UC San Diego

Fish Bulletin

Title

Fish Bulletin 145. The California Partyboat Fishery 1947-1967

Permalink

https://escholarship.org/uc/item/0vr6b26k

Author

Young, Parke H

Publication Date

1969-09-01

STATE OF CALIFORNIA THE RESOURCES AGENCY DEPARTMENT OF FISH AND GAME FISH BULLETIN 145

The California Partyboat Fishery 1947–1967



BY
PARKE H. YOUNG
Marine Resources Region
1969

ABSTRACT

At the beginning of the 20th century, marine partyboat fishing in California was a wealthy man's sport, but 30 years later, the nucleus of the present day fleet of about 400 partyboats was forming. The development of the fleet from 1936 to 1967 is traced in brief, including mention of the influence of governmental agencies on safety, food handling, communications, employment, records of catch, and taxes. A study of fleet activities for one year, 1963, is presented and reveals some economic facts of partyboat life.

During the 21 year period, 1947–1967, the statewide marine partyboat fleet reported a catch of over 71 million fish. Annual totals ranged from 2.0 to 5.4 million fish.

Salmon, striped bass, rockfish, and lingcod have been the primary species sought and taken from Oregon to Point Arguello, whereas off southern California the California barracuda, kelp and sand bass, California yellowtail, Pacific bonito, and California halibut were the most important species.

Of the 20 most important partyboat game fishes in the southern California fishery, all except one entered the commercial fishery.

TABLE OF CONTENTS

Abstract	Pa
Acknowledgments	
Introduction	
Definition of Terms	-
Historical Review	
Southern California	
Central and Northern California	
The Partyboat Fishing Industry	and where there were along these sectors
1936–1941	
1947–1967	
Regulatory Agencies Affecting Partyboat Activity	
Areas of Operation	
Economics of the Partyboat Fleet	
Northern California	
Bays-Delta	
Central California	
Southern California	
Partyboat Catch Statewide, 1947–1967	
Species Accounts	
Summary	
References	
Appendixes	(

ACKNOWLEDGMENTS

A study of this scope can only result from the efforts of many people. Foremost among these were the partyboat skippers, landing operators, and deckhands who assembled the raw catch data into log form.

Jack W. Schott and John L. Baxter spent months reviewing catch logs for completeness and applicability. Jack Schott, in particular, devised many schemes to improve the quality of the data gathered.

Within the Department's Biostatistics Unit, many of the personnel performed the bookeeping processes that go along with International Business Machines. Their work resulted in monthly and annual summations of catch which are the cornerstones of fisheries research. Betty Murphy, Lutie Humphrey, May Trotter, Mae Alston, and Marguerite Jordan maintained the record file of each boat in the statewide partyboat fleet. Dorothy Wright, Esther Thom, Katy Wade, and Joyette Mosich keypunched all log data. Dorothy Bailey supervised the machine reports, Marian Haxby and Ellen Gramm decoded, and Jeanne Cowger supervised data collection. Others, no longer with the Department of Fish and Game, participated in the work of the Biostatistical Section.

John E. Fitch, as supervisor and past editor of much experience, offered a number of suggestions to improve the bulletin. John L. Baxter, marine editor, provided guidance and prepared the manuscript for submission to the printer.

Kathleen O'Rear and Micaela Wolfe typed the final manuscript, and Constance Kenyon, Laura Richardson, Loretta Proctor, and Donna Moller typed a half-dozen predecessors. Librarian Patricia Powell prepared the list of references and Gertrude Cutler proof-read.

The marine patrol staff has been of inestimable service to this project, particularly so in the instances wherein certain partyboat operations were a bit off the beam with their log reports.

It is not possible to name everyone who has contributed to this publication. Space would not permit. Named or not, without your help this work could not have been accomplished.

My sincere thanks to each and all.

PARKE H. YOUNG September 1969

1. INTRODUCTION

Partyboat fishing began in California at the turn of the 20th century with boats that seated one or two anglers, but were expensive to hire. During the 20-year period 1920–1939, however, partyboat fishing came within economic reach of a large number of anglers. Today, 1969, the industry offers a great variety of services, and fishing trips may range from hours to weeks at sea. Almost every port from Oregon to Mexico has partyboats and attendant services available.

Partyboats serve sportfishermen exclusively, although there have been abortive attempts to set up a fishing service for anglers who prefer to sell all or a part of their catch. Very recently, industry spokesmen proposed a sport-commercial partyboat service for albacore fishermen. In this case, according to the plans, all on board would be required to possess valid commercial fishing licenses, thus granting each angler the right to sell his catch. (The albacore is both a commercial and a sportfishing species.)

In California, fish taken under the authority of a commercial fishing license may be sold, but fish taken under the authority of a sportfishing license may not be sold.

Since 1916, California has been collecting and tabulating records of the commercial catch. The records include: catch (tons or pounds) by species; catch localities; expressions of fishing effort in terms of net hauls, trawls completed, etc.; kind of gear used; and other pertinent data. Information of this kind provides critical clues to the welfare of our many marine species. In 1935, the California Legislature enacted a bill requiring written catch logs from all partyboat operators. Since 1935, except for 5 years during World War II, partyboat catch logs have been collected on a routine basis.

Davies (1958), Radovich (1961), Young (1963), and Clemens and Craig (1965) based part of their studies on previously unpublished partyboat catch data. Fragmentary reports of catch have appeared in newspapers, in various California Department of Fish and Game publications, and elsewhere. This bulletin presents the reported catch of the California partyboat fishing industry for the 21year period 1947–1967. Various aspects of the economic life of the fleet are examined, and a brief discussion is presented of the 20 most important species constituting the partyboat fishery.

2. DEFINITION OF TERMS

Partyboat: a boat on which fishing space and privileges are provided for a fee. The vessel is operated by a licensed skipper (guide) and crew.

Marine partyboat: any ocean or bay fishing partyboat.

All-day partyboat: a partyboat fishing for a full day, and available to any and all anglers (up to the capacity designated by the U.S. Coast Guard).

Half-day, ¾-day partyboat: a partyboat scheduled and fishing less than a full day. Anglers pay less than full-day price. Half-day boats usually undertake two round trips per day.

Charter partyboat: a partyboat operating under charter for a specified price, time, etc. Charters are usually closed parties, as opposed to the open status of all-day and half-day boats.

Immobile marine partyboat (barge): A semi-permanently anchored barge or boat, often without propulsion engines.

Partyboat logs, catch logs: printed forms furnished to all licensed partyboat operators. On it, the skipper records vital information about each fishing trip, including the number of anglers fishing, and their catch by species (Figures 2 and 3).

Angler: One fisherman.

Angler-day: one full day of angling by one fisherman, as on an all-day boat.

½ angler day: less than one full day of angling by one fisherman, as on a halfday boat.

3. HISTORICAL REVIEW

3.1. Southern California

Before the turn of the century, handline sportsmen landed giant tuna in 5 minutes according to Holder (1914). Giants of other fish species also fell victim to these fishermen. There was a problem, however, and that was to get rid of the carcasses. The usual solution was to feed them to the sharks.

Repelled by this practice, Holder organized the Tuna Club of Santa Catalina Island in 1898. "The public supposed it was a fishing or angling club to catch tunas, but the original institution which I [Holder] drafted with Mr. W. H. Landers read: The Tuna Club of Santa Catalina Island, California, is hereby formed.... The object of this club is the protection of the game fishes ... to encourage and foster the catching of all fishes, and especially tuna, yellowtail, seabass, black seabass, etc., with the lightest rod and reel tackle, and to discourage handline fishing, as being unsportsmanlike and against the public interest."

There were a few boats for hire at Avalon before sea game fishing became a rod and reel sport, but under the stimulus of a well-to-do Tuna Club membership, boatmen eventually numbered from 50 to 100. These boatmen, like partyboat skippers today, provided transportation, fishing know-how, and fishing know-where to their customers.

These early fishing launches were 18 to 20 feet long and seated one or two anglers. Although the launches were built by a local shipyard and were similar in appearance, values ranged from \$800 to \$3,500. Power was increased over the years, but the first engines were 8 to 10 horsepower, reaching 40 horsepower by 1912.

In August 1913, an area 3 miles wide extending entirely around Santa Catalina Island was established by law as a sportfishing reserve, the first move in a controversy (commercial vs. sportfishing) that has simmered for 50 years.

Bluefin ("leaping") tuna were the most sought after gamefish of all the fine species available. Marlin, swordfish, yellowfin tuna, albacore, giant sea bass, white seabass, yellowtail and lesser fish were normal

fare; giants of the species were trophy fish. This was said to be the "finest sea angling in the world."

The largest tuna caught on rod and reel, among Tuna Club records, weighed 251 pounds and was taken in 1899. A light tackle record, 145½ pounds, was established in 1919.

All-tackle records for other gamefish were: marlin, 405 pounds—1932; swordfish, 573 pounds—1927; giant sea bass, 493 pounds—1916; yellowtail, 60½ pounds—1908; white seabass, 60 pounds—1904; and albacore, 66¼ pounds—1911.

A report, probably released by the Tuna Club, noted "The total number of blue-fin and yellow-fin tuna taken at Catalina Island during 1919 was 911, of which 36 weighed over 100 pounds each. The total number of marlin swordfish was 114. No broadbill swordfish were captured, but a number of anglers reported unsuccessful battles with them" (Calif. Fish and Game Commission, 1920).

There were practically no facilities for ocean sportfishing except skiffs or expensive charter boats in 1919. Since then, principally during the 10 years between 1929 and 1939, a fleet of over 200 party fishing boats sprang up (Croker, 1939).

Sadler (1928) reported that from a small beginning in 1921, a large sportfishing industry had developed. Sadler was talking about barges, of which at least 15 were to be found off Santa Monica, Long Beach, and Newport Beach. The cost of a day's fishing in those days ranged from \$1.50 to \$2.00. Sadler estimated 20 to 30 partyboats were available, supporting Croker's (1939) observation that the principal growth of the fleet took place after 1929.

Clark and Croker (1933) referred to California's partyboats as "live bait boats," indicating that live bait was in use at least as early as 1925. These boats were said to go out on a regular schedule every day, and were capable of accommodating an average of about 30 fishermen.

Although tuna, giant sea bass, white sea bass, marlin and swordfish were given most of the publicity early in the century, other fish species were important to partyboat and barge fishermen.

Sadler (1928) stated that mackerel, California halibut, barracuda and "rockbass" (kelp and sand bass) were the chief species at Santa Monica, Long Beach and Newport Beach. Croker (1931) listed the species taken on a Santa Monica barge March 22, 1931: bonito—a few, sanddabs—numerous, white croaker—scorned but abundant, sable-fish—a few, two or three California halibut, and Pacific mackerel. Fry (1931) believed the yellowtail was the only great gamefish that an amateur fisherman was at all likely to take in southern California waters unless financially able to charter a launch and an experienced boatman.

Croker (1941) reported upon a remakable record of fish caught from a barge anchored off Ocean Park made by a Mr. F. R. Hering. From February 3, 1937 to October 29, 1940, Mr. Hering spent 492 days fishing from the barge. His total catch numbered 30,487 fish, mollusks, and crustaceans, for an average of 62 per day.

Following is the list of species he caught. The names are those given by Hering with our notes in parentheses.

No. caught	Species	No. caught	Species
12,342 9,309 6,084 1,099 550 309 185 84 70 67 60 40 27 21 16 15	Kingfish (white croaker) Mackerel (Pacific) Chinese smelt (señorita) Sand dab Perch Horse mackerel (jack mackerel) Smelt (jack and top) Sole Sculpin Blenny Sharks Sea robbin (cabezon) Queenfish Bass (kelp & sand bass) Sardines Halfmoon Chilipeppers (rockfish) Halibut	11 7 6 5 4 4 3 1 1 1 70 4 2 52 14	Turbot Whitefish (ocean) Skates Candlefish (lizardfish or sablefish) Barracuda Cabezon Pearl fish (probably cusk-eels) Anchovy Cultus (lingcod) Ribbon fish (probably Trichiurus) White sea-bass Crabs Mantis shrimps Spiny lobsters Conchs Octopus Cockle

TABLE

3.2. Central and Northern California

Salmon sportfishing preceded salmon commercial fishing at Monterey. As early as 1893, ocean trolling for salmon was underway. Gradually sportfishermen began to take larger quantities and a commercial industry was born. In the early days of trolling, sail boats were used exclusively. By 1915, most of the sail boats had been replaced by gas motor boats. By 1917, there were 100 salmon trollers fishing out of Fort Bragg. As the salmon trolling fleet moved north, arriving at Eureka in 1922, sportfishing probably went right along. Trolling is still the principal method for taking salmon from partyboats.

Croker (1930) noted that Princeton had a fishing fleet of eight power boats 26 to 30 feet long of typical salmon trolling type, broad beamed with flaring clipper bow. The boats were chartered to pleasure fishing parties for salmon and rockcod. Morro Bay had one 45-foot boat for pleasure fishing parties, and it was used for catching rockcod, flat-fish, yellowtail (probably yellowtail rockfish) and barracuda. At Avila, several boats were available for hire to pleasure fishermen.

Clark and Croker (1933) said charter and partyboats had been available for several years at Monterey Bay towns.

A fishing trip from Half Moon Bay (Princeton) was described by Buchanan (1933). "We board a regulation fishing launch, thirty feet overall ... fourteen of us ... We go out a half or three-quarters of a mile and drop lines. Only two are using poles ... the rest ... hand lines, 3 hooks and a 2-pound sinker. Sardines [dead] are used for bait. Black snappers [rockfish] predominate; then the red cod, deep sea cod, small yellowtail [rockfish] and sanddabs."

4. THE PARTYBOAT FISHING INDUSTRY

4.1. 1936-1941

The partyboat fishing industry was functioning smoothly in 1941, and the then Division of Fish and Game, acting under legislative authority, was learning something about the impact of this relatively new industry on various marine fish stocks.

A note in *California Conservationist* (Calif. Dept. Nat. Res., 1941) stated "ocean angling 'opened up' this year on January 5.... Several partyboats operated in southern California waters with good catches of barracuda, white seabass and halibut." The presence of barracuda and white seabass in January must have been very encouraging to the skippers; it is today.

The Pearl Harbor attack in December 1941 effectively halted partyboat activities for some time. Eventually, under strict regulations, partyboats were permitted to operate from certain ports. Davis (1945a) indicated that there was one partyboat operating out of Ocean Park, three or more from Newport Harbor, one from Redondo, and two from Santa Monica. In the August, 1945 issue of *Bullets and Hooks*, Davis (1945b) pointed out "no boats are running from San Diego, Oceanside, San Clemente, Long Beach, Wilmington, San Pedro, Point Mugu, and Ventura." By November, 1945, following the cessation of World War II, plans were underway for the 1946 sportfishing season that called for new boats, super powered engines and the last word in luxury. All of the "old spots" (landings) closed during the War expected to be "back in the swing" early in the year (Davis, 1945c).

