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DEPARTMENT OF FISH AND GAME

MARINE RECREATIONAL FISHERIES STATISTICS SURVEY  
FOR NORTHERN AND CENTRAL CALIFORNIA,  
QUARTERLY REPORT NO. 8,  
APRIL TO JUNE, 1981

by

Konstantin A. Karpov  
and  
Gerald S. Kwiecien

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FOR NORTHERN AND CENTRAL CALIFORNIA,  
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ABSTRACT

Field intercept Marine Recreational Fisheries Statistics Survey (MRFSS) data for central and northern California, collected in April to June 1981, is presented in a data report format. Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear type. Tables are presented for these categories, each with three sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE). Also, within each area, length-frequency histograms and tables are presented for select species.

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1/ Marine Resources Administrative Report No 88-3.

2/ Marine Resources Division, 19160 So. Harbor Drive, Fort Bragg, CA 95437.

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## INTRODUCTION

The California Department of Fish and Game under contract to the National Marine Fisheries Service (NMFS) has participated in the Marine Recreational Fisheries Statistics Survey (MRFSS) from mid 1979 to the present. The survey was initiated to gather catch and effort statistics for marine recreational fisheries along the Pacific west coast.

Annual summaries of these statistics are being published elsewhere on a regional basis (Current Fisheries Statistics Numbers 8321, 8323, 8325, 8328 and 8393). In these summaries, California's data is divided into two regions, Del Norte to Monterey counties (northern region) and San Luis Obispo to San Diego counties (southern region).

Quarterly Report No. 8 covers the period of April to June 1981. It supplements the federal annual summary for only the north-central region of California (Del Norte to San Luis Obispo counties). This region is divided into five areas (subregions) corresponding to historical ports.

## METHODS

Catch and length data were collected by Department biologists intercepting anglers actively fishing or in the process of leaving a fishing site. Sampling methodology is described in part in Current Fisheries Statistics (8321, 8323, 8325, 8328, and 8393).

Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear type. Tables are presented for these categories, each with three

sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE). Also, within each area, length-frequency histograms and tables are presented for select species.

#### Study Areas

Study areas range in size from one county in Area 5 to seven counties in Area 3 (Figure 1). Adjacent counties are combined whenever similarity of habitat and species composition warrants. Boat modes are segregated by county only if separate grounds were fished (i.e. Sonoma County Bodega Bay fishery, sub-area 097, from Mendocino County, sub-area 045).

Area 1, including Del Norte and Humbolt counties, extends from the Oregon border to Shelter Cove. Both counties are combined in all mode comparisons. Area 2 contains Mendocino County and that part of Sonoma County which is north of Bodega Bay. Both counties are combined for all modes except the boat modes (private/rental boat and CPFV). The San Francisco Area 3 is segregated into ocean and bay. This area includes anglers from seven counties; Marin, Solano, Contra Costa, Santa Clara, Alameda, San Francisco, and San Mateo. These counties encircle the bay and extend down to Ano Nuevo. Two sets of tables and figures were generated based on whether anglers specified having fished in the ocean or the bay. Bay anglers were predominantly from San Francisco Bay, but also included a small percentage of Halfmoon Bay anglers. Area 4 includes Santa Cruz County and that part of Monterey County which is north of Ragged Point. Area 5, San Luis Obispo County, extends down to Point Sal.

#### Fishing Modes

Modes of fishing were organized into six categories: (i) pier or dock, (ii) jetty or breakwater, (iii) bridge or causeway, (iv) beach or bank, (v) private or rental boat, and (vi) commercial passenger fishing vessel (CPFV).

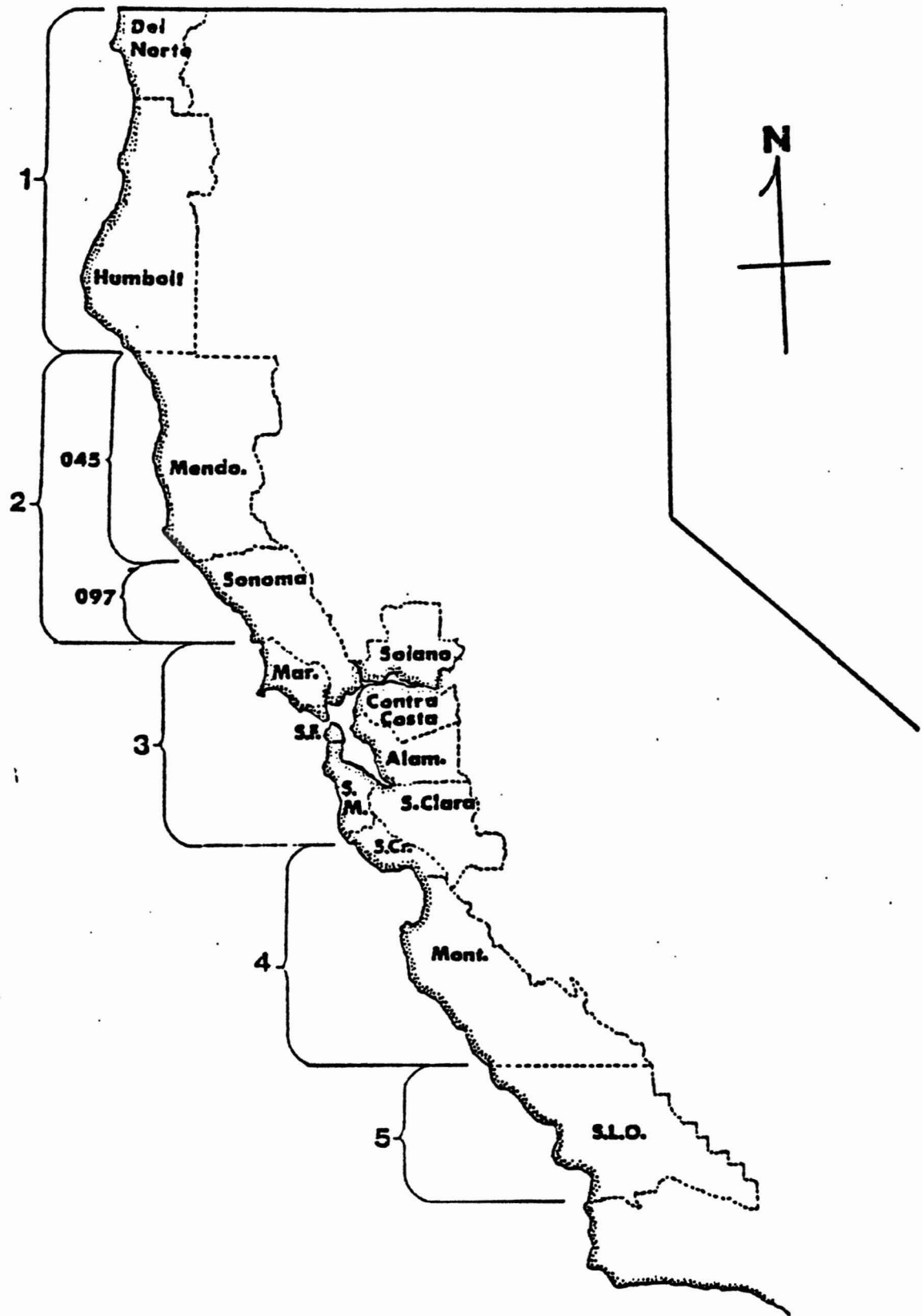


FIGURE 1. Study area counties and sub-areas in northern and central California.

## Gear Types

Three types of gear were used; (i) hook-and-line, (ii) spear, or (iii) net. Spears were used only by divers. Dipnet and castnet were the only net gears in active use in northern and central California.

## Catch Definition

Catch is defined three different ways: (i) all fish captured, including fish returned dead or alive, those not available at the sampling site (i.e. filleted or given away, etc.), and those available to measure; (ii) landed catch, not including fish returned dead or alive; and (iii) the measured catch only. Fish caught but unavailable to measure were identified to the nearest taxa using the angler's description.

## Computer-Generated Tables and Figures

The Microcomputer Program Series (MPS) was developed to generate the tables and figures used in this report. The programs were designed for flexibility and ease of use on area microcomputers. The programs allow the user to generate tables and figures for any combination of area, mode, gear, or definition of catch. Data generated by these programs include: sampled effort, ranked catch, CPUE, and length-frequency data. Documentation of logic and program listings are available (Karpov, 1984).

### Sampled Effort

Sampled effort is the same for all three catch definitions for a particular area, mode, or gear. It includes the number of anglers intercepted, the total hours fishing effort, and total hours still to be fished for incomplete trips.

### Ranked Catch

Ranked catch includes rank of species caught by number or weight, and other statistics depending on the catch definition. Fish are ranked by

number caught in two of the catch definitions: all fish caught, and landed catch. The measured catch has fish ranked by weight caught. The measured catch tables include average lengths and standard deviation, and derived average weight.

#### CPUE

CPUE is calculated using two definitions of both "catch" and "effort". Catch is either number or weight (kilograms) caught. Effort is either angler days or total hours fished. CPUE, computed using weight caught as opposed to number landed, is included only for two of the catch definitions: landed catch and measured catch. Average weights incorporated in the landed catch tables are derived either from the respective measured catch table for the same species or, for the more general species groups, by calculating a group average weight. Group average weights of constituent species were calculated from this quarter's data for the same mode, gear, and area. Angler days represent completed fishing days for most areas and modes. Occasional incomplete trips were included for all modes except boat modes.

#### Length-Frequency Data

Length-frequency histograms and tables were generated for select species. Histograms are included for highly abundant species where at least 10 measured fish occurred in the most frequent size interval. Histograms were summarized in either 5-, 10-, or 20-mm intervals. The criteria for assigning summary intervals was based on the largest recorded size for the species as reported in Miller and Lea (1972). Fish reported from 0 to 12 inches used 5-mm, greater than 12 to 24 inches used 10-mm and greater than 24 inches were assigned 20-mm intervals.

Length-frequency tables (see Appendix A) were generated for all species with at least five measured fish for any given area, mode, and gear. Tables were summarized in 5-mm intervals and include length statistics for possible use in ANOVA computations (Sokal and Rohlf, 1969).

#### Species Names and Length-Weight Parameters

Total length was recorded for all species except tuna-like fishes with rigid concave caudal fins; for these fork lengths were used. Weights were not actually measured; rather, they were determined, for all major species taken, from precalculated length-weight relationships. The exponential relationship used was  $W=aL^b$ ; where a and b are constants unique to each species (Appendix B).

Throughout this quarter samplers, working from San Mateo through Sonoma counties (area 3 and sub-area 097) inadvertently recorded fork lengths for all species measured. All species with moderately convex to concave caudal fins were converted back to total length using fork-total length relationships from several sources (Echeverria and Lenarz 1986, Karpov In press, and Van Hying 1951). The linear relationship used was  $TL=a+b(FL)$ ; where a and b are constants unique to each species (Appendix C).

Scientific and common names used were standardized using the American Fisheries Society list (1980).

Table 1. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	29
Total Hours Effort for Anglers Intercepted	=	59.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Jacksmelt	1	35	34.7
Surfperches	2	22	21.8
Perch, Shiner	3	11	10.9
Rockfish, Black	4	10	9.9
Surfperch, Redtail	5	10	9.9
Surfperch, Walleye	6	4	4.0
Rockfishes (unidentified)	7	3	3.0
Rockfish, Blue	8	3	3.0
Greenling, Kelp	9	1	1.0
Seaperch, Striped	10	1	1.0
Surfperch, Silver	11	1	1.0
Total		101	100

C. CPUE

Catch per Angler Day = 3.48      Catch per Angler Hour = 1.71

Table 2. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

## A. Sampled Effort

Number Anglers Intercepted	=	29
Total Hours Effort for Anglers Intercepted	=	59.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	35	42.7	0.19	6.74
Perch, Shiner	2	11	13.4	0.03	0.37
Rockfish, Black	3	10	12.2	1.18	11.77
Surfperches	4	9	11.0	0.15**	1.35
Surfperch, Redtail	5	7	8.5	0.33	2.30
Surfperch, Walleye	6	4	4.9	0.12	0.48
Rockfish, Blue	7	3	3.7	1.18	3.54
Rockfishes (unidentified)	8	1	1.2	1.18**	1.18
Seaperch, Striped	9	1	1.2	0.42	0.42
Surfperch, Silver	10	1	1.2	0.09	0.09
Total		82	100		28.23

## C. CPUE

Catch per Angler Day	=	2.83	Catch per Angler Hour	=	1.39
Kg per Angler Day	=	0.97	Kg per Angler Hour	=	0.48

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).



Table 3. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 29  
 Total Hours Effort for Anglers Intercepted = 59.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	11.77	10	13.9	10	1.18	424	49
Jacksmelt	2	6.74	35	48.6	26	0.19	293	28
Rockfish, Blue	3	3.54	3	4.2	3	1.18	424	47
Surfperch, Redtail	4	2.30	7	9.7	7	0.33	269	19
Surfperch, Walleye	5	0.48	4	5.6	4	0.12	175	62
Seaperch, Striped	6	0.42	1	1.4	1	0.42	295	0
Perch, Shiner	7	0.37	11	15.3	11	0.03	134	16
Surfperch, Silver	8	0.09	1	1.4	1	0.09	178	0
Total		25.70	72	100	63			

## C. CPUE\*\*\*

Catch per Angler Day = 2.48      Catch per Angler Hour = 1.22  
 Kg per Angler Day = 0.89      Kg per Angler Hour = 0.44

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 4. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	116
Total Hours Effort for Anglers Intercepted	=	281.0
Total Hours Still to Fish (Incomplete Trips)	=	3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Greenling, Kelp	1	28	33.7
Seaperch, Striped	2	18	21.7
Rockfish, Black	3	11	13.3
Surfperches	4	10	12.0
Cabezon	5	6	7.2
Lingcod	6	3	3.6
Rockfishes (unidentified)	7	2	2.4
Unidentified Fishes	8	1	1.2
Smoothhound, Brown	9	1	1.2
Rockfish, Copper	10	1	1.2
Greenling, Rock	11	1	1.2
Surfperch, Redtail	12	1	1.2
Total		83	100

C. CPUE

Catch per Angler Day	=	0.72	Catch per Angler Hour	=	0.30
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Table 5. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	116
Total Hours Effort for Anglers Intercepted	=	281.0
Total Hours Still to Fish (Incomplete Trips)	=	3.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Greenling, Kelp	1	25	39.1	0.33	8.19
Seaperch, Striped	2	14	21.9	0.36	4.97
Rockfish, Black	3	9	14.1	0.22	2.02
Surfperches	4	6	9.4	0.36**	2.16
Cabazon	5	5	7.8	1.01	5.05
Rockfishes (unidentified)	6	1	1.6	0.22**	0.22
Rockfish, Copper	7	1	1.6	0.20	0.20
Greenling, Rock	8	1	1.6	0.33	0.33
Lingcod	9	1	1.6	2.23	2.23
Surfperch, Redtail	10	1	1.6	0.00**	0.00
Total		64	100		25.38

C. CPUE

Catch per Angler Day	=	0.55	Catch per Angler Hour	=	0.23
Kg per Angler Day	=	0.22	Kg per Angler Hour	=	0.09

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 6. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	116
Total Hours Effort for Anglers Intercepted	=	281.0
Total Hours Still to Fish (Incomplete Trips)	=	3.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Greenling, Kelp	1	6.55	20	39.2	20	0.33	281	32
Cabezon	2	5.05	5	9.8	5	1.01	387	58
Seaperch, Striped	3	4.97	14	27.5	13	0.36	277	28
Lingcod	4	2.23	1	2.0	1	2.23	590	0
Rockfish, Black	5	2.02	9	17.6	9	0.22	240	37
Greenling, Rock	6	0.33	1	2.0	1	0.33	286	0
Rockfish, Copper	7	0.20	1	2.0	1	0.20	223	0
Total		21.36	51	100	50			

## C. CPUE\*\*\*

Catch per Angler Day	=	0.44	Catch per Angler Hour	=	0.18
Kg per Angler Day	=	0.18	Kg per Angler Hour	=	0.08

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 7. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 95  
 Total Hours Effort for Anglers Intercepted = 269.5  
 Total Hours Still to Fish (Incomplete Trips) = 2.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Redtail	1	189	94.5
Prickleback, Monkeyface	2	3	1.5
Greenling, Kelp	3	2	1.0
Smoothhound, Brown	4	1	0.5
Trout, Rainbow	5	1	0.5
Cabezón	6	1	0.5
Seaperch, Striped	7	1	0.5
Surfperch, Silver	8	1	0.5
Prickleback, Rock	9	1	0.5
Total		200	100

C. CPUE

Catch per Angler Day = 2.11      Catch per Angler Hour = 0.74

Table 8. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	95
Total Hours Effort for Anglers Intercepted	=	269.5
Total Hours Still to Fish (Incomplete Trips)	=	2.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Redtail	1	169	94.9	0.36	60.46
Prickleback, Monkeyface	2	3	1.7	0.00**	0.00
Smoothhound, Brown	3	1	0.6	4.23	4.23
Trout, Rainbow	4	1	0.6	1.27	1.27
Cabazon	5	1	0.6	0.92	0.92
Seaperch, Striped	6	1	0.6	0.38	0.38
Surfperch, Silver	7	1	0.6	0.25	0.25
Prickleback, Rock	8	1	0.6	0.00**	0.00
Total		178	100		67.51

#### C. CPUE

Catch per Angler Day	=	1.87	Catch per Angler Hour	=	0.66
Kg per Angler Day	=	0.71	Kg per Angler Hour	=	0.25

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 9. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	95
Total Hours Effort for Anglers Intercepted	=	269.5
Total Hours Still to Fish (Incomplete Trips)	=	2.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Redtail	1	57.60	161	94.7	122	0.36	273	33
Smoothhound, Brown	2	4.23	1	0.6	1	4.23	766	0
Trout, Rainbow	3	1.27	1	0.6	1	1.27	512	0
Cabezon	4	0.92	1	0.6	1	0.92	380	0
Seaperch, Striped	5	0.38	1	0.6	1	0.38	285	0
Surfperch, Silver	6	0.25	1	0.6	1	0.25	249	0
Prickleback, Rock	7	0.00	1	0.6	1	0.00	481	0
Prickleback, Monkeyface	8	0.00	3	1.8	3	0.00	481	91
Total		64.64	170	100	131			

## C. CPUE\*\*\*

Catch per Angler Day	=	1.79	Catch per Angler Hour	=	0.63
Kg per Angler Day	=	0.68	Kg per Angler Hour	=	0.24

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 10. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 11  
 Total Hours Effort for Anglers Intercepted = 11.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	1463	%100.0
Total		1463	100

C. CPUE

Catch per Angler Day = 133.00      Catch per Angler Hour = 133.00



Table 11. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 11  
 Total Hours Effort for Anglers Intercepted = 11.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	1462	%100.0	0.04	58.66
Total		1462	100		58.66

C. CPUE

Catch per Angler Day = 132.91      Catch per Angler Hour = 132.91  
 Kg per Angler Day = 5.33      Kg per Angler Hour = 5.33

\* Weight estimated from length-to-weight regression if available.

