

State of California  
The Resources Agency  
DEPARTMENT OF FISH AND GAME

MARINE RECREATIONAL FISHERIES STATISTICS SURVEY  
FOR NORTHERN AND CENTRAL CALIFORNIA,  
QUARTERLY REPORT NO. 3,  
JANUARY TO MARCH 1980

by

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and  
Gerald S. Kwiecien

MARINE RESOURCES

Administrative Report No. 87-17

1987

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ABSTRACT

Field intercept Marine Recreational Fisheries Statistics Survey (MRFSS) data for central and northern California, collected in January to March 1980, 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 87-17.

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## ACKNOWLEDGMENTS

We would like to thank all past and current participants in the California MRFSS survey who have worked together as a team to generate the data contained in this report. Thanks are due to Arthur W. Haseltine and John J. Mello for their enthusiastic assistance in editing and to Cheryl A. Avants and Patricia V. Velez for assisting in preparing the final manuscript.

Gordon H. Kubota and Larry Pongeggi of C.I.C. Research in San Diego provided generous access to data tapes and their mainframe for downloading to diskettes for our microcomputer use. Stephen J. Crooke provided assistance in obtaining the data disks for the report.

Russell Porter and the Pacific Marine Fisheries Commission deserve special thanks, as their support in developing the program series and continued assistance throughout the project have made this report possible.

This project was partially funded under the Dingell-Johnson Federal Aid Sportfish Restoration Act, project number F-41-R-2.

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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. 3 covers the period of January through March 1980. 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 six 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 six counties; Marin, 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).

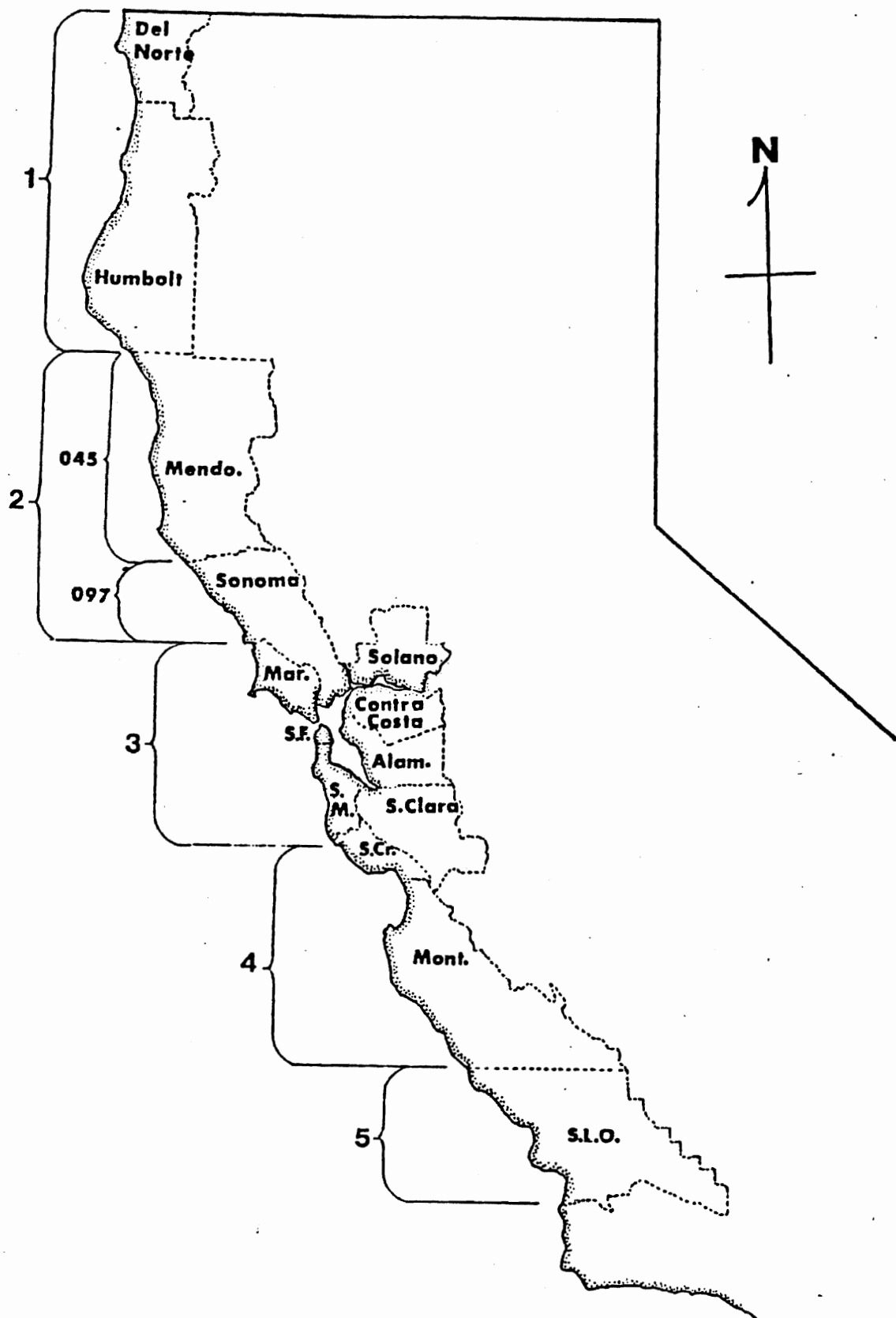


FIGURE 1. Study area counties and sub-areas in northern and central California.

## 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 Hyning 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 1980 for Quarter 1, 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	=	109
Total Hours Effort for Anglers Intercepted	=	210.5
Total Hours Still to Fish (Incomplete Trips)	=	32.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, White	1	112	29.6
Jacksmelt	2	71	18.7
Surfperches	3	48	12.7
Surfperch, Walleye	4	46	12.1
Seaperch, Striped	5	25	6.6
Surfperch, Silver	6	22	5.8
Perch, Pile	7	21	5.5
Surfperch, Redtail	8	14	3.7
Tomcod, Pacific	9	7	1.8
Perch, Shiner	10	5	1.3
Unidentified Fishes	11	2	0.5
Flounder, Starry	12	2	0.5
Trout, Rainbow	13	1	0.3
Rockfishes (unidentified)	14	1	0.3
Sculpin, Pacific Staghorn	15	1	0.3
Surfperch, Calico	16	1	0.3
Total		379	100

#### C. CPUE

Catch per Angler Day	=	3.48	Catch per Angler Hour	=	1.80
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Table 2. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 109  
 Total Hours Effort for Anglers Intercepted = 210.5  
 Total Hours Still to Fish (Incomplete Trips) = 32.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, White	1	112	33.6	0.21	23.07
Jacksmelt	2	71	21.3	0.43	30.31
Surfperch, Walleye	3	36	10.8	0.36	12.90
Seaperch, Striped	4	24	7.2	0.27	6.51
Perch, Pile	5	21	6.3	0.61	12.77
Surfperches	6	20	6.0	0.28**	5.60
Surfperch, Silver	7	20	6.0	0.24	4.73
Surfperch, Redtail	8	14	4.2	0.32	4.50
Tomcod, Pacific	9	6	1.8	0.13	0.79
Perch, Shiner	10	5	1.5	0.05	0.23
Trout, Rainbow	11	1	0.3	0.34	0.34
Rockfishes (unidentified)	12	1	0.3	0.00**	0.00
Surfperch, Calico	13	1	0.3	0.15	0.15
Flounder, Starry	14	1	0.3	1.16	1.16
Total		333	100		103.06

#### C. CPUE

Catch per Angler Day = 3.06      Catch per Angler Hour = 1.58  
 Kg per Angler Day = 0.95      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 3. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 109  
 Total Hours Effort for Anglers Intercepted = 210.5  
 Total Hours Still to Fish (Incomplete Trips) = 32.0

#### 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	23.05	54	19.4	14	0.43	371	41
Seaperch, White	2	22.66	110	39.6	106	0.21	255	23
Surfperch, Walleye	3	12.90	36	12.9	30	0.36	257	39
Perch, Pile	4	12.77	21	7.6	21	0.61	332	22
Seaperch, Striped	5	6.51	24	8.6	24	0.27	253	25
Surfperch, Redtail	6	4.51	14	5.0	14	0.32	265	30
Surfperch, Silver	7	2.13	9	3.2	9	0.24	241	23
Flounder, Starry	8	1.16	1	0.4	1	1.16	447	0
Tomcod, Pacific	9	0.52	4	1.4	4	0.13	253	25
Trout, Rainbow	10	0.34	1	0.4	1	0.34	334	0
Surfperch, Calico	11	0.15	1	0.4	1	0.15	213	0
Perch, Shiner	12	0.14	3	1.1	3	0.05	149	10
Total		86.83	278	100	228			

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

Catch per Angler Day = 2.55      Catch per Angler Hour = 1.32  
 Kg per Angler Day = 0.80      Kg per Angler Hour = 0.41

\* 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 1980 for Quarter 1, 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	=	178
Total Hours Effort for Anglers Intercepted	=	405.0
Total Hours Still to Fish (Incomplete Trips)	=	39.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	81	24.7
Rockfish, Black	2	55	16.8
Surfperch, Redtail	3	55	16.8
Surfperches	4	47	14.3
Greenlings (unidentified)	5	14	4.3
Greenling, Kelp	6	12	3.7
Cabazon	7	9	2.7
Seaperch, White	8	8	2.4
Sculpins	9	7	2.1
Surfperch, Silver	10	7	2.1
Perch, Shiner	11	5	1.5
Surfperch, Walleye	12	5	1.5
Rockfishes (unidentified)	13	3	0.9
Rockfish, Copper	14	3	0.9
Rockfish, Grass	15	3	0.9
Greenling, Rock	16	3	0.9
Jacksmelt	17	2	0.6
Sculpin, Pacific Staghorn	18	2	0.6
Perch, Pile	19	2	0.6
Unidentified Fishes	20	1	0.3
Skates	21	1	0.3
Skate, Big	22	1	0.3
Sculpin, Buffalo	23	1	0.3
Prickleback, Monkeyface	24	1	0.3
Total		328	100

#### C. CPUE

Catch per Angler Day	=	1.84	Catch per Angler Hour	=	0.81
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Table 5. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 178  
 Total Hours Effort for Anglers Intercepted = 405.0  
 Total Hours Still to Fish (Incomplete Trips) = 39.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	58	29.6	0.40	22.98
Surfperch, Redtail	2	44	22.4	0.32	13.92
Rockfish, Black	3	34	17.3	0.41	14.10
Greenling, Kelp	4	11	5.6	0.12	1.35
Surfperch, Silver	5	7	3.6	0.12	0.82
Seaperch, White	6	6	3.1	0.25	1.52
Sculpins	7	5	2.6	0.39**	1.95
Surfperch, Walleye	8	5	2.6	0.28	1.40
Cabazon	9	4	2.0	0.61	2.44
Rockfish, Copper	10	3	1.5	0.96	2.87
Rockfish, Grass	11	3	1.5	1.31	3.92
Greenling, Rock	12	3	1.5	0.44	1.33
Surfperches	13	3	1.5	0.34**	1.02
Greenlings (unidentified)	14	2	1.0	0.19**	0.38
Sculpin, Pacific Staghorn	15	2	1.0	0.02	0.05
Perch, Pile	16	2	1.0	0.58	1.15
Skate, Big	17	1	0.5	43.48	43.48
Jacksmelt	18	1	0.5	0.28	0.28
Sculpin, Buffalo	19	1	0.5	0.25	0.25
Prickleback, Monkeyface	20	1	0.5	0.00**	0.00
Total		196	100		115.21

## C. CPUE

Catch per Angler Day = 1.10      Catch per Angler Hour = 0.48  
 Kg per Angler Day = 0.65      Kg per Angler Hour = 0.28

\* 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 1980 for Quarter 1, 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 = 178  
 Total Hours Effort for Anglers Intercepted = 405.0  
 Total Hours Still to Fish (Incomplete Trips) = 39.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Skate, Big	1	43.48	1	0.6	1	43.48	1742	0
Seaperch, Striped	2	22.58	57	32.6	57	0.40	285	38
Rockfish, Black	3	13.69	33	18.9	33	0.41	298	30
Surfperch, Redtail	4	12.02	38	21.7	38	0.32	261	36
Rockfish, Grass	5	3.92	3	1.7	3	1.31	381	28
Rockfish, Copper	6	2.87	3	1.7	3	0.96	359	93
Cabezon	7	1.83	3	1.7	3	0.61	321	60
Seaperch, White	8	1.52	6	3.4	6	0.25	275	18
Surfperch, Walleye	9	1.40	5	2.9	5	0.28	246	17
Greenling, Rock	10	1.33	3	1.7	3	0.44	311	52
Perch, Pile	11	1.15	2	1.1	2	0.58	327	14
Greenling, Kelp	12	1.10	9	5.1	8	0.12	195	42
Surfperch, Silver	13	0.82	7	4.0	7	0.12	194	20
Jacksmelt	14	0.28	1	0.6	1	0.28	331	0
Sculpin, Buffalo	15	0.25	1	0.6	1	0.25	292	0
Sculpin, Pacific Staghorn	16	0.05	2	1.1	2	0.02	129	3
Prickleback, Monkeyface	17	0.00	1	0.6	1	0.00	583	0
Total		108.30	175	100	174			

## C. CPUE\*\*\*

Catch per Angler Day = 0.98      Catch per Angler Hour = 0.43  
 Kg per Angler Day = 0.61      Kg per Angler Hour = 0.27

\* 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 1980 for Quarter 1, by Bridge or Causeway 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	=	7.0
Total Hours Still to Fish (Incomplete Trips)	=	4.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Copper	1	2	%100.0
Total		2	100

C. CPUE

Catch per Angler Day	=	0.40	Catch per Angler Hour	=	0.29
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Table 8. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, by Bridge or Causeway 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	=	7.0
Total Hours Still to Fish (Incomplete Trips)	=	4.0

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 9. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, by Bridge or Causeway 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 = 7.0  
 Total Hours Still to Fish (Incomplete Trips) = 4.0

#### 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 10. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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	=	110
Total Hours Effort for Anglers Intercepted	=	249.3
Total Hours Still to Fish (Incomplete Trips)	=	8.1

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Redtail	1	100	34.0
Seaperch, Striped	2	41	13.9
Seaperch, White	3	41	13.9
Perch, Pile	4	31	10.5
Surfperch, Walleye	5	20	6.8
Perch, Shiner	6	18	6.1
Surfperches	7	12	4.1
Surfperch, Silver	8	11	3.7
Greenling, Kelp	9	4	1.4
Rockfish, Black	10	3	1.0
Sole, Sand	11	3	1.0
Smoothhound, Brown	12	2	0.7
Greenlings (unidentified)	13	2	0.7
Sculpins	14	2	0.7
Unidentified Fishes	15	1	0.3
Rockfishes (unidentified)	16	1	0.3
Rockfish, Copper	17	1	0.3
Flounders, Lefteye	18	1	0.3
Total		294	100

#### C. CPUE

Catch per Angler Day	=	2.67	Catch per Angler Hour	=	1.18
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Table 11. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 110  
 Total Hours Effort for Anglers Intercepted = 249.3  
 Total Hours Still to Fish (Incomplete Trips) = 8.1

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Redtail	1	83	37.6	0.37	30.38
Seaperch, White	2	40	18.1	0.23	9.01
Seaperch, Striped	3	38	17.2	0.40	15.22
Perch, Pile	4	27	12.2	0.67	18.10
Surfperch, Walleye	5	14	6.3	0.24	3.36
Surfperch, Silver	6	8	3.6	0.13	1.02
Greenling, Kelp	7	3	1.4	0.36	1.09
Surfperches	8	3	1.4	0.37**	1.11
Smoothhound, Brown	9	2	0.9	5.53	11.06
Rockfish, Black	10	2	0.9	0.97	1.94
Rockfish, Copper	11	1	0.5	0.40	0.40
Total		221	100		92.68

#### C. CPUE

Catch per Angler Day = 2.01      Catch per Angler Hour = 0.89  
 Kg per Angler Day = 0.84      Kg per Angler Hour = 0.37

\* 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 12. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 110  
 Total Hours Effort for Anglers Intercepted = 249.3  
 Total Hours Still to Fish (Incomplete Trips) = 8.1

## 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	28.18	77	37.4	69	0.37	272	39
Perch, Pile	2	18.10	27	13.1	27	0.67	342	24
Seaperch, Striped	3	14.42	36	17.5	36	0.40	286	39
Smoothhound, Brown	4	11.06	2	1.0	2	5.53	833	116
Seaperch, White	5	8.56	38	18.4	31	0.23	264	18
Surfperch, Walleye	6	3.36	14	6.8	14	0.24	236	16
Rockfish, Black	7	1.94	2	1.0	2	0.97	389	102
Surfperch, Silver	8	1.02	8	3.9	8	0.13	200	18
Rockfish, Copper	9	0.40	1	0.5	1	0.40	279	0
Greenling, Kelp	10	0.36	1	0.5	1	0.36	295	0
Total		87.40	206	100	191			

## C. CPUE\*\*\*

Catch per Angler Day = 1.87      Catch per Angler Hour = 0.83  
 Kg per Angler Day = 0.79      Kg per Angler Hour = 0.35

\* 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 1980 for Quarter 1, 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	=	12
Total Hours Effort for Anglers Intercepted	=	38.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Silver	1	25	28.1
Rockfish, Black	2	22	24.7
Seaperch, White	3	17	19.1
Lingcod	4	9	10.1
Perch, Pile	5	5	5.6
Surfperch, Redtail	6	5	5.6
Seaperch, Striped	7	3	3.4
Smoothhound, Brown	8	1	1.1
Greenling, Kelp	9	1	1.1
Sculpin, Buffalo	10	1	1.1
Total		89	100

C. CPUE

Catch per Angler Day	=	7.42	Catch per Angler Hour	=	2.31
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Table 14. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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	=	12
Total Hours Effort for Anglers Intercepted	=	38.5
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, Silver	1	25	28.4	0.34	8.45
Rockfish, Black	2	22	25.0	1.04	22.95
Seaperch, White	3	16	18.2	0.27	4.36
Lingcod	4	9	10.2	3.04	27.32
Perch, Pile	5	5	5.7	0.56	2.79
Surfperch, Redtail	6	5	5.7	0.35	1.75
Seaperch, Striped	7	3	3.4	0.39	1.16
Smoothhound, Brown	8	1	1.1	5.20	5.20
Greenling, Kelp	9	1	1.1	0.00**	0.00
Sculpin, Buffalo	10	1	1.1	0.40	0.40
Total		88	100		74.36

#### C. CPUE

Catch per Angler Day	=	7.33	Catch per Angler Hour	=	2.29
Kg per Angler Day	=	6.20	Kg per Angler Hour	=	1.93

\* 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 15. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1980 for Quarter 1, 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 = 12  
 Total Hours Effort for Anglers Intercepted = 38.5  
 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	27.32	9	11.5	9	3.04	642	96
Rockfish, Black	2	22.95	22	28.2	18	1.04	405	54
Surfperch, Silver	3	8.45	25	32.1	10	0.34	271	20
Smoothhound, Brown	4	5.20	1	1.3	1	5.20	823	0
Seaperch, White	5	3.00	11	14.1	11	0.27	281	25
Perch, Pile	6	2.23	4	5.1	4	0.56	323	23
Seaperch, Striped	7	1.16	3	3.8	3	0.39	283	41
Surfperch, Redtail	8	0.70	2	2.6	2	0.35	271	47
Sculpin, Buffalo	9	0.40	1	1.3	1	0.40	344	0
Total		71.39	78	100	59			

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

Catch per Angler Day = 6.50      Catch per Angler Hour = 2.03  
 Kg per Angler Day = 5.95      Kg per Angler Hour = 1.85

\* 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 White Seaperch  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 1, Quarter 1, 1980.

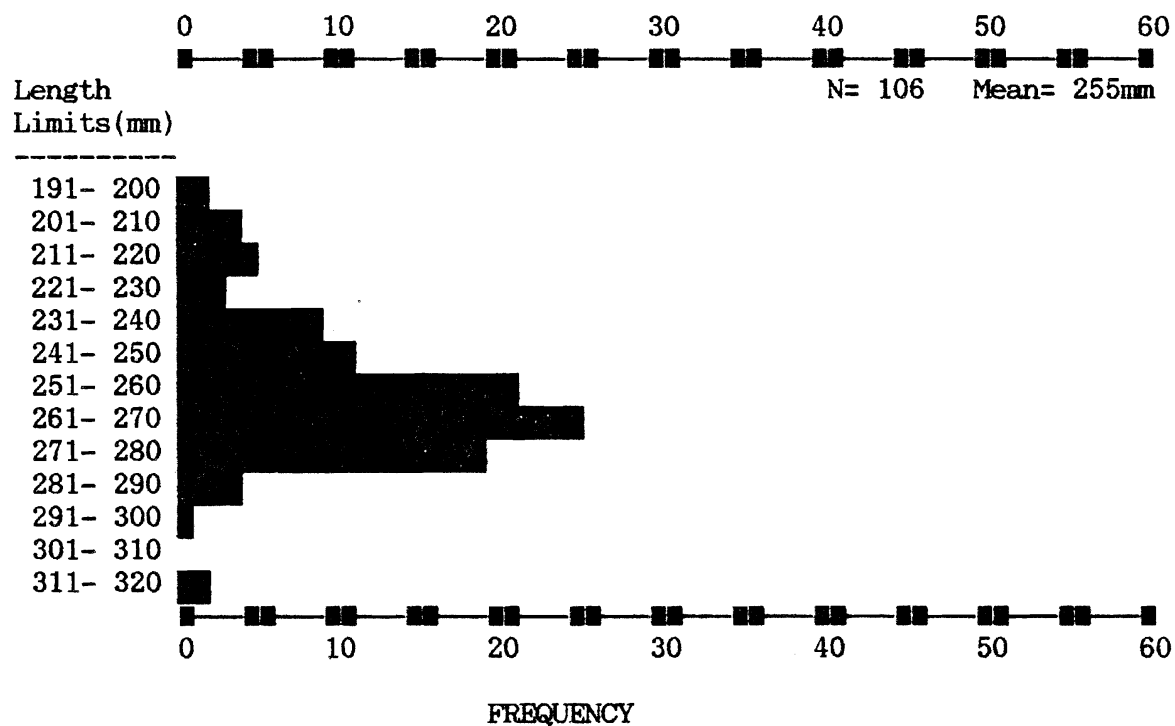


Figure 3. Length-Frequency Histogram for Striped Seaperch  
 Taken by Jetty or Breakwater Anglers Using Hook-and-Line Gear.  
 Area 1, Quarter 1, 1980.

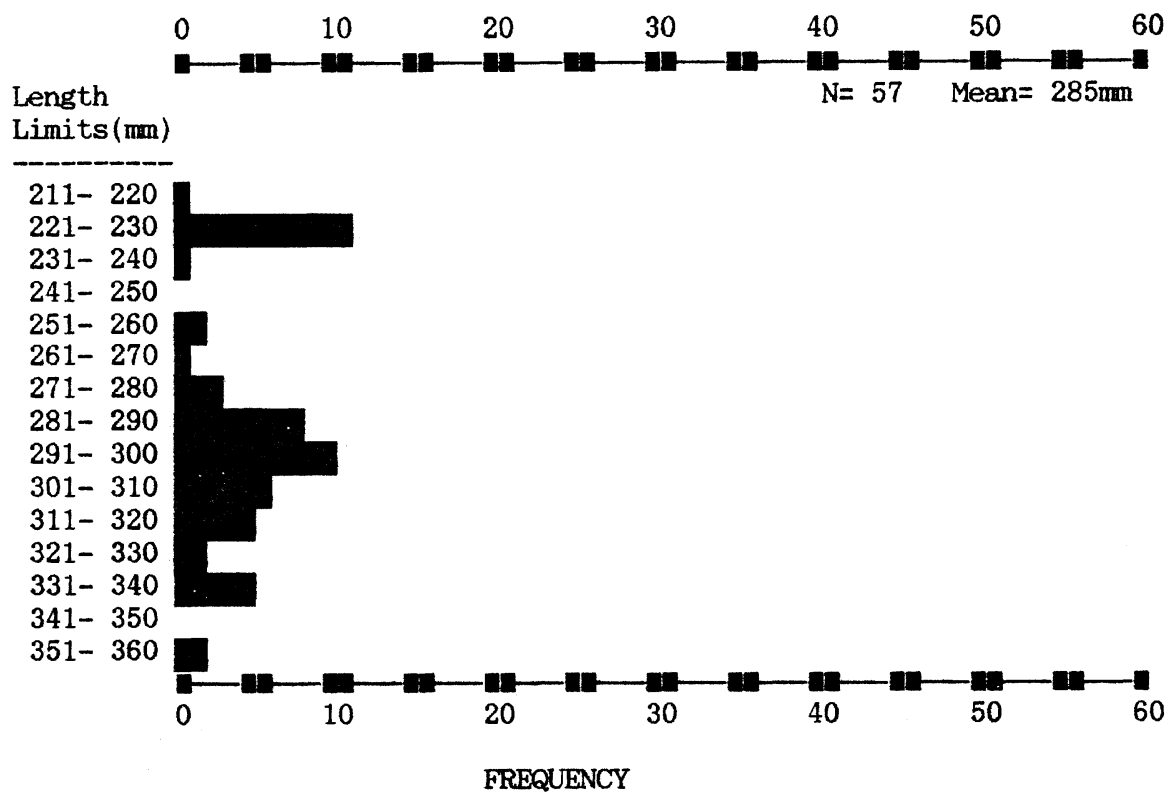




Figure 4. Length-Frequency Histogram for White Seaperch  
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
 Area 1, Quarter 1, 1980.