4.2. 1947–1967

Immediately following World War II, there was a big rush to get into the partyboat fishing business. From 1947 through 1949, an average of 412 boats submitted catch logs (Figure 1). During the next 6 years, reporting boats increased 40% to just under 590. In more recent times, there was a marked decrease followed by a leveling off of the number of active boats in the fleet.

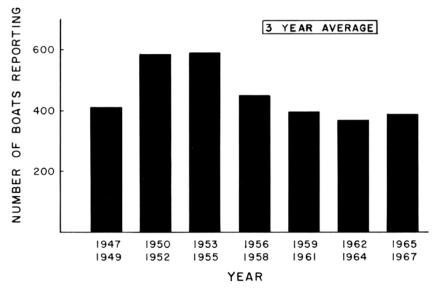


FIGURE 1. The number of California partyboats reporting catches during the 1947–1967 period, 3-year averages.

FIGURE 1. The number of California partyboats reporting catches during the 1947–1967 period, 3-year averages

An exact count of the vessels in the partyboat fleet is not obtainable. In metropolitan areas, where there is a mass of marinas, docks, berths, and anchorages, modest but illegal partyboat fishing may be carried on with little fear of detection. The operators of some boats fail to purchase licenses. Others do purchase licenses, but fail to report fishing activities. A few boatmen license their vessels just because the cost is low (\$3 currently, but \$1 in former years). They may have no plans to fish, but "a year is a long time." Some skippers are prepared to fish, providing a fishing party becomes available, and providing the commercial salmon, crab, and albacore fisheries are not more attractive momentarily. When a boat is owned and operated by the skipper, and his passengers are friends pledged to secrecy, for-hire fishing is very difficult to prove.

As far as California law is concerned, a boat is a partyboat when operated for profit, persons are permitted to fish (or dive) therefrom, and the skipper goes with his boat. This definition applies statewide in all waters.

For example, in 1963, the statewide fleet of 523 vessels included 22 boats at freshwater lakes and Salton Sea, 9 in the Sacramento River delta area, 10 barges at anchor, 480 mobile marine craft, 1 U-drive and 1 unclassified. Included in the mobile marine group were four boats that specialized in skin and scuba diving excursions, they did not transport anglers.

Certain boats of the 1963 mobile marine angling fleet also conducted skindiving cruises and, a few of the boats of the marine fleet occasionally fished the Sacramento River delta. None of the boats listed in the remaining categories (except barges) reported marine angling.

Although there were 476 licensed mobile marine partyboats in 1963 (excluding diving boats), only 372 (78%) actually submitted marine sportsfishing logs. Thirty-eight fished commercially only, and 66 were on record as not fishing either commercially or as partyboats.

4.2.1. Competition Between Boats, Landings

Competitive stress, low profits, and a new appreciation of the problems involved in serving the public convinced many operators they should get out of the sportfishing business. In 1955, partyboat fleet operators learned that new and more stringent regulations governing the operations of small passenger vessels were in the offing. Public Law 519, establishing the new rules, was enacted by Congress in 1956, but active enforcement was delayed until June 1, 1958. Nevertheless, many partyboat owners withdrew from the fleet knowing that their boats would be unacceptable for passenger traffic. Those that remained either rebuilt to comply with the new specifications, or sold and built new boats.

During the late 1950's many of the largest, and presently busiest, boats in the fleet were launched. In southern California, one hull design of double plank construction dominated the 65-foot all-day boat class. Lighter and faster plywood hulls of at least two designs were in favor for charter partyboats. Double plank hulls are more costly, but it is a traditional sea hull much in demand.

The typical partyboat landing today (1969) provides a 24-hour reservation desk, a high-quality restaurant, parking, and a fishing

tackle shop (new and rented), sporting goods, and fishing licenses. Many kinds of boats and services are offered. All-day, half-day, 3/4-day, sundown fishing, charters, barges, and at certain times, extended fishing excursions to distant islands or Mexican waters are available. Many boats have a full galley, bunks for part or for all of the passengers, dual washroom facilities, a variety of electronic equipment, and one to three main engines. Live and/or dead bait is provided. Some landings, particularly in central and northern California offer cleaning, filleting, packaging, and even quick-freeze services.

Fleet maintenance is a 24-hour problem. Smaller operations depend upon boat personnel working into the night to keep the boats running. The larger landing may operate repair barges where all types of maintenance are performed.

The independent owner-skipper in southern California has either joined with the larger landings under various arrangements, or with other operators to establish independent landing facilities. Without such cooperative arrangements, the independent owner is forced to scratch around for customers, and may have difficulty in competing effectively. Further north, individual boat operations continue to exist, notably at Avila, Morro Bay, Moss Landing, Richmond, Berkeley, Bodega Bay, Eureka and Trinidad.

The partyboat fleet, as a whole, has encountered competition from a staggering number of private outboard motor boats. An estimated 68,000 boats less than 16 feet in length made use of coastal waters in 1962 (Leeds, Hill and Jewett, Inc., 1963). They were estimated to have made 780,000 ocean trips carrying three passengers per trip, approximately 2.3 million activity days for this class of small craft. Partyboat passenger loss to this "mosquito fleet" is a matter of conjecture, but it is undoubtedly serious.

4.3. Regulatory Agencies Affecting Partyboat Activity

Federal, state, county, and city governments are vitally interested in the matters of boat safety, employee-employer relations, liability, taxes, and conservation. As a consequence, partyboat operators find that government agencies influence their activities to a large degree. Among these agencies in California are:

4.3.1. United States Coast Guard

The Coast Guard regulates small passenger vessels to a greater extent than other agencies. Vessels carrying more than six passengers for hire must be thoroughly inspected, and the person in charge is known as an ocean operator. Pertinent information appears in *Rules and Regulations for Small Passenger Vessels*, Subchapter T (U.S. Coast Guard, 1966).

Pleasure boats carrying a California number (*see* California Department of Harbors and Watercraft), and where there is no formal inspection by the Coast Guard, may carry up to six persons for hire. The person in charge is known as a motor boat operator, and the publication pertaining is *Rules and Regulations for Uninspected Vessels*, Subchapter C (U.S. Coast Guard, 1967).

Upon written application for inspection from the operator, a marine inspector is assigned to survey the boat. The inspector determines

passenger (angler) capacity, and specifies whether or not alterations or repairs are necessary to meet standards. New construction must meet with Coast Guard approval all the way from the planning stage through final construction inspection. Recently, the Coast Guard has taken over admeasurement and documentation functions formerly handled by the Bureau of Customs.

The Coast Guard also establishes standards for skippers and certifies individuals meeting the standards. The certificated route of a vessel, in case of Subchapter T boats, must be met with a compatibly licensed skipper, and in case of pleasure boats, Subchapter C, it is incumbent upon the operator to possess a motor boat operators' license for the waters fished.

The location and address of the current officer in Charge, Marine Inspection, may be determined from the back pages of Subchapters T and C, or the phone directory.

4.3.2. The Internal Revenue Service

The Internal Revenue Service publishes a series of pamphlets and guides that partyboat skippers find essential. A sole proprietor or partnership in a partyboat may be liable for income tax, estimated tax, and self-employment taxes. If one or more persons are employed, income tax withholding must be considered. If beer is sold on the boat, an occupational tax stamp is required.

4.3.3. Federal Communications Commission

Vessels transporting more than six passengers for hire while navigated on any tide water within the jurisdiction of the United States adjacent or contiguous to the open sea, or in the open sea, shall be equipped with an efficient radio-telephone installation meeting the pertinent rules and standards prescribed by the Federal Communications Commission.

Vessels subject to these rules must carry at least one operator who shall hold at least a Radio-telephone Third Class Operator Permit. To obtain such a license, an applicant must successfully complete a written examination.

4.3.4. Bureau of Customs (Marine Division)

This agency is charged with the administration of the navigation laws of the United States, a body of law concerned primarily with ships and those who own and operate them. Boats fishing foreign waters or visiting foreign ports (Mexico) are bound by Customs regulations.

4.3.5. California Public Utilities Commission

"Every operator of a 'for hire' vessel, as defined in section 4661 of the Public Utilities Code, shall provide ... adequate protection against liability" (Calif. Public Utilities Comm., 1964). Dollar coverages needed are specified according to the passenger capacity of the vessel. Evidence of liability insurance coverage must be filed with the Commission's San Francisco office.

Although hull insurance is not required by law, many boat operators pay an additional premium and arrange for hull insurance to go along with the liability policy.

4.3.6. California Board of Equalization

Resale of food, soft drinks, beer and other merchandise means a "sellers permit" must be obtained. Sales taxes are involved.

4.3.7. California Alcoholic Beverage Control Department

This agency permits the sale of beer only when the boat is underway or anchored in the water. Beer license applicants undergo a thorough screening.

4.3.8. California Restaurant Act

Sets forth regulations governing restaurant (galley) sanitation. The administration of this act is in the hands of local health authorities, city or county, depending on the area.

4.3.9. California Department of Employment

Employers are required to register with the Department of Employment within 15 days after becoming subject to the California Unemployment Insurance Code. If a deckhand is hired, and wages in excess of \$100 are paid in any calendar quarter, the employer is subject to terms of the code.

Employer contributions support unemployment insurance. Wage earner contributions support disability insurance. Disability insurance covers non-occupational illness or injury.

4.3.10. Workmen's Compensation Insurance

Briefly, workmen's compensation laws impose a liability on the employer to bear the cost of occupational injuries to his employees. Insurance allows the employer to transfer his liability to an insurance firm. Therefore, it is the obligation of the skipper as the employer to provide workmen's compensation coverage for all his employees. Failure to insure is a misdemeanor.

4.3.11. California State Lands Division

Anchorages or moorings, on State owned and ungranted tide and submerged areas, must be arranged for with the Division. An offshore anchorage near a public pier or jetty falls within their jurisdiction.

4.3.12. California Department of Harbors and Watercraft

"Every undocumented vessel using the waters of this state shall be numbered" (Calif. Dept. Harbors and Watercraft, 1967a). "The owner of each vessel requiring numbering by this state shall file an initial application for number with the department at its Sacramento office or an agent authorized by the department on forms approved by the [Harbors and Watercraft] commission" (Calif. Dept. Harbors and Watercraft, 1967b).

There are exceptions to the numbering and registration requirements, but undocumented partyboats are not among the exceptions.

4.3.13. California Department of Fish and Game

"Every person who owns or operates a vessel in public waters in connection with fishing operations for profit in this State, or bringing fish into this State, or who, for profit, permits persons to fish therefrom, shall file a boat registration statement with the Department . . ." (Calif. Dept. Fish and Game, 1965a).

In addition, "The owner of any boat or vessel who, for profit, permits any person to fish therefrom, shall procure a fishing partyboat license. This article applies only to a boat or vessel whose owner or his employee or other representative is with it when it is used for fishing" (Calif. Dept. Fish and Game, 1965b).

Partyboat Catch Records. "The holder of a [partyboat] license shall keep a true record . . . of all fish taken . . ." (Calif. Dept. Fish and Game, 1965c). This information is logged on official forms provided by the Department of Fish and Game (Figures 2 and 3).

	KIND OF FISH CAUGHT	NUMBER	AVERAGE WT.	
.	ROCKFISH (Cod)	7	2	
Redering	LINGCOD			
Boat Name	CABEZON			Month Day Year
				Month Day Year
	SALMON	13	7	
4567				.,
Fish and Game No.	STRIPED BASS	1	8	4
				No. of Hours Fished (Hours Lines in Water)
o	MACKEREL (Pacific)			
Sausalito	MACKEREL (Jack)			a
Town of Landing	HALIBUT			Number of Anglers
	OTHER FLATFISH			Nomber of Anglers
	NAME OTHER FISH			
Skipper: Please make	7 undersized s	almon /	Eleaser	456
a separate log for each trip of the day.				Block Number Where Most Fish Caught
3 623. pur ① △r ⊗s sro				Nº 27701

FIGURE 2. An example of a log from a central-northern California partyboat.

FIGURE 2. An example of a log from a central-northern California partyboat

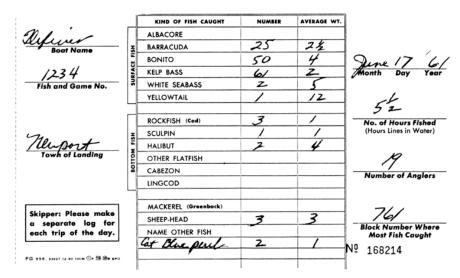


FIGURE 3. An example of a log from a southern California partyboat.

FIGURE 3. An example of a log from a southern California partyboat

"The records shall show (1) each day's operation, (2) the area fished, (3) the number of persons fishing, (4) an accurate count of the number of fish taken, by species, and their approximate weight, (5) the number of hours of actual fishing, not counting travel time."

"All records of the sportfish [partyboat] catch must be completed between the time fishing is stopped at the end of each trip and before the passengers are disembarked at the pier, dock or harbor."

"If the sportfishing vessel has not operated during any one month, the owner or operator shall so notify the Department of Fish and Game not later than the fifth day of the following month" (Calif. Fish and Game Comm., 1967).

From the information supplied by boat personnel, many combinations of data are possible. Most important are catch-per-unit of effort statistics. Logs provide information on catch by port; by angler; catch-per-angler-hour, month, and year; and catch by boat, individually or collectively. All of these elements can be related to a single species, or to a group of species if so desired. Fisheries scientists employ the measure or measures of catch most appropriate for the problem at hand.

During a 5-year period, 1947–1951, the logs of 587 marine partyboats were checked for accuracy as their passengers were landed at the dock (Baxter and Young, 1953). Log accuracy was high for common and prize gamefish, but scaled down to less than 70% for some incidental species. No attempt has been made to check partyboats at the landings since 1951, but extensive efforts have been made to promote accurate record keeping.

Included within each log book is a fisheries chart or charts, that enables the skipper to determine the approximate location where fishing took place.

When a partyboat has not been in operation during the month, the skipper is required to notify the Department of Fish and Game. A form is provided for that purpose (Figure 4).

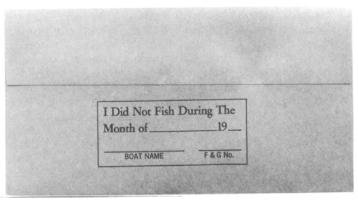


FIGURE 4. Either a log, or a "no fishing" report is required monthly. This post-paid envelope, provided to all partyboat operators, is used to send in logs. The block space on the back, as above, is a convenient way to report "no fishing."