Table 12. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 11  
 Total Hours Effort for Anglers Intercepted = 11.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	50.87	1268	%100.0	50	0.04	183	7
Total		50.87	1268	100	50			

## C. CPUE\*\*\*

Catch per Angler Day = 115.27      Catch per Angler Hour = 115.27  
 Kg per Angler Day = 4.62      Kg per Angler Hour = 4.62

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 13. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

## A. Sampled Effort

Number Anglers Intercepted	=	45
Total Hours Effort for Anglers Intercepted	=	127.9
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	208	66.2
Rockfish, Blue	2	28	8.9
Surfperch, Redtail	3	26	8.3
Lingcod	4	23	7.3
Rockfish, Canary	5	7	2.2
Seaperch, White	6	6	1.9
Greenling, Kelp	7	3	1.0
Cabazon	8	3	1.0
Rockfishes (unidentified)	9	2	0.6
Sculpins	10	2	0.6
Rockfish, Copper	11	1	0.3
Rockfish, Quillback	12	1	0.3
Rockfish, Vermilion	13	1	0.3
Seaperch, Striped	14	1	0.3
Flounders, Lefteye	15	1	0.3
Flounder, Starry	16	1	0.3
Total		314	100

## C. CPUE

Catch per Angler Day = 6.98      Catch per Angler Hour = 2.46

Table 14. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	45
Total Hours Effort for Anglers Intercepted	=	127.9
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	205	69.0	1.05	214.91
Rockfish, Blue	2	28	9.4	1.19	33.18
Lingcod	3	20	6.7	2.37	47.38
Surfperch, Redtail	4	20	6.7	0.57	11.48
Rockfish, Canary	5	7	2.4	0.49	3.40
Seaperch, White	6	6	2.0	0.40	2.41
Greenling, Kelp	7	3	1.0	0.78	2.33
Cabezón	8	3	1.0	2.00	6.01
Rockfish, Copper	9	1	0.3	1.19	1.19
Rockfish, Quillback	10	1	0.3	2.25	2.25
Rockfish, Vermilion	11	1	0.3	2.98	2.98
Seaperch, Striped	12	1	0.3	0.34	0.34
Flounder, Starry	13	1	0.3	2.58	2.58
Total		297	100		330.45

#### C. CPUE

Catch per Angler Day	=	6.60	Catch per Angler Hour	=	2.32
Kg per Angler Day	=	7.34	Kg per Angler Hour	=	2.58

\* Weight estimated from length-to-weight regression if available.

Table 15. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	45
Total Hours Effort for Anglers Intercepted	=	127.9
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	152.01	145	64.4	67	1.05	405	56
Lingcod	2	47.38	20	8.9	20	2.37	595	69
Rockfish, Blue	3	18.96	16	7.1	16	1.19	419	61
Surfperch, Redtail	4	11.48	20	8.9	10	0.57	317	35
Cabezon	5	6.01	3	1.3	3	2.00	506	7
Rockfish, Canary	6	3.40	7	3.1	7	0.49	320	31
Rockfish, Vermilion	7	2.98	1	0.4	1	2.98	574	0
Flounder, Starry	8	2.58	1	0.4	1	2.58	568	0
Seaperch, White	9	2.41	6	2.7	6	0.40	321	24
Greenling, Kelp	10	2.33	3	1.3	3	0.78	383	21
Rockfish, Quillback	11	2.25	1	0.4	1	2.25	487	0
Rockfish, Copper	12	1.19	1	0.4	1	1.19	402	0
Seaperch, Striped	13	0.34	1	0.4	1	0.34	274	0
Total		253.33	225	100	137			

## C. CPUE\*\*\*

Catch per Angler Day	=	5.00	Catch per Angler Hour	=	1.76
Kg per Angler Day	=	5.63	Kg per Angler Hour	=	1.98

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 2. Length-Frequency Histogram for Redtail Surfperch  
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
 Area 1, Quarter 2, 1981.

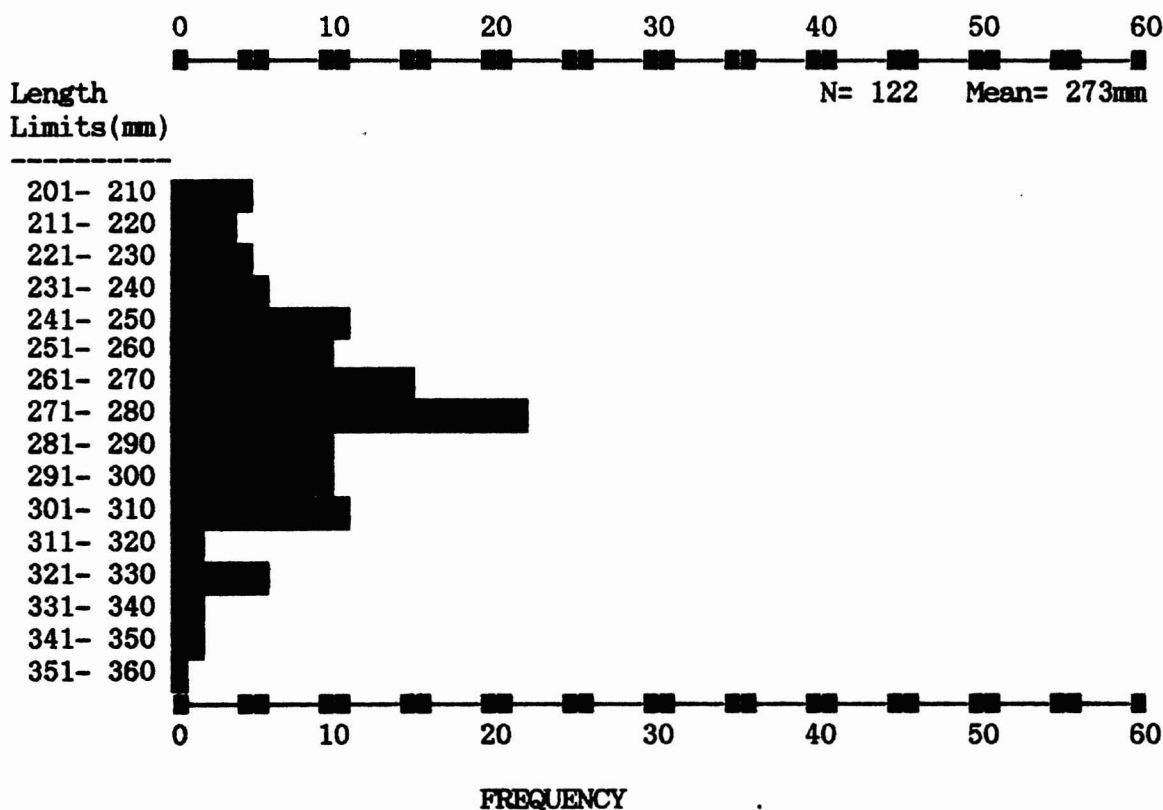


Figure 3. Length-Frequency Histogram for Surf Smelt  
 Taken by Beach and Bank Anglers Using Shore Net Gear.  
 Area 1, Quarter 2, 1981.

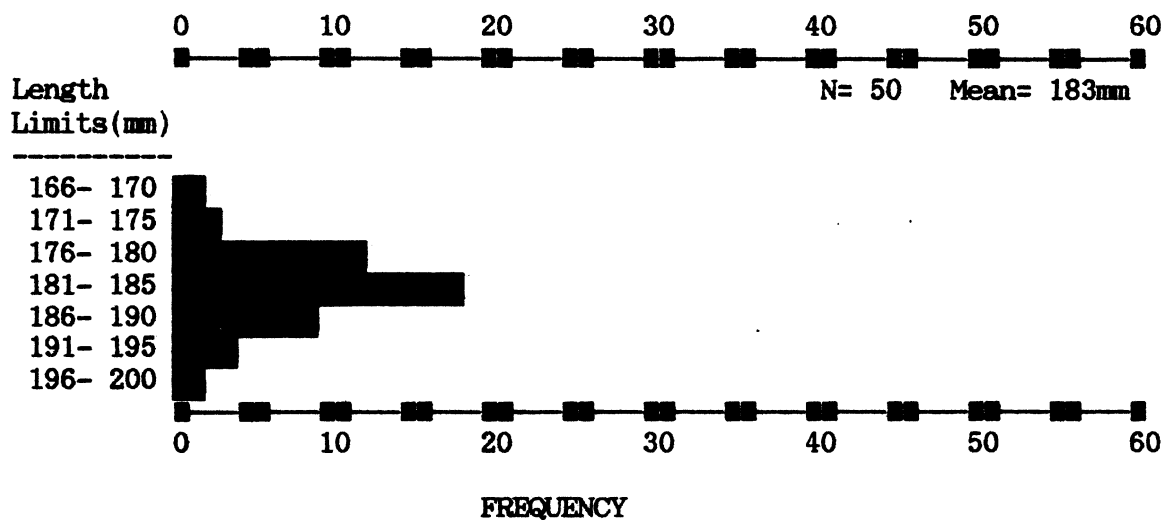


Table 16. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	57
Total Hours Effort for Anglers Intercepted	=	117.9
Total Hours Still to Fish (Incomplete Trips)	=	13.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Herring, Pacific	1	238	55.9
Seaperch, Striped	2	84	19.7
Perch, Shiner	3	40	9.4
Trouts	4	35	8.2
Seaperch, Sharpnose	5	12	2.8
Surfperches	6	7	1.6
Seaperch, Rainbow	7	4	0.9
Seaperch, Rubberlip	8	3	0.7
Unidentified Fishes	9	1	0.2
Sculpins	10	1	0.2
Seaperch, White	11	1	0.2
<b>Total</b>		<b>426</b>	<b>100</b>

C. CPUE

Catch per Angler Day = 7.47      Catch per Angler Hour = 3.61



Table 17. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 57  
 Total Hours Effort for Anglers Intercepted = 117.9  
 Total Hours Still to Fish (Incomplete Trips) = 13.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Herring, Pacific	1	226	68.1	0.15	33.82
Seaperch, Striped	2	83	25.0	0.44	36.29
Seaperch, Sharpnose	3	11	3.3	0.23	2.49
Perch, Shiner	4	4	1.2	0.04	0.16
Seaperch, Rainbow	5	4	1.2	0.30	1.19
Seaperch, Rubberlip	6	3	0.9	0.78	2.34
Seaperch, White	7	1	0.3	0.20	0.20
Total		332	100		76.49

C. CPUE

Catch per Angler Day = 5.82      Catch per Angler Hour = 2.82  
 Kg per Angler Day = 1.34      Kg per Angler Hour = 0.65

\* Weight estimated from length-to-weight regression if available.

Table 18. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted	=	57
Total Hours Effort for Anglers Intercepted	=	117.9
Total Hours Still to Fish (Incomplete Trips)	=	13.7

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Herring, Pacific	1	33.82	226	70.0	77	0.15	237	21
Seaperch, Striped	2	32.36	74	22.9	50	0.44	298	18
Seaperch, Sharpnose	3	2.49	11	3.4	11	0.23	264	13
Seaperch, Rubberlip	4	2.34	3	0.9	3	0.78	346	6
Seaperch, Rainbow	5	1.19	4	1.2	4	0.30	264	20
Seaperch, White	6	0.20	1	0.3	1	0.20	256	0
Perch, Shiner	7	0.16	4	1.2	4	0.04	141	21
Total		72.56	323	100	150			

C. CPUE\*\*\*

Catch per Angler Day	=	5.67	Catch per Angler Hour	=	2.74
Kg per Angler Day	=	1.27	Kg per Angler Hour	=	0.62

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 19. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 59  
 Total Hours Effort for Anglers Intercepted = 133.0  
 Total Hours Still to Fish (Incomplete Trips) = 25.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Redtail	1	6	40.0
Herring, Pacific	2	3	20.0
Seaperch, Striped	3	3	20.0
Prickleback, Rock	4	2	13.3
Sculpins	5	1	6.7
Total		15	100

C. CPUE

Catch per Angler Day = 0.25      Catch per Angler Hour = 0.11

Table 20. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 59  
 Total Hours Effort for Anglers Intercepted = 133.0  
 Total Hours Still to Fish (Incomplete Trips) = 25.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Redtail	1	5	45.5	0.65	3.26
Seaperch, Striped	2	3	27.3	0.20	0.61
Prickleback, Rock	3	2	18.2	0.00**	0.00
Sculpins	4	1	9.1	0.00**	0.00
Total		11	100		3.87

C. CPUE

Catch per Angler Day = 0.19      Catch per Angler Hour = 0.08  
 Kg per Angler Day = 0.07      Kg per Angler Hour = 0.03

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 21. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 59  
 Total Hours Effort for Anglers Intercepted = 133.0  
 Total Hours Still to Fish (Incomplete Trips) = 25.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Redtail	1	3.26	5	45.5	5	0.65	332	23
Seaperch, Striped	2	0.61	3	27.3	3	0.20	232	14
Sculpins	3	0.00	1	9.1	0	0.00	0	0
Prickleback, Rock	4	0.00	2	18.2	2	0.00	296	62
Total		3.87	11	100	10			

C. CPUE\*\*\*

Catch per Angler Day = 0.19      Catch per Angler Hour = 0.08  
 Kg per Angler Day = 0.07      Kg per Angler Hour = 0.03

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 22. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	105
Total Hours Effort for Anglers Intercepted	=	236.0
Total Hours Still to Fish (Incomplete Trips)	=	87.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	28	42.4
Cabazon	2	10	15.2
Greenling, Kelp	3	5	7.6
Seaperch, Rainbow	4	5	7.6
Perch, Kelp	5	4	6.1
Jacksmelt	6	3	4.5
Greenlings (unidentified)	7	3	4.5
Greenling, Rock	8	3	4.5
Lingcod	9	2	3.0
Sculpin, Buffalo	10	2	3.0
Sculpins	11	1	1.5
Total		66	100

C. CPUE

Catch per Angler Day = 0.63      Catch per Angler Hour = 0.28

Table 23. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	105
Total Hours Effort for Anglers Intercepted	=	236.0
Total Hours Still to Fish (Incomplete Trips)	=	87.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	28	45.2	0.46	12.96
Cabazon	2	9	14.5	0.69	6.23
Greenling, Kelp	3	5	8.1	0.49	2.46
Seaperch, Rainbow	4	5	8.1	0.24	1.19
Perch, Kelp	5	4	6.5	0.00**	0.00
Jacksmelt	6	3	4.8	0.15	0.44
Greenling, Rock	7	3	4.8	0.19	0.58
Lingcod	8	2	3.2	4.15	8.30
Sculpin, Buffalo	9	2	3.2	0.16	0.33
Greenlings (unidentified)	10	1	1.6	0.38**	0.38
Total		62	100		32.87

C. CPUE

Catch per Angler Day =	0.59	Catch per Angler Hour =	0.26
Kg per Angler Day =	0.31	Kg per Angler Hour =	0.14

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 24. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

### A. Sampled Effort

Number Anglers Intercepted = 105  
 Total Hours Effort for Anglers Intercepted = 236.0  
 Total Hours Still to Fish (Incomplete Trips) = 87.5

### B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Seaperch, Striped	1	12.96	28	45.2	28	0.46	304	21
Lingcod	2	8.30	2	3.2	2	4.15	725	53
Cabezon	3	6.23	9	14.5	9	0.69	340	32
Greenling, Kelp	4	2.46	5	8.1	5	0.49	322	48
Seaperch, Rainbow	5	1.19	5	8.1	5	0.24	232	68
Greenling, Rock	6	0.58	3	4.8	3	0.19	235	25
Jacksmelt	7	0.44	3	4.8	3	0.15	270	37
Sculpin, Buffalo	8	0.33	2	3.2	2	0.16	253	15
Greenlings (unidentified)	9	0.00	1	1.6	0	0.00	0	0
Perch, Kelp	10	0.00	4	6.5	4	0.00	198	59
Total		32.49	62	100	61			

### C. CPUE\*\*\*

Catch per Angler Day = 0.59      Catch per Angler Hour = 0.26  
 Kg per Angler Day = 0.31      Kg per Angler Hour = 0.14

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).



Table 25. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 60  
 Total Hours Effort for Anglers Intercepted = 217.3  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	4041	%100.0
Surfperch, Redtail	2	1	0.0
Total		4042	100

C. CPUE

Catch per Angler Day = 67.37      Catch per Angler Hour = 18.60

Table 26. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 60  
 Total Hours Effort for Anglers Intercepted = 217.3  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	4041	%100.0	0.05	194.17
Surfperch, Redtail	2	1	0.0	0.45	0.45
Total		4042	100		194.62

C. CPUE

Catch per Angler Day = 67.37      Catch per Angler Hour = 18.60  
 Kg per Angler Day = 3.24      Kg per Angler Hour = 0.90

\* Weight estimated from length-to-weight regression if available.

