45,712
Shark.....	8,988	81,883
California yellowtail.....	5,891	70,896
All other.....	30,106	280,302
Totals.....	\$11,026,140	84,130,668
La Jolla		
Spiny lobster.....	\$21,823	33,327
All other.....	2,325	23,136
Totals.....	\$24,348	56,463
Oceanside		
Spiny lobster.....	\$1,548	6,946
All other.....	4,277	29,792
Totals.....	\$8,825	36,738
All other ports		
All other.....	\$8,780	55,071
Totals.....	\$8,780	55,071

TABLE 21
Value of Landings and Shipments by Port, San Diego Area, 1961

TABLE 22
Statewide Commercial Party Boat Catch by Species
(Not including anchored barges)
1936-1940,¹ 1947-1961

Species	Number of fish									MARINE FISH CATCH FOR 1961
	1936	1937	1938	1939	1940	1947	1948	1949	1950	
Barracuda, California.....	469,530	868,454	311,256	663,495	704,520	677,440	384,056	366,123	256,367	260,545
Bass, kelp and sand.....	315,582	220,397	438,917	426,772	411,460	683,094	630,617	799,089	619,609	781,609
Bonito, Pacific.....	17,016	40,454	14,373	17,326	9,983	36,496	114,519	5,372	2,359	14,475
Caballa.....	2,292	3,474	2,323	2,348	1,980	1,450	14,125	15,239	15,029	15,029
Halibut, California.....	34,961	22,359	17,494	39,736	55,838	10,436	143,462	104,630	85,933	59,293
Lingcod.....	2,532	3,885	4,893	6,436	6,735	22,011	24,406	26,131	23,368	24,052
Mackerel, jack.....	1,303	1,925	3,462	1,222	10,109	4,803	2,351	2,632	557	200
Mackerel, Pacific.....	70,585	39,245	87,949	180,992	116,320	148,041	36,012	36,435	41,458	20,116
Rockfish.....	204,927	214,125	236,312	200,453	301,545	301,377	410,271	570,637	679,161	721,808
Salmon.....	197	1,005	1,950	3,501	7,080	5,018	11,209	23,057	56,337	71,970
Sculpin.....	14,658	13,184	21,063	17,896	15,098	26,062	52,554	37,030	53,419	35,721
Seabass, black.....	11,016	11,234	14,023	30,218	15,979	30,724	24,078	65,545	54,718	44,367
Sheepshead, California.....	8,175	9,379	13,113	11,177	13,173	17,024	17,713	13,140	11,140	11,140
Tuna, albacore.....	483	1,346	3,833	8,818	182	11,445	15,414	22,692	118,087	75,924
Tuna, bluefin.....	2,920	4,020	11,927	9,909	6,578	2,194	104	1,941	27	7,142
Whitefish, ocean.....	3,069	3,547	4,567	7,672	4,223	5,160	14,124	14,576	14,625	8,828
Yellowtail, ocean.....	60,190	61,961	42,555	25,355	94,344	10,948	10,228	17,710	6,579	22,771
All others.....	39,220	41,254	46,147	81,022	94,355	100,612	154,963	156,427	121,061	126,352
Total number of fish.....	1,313,473	1,344,139	1,281,608	1,724,224	1,872,838	2,070,432	2,110,019	2,338,794	2,193,413	2,330,844
Number of angler days.....	106,784	201,241	201,685	231,328	250,459	359,436	407,757	409,915	544,261	559,919

¹ Figures for World War II years, 1941-1946, not available.

² Number of anglers are not recorded for years prior to 1960. Figures published in Fish Bulletin No. 117 were estimates.