FIGURE 4. Either a log, or a "no fishing" report is required monthly. This post-paid envelope, provided to all partyboat operators, is used to send in logs. The block space on the back, as above, is a convenient way to report "no fishing."

From 1947 through 1959, marine angling effort was measured in only one way, angler days (page 6). During this 11-year period, no attempt was made to compile angler (head) counts.

During 1960 and 1961, effort was measured in two ways—number of angler days and number of angler hours. In addition, head counts of anglers were compiled. Angler day and head counts for the entire partyboat fleet for the two years differed by about 21.5%:

Year	Angler days	Anglers (head count)	Variance (percent)
1960	516,255	637,498	23
1961	495,805	593,916	20

TABLE

By using the average variance for these 2 years, it is possible to estimate the approximate number of anglers in any of the years 1947 through 1959, assuming conditions within the fleet did not change significantly. For example, in 1957, 536,175 angler days were expended in the partyboat fishery. This number, raised by the factor 21.5% = 651,452 anglers. Angler hours, also recorded in 1960, for the first time, are ideal for measuring angling effort because, unlike angler days, they are unalterable. An angler day can range from 2 to 12 hours, depending upon weather, distance traveled, fishing success, and other factors. An angler day averages about 5 hours in southern California, but is less to the north. The Department of Fish and Game discontinued angler days as a measure of marine party-boat fishing effort beginning in 1962 (Appendixes 2–31).

4.4. Areas of Operation

The California partyboat fleet, spread from Oregon to Mexico, occupies four biologically distinct areas. The northern California area, Bodega Bay to Oregon, is an open-coast stretch of cold water and frequent rough weather. Salmon is king, but rockfish, lingcod and cabezon are also sought by anglers. At the southern end of this area (i.e., Bodega Bay), salmon are not quite so dependable and rockfish are the principal targets. More anglers can be carried per unit of deck space because less room is needed than for salmon trolling.

The second area, San Francisco, San Pablo, and Suisun Bays, and the Sacramento River delta, is justifiably famous for salmon and striped bass. Salmon are taken from the open sea outside the Golden Gate, while striped bass are largely concentrated within the Bay and Delta. A large segment of California's marine anglers lives in the area, and supports a large fleet of partyboats at numerous ports and landings. For brevity, this will be referred to as the baysdelta area.

Central California (Princeton to Point Arguello) coastal weather is milder than that of northern California. Rockfish and other bottom species predominate, although salmon furnish much sport at Moss Landing and Monterey in some years. Boats are larger and can carry more fishermen than do northern California and bays-delta area boats.

The southern California area lies between Gaviota (30 miles west of Santa Barbara) and Los Coronados Islands and includes part of the Baja California coast where long-range partyboats often will fish. Anglers, using light tackle and live bait, generally fish on or just below the surface. The most desirable species include barracuda, bonito, yellowtail, bass and others. Rockfish, lingcod, California halibut, sculpin

and other bottom dwelling species are available, and important, but usually of second choice. Bottom varieties are generally better table fare (i.e., more tasty), but lack the vigor and dash desired by sportsmen.

4.5. Economics of the Partyboat Fleet

A partyboat operator often will be in business because he loves to fish, a very common motive throughout the fleet. An investment in a partyboat, however, is a sobering exeprience. A sound, well-equipped boat suitable for angler traffic can be purchased for \$1,000 per foot. Prices range far above and well below this figure, but it is a reasonable starting point. To obtain a fair return upon his investment, the operator must reckon with a number of important elements. How many anglers will the boat legally carry? What is the probable average load? How many trips will be needed to make the venture pay? How much competition will there be? What species of fish are in demand, and what is the status of their abundance. Is the fishing season restricted? What opportunities are there to fish commercially in the off season? These and other questions need to be answered, as far as possible, before the boat is selected and purchased.

Taking some of these factors into consideration, a detailed study of area fleet activities for 1 year, 1963, is presented. The data were obtained from partyboat logs, partyboat registration, and license applications. The year 1963 was chosen because the data were current and available when this report was contemplated. I do not believe the results, as given here, would be significantly different if the base year had been 5 years earlier or several years later. Some aspects of fleet economics, desirable as they might be, were not available to the Department of Fish and Game.

TABLE 1
Northern California Mobile Marine Partyboats, 1963

	Number of boats							
Port	Licensed home port	Submitting marine sportfishing logs	Fishing sport and commercial	Fishing commercial only	Apparently not fishing	Average angler capacity of active boats	Average angler load of active boats	
Crescent City	1	,	,	0	0	6.0	5.0	
Albion	2	;	1 1	1 1	ő	6.0	4.7	
Eureka	5	5	3	1 0	0	8.6	5.5	
Fort Bragg	4	3	1	0	1	9.3	6.1	
Trinidad	4	2	2	0	0	6.5	5.2	
Dillon Beach	1	1 1			0	6.0	3.6	
Bodega Bay	8	5	1	2	"	14.6	8.3	
Marshall	•	0	0	1 6	1 1	14.0	0.0	
Marsnaii	1	"	0	"	1			
Total	26	18	. 9	5	3			

TABLE 1 Northern California Mobile Marine Partyboats, 1963

4.5.1. Northern California

There were 26 licensed partyboats in the northern California area in 1963, approximately 5% of the statewide fleet. Sportfishing logs were submitted from 18 boats of which 9 fished both sport and commercial.

Five of the non-reporting boats fished commercial only, and three apparently didn't fish (Table 1).

Sportfishing. The capacity of the 18 active boats ranged from 6 to 28 anglers, and averaged 9.7. During 1963, the northern fleet logged 7,978 anglers, about 68% of their actual capacity of 11,710 anglers if each had been fully loaded each trip. The average boat load was 6.1 anglers for 1,302 trips.

Most of the boats fished for salmon. They were smaller than the Bodega Bay rockfish partyboats, but carried angler loads that were closer to capacity (Table 1).

These boats made from 1 to 153 trips during the year, averaging 72.3. Although partyboats operated in all months at Bodega Bay, 90% of the northern California trips were made from June through September. Trinidad and Fort Bragg skippers were particularly busy in the summer months, making two fishing trips per day more often than one. Two-trip days were also common at Crescent City and Albion. Bodega Bay skippers apparently were fully occupied trying to fill their limit of 20 rockfish (per angler), and did not make more than one trip per day.

All operators recorded the hours of fishing time expended on each trip. Crescent City and Trinidad skippers spent about 4 hours per trip. These skippers were fishing for salmon, as were the Eureka boatmen who averaged 5¾ hours per trip. Probably the Eureka fleet spent some time trolling within Humboldt Bay before reaching the fishing grounds outside of the harbor. Bodega Bay skippers also fished 5¾ hours, probably because rockfish bag limits were far more generous than those on salmon, requiring more time to make a satisfactory catch.

Salmon were by far the most sought after species at Eureka, Fort Bragg, and Trinidad. Rockfish and salmon shared honors at Crescent City and Albion. Bodega Bay and Dillon Beach partyboaters landed heavy catches of rockfish, and more lingcod than salmon (Table 2).

TABLE 2
Partyboat Catch Per Angler, Species by Port of Landing
Northern California Area, 1963

	Species caught											Catch
Port	Sal- mon no.	Catch per angler	Rock- fish no.	Catch per angler	Ling- cod no.	Catch per angler	Cabe- zone no.	Catch per angler	Misc.	Total fish	Total anglers	per angler all species
Crescent City-												
Albion	446	.76	331	.56	4	١			1	782	588	1.33
Eureka	2,505	1.64	396	.26	1				22	2,924	1,531	1.91
Fort Bragg	2,821	1.24	908	.40	78		21		59	3,887	2,282	1.70
Trinidad	1,555	1.33	76		2				3	1,636	1,173	1.39
Bodega Bay-												
Dillon Beach.	447	.19	18,242	7.59	562	.23	115		184	19,550	2,404	8.13

TABLE 2

Partyboat Catch Per Angler, Species by Port of Landing Northern California Area, 1963

Boat Age and Length. All 18 reporting partyboats were built during the 10-year period 1941 to 1950. Since 1950 (up to 1964), only

three new boats joined the small northern fleet (Figure 5). Because of the short fishing season, scanty passenger loads, and abundant competition, additions to the northern fleet may continue at a slow pace.

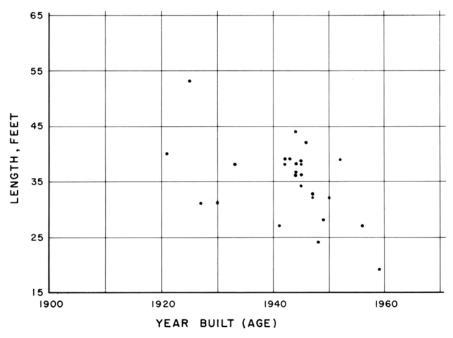


FIGURE 5. Year built (age) and length of the 26 registered partyboats in the northern California fleet, 1963.

FIGURE 5. Year built (age) and length of the 26 registered partyboats in the northern California fleet, 1963. Forty-two percent of the 26 registered boats were shorter than 35 feet, and except for one 53-foot boat, the remaining craft were 35 to 45 feet long (Figure 5).

Commercial Fishing. Fourteen of the 26 boats undertook some commercial fishing activities. of the nine party-boats engaged in both sport and commercial fishing, one landed 4,665 pounds of crab and 649 pounds of salmon. Commercial catches of the remaining eight vessels ranged from 47 to 977 pounds, and consisted of salmon, crab, rockfish, and lingcod.

4.5.2. Bays-Delta Area

In 1963, 145 bays-delta area boats were issued partyboat licenses. Ten boats were based too far inland to fish marine waters, or made no effort to take marine species, according to the logs received. At year's end, 111 of the 135 marine partyboats had submitted sportfishing logs. of the 24 boats not submitting logs, 15 fished only commercially, and 9 apparently did no fishing of any kind (Table 3).

Sportfishing. The 111 active partyboats of the bays-delta fleet logged 77,641 anglers on 8,622 trips. The average capacity of these boats was 17.2, but the average load was 9 anglers (Table 4). If all boats had been fully loaded for each trip, 159,035 anglers would have

TABLE 3 Bays-Delta Area Partyboats, 1963

		Number of boats								
Port	Licensed home port	Classified mobile marine partyboats	Submitting marine sportfishing logs	Fishing sport and commercial	Fishing commercial only	Apparently not fishing	Angler capacity average active boats			
San Francisco	55	55	38	8	12	5	14.7			
Berkeley	26	26	24	8 3	2		17.2			
Oakland-Alameda	5	5	3			2	10.7			
Sausalito	28	28	27	11		1	17.7			
Richmond	15	14	13	3	1		20.0			
Rodeo	4	3	3				25.7			
Crockett-Vallejo	8	4	3			1	28.3			
Antioch, Isleton,		-								
Bethel Island	4	0								
Total	145	135	111	25	15	9				

TABLE 3
Bays-Delta Area Partyboats, 1963
TABLE 4

Angler Capacity, Angler Load, and Percent of Capacity Utilized Bays-Delta Area Marine Partyboats, 1963

	86 partyboats sportfishers only	25 sport- commercial partyboats	111 boats combined
Angler capacity, total Angler capacity, average Trips logged, total Anglers carried, total Angler load, average Percent capacity utilized*	1,441	463	1,904
	16.8	18.5	17.2
	6,334	2,288	8,622
	54,389	23,252	77,641
	8.6	10.2	9.0
	50.8	44.7	48.8

^{• (}Total anglers actually carried)/(Maximum possible anglers for trips actually made).

TABLE 4

Angler Capacity, Angler Load, and Percent of Capacity Utilized Bays-Delta Area Marine Partyboats, 1963 been tallied, more than double the actual count. The 25 sport-commercial partyboats (Table 4) utilized 6% less of their capacity than the sportfishers only group. Possibly the skippers of the sport-commercial group did not actively seek sportfishing parties.

Eighty-six boats fished for sport only. Records showed that the number of trips logged per boat ranged from 1 to 250, averaging 74. (This is low compared to the 93-trip average of the 25-boat sport-commercial group.) Presumably, many of the 86 sportfishers were owned (operated) by "week-end" skippers. Such skippers are often satisfied to recover operational expenses and have little desire or opportunity to fish more extensively. Approximately one-half of these 86 boats averaged one trip or less per week during 1963. On the other hand, one-quarter of the boats logged over 50% of the total trips.

Bays-delta area partyboats fished 4 to 6 hours a day, remaining at sea about the same length of time as did the northern area boats (Table 5). Richmond boats averaged less fishing time per trip than boats at other bay ports, but Richmond also had far more two-trip days,

TABLE 5
Fish Catch, Anglers, and Angler Hours Reported, by Port
Bays-Delta Area Marine Partyboats, 1963

Port	Number of fish	Number of anglers	Number of angler hours	Hours fished per trip, average
San Francisco	35,170	18,888	97,248.2	5.1
Sausalito	36,256	20,570	114,982.5	5.6
Berkeley	36,246	19,412	104,111.2	5.4
Richmond	56,495	14,593	60,899.4	4.2
Oakland-Alameda	4,061	1,664	8,904.4	5.4
Crockett-Rodeo	3,706	1,377	8,137.0	5.9
Total	171,934	76,504	394,282.7	5.2

TABLE 5

Fish Catch, Anglers, and Angler Hours Reported, by Port Bays-Delta Area Marine Partyboats, 1963 accounting for approximately 41% of 1,167 trips logged. Few of the Berkeley and San Francisco operators reported two-trip days, but those at Rodeo and Crockett showed a high percentage of two-trip days.

During 1963, Sausalito operators had a decided preference for salmon fishing and all but ignored striped bass, rockfish, and jack mackerel (Table 6). San Francisco boats engaged in both salmon and

TABLE 6

Catch Per Angler, Four Principal Species, by Port
Bays-Delta Area Marine Partyboats, 1963

	Salmon		Salmon Striped bass		Roel	kfish	Jack m	Jack mackerel	
	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch per angler overal.
San Francisco	18,782	1.0	12,853	.7	1,060		1,934	.1	1.9
Sausalito	26,564	1.3	4,007	.2	2,218	.1	2,244	.1	1.8
Berkeley	13,791	.7	15,086	.8	4,700	.2	1,350		1.9
Richmond	1,889	.1	23,372	1.6	26,287	1.8	824		3.9
Oakland-Alameda	1,977	1.2	511	.3	1,420	.9	87		2.4
Rodeo-Crockett	29		2,722	2.0	301	.2	146	.1	2.7

TABLE 6

Catch Per Angler, Four Principal Species, by Port Bays-Delta Area Marine Partyboats, 1963

striped bass fishing, but preferred salmon. Berkeley skippers liked salmon and striped bass about equally. Richmond operators ignored salmon in favor of a striped bass-rockfish combination. Rodeo and Crockett, in the heart of the striped bass country, confined their efforts almost exclusively to this species, although a few rockfish and jack mackerel were logged.