Table 27. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 60  
 Total Hours Effort for Anglers Intercepted = 217.3  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	193.31	4023	%100.0	258	0.05	193	7
Surfperch, Redtail	2	0.45	1	0.0	1	0.45	298	0
Total		193.76	4024	100	259			

C. CPUE\*\*\*

Catch per Angler Day = 67.07      Catch per Angler Hour = 18.52  
 Kg per Angler Day = 3.23      Kg per Angler Hour = 0.89

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 28. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	14
Total Hours Effort for Anglers Intercepted	=	19.2
Total Hours Still to Fish (Incomplete Trips)	=	2.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	6	75.0
Cabazon	2	2	25.0
Total		8	100

C. CPUE

Catch per Angler Day = 0.57      Catch per Angler Hour = 0.42

Table 29. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 14  
 Total Hours Effort for Anglers Intercepted = 19.2  
 Total Hours Still to Fish (Incomplete Trips) = 2.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	6	75.0	0.41	2.47
Cabezon	2	2	25.0	0.61	1.23
Total		8	100		3.70

C. CPUE

Catch per Angler Day = 0.57      Catch per Angler Hour = 0.42  
 Kg per Angler Day = 0.26      Kg per Angler Hour = 0.19

\* Weight estimated from length-to-weight regression if available.

Table 30. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1981 for Quarter 2, by Beach or Bank Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	14
Total Hours Effort for Anglers Intercepted	=	19.2
Total Hours Still to Fish (Incomplete Trips)	=	2.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Seaperch, Striped	1	2.47	6	75.0	6	0.41	293	17
Cabezon	2	1.23	2	25.0	2	0.61	327	17
Total		3.70	8	100	8			

## C. CPUE\*\*\*

Catch per Angler Day	=	0.57	Catch per Angler Hour	=	0.42
Kg per Angler Day	=	0.26	Kg per Angler Hour	=	0.19

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 4. Length-Frequency Histogram for Pacific Herring  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 2, Quarter 2, 1981.

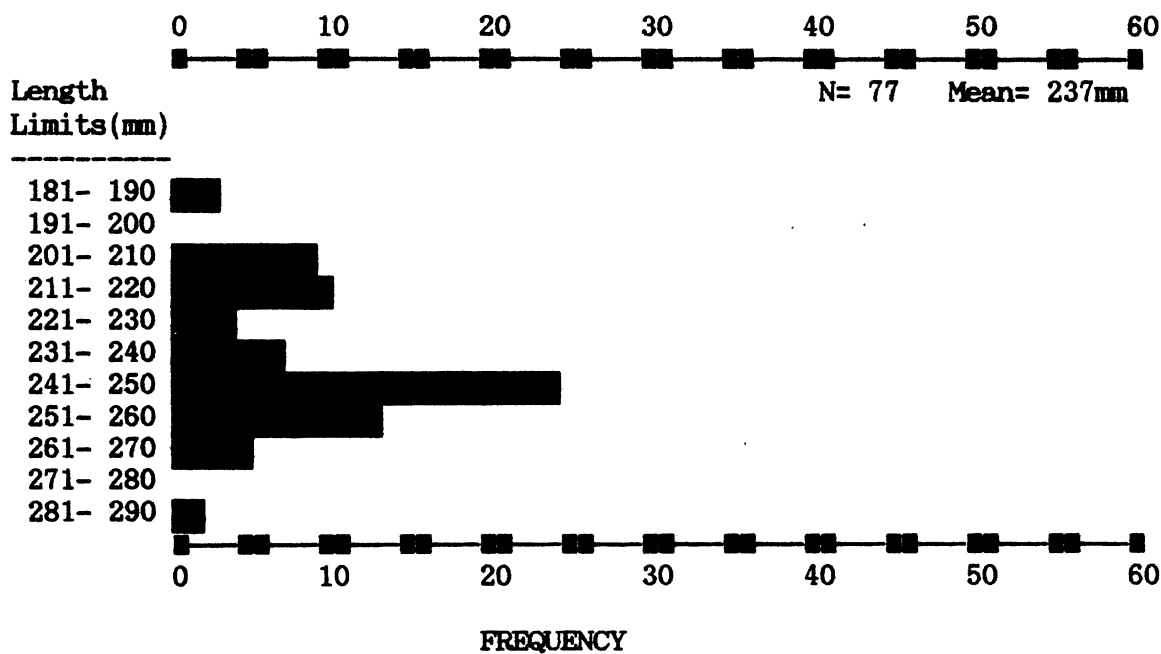


Figure 5. Length-Frequency Histogram for Striped Seaperch  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 2, Quarter 2, 1981.

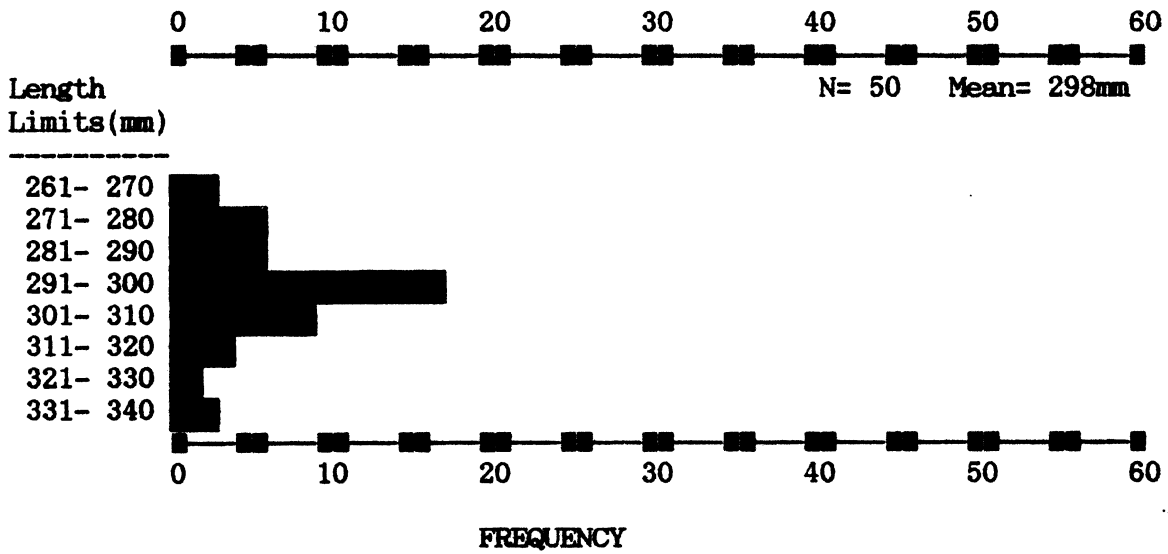




Figure 6. Length-Frequency Histogram for Surf Smelt  
 Taken by Beach and Bank Anglers Using Shore Net Gear.  
 Area 2, Quarter 2, 1981.

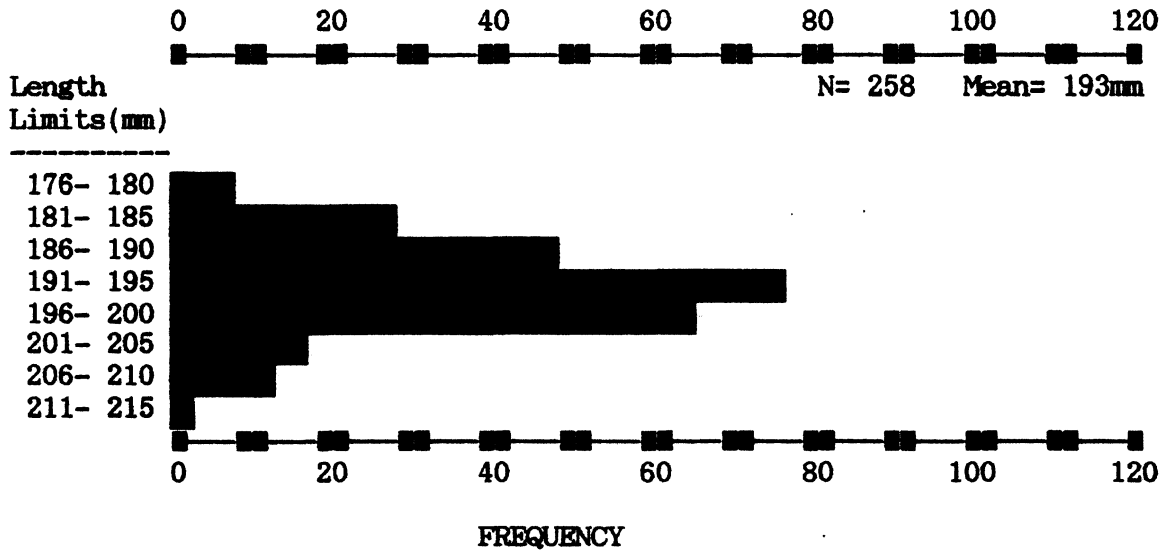


Table 31. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	34
Total Hours Effort for Anglers Intercepted	=	114.5
Total Hours Still to Fish (Incomplete Trips)	=	6.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Copper	1	465	81.3
Rockfish, Black	2	39	6.8
Rockfish, Canary	3	21	3.7
Sanddab, Pacific	4	13	2.3
Lingcod	5	11	1.9
Rockfishes (unidentified)	6	4	0.7
Rockfish, Yellowtail	7	4	0.7
Cabezon	8	4	0.7
Rockfish, Blue	9	3	0.5
Rockfish, China	10	3	0.5
Rockfish, Yelloweye	11	3	0.5
Rockfish, Rosy	12	1	0.2
Rockfish, Olive	13	1	0.2
Total		572	100

C. CPUE

Catch per Angler Day = 16.82      Catch per Angler Hour = 5.00

Table 32. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 34  
 Total Hours Effort for Anglers Intercepted = 114.5  
 Total Hours Still to Fish (Incomplete Trips) = 6.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Copper	1	465	83.3	1.64	760.74
Rockfish, Black	2	39	7.0	0.85	33.31
Rockfish, Canary	3	21	3.8	0.53	11.13
Lingcod	4	9	1.6	2.78	25.02
Rockfish, Yellowtail	5	4	0.7	1.09	4.35
Cabezon	6	4	0.7	1.32	5.26
Sanddab, Pacific	7	4	0.7	0.16	0.65
Rockfish, China	8	3	0.5	0.81	2.43
Rockfish, Yelloweye	9	3	0.5	1.60	4.79
Rockfishes (unidentified)	10	2	0.4	1.52**	3.04
Rockfish, Blue	11	2	0.4	0.54	1.08
Rockfish, Rosy	12	1	0.2	0.49	0.49
Rockfish, Olive	13	1	0.2	1.23	1.23
Total		558	100		853.54

C. CPUE

Catch per Angler Day = 16.41      Catch per Angler Hour = 4.87  
 Kg per Angler Day = 25.10      Kg per Angler Hour = 7.45

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 33. Sampled Effort, Ranked Catch and CPUE for Area 045  
in 1981 for Quarter 2, by Private or Rental Boat Anglers Using  
Hook-and-Line Gear. Catch Represents Only the Fish  
Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	34
Total Hours Effort for Anglers Intercepted	=	114.5
Total Hours Still to Fish (Incomplete Trips)	=	6.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Copper	1	760.74	465	83.6	3	1.64	440	65
Rockfish, Black	2	33.31	39	7.0	35	0.85	379	47
Lingcod	3	25.02	9	1.6	9	2.78	631	58
Rockfish, Canary	4	11.13	21	3.8	21	0.53	322	58
Cabezón	5	5.26	4	0.7	4	1.32	427	66
Rockfish, Yelloweye	6	4.79	3	0.5	3	1.60	427	99
Rockfish, Yellowtail	7	4.35	4	0.7	4	1.09	414	72
Rockfish, China	8	2.43	3	0.5	3	0.81	344	60
Rockfish, Olive	9	1.23	1	0.2	1	1.23	452	0
Rockfish, Blue	10	1.08	2	0.4	2	0.54	329	15
Sanddab, Pacific	11	0.65	4	0.7	4	0.16	244	17
Rockfish, Rosy	12	0.49	1	0.2	1	0.49	312	0
Total		850.50	556	100	90			

## C. CPUE\*\*\*

Catch per Angler Day	=	16.35	Catch per Angler Hour	=	4.86
Kg per Angler Day	=	25.01	Kg per Angler Hour	=	7.43

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 34. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 14  
 Total Hours Effort for Anglers Intercepted = 64.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	192	91.0
Rockfish, Yellowtail	2	10	4.7
Rockfish, China	3	2	0.9
Rockfish, Canary	4	2	0.9
Lingcod	5	2	0.9
Rockfish, Copper	6	1	0.5
Rockfish, Quillback	7	1	0.5
Rockfish, Yelloweye	8	1	0.5
Total		211	100

C. CPUE

Catch per Angler Day = 15.07      Catch per Angler Hour = 3.30

Table 35. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	14
Total Hours Effort for Anglers Intercepted	=	64.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	192	91.0	0.75	144.32
Rockfish, Yellowtail	2	10	4.7	1.20	11.96
Rockfish, China	3	2	0.9	1.50	3.00
Rockfish, Canary	4	2	0.9	0.79	1.58
Lingcod	5	2	0.9	5.34	10.68
Rockfish, Copper	6	1	0.5	2.17	2.17
Rockfish, Quillback	7	1	0.5	1.22	1.22
Rockfish, Yelloweye	8	1	0.5	2.05	2.05
Total		211	100		176.99

C. CPUE

Catch per Angler Day	=	15.07	Catch per Angler Hour	=	3.30
Kg per Angler Day	=	12.64	Kg per Angler Hour	=	2.77

\* Weight estimated from length-to-weight regression if available.

Table 36. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 14  
 Total Hours Effort for Anglers Intercepted = 64.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	144.32	192	91.0	104	0.75	363	40
Rockfish, Yellowtail	2	11.96	10	4.7	10	1.20	435	27
Lingcod	3	10.68	2	0.9	2	5.34	760	219
Rockfish, China	4	3.00	2	0.9	2	1.50	425	21
Rockfish, Copper	5	2.17	1	0.5	1	2.17	490	0
Rockfish, Yelloweye	6	2.05	1	0.5	1	2.05	480	0
Rockfish, Canary	7	1.58	2	0.9	2	0.79	367	93
Rockfish, Quillback	8	1.22	1	0.5	1	1.22	395	0
Total		176.99	211	100	123			

C. CPUE\*\*\*

Catch per Angler Day = 15.07      Catch per Angler Hour = 3.30  
 Kg per Angler Day = 12.64      Kg per Angler Hour = 2.77

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 7. Length-Frequency Histogram for Blue Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 045, Quarter 2, 1981.

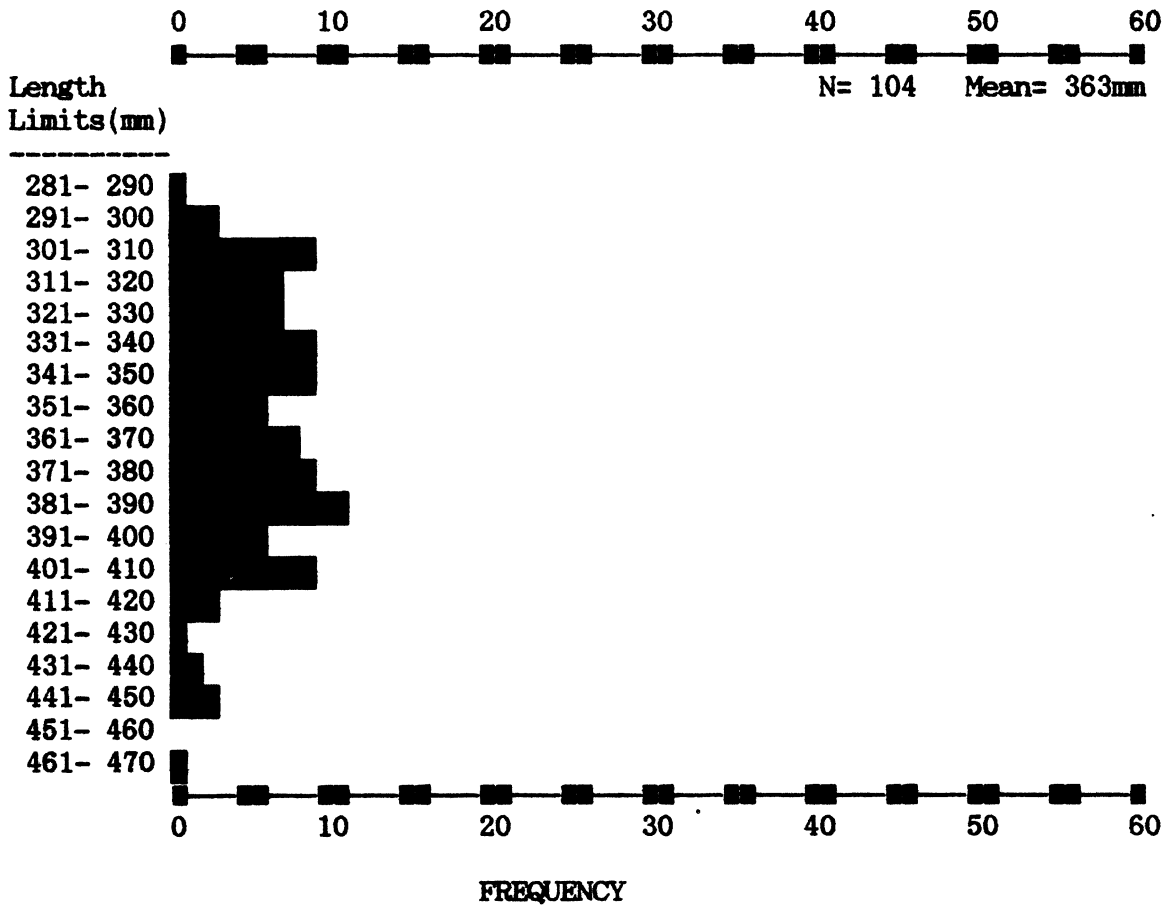




Table 37. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 22  
 Total Hours Effort for Anglers Intercepted = 49.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Copper	1	3	50.0
Rockfish, Canary	2	3	50.0
Total		6	100

C. CPUE

Catch per Angler Day = 0.27      Catch per Angler Hour = 0.12

Table 38. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 22  
 Total Hours Effort for Anglers Intercepted = 49.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Copper	1	3	50.0	0.39	1.18
Rockfish, Canary	2	3	50.0	0.64	1.91
Total		6	100		3.09

C. CPUE

Catch per Angler Day = 0.27      Catch per Angler Hour = 0.12  
 Kg per Angler Day = 0.14      Kg per Angler Hour = 0.06

\* Weight estimated from length-to-weight regression if available.