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TABLE 22
Statewide Commercial Party Boat Catch by Species (Not including anchored barges) 1936-1940, 1947-1961

TABLE 22—Continued
 Statewide Commercial Party Boat Catch by Species
 (Not including anchored barges)
 1936-1940,¹ 1947-1961

Species	Number of fish									
	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Barracuda, California.....	336,862	170,550	282,552	154,962	87,603	577,184	782,723	1,195,585	755,408	391,884
Bass, kelp and sand.....	836,175	711,400	878,697	467,343	476,262	990,071	633,471	779,429	475,419	81,604
Bowfin.....	7,610	9,300	70,070	1,020	61,404	2,280	42,989	77,903	1,189,919	843,938
Cabazon.....	10,847	9,650	13,132	12,366	18,105	14,479	9,909	5,326	2,816	2,639
Halibut, California.....	34,158	34,390	56,674	35,902	21,661	10,765	16,192	25,365	45,310	105,011
Lingcod.....	17,380	13,000	22,040	20,113	37,649	38,012	39,801	31,200	25,232	23,346
Mackerel, jack.....	4,028	10,629	19,100	39,300	23,965	2,275	11,325	4,200	2,380	2,380
Mackerel, Pacific.....	76,568	61,467	318,037	151,018	121,138	151,960	136,607	85,935	79,320	113,988
Rockfish.....	70,911	69,711	118,027	1,720,707	2,000,000	1,200,000	1,361,025	1,100,000	1,000,000	897,111
Salmon.....	86,472	98,723	118,911	128,678	111,505	44,701	62,676	55,945	37,941	42,955
Solepin.....	36,098	28,932	33,462	28,813	36,558	33,473	13,743	11,477	15,111	26,872
Seashee, white.....	41,043	27,603	41,588	30,103	19,755	19,039	34,639	10,503	15,697	14,082
Sheepshead, California.....	16,481	17,349	21,499	14,102	14,789	15,349	18,120	17,146	11,541	15,810
Tuna, bluefin.....	187,207	23,200	20,699	78,988	63,114	6,540	3,932	3,930	76,012	184,891
Tuna, yellowfin.....	145	4,276	966	8,179	34,187	6,128	884	1,330	97	2,268
Whitefish, ocean.....	10,003	4,983	9,952	9,508	7,051	4,389	6,143	5,609	5,550	6,647
Yellowtail, California.....	86,263	27,702	40,872	36,488	29,198	242,095	123,384	457,350	254,669	42,397
All others.....	156,087	147,783	177,535	99,051	62,027	50,118	44,809	28,039	56,132	87,391
Total number of fish.....	2,306,133	2,280,198	3,274,537	3,113,883	3,262,995	3,499,595	3,903,880	4,328,575	4,690,034	3,453,833
Number of angler days.....	588,087	502,146	532,190	496,286	523,063	536,175	515,152	557,154	516,255	495,805
Number of anglers ²									637,498	563,916

¹ Figures for World War II years, 1941-1946, not available.
² Number of anglers are not recorded for years prior to 1960. Figures published in Fish Bulletin No. 117 were estimates.

TABLE 22
 Statewide Commercial Party Boat Catch by Species (Not including anchored barges) 1936-1940, 1947-1961

TABLE 23
Recorded Catch of Live Bait for Saltwater Sportfishing, 1961

Species	Thousands of pounds ¹
Anchovy.....	11,825
Sardine, adult.....	136
Sardine, juvenile.....	3
Miscellaneous ²	15
Total pounds.....	11,979

¹ Using a conversion factor of 12.5 pounds per live bait scoop, weights are estimated from voluntary records submitted by 14 boats. The weight of a scoop of live bait varies between 10 and 15 pounds. The records represent almost all the live bait landings, however, they should be regarded as minimal.

² Consists primarily of queenfish and white croaker.

TABLE 23
Recorded Catch of Live Bait for Saltwater Sportfishing, 1961

3. CATCH LOCALITIES FOR DOVER SOLE, *MICROSTOMUS PACIFICUS* (LOCKINGTON), LANDED IN CALIFORNIA, 1950 THROUGH 1959

E. A. BEST

Marine Resources Operations
California Department of Fish and Game

3.1. INTRODUCTION

World War II technological advances in freezing fillets transposed Dover sole from a discarded scrap fish to California's most important flatfish. This rapid transposition took place between 1943 and 1948. Credit for developing Dover sole as an acceptable fish for the fillet trade rests with Oregon processors. The Oregon fishery began in 1941 and reached a magnitude of 6.4 million pounds by 1943 (Cleaver, 1951).