In the bays-delta area, rockfish have never received much attention. Miller and Gotshall (1965) found that 29 species of rockfish entered the Crescent City to Avila partyboat catch. If salmon and striped bass were less abundant, or not available, the bays-delta rockfish catch would increase many fold.

Commercial Fishing. Landings of the 25 partyboats that also fished commercially ranged from 36 pounds of salmon to 38,240 pounds of shark, lingcod, salmon and crab mixed. Only five of these boats landed enough commercial fish to make a living, and only two were really profitable operations. These five boats logged 181 partyboat trips in addition to their commercial ventures. The remaining 20 vessels logged 2,152 partyboat trips, an average of 108 each, or slightly more than two trips per week for the year.

Annual market landings of the 15 licensed partyboats that did not submit sportfishing logs ranged from 39 pounds of salmon to 145,000 pounds of albacore; the group averaged 21,000 pound of all species.

Boat Age and Length. Seventy-seven partyboats (54.6%) of the 1963 bays-delta fleet were built in the 10-year period 1941–1950. Thirty-three were launched between 1913 and 1940, 31 from 1951 to 1963, and 4 at unknown dates (Figure 6). In a very few years, approximately 78% of the bay fleet will be 20 years old or older.

Although boat lengths ranged from 25 to 65 feet, most (62%) were 35 to 45 feet long (Figure 6).

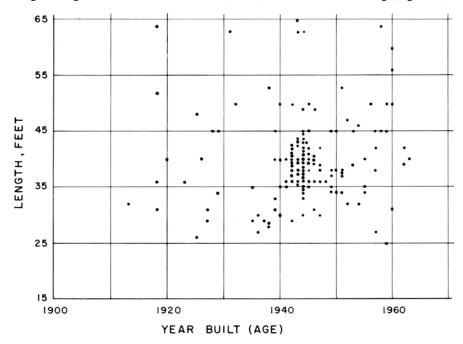


FIGURE 6. Year built (age) and length of 141 registered partyboats in the bays-delta fleet, 1963.

FIGURE 6. Year built (age) and length of 141 registered partyboats in the bays-delta fleet, 1963.

Angler Capacity. As boat length increases, angler capacity tends to increase. Angler capacity is determined for each vessel by the United States Coast Guard, and at least two factors are of primary importance. Fishing is not permitted on any part of the vessel deck lacking guard rails. Many older boats in the California fleet have no guard rails along the bow, and are so constructed that rail installation is not feasible. Boats lacking certain designated safety features, such as water tight

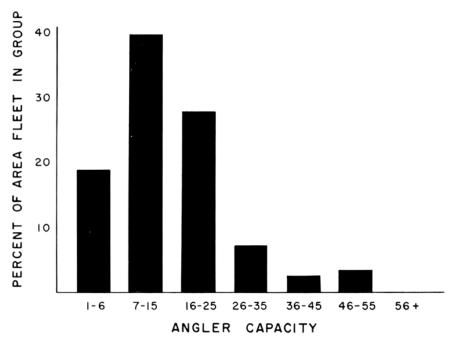


FIGURE 7. Percent of bays-delta fleet by angler capacity, 111 reporting partyboats, 1963.

FIGURE 7. Percent of bays-delta fleet by angler capacity, 111 reporting partyboats, 1963. bulkheads, are not permitted to carry more than six passengers, even though deck space would accommodate considerably greater numbers.

Twenty-one (19%) of the 111 bays-delta partyboats reporting marine sportfishing in 1963 were limited to six anglers (Figure 7). Lengths of these ranged from 26 to 40 feet, and averaged 34.3 feet. Forty-four boats (40%) were licensed to carry 7 to 15 anglers, and these boats averaged 39.5 feet in length, and when fully loaded could carry 11.4 anglers on the average. This group of boats, although only slightly longer than the six-passenger group, was permitted to carry almost twice the angler load. The remaining vessels of the area fleet were authorized: 16–25 anglers, 31 boats; 26–35 anglers, 8 boats; 36–45, 3 boats; 46–55 anglers, 4 boats. Bays-delta partyboats carried less than 50% of their total capacity (Table 4). A 30-passenger boat operating at 50% of capacity, and at an income level of \$10 per angler (a generous figure in 1963), would have grossed \$15,000 in 100 trips. Ninety percent of the bays-delta fleet carried fewer than 30 anglers maximum, and averaged only 78 trips per boat in 1963.

Bays-delta anglers landed approximately two fish per 5-hour trip. Anglers fishing from San Francisco and Sausalito based partyboats had their greatest success with salmon, 1.0 and 1.3 fish per trip, respectively. Berkeley anglers were willing to fish for either salmon or striped bass, taking both with about equal success. Richmond anglers landed striped bass and rockfish about equally for a combined average of 3.4 fish in slightly over 4 hours. Rodeo-Crockett anglers landed 2.7 fish per 6-hour trip, but the catch was primarily of striped bass (Table 5 and 6).

4.5.3. Central California

Forty-eight of 61 licensed partyboats submitted marine sportfishing logs in 1963. Five boats fished commercially only, and five evidently did not engage in fishing of either kind. The three San Simeon barges, although "licensed partyboats," were not considered part of the mobile marine fleet (Table 7).

TABLE 7
Central California Area Partyboats, 1963

	Number of boats								
Port	Licensed home port	Classified mobile marine partyboats	Submitting marine sportfishing logs	Fishing sport and commercial	Fishing commercial only	Apparently not fishing			
Princeton Santa Cruz Moss Landing Monterey Avila Morro Bay San Simeon	7 6 9 17 5 14 31	7 6 9 17 5 14	6 5 7 12 5 13	7 4 1 2	 2 3 	1 1 2 1			
Total	61	58	48	14	5	5			

¹ 3 anchored barges.

TABLE 7 Central California Area Partyboats, 1963

Sportfishing. The 48 reporting boats logged 3,596 trips, for an average of 75 each. Individual boats reported from 2 to 219 trips for the year (Figure 8). Nine partyboats logged almost one-half of the trips reported, while one-half of the central California fleet averaged less than one trip per week.

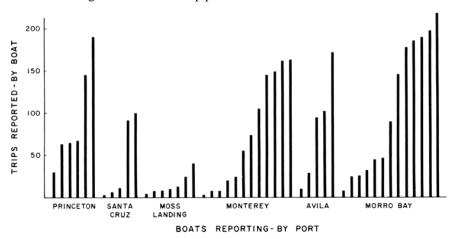


FIGURE 8. Number of partyboat trips, by boat, 48 boats reporting, central California fleet, 1963.

FIGURE 8. Number of partyboat trips, by boat, 48 boats reporting, central California fleet, 1963.

Fishing time ranged from 4.3 hours at Avila to 7.2 hours at Moss Landing (Table 8). Several factors influenced fishing time: (i) proximity

of the fishing area to the landing; (ii) the degree of fishing success experienced at the various "cod banks," usually better at the more remote grounds; and (iii) the species of fish sought. Morro Bay boats fished 2.5 to 4.0 hours normally, but when albacore appeared offshore in August, daily trips averaged 7.5 hours, ranging from 4 to 14.

TABLE 8
Fish Catch, Anglers, and Angler Hours Reported, by Port
Central California Marine Partyboats, 1963

Port	Number of fish	Number of anglers	Number of angler hours	Hours fished per trip, average
Princeton Santa Cruz Moss Landing Monterey Avila	103,707 29,840 576 158,342 41,368	10,450 4,531 525 10,663 5,069	53,049.0 31,541.0 3,790.0 48,248.4 21,678.6	5.1 7.0 7.2 4.5 4.3
Morro Bay	248,538	20,396	116,976.3	5.7

TABLE 8

Fish Catch, Anglers, and Angler Hours Reported, by Port Central California Marine Partyboats, 1963

Most skippers in the central California area fished for deep and shallow water rockfish, lingcod, cabezon, and other bottomfish. Salmon trollers were (usually are) available at Moss Landing and Monterey, but less frequently at other ports. Salmon trolling in the central California area has not been featured to the extent it has been in the northern California and bays-delta areas. Central California anglers averaged 11.3 fish-per-man in 1963, with rockfish predominating (Table 9). Miller and Gotshall (1965) found that in 1960 Crescent City to Avila partyboat anglers averaged 11.1 bottomfish per day.

TABLE 9

Catch Per Angler, Four Principal Species, by Port
Central California Marine Partyboats. 1963

	Salı	Salmon Rockfish		kfish	Lingcod		Albacore			
Port	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch per angler overall	
Princeton	48 233 373 311 153 582	.7 .7 	98,531 26,822 156 153,282 221,225 38,627	9.4 5.9 .3 14.4 10.8 7.6	3,920 1,931 12 2,588 9,221 908	.4 .4 .2 .5 .2	16 31 8,169	.4	9.9 6.6 1.1 14.8 12.2 8.2	

TABLE 9

Catch Per Angler, Four Principal Species, by Port Central California Marine Partyboats, 1963

Sportfishing regulations in force during 1963 permitted anglers to take 20 rockfish and 10 lingcod per day without regard to size. Ten lingcod would be a very high catch, and it wouldn't happen often, but anglers often take 20 rockfish. Salmon fishermen were limited to three fish, 22 inches long or longer, except that one salmon of not less than 20 inches could be possessed.

Commercial Fishing. Nineteen vessels of the central California fleet fished commercially, using hook and line almost exclusively, including the five that did not report partyboat fishing. Commercial catches of these five ranged from 717 to 17,000 pounds of salmon and albacore. Only one of the 19 vessels landed commercial species other than salmon and albacore. All Moss Landing and 40% of the Monterey partyboats landed commercial catches, but commercial fishing was minor or nonexistent at other central California ports.

Fourteen boats reported both sport and commercial fishing activity. of this group the boats logging the fewest sportfishing trips tended to land the heaviest commercial catches, with one notable exception (Figure 9).

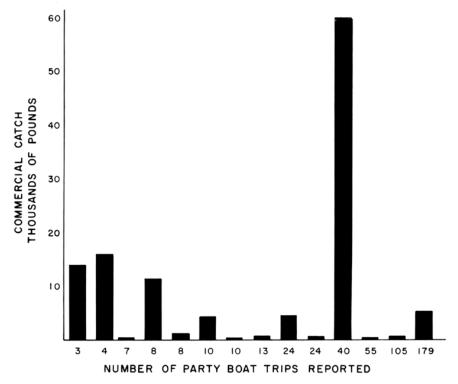


FIGURE 9. Commercial landings, and number of sportfishing trips reported, 14 sport-commercial fishing boats of the central California fleet, 1963.

FIGURE 9. Commercial landings, and number of sportfishing trips reported, 14 sport-commercial fishing boats of the central California fleet, 1963.

Boat Age and Length. Approximately 50% of the central California fleet was built during the 10-year period 1940–1949. Thirty-four percent was launched during 1950 to 1963. A few old-time boats, around 40 years of age, were either still active in 1963, or were kept around in case of need (Figure 10).

The bulk of the central California fleet built prior to 1950 was made up of 36- to 50-foot vessels. Since 1950, the trend has been to build boats of the 55-foot class, although a few 40-foot vessels have been launched (Figure 10).

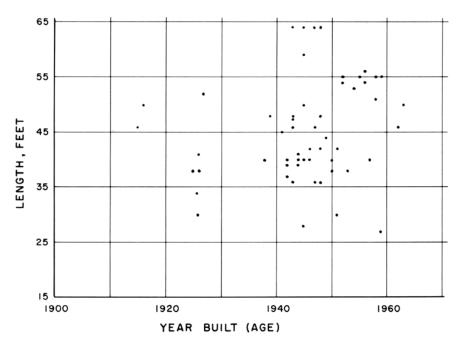


FIGURE 10. Year built (age) and length of 56 registered partyboats, central California fleet, 1963.

FIGURE 10. Year built (age) and length of 56 registered partyboats, central California fleet, 1963.

Angler Capacity. The capacity of the boats of the central California fleet was almost double that of the bays-delta fleet, averaging 31.9 compared to 17.2 anglers (Table 10). Although this fleet had twice the capacity, angler loads were only 50% greater, consequently, the central California fleet utilized less than 35% of capacity.

Angler Capacity, Angler Load, and Percent of Capacity Utilized
Central California Marine Partyboats, 1963

	34 partyboats sportfishers only	14 sport- commercial partyboats	48 boats combined
Angler capacity, total Angler capacity, average Trips logged, total Anglers carried, total Angler load, average Percent capacity utilized	1,270	259	1,529
	37.4	18.5	31.9
	3,106	490	3,596
	45,897	5,363	51,260
	14.8	10.9	14.3
	35.3	31.4	34.8

TABLE 10

Angler Capacity, Angler Load, and Percent of Capacity Utilized Central California Marine Partyboats, 1963

A high percentage of the boats operated on a daily fixed schedule. Occasionally, perhaps frequently, when angler loads were light, fishing was conducted at a financial loss to the operator. Although runs of salmon and albacore create much excitement, and angler loads increase sharply, this is not a dependable phenomenon in the central California area.

of the 48 partyboats that reported sportfishing activities, 6 were licensed to carry 6 anglers, 1 was limited to 10, and the remaining boats were capable of handling from 16 to more than 56 passengers as follows: 9 with 16-25 anglers; 11 with 26–35; 10 with 36–45; 7 with 46–55; and 4 with 56 or more.

The average angler capacity of the partyboats at Princeton, Santa Cruz, Monterey, Avila, and Morro Bay ranged from 32 to 46 anglers. At Moss Landing, seven small boats, which were part time partyboats and part time commercial salmon trollers, could carry eight anglers each, on the average.

4.5.4. Southern California

All major and most minor ports between Santa Barbara and San Diego harbored partyboats in 1963. of 256 licensed and 3 non-licensed boats, 197 submitted sportfishing logs. Sixty-two boats, licensed to carry passengers, did not report sportfishing activity. Forty-nine of the 62 failed to participate in any fishing, commercial or sport. Fifty boats, including 13 of those failing to report sportfishing activity, fished commercially (Table 11).