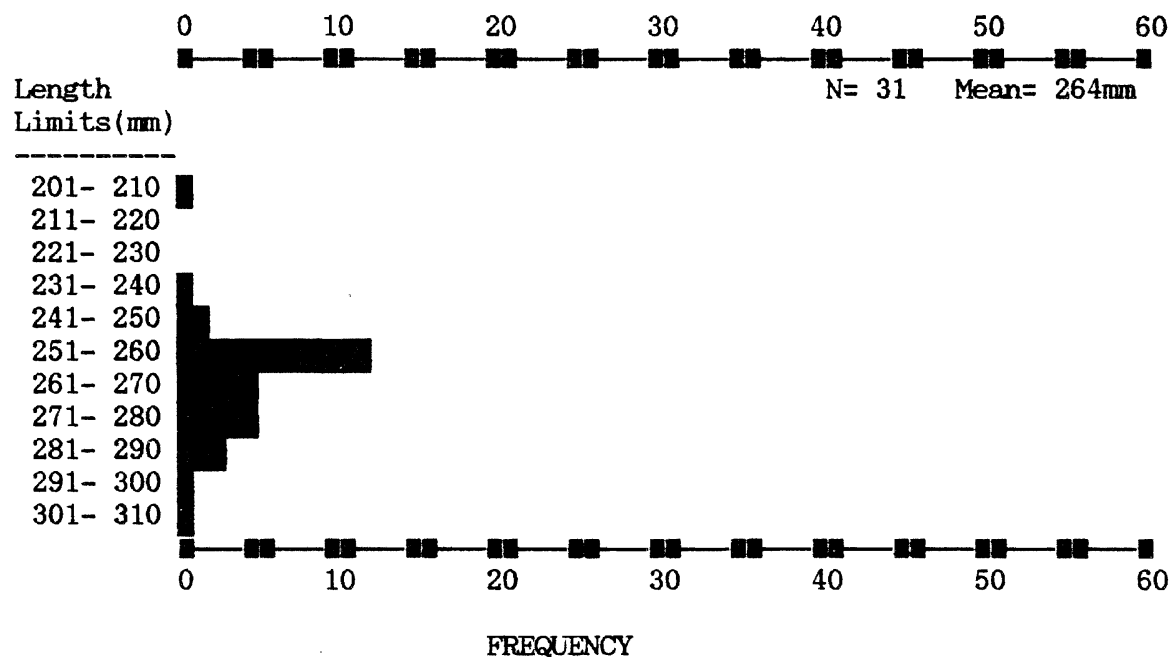


Figure 5. Length-Frequency Histogram for Redtail Surfperch  
Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
Area 1, Quarter 1, 1980.

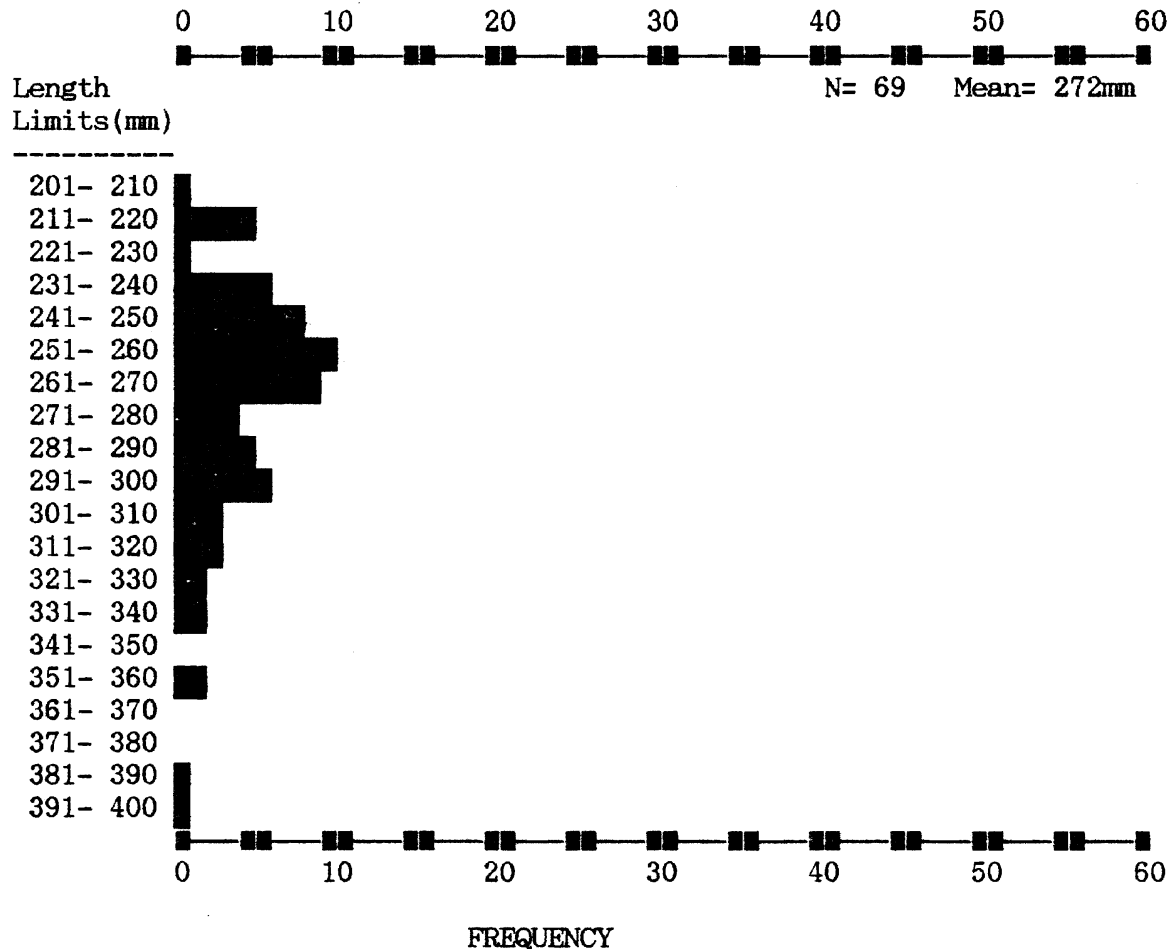


Table 16. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	34
Total Hours Effort for Anglers Intercepted	=	68.1
Total Hours Still to Fish (Incomplete Trips)	=	21.4

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Herring, Pacific	1	73	94.8
Unidentified Fishes	2	1	1.3
Cabazon	3	1	1.3
Seaperch, Striped	4	1	1.3
Flounder, Starry	5	1	1.3
Total		77	100

C. CPUE

Catch per Angler Day	=	2.26	Catch per Angler Hour	=	1.13
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Table 17. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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	=	34
Total Hours Effort for Anglers Intercepted	=	68.1
Total Hours Still to Fish (Incomplete Trips)	=	21.4

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Herring, Pacific	1	73	94.8	0.17	12.21
Unidentified Fishes	2	1	1.3	0.00**	0.00
Cabazon	3	1	1.3	3.04	3.04
Seaperch, Striped	4	1	1.3	0.22	0.22
Flounder, Starry	5	1	1.3	1.72	1.72
Total		77	100		17.19

#### C. CPUE

Catch per Angler Day	=	2.26	Catch per Angler Hour	=	1.13
Kg per Angler Day	=	0.51	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 18. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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 = 34  
 Total Hours Effort for Anglers Intercepted = 68.1  
 Total Hours Still to Fish (Incomplete Trips) = 21.4

#### 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	12.21	73	96.1	33	0.17	247	14
Cabazon	2	3.04	1	1.3	1	3.04	590	0
Flounder, Starry	3	1.72	1	1.3	1	1.72	503	0
Seaperch, Striped	4	0.22	1	1.3	1	0.22	238	0
Total		17.19	76	100	36			

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

Catch per Angler Day = 2.24      Catch per Angler Hour = 1.12  
 Kg per Angler Day = 0.51      Kg per Angler Hour = 0.25

\* 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 1980 for Quarter 1, 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	=	115
Total Hours Effort for Anglers Intercepted	=	283.9
Total Hours Still to Fish (Incomplete Trips)	=	43.4

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	27	30.7
Surfperch, Redtail	2	10	11.4
Flounders, Lefteye	3	10	11.4
Rockfishes (unidentified)	4	8	9.1
Greenling, Kelp	5	7	8.0
Sculpin, Buffalo	6	6	6.8
Sole, Sand	7	5	5.7
Greenlings (unidentified)	8	3	3.4
Sculpins	9	3	3.4
Surfperches	10	2	2.3
Topsmelt	11	1	1.1
Sculpin, Pacific Staghorn	12	1	1.1
Cabazon	13	1	1.1
Perch, Black	14	1	1.1
Seaperch, White	15	1	1.1
Surfperch, Calico	16	1	1.1
Flatfishes	17	1	1.1
Total		88	100

## C. CPUE

Catch per Angler Day	=	0.77	Catch per Angler Hour	=	0.31
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Table 20. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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 = 115  
 Total Hours Effort for Anglers Intercepted = 283.9  
 Total Hours Still to Fish (Incomplete Trips) = 43.4

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	18	40.0	0.27	4.90
Surfperch, Redtail	2	9	20.0	0.47	4.27
Greenling, Kelp	3	6	13.3	0.17	1.04
Sole, Sand	4	5	11.1	0.24	1.19
Topsmelt	5	1	2.2	0.00**	0.00
Rockfishes (unidentified)	6	1	2.2	0.00**	0.00
Sculpin, Buffalo	7	1	2.2	0.21	0.21
Cabazon	8	1	2.2	0.13	0.13
Perch, Black	9	1	2.2	0.27	0.27
Seaperch, White	10	1	2.2	0.29	0.29
Surfperch, Calico	11	1	2.2	0.58	0.58
Total		45	100		12.88

#### C. CPUE

Catch per Angler Day = 0.39      Catch per Angler Hour = 0.16  
 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 21. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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 = 115  
 Total Hours Effort for Anglers Intercepted = 283.9  
 Total Hours Still to Fish (Incomplete Trips) = 43.4

## 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	4.90	18	43.9	18	0.27	252	32
Surfperch, Redtail	2	4.27	9	22.0	9	0.47	298	35
Greenling, Kelp	3	1.04	6	14.6	6	0.17	212	68
Surfperch, Calico	4	0.58	1	2.4	1	0.58	321	0
Sole, Sand	5	0.48	2	4.9	2	0.24	253	88
Seaperch, White	6	0.29	1	2.4	1	0.29	288	0
Perch, Black	7	0.27	1	2.4	1	0.27	246	0
Sculpin, Buffalo	8	0.21	1	2.4	1	0.21	275	0
Cabazon	9	0.13	1	2.4	1	0.13	185	0
Topsmelt	10	0.00	1	2.4	0	0.00	0	0
Total		12.16	41	100	40			

## C. CPUE\*\*\*

Catch per Angler Day = 0.36      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.

\*\* 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 1980 for Quarter 1, 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	=	206
Total Hours Effort for Anglers Intercepted	=	553.7
Total Hours Still to Fish (Incomplete Trips)	=	125.6

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	95	39.9
Greenling, Kelp	2	51	21.4
Greenling, Rock	3	24	10.1
Cabazon	4	14	5.9
Sculpin, Buffalo	5	8	3.4
Surfperch, Redtail	6	8	3.4
Rockfish, Black	7	7	2.9
Greenlings (unidentified)	8	7	2.9
Rockfish, Grass	9	5	2.1
Surfperch, Silver	10	5	2.1
Unidentified Fishes	11	3	1.3
Rockfish, Blue	12	3	1.3
Surfperches	13	3	1.3
Flounder, Starry	14	2	0.8
Rockfish, Yellowtail	15	1	0.4
Surfperch, Walleye	16	1	0.4
Seaperch, Rainbow	17	1	0.4
Total		238	100

#### C. CPUE

Catch per Angler Day	=	1.16	Catch per Angler Hour	=	0.43
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Table 23. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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 = 206  
 Total Hours Effort for Anglers Intercepted = 553.7  
 Total Hours Still to Fish (Incomplete Trips) = 125.6

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	93	43.5	0.43	40.12
Greenling, Kelp	2	48	22.4	0.43	20.60
Greenling, Rock	3	24	11.2	0.35	8.48
Cabazon	4	14	6.5	1.05	14.65
Sculpin, Buffalo	5	8	3.7	0.19	1.50
Surfperch, Redtail	6	8	3.7	0.57	4.56
Rockfish, Grass	7	5	2.3	1.42	7.09
Surfperch, Silver	8	5	2.3	0.16	0.79
Rockfish, Blue	9	3	1.4	0.14	0.41
Flounder, Starry	10	2	0.9	1.82	3.63
Rockfish, Yellowtail	11	1	0.5	0.61	0.61
Rockfish, Black	12	1	0.5	0.00**	0.00
Surfperch, Walleye	13	1	0.5	0.21	0.21
Seaperch, Rainbow	14	1	0.5	0.17	0.17
Total		214	100		102.82

#### C. CPUE

Catch per Angler Day = 1.04      Catch per Angler Hour = 0.39  
 Kg per Angler Day = 0.50      Kg per Angler Hour = 0.19

\* 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 1980 for Quarter 1, 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 = 206  
 Total Hours Effort for Anglers Intercepted = 553.7  
 Total Hours Still to Fish (Incomplete Trips) = 125.6

#### 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	39.69	92	44.2	90	0.43	294	36
Greenling, Kelp	2	20.17	47	22.6	47	0.43	299	69
Cabazon	3	14.65	14	6.7	14	1.05	384	86
Greenling, Rock	4	8.48	24	11.5	24	0.35	283	52
Rockfish, Grass	5	7.09	5	2.4	5	1.42	390	34
Flounder, Starry	6	3.63	2	1.0	2	1.82	462	209
Surfperch, Redtail	7	2.85	5	2.4	5	0.57	316	40
Sculpin, Buffalo	8	1.50	8	3.8	8	0.19	251	67
Surfperch, Silver	9	0.79	5	2.4	5	0.16	213	23
Rockfish, Yellowtail	10	0.61	1	0.5	1	0.61	350	0
Rockfish, Blue	11	0.41	3	1.4	3	0.14	189	77
Surfperch, Walleye	12	0.21	1	0.5	1	0.21	230	0
Seaperch, Rainbow	13	0.17	1	0.5	1	0.17	220	0
Total		100.25	208	100	206			

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

Catch per Angler Day = 1.01      Catch per Angler Hour = 0.38  
 Kg per Angler Day = 0.49      Kg per Angler Hour = 0.18

\* 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 1980 for Quarter 1, by Beach or Bank Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	18
Total Hours Effort for Anglers Intercepted	=	21.2
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Lingcod	1	4	%100.0
Total		4	100

C. CPUE

Catch per Angler Day	=	0.22	Catch per Angler Hour	=	0.19
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Table 26. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, 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 = 18  
 Total Hours Effort for Anglers Intercepted = 21.2  
 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
Lingcod	1	4	%100.0	1.93	7.70
Total		4	100		7.70

C. CPUE

Catch per Angler Day = 0.22      Catch per Angler Hour = 0.19  
 Kg per Angler Day = 0.43      Kg per Angler Hour = 0.36

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

Table 27. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1980 for Quarter 1, by Beach or Bank Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

#### A. Sampled Effort

Number Anglers Intercepted = 18  
 Total Hours Effort for Anglers Intercepted = 21.2  
 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.	Wt.* (kg)	Ln.** (mm)	SD LN.
Lingcod	1	7.70	4	%100.0	4	1.93	551	93
Total		7.70	4	100	4			

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

Catch per Angler Day = 0.22      Catch per Angler Hour = 0.19  
 Kg per Angler Day = 0.43      Kg per Angler Hour = 0.36

\* 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 6. Length-Frequency Histogram for Pacific Herring  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 2, Quarter 1, 1980.

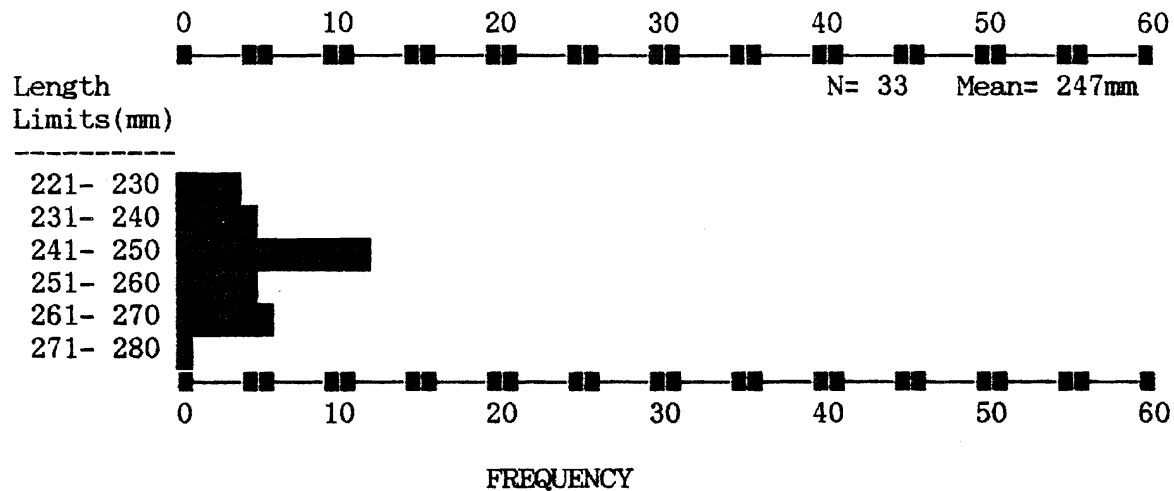


Figure 7. Length-Frequency Histogram for Striped Seaperch  
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
 Area 2, Quarter 1, 1980.

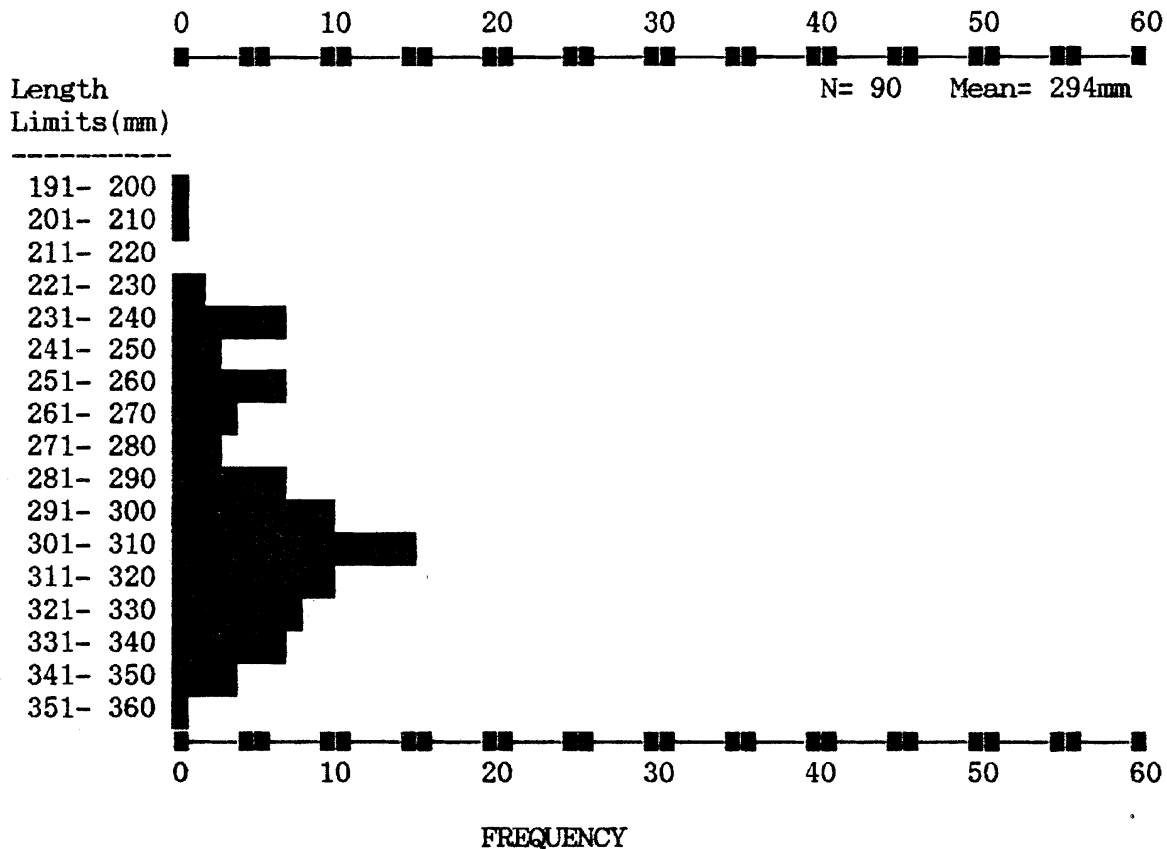




Table 28. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1980 for Quarter 1, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	22
Total Hours Effort for Anglers Intercepted	=	91.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	31	31.6
Herring, Pacific	2	30	30.6
Lingcod	3	20	20.4
Cabazon	4	6	6.1
Greenling, Kelp	5	4	4.1
Rockfish, Canary	6	3	3.1
Rockfish, Black	7	2	2.0
Rockfishes (unidentified)	8	1	1.0
Rockfish, Grass	9	1	1.0
Total		98	100

C. CPUE

Catch per Angler Day	=	4.45	Catch per Angler Hour	=	1.08
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Table 29. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1980 for Quarter 1, 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	=	91.0
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	31	31.6	0.58	17.85
Herring, Pacific	2	30	30.6	0.16	4.78
Lingcod	3	20	20.4	3.69	73.84
Cabezon	4	6	6.1	2.84	17.02
Greenling, Kelp	5	4	4.1	0.00**	0.00
Rockfish, Canary	6	3	3.1	0.54	1.61
Rockfish, Black	7	2	2.0	1.10	2.20
Rockfishes (unidentified)	8	1	1.0	0.63**	0.63
Rockfish, Grass	9	1	1.0	1.49	1.49
Total		98	100		119.42

#### C. CPUE

Catch per Angler Day	=	4.45	Catch per Angler Hour	=	1.08
Kg per Angler Day	=	5.43	Kg per Angler Hour	=	1.31

\* 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 30. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1980 for Quarter 1, 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 = 91.0  
 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)	
Lingcod	1	55.38	15	17.9	13	3.69	689	83
Rockfish, Blue	2	17.85	31	36.9	11	0.58	331	42
Cabezon	3	5.67	2	2.4	2	2.84	573	52
Herring, Pacific	4	4.78	30	35.7	10	0.16	244	12
Rockfish, Black	5	2.20	2	2.4	2	1.10	419	11
Rockfish, Canary	6	1.61	3	3.6	3	0.54	333	11
Rockfish, Grass	7	1.49	1	1.2	1	1.49	399	0
Total		88.98	84	100	42			

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

Catch per Angler Day = 3.82      Catch per Angler Hour = 0.92  
 Kg per Angler Day = 4.04      Kg per Angler Hour = 0.98

\* 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).