Table 39. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 22  
 Total Hours Effort for Anglers Intercepted = 49.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Canary	1	1.91	3	50.0	3	0.64	350	38
Rockfish, Copper	2	1.18	3	50.0	3	0.39	278	13
Total		3.09	6	100	6			

C. CPUE\*\*\*

Catch per Angler Day = 0.27      Catch per Angler Hour = 0.12  
 Kg per Angler Day = 0.14      Kg per Angler Hour = 0.06

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 40. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 6  
 Total Hours Effort for Anglers Intercepted = 42.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Copper	1	35	48.6
Rockfish, Canary	2	20	27.8
Rockfish, Speckled	3	5	6.9
Rockfish, Yellowtail	4	4	5.6
Rockfish, Vermilion	5	4	5.6
Rockfish, China	6	2	2.8
Bocaccio	7	1	1.4
Rockfish, Yelloweye	8	1	1.4
Total		72	100

C. CPUE

Catch per Angler Day = 12.00      Catch per Angler Hour = 1.71

Table 41. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 6  
 Total Hours Effort for Anglers Intercepted = 42.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Copper	1	35	48.6	1.87	65.32
Rockfish, Canary	2	20	27.8	0.75	14.94
Rockfish, Speckled	3	5	6.9	1.17	5.87
Rockfish, Yellowtail	4	4	5.6	1.67	6.69
Rockfish, Vermilion	5	4	5.6	2.16	8.65
Rockfish, China	6	2	2.8	0.92	1.85
Bocaccio	7	1	1.4	4.13	4.13
Rockfish, Yelloweye	8	1	1.4	5.21	5.21
Total		72	100		112.67

C. CPUE

Catch per Angler Day = 12.00      Catch per Angler Hour = 1.71  
 Kg per Angler Day = 18.78      Kg per Angler Hour = 2.68

\* Weight estimated from length-to-weight regression if available.

Table 42. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

### A. Sampled Effort

Number Anglers Intercepted = 6  
 Total Hours Effort for Anglers Intercepted = 42.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

### B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Copper	1	65.32	35	48.6	32	1.87	462	46
Rockfish, Canary	2	14.94	20	27.8	17	0.75	367	43
Rockfish, Vermilion	3	8.65	4	5.6	4	2.16	511	47
Rockfish, Yellowtail	4	6.69	4	5.6	3	1.67	487	11
Rockfish, Speckled	5	5.87	5	6.9	5	1.17	428	30
Rockfish, Yelloweye	6	5.21	1	1.4	1	5.21	651	0
Bocaccio	7	4.13	1	1.4	1	4.13	725	0
Rockfish, China	8	1.85	2	2.8	2	0.92	364	39
Total		112.67	72	100	65			

### C. CPUE\*\*\*

Catch per Angler Day = 12.00      Catch per Angler Hour = 1.71  
 Kg per Angler Day = 18.78      Kg per Angler Hour = 2.68

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 43. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 45  
 Total Hours Effort for Anglers Intercepted = 193.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Tomcod, Pacific	1	27	33.8
Croaker, White	2	21	26.3
Surfperches	3	7	8.8
Surfperch, Walleye	4	6	7.5
Seaperch, White	5	5	6.3
Perch, Shiner	6	3	3.8
Surfperch, Silver	7	3	3.8
Sandabs	8	3	3.8
Unidentified Fishes	9	1	1.3
Jacksmelt	10	1	1.3
Seaperch, Rubberlip	11	1	1.3
Surfperch, Redtail	12	1	1.3
Surfperch, Barred	13	1	1.3
Total		80	100

C. CPUE

Catch per Angler Day = 1.78      Catch per Angler Hour = 0.41

Table 44. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted = 45  
 Total Hours Effort for Anglers Intercepted = 193.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	21	43.8	0.15	3.17
Surfperch, Walleye	2	6	12.5	0.12	0.71
Seaperch, White	3	5	10.4	0.06	0.28
Tomcod, Pacific	4	4	8.3	0.05	0.20
Perch, Shiner	5	3	6.3	0.03	0.09
Surfperch, Silver	6	3	6.3	0.12	0.37
Sandabs	7	3	6.3	0.00**	0.00
Seaperch, Rubberlip	8	1	2.1	0.33	0.33
Surfperch, Redtail	9	1	2.1	0.71	0.71
Surfperch, Barred	10	1	2.1	0.37	0.37
<b>Total</b>		<b>48</b>	<b>100</b>		<b>6.24</b>

#### C. CPUE

Catch per Angler Day = 1.07      Catch per Angler Hour = 0.25  
 Kg per Angler Day = 0.14      Kg per Angler Hour = 0.03

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).



Table 45. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 45  
 Total Hours Effort for Anglers Intercepted = 193.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Croaker, White	1	1.66	11	28.9	11	0.15	230	46
Surfperch, Redtail	2	0.71	1	2.6	1	0.71	343	0
Surfperch, Walleye	3	0.71	6	15.8	6	0.12	186	43
Surfperch, Barred	4	0.37	1	2.6	1	0.37	269	0
Surfperch, Silver	5	0.37	3	7.9	3	0.12	199	3
Seaperch, Rubberlip	6	0.33	1	2.6	1	0.33	257	0
Seaperch, White	7	0.28	5	13.2	5	0.06	165	18
Tomcod, Pacific	8	0.20	4	10.5	4	0.05	183	34
Perch, Shiner	9	0.09	3	7.9	3	0.03	130	14
Sandabs	10	0.00	3	7.9	0	0.00	0	0
Total		4.73	38	100	35			

## C. CPUE\*\*\*

Catch per Angler Day = 0.84      Catch per Angler Hour = 0.20  
 Kg per Angler Day = 0.11      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 46. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 9  
 Total Hours Effort for Anglers Intercepted = 25.5  
 Total Hours Still to Fish (Incomplete Trips) = 1.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	8	88.9
Salmon	2	1	11.1
Total		9	100

C. CPUE

Catch per Angler Day = 1.00      Catch per Angler Hour = 0.35

Table 47. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 9  
 Total Hours Effort for Anglers Intercepted = 25.5  
 Total Hours Still to Fish (Incomplete Trips) = 1.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	1	%100.0	0.45	0.45
Total		1	100		0.45

C. CPUE

Catch per Angler Day = 0.11      Catch per Angler Hour = 0.04  
 Kg per Angler Day = 0.05      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.

Table 48. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 9  
 Total Hours Effort for Anglers Intercepted = 25.5  
 Total Hours Still to Fish (Incomplete Trips) = 1.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Seaperch, Striped	1	0.45	1	%100.0	1	0.45	303	0
Total		0.45	1	100	1			

C. CPUE\*\*\*

Catch per Angler Day = 0.11      Catch per Angler Hour = 0.04  
 Kg per Angler Day = 0.05      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.  
 \*\* Total length except for species with tuna-like caudal fins (see text).  
 \*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 49. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 58  
 Total Hours Effort for Anglers Intercepted = 212.0  
 Total Hours Still to Fish (Incomplete Trips) = 12.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Redtail	1	32	33.3
Surfperch, Barred	2	25	26.0
Surfperches	3	19	19.8
Surfperch, Silver	4	7	7.3
Seaperch, Striped	5	3	3.1
Seaperch, White	6	3	3.1
Shark, Leopard	7	1	1.0
Rockfishes (unidentified)	8	1	1.0
Greenling, Kelp	9	1	1.0
Cabazon	10	1	1.0
Surfperch, Walleye	11	1	1.0
Flounders, Lefteye	12	1	1.0
Flounders, Righteye	13	1	1.0
Total		96	100

C. CPUE

Catch per Angler Day = 1.66      Catch per Angler Hour = 0.45

Table 50. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

## A. Sampled Effort

Number Anglers Intercepted	=	58
Total Hours Effort for Anglers Intercepted	=	212.0
Total Hours Still to Fish (Incomplete Trips)	=	12.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Redtail	1	31	41.3	0.40	12.42
Surfperch, Barred	2	25	33.3	0.61	15.34
Surfperch, Silver	3	7	9.3	0.16	1.09
Seaperch, Striped	4	3	4.0	0.40	1.20
Seaperch, White	5	3	4.0	0.12	0.36
Shark, Leopard	6	1	1.3	1.42	1.42
Greenling, Kelp	7	1	1.3	0.52	0.52
Cabazon	8	1	1.3	0.42	0.42
Surfperches	9	1	1.3	0.44**	0.44
Surfperch, Walleye	10	1	1.3	0.19	0.19
Flounders, Lefteye	11	1	1.3	0.00**	0.00
Total		75	100		33.41

## C. CPUE

Catch per Angler Day	=	1.29	Catch per Angler Hour	=	0.35
Kg per Angler Day	=	0.58	Kg per Angler Hour	=	0.16

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 51. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 58  
 Total Hours Effort for Anglers Intercepted = 212.0  
 Total Hours Still to Fish (Incomplete Trips) = 12.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	15.34	25	33.3	23	0.61	307	57
Surfperch, Redtail	2	12.42	31	41.3	23	0.40	276	52
Shark, Leopard	3	1.42	1	1.3	1	1.42	524	0
Seaperch, Striped	4	1.20	3	4.0	3	0.40	287	39
Surfperch, Silver	5	1.09	7	9.3	7	0.16	213	14
Greenling, Kelp	6	0.52	1	1.3	1	0.52	334	0
Cabazon	7	0.42	1	1.3	1	0.42	286	0
Seaperch, White	8	0.36	3	4.0	3	0.12	212	29
Surfperch, Walleye	9	0.19	1	1.3	1	0.19	224	0
Surfperches	10	0.00	1	1.3	0	0.00	0	0
Flounders, Lefteye	11	0.00	1	1.3	1	0.00	236	0
Total		32.97	75	100	64			

## C. CPUE\*\*\*

Catch per Angler Day = 1.29      Catch per Angler Hour = 0.35  
 Kg per Angler Day = 0.57      Kg per Angler Hour = 0.16

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 52. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	13
Total Hours Effort for Anglers Intercepted	=	78.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	6	54.5
Rockfish, Blue	2	3	27.3
Rockfishes (unidentified)	3	1	9.1
Bass, Kelp	4	1	9.1
Total		11	100

C. CPUE

Catch per Angler Day = 0.85      Catch per Angler Hour = 0.14



Table 53. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 13  
 Total Hours Effort for Anglers Intercepted = 78.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	6	85.7	0.00**	0.00
Bass, Kelp	2	1	14.3	1.22	1.22
Total		7	100		1.22

C. CPUE

Catch per Angler Day = 0.54      Catch per Angler Hour = 0.09  
 Kg per Angler Day = 0.09      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 54. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 13  
 Total Hours Effort for Anglers Intercepted = 78.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	;---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bass, Kelp	1	1.22	1	%100.0	1	1.22	443	0
Total		1.22	1	100	1			

C. CPUE\*\*\*

Catch per Angler Day = 0.08      Catch per Angler Hour = 0.01  
 Kg per Angler Day = 0.09      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 55. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 23  
 Total Hours Effort for Anglers Intercepted = 173.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	63	42.6
Rockfishes (unidentified)	2	46	31.1
Rockfish, Copper	3	14	9.5
Rockfish, Yellowtail	4	7	4.7
Rockfish, Black	5	4	2.7
Rockfish, Canary	6	4	2.7
Rockfish, Starry	7	3	2.0
Lingcod	8	3	2.0
Rockfish, Brown	9	1	0.7
Rockfish, Rosy	10	1	0.7
Rockfish, Yelloweye	11	1	0.7
Sole, Dover	12	1	0.7
Total		148	100

C. CPUE

Catch per Angler Day = 6.43      Catch per Angler Hour = 0.85

Table 56. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	23
Total Hours Effort for Anglers Intercepted	=	173.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	63	42.6	0.52	32.97
Rockfishes (unidentified)	2	46	31.1	0.77**	35.42
Rockfish, Copper	3	14	9.5	1.28	17.98
Rockfish, Yellowtail	4	7	4.7	1.64	11.47
Rockfish, Black	5	4	2.7	0.56	2.24
Rockfish, Canary	6	4	2.7	0.44	1.77
Rockfish, Starry	7	3	2.0	1.02	3.05
Lingcod	8	3	2.0	1.95	5.84
Rockfish, Brown	9	1	0.7	0.00**	0.00
Rockfish, Rosy	10	1	0.7	0.24	0.24
Rockfish, Yelloweye	11	1	0.7	5.33	5.33
Sole, Dover	12	1	0.7	0.00**	0.00
Total		148	100		116.32

#### C. CPUE

Catch per Angler Day	=	6.43	Catch per Angler Hour	=	0.85
Kg per Angler Day	=	5.06	Kg per Angler Hour	=	0.67

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 57. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

#### A. Sampled Effort

Number Anglers Intercepted = 23  
 Total Hours Effort for Anglers Intercepted = 173.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

#### B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	32.44	62	69.7	38	0.52	321	37
Rockfish, Copper	2	11.56	9	10.1	9	1.28	390	99
Rockfish, Yellowtail	3	8.20	5	5.6	5	1.64	475	70
Rockfish, Yelloweye	4	5.33	1	1.1	1	5.33	656	0
Rockfish, Starry	5	3.05	3	3.4	3	1.02	375	94
Rockfish, Black	6	2.24	4	4.5	4	0.56	327	56
Lingcod	7	1.95	1	1.1	1	1.95	564	0
Rockfish, Canary	8	0.88	2	2.2	2	0.44	292	112
Rockfish, Rosy	9	0.24	1	1.1	1	0.24	246	0
Sole, Dover	10	0.00	1	1.1	1	0.00	271	0
Total		65.89	89	100	65			

#### C. CPUE\*\*\*

Catch per Angler Day = 3.87      Catch per Angler Hour = 0.51  
 Kg per Angler Day = 2.86      Kg per Angler Hour = 0.38

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 58. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	173
Total Hours Effort for Anglers Intercepted	=	530.0
Total Hours Still to Fish (Incomplete Trips)	=	18.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Anchovy, Northern	1	200	39.1
Jacksmelt	2	156	30.5
Sculpin, Pacific Staghorn	3	52	10.2
Croaker, White	4	40	7.8
Perch, Shiner	5	20	3.9
Surfperches	6	9	1.8
Seaperch, White	7	5	1.0
Seaperch, Rubberlip	8	5	1.0
Sharks	9	4	0.8
Smoothhound, Brown	10	4	0.8
Shark, Leopard	11	4	0.8
Rockfishes (unidentified)	12	3	0.6
Perch, Kelp	13	3	0.6
Surfperch, Walleye	14	3	0.6
Sardine, Pacific	15	1	0.2
Lingcod	16	1	0.2
Perch, Black	17	1	0.2
<b>Total</b>		<b>511</b>	<b>100</b>

C. CPUE

Catch per Angler Day = 2.95      Catch per Angler Hour = 0.96

Table 59. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 173  
 Total Hours Effort for Anglers Intercepted = 530.0  
 Total Hours Still to Fish (Incomplete Trips) = 18.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Anchovy, Northern	1	200	48.1	0.02	3.96
Jacksmelt	2	153	36.8	0.20	30.61
Croaker, White	3	32	7.7	0.23	7.24
Perch, Shiner	4	11	2.6	0.03	0.33
Sculpin, Pacific Staghorn	5	7	1.7	0.04	0.26
Perch, Kelp	6	3	0.7	0.00**	0.00
Surfperch, Walleye	7	3	0.7	0.08	0.23
Sharks	8	1	0.2	0.75**	0.75
Shark, Leopard	9	1	0.2	0.75	0.75
Sardine, Pacific	10	1	0.2	0.06	0.06
Lingcod	11	1	0.2	0.93	0.93
Surfperches	12	1	0.2	0.10**	0.10
Perch, Black	13	1	0.2	0.18	0.18
Seaperch, Rubberlip	14	1	0.2	0.79	0.79
Total		416	100		46.18

C. CPUE

Catch per Angler Day = 2.40      Catch per Angler Hour = 0.78  
 Kg per Angler Day = 0.27      Kg per Angler Hour = 0.09

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 60. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	173
Total Hours Effort for Anglers Intercepted	=	530.0
Total Hours Still to Fish (Incomplete Trips)	=	18.5

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jacksmelt	1	29.41	147	42.5	53	0.20	297	28
Croaker, White	2	5.88	26	7.5	26	0.23	265	41
Anchovy, Northern	3	2.97	150	43.4	20	0.02	155	15
Lingcod	4	0.93	1	0.3	1	0.93	441	0
Seaperch, Rubberlip	5	0.79	1	0.3	1	0.79	347	0
Shark, Leopard	6	0.75	1	0.3	1	0.75	420	0
Perch, Shiner	7	0.24	8	2.3	7	0.03	131	10
Surfperch, Walleye	8	0.23	3	0.9	3	0.08	174	1
Perch, Black	9	0.18	1	0.3	1	0.18	208	0
Sculpin, Pacific Staghorn	10	0.15	4	1.2	4	0.04	152	13
Sardine, Pacific	11	0.06	1	0.3	1	0.06	199	0
Perch, Kelp	12	0.00	3	0.9	3	0.00	189	7
Total		41.58	346	100	121			

## C. CPUE\*\*\*

Catch per Angler Day =	2.00	Catch per Angler Hour =	0.65
Kg per Angler Day =	0.24	Kg per Angler Hour =	0.08

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).



Table 61. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 5  
 Total Hours Effort for Anglers Intercepted = 10.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
<hr/>			
Total		0	0

C. CPUE

Catch per Angler Day = 0.00      Catch per Angler Hour = 0.00

Table 62. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 5  
 Total Hours Effort for Anglers Intercepted = 10.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
Total		0	0		0.00

C. CPUE

Catch per Angler Day = 0.00      Catch per Angler Hour = 0.00  
 Kg per Angler Day = 0.00      Kg per Angler Hour = 0.00

\* Weight estimated from length-to-weight regression if available.