TABLE 11 Southern California Marine Partyboats, 1963

	Number of boats							
Port	Licensed home port	Submitting marine sportfishing logs ³	Fishing sport and commercial	Fishing commercial only	Apparently not fishing	Average angler capacity, reporting boats		
Santa Barbara		2 7(+2)	 2(+1)	- <u>-</u>	2 1	46.3 40.1		
Malibu Beach	6	5			1	68.8		
Santa Monica		4		1	1	32.6		
Redondo Beach		4			2	52.5		
San Pedro		35(+1)	8(+1)	1	4	36.3		
Wilmington		17			6	14.4		
Long Beach		41	12	2	13	34.3		
Seal, Huntington Beaches	3	2			1	48.5		
Newport Beach-Balboa	29	22	4	5	2	34.0		
San Clemente	7	7				34.7		
Oceanside	9	7			2	37.6		
San Diego, Mission Bay	58	41	9	3	14	38.2		
Total	256	194(+3)	35(+2)	13	49			

TABLE 11 Southern California Marine Partyboats, 1963

The catch and diving effort from three charter boats that catered to divers exclusively, and from the few diving trips undertaken by partyboats, have been summarized by Wood (1967). The three diving boats, and the log data derived from the partyboat diving trips have been excluded from this discussion.

Sportfishing. Southern California partyboats logged 20,673 trips in 1963, for an average of 105 trips each. These boats reported carrying

^{1 3} boats chartered by skin-divers excluded.
2 1 boat chartered by skin-divers excluded.
3 unlicensed boats submitted marine sportfishing logs, 2 of these fished commercially. These are indicated by (+) after appropriate total.

505,459 anglers, or about 24.5 per boat trip. Their average capacity was 35.9 anglers, almost one-third more than carried. The total potential angler load, based on the trips reported, was 1,055,460 fishermen. Less than 50 percent of the total angler capacity was utilized in 1963 (Table 12).

TABLE 12

Angler Capacity, Angler Load, and Percent of Capacity Utilized

Southern California Marine Partyboats, 1963

	160 partyboats sportfishers only	37 sport- commercial partyboats	197 boats combined	
Angler capacity, totalAngler capacity, average	5,672 35.5	1,394 37.7	7,066 35.9	
Γrips logged, total	17,389	3,284	20,673	
Anglers carried, total	430,169	75,290 22.9	505,459 24.5	
Angler load, average	47.6	49.8	47.9	

TABLE 12

Angler Capacity, Angler Load, and Percent of Capacity Utilized Southern California Marine Partyboats, 1963

At Santa Barbara, three partyboats were active. They had a combined capacity of 139 anglers, or an average of 46.3. Five boats at Malibu Beach had an average capacity of 68.8 anglers. In contrast, Wilmington supported a relatively high number of small craft, primarily charter boats. The San Diego-Mission Bay partyboat complex was able to accommodate 1,566 anglers at any given time, the largest potential of any port along the California coast (Table 11).

Partyboats operating out of metropolitan areas carry far more fishermen than do boats from outlying ports. Experience clearly indicates that fishing success near population centers soon declines, whereas there may be no noticeable effect upon the more distant grounds where there is less fishing effort. To reach better (i.e., distant) areas, vessels must increase speed and range. Since World War II, more and more emphasis has been placed on speed, particularly for all-day boats. Vessel operational expenses go up as speed increases, and the partyboat angler bears the cost, in the long run.

During the most recent 10-year period, partyboat operators have put much more emphasis upon half-day boatfishing. Generally, half-day boats travel at relatively slow speed but are quite comfortable. Fares are sharply reduced, and fishing time is abbreviated, but the half-day operation fits the desires of a very large group of fishermen. Fishing is conducted locally, and rigid time schedules are maintained. Fishing success has held up reasonably well, in spite of mounting pressure. of course, the size and the species of fish taken and available to the half-day angler generally differ somewhat from those taken on all-day boats.

Fishing time varied sharply by port and by vessel class in 1963, e.g., Santa Monica and Redondo Beach boats engaged primarily in half-day fishing, and trips averaged 3.5 and 3.1 hours, respectively (Table 13). At San Pedro, most boats engaged in all-day fishing, although half-day trips were regularly scheduled. San Pedro boats averaged 6.7 hours of fishing.

Traditionally, southern California partyboat anglers have had a firmly established species preference. In the approximate order of

TABLE 13

Fish Catch, Anglers, and Angler Hours Reported, by Port
Southern California Marine Partyboats, 1963

Port	Number of fish	Number of anglers	Number of angler-hours	Hours fished per trip, average	
Santa Barbara	109,060	9,369	41,233.9	4.4	
Port Hueneme	151,311	15,303	79,730.1	5.2	
Malibu Beach	197,775	30,817	136,964.5	4.4	
Santa Monica	176,575	29,654	105,137.0	3.5	
Redondo Beach	209,810	34,257	107,675.0	3.1	
San Pedro	317,712	45,610	306,567.8	6.7	
Wilmington	14,547	2,160	12,573.7	5.8	
Long Beach	744,621	108,416	528,300.6	4.9	
Seal and Huntington Beach	216,266	28,828	102,388.6	3.6	
Newport Beach-Balboa	342,233	49.728	257,554.2	5.2	
San Clemente	253,738	28,867	126,553.1	4.4	
Oceanside	272,958	29,344	164,008.5	5.6	
San Diego-Mission Bay	480,030	94,001	511,377.2	5.4	

TABLE 13

Fish Catch, Anglers, and Angler Hours Reported, by Port Southern California Marine Partyboats, 1963

angler desirability these are: albacore, yellowtail, white seabass, bluefin tuna, barracuda, bonito, bass, and California halibut. The rank of a species can vary greatly, depending upon its availability. For instance, the bluefin tuna has a popularity potential that would rank it above yellowtail if it was available (on the fishing grounds) as frequently as the yellowtail. The same holds true for other species. Rockfish, sheephead, sculpin, jack and Pacific mackerels, ling-cod, giant sea bass, cabezon, sablefish, white croaker and a few more also are important in the southern California partyboat catch.

Experienced fishermen know angling success can vary tremendously from one day to the next in a given area. They learn that certain species of fish dominate in a particular port area. San Diego, for example, is famous for yellowtail and angler success statistics, as shown by partyboat logs, support this reputation. A fisherman would have to be in very poor luck indeed to avoid taking kelp bass at Santa Barbara, Port Hueneme, San Clemente. or Oceanside. Bonito, barracuda, and albacore are less predictable (Table 14).

Two factors, high angler success potential, and the presence of a desired species greatly influence the angler's choice of fishing grounds. Some fishermen would rather fish for yellowtail, and catch little or nothing, than to take home a sack of rockfish. Those who prefer rockfish to yellowtail are in a minority.

Commercial Fishing. Thirty-seven of 197 active southern California area partyboats engaged in commercial fishing. In addition, 13 registered but non-reporting partyboats fished commercially (Table 11). Altogether these 50 boats landed 885,671 pounds of fish commercially. Commercial deliveries during the height of the sportfishing season, May through September, may be an indication that some of the fish taken under authority of a sportfishing license were sold, an illegal practice during these years. If sport caught fish were sold, it apparently happened infrequently according to commercial landing records. Heavy deliveries of albacore and of skipjack were made September through November, too late in the year for much partyboat participation.

TABLE 14
Catch Per Angler, Seven Principal Species, by Port
Southern California Marine Partyboats, 1963

	Barracuda		Kelp-sand bass		Yellowtail		Bonito	
Port	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler
Santa Barbara	2,708 114,349 54,042 10,502 46,809 55,881	.1 .4 .1 .2 .5 .7 1.3 1.1 2.2 2.3 .9	50,869 67,848 67,979 81,253 59,458 137,873 6,029 255,688 58,510 9,786 117,968 124,123	5.4 4.4 2.2 2.7 1.7 3.0 2.8 2.4 2.4 2.2 2.4 4.3	145 1,228 14 23 1,403 4,327 88 4,937 16 3 1,431	.1	12,571 17,484 34,708 47,070 82,074 76,299 2,821 139,558 28,488 12,412 92,263 48,949	1.3 1.1 1.6 2.4 1.7 1.3 1.3 1.2 2.7 1.9
OceansideSan Diego, Mission Bay _	66,231 66,640	2.3	107,378 74,577	3.7	1,549 30,192	.3	53,786 124,553	1.3

	California halibut		Rockfish		Albacore		
Port	Catch	Catch per angler	Catch	Catch per angler	Catch	Catch per angler	Catch per angler overall
Santa Barbara Port Hueneme Malibu Santa Monica Redondo Beach San Pedro Wilmington Long Beach (Avalon, Terminal Is.) Seal Beach Huntington Beach Newport Beach-Balboa San Clemente Oceanside	18,275 1,520 4,981 464 21,531 11,327 3,333 11,770 15,477	.1 .1 .6 .6 .6 .1 .2 .2 .5 .7 .2	40,591 52,605 57,987 14,441 31,207 4,918 1,135 74,868 180 15 23,270 760 3,918	4.3 3.4 1.9 .5 .9 .1 .5 .7	607 14,700 259 30,743 9 17,797 855 2,541	.3 .1 .34	11.6 9.9 6.4 6.0 6.1 7.0 6.7 6.9 7.2 8.9 6.9 8.8 9.3
San Diego, Mission Bay	2,244		53,663	.6	82,637	.9	5.1

TABLE 14

Catch Per Angler, Seven Principal Species, by Port Southern California Marine Partyboats, 1963

As a consequence, probably very little of the 804,656 pounds of albacore and skipjack landed by registered party-boats originated from boats fishing under the authority of sportfishing licenses. Landings of skipjack and albacore in combination would indicate that fishing had been conducted beyond the daily operational range of southern California partyboats. A very high percentage of the yellowtail and white seabass landed commercially were taken in January and February when partyboat sportfishing is at its lowest level of the year.

Three of the 13 partyboats that failed to report sportfishing activities landed impressive amounts of commercial fish and abalone. One of these boats is known to have fished as a partyboat, but no logs were submitted. In May 1963, the skipper of the second vessel notified the Department of Fish and Game that no partyboat trips were contemplated; this vessel landed abalone. The skipper of the third vessel

landed commercial catches in January and February, but discontinued fishing to fulfill a collecting contract for a marine aquarium. During 1964, four of the 13 vessels registered and reported partyboat fishing during the year. A fifth purchased a license, but again failed to report sportfishing, if it occurred.

Some species of fish taken from partyboats have high market value, others sell at a low price. When species of high value begin to appear in great numbers, some skippers will abandon sport for commercial fishing. In so doing, an undetermined amount of prestige and good will between sportfishermen and the boat operator may be lost. Many sportsmen view commercial fishing as a threat to continued sportfishing. Also, sportsmen often return to the boat they are familiar with. If this boat is not available, because it is fishing commercially, there is little likelihood that the angler will ever return. He will probably form a new attachment. Other skippers may choose to sell the marketable fish remaining on the boat after the sportfishing day is over. In a reasonable period of time, boat personnel can augment their income considerably, although illegally. The sportsman is seldom upset by this practice, if he knows about it. In 1963, albacore (12–24 cents/pound), white seabass (40 cents), and perhaps barracuda (10–24 cents) brought high prices on the market. Rockfish, ocean whitefish, sheephead, and bonito were low priced (4–12 cents per pound). It is doubtful that many skippers would have considered selling the low priced fish, although some may have sold albacore and barracuda. White seabass are too much in demand to be left on a boat. The crew, of course, could catch and sell white seabass, but their opportunities would have been rare.

Boat Age and Length. Forty-two percent of the 259 reporting vessels were from 35 to 45 feet long, and all but two were constructed after 1940 (Figure 11). On the other hand, many of the 55- to 65-foot vessels were built prior to 1940.

In 1961, the first of a number of vessels in the 85-foot class was launched into the sportfishing industry. Some of these large vessels operating in 1963 were war-surplus items, and some had been constructed specifically for sportfishing. Between 1963 and 1967, several more 80- to 85-foot partyboats joined the fleet.

Nine out of every 10 vessels in the southern California fleet were launched after 1940, and 25% of these were built in the 4-year period 1944–1947 (Figure 11). Assuming that partyboats enter the fishery during their first year after launching, approximately 10 new boats have been added to the southern California fleet annually.

Angler Capacity and Boat Length. of the 197 reporting partyboats in 1963, 28% could carry from 16 to 25 anglers, 20% were capable of handling 56 or more anglers and 10% were restricted to 6 anglers or less (Figure 12). By comparison, 28% of the bays-delta fleet could carry 16–25 anglers, but there was none of the big 56+ passenger boats. The bays-delta fleet also had twice the percentage of small boats, six anglers or less.

Not all of the one- to six-passenger boats were small craft. Boats of this group ranged from 17 to 53 feet in length and most were 24 to 42 feet long. Boats capable of carrying 16 to 25 anglers ranged from 32 to 54 feet long, but most were from 37 to 44 feet (Figure 13).

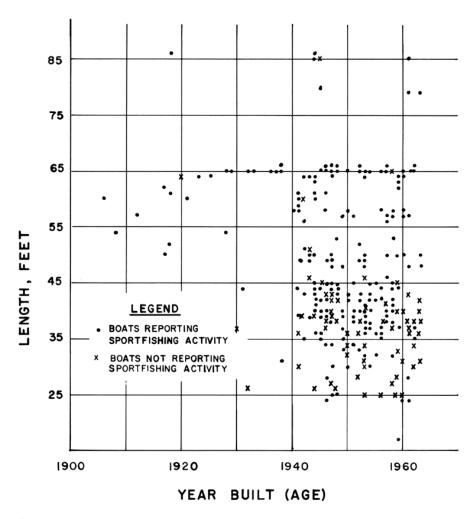


FIGURE 11. Year built (age) and length of 259 registered partyboats, southern California fleet, 1963.

FIGURE 11. Year built (age) and length of 259 registered partyboats, southern California fleet, 1963

None of the vessels rated for 56 anglers and up was less than 57 feet long. One 49-foot vessel was said to have a designated capacity of 49 anglers, but 1:1 ratios (one angler to 1 foot of vessel length) are not generally encountered until boats are 57 feet and longer. Partyboats built since 1949 have not affected the ratio of anglers to length (Figure 13).

Anglers Per Trip. In 1963, the number of anglers carried per trip increased as the number of trips per boat increased (Figure 14). A line fitted to the data, number of anglers carried versus the number of boat trips logged, showed a curvilinear relationship, the formula was: $Y = 11.64 + .099X - .00013X^2$.

Partyboats logging 10 trips during 1963 averaged 12.6 anglers per trip, whereas those making 100 trips averaged 20.2 anglers. Average peak loads, about 30 anglers, were carried on partyboats that logged 340 to 420 trips for the year. Angler loads decreased rapidly as trip

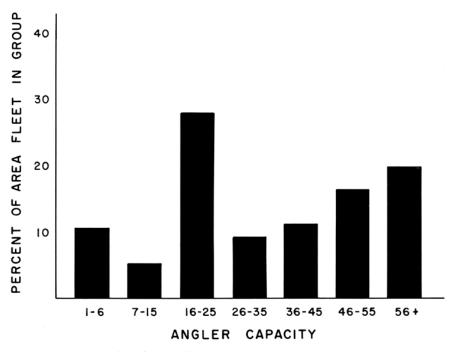


FIGURE 12. Percent of southern California fleet by angler capacity, 197 reporting partyboats, 1963.