Table 31. Sampled Effort, Ranked Catch and CPUE for Area 097  
in 1980 for Quarter 1, 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 = 41  
Total Hours Effort for Anglers Intercepted = 242.0  
Total Hours Still to Fish (Incomplete Trips) = 0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Canary	1	49	19.5
Rockfish, Yellowtail	2	29	11.6
Lingcod	3	26	10.4
Bocaccio	4	23	9.2
Rockfish, Rosy	5	23	9.2
Rockfish, Black	6	22	8.8
Rockfish, Blue	7	17	6.8
Rockfish, Greenspotted	8	11	4.4
Rockfishes (unidentified)	9	10	4.0
Rockfish, Yelloweye	10	7	2.8
Rockfish, Copper	11	6	2.4
Rockfish, Starry	12	5	2.0
Rockfish, Olive	13	5	2.0
Rockfish, China	14	4	1.6
Greenling, Kelp	15	3	1.2
Rockfish, Brown	16	2	0.8
Rockfish, Widow	17	2	0.8
Sharks	18	1	0.4
Shark, Leopard	19	1	0.4
Rockfish, Speckled	20	1	0.4
Rockfish, Grass	21	1	0.4
Sanddab, Pacific	22	1	0.4
Sanddab, Speckled	23	1	0.4
Halibut, California	24	1	0.4
Total		251	100

## C. CPUE

Catch per Angler Day = 6.12      Catch per Angler Hour = 1.04

Table 32. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1980 for Quarter 1, 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 = 41  
 Total Hours Effort for Anglers Intercepted = 242.0  
 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, Canary	1	49	20.8	1.93	94.58
Rockfish, Yellowtail	2	29	12.3	1.28	37.16
Bocaccio	3	23	9.7	3.06	70.34
Rockfish, Rosy	4	23	9.7	0.22	4.98
Lingcod	5	23	9.7	3.60	82.82
Rockfish, Black	6	22	9.3	0.91	20.01
Rockfish, Blue	7	17	7.2	0.65	11.01
Rockfish, Greenspotted	8	11	4.7	0.77	8.44
Rockfish, Yelloweye	9	7	3.0	3.10	21.67
Rockfish, Copper	10	6	2.5	1.86	11.19
Rockfish, Starry	11	5	2.1	0.62	3.08
Rockfish, Olive	12	5	2.1	0.97	4.87
Rockfish, China	13	4	1.7	0.71	2.82
Greenling, Kelp	14	3	1.3	0.60	1.80
Rockfish, Brown	15	2	0.8	0.55	1.10
Rockfish, Widow	16	2	0.8	0.89	1.78
Rockfish, Speckled	17	1	0.4	1.54	1.54
Rockfish, Grass	18	1	0.4	1.45	1.45
Sanddab, Pacific	19	1	0.4	0.21	0.21
Sanddab, Speckled	20	1	0.4	0.03	0.03
Halibut, California	21	1	0.4	0.17	0.17
Total		236	100		381.03

## C. CPUE

Catch per Angler Day = 5.76      Catch per Angler Hour = 0.98  
 Kg per Angler Day = 9.29      Kg per Angler Hour = 1.57

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

Table 33. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1980 for Quarter 1, 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 = 41  
 Total Hours Effort for Anglers Intercepted = 242.0  
 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, Canary	1	94.58	49	20.9	49	1.93	500	60
Lingcod	2	82.82	23	9.8	23	3.60	660	148
Bocaccio	3	70.34	23	9.8	23	3.06	607	189
Rockfish, Yellowtail	4	37.16	29	12.3	29	1.28	442	42
Rockfish, Yelloweye	5	21.67	7	3.0	7	3.10	545	52
Rockfish, Black	6	20.01	22	9.4	22	0.91	384	60
Rockfish, Copper	7	11.19	6	2.6	6	1.86	461	56
Rockfish, Blue	8	11.01	17	7.2	17	0.65	346	34
Rockfish, Greenspotted	9	8.44	11	4.7	11	0.77	363	24
Rockfish, Rosy	10	4.98	23	9.8	23	0.22	233	32
Rockfish, Olive	11	3.90	4	1.7	4	0.97	399	101
Rockfish, Starry	12	3.08	5	2.1	5	0.62	332	26
Rockfish, China	13	2.82	4	1.7	4	0.71	334	32
Greenling, Kelp	14	1.80	3	1.3	3	0.60	346	51
Rockfish, Widow	15	1.78	2	0.9	2	0.89	375	148
Rockfish, Speckled	16	1.54	1	0.4	1	1.54	467	0
Rockfish, Grass	17	1.45	1	0.4	1	1.45	395	0
Rockfish, Brown	18	1.10	2	0.9	2	0.55	313	29
Sanddab, Pacific	19	0.21	1	0.4	1	0.21	263	0
Halibut, California	20	0.17	1	0.4	1	0.17	256	0
Sanddab, Speckled	21	0.03	1	0.4	1	0.03	143	0
Total		380.06	235	100	235			

## C. CPUE\*\*\*

Catch per Angler Day = 5.73      Catch per Angler Hour = 0.97  
 Kg per Angler Day = 9.27      Kg per Angler Hour = 1.57

\* 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 097 in 1980 for Quarter 1, by All CPFV 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	=	66.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Yellowtail	1	38	21.6
Rockfish, Canary	2	30	17.0
Rockfish, Rosy	3	25	14.2
Bocaccio	4	21	11.9
Rockfish, Greenspotted	5	16	9.1
Rockfish, Blue	6	10	5.7
Rockfishes (unidentified)	7	9	5.1
Rockfish, Widow	8	9	5.1
Rockfish, Starry	9	6	3.4
Rockfish, Speckled	10	4	2.3
Lingcod	11	3	1.7
Rockfish, Olive	12	2	1.1
Sanddab, Pacific	13	2	1.1
Rockfish, Yelloweye	14	1	0.6
Total		176	100

#### C. CPUE

Catch per Angler Day	=	8.00	Catch per Angler Hour	=	2.65
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Table 35. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1980 for Quarter 1, 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 = 22  
 Total Hours Effort for Anglers Intercepted = 66.5  
 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, Yellowtail	1	38	21.7	1.22	46.37
Rockfish, Canary	2	29	16.6	2.09	60.47
Rockfish, Rosy	3	25	14.3	0.32	8.07
Bocaccio	4	21	12.0	3.70	77.60
Rockfish, Greenspotted	5	16	9.1	1.01	16.09
Rockfish, Blue	6	10	5.7	0.85	8.47
Rockfishes (unidentified)	7	9	5.1	1.45**	13.05
Rockfish, Widow	8	9	5.1	0.36	3.26
Rockfish, Starry	9	6	3.4	0.75	4.50
Rockfish, Speckled	10	4	2.3	1.19	4.74
Lingcod	11	3	1.7	6.90	20.70
Rockfish, Olive	12	2	1.1	1.64	3.28
Sanddab, Pacific	13	2	1.1	0.26	0.52
Rockfish, Yelloweye	14	1	0.6	1.30	1.30
Total		175	100		268.41

#### C. CPUE

Catch per Angler Day = 7.95      Catch per Angler Hour = 2.63  
 Kg per Angler Day = 12.20      Kg per Angler Hour = 4.04

\* 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 36. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1980 for Quarter 1, by All CPFV 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 = 66.5  
 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)	
Bocaccio	1	73.91	20	15.5	20	3.70	687	96
Rockfish, Canary	2	52.13	25	19.4	25	2.09	514	53
Rockfish, Yellowtail	3	39.05	32	24.8	32	1.22	435	39
Lingcod	4	20.70	3	2.3	3	6.90	823	226
Rockfish, Greenspotted	5	15.09	15	11.6	15	1.01	396	38
Rockfish, Blue	6	6.77	8	6.2	8	0.85	376	51
Rockfish, Speckled	7	4.74	4	3.1	4	1.19	429	32
Rockfish, Starry	8	4.50	6	4.7	5	0.75	353	29
Rockfish, Olive	9	3.28	2	1.6	2	1.64	495	1
Rockfish, Widow	10	2.18	6	4.7	5	0.36	306	21
Rockfish, Rosy	11	1.61	5	3.9	5	0.32	270	16
Rockfish, Yelloweye	12	1.30	1	0.8	1	1.30	413	0
Sanddab, Pacific	13	0.52	2	1.6	2	0.26	276	51
Total		225.76	129	100	127			

## C. CPUE\*\*\*

Catch per Angler Day = 5.86      Catch per Angler Hour = 1.94  
 Kg per Angler Day = 10.26      Kg per Angler Hour = 3.39

\* 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 Canary Rockfish  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 097, Quarter 1, 1980.

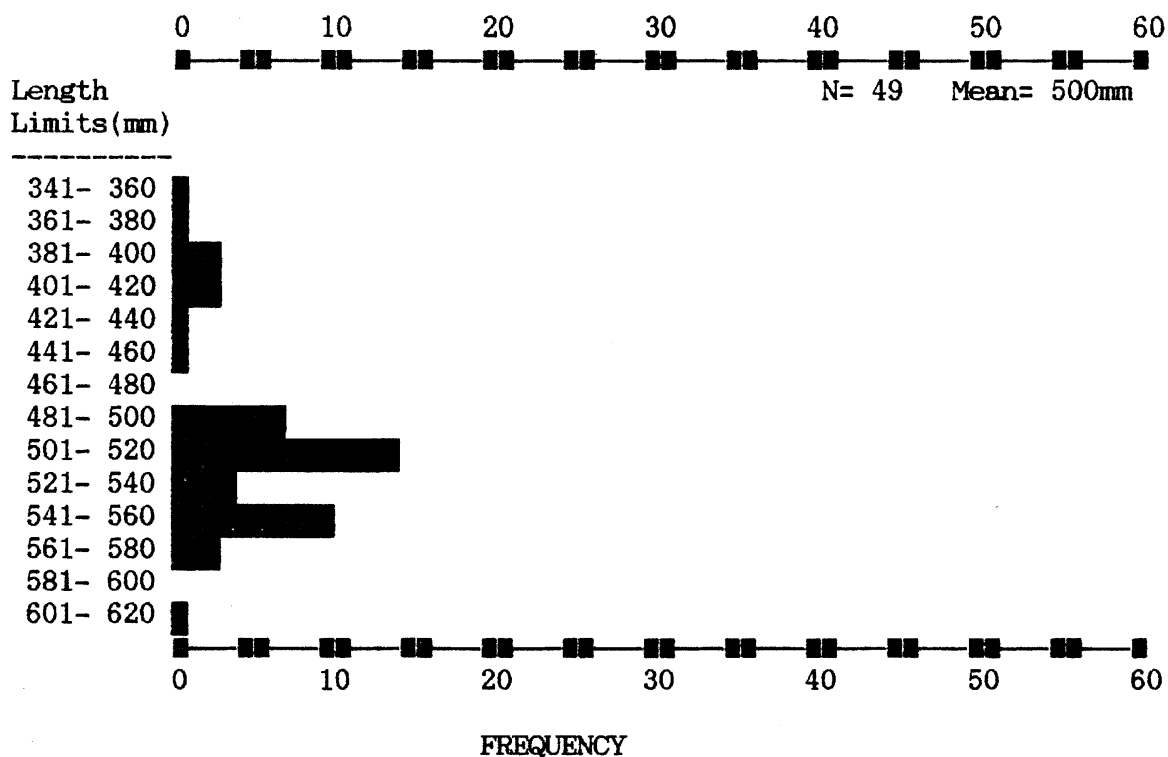


Table 37. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

#### A. Sampled Effort

Number Anglers Intercepted	=	37
Total Hours Effort for Anglers Intercepted	=	134.0
Total Hours Still to Fish (Incomplete Trips)	=	17.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	61	22.8
Jacksmelt	2	56	21.0
Surfperches	3	53	19.9
Surfperch, Silver	4	21	7.9
Surfperch, Barred	5	20	7.5
Croaker, White	6	11	4.1
Cabazon	7	8	3.0
Surfperch, Walleye	8	6	2.2
Tomcod, Pacific	9	5	1.9
Surfperch, Calico	10	5	1.9
Sandabs	11	4	1.5
Shark, Leopard	12	3	1.1
Surfperch, Redtail	13	3	1.1
Smoothhound, Brown	14	2	0.7
Herring, Pacific	15	2	0.7
Flounders, Lefteye	16	2	0.7
Greenlings (unidentified)	17	1	0.4
Lingcod	18	1	0.4
Seaperch, Striped	19	1	0.4
Flatfishes	20	1	0.4
Flounders, Righteye	21	1	0.4
Total		267	100

#### C. CPUE

Catch per Angler Day	=	7.22	Catch per Angler Hour	=	1.99
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Table 38. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 37  
 Total Hours Effort for Anglers Intercepted = 134.0  
 Total Hours Still to Fish (Incomplete Trips) = 17.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	56	33.7	0.33	18.63
Sculpin, Pacific Staghorn	2	22	13.3	0.07	1.51
Surfperch, Silver	3	21	12.7	0.13	2.64
Surfperch, Barred	4	20	12.0	0.48	9.65
Croaker, White	5	11	6.6	0.24	2.66
Surfperch, Walleye	6	6	3.6	0.32	1.91
Tomcod, Pacific	7	5	3.0	0.09	0.43
Surfperch, Calico	8	5	3.0	0.23	1.15
Cabazon	9	3	1.8	0.09	0.28
Surfperches	10	3	1.8	0.30**	0.90
Surfperch, Redtail	11	3	1.8	0.35	1.04
Smoothhound, Brown	12	2	1.2	1.77	3.53
Shark, Leopard	13	2	1.2	0.00**	0.00
Herring, Pacific	14	2	1.2	0.00**	0.00
Flounders, Lefteye	15	2	1.2	0.00**	0.00
Seaperch, Striped	16	1	0.6	0.50	0.50
Flatfishes	17	1	0.6	0.00**	0.00
Flounders, Righteye	18	1	0.6	0.00**	0.00
Total		166	100		44.82

#### C. CPUE

Catch per Angler Day = 4.49      Catch per Angler Hour = 1.24  
 Kg per Angler Day = 1.21      Kg per Angler Hour = 0.33

\* 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 39. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 37  
 Total Hours Effort for Anglers Intercepted = 134.0  
 Total Hours Still to Fish (Incomplete Trips) = 17.0

## 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	18.63	56	37.6	22	0.33	344	40
Surfperch, Barred	2	9.65	20	13.4	20	0.48	277	70
Smoothhound, Brown	3	3.53	2	1.3	2	1.77	565	27
Surfperch, Silver	4	2.64	21	14.1	20	0.13	196	28
Croaker, White	5	2.42	10	6.7	10	0.24	273	38
Surfperch, Walleye	6	1.91	6	4.0	6	0.32	251	35
Sculpin, Pacific Staghorn	7	1.17	17	11.4	11	0.07	182	33
Surfperch, Calico	8	1.15	5	3.4	5	0.23	239	24
Surfperch, Redtail	9	1.04	3	2.0	3	0.35	266	55
Seaperch, Striped	10	0.50	1	0.7	1	0.50	312	0
Tomcod, Pacific	11	0.43	5	3.4	5	0.09	221	21
Cabezon	12	0.28	3	2.0	3	0.09	163	20
Total		43.34	149	100	108			

## C. CPUE\*\*\*

Catch per Angler Day = 4.03      Catch per Angler Hour = 1.11  
 Kg per Angler Day = 1.17      Kg per Angler Hour = 0.32

\* 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 3 (Ocean) in 1980 for Quarter 1, 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	=	46
Total Hours Effort for Anglers Intercepted	=	191.5
Total Hours Still to Fish (Incomplete Trips)	=	2.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	71	60.2
Rockfish, Brown	2	11	9.3
Tomcod, Pacific	3	9	7.6
Perch, Black	4	4	3.4
Cabazon	5	3	2.5
Sanddab, Speckled	6	3	2.5
Salmon	7	2	1.7
Rockfish, Grass	8	2	1.7
Greenling, Kelp	9	2	1.7
Unidentified Fishes	10	2	1.7
Flounder, Starry	11	2	1.7
Smoothhound, Brown	12	1	0.8
Skate, Big	13	1	0.8
Rockfishes (unidentified)	14	1	0.8
Greenling, Rock	15	1	0.8
Surfperches	16	1	0.8
Seaperch, Striped	17	1	0.8
Surfperch, Barred	18	1	0.8
Total		118	100

#### C. CPUE

Catch per Angler Day = 2.57      Catch per Angler Hour = 0.62

Table 41. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 46  
 Total Hours Effort for Anglers Intercepted = 191.5  
 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
Croaker, White	1	59	59.0	0.24	14.42
Rockfish, Brown	2	11	11.0	0.16	1.77
Tomcod, Pacific	3	9	9.0	0.08	0.71
Perch, Black	4	4	4.0	0.47	1.88
Cabazon	5	3	3.0	0.35	1.04
Sanddab, Speckled	6	3	3.0	0.00**	0.00
Rockfish, Grass	7	2	2.0	0.30	0.61
Greenling, Kelp	8	2	2.0	0.37	0.73
Flounder, Starry	9	2	2.0	0.29	0.57
Smoothhound, Brown	10	1	1.0	0.00**	0.00
Skate, Big	11	1	1.0	1.54	1.54
Greenling, Rock	12	1	1.0	0.21	0.21
Seaperch, Striped	13	1	1.0	0.61	0.61
Surfperch, Barred	14	1	1.0	0.22	0.22
Total		100	100		24.30

#### C. CPUE

Catch per Angler Day = 2.17      Catch per Angler Hour = 0.52  
 Kg per Angler Day = 0.53      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 42. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 46  
 Total Hours Effort for Anglers Intercepted = 191.5  
 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)	
Croaker, White	1	14.42	59	60.2	40	0.24	275	31
Perch, Black	2	1.88	4	4.1	4	0.47	303	46
Rockfish, Brown	3	1.77	11	11.2	11	0.16	201	38
Skate, Big	4	1.54	1	1.0	1	1.54	540	0
Greenling, Kelp	5	0.73	2	2.0	2	0.37	294	37
Tomcod, Pacific	6	0.71	9	9.2	9	0.08	213	30
Cabazon	7	0.70	2	2.0	2	0.35	260	63
Seaperch, Striped	8	0.61	1	1.0	1	0.61	334	0
Rockfish, Grass	9	0.61	2	2.0	2	0.30	244	6
Flounder, Starry	10	0.57	2	2.0	2	0.29	294	12
Surfperch, Barred	11	0.22	1	1.0	1	0.22	229	0
Greenling, Rock	12	0.21	1	1.0	1	0.21	242	0
Sanddab, Speckled	13	0.00	3	3.1	0	0.00	0	0
Total		23.95	98	100	76			

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

Catch per Angler Day = 2.13      Catch per Angler Hour = 0.51  
 Kg per Angler Day = 0.52      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 43. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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	=	49
Total Hours Effort for Anglers Intercepted	=	181.5
Total Hours Still to Fish (Incomplete Trips)	=	26.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Silver	1	23	27.4
Surfperch, Redtail	2	15	17.9
Unidentified Fishes	3	7	8.3
Surfperches	4	7	8.3
Shark, Leopard	5	6	7.1
Cabezon	6	5	6.0
Greenling, Kelp	7	3	3.6
Seaperch, Striped	8	3	3.6
Surfperch, Walleye	9	3	3.6
Sculpins	10	2	2.4
Sculpin, Pacific Staghorn	11	2	2.4
Flounder, Starry	12	2	2.4
Smoothhound, Brown	13	1	1.2
Seaperch, White	14	1	1.2
Kelpfish, Striped	15	1	1.2
Sandabs	16	1	1.2
Flounders, Righteye	17	1	1.2
Sole, Sand	18	1	1.2
Total		84	100

#### C. CPUE

Catch per Angler Day	=	1.71	Catch per Angler Hour	=	0.46
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Table 44. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 49  
 Total Hours Effort for Anglers Intercepted = 181.5  
 Total Hours Still to Fish (Incomplete Trips) = 26.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Silver	1	23	41.8	0.19	4.26
Surfperch, Redtail	2	15	27.3	0.58	8.67
Shark, Leopard	3	3	5.5	1.76	5.29
Greenling, Kelp	4	3	5.5	0.33	0.99
Surfperch, Walleye	5	3	5.5	0.42	1.26
Cabazon	6	2	3.6	0.42	0.83
Seaperch, Striped	7	2	3.6	0.33	0.66
Flounder, Starry	8	2	3.6	0.27	0.54
Seaperch, White	9	1	1.8	0.00**	0.00
Kelpfish, Striped	10	1	1.8	0.00**	0.00
Total		55	100		22.50

#### C. CPUE

Catch per Angler Day = 1.12      Catch per Angler Hour = 0.30  
 Kg per Angler Day = 0.46      Kg per Angler Hour = 0.12

\* 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 1980 for Quarter 1, 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 = 49  
 Total Hours Effort for Anglers Intercepted = 181.5  
 Total Hours Still to Fish (Incomplete Trips) = 26.0

#### 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	6.36	11	22.0	11	0.58	316	42
Shark, Leopard	2	5.29	3	6.0	3	1.76	563	43
Surfperch, Silver	3	4.26	23	46.0	21	0.19	221	31
Surfperch, Walleye	4	1.26	3	6.0	3	0.42	273	30
Greenling, Kelp	5	0.99	3	6.0	3	0.33	263	99
Seaperch, Striped	6	0.66	2	4.0	2	0.33	271	37
Flounder, Starry	7	0.54	2	4.0	2	0.27	289	9
Cabazon	8	0.42	1	2.0	1	0.42	284	0
Seaperch, White	9	0.00	1	2.0	0	0.00	0	0
Kelpfish, Striped	10	0.00	1	2.0	1	0.00	193	0
Total		19.78	50	100	47			

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

Catch per Angler Day = 1.02      Catch per Angler Hour = 0.28  
 Kg per Angler Day = 0.40      Kg per Angler Hour = 0.11

\* 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 1980 for Quarter 1, 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	=	46
Total Hours Effort for Anglers Intercepted	=	219.3
Total Hours Still to Fish (Incomplete Trips)	=	0.0

## B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	64	36.6
Spiny Dogfish	2	20	11.4
Rockfish, Blue	3	14	8.0
Rockfish, Yellowtail	4	12	6.9
Rockfish, Brown	5	8	4.6
Salmon, Chinook (King)	6	6	3.4
Rockfish, Black	7	6	3.4
Rockfish, Canary	8	6	3.4
Rockfish, Greenspotted	9	6	3.4
Rockfish, Copper	10	5	2.9
Rockfish, Gopher	11	4	2.3
Lingcod	12	3	1.7
Sandabs	13	3	1.7
Unidentified Fishes	14	2	1.1
Sharks	15	2	1.1
Smoothhounds	16	2	1.1
Rockfish, Rosy	17	2	1.1
Greenling, Kelp	18	2	1.1
Flounder, Starry	19	2	1.1
Trouts	20	1	0.6
Salmon	21	1	0.6
Rockfishes (unidentified)	22	1	0.6
Rockfish, China	23	1	0.6
Greenling, Rock	24	1	0.6
Cabazon	25	1	0.6
Total		175	100

## C. CPUE

Catch per Angler Day = 3.80      Catch per Angler Hour = 0.80

Table 47. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 46  
 Total Hours Effort for Anglers Intercepted = 219.3  
 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
Croaker, White	1	59	38.3	0.31	18.05
Rockfish, Blue	2	14	9.1	0.22	3.10
Spiny Dogfish	3	13	8.4	1.44	18.73
Rockfish, Yellowtail	4	12	7.8	0.55	6.60
Rockfish, Brown	5	8	5.2	1.00	7.99
Salmon, Chinook (King)	6	6	3.9	2.87	17.22
Rockfish, Black	7	6	3.9	0.88	5.30
Rockfish, Canary	8	6	3.9	1.06	6.38
Rockfish, Greenspotted	9	6	3.9	0.46	2.74
Rockfish, Copper	10	5	3.2	1.23	6.13
Rockfish, Gopher	11	4	2.6	0.57	2.28
Lingcod	12	3	1.9	2.64	7.92
Sandabs	13	3	1.9	0.00**	0.00
Rockfish, Rosy	14	2	1.3	0.31	0.61
Greenling, Kelp	15	2	1.3	0.66	1.32
Flounder, Starry	16	2	1.3	0.37	0.73
Rockfish, China	17	1	0.6	1.10	1.10
Greenling, Rock	18	1	0.6	0.76	0.76
Cabezon	19	1	0.6	2.51	2.51
Total		154	100		109.48