Table 63. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 5  
 Total Hours Effort for Anglers Intercepted = 10.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
-----								
Total		0.00	0	0	0			

C. CPUE\*\*\*

Catch per Angler Day = 0.00      Catch per Angler Hour = 0.00  
 Kg per Angler Day = 0.00      Kg per Angler Hour = 0.00

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 64. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	73
Total Hours Effort for Anglers Intercepted	=	209.5
Total Hours Still to Fish (Incomplete Trips)	=	5.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	23	33.8
Perch, Shiner	2	11	16.2
Surfperches	3	8	11.8
Surfperch, Barred	4	6	8.8
Rockfish, Brown	5	4	5.9
Bass, Striped	6	4	5.9
Seaperch, White	7	4	5.9
Stingrays	8	3	4.4
Rockfishes (unidentified)	9	2	2.9
Sharks	10	1	1.5
Surfperch, Walleye	11	1	1.5
Seaperch, Rubberlip	12	1	1.5
Total		68	100

C. CPUE

Catch per Angler Day = 0.93      Catch per Angler Hour = 0.32

Table 65. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 73  
 Total Hours Effort for Anglers Intercepted = 209.5  
 Total Hours Still to Fish (Incomplete Trips) = 5.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Perch, Shiner	1	6	20.7	0.03	0.20
Surfperch, Barred	2	6	20.7	0.67	4.01
Rockfish, Brown	3	4	13.8	0.18	0.70
Surfperches	4	4	13.8	0.30**	1.20
Seaperch, White	5	4	13.8	0.14	0.58
Rockfishes (unidentified)	6	1	3.4	0.18**	0.18
Sculpin, Pacific Staghorn	7	1	3.4	0.00**	0.00
Bass, Striped	8	1	3.4	0.69	0.69
Surfperch, Walleye	9	1	3.4	0.27	0.27
Seaperch, Rubberlip	10	1	3.4	0.00**	0.00
Total		29	100		7.84

C. CPUE

Catch per Angler Day = 0.40      Catch per Angler Hour = 0.14  
 Kg per Angler Day = 0.11      Kg per Angler Hour = 0.04

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 66. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	73
Total Hours Effort for Anglers Intercepted	=	209.5
Total Hours Still to Fish (Incomplete Trips)	=	5.5

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	4.01	6	21.4	6	0.67	321	43
Rockfish, Brown	2	0.70	4	14.3	4	0.18	208	36
Bass, Striped	3	0.69	1	3.6	1	0.69	487	0
Seaperch, White	4	0.58	4	14.3	3	0.14	225	32
Surfperch, Walleye	5	0.27	1	3.6	1	0.27	246	0
Perch, Shiner	6	0.20	6	21.4	3	0.03	136	4
Sculpin, Pacific Staghorn	7	0.00	1	3.6	0	0.00	0	0
Surfperches	8	0.00	4	14.3	0	0.00	0	0
Seaperch, Rubberlip	9	0.00	1	3.6	0	0.00	0	0
Total		6.46	28	100	18			

## C. CPUE\*\*\*

Catch per Angler Day	=	0.38	Catch per Angler Hour	=	0.13
Kg per Angler Day	=	0.09	Kg per Angler Hour	=	0.03

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 67. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	168
Total Hours Effort for Anglers Intercepted	=	1021.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Jacksmelt	1	313	39.2
Sharks	2	133	16.6
Rockfish, Brown	3	86	10.8
Croaker, White	4	63	7.9
Sculpin, Pacific Staghorn	5	47	5.9
Shark, Leopard	6	24	3.0
Sturgeons (unidentified)	7	24	3.0
Bass, Striped	8	21	2.6
Seaperch, Rubberlip	9	14	1.8
Thornyhead, Longspine	10	8	1.0
Flounder, Starry	11	7	0.9
Smoothhound, Brown	12	6	0.8
Surfperches	13	6	0.8
Ray, Bat	14	5	0.6
Perch, Shiner	15	5	0.6
Guitarfish, Shovelnose	16	4	0.5
Skate, Big	17	4	0.5
Surfperch, Walleye	18	4	0.5
Unidentified Fishes	19	3	0.4
Skates	20	3	0.4
Stingrays	21	3	0.4
Sturgeon, White	22	3	0.4
Shark, Soupfin	23	2	0.3
Greenling, Kelp	24	2	0.3
Cabezon	25	2	0.3
Salmon	26	1	0.1

(Table 67. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	27	1	0.1
Rockfish, Copper	28	1	0.1
Perch, Black	29	1	0.1
Surfperch, Barred	30	1	0.1
Halibut, California	31	1	0.1
Flounders, Righteye	32	1	0.1
Total		799	100

## C. CPUE

Catch per Angler Day = 4.76      Catch per Angler Hour = 0.78



Table 68. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 168  
 Total Hours Effort for Anglers Intercepted = 1021.0  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	303	70.3	0.33	99.55
Rockfish, Brown	2	54	12.5	0.15	8.13
Croaker, White	3	21	4.9	0.27	5.61
Shark, Leopard	4	8	1.9	2.96	23.68
Thornyhead, Longspine	5	8	1.9	0.00**	0.00
Bass, Striped	6	7	1.6	0.85	5.94
Perch, Shiner	7	5	1.2	0.00**	0.00
Flounder, Starry	8	5	1.2	0.51	2.53
Smoothhound, Brown	9	3	0.7	4.22	12.65
Sturgeon, White	10	3	0.7	18.16	54.47
Greenling, Kelp	11	2	0.5	0.42	0.83
Sculpin, Pacific Staghorn	12	2	0.5	0.00**	0.00
Cabezon	13	2	0.5	0.00**	0.00
Surfperch, Walleye	14	2	0.5	0.35	0.70
Sharks	15	1	0.2	3.30**	3.30
Stingrays	16	1	0.2	0.00**	0.00
Rockfish, Copper	17	1	0.2	0.40	0.40
Perch, Black	18	1	0.2	0.27	0.27
Surfperch, Barred	19	1	0.2	0.37	0.37
Halibut, California	20	1	0.2	3.63	3.63
Total		431	100		222.03

C. CPUE

Catch per Angler Day = 2.57      Catch per Angler Hour = 0.42  
 Kg per Angler Day = 1.32      Kg per Angler Hour = 0.22

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 69. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	168
Total Hours Effort for Anglers Intercepted	=	1021.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jacksmelt	1	99.55	303	72.3	13	0.33	345	27
Sturgeon, White	2	54.47	3	0.7	3	18.16	1374	218
Shark, Leopard	3	23.68	8	1.9	7	2.96	575	271
Smoothhound, Brown	4	8.43	2	0.5	2	4.22	749	161
Rockfish, Brown	5	8.13	54	12.9	20	0.15	200	19
Bass, Striped	6	5.94	7	1.7	7	0.85	509	86
Croaker, White	7	5.61	21	5.0	13	0.27	283	30
Halibut, California	8	3.63	1	0.2	1	3.63	701	0
Flounder, Starry	9	2.53	5	1.2	5	0.51	345	38
Greenling, Kelp	10	0.83	2	0.5	2	0.42	307	38
Surfperch, Walleye	11	0.70	2	0.5	2	0.35	263	1
Rockfish, Copper	12	0.40	1	0.2	1	0.40	279	0
Surfperch, Barred	13	0.37	1	0.2	1	0.37	269	0
Perch, Black	14	0.27	1	0.2	1	0.27	244	0
Thornyhead, Longspine	15	0.00	8	1.9	8	0.00	258	30
Total		214.52	419	100	86			

## C. CPUE\*\*\*

Catch per Angler Day	=	2.49	Catch per Angler Hour	=	0.41
Kg per Angler Day	=	1.28	Kg per Angler Hour	=	0.21

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 8. Length-Frequency Histogram for Jacksmelt  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 3 (Bay), Quarter 2, 1981.

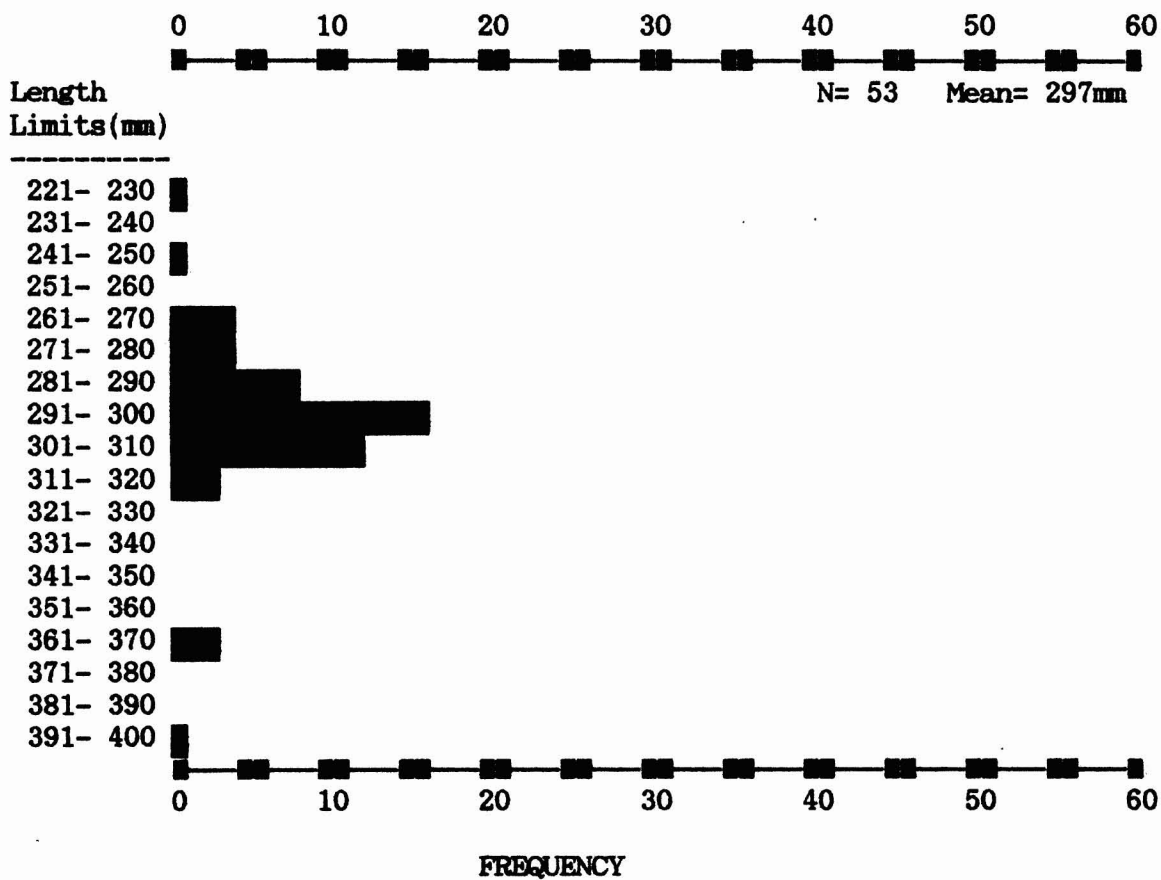


Table 70. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

### A. Sampled Effort

Number Anglers Intercepted	=	76
Total Hours Effort for Anglers Intercepted	=	225.5
Total Hours Still to Fish (Incomplete Trips)	=	55.0

### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Shiner	1	75	40.3
Surfperches	2	57	30.6
Rockfish, Blue	3	14	7.5
Seaperch, White	4	14	7.5
Croaker, White	5	8	4.3
Surfperch, Barred	6	4	2.2
Sandabs	7	4	2.2
Surfperch, Walleye	8	3	1.6
Rockfishes (unidentified)	9	1	0.5
Rockfish, Rosy	10	1	0.5
Sculpin, Pacific Staghorn	11	1	0.5
Perch, Black	12	1	0.5
Seaperch, Rubberlip	13	1	0.5
Surfperch, Calico	14	1	0.5
Flatfishes	15	1	0.5
Total		186	100

### C. CPUE

Catch per Angler Day = 2.45      Catch per Angler Hour = 0.82

Table 71. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 76  
 Total Hours Effort for Anglers Intercepted = 225.5  
 Total Hours Still to Fish (Incomplete Trips) = 55.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	14	27.5	0.09	1.28
Seaperch, White	2	14	27.5	0.12	1.63
Croaker, White	3	6	11.8	0.10	0.57
Perch, Shiner	4	4	7.8	0.00**	0.00
Surfperch, Barred	5	4	7.8	0.11	0.43
Surfperch, Walleye	6	3	5.9	0.11	0.32
Rockfishes (unidentified)	7	1	2.0	0.10**	0.10
Rockfish, Rosy	8	1	2.0	0.21	0.21
Perch, Black	9	1	2.0	0.18	0.18
Seaperch, Rubberlip	10	1	2.0	0.69	0.69
Surfperch, Calico	11	1	2.0	0.10	0.10
Sandabs	12	1	2.0	0.00**	0.00
Total		51	100		5.52

C. CPUE

Catch per Angler Day = 0.67      Catch per Angler Hour = 0.23  
 Kg per Angler Day = 0.07      Kg per Angler Hour = 0.02

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 72. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

### A. Sampled Effort

Number Anglers Intercepted	=	76
Total Hours Effort for Anglers Intercepted	=	225.5
Total Hours Still to Fish (Incomplete Trips)	=	55.0

### B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Seaperch, White	1	1.63	14	35.0	12	0.12	209	26
Rockfish, Blue	2	1.28	14	35.0	14	0.09	173	40
Seaperch, Rubberlip	3	0.69	1	2.5	1	0.69	331	0
Surfperch, Barred	4	0.33	3	7.5	3	0.11	180	20
Surfperch, Walleye	5	0.33	3	7.5	3	0.11	190	19
Rockfish, Rosy	6	0.21	1	2.5	1	0.21	235	0
Perch, Black	7	0.18	1	2.5	1	0.18	210	0
Surfperch, Calico	8	0.10	1	2.5	1	0.10	187	0
Croaker, White	9	0.10	1	2.5	1	0.10	205	0
Rockfishes (unidentified)	10	0.00	1	2.5	0	0.00	0	0
Total		4.84	40	100	37			

### C. CPUE\*\*\*

Catch per Angler Day	=	0.53	Catch per Angler Hour	=	0.18
Kg per Angler Day	=	0.06	Kg per Angler Hour	=	0.02

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 73. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 56  
 Total Hours Effort for Anglers Intercepted = 158.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Walleye	1	12	42.9
Flounder, Starry	2	4	14.3
Ray, Bat	3	3	10.7
Jacksmelt	4	2	7.1
Perch, Shiner	5	2	7.1
Sandabs	6	2	7.1
Surfperches	7	1	3.6
Perch, Pile	8	1	3.6
Flatfishes	9	1	3.6
Total		28	100

C. CPUE

Catch per Angler Day = 0.50      Catch per Angler Hour = 0.18

Table 74. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	56
Total Hours Effort for Anglers Intercepted	=	158.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Walleye	1	10	52.6	0.15	1.48
Flounder, Starry	2	4	21.1	1.68	6.71
Jacksmelt	3	2	10.5	0.40	0.81
Ray, Bat	4	1	5.3	0.00**	0.00
Perch, Pile	5	1	5.3	0.00**	0.00
Flatfishes	6	1	5.3	1.68**	1.68
Total		19	100		10.67

C. CPUE

Catch per Angler Day	=	0.34	Catch per Angler Hour	=	0.12
Kg per Angler Day	=	0.19	Kg per Angler Hour	=	0.07

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).