FIGURE 12. Percent of southern California fleet by angler capacity, 197 reporting partyboats, 1963 counts exceeded 420. Data show that in the southern California fleet the larger boats not only carried more anglers than the smaller boats, but made more trips. From an economics standpoint, large boats require a greater investment, and the operator is forced to carry more passengers, and fish more often in order to protect his investment.

One large all-day boat logged 122 trips, with an average of 45 anglers per trip. One half-day boat logged 423 trips and averaged more than 36 anglers per trip. If the data shown in Figure 14 were replotted, eliminating multiple-trip boats, the fitted line would have a greater slope, and the average anglers per trip for the remaining boats would be higher, possibly by two anglers for 100-trip boats.

Southern California partyboats were active in all months in 1963. In January, 38 boats reported sportfishing, and there were 37 in December. June, July, and August were the big months and always have been (Figure 15). In July, 170 of the year's 197 reporting boats logged sportfishing trips.

of 20,673 partyboat trips reported in 1963, over 70% were undertaken during the 5-month period May through September (Figure 16). During the slowest months, January and December, more than 500 trips were logged, ranging to more than 3,500 trips during each peak month, July and August.

Although the least number of boats was in operation January, February, and December, the average number of trips per boat month was equal to or higher than for other months of the year (Table 15).

In April, 101 boats averaged 12.7 trips each. This is the month partyboat skippers and fishermen begin anticipating the new fishing

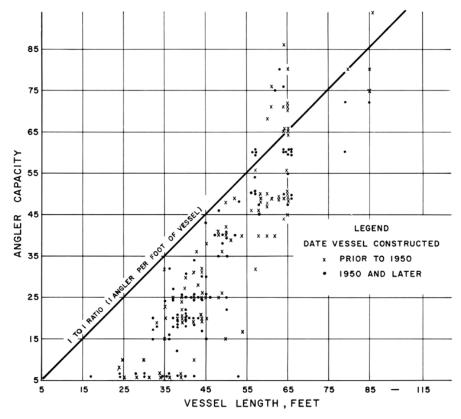


FIGURE 13. The relationship between boat length and angler capacity, 197 partyboats reporting sportfishing, southern California fleet, 1963.

FIGURE 13. The relationship between boat length and angler capacity, 197 partyboats reporting sportfishing, southern California fleet, 1963

season, but more boats become available than anglers to keep them busy. In September and October, when fishing is often highly rewarding, there are again too few fishermen to keep the available boats fully active.

of the 20,673 trips reported by the southern California fleet in 1963, 11,962 were all-day trips. An all-day trip usually ends after a full day of fishing. At times, when fishing is unusually successful, the trip is terminated earlier than normal. If fishing has been poor, the day may be extended in hopes of encountering that last minute school of fish. Taking a full legal limit of fish, "limiting out" doesn't occur very often to either the boat or the angler. The remaining 8,711 trips were either single half-day trips (967) or multiple trips (7,744). Multiple and single half-day trips include:

- 1) Two half-day trips: boats sail and return twice, as scheduled;
- 2) Single half-day trips: boats are scheduled normally, but because of mechanical failure, rough weather, or lack of a passenger load, one trip is cancelled. Morning trips are more likely 3) Two half-day trips and an evening trip ("sundowner"). Many anglers cannot fish during the day, but find the evening trip,

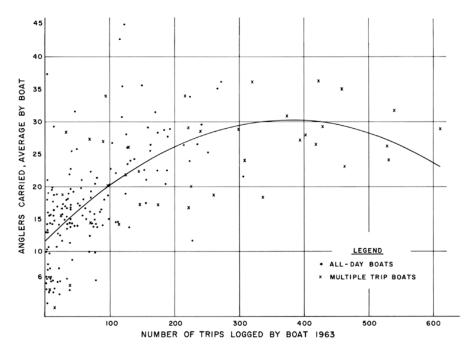


FIGURE 14. The relationship between trip frequency and the average load of anglers. Each plot represents the angler load average trip frequency record of a single southern California partyboat in 1963.

FIGURE 14. The relationship between trip frequency and the average load of anglers. Each plot represents the angler load average trip frequency record of a single southern California party-boat in 1963

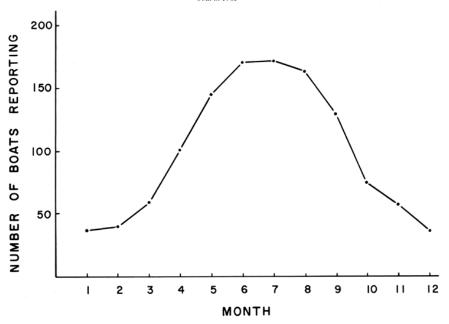


FIGURE 15. Number of partyboats reporting sportfishing by month, southern California fleet, 1963.

FIGURE 15. Number of partyboats reporting sportfishing by month, southern California fleet, 1963

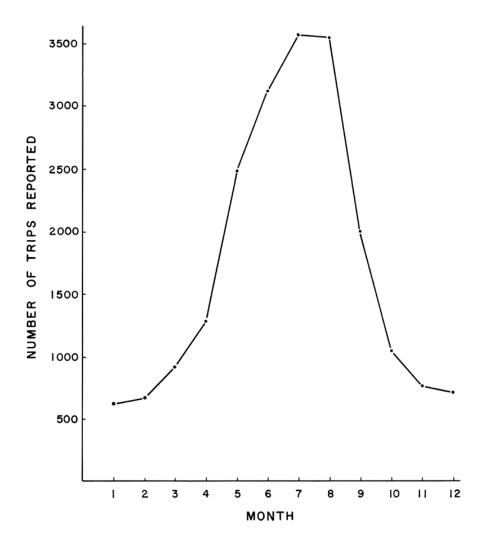


FIGURE 16. Number of partyboat trips reported by month, southern California fleet, 1963. $FIGURE\ 16.\ Number\ of\ partyboat\ trips\ reported\ by\ month,\ southern\ California\ fleet,\ 1963$

TABLE 15 Number of Partyboats Reporting and Average Number of Trips Per Month Southern California Marine Partyboats, 1963

Month	Number boats reporting	Number trips average	Month	Number boats reporting	Number trips average
January February March April May June	38 41 60 101 144 169	16.5 16.4 15.4 12.7 16.9 18.4	July August September October November December	171 162 128 74 57 37	20.8 21.9 15.6 14.1 13.3 19.1

TABLE 15 Number of Partyboats Reporting and Average Number of Trips Per Month Southern California Marine Partyboats, 1963

4.6. Partyboat Catch Statewide, 1947–1967

During the 1947–1967 period, many species of fish were taken on partyboats. Consecutive catch records have been maintained for 28 species or species groups (Appendix 2), and for these angling effort is expressed in two ways: angler days, and angler hours. Neither expression has been continuous over the 21-year period. The statistic "number boats statewide" refers only to the number of boats reporting catches of fish. Some boats reported "no fishing", but these are not included in the number boats statistic. Angler (head) counts were started in 1960 and continue through 1967.

Partyboat catch and effort data have been summarized by port and port groups. The species listed for each port were selected somewhat arbitrarily, but include the popular and numerically important fishes of the area (Appendixes 3 through 31). In some instances, a species of fish may be included in a port listing but it does not appear among the 28 species listed in Appendix 2. This occurs where fishes are of minor interest locally, but relatively unknown elsewhere.

5. SPECIES ACCOUNTS

A statewide list of the 20 most important species in the partyboat fishery would be too arbitrary to have much meaning. If the list was based upon magnitude of catch, rockfish would be far and away the most important. Rockfish, however, seldom are considered the most important by anglers and landing operators. Along the central and northern California coast, salmon rate highest, rockfish second. In the bays-delta area, striped bass and salmon share the honors as most important, rockfish are probably third. In the central California area, rockfish may rate highest, followed by lingcod and cabezon, but salmon, and albacore when available, are extremely popular. It would be difficult to find as many as 20 species or species groups that are commonly taken from the partyboats of all three areas.

In southern California's warm seas, nature has provided a great many species of fish, including those that occur in northern and central California. Here, a list of 20 species can be drafted. Perhaps the most significant approach to the question, "what are the 20 most important species?" is from the standpoint of the people earning their living in the partyboat fishing business. Their decisions would include a consideration of the magnitude of catch of each species, angler preference, seasonal availability and other factors.

In 1968, the following was asked of 11 southern California partyboat operators: "List in order the 20 most important species of fish to your partyboat business." From their answers, a list reflecting majority opinion was established. Each operator had his own opinion and may or may not have agreed with the others (Table 16). It should be

realized that the composition and rank order of the list might change with time.

TABLE 16
Twenty Most Important Gamefish Species Ratings by Eleven Southern California
Partyboat Landing Operators, 1968

Species rank					Ratin	g by la	nding				
Barracuda	1	1	1	1	1	3	3	3	4	5	5
Kelp, sand bass	1	1	1	2	2	2	2	3	4	5	8
Yellowtail	2	2	3	4	4	4	4	7	8	9	
Bonito	3	4	4	4	5	5	5	6	7	7	7
California halibut	2	3	3	3	4	4	6	6	8	9	11
Rockfish	2	2	5	5	6	8	8	9	9	9	11
Albacore	1	1	1	2	6	7	7	7	14		
White seabass	2	3	5	5	5	6	6	7	7		
Bluefin tuna	3	6	7	8	8	9	10	12			
Sculpin	6	6	9	10	10	11	11	11	12	18	
Pacific mackerel	8	8	10	11	11	17					
Giant sea bass	9	10	12	13	13	14	14	15			
Sheephead	8	10	10	14	14	15	17	17			
Lingcod	6	11	12	13	13	13	15	16	18		
Jack mackerel	10	11	12	12	12	14	16				
Salmon	10	10	16	17	17	18	19	20			
Cabezon	11	12	15	16	16	18	19				
Miscellaneous flatfish	10	13	14	15	15	20					
Sablefish	9	13	14	18	19	19	20				
White croaker	13	19	19	20	20						

TABLE 16

Twenty Most Important Gamefish Species Ratings by Eleven Southern California Partyboat Landing Operators, 1968

5.1. 1. Barracuda

Total partyboat catch, 1947–1967: 9,617,910 fish.

Minimum and maximum catches: 87,603 (1956); 1,195,585 (1959).

Mean catch: 457,996

Southern California landing operators, as a group, believe the barracuda is the most important species to their partyboat business. Individual operators ranked barracuda from first to fifth (Table 16).

Statewide, in one year (1959), barracuda led all other species in total partyboat catch. Barracuda ranked third in 10 of the 21 years, fourth in 7, second in 2, and fifth in 1 year.

During the 1961–1967 period, partyboat anglers alone caught four times as many barracuda as were landed commercially from Californian and Mexican waters combined (Table 17).

Barracuda commercial and sportfishing regulations have been in force for many years. Some people object to the sportfishing size limit which states "not more than 2 fish [barracuda] less than 28 inches (total length) ... may be possessed...." The objectors insist that barracuda lose protective mucous and die a short time after being handled. In 1958, several dozen barracuda were tagged and held in tanks aboard ship for several weeks. They developed white (fungus?) marks along the back and sides, presumably from handling, but recovered fully after resuming feeding. One or two fish died over the entire holding period (Leo Pinkas, California Department of Fish and Game, pers. comm.). It is unlawful for commercial fishermen to possess any barracuda on any boat carrying or using any purse seine or

TABLE 17
Origin, Pounds, and Number of Fish
Commercial Barracuda Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
1961	478,362	231,017	709,379	177,345
1962	521,769	224,707	746,476	186,619
1963	347,354	31,360	378,714	94,679
1964	251,025	83,115	334,140	83,535
1965	273,003	89,055	362,058	90,514
1966	233,319	85,797	319,116	79,779
1967	281,224	31,960	313,184	78,296

¹ Computed value, conversion factor four pounds per fish.

Origin, Pounds, and Number of Fish Commercial Barracuda Landings, 1961–1967

round haul net. Gill nets, with a minimum mesh of 3 ½ inches, may be used to take barracuda.

Theoretically, size restrictions protect young, immature fish, permitting growth to take place until an economically appropriate size is reached. Gear restrictions are designed to bring fishing effort in line with fish abundance. The population is not large enough and barracuda are too vulnerable to nets to withstand purse and round haul seining. Purse seining, however, does take place to a minor extent in Baja California. Sport and commercial fishing activities in Mexico can and may exert heavy pressure on the barracuda population, which could affect angling off California.

Barracuda prefer to range over the continental shelf, close to shore, including near-shore islands. They are migratory, and have been taken off Alaska and from Magdalena Bay, Baja California.

When lower than average water temperatures prevail, barracuda withdraw from the northern end of their range. They can, however, be found from Santa Monica Bay south under all conditions. If unfavorable temperatures are extended in time, angler success will probably decrease steadily. This situation was experienced from 1948 through 1956 (Appendix 2).

All 3-year-old barracuda are sexually mature, but only 75 percent of the 2-year-old fish are capable of reproduction. The California spawning season may extend from April through September, but principal spawning is accomplished during May, June, and July. A single fish will spawn more than once each season, and the larger fish produce the most eggs.

On the average, a 1-year-old barracuda is 13.8 inches long and weighs one-third pound. A 28-inch barracuda weighs 3 pounds, and may be 4 or 5 years old. A very large fish, 10 or more pounds, may be 11 or more years old. The life span is not great, perhaps 12 years, maximum.

5.2. 2. Kelp Bass and Sand Bass

Total partyboat catch, 1947–1967: 16,011,300 fish.

Minimum and maximum catches: 428,426 (1959); 1,278,939 (1966).

Mean catch: 762,443

Southern California partyboat landing operators rated these two species second most important in the southern California area. Individual operators ranked bass from first to eighth.

Statewide, bass catches were first in 6 years, second in 10, third in 3, fourth in 1, and fifth 1. The ubiquitous rock-fish is the only group that has provided more fish to partyboat anglers.

The kelp bass, also called calico and bull bass, is the mainstay of the bass fishery.

At times in the last 20 years, particularly 1950 to 1957, sand bass have been scarce in southern California.

Tagging studies show kelp bass are largely non-migratory. Sand bass tend to move freely for short distances, but migrations greater than 40 miles have not been detected. There is good reason to believe an extended cold water phase in southern California would drive sand bass south, out of range of all but a few partyboats.

Commercial fishing offers no competition to the bass angler. Bass taken in Mexican waters may be imported (under stringent regulations), but California caught fish cannot be legally marketed. Since 1962, no bass have been brought in from Mexico (Table 18).