With the momentum provided by the Oregon industry, the fishery moved south, and in 1943 Dover sole were recorded for the first time in California landings. Landings increased slowly through 1947 and in 1948 jumped to 7.2 million pounds. Hagerman (1952) reported on the early phase of this fishery. Stimulated by increased purchasing by the armed forces during the Korean conflict, Dover sole catches peaked at 11.7 million pounds in 1952. This represented 52 percent of the total flatfish landings in California. From 1950 to 1959 the annual harvest averaged 8.9 million pounds. The 7.3 million pounds caught in 1959 was the lowest for this period; yet it was 39 percent of all flatfish taken (Figure 1).

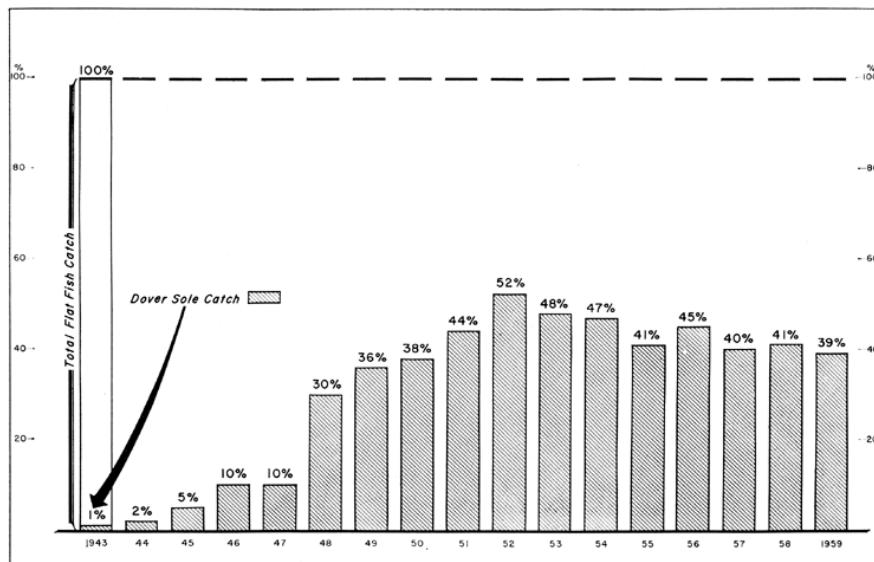


FIGURE 1. Proportion of Dover sole landings to total flatfish landings, 1943 through 1959.

FIGURE 1. *Proportion of Dover sole landings to total flatfish landings, 1943 through 1959*

3.2. FISHERY

Dover sole inhabit relatively deep areas of the continental slope. Otter trawls are the only practical way to harvest them. Fishing takes place in depths ranging from a little less than 100 fathoms during summer to over 400 fathoms in late winter and early spring.

Vessels average about 60 feet in overall length but vary from about 45 to 90 feet and normally require a three- or four-man crew. Nearly all are typical Pacific coast combination-type construction with deck house forward and the after deck clear for working gear. Several annually switch to albacore or sardine fishing, or become salmon pick-up vessels at the appropriate season and return to the trawl fishery for the remainder of the year. In recent years numerous unemployed sardine purse-seine vessels have become year-round trawlers (Figure 2). An excellent description of gear and electronic aids was given by Alverson (1957).