#### C. CPUE

Catch per Angler Day = 3.35      Catch per Angler Hour = 0.70  
 Kg per Angler Day = 2.38      Kg per Angler Hour = 0.50

\* 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 48. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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 = 46  
 Total Hours Effort for Anglers Intercepted = 219.3  
 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)	
Spiny Dogfish	1	18.73	13	8.7	10	1.44	735	106
Croaker, White	2	18.05	59	39.3	19	0.31	297	26
Salmon, Chinook (King)	3	17.22	6	4.0	6	2.87	670	44
Rockfish, Brown	4	7.99	8	5.3	8	1.00	366	92
Lingcod	5	7.92	3	2.0	3	2.64	621	54
Rockfish, Yellowtail	6	6.60	12	8.0	12	0.55	332	45
Rockfish, Canary	7	6.38	6	4.0	6	1.06	412	49
Rockfish, Copper	8	6.13	5	3.3	5	1.23	402	43
Rockfish, Black	9	5.30	6	4.0	6	0.88	379	69
Rockfish, Blue	10	3.10	14	9.3	13	0.22	242	21
Rockfish, Greenspotted	11	2.74	6	4.0	6	0.46	301	41
Cabazon	12	2.51	1	0.7	1	2.51	550	0
Rockfish, Gopher	13	2.28	4	2.7	4	0.57	325	42
Greenling, Kelp	14	1.32	2	1.3	2	0.66	362	25
Rockfish, China	15	1.10	1	0.7	1	1.10	386	0
Greenling, Rock	16	0.76	1	0.7	1	0.76	380	0
Flounder, Starry	17	0.73	2	1.3	2	0.37	316	19
Rockfish, Rosy	18	0.31	1	0.7	1	0.31	266	0
Total		109.17	150	100	106			

## C. CPUE\*\*\*

Catch per Angler Day = 3.26      Catch per Angler Hour = 0.68  
 Kg per Angler Day = 2.37      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 49. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	33
Total Hours Effort for Anglers Intercepted	=	159.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	127	33.6
Rockfish, Yellowtail	2	91	24.1
Rockfishes (unidentified)	3	46	12.2
Rockfish, Widow	4	36	9.5
Rockfish, Canary	5	34	9.0
Rockfish, Olive	6	9	2.4
Rockfish, Rosy	7	6	1.6
Rockfish, Brown	8	5	1.3
Rockfish, Copper	9	4	1.1
Bocaccio	10	4	1.1
Lingcod	11	4	1.1
Croaker, White	12	3	0.8
Rockfish, Greenspotted	13	2	0.5
Rockfish, Squarespot	14	2	0.5
Salmon, Chinook (King)	15	1	0.3
Rockfish, Black	16	1	0.3
Rockfish, Vermilion	17	1	0.3
Rockfish, Speckled	18	1	0.3
Sandabs	19	1	0.3
Total		378	100

C. CPUE

Catch per Angler Day	=	11.45	Catch per Angler Hour	=	2.38
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Table 50. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1980 for Quarter 1, 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	=	33
Total Hours Effort for Anglers Intercepted	=	159.0
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	127	35.6	0.61	77.36
Rockfish, Yellowtail	2	91	25.5	0.72	65.76
Rockfish, Widow	3	36	10.1	0.72	25.87
Rockfish, Canary	4	31	8.7	0.83	25.71
Rockfishes (unidentified)	5	28	7.8	0.69**	19.32
Rockfish, Olive	6	9	2.5	0.68	6.12
Rockfish, Rosy	7	6	1.7	0.27	1.59
Rockfish, Brown	8	5	1.4	0.91	4.57
Rockfish, Copper	9	4	1.1	1.22	4.87
Bocaccio	10	4	1.1	0.82	3.27
Lingcod	11	4	1.1	1.48	5.92
Croaker, White	12	3	0.8	0.00**	0.00
Rockfish, Greenspotted	13	2	0.6	0.58	1.16
Rockfish, Squarespot	14	2	0.6	0.22	0.44
Salmon, Chinook (King)	15	1	0.3	3.60	3.60
Rockfish, Black	16	1	0.3	0.90	0.90
Rockfish, Vermilion	17	1	0.3	1.44	1.44
Rockfish, Speckled	18	1	0.3	0.97	0.97
Sandabs	19	1	0.3	0.00**	0.00
Total		357	100		248.86

### C. CPUE

Catch per Angler Day	=	10.82	Catch per Angler Hour	=	2.25
Kg per Angler Day	=	7.54	Kg per Angler Hour	=	1.57

\* 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 1980 for Quarter 1, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

#### A. Sampled Effort

Number Anglers Intercepted = 33  
 Total Hours Effort for Anglers Intercepted = 159.0  
 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	72.49	119	38.6	110	0.61	337	43
Rockfish, Yellowtail	2	65.76	91	29.5	91	0.72	358	64
Rockfish, Widow	3	24.43	34	11.0	34	0.72	372	49
Rockfish, Canary	4	23.22	28	9.1	28	0.83	377	54
Rockfish, Olive	5	6.12	9	2.9	9	0.68	361	72
Rockfish, Copper	6	4.87	4	1.3	4	1.22	402	38
Lingcod	7	4.44	3	1.0	3	1.48	513	30
Rockfish, Brown	8	3.65	4	1.3	4	0.91	369	45
Salmon, Chinook (King)	9	3.60	1	0.3	1	3.60	725	0
Bocaccio	10	3.27	4	1.3	4	0.82	427	39
Rockfish, Vermilion	11	1.44	1	0.3	1	1.44	447	0
Rockfish, Greenspotted	12	1.16	2	0.6	2	0.58	331	3
Rockfish, Rosy	13	1.06	4	1.3	4	0.27	252	24
Rockfish, Speckled	14	0.97	1	0.3	1	0.97	405	0
Rockfish, Black	15	0.90	1	0.3	1	0.90	392	0
Rockfish, Squarespot	16	0.44	2	0.6	2	0.22	257	7
Total		217.82	308	100	299			

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

Catch per Angler Day = 9.33      Catch per Angler Hour = 1.94  
 Kg per Angler Day = 6.60      Kg per Angler Hour = 1.37

\* 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 Blue Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 3 (Ocean), Quarter 1, 1980.

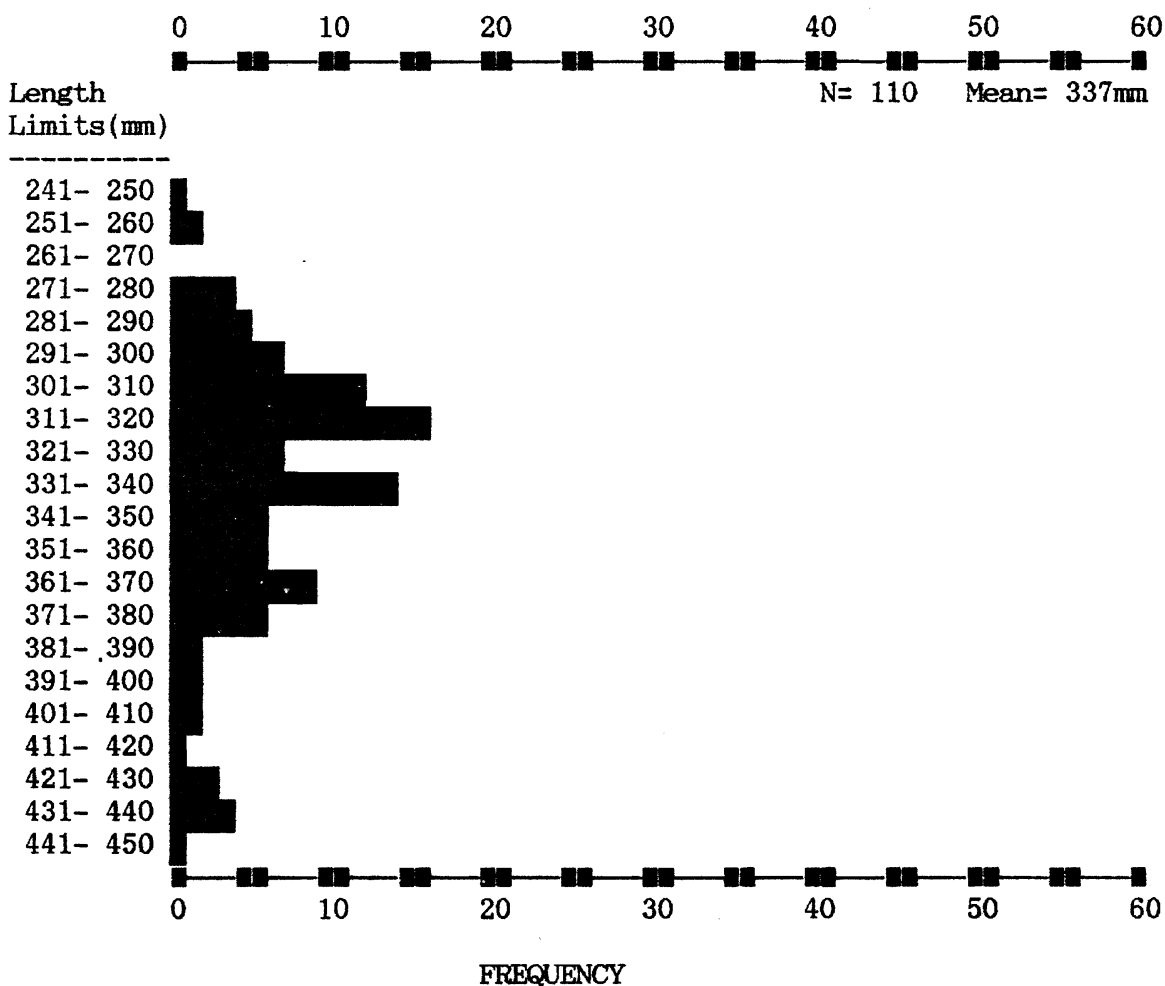


Figure 10. Length-Frequency Histogram for Yellowtail Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 3 (Ocean), Quarter 1, 1980.

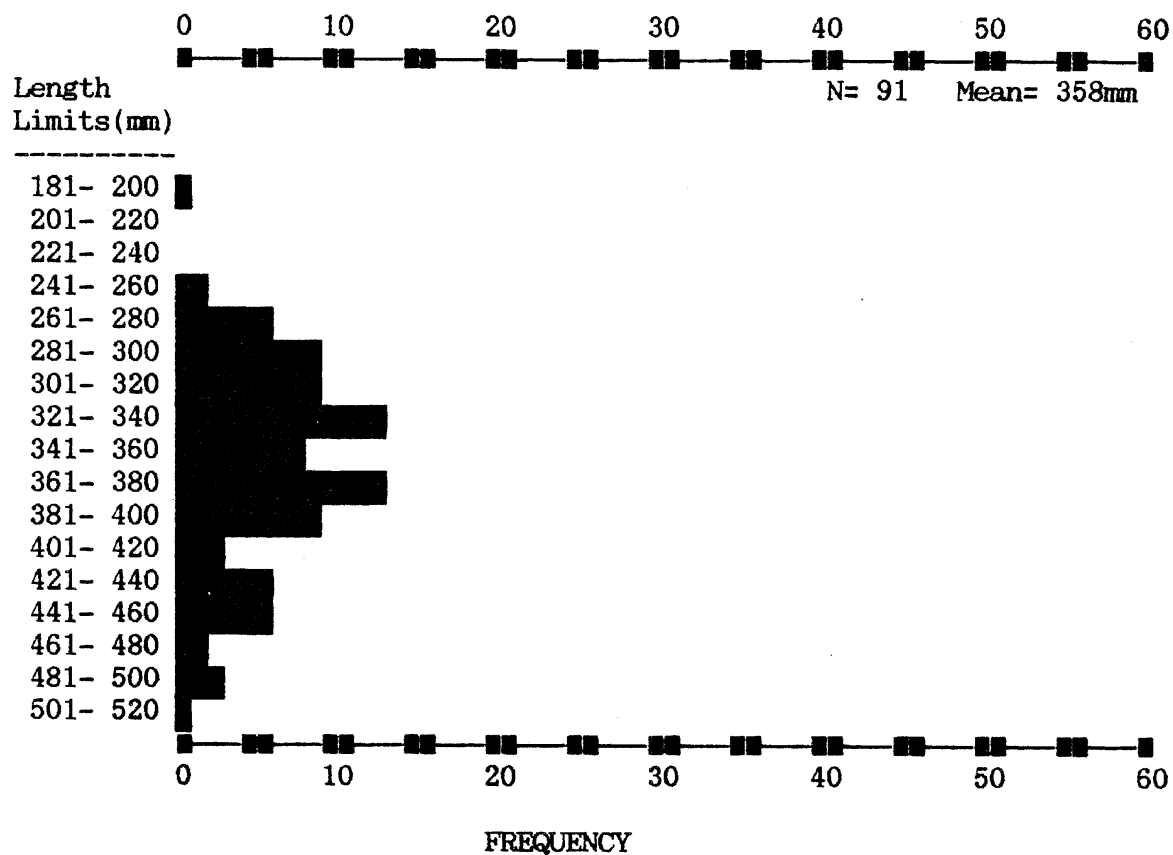


Table 52. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

#### A. Sampled Effort

Number Anglers Intercepted	=	326
Total Hours Effort for Anglers Intercepted	=	959.4
Total Hours Still to Fish (Incomplete Trips)	=	68.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Jacksmelt	1	251	42.8
Sculpin, Pacific Staghorn	2	187	31.9
Surfperch, Walleye	3	22	3.7
Flounder, Starry	4	22	3.7
Croaker, White	5	21	3.6
Perch, Pile	6	14	2.4
Seaperch, Striped	7	13	2.2
Rockfish, Brown	8	12	2.0
Rockfishes (unidentified)	9	7	1.2
Surfperches	10	6	1.0
Perch, Shiner	11	4	0.7
Seaperch, White	12	4	0.7
Seaperch, Rubberlip	13	4	0.7
Bass, Striped	14	3	0.5
Fringehead, Onespot	15	3	0.5
Sturgeon, Green	16	2	0.3
Tomcod, Pacific	17	2	0.3
Flounders, Lefteye	18	2	0.3
Smoothhound, Brown	19	1	0.2
Greenling, Kelp	20	1	0.2
Lingcod	21	1	0.2
Cabazon	22	1	0.2
Perch, Black	23	1	0.2
Sanddab, Pacific	24	1	0.2
Sanddab, Speckled	25	1	0.2
Turbot, Diamond	26	1	0.2
Total		587	100

#### C. CPUE

Catch per Angler Day	=	1.80	Catch per Angler Hour	=	0.61
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Table 53. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 326  
 Total Hours Effort for Anglers Intercepted = 959.4  
 Total Hours Still to Fish (Incomplete Trips) = 68.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	237	56.6	0.34	81.54
Sculpin, Pacific Staghorn	2	66	15.8	0.06	3.71
Croaker, White	3	21	5.0	0.33	6.91
Surfperch, Walleye	4	21	5.0	0.24	5.07
Flounder, Starry	5	20	4.8	0.49	9.90
Seaperch, Striped	6	13	3.1	0.21	2.79
Perch, Pile	7	13	3.1	0.68	8.81
Seaperch, White	8	4	1.0	0.25	1.01
Seaperch, Rubberlip	9	4	1.0	0.47	1.88
Rockfish, Brown	10	3	0.7	0.04	0.11
Perch, Shiner	11	3	0.7	0.05	0.14
Fringehead, Onespot	12	3	0.7	0.00**	0.00
Tomcod, Pacific	13	2	0.5	0.00**	0.00
Surfperches	14	2	0.5	0.34**	0.68
Rockfishes (unidentified)	15	1	0.2	0.04**	0.04
Greenling, Kelp	16	1	0.2	0.05	0.05
Cabazon	17	1	0.2	0.09	0.09
Bass, Striped	18	1	0.2	2.89	2.89
Sanddab, Pacific	19	1	0.2	0.09	0.09
Sanddab, Speckled	20	1	0.2	0.00**	0.00
Turbot, Diamond	21	1	0.2	0.31	0.31
Total		419	100		126.02

#### C. CPUE

Catch per Angler Day = 1.29      Catch per Angler Hour = 0.44  
 Kg per Angler Day = 0.39      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 54. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 326  
 Total Hours Effort for Anglers Intercepted = 959.4  
 Total Hours Still to Fish (Incomplete Trips) = 68.0

## 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	78.45	228	67.3	137	0.34	346	43
Flounder, Starry	2	8.91	18	5.3	18	0.49	324	81
Perch, Pile	3	7.46	11	3.2	11	0.68	341	40
Croaker, White	4	6.91	21	6.2	21	0.33	303	32
Surfperch, Walleye	5	4.83	20	5.9	20	0.24	225	47
Bass, Striped	6	2.89	1	0.3	1	2.89	796	0
Seaperch, Striped	7	2.79	13	3.8	13	0.21	221	62
Seaperch, Rubberlip	8	1.88	4	1.2	4	0.47	277	75
Seaperch, White	9	1.01	4	1.2	4	0.25	273	31
Sculpin, Pacific Staghorn	10	0.39	7	2.1	7	0.06	175	9
Turbot, Diamond	11	0.31	1	0.3	1	0.31	275	0
Cabazon	12	0.09	1	0.3	1	0.09	164	0
Perch, Shiner	13	0.09	2	0.6	2	0.05	151	4
Sanddab, Pacific	14	0.09	1	0.3	1	0.09	206	0
Rockfish, Brown	15	0.08	2	0.6	2	0.04	123	29
Greenling, Kelp	16	0.05	1	0.3	1	0.05	153	0
Fringehead, Onespot	17	0.00	3	0.9	3	0.00	151	53
Sanddab, Speckled	18	0.00	1	0.3	0	0.00	0	0
Total		116.22	339	100	247			

## C. CPUE\*\*\*

Catch per Angler Day = 1.04      Catch per Angler Hour = 0.35  
 Kg per Angler Day = 0.36      Kg per Angler Hour = 0.12

\* 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 (Bay) in 1980 for Quarter 1, 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	=	20
Total Hours Effort for Anglers Intercepted	=	81.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Pile	1	23	67.6
Jacksmelt	2	8	23.5
Perch, Black	3	2	5.9
Surfperches	4	1	2.9
Total		34	100

C. CPUE

Catch per Angler Day	=	1.70	Catch per Angler Hour	=	0.42
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Table 56. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 20  
 Total Hours Effort for Anglers Intercepted = 81.5  
 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
Perch, Pile	1	23	69.7	0.80	18.48
Jacksmelt	2	8	24.2	0.44	3.54
Perch, Black	3	2	6.1	0.41	0.82
Total		33	100		22.84

C. CPUE

Catch per Angler Day = 1.65      Catch per Angler Hour = 0.40  
 Kg per Angler Day = 1.14      Kg per Angler Hour = 0.28

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



Table 57. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 20  
 Total Hours Effort for Anglers Intercepted = 81.5  
 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)	
Perch, Pile	1	15.27	19	65.5	19	0.80	362	28
Jacksmelt	2	3.54	8	27.6	8	0.44	377	30
Perch, Black	3	0.82	2	6.9	2	0.41	291	7
Total		19.63	29	100	29			

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

Catch per Angler Day = 1.45      Catch per Angler Hour = 0.36  
 Kg per Angler Day = 0.98      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 58. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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	=	168
Total Hours Effort for Anglers Intercepted	=	500.6
Total Hours Still to Fish (Incomplete Trips)	=	67.5

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Jacksmelt	1	115	42.1
Seaperch, Rubberlip	2	36	13.2
Rockfish, Brown	3	29	10.6
Perch, Pile	4	22	8.1
Sculpin, Pacific Staghorn	5	19	7.0
Flounder, Starry	6	15	5.5
Perch, Black	7	12	4.4
Seaperch, Striped	8	10	3.7
Surfperch, Silver	9	8	2.9
Sturgeon, White	10	2	0.7
Seaperch, White	11	2	0.7
Bass, Striped	12	1	0.4
Seaperch, Rainbow	13	1	0.4
Gobies	14	1	0.4
Total		273	100

#### C. CPUE

Catch per Angler Day	=	1.63	Catch per Angler Hour	=	0.55
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Table 59. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 168  
 Total Hours Effort for Anglers Intercepted = 500.6  
 Total Hours Still to Fish (Incomplete Trips) = 67.5

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Jacksmelt	1	107	48.0	0.42	45.20
Seaperch, Rubberlip	2	36	16.1	0.33	11.88
Perch, Pile	3	22	9.9	0.90	19.85
Flounder, Starry	4	15	6.7	0.54	8.03
Perch, Black	5	11	4.9	0.33	3.61
Seaperch, Striped	6	10	4.5	0.17	1.73
Rockfish, Brown	7	9	4.0	0.13	1.19
Surfperch, Silver	8	8	3.6	0.16	1.25
Seaperch, White	9	2	0.9	0.00**	0.00
Sculpin, Pacific Staghorn	10	1	0.4	0.03	0.03
Bass, Striped	11	1	0.4	0.64	0.64
Seaperch, Rainbow	12	1	0.4	0.29	0.29
Total		223	100		93.71

#### C. CPUE

Catch per Angler Day = 1.33      Catch per Angler Hour = 0.45  
 Kg per Angler Day = 0.56      Kg per Angler Hour = 0.19

\* 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 1980 for Quarter 1, 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 = 168  
 Total Hours Effort for Anglers Intercepted = 500.6  
 Total Hours Still to Fish (Incomplete Trips) = 67.5

## 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	44.36	105	49.5	77	0.42	371	32
Perch, Pile	2	18.05	20	9.4	20	0.90	370	60
Seaperch, Rubberlip	3	11.88	36	17.0	35	0.33	246	55
Flounder, Starry	4	5.35	10	4.7	10	0.54	343	62
Perch, Black	5	3.61	11	5.2	11	0.33	257	59
Seaperch, Striped	6	1.73	10	4.7	10	0.17	218	21
Surfperch, Silver	7	1.25	8	3.8	5	0.16	179	89
Rockfish, Brown	8	1.19	9	4.2	9	0.13	189	31
Bass, Striped	9	0.64	1	0.5	1	0.64	473	0
Seaperch, Rainbow	10	0.29	1	0.5	1	0.29	264	0
Sculpin, Pacific Staghorn	11	0.03	1	0.5	1	0.03	146	0
Total		88.39	212	100	180			

## C. CPUE\*\*\*

Catch per Angler Day = 1.26      Catch per Angler Hour = 0.42  
 Kg per Angler Day = 0.53      Kg per Angler Hour = 0.18

\* 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 1980 for Quarter 1, 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	=	183
Total Hours Effort for Anglers Intercepted	=	986.0
Total Hours Still to Fish (Incomplete Trips)	=	12.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	338	42.7
Shark, Leopard	2	139	17.6
Sturgeon, White	3	31	3.9
Smoothhound, Brown	4	30	3.8
Croaker, White	5	30	3.8
Skates	6	27	3.4
Seaperch, White	7	26	3.3
Smoothhounds	8	18	2.3
Perch, Pile	9	16	2.0
Surfperch, Walleye	10	15	1.9
Flounder, Starry	11	15	1.9
Surfperches	12	14	1.8
Seaperch, Striped	13	14	1.8
Sculpins	14	11	1.4
Seaperch, Rubberlip	15	11	1.4
Flounders, Lefteye	16	11	1.4
Rockfish, Brown	17	10	1.3
Sharks	18	5	0.6
Seaperch, Rainbow	19	5	0.6
Bass, Striped	20	3	0.4
Surfperch, Redtail	21	3	0.4
Shark, Sevengill	22	2	0.3
Shark, Blue	23	2	0.3
Stingrays	24	2	0.3
Ray, Bat	25	2	0.3
Sturgeons (unidentified)	26	2	0.3

(Table 61. - continued)

Common name	Rank by Number	Number Caught	% by Number
Tomcod, Pacific	27	2	0.3
Perch, Black	28	2	0.3
Smoothhound, Gray	29	1	0.1
Sturgeon, Green	30	1	0.1
Jacksmelt	31	1	0.1
Rockfishes (unidentified)	32	1	0.1
Greenling, Kelp	33	1	0.1
Cabazon	34	1	0.1
Total		792	100