Table 75. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 56  
 Total Hours Effort for Anglers Intercepted = 158.5  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Flounder, Starry	1	5.03	3	20.0	3	1.68	481	108
Surfperch, Walleye	2	1.48	10	66.7	10	0.15	204	27
Jacksmelt	3	0.81	2	13.3	2	0.40	369	22
Total		7.31	15	100	15			

## C. CPUE\*\*\*

Catch per Angler Day = 0.27      Catch per Angler Hour = 0.09  
 Kg per Angler Day = 0.13      Kg per Angler Hour = 0.05

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 76. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	134
Total Hours Effort for Anglers Intercepted	=	394.4
Total Hours Still to Fish (Incomplete Trips)	=	55.4

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	123	43.3
Surfperches	2	95	33.5
Surfperch, Silver	3	17	6.0
Surfperch, Walleye	4	13	4.6
Perch, Black	5	8	2.8
Seaperch, Striped	6	7	2.5
Jacksmelt	7	5	1.8
Perch, Pile	8	5	1.8
Seaperch, White	9	2	0.7
Surfperch, Calico	10	2	0.7
Shark, Leopard	11	1	0.4
Rockfishes (unidentified)	12	1	0.4
Rockfish, Blue	13	1	0.4
Greenling, Kelp	14	1	0.4
Sculpins	15	1	0.4
Seaperch, Rubberlip	16	1	0.4
Surfperch, Redtail	17	1	0.4
Total		284	100

C. CPUE

Catch per Angler Day = 2.12      Catch per Angler Hour = 0.72

Table 77. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	134
Total Hours Effort for Anglers Intercepted	=	394.4
Total Hours Still to Fish (Incomplete Trips)	=	55.4

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	121	49.4	0.34	41.11
Surfperches	2	61	24.9	0.32**	19.52
Surfperch, Silver	3	17	6.9	0.12	2.03
Surfperch, Walleye	4	13	5.3	0.19	2.51
Perch, Black	5	8	3.3	0.34	2.75
Seaperch, Striped	6	7	2.9	0.38	2.63
Jacksmelt	7	5	2.0	0.54	2.68
Perch, Pile	8	5	2.0	0.56	2.82
Seaperch, White	9	2	0.8	0.00**	0.00
Surfperch, Calico	10	2	0.8	0.11	0.21
Rockfish, Blue	11	1	0.4	0.00**	0.00
Greenling, Kelp	12	1	0.4	0.45	0.45
Seaperch, Rubberlip	13	1	0.4	1.31	1.31
Surfperch, Redtail	14	1	0.4	0.30	0.30
Total		245	100		78.30

#### C. CPUE

Catch per Angler Day =	1.83	Catch per Angler Hour =	0.62
Kg per Angler Day =	0.58	Kg per Angler Hour =	0.20

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 78. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	134
Total Hours Effort for Anglers Intercepted	=	394.4
Total Hours Still to Fish (Incomplete Trips)	=	55.4

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	37.03	109	64.5	105	0.34	249	57
Perch, Pile	2	2.82	5	3.0	5	0.56	320	47
Perch, Black	3	2.75	8	4.7	7	0.34	270	16
Jacksnelt	4	2.68	5	3.0	5	0.54	402	13
Seaperch, Striped	5	2.63	7	4.1	7	0.38	281	33
Surfperch, Walleye	6	2.51	13	7.7	13	0.19	221	25
Surfperch, Silver	7	2.03	17	10.1	17	0.12	193	27
Seaperch, Rubberlip	8	1.31	1	0.6	1	1.31	413	0
Greenling, Kelp	9	0.45	1	0.6	1	0.45	317	0
Surfperch, Redtail	10	0.30	1	0.6	1	0.30	263	0
Surfperch, Calico	11	0.21	2	1.2	2	0.11	189	19
Total		54.71	169	100	164			

## C. CPUE\*\*\*

Catch per Angler Day	=	1.26	Catch per Angler Hour	=	0.43
Kg per Angler Day	=	0.41	Kg per Angler Hour	=	0.14

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 79. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	60
Total Hours Effort for Anglers Intercepted	=	240.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sandabs	1	180	42.5
Rockfish, Blue	2	63	14.9
Croaker, White	3	47	11.1
Rockfishes (unidentified)	4	23	5.4
Rockfish, Yellowtail	5	20	4.7
Lingcod	6	12	2.8
Rockfish, Copper	7	11	2.6
Rockfish, Canary	8	11	2.6
Sandab, Pacific	9	11	2.6
Rockfish, Brown	10	9	2.1
Rockfish, Rosethorn	11	5	1.2
Rockfish, Rosy	12	4	0.9
Rockfish, Gopher	13	4	0.9
Shark, Leopard	14	3	0.7
Rockfish, Vermilion	15	3	0.7
Greenling, Kelp	16	3	0.7
Ray, Bat	17	2	0.5
Rockfish, Starry	18	2	0.5
Cowcod	19	2	0.5
Surfperch, Barred	20	2	0.5
Sharks	21	1	0.2
Bocaccio	22	1	0.2
Rockfish, Black-and-yellow	23	1	0.2
Rockfish, Olive	24	1	0.2
Cabezon	25	1	0.2
Seaperch, Rainbow	26	1	0.2

(Table 79. - continued)

Common name	Rank by Number	Number Caught	% by Number
Flatfishes	27	1	0.2
Total		424	100

## C. CPUE

Catch per Angler Day = 7.07      Catch per Angler Hour = 1.76

Table 80. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

## A. Sampled Effort

Number Anglers Intercepted	=	60
Total Hours Effort for Anglers Intercepted	=	240.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Sandabs	1	130	38.1	0.16**	20.80
Rockfish, Blue	2	59	17.3	0.40	23.62
Croaker, White	3	47	13.8	0.20	9.36
Rockfish, Yellowtail	4	20	5.9	0.27	5.33
Rockfish, Copper	5	11	3.2	0.48	5.29
Rockfish, Canary	6	11	3.2	0.39	4.25
Sanddab, Pacific	7	11	3.2	0.16	1.79
Lingcod	8	10	2.9	2.54	25.45
Rockfish, Brown	9	9	2.6	0.53	4.77
Rockfish, Rosethorn	10	5	1.5	0.18	0.89
Rockfish, Rosy	11	4	1.2	0.31	1.25
Rockfish, Gopher	12	4	1.2	0.51	2.03
Rockfish, Vermilion	13	3	0.9	0.39	1.16
Greenling, Kelp	14	3	0.9	0.27	0.82
Rockfishes (unidentified)	15	2	0.6	0.43**	0.86
Rockfish, Starry	16	2	0.6	0.48	0.96
Cowcod	17	2	0.6	2.42	4.84
Surfperch, Barred	18	2	0.6	0.34	0.68
Bocaccio	19	1	0.3	0.89	0.89
Rockfish, Black-and-yellow	20	1	0.3	0.44	0.44
Rockfish, Olive	21	1	0.3	1.08	1.08
Cabezon	22	1	0.3	0.95	0.95
Seaperch, Rainbow	23	1	0.3	0.11	0.11
Flatfishes	24	1	0.3	0.14	0.14
<b>Total</b>		<b>341</b>	<b>100</b>		<b>117.76</b>

## C. CPUE

Catch per Angler Day	=	5.68	Catch per Angler Hour	=	1.42
Kg per Angler Day	=	1.96	Kg per Angler Hour	=	0.49

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 81. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	60
Total Hours Effort for Anglers Intercepted	=	240.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	22.90	9	5.7	9	2.54	612	59
Rockfish, Blue	2	20.02	50	31.4	41	0.40	289	49
Rockfish, Copper	3	5.29	11	6.9	11	0.48	285	62
Cowcod	4	4.84	2	1.3	2	2.42	528	21
Rockfish, Brown	5	4.77	9	5.7	9	0.53	299	63
Rockfish, Canary	6	4.25	11	6.9	11	0.39	282	72
Rockfish, Yellowtail	7	4.00	15	9.4	15	0.27	261	38
Croaker, White	8	3.98	20	12.6	20	0.20	259	19
Rockfish, Rosy	9	1.25	4	2.5	4	0.31	266	31
Rockfish, Vermilion	10	1.16	3	1.9	3	0.39	281	41
Rockfish, Olive	11	1.08	1	0.6	1	1.08	433	0
Rockfish, Gopher	12	1.02	2	1.3	2	0.51	294	45
Rockfish, Starry	13	0.96	2	1.3	2	0.48	302	66
Cabazon	14	0.95	1	0.6	1	0.95	384	0
Bocaccio	15	0.89	1	0.6	1	0.89	442	0
Rockfish, Rosethorn	16	0.89	5	3.1	5	0.18	219	26
Surfperch, Barred	17	0.68	2	1.3	1	0.34	262	0
Sanddab, Pacific	18	0.65	4	2.5	4	0.16	245	16
Rockfish, Black-and-yellow	19	0.44	1	0.6	1	0.44	284	0
Greenling, Kelp	20	0.27	1	0.6	1	0.27	267	0
Flatfishes	21	0.14	1	0.6	1	0.14	220	0
Seaperch, Rainbow	22	0.11	1	0.6	1	0.11	191	0
Sandabs	23	0.00	3	1.9	0	0.00	0	0
Total		80.54	159	100	146			

## C. CPUE\*\*\*

Catch per Angler Day	=	2.65	Catch per Angler Hour	=	0.66
Kg per Angler Day	=	1.34	Kg per Angler Hour	=	0.33

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).



Table 82. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 65  
 Total Hours Effort for Anglers Intercepted = 397.2  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	419	49.8
Rockfish, Blue	2	295	35.1
Bocaccio	3	31	3.7
Hake, Pacific	4	21	2.5
Rockfish, Canary	5	19	2.3
Chilipepper	6	12	1.4
Rockfish, Yellowtail	7	11	1.3
Rockfish, Greenstriped	8	8	1.0
Rockfish, Greenspotted	9	7	0.8
Rockfish, Widow	10	3	0.4
Rockfish, Rosy	11	2	0.2
Rockfish, Starry	12	2	0.2
Rockfish, Olive	13	2	0.2
Sandabs	14	2	0.2
Flounders, Righteye	15	2	0.2
Unidentified Fishes	16	1	0.1
Sharks	17	1	0.1
Rockfish, Vermilion	18	1	0.1
Rockfish, Yelloweye	19	1	0.1
Cowcod	20	1	0.1
Total		841	100

C. CPUE

Catch per Angler Day = 12.94      Catch per Angler Hour = 2.12

Table 83. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	65
Total Hours Effort for Anglers Intercepted	=	397.2
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfishes (unidentified)	1	411	51.0	0.51**	209.61
Rockfish, Blue	2	274	34.0	0.35	97.06
Bocaccio	3	26	3.2	1.01	26.35
Hake, Pacific	4	21	2.6	1.07	22.37
Rockfish, Canary	5	19	2.4	1.67	31.74
Chilipepper	6	12	1.5	0.45	5.45
Rockfish, Yellowtail	7	11	1.4	0.87	9.59
Rockfish, Greenstriped	8	8	1.0	0.27	2.15
Rockfish, Greenspotted	9	7	0.9	0.72	5.05
Rockfish, Widow	10	3	0.4	0.66	1.97
Rockfish, Rosy	11	2	0.2	0.21	0.41
Rockfish, Starry	12	2	0.2	0.90	1.80
Rockfish, Olive	13	2	0.2	0.57	1.15
Sandabs	14	2	0.2	0.00**	0.00
Flounders, Righteye	15	2	0.2	0.00**	0.00
Unidentified Fishes	16	1	0.1	0.00**	0.00
Rockfish, Vermilion	17	1	0.1	1.62	1.62
Rockfish, Yelloweye	18	1	0.1	0.23	0.23
Cowcod	19	1	0.1	4.59	4.59
Total		806	100		421.14

#### C. CPUE

Catch per Angler Day	=	12.40	Catch per Angler Hour	=	2.03
Kg per Angler Day	=	6.48	Kg per Angler Hour	=	1.06

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 84. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 65  
 Total Hours Effort for Anglers Intercepted = 397.2  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	83.60	236	71.5	112	0.35	279	41
Rockfish, Canary	2	28.40	17	5.2	17	1.67	475	66
Bocaccio	3	26.35	26	7.9	26	1.01	443	84
Rockfish, Yellowtail	4	6.97	8	2.4	8	0.87	370	101
Hake, Pacific	5	5.33	5	1.5	5	1.07	517	27
Rockfish, Greenspotted	6	5.05	7	2.1	7	0.72	348	60
Cowcod	7	4.59	1	0.3	1	4.59	655	0
Chilipepper	8	4.54	10	3.0	10	0.45	322	76
Rockfish, Greenstriped	9	2.15	8	2.4	8	0.27	287	18
Rockfish, Widow	10	1.97	3	0.9	3	0.66	365	47
Rockfish, Starry	11	1.80	2	0.6	2	0.90	377	4
Rockfish, Vermilion	12	1.62	1	0.3	1	1.62	466	0
Rockfish, Olive	13	1.15	2	0.6	2	0.57	355	4
Rockfish, Rosy	14	0.41	2	0.6	2	0.21	233	13
Rockfish, Yelloweye	15	0.23	1	0.3	1	0.23	236	0
Unidentified Fishes	16	0.00	1	0.3	0	0.00	0	0
Total		174.17	330	100	205			

## C. CPUE\*\*\*

Catch per Angler Day = 5.08      Catch per Angler Hour = 0.83  
 Kg per Angler Day = 2.68      Kg per Angler Hour = 0.44

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 9. Length-Frequency Histogram for Barred Surfperch  
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
 Area 4, Quarter 2, 1981.

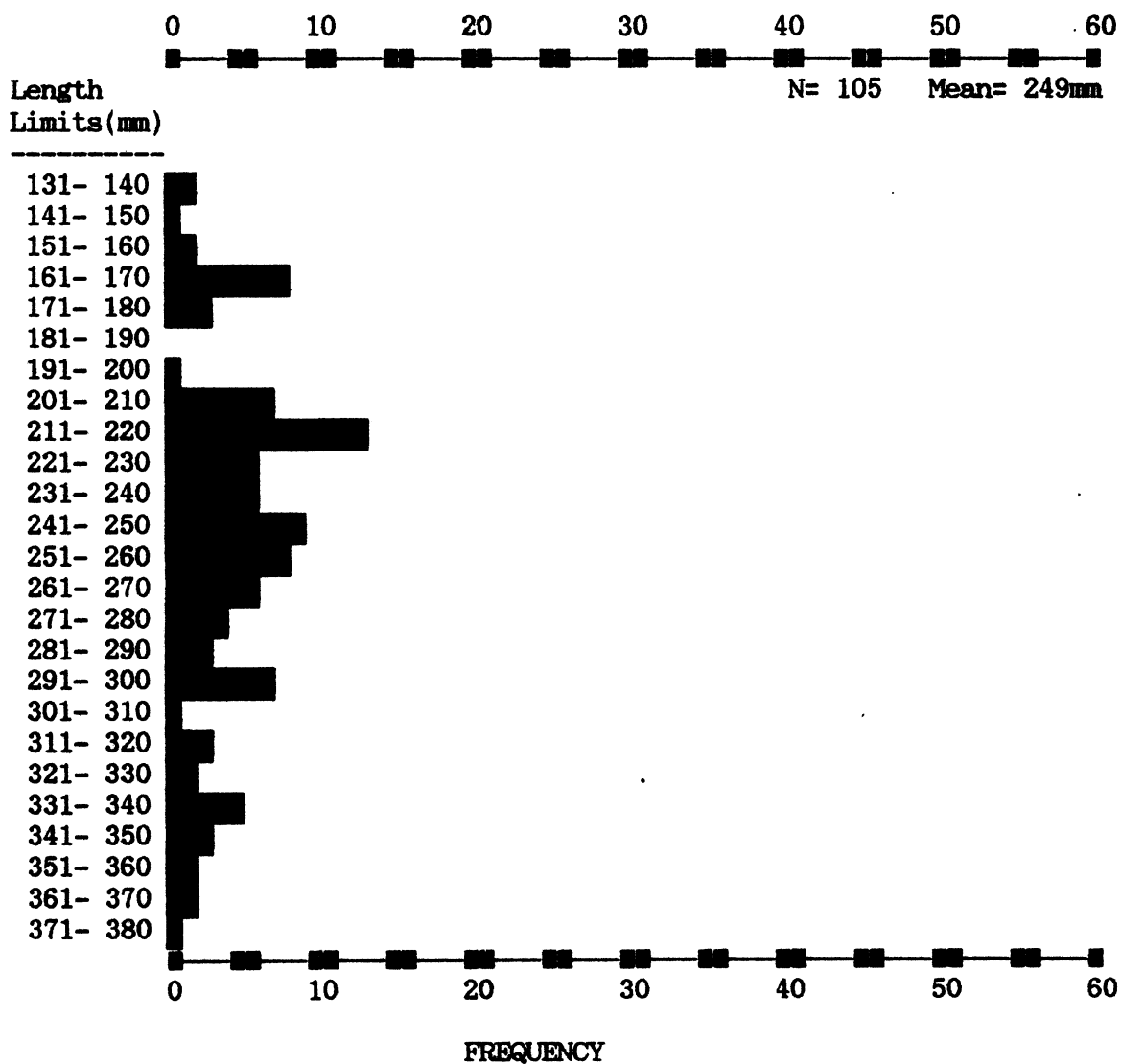


Figure 10. Length-Frequency Histogram for Blue Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 4, Quarter 2, 1981.

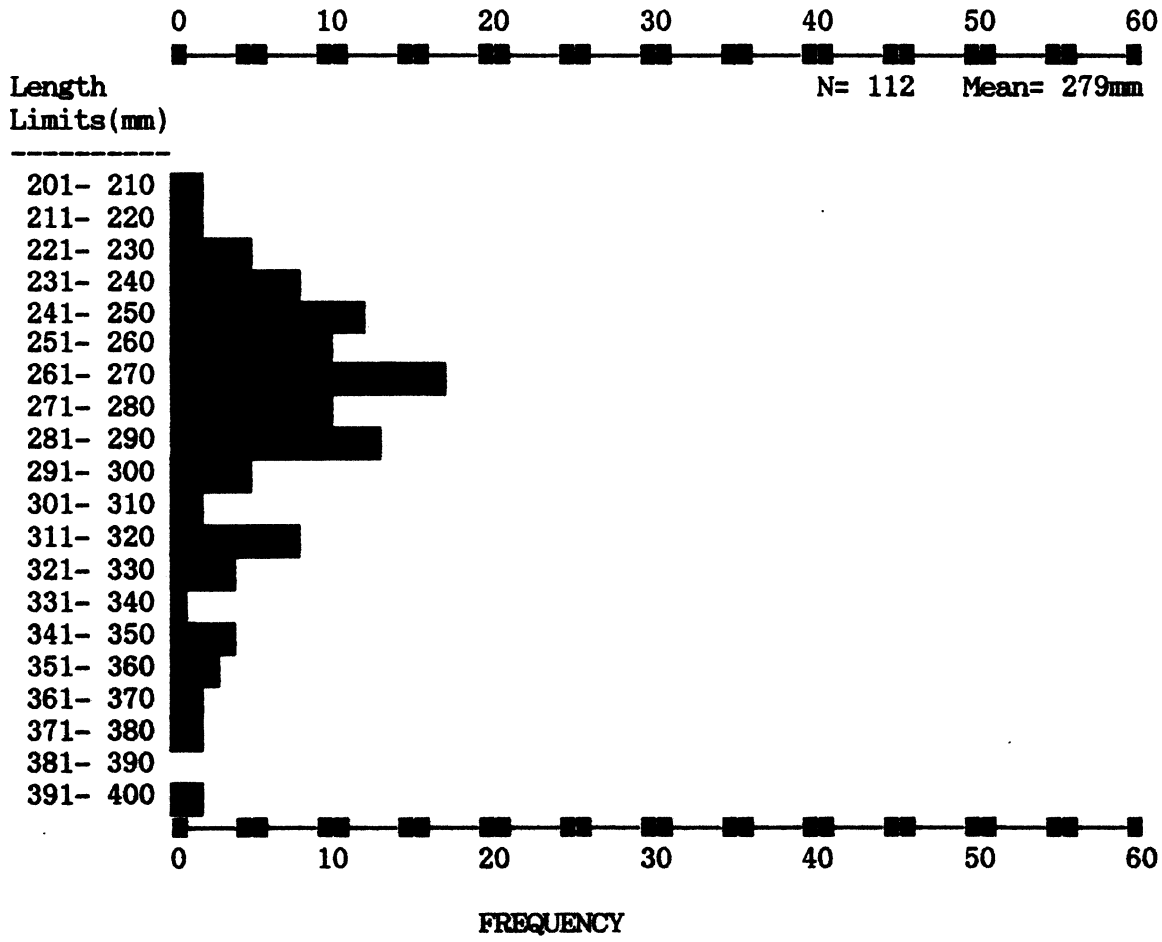


Table 85. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	127
Total Hours Effort for Anglers Intercepted	=	292.3
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bocaccio	1	137	55.5
Perch, Shiner	2	27	10.9
Jacksmelt	3	21	8.5
Surfperches	4	18	7.3
Surfperch, Walleye	5	11	4.5
Surfperch, Barred	6	10	4.0
Croaker, White	7	5	2.0
Sharks	8	4	1.6
Skates	9	3	1.2
Sculpin, Pacific Staghorn	10	3	1.2
Flounder, Starry	11	2	0.8
Rockfishes (unidentified)	12	1	0.4
Rockfish, Brown	13	1	0.4
Lingcod	14	1	0.4
Surfperch, Silver	15	1	0.4
Seaperch, Rainbow	16	1	0.4
Sole, Sand	17	1	0.4
Total		247	100