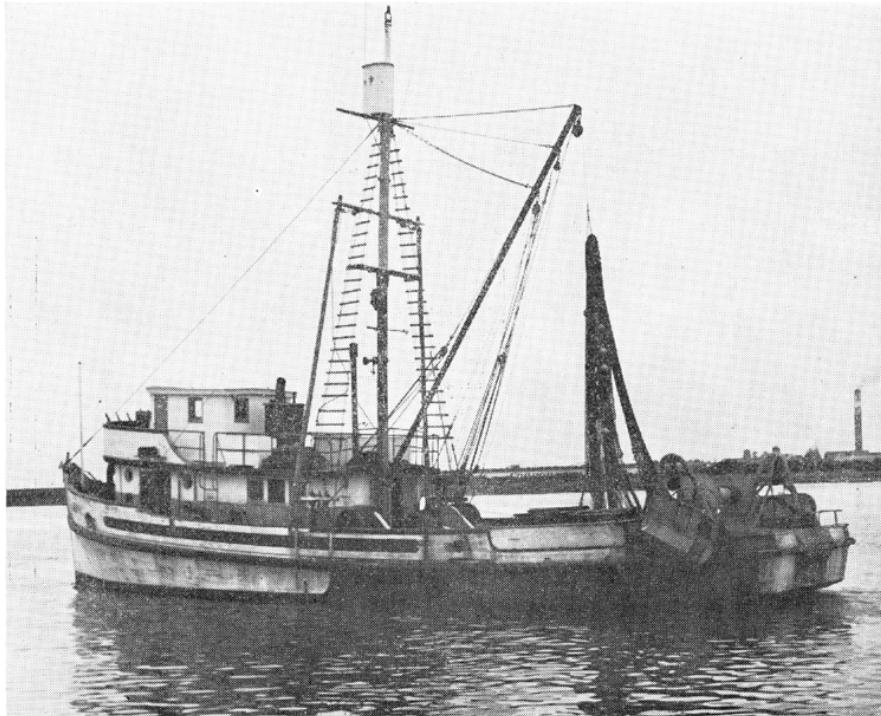


FIGURE 2. Former sardine purse-seine vessel rigged for otter trawling.
Photo by Paul H. Reed, July 1962.

FIGURE 2. *Former sardine purse-seine vessel rigged for otter trawling. Photo by Paul H. Reed, July 1962*

Occasionally Dover sole are landed on a daily basis; however, in northern California, trips usually last 4 or 5 days while in central California the standard is 2 or 3 days. Fish are stowed below decks in pens with adequate ice to prevent spoilage. The vessels do not have shelves in the pens to prevent crushing fish. Day fish (those to be sold the day caught) are boxed aboard the vessel and landed without ice. Few trawlers are equipped with refrigeration. That used is merely for chilling the fish-hold to minimize ice melting and is not adequate to freeze catches at sea.

3.3. REPORTING THE CATCH

California otter trawlers are required by law to keep logbooks of their fishing activities. For reporting fishing localities, they are supplied charts with the offshore area divided into numbered blocks measuring 10 minutes of longitude by 10 minutes of latitude (Figures 3, 4). Trawler logs combined with landing receipts are used to determine fishing location and species caught. For a complete description of this technique, see Clark (1935) and California Department of Fish and Game (1952).