## C. CPUE

Catch per Angler Day = 4.33      Catch per Angler Hour = 0.80

Table 62. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1980 for Quarter 1, 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 = 183  
 Total Hours Effort for Anglers Intercepted = 986.0  
 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
Seaperch, White	1	26	13.7	0.38	9.94
Sculpin, Pacific Staghorn	2	21	11.1	0.15	3.15
Croaker, White	3	19	10.0	0.38	7.14
Perch, Pile	4	16	8.4	0.92	14.71
Surfperch, Walleye	5	15	7.9	0.41	6.14
Flounder, Starry	6	15	7.9	0.65	9.70
Seaperch, Striped	7	14	7.4	0.49	6.88
Sturgeon, White	8	12	6.3	14.54	174.53
Seaperch, Rubberlip	9	11	5.8	0.52	5.75
Smoothhound, Brown	10	10	5.3	3.52	35.23
Rockfish, Brown	11	10	5.3	0.13	1.26
Seaperch, Rainbow	12	5	2.6	0.31	1.53
Bass, Striped	13	3	1.6	1.40	4.21
Surfperch, Redtail	14	3	1.6	0.94	2.82
Shark, Leopard	15	2	1.1	4.01	8.03
Tomcod, Pacific	16	2	1.1	0.13	0.26
Perch, Black	17	2	1.1	0.34	0.67
Shark, Sevengill	18	1	0.5	272.97	272.97
Jacksmelt	19	1	0.5	0.11	0.11
Greenling, Kelp	20	1	0.5	0.98	0.98
Cabezon	21	1	0.5	1.24	1.24
Total		190	100		567.25

#### C. CPUE

Catch per Angler Day = 1.04      Catch per Angler Hour = 0.19  
 Kg per Angler Day = 3.10      Kg per Angler Hour = 0.58

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

Table 63. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay)  
in 1980 for Quarter 1, 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 = 183  
Total Hours Effort for Anglers Intercepted = 986.0  
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)	
Shark, Sevengill	1	272.97	1	0.6	1	272.97	2090	0
Sturgeon, White	2	174.53	12	7.6	12	14.54	1195	412
Smoothhound, Brown	3	35.23	10	6.3	10	3.52	704	111
Perch, Pile	4	13.79	15	9.5	15	0.92	378	33
Flounder, Starry	5	9.70	15	9.5	15	0.65	368	50
Shark, Leopard	6	8.03	2	1.3	2	4.01	752	6
Croaker, White	7	7.14	19	12.0	19	0.38	318	28
Seaperch, Striped	8	6.88	14	8.9	12	0.49	306	41
Surfperch, Walleye	9	6.14	15	9.5	15	0.41	270	30
Seaperch, Rubberlip	10	5.75	11	7.0	11	0.52	283	77
Seaperch, White	11	5.73	15	9.5	12	0.38	313	36
Bass, Striped	12	4.21	3	1.9	3	1.40	611	100
Surfperch, Redtail	13	2.82	3	1.9	3	0.94	373	24
Seaperch, Rainbow	14	1.53	5	3.2	5	0.31	267	16
Rockfish, Brown	15	1.26	10	6.3	10	0.13	187	26
Cabezon	16	1.24	1	0.6	1	1.24	424	0
Greenling, Kelp	17	0.98	1	0.6	1	0.98	416	0
Perch, Black	18	0.67	2	1.3	2	0.34	268	25
Tomcod, Pacific	19	0.26	2	1.3	2	0.13	255	17
Sculpin, Pacific Staghorn	20	0.15	1	0.6	1	0.15	246	0
Jacksmelt	21	0.11	1	0.6	1	0.11	252	0
Total		559.13	158	100	153			

## C. CPUE\*\*\*

Catch per Angler Day = 0.86      Catch per Angler Hour = 0.16  
Kg per Angler Day = 3.06      Kg per Angler Hour = 0.57

\* 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 Jacksmelt  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 3 (Bay), Quarter 1, 1980.

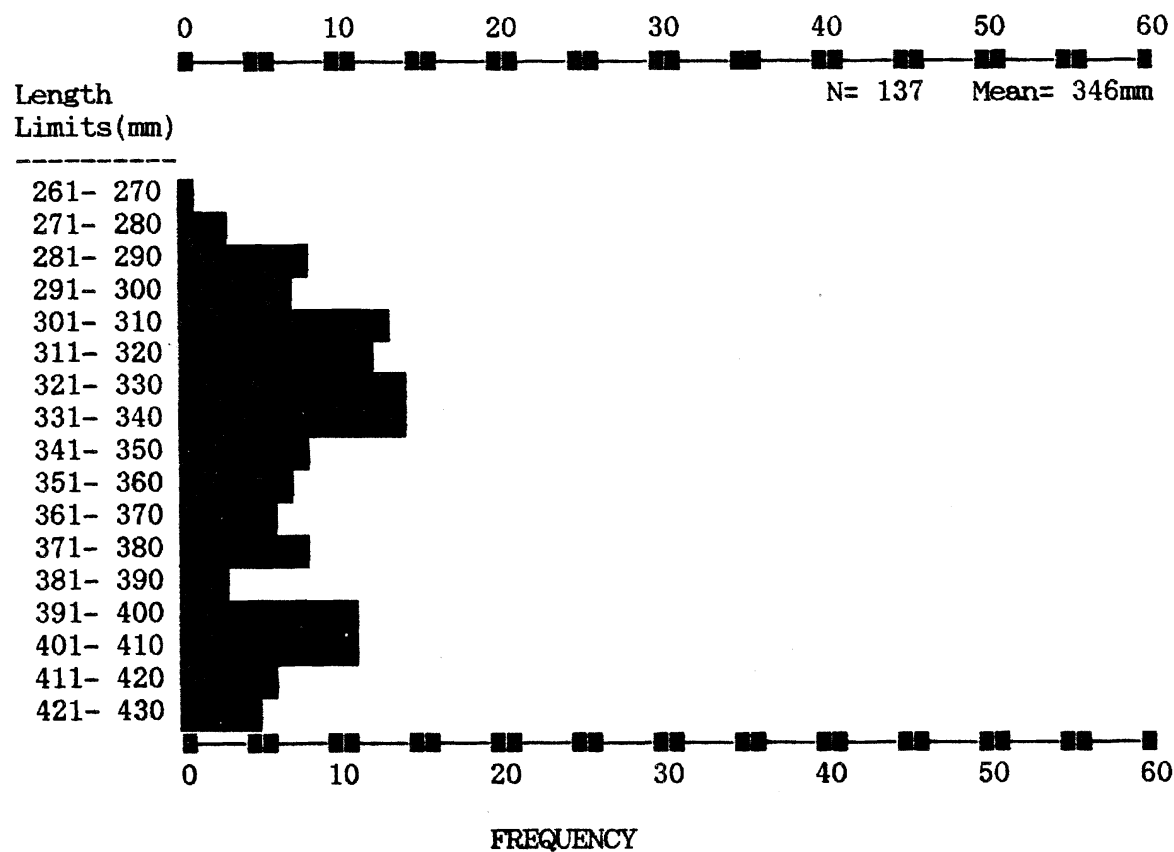


Figure 12. Length-Frequency Histogram for Jacksmelt  
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.  
 Area 3 (Bay), Quarter 1, 1980.

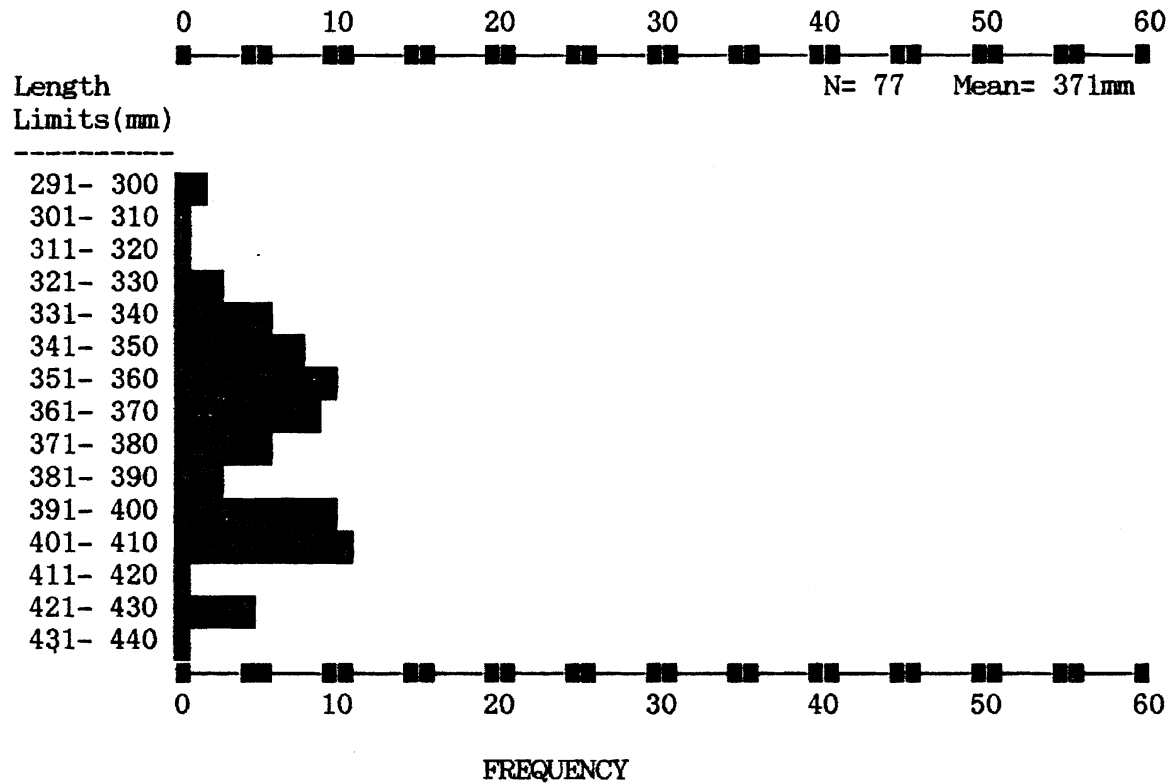


Table 64. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	435
Total Hours Effort for Anglers Intercepted	=	1346.2
Total Hours Still to Fish (Incomplete Trips)	=	118.6

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	230	38.9
Sculpin, Pacific Staghorn	2	62	10.5
Sole, Sand	3	45	7.6
Surfperch, Walleye	4	24	4.1
Surfperches	5	22	3.7
Jacksmelt	6	20	3.4
Perch, Black	7	20	3.4
Rockfishes (unidentified)	8	18	3.0
Surfperch, Barred	9	17	2.9
Seaperch, White	10	16	2.7
Sanddab, Speckled	11	15	2.5
Flatfishes	12	12	2.0
Flounder, Starry	13	11	1.9
Perch, Pile	14	10	1.7
Unidentified Fishes	15	9	1.5
Rockfish, Blue	16	8	1.4
Rockfish, Copper	17	6	1.0
Rockfish, Gopher	18	6	1.0
Tomcod, Pacific	19	4	0.7
Lingcod	20	4	0.7
Surfperch, Silver	21	4	0.7
Sharks	22	3	0.5
Perch, Shiner	23	3	0.5
Flounders, Righteye	24	3	0.5
Skates	25	2	0.3
Rockfish, China	26	2	0.3

(Table 64. - continued)

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	27	2	0.3
Fringehead, Onespots	28	2	0.3
Sanddab, Pacific	29	2	0.3
Sole, Petrale	30	2	0.3
Bottomfishes (Groundfishes)	31	1	0.2
Skate, Big	32	1	0.2
Anchovy, Northern	33	1	0.2
Rockfish, Rosy	34	1	0.2
Thornyhead, Shortspine	35	1	0.2
Sculpins	36	1	0.2
Cabezon	37	1	0.2
Flounders, Lefteye	38	1	0.2
Total		592	100

## C. CPUE

Catch per Angler Day = 1.36      Catch per Angler Hour = 0.44

Table 65. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 435  
 Total Hours Effort for Anglers Intercepted = 1346.2  
 Total Hours Still to Fish (Incomplete Trips) = 118.6

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	205	45.5	0.20	40.35
Sole, Sand	2	31	6.9	0.25	7.67
Surfperch, Walleye	3	23	5.1	0.21	4.76
Jacksmelt	4	20	4.4	0.32	6.34
Perch, Black	5	20	4.4	0.20	4.07
Sculpin, Pacific Staghorn	6	18	4.0	0.10	1.71
Surfperch, Barred	7	17	3.8	0.18	3.13
Seaperch, White	8	16	3.5	0.18	2.88
Sanddab, Speckled	9	15	3.3	0.03	0.42
Surfperches	10	11	2.4	0.25**	2.75
Flounder, Starry	11	11	2.4	0.93	10.26
Perch, Pile	12	10	2.2	0.76	7.55
Rockfish, Blue	13	7	1.6	0.48	3.34
Rockfish, Copper	14	6	1.3	0.50	3.02
Rockfish, Gopher	15	6	1.3	0.48	2.87
Tomcod, Pacific	16	4	0.9	0.07	0.27
Surfperch, Silver	17	4	0.9	0.15	0.61
Perch, Shiner	18	3	0.7	0.00**	0.00
Flounders, Righteye	19	3	0.7	0.45**	1.35
Unidentified Fishes	20	2	0.4	0.00**	0.00
Skates	21	2	0.4	2.02**	4.04
Rockfishes (unidentified)	22	2	0.4	0.69**	1.38
Rockfish, China	23	2	0.4	0.76	1.51
Lingcod	24	2	0.4	2.26	4.51
Seaperch, Striped	25	2	0.4	0.05	0.11
Sanddab, Pacific	26	2	0.4	0.13	0.26
Sole, Petrale	27	2	0.4	0.89	1.78

(Table 65. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Skate, Big	28	1	0.2	2.02	2.02
Anchovy, Northern	29	1	0.2	0.00**	0.00
Rockfish, Rosy	30	1	0.2	0.28	0.28
Thornyhead, Shortspine	31	1	0.2	4.80	4.80
Flatfishes	32	1	0.2	0.33**	0.33
Total		451	100		124.37

## C. CPUE

Catch per Angler Day = 1.04      Catch per Angler Hour = 0.34  
 Kg per Angler Day = 0.29      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 66. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 435  
 Total Hours Effort for Anglers Intercepted = 1346.2  
 Total Hours Still to Fish (Incomplete Trips) = 118.6

## 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	17.71	90	30.3	90	0.20	256	31
Flounder, Starry	2	8.40	9	3.0	9	0.93	385	111
Perch, Pile	3	7.55	10	3.4	10	0.76	357	17
Sole, Sand	4	6.68	27	9.1	27	0.25	252	69
Jacksmelt	5	6.34	20	6.7	20	0.32	341	29
Thornyhead, Shortspine	6	4.80	1	0.3	1	4.80	611	0
Lingcod	7	4.51	2	0.7	2	2.26	591	46
Perch, Black	8	4.07	20	6.7	20	0.20	210	54
Surfperch, Walleye	9	3.94	19	6.4	19	0.21	222	33
Rockfish, Blue	10	3.34	7	2.4	7	0.48	314	25
Rockfish, Copper	11	3.02	6	2.0	6	0.50	301	15
Seaperch, White	12	2.88	16	5.4	16	0.18	241	37
Rockfish, Gopher	13	2.87	6	2.0	6	0.48	309	22
Surfperch, Barred	14	2.21	12	4.0	12	0.18	211	31
Skate, Big	15	2.02	1	0.3	1	2.02	594	0
Sole, Petrale	16	1.78	2	0.7	2	0.89	407	49
Sculpin, Pacific Staghorn	17	1.71	18	6.1	18	0.10	197	54
Rockfish, China	18	1.51	2	0.7	2	0.76	343	20
Surfperch, Silver	19	0.61	4	1.3	4	0.15	212	8
Sanddab, Speckled	20	0.42	15	5.1	7	0.03	134	13
Rockfish, Rosy	21	0.28	1	0.3	1	0.28	259	0
Sanddab, Pacific	22	0.26	2	0.7	2	0.13	228	14
Tomcod, Pacific	23	0.21	3	1.0	3	0.07	206	18
Seaperch, Striped	24	0.11	2	0.7	2	0.05	149	0
Surfperches	25	0.00	2	0.7	0	0.00	0	0
Total		87.21	297	100	287			

## C. CPUE\*\*\*

Catch per Angler Day = 0.68      Catch per Angler Hour = 0.22  
 Kg per Angler Day = 0.20      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 67. Sampled Effort, Ranked Catch and CPUE for Area 4  
in 1980 for Quarter 1, 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 = 75  
Total Hours Effort for Anglers Intercepted = 197.2  
Total Hours Still to Fish (Incomplete Trips) = 18.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Pile	1	12	26.1
Perch, Black	2	6	13.0
Seaperch, Rubberlip	3	6	13.0
Greenling, Kelp	4	4	8.7
Seaperch, Striped	5	4	8.7
Surfperch, Walleye	6	4	8.7
Sole, Sand	7	4	8.7
Rockfish, Kelp	8	2	4.3
Cabezon	9	2	4.3
Flounder, Starry	10	2	4.3
Total		46	100

C. CPUE

Catch per Angler Day = 0.61      Catch per Angler Hour = 0.23



Table 68. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 75  
 Total Hours Effort for Anglers Intercepted = 197.2  
 Total Hours Still to Fish (Incomplete Trips) = 18.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Perch, Pile	1	12	26.1	0.73	8.70
Perch, Black	2	6	13.0	0.23	1.40
Seaperch, Rubberlip	3	6	13.0	0.89	5.33
Greenling, Kelp	4	4	8.7	0.25	0.99
Seaperch, Striped	5	4	8.7	0.47	1.89
Surfperch, Walleye	6	4	8.7	0.45	1.81
Sole, Sand	7	4	8.7	0.65	2.59
Rockfish, Kelp	8	2	4.3	0.38	0.75
Cabazon	9	2	4.3	0.14	0.27
Flounder, Starry	10	2	4.3	0.47	0.95
Total		46	100		24.68

C. CPUE

Catch per Angler Day = 0.61      Catch per Angler Hour = 0.23  
 Kg per Angler Day = 0.33      Kg per Angler Hour = 0.13

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

Table 69. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 75  
 Total Hours Effort for Anglers Intercepted = 197.2  
 Total Hours Still to Fish (Incomplete Trips) = 18.0

## B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Perch, Pile	1	8.70	12	26.1	12	0.73	352	19
Seaperch, Rubberlip	2	5.33	6	13.0	6	0.89	360	30
Sole, Sand	3	2.59	4	8.7	4	0.65	360	51
Seaperch, Striped	4	1.89	4	8.7	4	0.47	307	12
Surfperch, Walleye	5	1.81	4	8.7	4	0.45	280	20
Perch, Black	6	1.40	6	13.0	6	0.23	232	8
Greenling, Kelp	7	0.99	4	8.7	4	0.25	256	29
Flounder, Starry	8	0.95	2	4.3	2	0.47	342	0
Rockfish, Kelp	9	0.75	2	4.3	2	0.38	293	0
Cabazon	10	0.27	2	4.3	2	0.14	188	0
Total		24.68	46	100	46			

## C. CPUE\*\*\*

Catch per Angler Day = 0.61      Catch per Angler Hour = 0.23  
 Kg per Angler Day = 0.33      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 70. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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	=	47
Total Hours Effort for Anglers Intercepted	=	92.9
Total Hours Still to Fish (Incomplete Trips)	=	41.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	20	43.5
Surfperch, Silver	2	12	26.1
Cabazon	3	6	13.0
Surfperches	4	5	10.9
Surfperch, Walleye	5	3	6.5
Total		46	100

C. CPUE

Catch per Angler Day	=	0.98	Catch per Angler Hour	=	0.50
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Table 71. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 47  
 Total Hours Effort for Anglers Intercepted = 92.9  
 Total Hours Still to Fish (Incomplete Trips) = 41.7

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	17	44.7	0.39	6.68
Surfperch, Silver	2	12	31.6	0.18	2.17
Cabazon	3	6	15.8	0.59	3.55
Surfperch, Walleye	4	3	7.9	0.24	0.71
Total		38	100		13.11

#### C. CPUE

Catch per Angler Day = 0.81      Catch per Angler Hour = 0.41  
 Kg per Angler Day = 0.28      Kg per Angler Hour = 0.14

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

Table 72. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 47  
 Total Hours Effort for Anglers Intercepted = 92.9  
 Total Hours Still to Fish (Incomplete Trips) = 41.7

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	6.68	17	44.7	17	0.39	262	58
Cabezon	2	3.55	6	15.8	6	0.59	316	55
Surfperch, Silver	3	2.17	12	31.6	12	0.18	223	16
Surfperch, Walleye	4	0.71	3	7.9	3	0.24	235	16
Total		13.11	38	100	38			

C. CPUE\*\*\*

Catch per Angler Day = 0.81      Catch per Angler Hour = 0.41  
 Kg per Angler Day = 0.28      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 73. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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	=	162
Total Hours Effort for Anglers Intercepted	=	774.4
Total Hours Still to Fish (Incomplete Trips)	=	5.5

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	358	39.5
Rockfish, Blue	2	138	15.2
Rockfishes (unidentified)	3	108	11.9
Lingcod	4	40	4.4
Mackerel, Pacific (Chub)	5	31	3.4
Rockfish, Gopher	6	26	2.9
Greenling, Kelp	7	18	2.0
Rockfish, Copper	8	16	1.8
Rockfish, Greenspotted	9	16	1.8
Rockfish, Canary	10	14	1.5
Cabezon	11	14	1.5
Rockfish, Yellowtail	12	11	1.2
Rockfish, Kelp	13	11	1.2
Sanddab, Pacific	14	10	1.1
Rockfish, Greenstriped	15	9	1.0
Rockfish, Brown	16	8	0.9
Rockfish, Grass	17	8	0.9
Bass, Kelp	18	8	0.9
Rockfish, Olive	19	7	0.8
Sandabs	20	7	0.8
Rockfish, Black-and-yellow	21	6	0.7
Bottomfishes (Groundfishes)	22	5	0.6
Unidentified Fishes	23	4	0.4
Sharks	24	4	0.4
Rockfish, Vermilion	25	4	0.4
Rockfish, China	26	4	0.4

(Table 73. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Rosy	27	4	0.4
Surfperches	28	3	0.3
Smoothhound, Brown	29	2	0.2
Bocaccio	30	2	0.2
Rockfish, Yelloweye	31	2	0.2
Sculpin, Pacific Staghorn	32	2	0.2
Flounders, Righteye	33	2	0.2
Spiny Dogfish	34	1	0.1
Anchovies	35	1	0.1
Sole, Rock	36	1	0.1
Sole, Sand	37	1	0.1
Total		906	100

## C. CPUE

Catch per Angler Day = 5.59      Catch per Angler Hour = 1.17

Table 74. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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	=	162
Total Hours Effort for Anglers Intercepted	=	774.4
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
Croaker, White	1	178	29.8	0.23	40.83
Rockfish, Blue	2	114	19.1	0.37	41.89
Lingcod	3	40	6.7	1.88	75.08
Rockfishes (unidentified)	4	34	5.7	0.48**	16.32
Mackerel, Pacific (Chub)	5	31	5.2	0.47	14.47
Greenling, Kelp	6	17	2.8	0.43	7.38
Rockfish, Copper	7	16	2.7	0.75	12.04
Rockfish, Greenspotted	8	16	2.7	0.58	9.22
Rockfish, Gopher	9	16	2.7	0.34	5.43
Rockfish, Canary	10	14	2.3	0.32	4.50
Cabezon	11	14	2.3	1.58	22.06
Rockfish, Yellowtail	12	11	1.8	0.88	9.64
Rockfish, Kelp	13	11	1.8	0.30	3.35
Sanddab, Pacific	14	10	1.7	0.11	1.08
Rockfish, Greenstriped	15	9	1.5	0.34	3.04
Rockfish, Brown	16	8	1.3	0.56	4.51
Rockfish, Grass	17	8	1.3	1.05	8.43
Rockfish, Olive	18	7	1.2	0.73	5.12
Rockfish, Black-and-yellow	19	6	1.0	0.38	2.27
Bass, Kelp	20	6	1.0	1.53	9.16
Sandabs	21	6	1.0	0.11**	0.66
Rockfish, Vermilion	22	4	0.7	1.11	4.44
Rockfish, China	23	4	0.7	0.37	1.48
Rockfish, Rosy	24	4	0.7	0.19	0.78
Surfperches	25	3	0.5	0.00**	0.00
Smoothhound, Brown	26	2	0.3	3.61	7.22
Bocaccio	27	2	0.3	1.22	2.45