C. CPUE

Catch per Angler Day = 1.94      Catch per Angler Hour = 0.85

Table 86. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted = 127  
 Total Hours Effort for Anglers Intercepted = 292.3  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bocaccio	1	121	60.2	0.01	1.31
Perch, Shiner	2	27	13.4	0.03	0.88
Jacksmelt	3	20	10.0	0.09	1.80
Surfperch, Walleye	4	11	5.5	0.15	1.69
Surfperch, Barred	5	9	4.5	0.36	3.25
Surfperches	6	3	1.5	0.13**	0.39
Sculpin, Pacific Staghorn	7	2	1.0	0.05	0.10
Flounder, Starry	8	2	1.0	0.51	1.02
Rockfish, Brown	9	1	0.5	0.03	0.03
Lingcod	10	1	0.5	1.81	1.81
Croaker, White	11	1	0.5	0.09	0.09
Surfperch, Silver	12	1	0.5	0.11	0.11
Seaperch, Rainbow	13	1	0.5	0.22	0.22
Sole, Sand	14	1	0.5	1.57	1.57
Total		201	100		14.27

#### C. CPUE

Catch per Angler Day = 1.58      Catch per Angler Hour = 0.69  
 Kg per Angler Day = 0.11      Kg per Angler Hour = 0.05

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 87. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted = 127  
 Total Hours Effort for Anglers Intercepted = 292.3  
 Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number, Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	1.81	1	0.7	1	1.81	550	0
Sole, Sand	2	1.57	1	0.7	1	1.57	480	0
Jacksmelt	3	1.35	15	10.3	15	0.09	232	30
Surfperch, Barred	4	1.08	3	2.1	3	0.36	250	78
Bocaccio	5	0.93	86	59.3	21	0.01	106	7
Perch, Shiner	6	0.88	27	18.6	12	0.03	133	14
Surfperch, Walleye	7	0.77	5	3.4	5	0.15	205	34
Flounder, Starry	8	0.51	1	0.7	1	0.51	350	0
Seaperch, Rainbow	9	0.22	1	0.7	1	0.22	240	0
Surfperch, Silver	10	0.11	1	0.7	1	0.11	190	0
Sculpin, Pacific Staghorn	11	0.10	2	1.4	2	0.05	170	14
Croaker, White	12	0.09	1	0.7	1	0.09	200	0
Rockfish, Brown	13	0.03	1	0.7	1	0.03	120	0
Total		9.45	145	100	65			

## C. CPUE\*\*\*

Catch per Angler Day = 1.14      Catch per Angler Hour = 0.50  
 Kg per Angler Day = 0.07      Kg per Angler Hour = 0.03

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).



Table 88. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	103
Total Hours Effort for Anglers Intercepted	=	256.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Silver	1	89	46.4
Surfperch, Barred	2	45	23.4
Surfperch, Walleye	3	22	11.5
Surfperches	4	13	6.8
Surfperch, Calico	5	9	4.7
Seaperch, Striped	6	3	1.6
Prickleback, Monkeyface	7	3	1.6
Jacksmelt	8	2	1.0
Cabezon	9	2	1.0
Shark, Pacific Angel	10	1	0.5
Seaperch, Rubberlip	11	1	0.5
Seaperch, Rainbow	12	1	0.5
Mackerel, Pacific (Chub)	13	1	0.5
Total		192	100

C. CPUE

Catch per Angler Day = 1.86      Catch per Angler Hour = 0.75

Table 89. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

#### A. Sampled Effort

Number Anglers Intercepted	=	103
Total Hours Effort for Anglers Intercepted	=	256.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Silver	1	88	53.0	0.13	11.18
Surfperch, Barred	2	42	25.3	0.29	12.28
Surfperch, Walleye	3	17	10.2	0.25	4.25
Surfperch, Calico	4	9	5.4	0.16	1.47
Seaperch, Striped	5	3	1.8	0.49	1.46
Prickleback, Monkeyface	6	3	1.8	0.00**	0.00
Jacksmelt	7	1	0.6	0.15	0.15
Cabezón	8	1	0.6	0.63	0.63
Seaperch, Rubberlip	9	1	0.6	1.19	1.19
Seaperch, Rainbow	10	1	0.6	0.22	0.22
Total		166	100		32.83

#### C. CPUE

Catch per Angler Day	=	1.61	Catch per Angler Hour	=	0.65
Kg per Angler Day	=	0.32	Kg per Angler Hour	=	0.13

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 90. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted	=	103
Total Hours Effort for Anglers Intercepted	=	256.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	12.28	42	25.8	42	0.29	241	46
Surfperch, Silver	2	11.18	88	54.0	44	0.13	198	23
Surfperch, Walleye	3	4.25	17	10.4	17	0.25	237	22
Surfperch, Calico	4	1.47	9	5.5	9	0.16	212	34
Seaperch, Striped	5	1.46	3	1.8	3	0.49	310	10
Seaperch, Rubberlip	6	1.19	1	0.6	1	1.19	400	0
Cabezon	7	0.63	1	0.6	1	0.63	330	0
Seaperch, Rainbow	8	0.22	1	0.6	1	0.22	240	0
Jacksmelt	9	0.15	1	0.6	1	0.15	275	0
Total		32.83	163	100	119			

C. CPUE\*\*\*

Catch per Angler Day =	1.58	Catch per Angler Hour =	0.64
Kg per Angler Day =	0.32	Kg per Angler Hour =	0.13

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 91. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

## A. Sampled Effort

Number Anglers Intercepted	=	75
Total Hours Effort for Anglers Intercepted	=	227.1
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	75	30.4
Sanddab, Pacific	2	50	20.2
Rockfishes (unidentified)	3	24	9.7
Rockfish, Brown	4	21	8.5
Rockfish, Yellowtail	5	10	4.0
Rockfish, Gopher	6	10	4.0
Rockfish, Copper	7	9	3.6
Rockfish, Rosy	8	7	2.8
Lingcod	9	7	2.8
Rockfish, Vermilion	10	6	2.4
Rockfish, Canary	11	5	2.0
Croaker, White	12	5	2.0
Rockfish, Flag	13	4	1.6
Rockfish, Olive	14	3	1.2
Rockfish, Starry	15	2	0.8
Mackerel, Pacific (Chub)	16	2	0.8
Spiny Dogfish	17	1	0.4
Rockfish, Black	18	1	0.4
Bocaccio	19	1	0.4
Rockfish, Grass	20	1	0.4
Greenling, Kelp	21	1	0.4
Cabezon	22	1	0.4
Sole, Sand	23	1	0.4
Total		247	100

## C. CPUE

Catch per Angler Day = 3.29      Catch per Angler Hour = 1.09

Table 92. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

## A. Sampled Effort

Number Anglers Intercepted	=	75
Total Hours Effort for Anglers Intercepted	=	227.1
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	75	30.7	0.46	34.50
Sanddab, Pacific	2	50	20.5	0.11	5.27
Rockfishes (unidentified)	3	24	9.8	0.55**	13.20
Rockfish, Brown	4	21	8.6	0.82	17.29
Rockfish, Yellowtail	5	10	4.1	0.47	4.69
Rockfish, Gopher	6	10	4.1	0.52	5.20
Rockfish, Copper	7	9	3.7	0.57	5.14
Rockfish, Rosy	8	7	2.9	0.21	1.44
Rockfish, Vermilion	9	6	2.5	1.18	7.06
Rockfish, Canary	10	5	2.0	0.29	1.46
Lingcod	11	5	2.0	2.57	12.84
Rockfish, Flag	12	4	1.6	0.66	2.64
Croaker, White	13	4	1.6	0.22	0.87
Rockfish, Olive	14	3	1.2	0.80	2.41
Rockfish, Starry	15	2	0.8	0.68	1.35
Mackerel, Pacific (Chub)	16	2	0.8	0.38	0.76
Spiny Dogfish	17	1	0.4	2.54	2.54
Rockfish, Black	18	1	0.4	0.69	0.69
Bocaccio	19	1	0.4	0.84	0.84
Rockfish, Grass	20	1	0.4	0.83	0.83
Greenling, Kelp	21	1	0.4	1.49	1.49
Cabezon	22	1	0.4	1.29	1.29
Sole, Sand	23	1	0.4	2.08	2.08
Total		244	100		125.87

## C. CPUE

Catch per Angler Day	=	3.25	Catch per Angler Hour	=	1.07
Kg per Angler Day	=	1.68	Kg per Angler Hour	=	0.55

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 93. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	75
Total Hours Effort for Anglers Intercepted	=	227.1
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	34.50	75	34.1	43	0.46	307	37
Rockfish, Brown	2	17.29	21	9.5	21	0.82	353	52
Lingcod	3	12.84	5	2.3	5	2.57	599	120
Rockfish, Vermilion	4	7.06	6	2.7	6	1.18	400	95
Sanddab, Pacific	5	5.27	50	22.7	17	0.11	213	22
Rockfish, Gopher	6	5.20	10	4.5	10	0.52	296	36
Rockfish, Copper	7	5.14	9	4.1	9	0.57	304	60
Rockfish, Yellowtail	8	4.69	10	4.5	10	0.47	311	55
Rockfish, Flag	9	2.64	4	1.8	4	0.66	339	12
Spiny Dogfish	10	2.54	1	0.5	1	2.54	900	0
Rockfish, Olive	11	2.41	3	1.4	3	0.80	384	76
Sole, Sand	12	2.08	1	0.5	1	2.08	523	0
Greenling, Kelp	13	1.49	1	0.5	1	1.49	480	0
Rockfish, Canary	14	1.46	5	2.3	5	0.29	272	21
Rockfish, Rosy	15	1.44	7	3.2	7	0.21	232	13
Rockfish, Starry	16	1.35	2	0.9	2	0.68	344	7
Cabazon	17	1.29	1	0.5	1	1.29	430	0
Croaker, White	18	0.87	4	1.8	4	0.22	266	25
Bocaccio	19	0.84	1	0.5	1	0.84	433	0
Rockfish, Grass	20	0.83	1	0.5	1	0.83	333	0
Mackerel, Pacific (Chub)	21	0.76	2	0.9	2	0.38	307	30
Rockfish, Black	22	0.69	1	0.5	1	0.69	357	0
Total		112.67	220	100	155			

## C. CPUE\*\*\*

Catch per Angler Day	=	2.93	Catch per Angler Hour	=	0.97
Kg per Angler Day	=	1.50	Kg per Angler Hour	=	0.50

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Table 94. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	48
Total Hours Effort for Anglers Intercepted	=	191.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	310	47.7
Rockfish, Yellowtail	2	71	10.9
Rockfish, Copper	3	59	9.1
Rockfish, Rosy	4	48	7.4
Rockfish, Canary	5	39	6.0
Rockfish, Starry	6	33	5.1
Rockfishes (unidentified)	7	28	4.3
Rockfish, Vermilion	8	17	2.6
Bocaccio	9	12	1.8
Rockfish, Flag	10	8	1.2
Mackerel, Pacific (Chub)	11	7	1.1
Rockfish, Greenspotted	12	4	0.6
Lingcod	13	4	0.6
Rockfish, Yelloweye	14	3	0.5
Rockfish, Widow	15	2	0.3
Rockfish, Gopher	16	2	0.3
Rockfish, China	17	1	0.2
Rockfish, Olive	18	1	0.2
Sanddab, Pacific	19	1	0.2
Total		650	100

C. CPUE

Catch per Angler Day = 13.54      Catch per Angler Hour = 3.39

Table 95. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	48
Total Hours Effort for Anglers Intercepted	=	191.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	308	47.8	0.46	142.98
Rockfish, Yellowtail	2	71	11.0	0.41	29.02
Rockfish, Copper	3	59	9.2	1.48	87.17
Rockfish, Rosy	4	48	7.5	0.23	10.96
Rockfish, Canary	5	39	6.1	0.56	21.68
Rockfish, Starry	6	33	5.1	0.63	20.88
Rockfishes (unidentified)	7	28	4.3	0.61**	17.08
Rockfish, Vermilion	8	17	2.6	1.97	33.55
Bocaccio	9	12	1.9	0.72	8.60
Rockfish, Flag	10	8	1.2	0.79	6.29
Mackerel, Pacific (Chub)	11	7	1.1	0.37	2.56
Rockfish, Greenspotted	12	4	0.6	0.69	2.78
Rockfish, Yelloweye	13	3	0.5	1.33	3.99
Rockfish, Widow	14	2	0.3	0.20	0.40
Rockfish, Gopher	15	2	0.3	0.40	0.80
Rockfish, China	16	1	0.2	0.53	0.53
Rockfish, Olive	17	1	0.2	1.31	1.31
Sanddab, Pacific	18	1	0.2	0.16	0.16
Total		644	100		390.72

C. CPUE

Catch per Angler Day	=	13.42	Catch per Angler Hour	=	3.36
Kg per Angler Day	=	8.14	Kg per Angler Hour	=	2.04

\* Weight estimated from length-to-weight regression if available.

\*\* Mean weight for this group was not calculated or was estimated from other sources (see text).



Table 96. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1981 for Quarter 2, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

## A. Sampled Effort

Number Anglers Intercepted	=	48
Total Hours Effort for Anglers Intercepted	=	191.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	142.98	308	50.4	181	0.46	310	29
Rockfish, Copper	2	87.17	59	9.7	59	1.48	423	60
Rockfish, Vermilion	3	33.55	17	2.8	17	1.97	495	41
Rockfish, Yellowtail	4	29.02	71	11.6	71	0.41	296	54
Rockfish, Canary	5	21.68	39	6.4	39	0.56	332	42
Rockfish, Starry	6	20.88	33	5.4	33	0.63	331	44
Rockfish, Rosy	7	9.82	43	7.0	43	0.23	240	15
Bocaccio	8	8.60	12	2.0	12	0.72	399	72
Rockfish, Flag	9	6.29	8	1.3	8	0.79	358	29
Rockfish, Yelloweye	10	3.99	3	0.5	3	1.33	415	31
Rockfish, Greenspotted	11	2.78	4	0.7	4	0.69	348	44
Mackerel, Pacific (Chub)	12	2.56	7	1.1	7	0.37	303	22
Rockfish, Olive	13	1.31	1	0.2	1	1.31	461	0
Rockfish, Gopher	14	0.80	2	0.3	2	0.40	276	22
Rockfish, China	15	0.53	1	0.2	1	0.53	308	0
Rockfish, Widow	16	0.40	2	0.3	2	0.20	255	0
Sanddab, Pacific	17	0.16	1	0.2	1	0.16	243	0
Total		372.50	611	100	484			

## C. CPUE\*\*\*

Catch per Angler Day	=	12.73	Catch per Angler Hour	=	3.19
Kg per Angler Day	=	7.76	Kg per Angler Hour	=	1.95

\* Weight estimated from length-to-weight regression if available.

\*\* Total length except for species with tuna-like caudal fins (see text).

\*\*\* CPUE is underestimated if all fish taken were not examined (see text).

Figure 11. Length-Frequency Histogram for Bocaccio  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 2, 1981.



Figure 12. Length-Frequency Histogram for Blue Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 2, 1981.

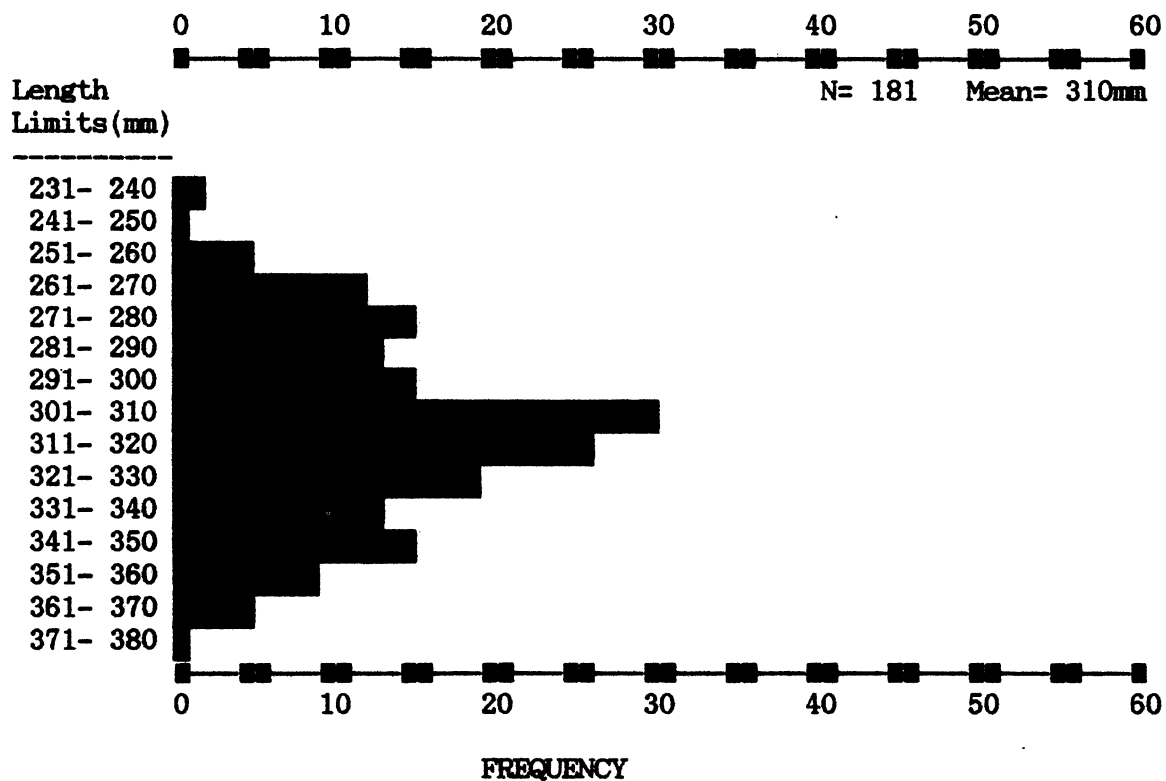


Figure 13. Length-Frequency Histogram for Canary Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 2, 1981.