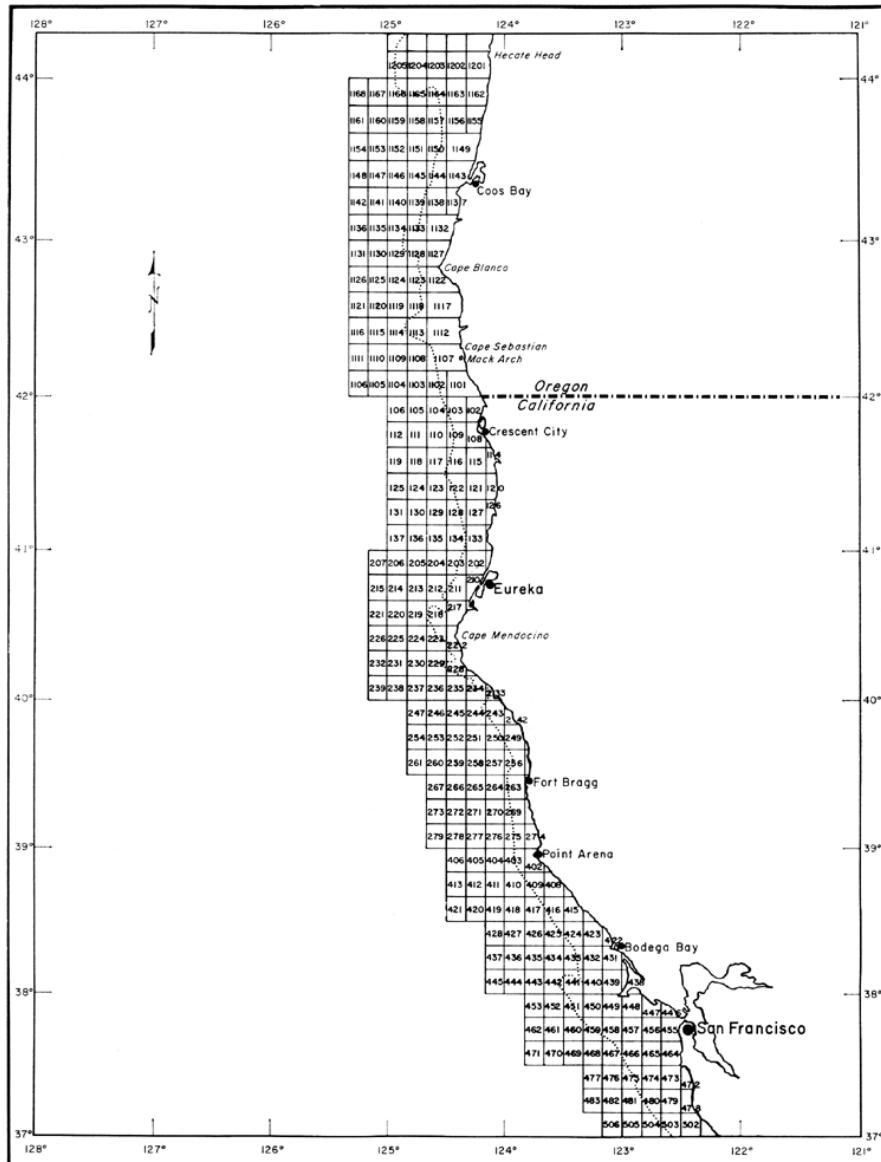


FIGURE 3. California Department of Fish and Game fishing chart for northern California and southern Oregon.

FIGURE 3. California Department of Fish and Game fishing chart for northern California and southern Oregon

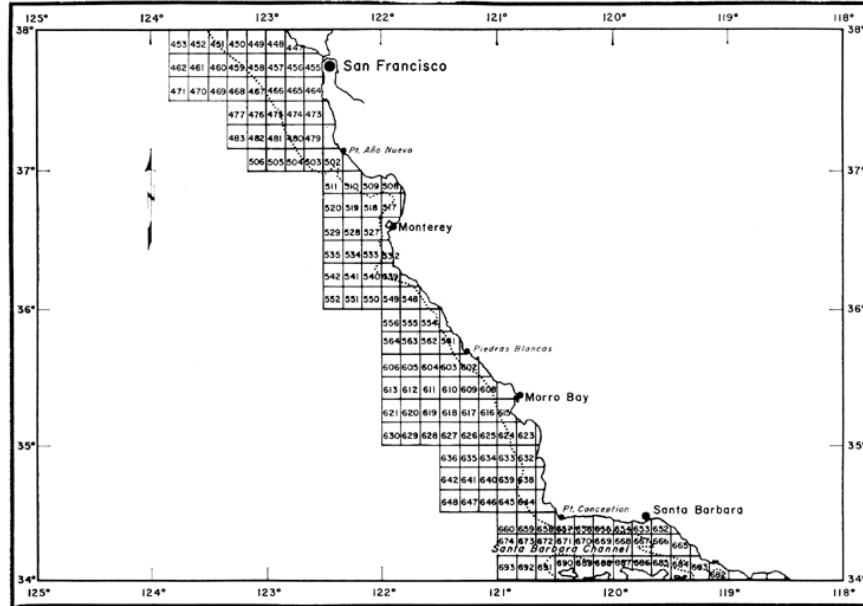


FIGURE 4. California Department of Fish and Game fishing chart for central California.