(Table 74. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Yelloweye	28	2	0.3	0.85	1.70
Spiny Dogfish	29	1	0.2	1.81	1.81
Anchovies	30	1	0.2	0.00**	0.00
Sole, Rock	31	1	0.2	0.69	0.69
Sole, Sand	32	1	0.2	1.22	1.22
Total		597	100		318.27

## C. CPUE

Catch per Angler Day = 3.69      Catch per Angler Hour = 0.77  
 Kg per Angler Day = 1.96      Kg per Angler Hour = 0.41

\* 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 1980 for Quarter 1, 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 = 162  
Total Hours Effort for Anglers Intercepted = 774.4  
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)	
Lingcod	1	45.05	24	4.7	24	1.88	532	131
Rockfish, Blue	2	39.32	107	21.0	96	0.37	279	54
Croaker, White	3	38.53	168	33.0	100	0.23	271	24
Cabezon	4	18.91	12	2.4	12	1.58	458	55
Mackerel, Pacific (Chub)	5	14.47	31	6.1	16	0.47	324	32
Rockfish, Copper	6	12.04	16	3.1	16	0.75	332	69
Rockfish, Yellowtail	7	9.64	11	2.2	11	0.88	389	45
Rockfish, Greenspotted	8	9.22	16	3.1	16	0.58	323	53
Bass, Kelp	9	9.16	6	1.2	6	1.53	470	46
Rockfish, Grass	10	8.43	8	1.6	8	1.05	340	83
Smoothhound, Brown	11	7.22	2	0.4	2	3.61	725	23
Rockfish, Gopher	12	5.43	16	3.1	16	0.34	272	36
Rockfish, Olive	13	5.12	7	1.4	7	0.73	379	39
Rockfish, Brown	14	4.51	8	1.6	8	0.56	302	73
Rockfish, Canary	15	4.50	14	2.8	14	0.32	275	43
Rockfish, Vermilion	16	4.44	4	0.8	4	1.11	407	40
Greenling, Kelp	17	3.91	9	1.8	9	0.43	310	37
Rockfish, Kelp	18	3.35	11	2.2	11	0.30	269	32
Rockfish, Greenstriped	19	3.04	9	1.8	9	0.34	306	32
Bocaccio	20	2.45	2	0.4	2	1.22	480	95
Rockfish, Black-and-yellow	21	2.27	6	1.2	6	0.38	272	11
Spiny Dogfish	22	1.81	1	0.2	1	1.81	807	0
Rockfish, Yelloweye	23	1.70	2	0.4	2	0.85	358	35
Sole, Sand	24	1.22	1	0.2	1	1.22	444	0
Rockfish, China	25	1.11	3	0.6	3	0.37	274	21
Sanddab, Pacific	26	1.08	10	2.0	10	0.11	215	21

(Table 75. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Rosy	27	0.78	4	0.8	4	0.19	229	9
Sole, Rock	28	0.69	1	0.2	1	0.69	372	0
Total		259.40	509	100	415			

## C. CPUE\*\*\*

Catch per Angler Day = 3.14      Catch per Angler Hour = 0.66  
 Kg per Angler Day = 1.60      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 76. Sampled Effort, Ranked Catch and CPUE for Area 4  
in 1980 for Quarter 1, by Private or Rental Boat 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	=	19.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Lingcod	1	6	18.8
Rockfish, Blue	2	4	12.5
Rockfish, Kelp	3	4	12.5
Seaperch, Striped	4	4	12.5
Greenling, Kelp	5	3	9.4
Perch, Pile	6	3	9.4
Rockfish, Gopher	7	2	6.3
Seaperch, Rubberlip	8	2	6.3
Rockfish, Copper	9	1	3.1
Rockfish, Black	10	1	3.1
Cabezon	11	1	3.1
Sole, C-O	12	1	3.1
Total		32	100

#### C. CPUE

Catch per Angler Day	=	2.29	Catch per Angler Hour	=	1.64
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Table 77. Sampled Effort, Ranked Catch and CPUE for Area 4  
in 1980 for Quarter 1, by Private or Rental Boat 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 = 19.5  
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
Lingcod	1	6	18.8	0.90	5.43
Rockfish, Blue	2	4	12.5	0.66	2.64
Rockfish, Kelp	3	4	12.5	0.44	1.75
Seaperch, Striped	4	4	12.5	0.45	1.81
Greenling, Kelp	5	3	9.4	0.60	1.81
Perch, Pile	6	3	9.4	0.54	1.61
Rockfish, Gopher	7	2	6.3	0.40	0.80
Seaperch, Rubberlip	8	2	6.3	1.33	2.67
Rockfish, Copper	9	1	3.1	0.51	0.51
Rockfish, Black	10	1	3.1	0.63	0.63
Cabazon	11	1	3.1	1.04	1.04
Sole, C-O	12	1	3.1	0.26	0.26
Total		32	100		20.95

## C. CPUE

Catch per Angler Day = 2.29      Catch per Angler Hour = 1.64  
Kg per Angler Day = 1.50      Kg per Angler Hour = 1.07

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

Table 78. Sampled Effort, Ranked Catch and CPUE for Area 4  
in 1980 for Quarter 1, by Private or Rental Boat 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 = 19.5  
Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank	Weight*	Number	% by	No.	Meas.	Wt.*	Ln.**	SD	LN.
---	---	---	---	---	---	---	---	---	---	---
Lingcod	1	5.43	6	18.8	6	0.90	431	51	1	51
Seaperch, Rubberlip	2	2.67	2	6.3	2	1.33	416	1	32	32
Rockfish, Blue	3	2.64	4	12.5	4	0.66	350	32	32	32
Greenling, Kelp	4	1.81	3	9.4	3	0.60	350	42	42	42
Seaperch, Striped	5	1.81	4	12.5	4	0.45	299	30	30	30
Rockfish, Kelp	6	1.75	4	12.5	4	0.44	307	10	10	10
Perch, Pile	7	1.61	3	9.4	3	0.54	320	0	0	0
Cabazon	8	1.04	1	3.1	1	1.04	397	38	38	38
Rockfish, Gopher	9	0.80	2	6.3	2	0.40	290	0	0	0
Rockfish, Black	10	0.63	1	3.1	1	0.63	346	0	0	0
Rockfish, Copper	11	0.51	1	3.1	1	0.51	303	0	0	0
Sole, C-0	12	0.26	1	3.1	1	0.26	264	0	0	0
Total		20.95	32	100	32					

C. CPUE\*\*\*

Catch per Angler Day = 2.29      Kg per Angler Hour = 1.64  
 = 1.50      Kg per Angler Hour = 1.07

\* 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 1980 for Quarter 1, by All CPFV 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	=	237.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (unidentified)	1	189	38.3
Jack Mackerel	2	87	17.6
Sandabs	3	38	7.7
Chilipepper	4	34	6.9
Rockfish, Blue	5	25	5.1
Mackerel, Pacific (Chub)	6	16	3.2
Rockfish, Greenstriped	7	14	2.8
Bocaccio	8	14	2.8
Rockfish, Yellowtail	9	11	2.2
Lingcod	10	11	2.2
Rockfish, Rosethorn	11	10	2.0
Rockfish, Vermilion	12	10	2.0
Rockfish, Greenspotted	13	10	2.0
Rockfish, Starry	14	8	1.6
Rockfish, Rosy	15	4	0.8
Rockfish, Tiger	16	2	0.4
Rockfish, Canary	17	2	0.4
Rockfish, Yelloweye	18	2	0.4
Rockfish, Squarespot	19	2	0.4
Sanddab, Pacific	20	2	0.4
Rockfish, Widow	21	1	0.2
Rockfish, Gopher	22	1	0.2
Total		493	100

#### C. CPUE

Catch per Angler Day	=	8.50	Catch per Angler Hour	=	2.08
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Table 80. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1980 for Quarter 1, 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 = 58  
 Total Hours Effort for Anglers Intercepted = 237.0  
 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
Rockfishes (unidentified)	1	187	38.1	0.71**	132.77
Jack Mackerel	2	87	17.7	0.33	28.98
Sandabs	3	38	7.7	0.00**	0.00
Chilipepper	4	34	6.9	0.57	19.35
Rockfish, Blue	5	25	5.1	0.41	10.25
Mackerel, Pacific (Chub)	6	16	3.3	0.59	9.43
Rockfish, Greenstriped	7	14	2.9	0.27	3.80
Bocaccio	8	14	2.9	1.30	18.23
Rockfish, Yellowtail	9	11	2.2	0.84	9.22
Lingcod	10	11	2.2	2.69	29.63
Rockfish, Rosethorn	11	10	2.0	0.24	2.45
Rockfish, Vermilion	12	10	2.0	2.43	24.27
Rockfish, Greenspotted	13	10	2.0	0.62	6.20
Rockfish, Starry	14	8	1.6	0.48	3.80
Rockfish, Rosy	15	4	0.8	0.21	0.84
Rockfish, Tiger	16	2	0.4	1.52	3.03
Rockfish, Canary	17	2	0.4	0.70	1.40
Rockfish, Yelloweye	18	2	0.4	1.15	2.30
Rockfish, Squarespot	19	2	0.4	0.18	0.37
Sanddab, Pacific	20	2	0.4	0.00**	0.00
Rockfish, Widow	21	1	0.2	0.40	0.40
Rockfish, Gopher	22	1	0.2	0.48	0.48
Total		491	100		307.19

#### C. CPUE

Catch per Angler Day = 8.47      Catch per Angler Hour = 2.07  
 Kg per Angler Day = 5.30      Kg per Angler Hour = 1.30

\* 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 1980 for Quarter 1, by All CPFV 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 = 237.0  
 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, Vermilion	1	24.27	10	5.7	10	2.43	532	44
Lingcod	2	21.55	8	4.6	8	2.69	587	173
Chilipepper	3	19.35	34	19.4	24	0.57	348	67
Bocaccio	4	18.23	14	8.0	14	1.30	460	141
Rockfish, Blue	5	8.61	21	12.0	20	0.41	293	47
Rockfish, Yellowtail	6	8.38	10	5.7	10	0.84	373	80
Rockfish, Greenspotted	7	6.20	10	5.7	10	0.62	323	79
Jack Mackerel	8	5.33	16	9.1	10	0.33	302	22
Rockfish, Starry	9	3.80	8	4.6	8	0.48	302	46
Rockfish, Greenstriped	10	3.80	14	8.0	14	0.27	286	28
Mackerel, Pacific (Chub)	11	3.54	6	3.4	6	0.59	347	33
Rockfish, Tiger	12	3.03	2	1.1	2	1.52	427	0
Rockfish, Rosethorn	13	2.45	10	5.7	10	0.24	247	9
Rockfish, Yelloweye	14	2.30	2	1.1	2	1.15	397	0
Rockfish, Canary	15	1.40	2	1.1	2	0.70	363	0
Rockfish, Rosy	16	0.84	4	2.3	4	0.21	235	7
Rockfish, Gopher	17	0.48	1	0.6	1	0.48	310	0
Rockfish, Widow	18	0.40	1	0.6	1	0.40	317	0
Rockfish, Squarespot	19	0.37	2	1.1	2	0.18	243	0
Total		134.31	175	100	158			

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

Catch per Angler Day = 3.02      Catch per Angler Hour = 0.74  
 Kg per Angler Day = 2.32      Kg per Angler Hour = 0.57

\* 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 13. Length-Frequency Histogram for White Croaker  
 Taken by Pier or Dock Anglers Using Hook-and-Line Gear.  
 Area 4, Quarter 1, 1980.

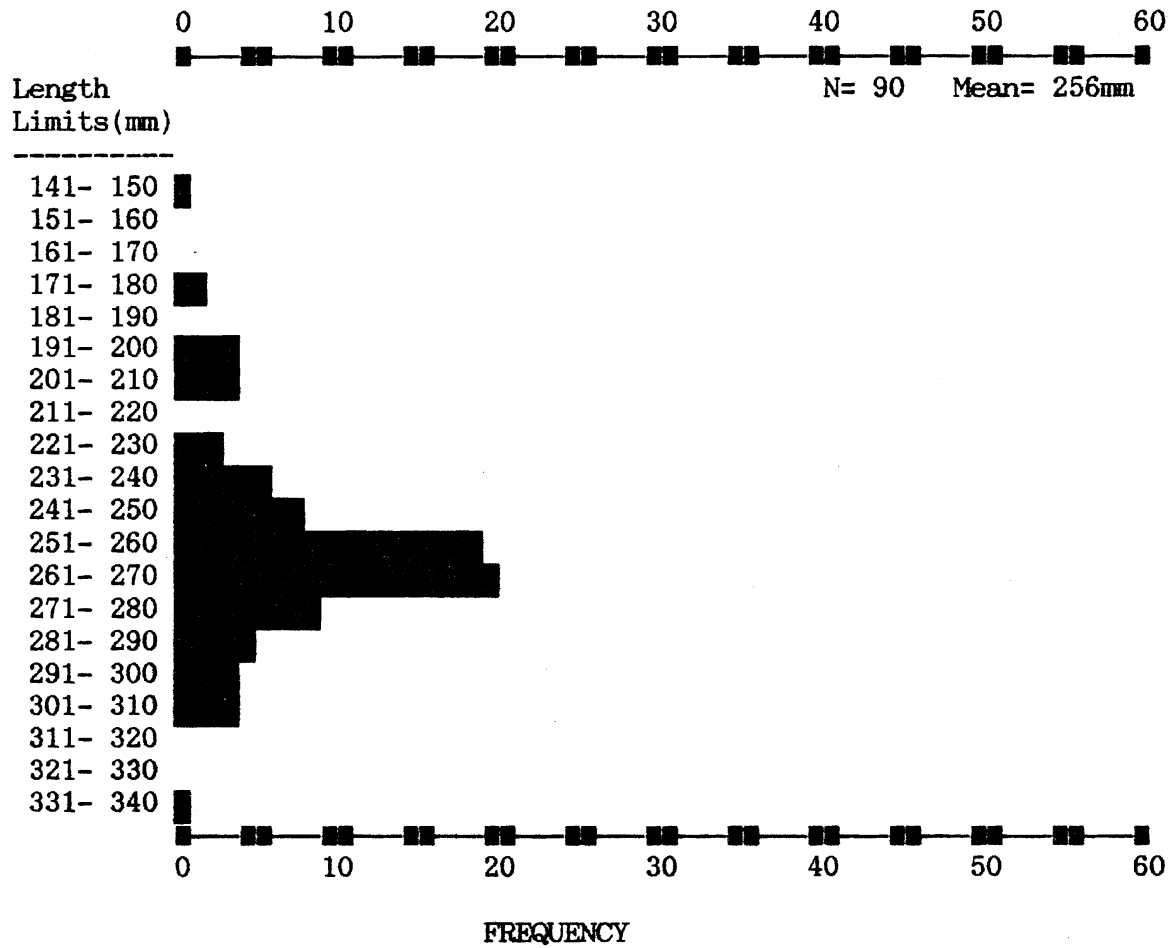


Figure 14. Length-Frequency Histogram for White Croaker  
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
Area 4, Quarter 1, 1980.

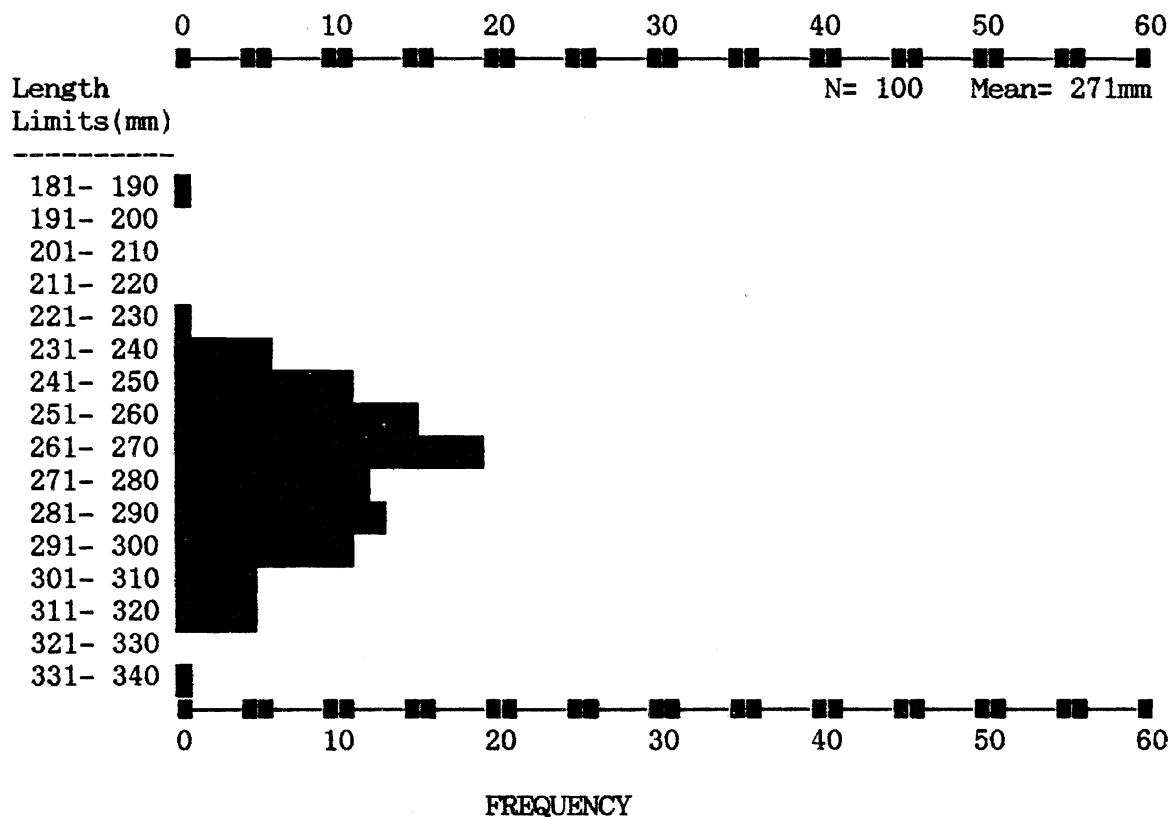


Figure 15. Length-Frequency Histogram for Blue Rockfish  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 4, Quarter 1, 1980.

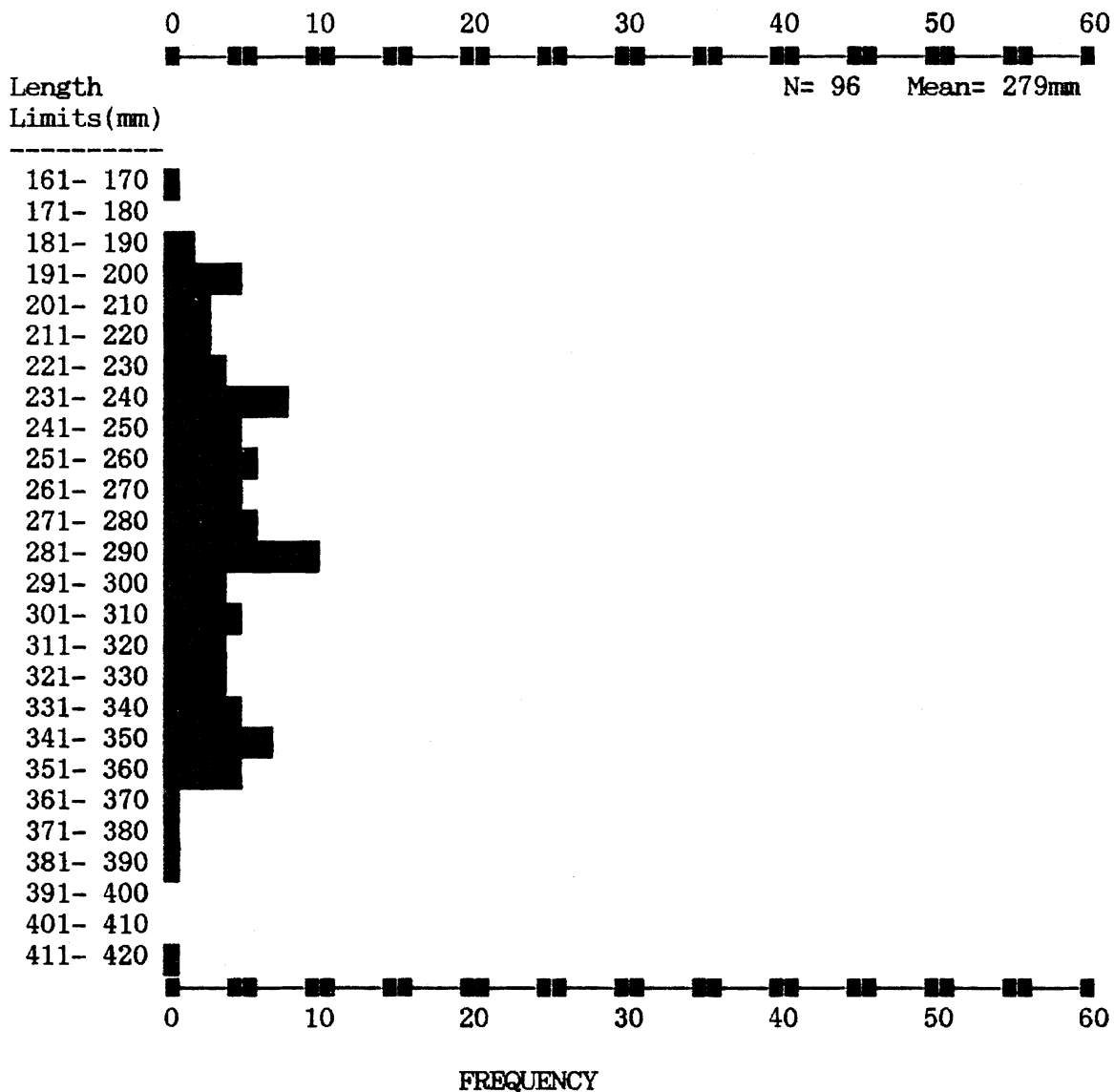


Table 82. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	215
Total Hours Effort for Anglers Intercepted	=	507.7
Total Hours Still to Fish (Incomplete Trips)	=	21.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	159	31.1
Sculpin, Pacific Staghorn	2	157	30.7
Surfperches	3	58	11.3
Surfperch, Barred	4	53	10.4
Jacksmelt	5	31	6.1
Sole, Sand	6	19	3.7
Surfperch, Walleye	7	9	1.8
Skates	8	7	1.4
Unidentified Fishes	9	4	0.8
Surfperch, Silver	10	4	0.8
Sharks	11	2	0.4
Spiny Dogfish	12	2	0.4
Skate, Big	13	1	0.2
Perch, Black	14	1	0.2
Seaperch, White	15	1	0.2
Perch, Pile	16	1	0.2
Surfperch, Calico	17	1	0.2
Halibut, California	18	1	0.2
Flounder, Starry	19	1	0.2
Total		512	100

C. CPUE

Catch per Angler Day	=	2.38	Catch per Angler Hour	=	1.01
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Table 83. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, 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 = 215  
 Total Hours Effort for Anglers Intercepted = 507.7  
 Total Hours Still to Fish (Incomplete Trips) = 21.7

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	103	33.3	0.16	16.74
Surfperch, Barred	2	50	16.2	0.18	9.11
Sculpin, Pacific Staghorn	3	44	14.2	0.05	1.99
Surfperches	4	41	13.3	0.19**	7.79
Jacksmelt	5	30	9.7	0.37	11.06
Sole, Sand	6	15	4.9	0.17	2.59
Surfperch, Walleye	7	9	2.9	0.17	1.49
Skates	8	3	1.0	0.00**	0.00
Surfperch, Silver	9	3	1.0	0.12	0.35
Sharks	10	2	0.6	0.76**	1.52
Spiny Dogfish	11	2	0.6	0.76	1.53
Unidentified Fishes	12	1	0.3	0.00**	0.00
Skate, Big	13	1	0.3	0.00**	0.00
Perch, Black	14	1	0.3	0.33	0.33
Seaperch, White	15	1	0.3	0.20	0.20
Perch, Pile	16	1	0.3	0.74	0.74
Surfperch, Calico	17	1	0.3	0.27	0.27
Flounder, Starry	18	1	0.3	0.27	0.27
Total		309	100		55.99