TABLE 18
Origin, Pounds, and Number of Fish
Commercial Sand and Kelp Bass Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
1961 1962		2,584 1,470	2,584 1,470	2,584 1,470
1963				
1964				
1965				
1966				
1967				
		I	ı	ı

¹ Computed value, conversion factor one pound per fish.

TABLE 18

Origin, Pounds, and Number of Fish Commercial Sand and Kelp Bass Landings, 1961–1967

Sportfishermen are restricted to a 12-inch minimum size, and a 10-fish bag limit. The 12-inch size limit has been in effect since 1959, the bag limit much longer. The bass fishery has been thriving since 1962 (Appendix 2). A few observers say that stunting is taking place where sub-legal bass are heavily concentrated. Statistics indicate that the catch of legal bass in the crowded areas is normal, but perhaps the catch should be noticeably higher than normal, considering the heavy population of sub-legal bass present from which to draw.

The range of kelp and sand bass extends from about Monterey Bay, California, to central Baja California. In 1965 a 13 ¾-inch kelp bass was taken off the mouth of the Columbia river, Oregon (Hosie & Bond, 1968). Kelp bass are strongly attracted to cobble and (solid) rock substrate, but may avoid water deeper than 150 feet. Sand bass are most often taken over light cobble, or sandy-mud bottoms. They are common at 60 feet, and have been observed at 120 feet. In January 1969, the skipper of a partyboat from Malibu Beach reported taking 12, 4- to 8-pound sand bass from 300 feet. From the same boat, the catch of a 6-pound sand bass at 350 feet was verified.

Bass growth rates are astonishingly slow. One-year-old fish average 4 inches total length. Even at this early stage, bass show the daring and aggressiveness that characterizes older and much larger fish. A 12-inch kelp bass may be 4 to 6 years old. Very large kelp (bull) bass, maximum 28 inches, range from 15 to at least 30 years of age. Sand bass growth rates have not been fully established, although recoveries of tagged sand bass indicate that the rates are similar or perhaps slightly faster than for kelp bass. First maturity of kelp bass is reached at the end of the second year, at a length of about 7 inches. At a slightly greater size, when more fish have reached maturity, kelp bass begin to appear in the fishery with regularity. Quast (1968) theorized two spawning peaks for larger females. Ripe fish are noted from mid-April through October, with a peak from May through September.

The kelp bass utilizes a broad spectrum of foods, a generalist in the fullest sense. As bass grow larger, feeding shifts to the larger prey, including anchovies, squid and octopus.

5.3. 3. California Yellowtail

Total partyboat catch, 1947–1967: 1,619,194 fish.

Minimum and maximum catches: 6,948 (1947); 457,350 (1959)

Mean catch: 77,104

Southern California partyboat landing operators rated the California yellowtail the third most important gamefish. Rankings ranged from second to ninth, one operator did not rate the species. Statewide, yellowtail catch totals have ranged from fourth to seventeenth, but averaged tenth.

Round haul nets may not be used to take yellowtail in California waters, but are permitted south of the United States-Mexican boundary. Entangling nets and hook and line are legal commercial gear in California. During the period 1961 through 1967, commercial landings were less than 40% of the partyboat catch (Table 19). In 1966, 245,207 pounds of yellowtail were sold at market; for these, the commercial fishermen received \$26,605, less than 11 cents per pound. Anglers may not possess more than 10 fish, 2 of which may be less than 28 inches total length.

Origin, Pounds, and Number of Fish Commercial Yellowtail Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
961	80,689	300,080	380,769	31,730
962	37,066	151,355	188,421	15,702
963	25,443	44,283	69,726	5,811
964	25,878	84,221	110,099	9,175
965	12,522	115,283	127,805	10,650
966	35,880	209,327	245,207	20,434
967	13,179	137,489	150,668	12,556

¹ Computed value, conversion factor 12 pounds per fish.

TABLE 19

Origin, Pounds, and Number of Fish Commercial Yellowtail Landings, 1961–1967

The California yellowtail has been reported from Monterey Bay south to Cape San Lucas, Baja California, and throughout much of the Gulf of California. Tagging studies demonstrate that a large proportion

of California fish come from the Cedros Island area of Baja California. Normally, these fish do not spawn off California, but in 1959, following two warm water years, an abundance of small yellowtail showed that there had been considerable spawning success locally. Some 2-year yellowtail spawn, and all 3-year fish are mature. Spawning takes place in summer months. Most of the fish taken by partyboat fishermen weigh between 10 and 20 pounds, and are 3 to 7 years old.

A 35-pound yellowtail was determined to be 12 years old. Forty-pound yellowtail are not uncommon, but extremely difficult to land. This species attains a large size, an 80-pound fish taken at Guadalupe Island a few years ago is the present record.

Yellowtail are first-class gamefish, and like most gamefish, vigorous carnivores. The stomachs of 172 yellowtail contained: round herring, sardines, thread herring, northern anchovies, California flyingfish, a red serranid, jacksmelt, jack mackerel, Pacific mackerel, halfmoon, rockfish, red crabs, squid, and miscellaneous animal and vegetable matter.

5.4. 4. Bonito

Total partyboat catch, 1947–1967: 8,421,873 fish. Minimum and maximum catches: 2,359 (1950); 1,298,804 (1964). Mean catch: 401.042

Southern California landing operators rated bonito fourth most important to the southern partyboat industry. Individual ratings extended from third to seventh.

Statewide, partyboat catch totals of bonito ranked from first to eighteenth. In 1947, 36,496 fish were logged on southern partyboats, placing bonito seventh in total catch. For the next six (cold water) years, bonito were never higher than fourteenth. Starting in 1957, and continuing through 1967, bonito have been among the top four in total catch.

Commercial fishing is carried on with hook and line, trolling gear, small nets, and purse seines. The bulk of the catch is canned and small amounts go to the fresh fish markets. Landings have been erratic. Approximately 533,000 bonito were landed commercially in 1962 and over 5 million in 1967 (Table 20). The commercial catch in California waters in 1966 and 1967 amply demonstrated that heavy fishing pressure

TABLE 20
Origin, Pounds, and Number of Fish
Commercial Bonito Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
1961	8,439,400	73,572	8,512,972	2,128,243
1962	2,071,998	62,904	2,134,902	533,725
1963	4,013,505	9,017	4,022,522	1,005,630
1964	2,606,411	5,858	2,612,269	653,067
1965	5,632,399	5,941	5,638,340	1,409,585
1966	18,308,175	840,319	19,148,494	4,787,123
967	17,841,537	3,377,894	21,219,431	5,304,857

¹ Computed value, conversion factor four pounds per fish.

TABLE 20

Origin, Pounds, and Number of Fish Commercial Bonito Landings, 1961–1967

can be placed upon this species when there is sufficient demand. Partyboat catches during the same 2 years (1966 and 1967) were well below the preceding 7 years. These data suggest that strong competition exists between the two industries for the available bonito. Sport fishermen may not possess more than 10 bonito.

The bonito is a pelagic schooling fish, inhabiting the temperate coastal shelf. Its geographic range extends from Vancouver Island to Cape San Lucas. The economic range is Point Conception to Magdalena Bay, Baja California.

Spawning occurs in southern California, young fish 6 to 10 inches long appear in early summer. Two summers later, many of these bonito weigh 6 or 7 pounds. Most of the fish caught by California anglers weigh between 3 and 12 pounds and are probably 1 to 8 years old. A 25-pound bonito is about maximum size, but it is claimed larger fish have been taken.

Young bonito feed on crustaceans and planktonic foods, the larger fish prefer sardines, anchovies, and occasionally squid.

5.5. 5. California Halibut

Total partyboat catch, 1947–1967: 1,548,648 fish.

Minimum and maximum catches: 10,795 (1957); 143,462 (1948).

Mean catch: 73,745

Southern California landing operators rated California halibut, a bottomfish, fifth in overall importance to the southern partyboat fishing industry. Barracuda, kelp bass, yellowtail and bonito are fished at the surface. Individual operators ranked California halibut from second to eleventh in importance. Statewide, partyboat catches of halibut have ranked fifth to fifteenth, and averaged eighth.

TABLE 21
Origin, Pounds, and Number of Fish
Commercial California Halibut Landings, 1961–1967

Year	California	Mexico	Total	Number
	pounds	pounds	pounds	fish ¹
1961	545,472	109,082	654,554	81,819
1962	776,077	87,009	863,086	107,885
1963	855,092	265,277	1,120,369	140,046
1964	1,092,068	184,037	1,276,105	159,513
1965	1,128,348 $749,555$	115,370 261,857	1,243,718 1,011,412	155,464 126,426
1967	824,919	13,139	838,058	104,757

¹ Computed value, conversion factor eight pounds per fish.

TABLE 21

Origin, Pounds, and Number of Fish Commercial California Halibut Landings, 1961-1967

Although halibut are very popular among sportsmen, commercial fishermen also look upon the species with favor (Table 21). Commercial catches have always exceeded the partyboat catch, but by a smaller margin since World War II. During World War I nearly 5 million pounds of halibut were landed, but landings of the last 20 years have been far lower. Commercial fishing regulations prohibit trawl nets south of Santa Barbara County, except under permit for transport only. Where such gear is legal, trammel nets of at least 8-inch mesh may be used to take halibut. No California halibut less than 4 pounds

in the round may be sold. Unfortunately, $4\frac{1}{2}$ or 5-inch mesh are used in the bag of trawl nets, much too small to allow halibut smaller than 4 pounds to escape. These small fish suffer high mortality and are wasted under present regulations. Ideally the mesh would have to be about $7\frac{1}{2}$ inches to allow undersized halibut escape (J. W. Schott, pers. commun.). Sportfishermen may not possess more than 5 halibut.

California halibut are found from southern Oregon to Magdalena Bay, Baja California. The economic range extends from San Francisco Bay to central Baja California.

The California halibut is the largest species of this genus (*Paralichthys*) known in American waters, Atlantic and Pacific. There is an unverified report of a 72-pounder, but the accepted record is 61½ pounds.

Males may mature as early as the second year, when about 9 inches long. Females mature 1 or 2 years later. Females grow faster, a small number reach 22 inches and 4 pounds at 3 years of age. At 5 years, most of the females and half the males are larger than the 4-pound minimum size imposed on the commercial fishery. Spawning takes place in relatively shallow water. Ripe female halibut have been found early and late in the year, but the bulk of spawning runs from April through July, peaking in May.

Halibut feeding habits are not well documented, particularly for small fish. Six-inch halibut will take hooks baited with live anchovy. Adult fish take anchovy, queenfish, white croaker, octopus and other animal foods.

5.6. 6. Rockfish

Total partyboat catch, 1947–1967: 22,766,628 fish. Minimum and maximum catches: 193,652 (1947); 2,036,708 (1956). Mean catch: 1,084,125

The rockfishes (Sebastes spp.) form one of the most important fish families in the ocean waters of California. At present, in California waters, there are at least 55 species (J. E. Fitch, pers. commun.). Central and northern California partyboat catches consist primarily of blue, yellowtail, olive, and bocaccio rockfish. South of Point Conception the cow, olive, whitebelly, vermilion, and bocaccio rockfishes are among the most important.

Statewide, rockfishes rank first in total catch in the partyboat fishery. This group is of prime value to central California operators, and important to partyboat men elsewhere in the state. In 1947, 74% of the statewide rockfish catch was landed at central and northern California ports. In 1954, only 34% of the rockfish were landed in these areas, southern California operators accounted for 65%. Although southern California area catches have dominated the rockfish fishery for many years, southern operators rated the group about sixth in importance. Individual operators ranked rockfish from second to eleventh.

Commercial rockfish landings during the 1961–1967 period varied from 8- to 12-million pounds, almost all from California waters (Table 22). Bocaccio, chilipepper, canary, and vermilion rockfishes usually comprise the bulk of these landings.

TABLE 22
Origin, Pounds, Commercial Rockfish Landings, 1961–1967

Year	California pounds	Waters north of State pounds	Waters south of State pounds	Total pounds
961	10,324,292	166,728	339,742	10,830,762
962	9,181,683	211,411	441,299	9,834,393
963	11,095,802	438,514	215,144	11,749,460
964	7,850,373	193,489	74,050	8,117,912
965	9,153,754	139,021	99,649	9,392,424
966	9,874,348	100,548	88,696	10,063,592
967	9,589,787	57,665	151,499	9,798,951

Origin, Pounds, Commercial Rockfish Landings, 1961–1967

No size or bag limits apply to the commercial taking of rockfish. Otter trawling is prohibited within 3 miles of shore, and minor restrictions against setline fishing are in force at Santa Catalina Island and several of the larger bays along the California coast. Sportfishermen are limited to 20 rockfish per day.

Among rockfish, fertilization is internal and the embryos develop within the body of the female until hatching time. For a number of important market and sport rockfish, spawning occurs during the winter months. Other varieties spawn at other times of the year. Age at maturity varies according to species. A few shortbelly rockfish mature at 2 years, 50% are mature at 3 years. Fifty percent of the vermilion rockfish are mature at 6 years. Longevity also varies by species, the shortbelly lives 10 years, bocaccio 30 years, and yellowtail rockfish 24 years. Some species attain a maximum length of 10 to 12 inches, but most are larger, and a few reach 30 to 36 inches.

5.7. 7. Albacore

Total partyboat catch, 1947–1967: 1,698,811 fish.

Minimum and maximum catches: 39 (1959); 229,314 (1962).

Mean catch: 80,896

Southern California partyboat landing operators rated albacore seventh in overall importance, three rated them first. Other ratings ranged from second to fourteenth, two operators excluded albacore from the list. Statewide partyboat catch totals for albacore have been among the top eight, two-thirds of the time.

California's commercial albacore catch is many times greater than the partyboat catch. During the period 1961 through 1967, commercial landings exceeded the mean partyboat catch more than 25 to 1 (Table 23). Albacore are taken commercially with hook and line, and with purse seines. Hook and line fishing is far more productive, trollers account for about 75% of the hook and line catch, bait-jig fishing the remainder. Purse seining was unsuccessful until 1959 when light nylon nets and new power retrieval gear were combined to trap the speedy albacore. Purse seines now take a small fraction of the total catch.

Through 1966, sportsmen were limited to 10 fish in possession. There are no restrictions now (1969). Albacore weighing less than 7 pounds may not be bought or sold, but this regulation has only a minor impact on the fishery.