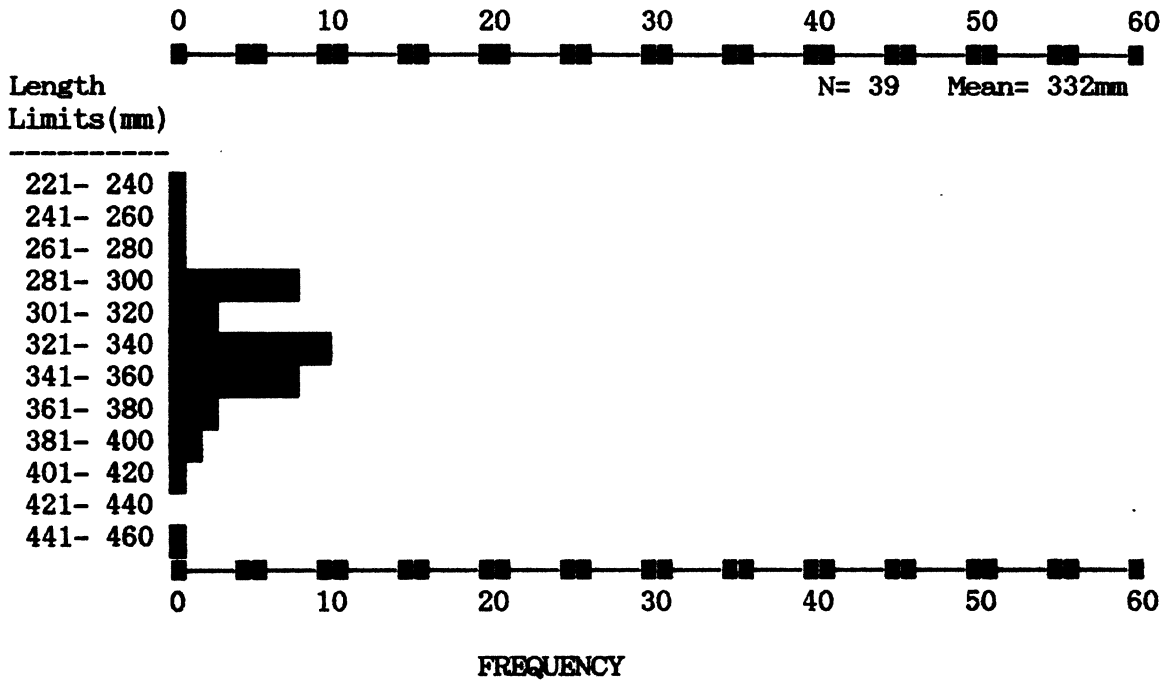


Figure 14. Length-Frequency Histogram for Rosy Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 2, 1981.

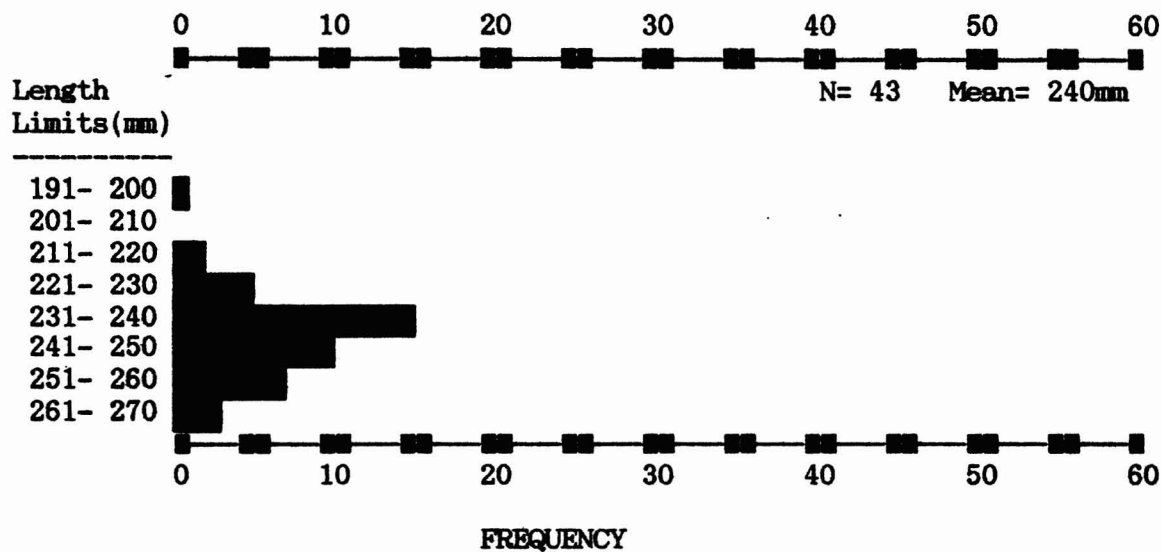
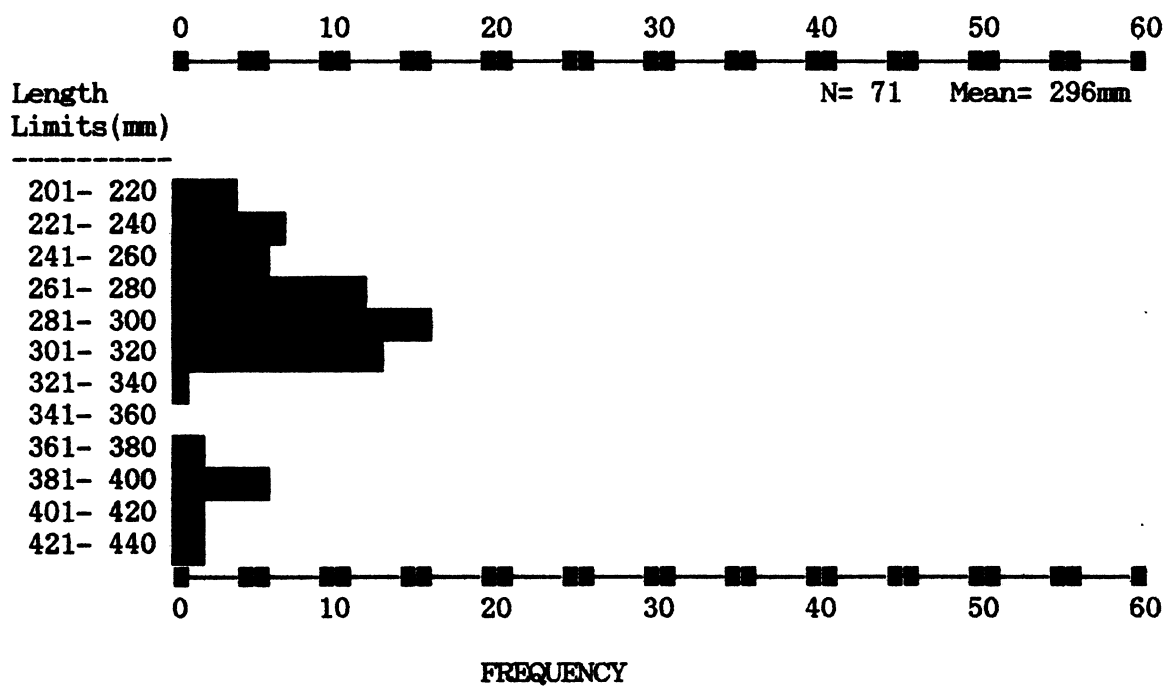


Figure 15. Length-Frequency Histogram for Yellowtail Rockfish Taken by All CPFV Anglers Using Hook-and-Line Gear. Area 5, Quarter 2, 1981.



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APPENDIX A

Pages 120 to 228 are on the attached microfiche on inside of back cover.



Appendix B. List of Common Names, Scientific Names, and Length-Weight Parameters from All Areas in 1981 for Quarter 2, Taken by All Mode Anglers Using All Types of Gear.

Common Name	Scientific Name	a	b
Sturgeon, White	<u>Acipenser transmontanus</u>	0.00000053086	3.34800
Sturgeons (unidentified)	Acipenseridae		
Surfperch, Barred	<u>Amphistichus argenteus</u>	0.00001070000	3.10250
Surfperch, Calico	<u>Amphistichus koelzi</u>	0.00000469894	3.22700
Surfperch, Redtail	<u>Amphistichus rhodoterus</u>	0.00000469894	3.22700
Jacksmelt	<u>Atherinopsis californiensis</u>	0.00000098820	3.35360
Flounders, Lefteye	Bothidae		
Perch, Kelp	<u>Brachyistius frenatus</u>		
Prickleback, Monkeyface	<u>Cebidichthys violaceus</u>	0.00000000000	0.00000
Sharks	Chondrichthyes		
Sanddab, Pacific	<u>Citharichthys sordidus</u>	0.00000142860	3.37080
Sandabs	<u>Citharichthys</u> spp.		
Herring, Pacific	<u>Clupea harengus pallasii</u>	0.00002519100	2.84900
Sculpins	Cottidae		
Perch, Shiner	<u>Cymatogaster aggregata</u>	0.00000473500	3.21000
Stingrays	Dasyatidae		
Perch, Black	<u>Embiotoca jacksoni</u>	0.00029100000	2.49640
Seaperch, Striped	<u>Embiotoca lateralis</u>	0.00001540000	3.01000
Surfperches	Embiotocidae		
Anchovy, Northern	<u>Engraulis mordax</u>	0.00000560100	2.98400
Sculpin, Buffalo	<u>Enophrys bison</u>	0.00001790000	2.89600
Shark, Soupfin	<u>Galeorhinus zyopterus</u>		
Croaker, White	<u>Genyonemus lineatus</u>	0.00000708500	3.08328
Greenlings (unidentified)	Hexagrammidae		
Greenling, Kelp	<u>Hexagrammos decagrammus</u>	0.00002604300	2.89280
Greenling, Rock	<u>Hexagrammos lagocephalus</u>	0.00002604300	2.89280
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>	0.00000035580	3.71700
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>	0.00000469894	3.22700
Smelt, Surf	<u>Hypomesus pretiosus</u>	0.00000086900	3.38600
Seaperch, Rainbow	<u>Hypsurus caryi</u>	0.00001535000	3.00700
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>	0.00001790000	2.89600
Hake, Pacific	<u>Merluccius productus</u>	0.00000633000	3.03000
Tomcod, Pacific	<u>Microgadus proximus</u>	0.00000534900	3.07000
Sole, Dover	<u>Microstomus pacificus</u>		
Bass, Striped	<u>Morone saxatilis</u>	0.00001068210	2.90671
Smoothhound, Brown	<u>Mustelus henlei</u>	0.00002089000	2.88000
Ray, Bat	<u>Myliobatis californica</u>	0.00001054400	3.09289
Salmon	<u>Oncorhynchus</u> spp.		
Lingcod	<u>Ophiodon elongatus</u>	0.00001157000	2.99000
Bass, Kelp	<u>Paralabrax clathratus</u>	0.00000271598	3.27000
Halibut, California	<u>Paralichthys californicus</u>	0.00000849000	3.03300
Seaperch, Sharpnose	<u>Phanerodon atripes</u>	0.00001370000	2.98000
Seaperch, White	<u>Phanerodon furcatus</u>	0.00001366000	2.97800
Flounder, Starry	<u>Platichthys stellatus</u>	0.00000163000	3.34000
Flounders, Righteye	Pleuronectidae		
Flatfishes	Pleuronectiformes		
Sole, Sand	<u>Psettichthys melanostictus</u>	0.00000277100	3.26480
Skate, Big	<u>Raja binoculata</u>	0.00002428050	2.85496

APPENDIX B (continued)

Common Name	Scientific Name	a	b
Skates	<u>Rajidae</u>		
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>	0.00003220500	2.90840
Perch, Pile	<u>Rhacochilus vacca</u>	0.00000925500	3.09900
Guitarfish, Shovelnose	<u>Rhinobatos productus</u>	0.00000510900	2.96780
Trout, Rainbow	<u>Salmo gairdnerii</u>	0.00000637000	3.06300
Trouts	<u>Salmonidae</u>		
Sardine, Pacific	<u>Sardinops sagax</u>	0.00000320000	3.15000
Mackerel, Pacific (Chub)	<u>Scomber japonicus</u>	0.00000136600	3.39360
Cabezon	<u>Scorpaenichthys marmoratus</u>	0.00008823220	2.72030
Rockfishes (unidentified)	<u>Scorpaenidae</u>		
Rockfish, Kelp	<u>Sebastes atrovirens</u>	0.00003277410	2.86200
Rockfish, Brown	<u>Sebastes auriculatus</u>	0.00002601290	2.93360
Rockfish, Gopher	<u>Sebastes carnatus</u>	0.00002047310	2.95730
Rockfish, Copper	<u>Sebastes caurinus</u>	0.00001648140	3.01800
Rockfish, Greenspotted	<u>Sebastes chlorostictus</u>	0.00002047310	2.95730
Rockfish, Black-and-yellow	<u>Sebastes chrysomelas</u>	0.00000446010	3.25650
Rockfish, Starry	<u>Sebastes constellatus</u>	0.00000531230	3.19500
Rockfish, Greenstriped	<u>Sebastes elongatus</u>	0.00000475820	3.15310
Rockfish, Widow	<u>Sebastes entomelas</u>	0.00000291200	3.25430
Rockfish, Yellowtail	<u>Sebastes flavidus</u>	0.00001130400	3.04020
Chilipepper	<u>Sebastes goodei</u>	0.00000283950	3.24380
Rockfish, Rosethorn	<u>Sebastes helvomaculatus</u>	0.00001678550	2.99430
Cowcod	<u>Sebastes levis</u>	0.00001851570	2.98070
Rockfish, Quillback	<u>Sebastes maliger</u>	0.00003000000	2.93000
Rockfish, Black	<u>Sebastes melanops</u>	0.00001965710	2.95480
Rockfish, Vermilion	<u>Sebastes miniatus</u>	0.00002677000	2.91650
Rockfish, Blue	<u>Sebastes mystinus</u>	0.00001624670	2.98849
Rockfish, China	<u>Sebastes nebulosus</u>	0.00000564040	3.20470
Rockfish, Tiger	<u>Sebastes nigrocinctus</u>	0.00000564040	3.20470
Rockfish, Speckled	<u>Sebastes ovalis</u>	0.00000324000	3.25050
Bocaccio	<u>Sebastes paucispinis</u>	0.00000583320	3.09410
Rockfish, Canary	<u>Sebastes pinniger</u>	0.00001051000	3.05560
Rockfish, Grass	<u>Sebastes rastrelliger</u>	0.00000575900	3.23500
Rockfish, Rosy	<u>Sebastes rosaceus</u>	0.00001678900	2.99430
Rockfish, Yelloweye	<u>Sebastes ruberrimus</u>	0.00001304370	3.05710
Rockfish, Flag	<u>Sebastes rubrivinctus</u>	0.00002346750	2.94310
Rockfish, Olive	<u>Sebastes serranoides</u>	0.00000521020	3.15410
Thornyhead, Longspine	<u>Sebastolobus altivelis</u>		
Spiny Dogfish	<u>Squalus acanthias</u>	0.00000189000	3.09000
Shark, Pacific Angel	<u>Squatina californica</u>		
Shark, Leopard	<u>Triakis semifasciata</u>	0.00002089000	2.88000
Unidentified Fishes	<u>Unidentified Pisces</u>		
Prickleback, Rock	<u>Xiphister mucosus</u>	0.00000000000	0.00000

Appendix C. List of Common and Scientific Names for Fish from Areas 097 and 3 in 1981 for Quarter 2 Corrected from Fork to Total Length Using Linear Regressions from Echeverria and Lenarz (1984), Karpov (In Press), and Van Hying (1951).

Common Name	Scientific Name
Sturgeon, White	<u>Acipenser transmontanus</u>
Surfperch, Barred	<u>Amphistichus argenteus</u>
Jacksmelt	<u>Atherinopsis californiensis</u>
Perch, Shiner	<u>Cymatogaster aggregata</u>
Perch, Black	<u>Embiotoca jacksoni</u>
Seaperch, Striped	<u>Embiotoca lateralis</u>
Anchovy, Northern	<u>Engraulis mordax</u>
Croaker, White	<u>Genyonemus lineatus</u>
Greenling, Kelp	<u>Hexagrammos decagrammus</u>
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>
Smelt, Surf	<u>Hypomesus pretiosus</u>
Seaperch, Rainbow	<u>Hypsurus caryi</u>
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>
Bass, Striped	<u>Morone saxatilis</u>
Lingcod	<u>Ophiodon elongatus</u>
Seaperch, White	<u>Phanerodon furcatus</u>
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>
Rockfish, Brown	<u>Sebastes auriculatus</u>
Rockfish, Copper	<u>Sebastes caurinus</u>
Rockfish, Starry	<u>Sebastes constellatus</u>
Rockfish, Yellowtail	<u>Sebastes flavidus</u>
Rockfish, Black	<u>Sebastes melanops</u>
Rockfish, Blue	<u>Sebastes mystinus</u>
Rockfish, Speckled	<u>Sebastes ovalis</u>
Bocaccio	<u>Sebastes paucispinis</u>
Rockfish, Canary	<u>Sebastes pinniger</u>
Rockfish, Rosy	<u>Sebastes rosaceus</u>
Rockfish, Yelloweye	<u>Sebastes ruberrimus</u>