#### C. CPUE

Catch per Angler Day = 1.44      Catch per Angler Hour = 0.61  
 Kg per Angler Day = 0.26      Kg per Angler Hour = 0.11

\* 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 5 in 1980 for Quarter 1, 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 = 215  
 Total Hours Effort for Anglers Intercepted = 507.7  
 Total Hours Still to Fish (Incomplete Trips) = 21.7

#### 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	10.32	28	23.5	24	0.37	355	37
Croaker, White	2	6.50	40	33.6	40	0.16	236	45
Surfperch, Barred	3	3.83	21	17.6	21	0.18	207	38
Spiny Dogfish	4	0.76	1	0.8	1	0.76	610	0
Perch, Pile	5	0.74	1	0.8	1	0.74	355	0
Sole, Sand	6	0.69	4	3.4	4	0.17	240	33
Sculpin, Pacific Staghorn	7	0.63	14	11.8	14	0.05	162	12
Surfperch, Walleye	8	0.50	3	2.5	3	0.17	215	0
Surfperch, Silver	9	0.35	3	2.5	3	0.12	195	5
Perch, Black	10	0.33	1	0.8	1	0.33	265	0
Surfperch, Calico	11	0.27	1	0.8	1	0.27	255	0
Flounder, Starry	12	0.27	1	0.8	1	0.27	290	0
Seaperch, White	13	0.20	1	0.8	1	0.20	255	0
Total		25.40	119	100	115			

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

Catch per Angler Day = 0.55      Catch per Angler Hour = 0.23  
 Kg per Angler Day = 0.12      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 85. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, 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	=	91
Total Hours Effort for Anglers Intercepted	=	188.7
Total Hours Still to Fish (Incomplete Trips)	=	30.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	43	45.7
Cabazon	2	10	10.6
Surfperch, Calico	3	9	9.6
Seaperch, Striped	4	7	7.4
Sculpin, Pacific Staghorn	5	4	4.3
Rockfish, Grass	6	3	3.2
Lingcod	7	3	3.2
Perch, Black	8	3	3.2
Perch, Pile	9	3	3.2
Seaperch, Rainbow	10	3	3.2
Surfperch, Redtail	11	2	2.1
Sole, Sand	12	2	2.1
Unidentified Fishes	13	1	1.1
Thornback	14	1	1.1
Total		94	100

C. CPUE

Catch per Angler Day	=	1.03	Catch per Angler Hour	=	0.50
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Table 86. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, 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 = 91  
 Total Hours Effort for Anglers Intercepted = 188.7  
 Total Hours Still to Fish (Incomplete Trips) = 30.0

#### B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	42	50.0	0.37	15.72
Surfperch, Calico	2	9	10.7	0.35	3.16
Seaperch, Striped	3	7	8.3	0.37	2.57
Cabazon	4	6	7.1	1.52	9.14
Rockfish, Grass	5	3	3.6	1.16	3.47
Lingcod	6	3	3.6	1.38	4.14
Perch, Black	7	3	3.6	0.40	1.19
Perch, Pile	8	3	3.6	0.45	1.35
Seaperch, Rainbow	9	3	3.6	0.26	0.78
Surfperch, Redtail	10	2	2.4	0.66	1.32
Sole, Sand	11	2	2.4	0.17	0.34
Thornback	12	1	1.2	0.00**	0.00
Total		84	100		43.18

#### C. CPUE

Catch per Angler Day = 0.92      Catch per Angler Hour = 0.45  
 Kg per Angler Day = 0.47      Kg per Angler Hour = 0.23

\* 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 1980 for Quarter 1, 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 = 91  
 Total Hours Effort for Anglers Intercepted = 188.7  
 Total Hours Still to Fish (Incomplete Trips) = 30.0

## 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	15.72	42	51.9	42	0.37	262	46
Cabazon	2	7.62	5	6.2	5	1.52	450	70
Lingcod	3	4.14	3	3.7	3	1.38	483	123
Rockfish, Grass	4	3.47	3	3.7	3	1.16	367	32
Surfperch, Calico	5	2.81	8	9.9	8	0.35	273	25
Seaperch, Striped	6	2.57	7	8.6	7	0.37	279	31
Perch, Pile	7	1.35	3	3.7	3	0.45	300	33
Surfperch, Redtail	8	1.32	2	2.5	2	0.66	335	7
Perch, Black	9	1.19	3	3.7	3	0.40	285	30
Seaperch, Rainbow	10	0.78	3	3.7	3	0.26	253	13
Sole, Sand	11	0.34	2	2.5	2	0.17	240	28
Total		41.31	81	100	81			

## C. CPUE\*\*\*

Catch per Angler Day = 0.89      Catch per Angler Hour = 0.43  
 Kg per Angler Day = 0.45      Kg per Angler Hour = 0.22

\* 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 1980 for Quarter 1, 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	=	129
Total Hours Effort for Anglers Intercepted	=	406.3
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	387	41.4
Bocaccio	2	87	9.3
Rockfish, Gopher	3	74	7.9
Lingcod	4	55	5.9
Surfperch, Walleye	5	30	3.2
Rockfish, Canary	6	29	3.1
Jacksnelt	7	24	2.6
Cabezon	8	24	2.6
Mackerel, Pacific (Chub)	9	22	2.4
Rockfish, Olive	10	17	1.8
Croaker, White	11	17	1.8
Rockfish, Brown	12	14	1.5
Flounder, Starry	13	14	1.5
Surfperch, Barred	14	12	1.3
Spiny Dogfish	15	10	1.1
Rockfish, Vermilion	16	10	1.1
Rockfish, China	17	10	1.1
Rockfish, Greenspotted	18	9	1.0
Rockfish, Yellowtail	19	8	0.9
Rockfish, Black	20	7	0.7
Rockfish, Speckled	21	7	0.7
Greenling, Kelp	22	7	0.7
Rockfish, Copper	23	6	0.6
Rockfish, Greenstriped	24	6	0.6
Rockfish, Rosy	25	6	0.6
Rockfish, Starry	26	6	0.6

(Table 88. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black-and-yellow	27	4	0.4
Rockfishes (unidentified)	28	3	0.3
Rockfish, Yelloweye	29	3	0.3
Rockfish, Whitebelly	30	3	0.3
Sharks	31	2	0.2
Chilipepper	32	2	0.2
Rockfish, Flag	33	2	0.2
Sculpin, Pacific Staghorn	34	2	0.2
Sanddab, Pacific	35	2	0.2
Sole, Sand	36	2	0.2
Unidentified Fishes	37	1	0.1
Shark, Blue	38	1	0.1
Ray, Bat	39	1	0.1
Salmon, Chinook (King)	40	1	0.1
Cowcod	41	1	0.1
Rockfish, Grass	42	1	0.1
Thornyhead, Shortspine	43	1	0.1
Surfperches	44	1	0.1
Perch, Pile	45	1	0.1
Flounders, Lefteye	46	1	0.1
Sanddab, Speckled	47	1	0.1
Halibut, California	48	1	0.1
Total		935	100

## C. CPUE

Catch per Angler Day = 7.25      Catch per Angler Hour = 2.30

Table 89. Sampled Effort, Ranked Catch and CPUE for Area 5  
in 1980 for Quarter 1, 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	=	129
Total Hours Effort for Anglers Intercepted	=	406.3
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
Rockfish, Blue	1	367	43.5	0.46	167.53
Bocaccio	2	87	10.3	1.05	91.09
Rockfish, Gopher	3	74	8.8	0.45	33.23
Lingcod	4	54	6.4	1.86	100.37
Rockfish, Canary	5	29	3.4	0.57	16.42
Cabazon	6	24	2.8	1.86	44.70
Mackerel, Pacific (Chub)	7	20	2.4	0.54	10.89
Rockfish, Olive	8	17	2.0	0.70	11.84
Rockfish, Brown	9	14	1.7	0.54	7.61
Flounder, Starry	10	14	1.7	3.27	45.83
Surfperch, Barred	11	12	1.4	0.43	5.21
Spiny Dogfish	12	10	1.2	2.46	24.64
Rockfish, Vermilion	13	10	1.2	1.28	12.82
Rockfish, China	14	10	1.2	0.62	6.23
Rockfish, Greenspotted	15	9	1.1	0.56	5.04
Jacksmelt	16	8	0.9	0.36	2.89
Rockfish, Yellowtail	17	8	0.9	0.47	3.74
Rockfish, Black	18	7	0.8	0.51	3.58
Rockfish, Speckled	19	7	0.8	0.80	5.59
Greenling, Kelp	20	7	0.8	0.63	4.41
Rockfish, Copper	21	6	0.7	0.87	5.21
Rockfish, Greenstriped	22	6	0.7	0.25	1.49
Rockfish, Rosy	23	6	0.7	0.27	1.62
Rockfish, Starry	24	6	0.7	0.74	4.41
Rockfish, Black-and-yellow	25	4	0.5	0.56	2.26
Rockfish, Yelloweye	26	3	0.4	0.54	1.61
Rockfish, Whitebelly	27	3	0.4	0.79	2.37

(Table 89. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Chilipepper	28	2	0.2	1.03	2.06
Rockfish, Flag	29	2	0.2	0.80	1.61
Sculpin, Pacific Staghorn	30	2	0.2	0.00**	0.00
Sanddab, Pacific	31	2	0.2	0.16	0.32
Sole, Sand	32	2	0.2	0.27	0.54
Ray, Bat	33	1	0.1	0.00**	0.00
Salmon, Chinook (King)	34	1	0.1	3.75	3.75
Rockfishes (unidentified)	35	1	0.1	0.58**	0.58
Cowcod	36	1	0.1	4.29	4.29
Rockfish, Grass	37	1	0.1	0.70	0.70
Thornyhead, Shortspine	38	1	0.1	2.08	2.08
Croaker, White	39	1	0.1	0.31	0.31
Surfperches	40	1	0.1	0.43**	0.43
Flounders, Lefteye	41	1	0.1	0.38**	0.38
Sanddab, Speckled	42	1	0.1	0.00**	0.00
Halibut, California	43	1	0.1	0.98	0.98
Total		843	100		640.68

## C. CPUE

Catch per Angler Day = 6.53      Catch per Angler Hour = 2.07  
 Kg per Angler Day = 4.97      Kg per Angler Hour = 1.58

\* 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 1980 for Quarter 1, 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 = 129  
 Total Hours Effort for Anglers Intercepted = 406.3  
 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)	
Rockfish, Blue	1	163.88	359	43.5	199	0.46	307	36
Lingcod	2	98.51	53	6.4	53	1.86	543	82
Bocaccio	3	90.04	86	10.4	37	1.05	448	83
Flounder, Starry	4	45.83	14	1.7	14	3.27	602	71
Cabazon	5	44.70	24	2.9	19	1.86	485	68
Rockfish, Gopher	6	33.23	74	9.0	71	0.45	303	19
Spiny Dogfish	7	24.64	10	1.2	10	2.46	888	57
Rockfish, Canary	8	16.42	29	3.5	29	0.57	332	47
Rockfish, Vermilion	9	12.82	10	1.2	8	1.28	415	89
Rockfish, Olive	10	11.84	17	2.1	17	0.70	369	54
Mackerel, Pacific (Chub)	11	10.89	20	2.4	20	0.54	333	54
Rockfish, Brown	12	7.61	14	1.7	14	0.54	301	64
Rockfish, China	13	6.23	10	1.2	10	0.62	321	31
Rockfish, Speckled	14	5.59	7	0.8	7	0.80	379	35
Surfperch, Barred	15	5.21	12	1.5	10	0.43	275	54
Rockfish, Copper	16	5.21	6	0.7	6	0.87	352	66
Rockfish, Greenspotted	17	5.04	9	1.1	9	0.56	325	29
Rockfish, Starry	18	4.41	6	0.7	6	0.74	352	25
Greenling, Kelp	19	4.41	7	0.8	7	0.63	355	28
Cowcod	20	4.29	1	0.1	1	4.29	640	0
Salmon, Chinook (King)	21	3.75	1	0.1	1	3.75	735	0
Rockfish, Yellowtail	22	3.74	8	1.0	7	0.47	314	48
Rockfish, Black	23	3.58	7	0.8	7	0.51	322	20
Jacksmelt	24	2.53	7	0.8	7	0.36	354	35
Rockfish, Whitebelly	25	2.37	3	0.4	3	0.79	323	119
Rockfish, Black-and-yellow	26	2.26	4	0.5	4	0.56	308	6

(Table 90. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Thornyhead, Shortspine	27	2.08	1	0.1	1	2.08	465	0
Chilipepper	28	2.06	2	0.2	2	1.03	435	0
Rockfish, Rosy	29	1.62	6	0.7	6	0.27	254	15
Rockfish, Flag	30	1.61	2	0.2	2	0.80	360	49
Rockfish, Yelloweye	31	1.61	3	0.4	3	0.54	307	33
Rockfish, Greenstriped	32	1.49	6	0.7	6	0.25	278	23
Halibut, California	33	0.98	1	0.1	1	0.98	455	0
Rockfish, Grass	34	0.70	1	0.1	1	0.70	315	0
Sanddab, Pacific	35	0.32	2	0.2	2	0.16	243	32
Croaker, White	36	0.31	1	0.1	1	0.31	300	0
Sole, Sand	37	0.27	1	0.1	1	0.27	280	0
Sanddab, Speckled	38	0.00	1	0.1	0	0.00	0	0
Total		632.05	825	100	602			

## C. CPUE\*\*\*

Catch per Angler Day = 6.40      Catch per Angler Hour = 2.03  
 Kg per Angler Day = 4.90      Kg per Angler Hour = 1.56

\* 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 1980 for Quarter 1, by All CPFV 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	=	292.0
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	270	43.9
Bocaccio	2	194	31.5
Rockfish, Yellowtail	3	38	6.2
Rockfish, Canary	4	20	3.3
Mackerel, Pacific (Chub)	5	19	3.1
Rockfish, Rosy	6	10	1.6
Rockfish, Widow	7	9	1.5
Rockfish, Starry	8	9	1.5
Chilipepper	9	8	1.3
Rockfish, Olive	10	8	1.3
Lingcod	11	6	1.0
Rockfish, Yelloweye	12	5	0.8
Rockfish, Greenstriped	13	4	0.7
Rockfish, Speckled	14	4	0.7
Rockfish, Vermilion	15	3	0.5
Rockfish, Greenspotted	16	3	0.5
Rockfish, Copper	17	2	0.3
Spiny Dogfish	18	1	0.2
Rockfish, Gopher	19	1	0.2
Sole, Rock	20	1	0.2
Total		615	100

C. CPUE

Catch per Angler Day	=	8.42	Catch per Angler Hour	=	2.11
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Table 92. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, 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 = 73  
 Total Hours Effort for Anglers Intercepted = 292.0  
 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	270	44.5	0.48	129.07
Bocaccio	2	194	32.0	0.81	157.20
Rockfish, Yellowtail	3	38	6.3	0.37	13.93
Rockfish, Canary	4	20	3.3	0.58	11.59
Mackerel, Pacific (Chub)	5	16	2.6	0.61	9.83
Rockfish, Rosy	6	10	1.6	0.28	2.80
Rockfish, Widow	7	9	1.5	0.68	6.10
Rockfish, Starry	8	9	1.5	0.59	5.31
Chilipepper	9	8	1.3	0.88	7.06
Rockfish, Olive	10	8	1.3	0.89	7.15
Rockfish, Yelloweye	11	5	0.8	0.91	4.56
Rockfish, Greenstriped	12	4	0.7	0.25	0.98
Rockfish, Speckled	13	4	0.7	0.87	3.47
Rockfish, Vermilion	14	3	0.5	2.32	6.97
Rockfish, Greenspotted	15	3	0.5	0.58	1.73
Rockfish, Copper	16	2	0.3	0.60	1.20
Lingcod	17	2	0.3	5.46	10.92
Rockfish, Gopher	18	1	0.2	0.35	0.35
Sole, Rock	19	1	0.2	0.97	0.97
Total		607	100		381.19

#### C. CPUE

Catch per Angler Day = 8.32      Catch per Angler Hour = 2.08  
 Kg per Angler Day = 5.22      Kg per Angler Hour = 1.31

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

Table 93. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1980 for Quarter 1, by All CPFV 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 = 292.0  
 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)	
Bocaccio	1	157.20	194	32.0	153	0.81	423	46
Rockfish, Blue	2	129.07	270	44.5	189	0.48	312	34
Rockfish, Yellowtail	3	13.93	38	6.3	38	0.37	286	51
Rockfish, Canary	4	11.59	20	3.3	20	0.58	336	44
Lingcod	5	10.92	2	0.3	2	5.46	795	42
Mackerel, Pacific (Chub)	6	9.83	16	2.6	16	0.61	353	21
Rockfish, Olive	7	7.15	8	1.3	8	0.89	402	51
Chilipepper	8	7.06	8	1.3	8	0.88	408	56
Rockfish, Vermilion	9	6.97	3	0.5	3	2.32	527	21
Rockfish, Widow	10	6.10	9	1.5	8	0.68	371	21
Rockfish, Starry	11	5.31	9	1.5	9	0.59	328	26
Rockfish, Yelloweye	12	4.56	5	0.8	4	0.91	359	65
Rockfish, Speckled	13	3.47	4	0.7	4	0.87	388	43
Rockfish, Rosy	14	2.80	10	1.6	10	0.28	255	33
Rockfish, Greenspotted	15	1.73	3	0.5	3	0.58	330	10
Rockfish, Copper	16	1.20	2	0.3	2	0.60	320	14
Rockfish, Greenstriped	17	0.98	4	0.7	4	0.25	278	25
Sole, Rock	18	0.97	1	0.2	1	0.97	415	0
Rockfish, Gopher	19	0.35	1	0.2	1	0.35	280	0
Total		381.19	607	100	483			

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

Catch per Angler Day = 8.32      Catch per Angler Hour = 2.08  
 Kg per Angler Day = 5.22      Kg per Angler Hour = 1.31

\* 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 16. Length-Frequency Histogram for Bocaccio  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

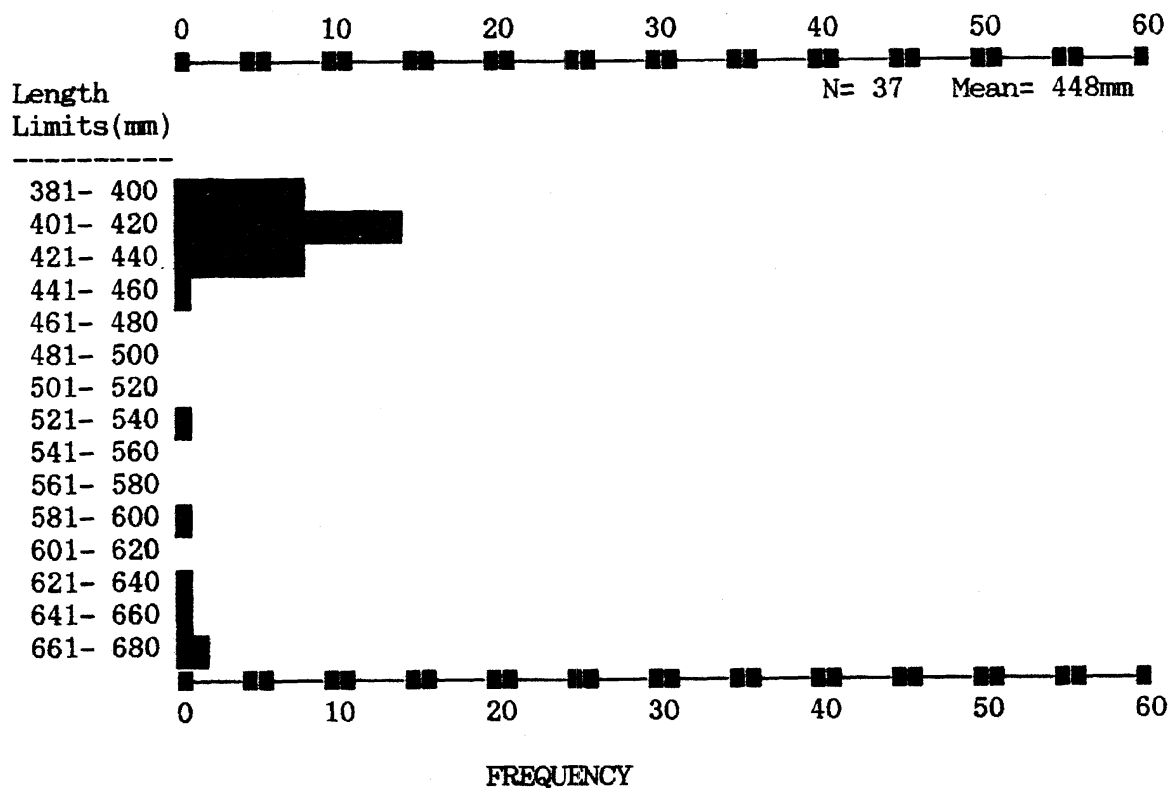


Figure 17. Length-Frequency Histogram for Lingcod  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

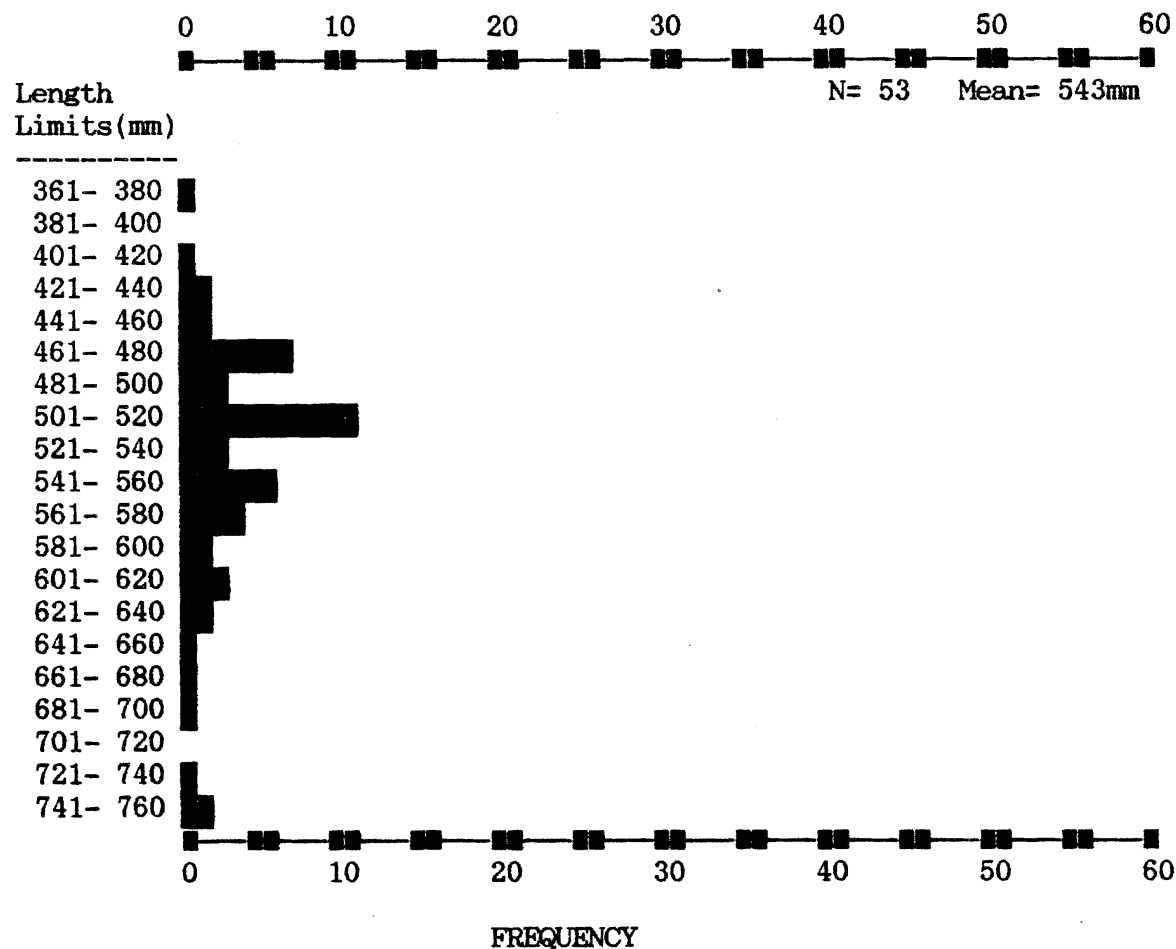


Figure 18. Length-Frequency Histogram for Blue Rockfish  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