FIGURE 4. California Department of Fish and Game fishing chart for central California

These data, summarized monthly and yearly, provide information about the fishery and are particularly useful in delineating new fishing areas and determining areas not actively fished.

The Dover sole fleet is far ranging. Its sphere of operations, as indicated by 1950 to 1959 catch locality summaries, may be anywhere from central Oregon to central California (Table 1). When averaged for

TABLE 1

Dover Sole Catch Localities by General Areas, 1950 Through 1959.

(Landings in thousands of pounds)

General area	Block numbers	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Coos Bay, Oregon	1127-1205	535	29	126	39	335	283	234	192	302	259
Mack Arch, Oregon	1101-1126	786	586	1,049	1,049	1,574	699	790	790	836	931
Eureka	102- 226	7,417	7,116	9,066	6,231	4,895	4,993	3,960	4,293	3,951	3,670
Fort Bragg	228- 279	687	756	1,125	1,159	1,704	1,494	2,082	1,953	1,416	1,233
Bodega Bay	402- 445	118	109	223	239	408	260	58	87	1,191	846
San Francisco	446- 483	5	19	103	152	978	448	1,127	606	355	372
Monterey	502- 564	0	6	56	35	36	6	14	10	1	2
Morro Bay	602- 648	0	0	0	0	0	2	3	1	1	14
Santa Barbara	652- 693	0	0	0	0	0	0	*0	0	0	0
Total		9,548	8,621	11,748	8,904	9,930	8,185	8,268	7,932	8,053	7,327

* Landings totaled 200 pounds. An important trawl fishery has developed at Santa Barbara since 1959.

TABLE I

Dover Sole Catch Localities by General Areas, 1950 Through 1959. (Landings in thousands of pounds)

1950-1954 and 1955-1959, these catch locality data show northern California's continued domination of the fishery but also indicate gradually increasing importance of Dover sole to central California ports (Figures 5, 6, 7, 8).

Monthly summaries of trawl landings reveal very clearly the seasonal character of the Dover sole fishery. Less than 1 percent of the total annual Dover sole landings are made in both January and February. With the coming of spring and improved weather, landings increase until they peak in midsummer. About one-half of the annual catch is landed during June, July, and August. A decline sets in as winter approaches and stormy weather prevails in the off-shore fishing areas.

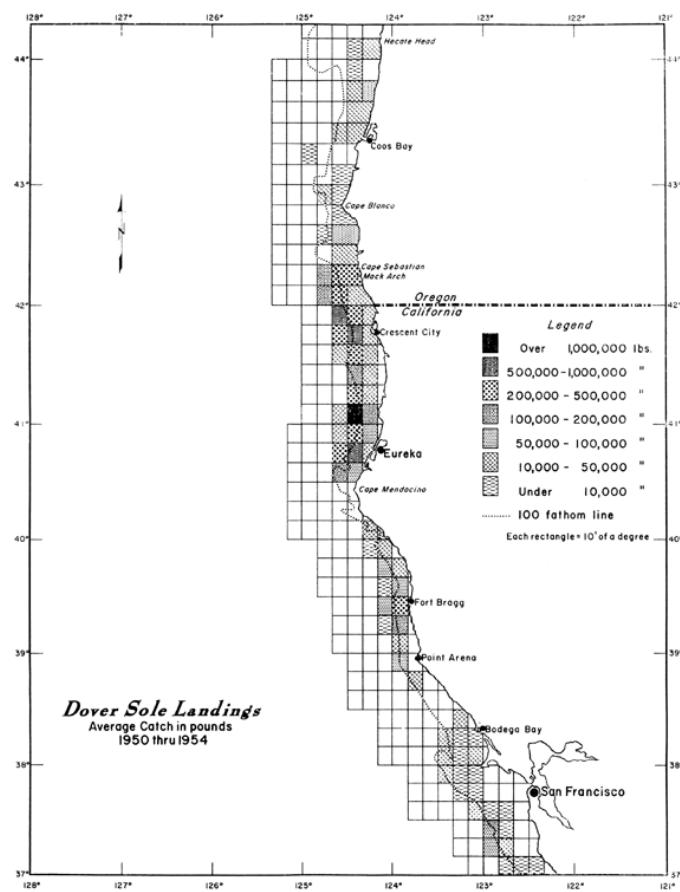


FIGURE 5. Origin of average annual Dover sole catches from northern California and southern Oregon landed by California otter trawlers for 1950 through 1954.

FIGURE 5. *Origin of average annual Dover sole catches from northern California and southern Oregon landed by California otter trawlers for 1950 through 1954*

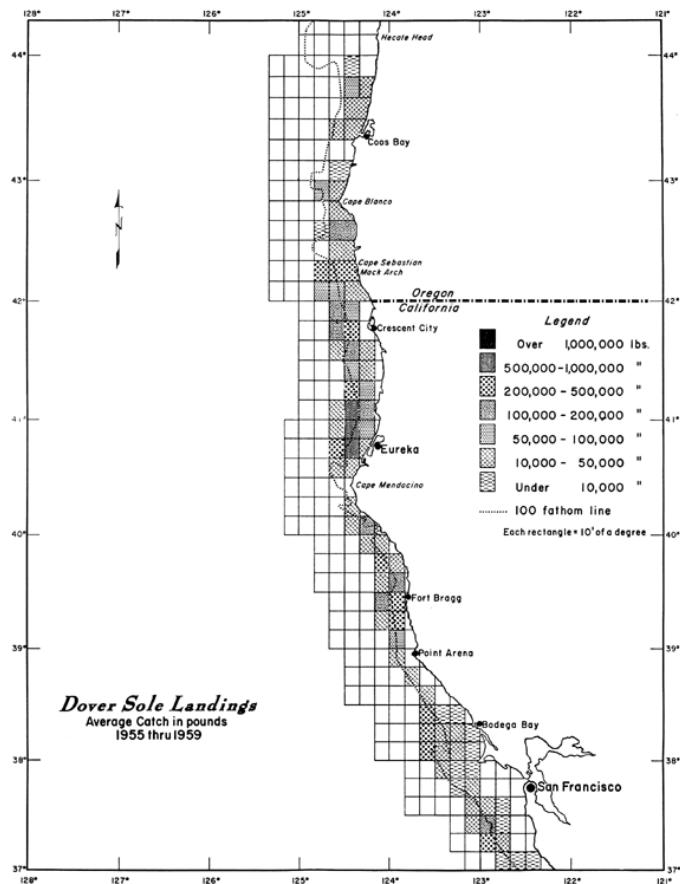


FIGURE 6. Origin of average annual Dover sole catches from northern California and southern Oregon landed by California otter trawlers for 1955 through 1959.