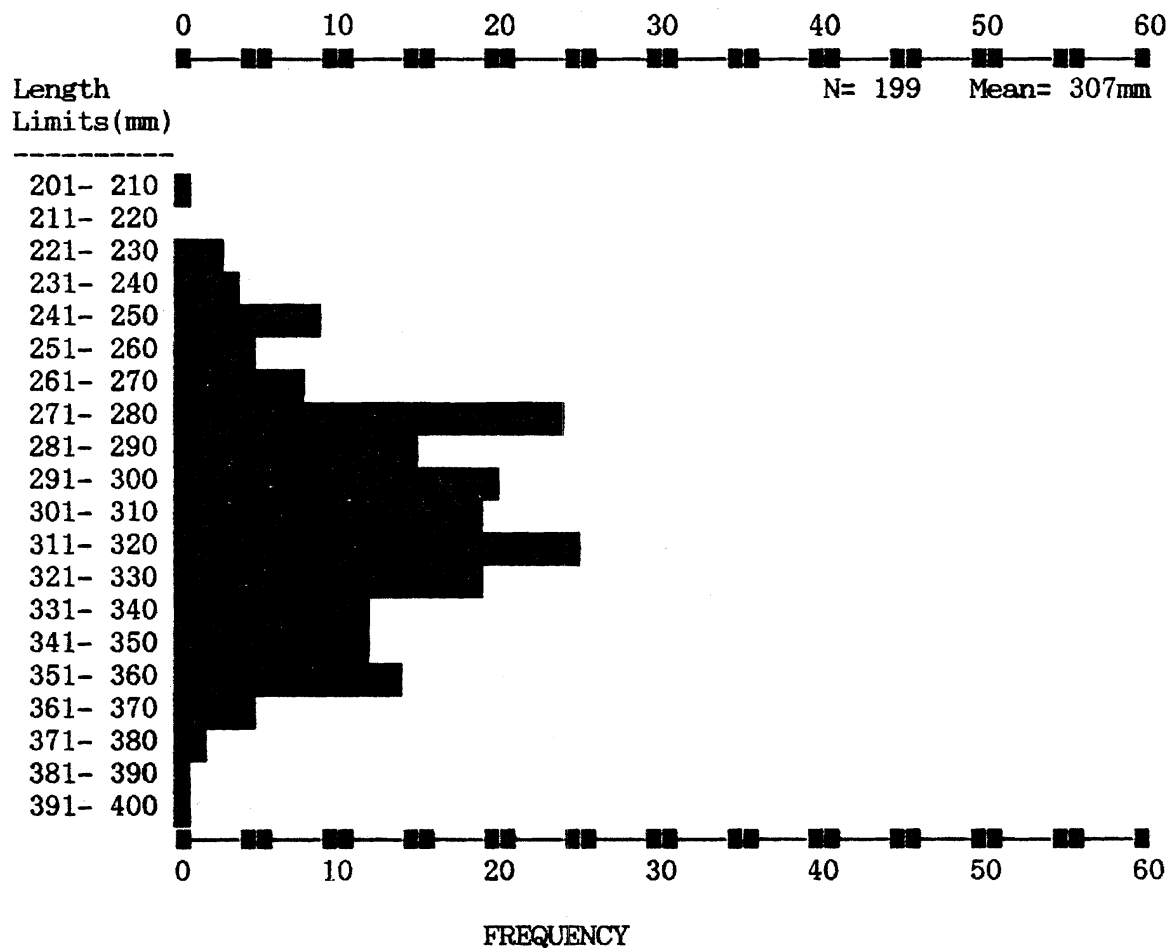


Figure 19. Length-Frequency Histogram for Gopher Rockfish  
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

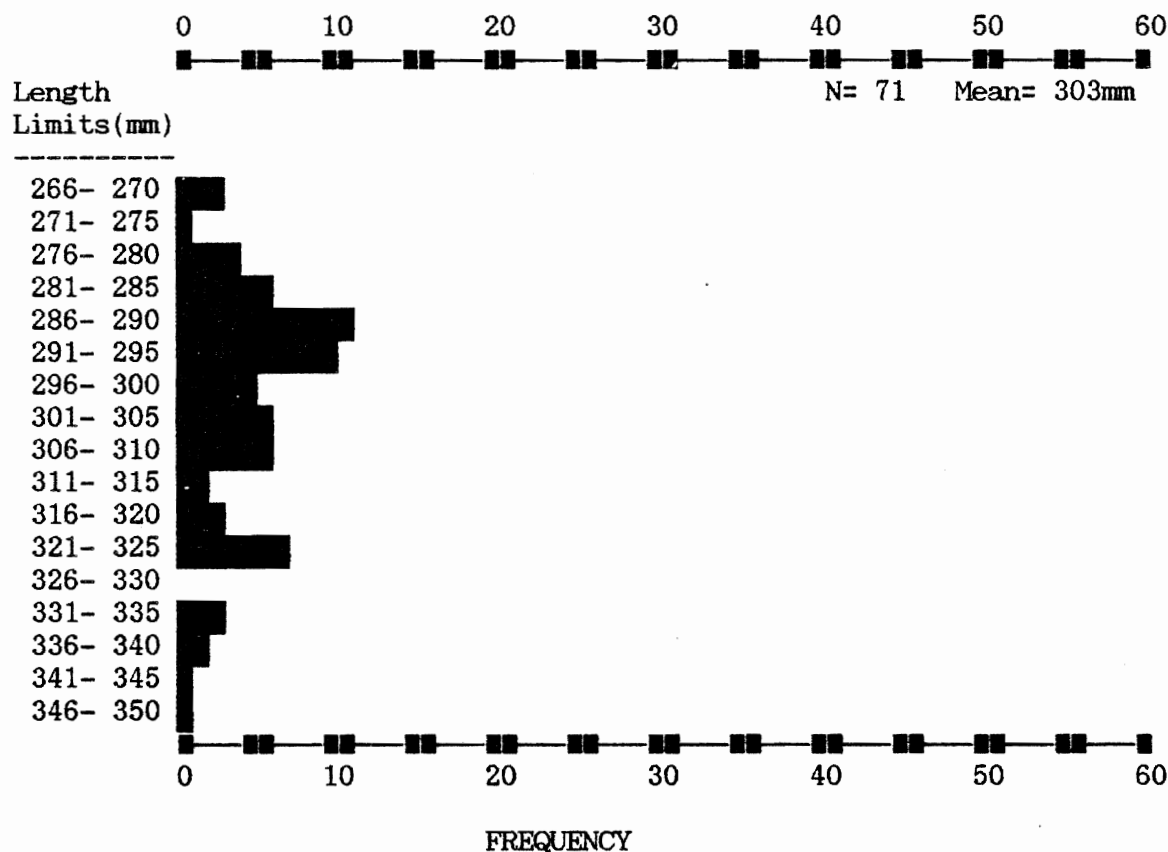


Figure 20. Length-Frequency Histogram for Bocaccio  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

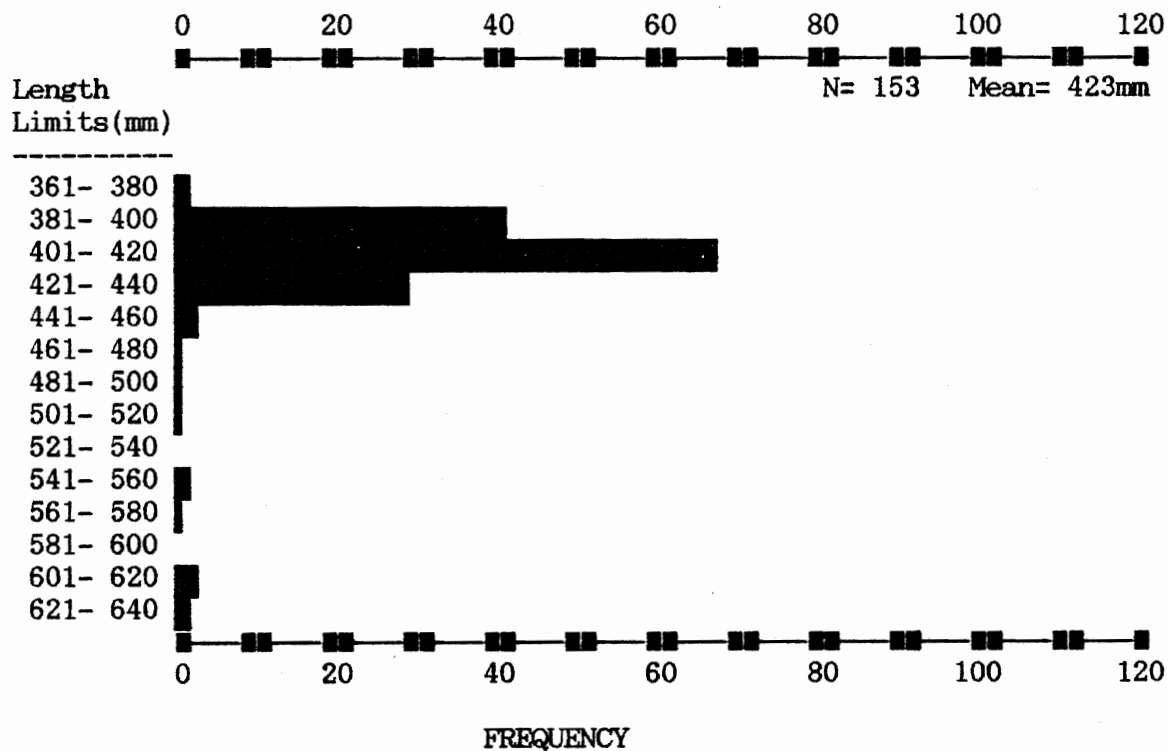




Figure 21. Length-Frequency Histogram for Blue Rockfish  
 Taken by All CPFV Anglers Using Hook-and-Line Gear.  
 Area 5, Quarter 1, 1980.

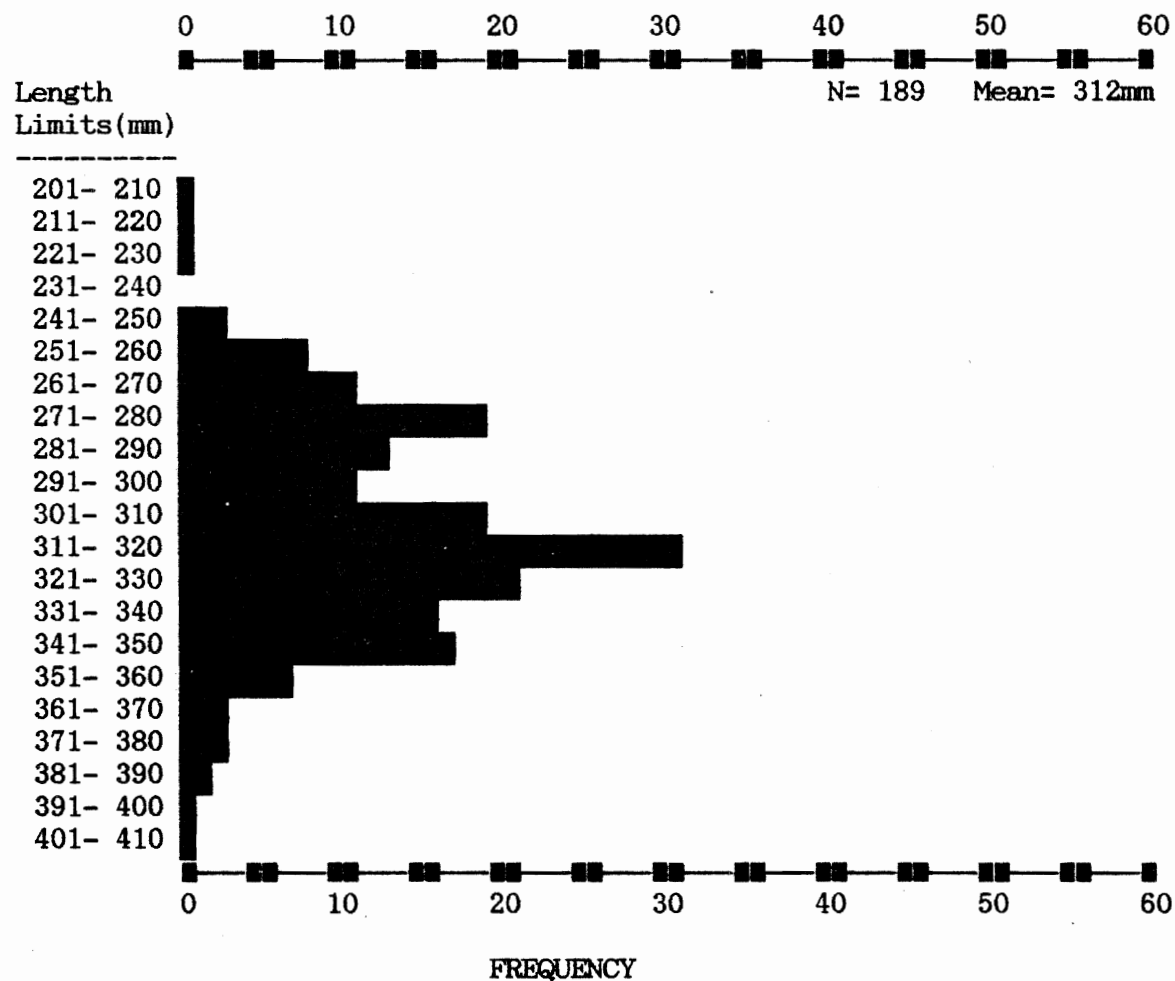
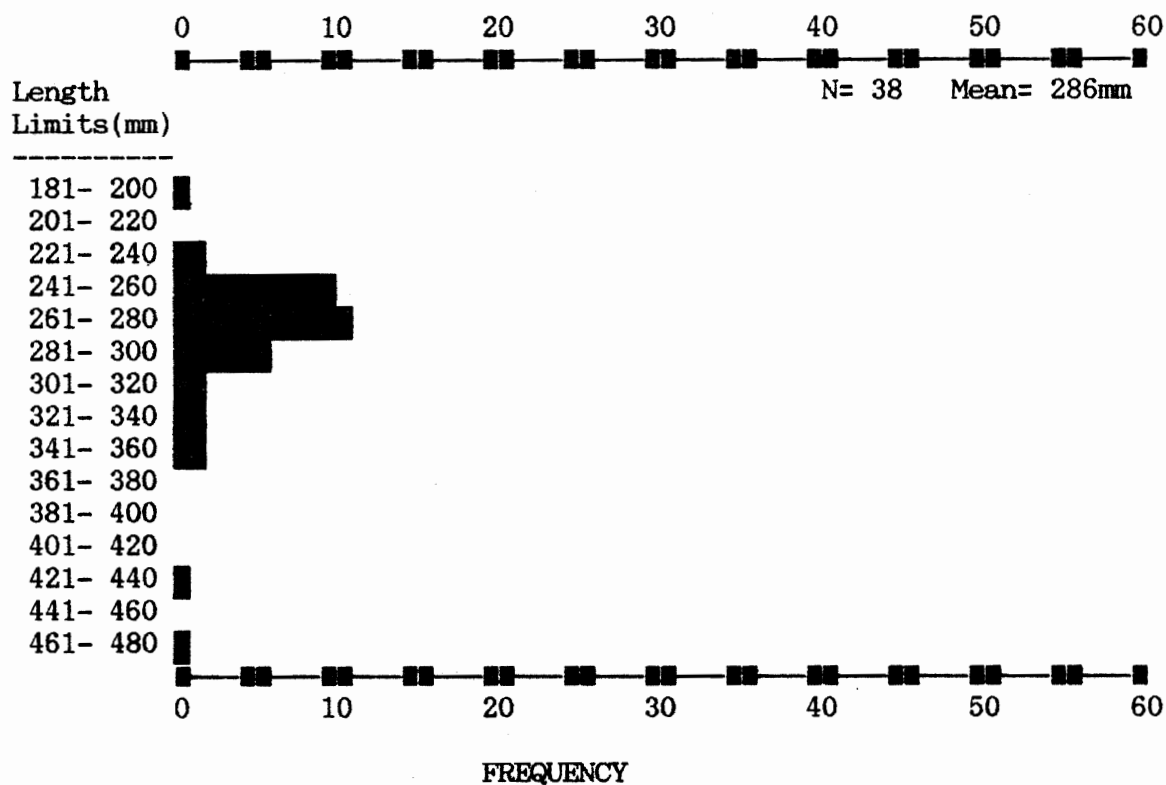


Figure 22. Length-Frequency Histogram for Yellowtail Rockfish  
Taken by All CPFV Anglers Using Hook-and-Line Gear.  
Area 5, Quarter 1, 1980.



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APPENDIX A

Pages 131 to 338 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 1980 for Quarter 1, Taken by All Mode Anglers Using All Types of Gear.

Common Name	Scientific Name	a	b
Sturgeon, Green	<u>Acipenser medirostris</u>	0.00000053086	3.34800
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
Topsmelt	<u>Atherinops affinis</u>	0.00005566000	2.59000
Jacksmelt	<u>Atherinopsis californiensis</u>	0.00000098820	3.35360
Flounders, Lefteye	Bothidae		
Bottomfishes (Groundfishes)	Bottom Pisces (Groundfishes)		
Prickleback, Monkeyface	<u>Cebidichthys violaceus</u>	0.00000000000	0.00000
Sharks	Chondrichthyes		
Sanddab, Pacific	<u>Citharichthys sordidus</u>	0.00000142860	3.37080
Sanddabs	<u>Citharichthys</u> spp.		
Sanddab, Speckled	<u>Citharichthys stigmaeus</u>	0.00000266000	3.29530
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		
Anchovies	Engraulidae		
Anchovy, Northern	<u>Engraulis mordax</u>	0.00000560100	2.98400
Sculpin, Buffalo	<u>Enophrys bison</u>	0.00001790000	2.89600
Sole, Petrale	<u>Eopsetta jordani</u>	0.00000305800	3.23950
Croaker, White	<u>Genyonemus lineatus</u>	0.00000708500	3.08328
Kelpfish, Striped	<u>Gibbonsia metzi</u>	0.00000000000	0.00000
Gobies	Gobiidae		
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
Turbot, Diamond	<u>Hypsopsetta guttulata</u>	0.00003467020	2.84730
Seaperch, Rainbow	<u>Hypsurus caryi</u>	0.00001535000	3.00700
Sole, Rock	<u>Lepidopsetta bilineata</u>	0.00000760300	3.09570
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>	0.00001790000	2.89600
Tomcod, Pacific	<u>Microgadus proximus</u>	0.00000534900	3.07000
Bass, Striped	<u>Morone saxatilis</u>	0.00001068210	2.90671
Smoothhound, Gray	<u>Mustelus californicus</u>	0.00002089000	2.88000
Smoothhound, Brown	<u>Mustelus henlei</u>	0.00002089000	2.88000
Smoothhounds	<u>Mustelus</u> spp.		
Ray, Bat	<u>Myliobatis californica</u>	0.00001054400	3.09289
Fringehead, Onespot	<u>Neoclinus uninotatus</u>	0.00000000000	0.00000
Shark, Sevengill	<u>Notorynchus maculatus</u>	0.00000070600	3.49000
Salmon	<u>Oncorhynchus</u> spp.		

## Appendix B. (continued)

Common Name	Scientific Name	a	b
Salmon, Chinook (King)	<u>Oncorhynchus tshawytscha</u>	0.00000944000	3.00000
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, White	<u>Phanerodon furcatus</u>	0.00001366000	2.97800
Flounder, Starry	<u>Platichthys stellatus</u>	0.00000163000	3.34000
Thornback	<u>Platyrrhinoidis triseriata</u>	0.00000510900	2.96780
Flounders, Righteye	Pleuronectidae		
Flatfishes	Pleuronectiformes		
Sole, C-O	<u>Pleuronichthys coenosus</u>	0.00000057300	3.57640
Shark, Blue	<u>Prionace glauca</u>	0.00000082655	3.20000
Sole, Sand	<u>Psettichthys melanostictus</u>	0.00000277100	3.26480
Skate, Big	<u>Raja binoculata</u>	0.00002428050	2.85496
Skates	Rajidae		
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>	0.00003220500	2.90840
Perch, Pile	<u>Rhacochilus vacca</u>	0.00000925500	3.09900
Trout, Rainbow	<u>Salmo gairdnerii</u>	0.00000637000	3.06300
Trouts	Salmonidae		
Mackerel, Pacific (Chub)	<u>Scomber japonicus</u>	0.00000136600	3.39360
Cabazon	<u>Scorpaenichthys marmoratus</u>	0.00008823220	2.72030
Rockfishes (unidentified)	Scorpaenidae		
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
Rockfish, Squarespot	<u>Sebastes hopkinsi</u>	0.00000324000	3.25050
Cowcod	<u>Sebastes levis</u>	0.00001851570	2.98070
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
Rockfish, Whitebelly	<u>Sebastes vexillaris</u>	0.00001648140	3.01800
Thornyhead, Shortspine	<u>Sebastolobus alascanus</u>	0.00001406040	3.06300

Appendix B. (continued)

Common Name	Scientific Name	a	b
Smelt, Night	<u>Spirinchus starksi</u>	0.00000086900	3.38600
Spiny Dogfish	<u>Squalus acanthias</u>	0.00000189000	3.09000
Jack Mackerel	<u>Trachurus symmetricus</u>	0.00000331000	3.22320
Shark, Leopard	<u>Triakis semifasciata</u>	0.00002089000	2.88000
Unidentified Fishes	Unidentified Pisces		

Appendix C. List of Common and Scientific Names for Fish from Areas  
097 and 3 in 1980 for Quarter 1 Corrected from Fork to  
Total Length Using Linear Regressions from Echeverria and  
Lenarz (1984), Karpov (In Press), and Van Hyning (1951).

Common Name	Scientific Name
Sturgeon, Green	<u>Acipenser medirostris</u>
Sturgeon, White	<u>Acipenser transmontanus</u>
Sturgeons (unidentified)	<u>Acipenseridae</u>
Surfperch, Barred	<u>Amphistichus argenteus</u>
Surfperch, Calico	<u>Amphistichus koelzi</u>
Surfperch, Redtail	<u>Amphistichus rhodoterus</u>
Topsmelt	<u>Atherinops affinis</u>
Jacksmelt	<u>Atherinopsis californiensis</u>
Herring, Pacific	<u>Clupea harengus pallasii</u>
Perch, Shiner	<u>Cymatogaster aggregata</u>
Perch, Black	<u>Embiotoca jacksoni</u>
Seaperch, Striped	<u>Embiotoca lateralis</u>
Croaker, White	<u>Genyonemus lineatus</u>
Greenling, Kelp	<u>Hexagrammos decagrammus</u>
Greenling, Rock	<u>Hexagrammos lagocephalus</u>
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>
Seaperch, Rainbow	<u>Hypsurus caryi</u>
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>
Bass, Striped	<u>Morone saxatilis</u>
Salmon, Chinook (King)	<u>Oncorhynchus tshawytscha</u>
Lingcod	<u>Ophiodon elongatus</u>
Seaperch, White	<u>Phanerodon furcatus</u>
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>
Perch, Pile	<u>Rhacochilus vacca</u>
Rockfish, Brown	<u>Sebastes auriculatus</u>
Rockfish, Gopher	<u>Sebastes carnatus</u>
Rockfish, Copper	<u>Sebastes caurinus</u>
Rockfish, Greenspotted	<u>Sebastes chlorostictus</u>
Rockfish, Starry	<u>Sebastes constellatus</u>
Rockfish, Widow	<u>Sebastes entomelas</u>
Rockfish, Yellowtail	<u>Sebastes flavidus</u>
Rockfish, Squarespot	<u>Sebastes hopkinsi</u>
Rockfish, Black	<u>Sebastes melanops</u>
Rockfish, Vermilion	<u>Sebastes miniatus</u>
Rockfish, Blue	<u>Sebastes mystinus</u>
Rockfish, China	<u>Sebastes nebulosus</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>
Rockfish, Olive	<u>Sebastes serranoides</u>