FIGURE 6. Origin of average annual Dover sole catches from northern California and southern Oregon landed by California otter trawlers for 1955 through 1959

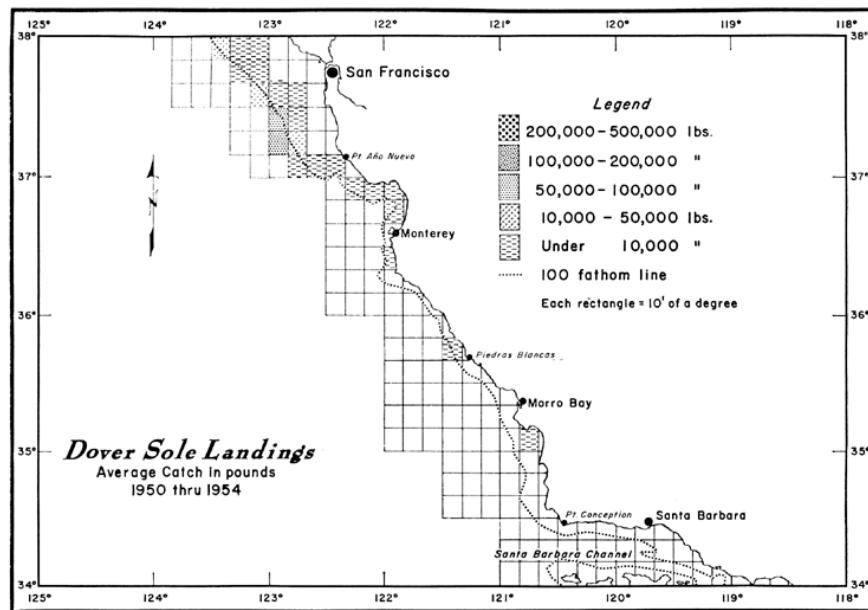


FIGURE 7. Origin of average annual Dover sole catches from central California landed by California otter trawlers for 1950 through 1954.

FIGURE 7. Origin of average annual Dover sole catches from central California landed by California otter trawlers for 1950 through 1954

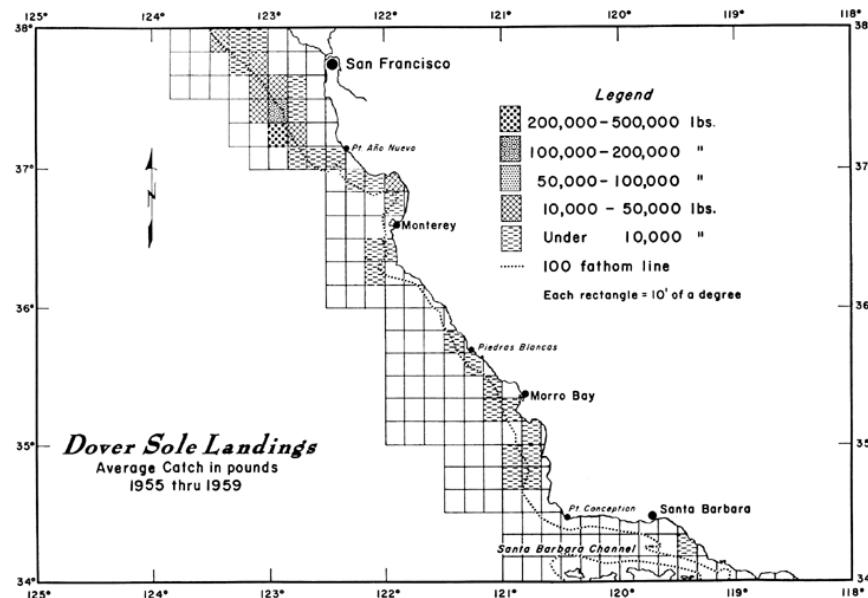


FIGURE 8. Origin of average annual Dover sole catches from central California landed by California otter trawlers for 1955 through 1959.

FIGURE 8. Origin of average annual Dover sole catches from central California landed by California otter trawlers for 1955 through 1959

3.4. SUMMARY

1. Technological advances made during the early 1940's changed Dover sole from a trash fish to California's most important flatfish.
2. Dover sole landings in California averaged nearly 9 million pounds annually from 1950 to 1959.
3. The fishery is primarily in northern California with central California ports landing increased quantities in recent years.
4. Dover sole trawling is primarily a summer fishery with little activity during winter.

3.5. REFERENCES

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