TABLE 23
Origin, Pounds, and Number of Fish
Commercial Albacore Landings, 1961–1967

Year	California pounds	Waters north of State pounds	Waters south of State pounds	Total pounds	Number fish ¹
1961	20,594,360	143,709	8,385,175	29,123,244	1,941,549
1962	32,046,366		4,576,009	36,622,375	2,441,491
1963	41,925,739		6,933,839	48,859,578	3,257,305
1964	33,867,847		8,683,164	42,551,011	2,836,734
1965	19,850,865	230,603	3,136,516	23,217,984	1,547,865
1966	16,141,399	672,854	1,374,959	18,189,212	1,212,614
1967	15,184,473	2,387,979	285,471	17,857,923	1,190,528
		' '			

¹ Computed value, conversion factor 15 pounds per fish.

Origin, Pounds, and Number of Fish Commercial Albacore Landings, 1961-1967

Albacore inhabit temperate waters. Their appearance along the California coast is seasonal, primarily June through September. The eastern Pacific distribution extends from about Magdalena Bay to Alaska, but may vary by year. The bulk of the albacore taken by partyboat fishermen is 2 to 3 years old, but 3- to 4-year fish are common. A fish 2 years old weighs 12.6 pounds; 3-year-olds, 20 pounds; 4-year-olds, 28 pounds. The largest albacore on record, 98 pounds, was taken on long-line gear from the central Pacific ocean near Hawaii (Harold Clemens, pers. commun.). Tagging studies indicate albacore are probably the fish world's greatest migrants. Several fish tagged on the California coast were recaptured off the coast of Japan, nearly 5,000 miles distant. Traveling "as a crow flies," these fish would have had to cover more than 17 miles per day.

Feeding may be at the surface or quite deep, but fish, squid, octopus, and small crustaceans are normal fare.

5.8. 8. White Seabass

Total partyboat catch, 1947–1967: 529,941 fish.

Minimum and maximum catches: 3,385 (1967); 65,545 (1949).

Mean catch: 25.235

Southern California partyboat landing operators rated white seabass eighth overall; individual ratings ranged from second to seventh, with two operators excluding white seabass from the list.

During the period 1951 through 1964, most commercial fishing for white seabass in California occurred in coastal waters from Morro Bay to the Mexican Border, but was centered in the San Pedro area including the offshore islands, particularly Santa Catalina and San Clemente. Fishing was conducted the year around, but most of the catch was landed from April through September (Thomas, 1968).

From 1961 through 1967, more white seabass were landed from Mexican than from California waters (Table 24). Converting pounds to numbers shows that commercial fishermen landed 301,587 fish compared to 80,479 by partyboat fishermen. Market fish averaged 25 pounds, whereas white seabass taken on partyboats averaged about 15.

Set gill nets were and are the favored commercial gear, with fishermen preferring 6- to 7½-inch mesh, although 3½-inch mesh is legal.

TABLE 24
Origin, Pounds, and Number of Fish
Commercial White Seabass Landings, 1961–1967

Year	California	Mexico	Total	Number
	pounds	pounds	pounds	fish ¹
1961	458,491	235,733	694,224	27,769
1962	208,867	365,541	574,408	22,976
1963	372,479	518,741	891,220	35,649
1964	550,817	840,264	1,391,081	55,643
1965	577,607	850,538	1,428,145	57,126
	674,545	663,305	1,337,850	53,514
1967	507,588	715,171	1,222,759	48,910

¹ Computed value, conversion factor 25 pounds per fish.

Origin, Pounds, and Number of Fish Commercial White Seabass Landings, 1961-1967

Purse seining for white seabass was practiced until it became illegal in 1940. Local all-year closures are in effect at Santa Catalina Island and Santa Monica Bay. Sport fishermen may not possess more than 10 white seabass, of which 2 may be less than 28 inches total length.

White seabass range over the continental shelf from Juneau, Alaska, to Magdalena Bay, Baja California, however, the principal center of abundance shifts within the Point Conception, California to Ballenas Bay, Baja California area

The white seabass is the largest member of the family Sciaenidae in California. An 83-pound, 12-ounce fish holds the weight record; 40-pound individuals, about 20 years old, are taken frequently. Males start maturing at 20 inches total length, while females begin maturing at 24 inches, a year later than males.

Squid, sardines, and anchovies are commonly eaten. When available, pelagic red crabs are also favored.

5.9. 9. Bluefin Tuna

Total partyboat catch, 1947–1967: 79,307 fish.

Minimum and maximum catches: 27 (1950); 34,187 (1956).

Mean catch: 3.777

In spite of a relatively poor catch record, the bluefin tuna is a powerful drawing card, rating this species ninth in overall importance. One landing operator rated bluefin tuna third, other ratings ranged sixth to twelfth, with three ignoring it.

The bluefin is the famous "leaping tuna" that inspired Captain George Farnsworth to invent kite fishing in 1909. In 1899, 10 years prior to kite fishing, a 251-pound bluefin was landed at Santa Catalina Island, a sportfishing record that still stands. Today's angler occasionally catches a 25-pound fish. The largest eastern Pacific bluefin taken by any method was 6 feet, 2¼ inches long, and weighed 297 pounds. This fish was caught near Guadalupe Island, Baja California. In the Atlantic, bluefin tuna are reported to attain 1,800 pounds or more.

Bluefin tuna, never successfully taken by bait method, are exploited by the large tropical tuna seiners, and a fleet of smaller vessels which have converted to synthetic fiber seines and the Puretic power block (Bell, 1963). Since 1962, California commercial fishermen have enjoyed

far better success for bluefin in waters south of the State than in California (Table 25).

No California regulations affect the bluefin tuna fishery to an appreciable degree. A sportfishing bag limit of 10 fish was eliminated effective March 1965.

TABLE 25
Origin, Pounds, and Number of Fish
Commercial Bluefin Tuna Landings, 1961–1967

Year	California pounds	Waters south of State ¹ pounds	Total pounds	Number fish ²
1961	13,762,432	7,120,218	20,882,650	994,674
	17,039,651	14,160,300	31,199,951	1,858,224
	7,130,960	23,222,449	30,353,409	1,232,302
	4,655,330	18,515,928	23,171,258	1,316,247
	2,274,674	13,653,486	15,928,160	663,218
	2,202,585	32,617,821	34,820,406	1,322,461
	1,791,634	11,943,961	13,735,595	not available

 ¹ Includes 47,532 pounds originating waters north of State.
 ² Computed value, conversion factors calculated annually.

TABLE 25

Origin, Pounds, and Number of Fish Commercial Bluefin Tuna Landings, 1961-1967

The bluefin tuna of the eastern Pacific ocean is a member of the coastal fauna of Chile, Baja California, and the United States. It inhabits subtropical and temperate water, and is rarely captured in tropical water. In commercial numbers, it is found from Point Conception, California, to Cape San Lucas, Baja California.

Spawning is believed to take place from May through July, south of Japan. Eggs, larvae, and juvenile stages have never been collected.

While bluefin are in California waters, anchovies make up the bulk of the diet. Sanddabs, surfperch, and white croakers also have been identified among the remains in their stomachs.

5.10. 10. Sculpin

Total partyboat catch, 1947-1967: 817,988 fish.

Minimum and maximum catches: 11,477 (1959); 73,844 (1964).

Mean catch: 38,952

Southern California landing operators rated this species tenth most important. To the angler, sculpin may be more noted for its venomous spines than it is for standard gamefish qualities. The lucky fisherman bringing one on board is always promptly advised in chorus, "don't touch him, he's poisonous." The venom is produced in tissue located in grooves along the sides of the heavy dorsal, anal, and pelvic fins (Halstead, 1959). A stab from one of these spines is said to be an agonizing experience.

Although many sport anglers are inclined to discard sculpin or give them away, commercial fishermen land relatively large catches regularly (Table 26). The commercial catch is taken almost exclusively with hook and line, particularly set lines. There are no specific commercial or sportfishing regulations affecting the sculpin fishery.

During recent years, sculpins have been caught from Point Arguello, California, south to Abreojos Point, Baja California. The population centers in southern California and they are most abundant in water shallower than 100 feet.

TABLE 26
Origin, Pounds, and Number of Fish
Commercial Sculpin Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
961	26,718		26,718	20,552
962	57,707	244	57,951	44,577
963	75,209	312	75,521	58,093
964	77,585	16,640	94,225	72,480
965	76,678	6,058	82,736	63,643
966	84,465	24.034	108,499	83,460
967	56,045	26,611	82,656	63,581

¹ Computed value, conversion factor 1.3 pounds per fish.

Origin, Pounds, and Number of Fish Commercial Sculpin Landings, 1961-1967

A 15-inch sculpin would be a big one, although an 18-inch, 4-pound, 2-ounce specimen has been noted. It is believed that sculpins first spawn during their 3rd or 4th year, and that they live 15 years or longer. Spawning takes place from April through August. The eggs are imbedded in free-floating gelatinous egg-balloons. Hatching takes place at the surface within 5 days.

Sculpin eat a wide assortment of foods, including crabs, squid, octopus, shrimp, and fish.

5.11. 11. Pacific Mackerel

Total partyboat catch, 1947–1967: 2,686,340 fish.

Minimum and maximum catches: 66,969 (1950); 315,037 (1954).

Mean catch: 127,921

Five of 11 partyboat landing operators failed to rate Pacific mackerel. Those who did, ranked them eighth to seventeenth in importance. The Pacific mackerel is a small, vigorous fish that can give any angler a real battle, but it is the novice who has the most fun because he is not yet prejudiced against the species. On a partyboat, a few surly comments from the experienced fishermen soon let the newcomer know where he stands if he persists in fishing for mackerel.

The commercial catch is used primarily for canning. For years, mackerel supported one of California's most important fisheries. At present (1969) the catch is at an all time low (Table 27). Purse seines account for the bulk of the catch; scoop-boats have averaged less than 5% during the last decade.

Formerly, Pacific mackerel ranged from the Gulf of Alaska southward into the Gulf of California. They were never abundant north of Monterey Bay, and in recent years have become scarce north of Point Conception.

The offshore extent of Pacific mackerel spawning appears to be about 150 miles off southern California and 200 to 250 miles off central and northern Baja California. Some 2-year-old fish spawn, all spawn at 3 years.

Mackerel grow rapidly the first year, averaging over 10 inches. Thereafter, the rate slows sharply, 2-year-old fish are about 12 inches long, whereas they are 13 inches at 3, and an 8-year-old fish will be about 15½ inches long.

TABLE 27
Origin, Pounds, and Number of Fish
Commercial Pacific Mackerel Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹
961	44,110,194		44,110,194	68,231,000
962	48,578,391	429	48,578,820	50,398,000
963	40,241,832	844	40,242,676	31,698,000
964	26,827,216	665	26,827,881	25,871,000
965	7,050,059		7,050,059	9,765,000
966	4,629,504		4,629,504	4,393,000
967	1,166,607		1,166,607	not available

¹ Values computed seasonally, hence, not perfectly correlated with total pounds which is an annual statistic.

Origin, Pounds, and Number of Fish Commercial Pacific Mackerel Landings, 1961-1967

Mackerel are voracious feeders, contributing greatly to their hook vulnerability. One observer states that any animal matter, alive or dead, will suffice as food.

5.12. 12. Giant Sea Bass

Total partyboat catch, 1947–1967: 5,983 fish.

Minimum and maximum catches: 74 (1956); 622 (1967).

Mean catch: 285

Eight of 11 partyboat landing operators listed giant sea bass among the 15 most important gamefish in southern California. Although this species is the giant among all fish taken on partyboats, its numbers are small and the marine angler seldom sees, let alone captures, one.

Commercial fishing is carried on the year around, particularly in Mexico (Table 28). A market operator at San Pedro believes the average size of giant sea bass delivered to his market has decreased 20% in the last few years. Commercial fishermen in California are not hampered by any specific regulation(s), whereas sportfishermen are restricted to a 2-fish limit. Hook and line is favored by all fishermen, but a small portion of the commercial catch is taken with other gear. Skilled skin divers take giant sea bass with the spear gun.

TABLE 28
Origin, Pounds, and Number of Fish
Commercial Giant Sea Bass Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹		
961	12,509	327,854	340,363	3,404		
962	8,188	438,021	446,209	4,462		
963	13,960	289,619	303,579	3,036		
964	14,018	208,697	222,715	2,227		
965	13,053	338,697	351.750	3,518		
966	7,486	333,481	340,967	3,410		
967	11,893	218,711	230,604	2,306		

¹ Computed value, conversion factor 100 pounds per fish.

TABLE 28

Origin, Pounds, and Number of Fish Commercial Giant Sea Bass Landings, 1961–1967

Giant sea bass range from San Francisco Bay south into the Gulf of California. They are most abundant at Anacapa, San Nicolas, and Los

Coronados Islands and between San Clemente and Oceanside on the mainland. Market fishermen claim that giant sea bass prefer a rocky bottom outside a kelp bed. Small fish are frequently taken inshore. In June 1963, a 7-foot, 539-pound fish was beached at San Clemente. The rings on the otoliths (ear stones) of this fish indicated it was about 60 years old. Older fish, 72–75 years, have been noted. Evidently, maturity takes place at 11 to 13 years. A fish of this age will weigh 50 to 60 pounds. The main spawning season occurs during July, August, and September.

Giant sea bass feed on many items, but fish predominate. Stomach contents have included anchovies, white croakers, jack mackerel, sheephead, ocean whitefish, sand bass, midshipmen, and crabs.

5.13. 13. California Sheephead

Total partyboat catch, 1947–1967: 437,791 fish.

Minimum and maximum catches: 11,541 (1960); 52,967 (1966).

Mean catch: 20,847

Three southern California landing operators rated sheephead among the top 10 gamefish. Five operators were not so enthusiastic, and three evidently considered the species of no consequence.

Anglers regard sheephead with some favor. This sizeable, colorful fish puts up a strong, tugging battle, but is frequently discarded because of its undeserved reputation for poor eating. From a high of 100,227 pounds in 1948, the commercial catch has declined rapidly, and is presently much smaller than the partyboat catch (Table 29). Market operators prefer rockfish, a more acceptable fresh product than sheephead.

TABLE 29
Origin, Pounds, and Number of Fish
Commercial Sheephead Landings, 1961–1967

Year	California pounds	Mexico pounds	Total pounds	Number fish ¹		
961	9,651	2,951	12,602	4,065		
962	15,341	4,986	20,327	6,557		
963	25,210	2,801	28,011	9,035		
964	13,404	4,530	17,934	5,785		
965	8,803	3,350	12,153	3,920		
966	13,276	2,708	15,984	5,156		
967	18,605	1,023	19,628	6,331		

¹ Computed value, conversion factor 3.1 pounds per fish.

TABLE 29

Origin, Pounds, and Number of Fish Commercial Sheephead Landings, 1961-1967

There is no season or bag limit for anglers or market fishermen. Sheephead may be taken by any legal gear, including lobster traps during the spiny lobster season.

They are not abundant north of Point Conception, but have been taken from Monterey Bay south to Cape San Lucas, Baja California, and throughout much of the Gulf of California. Sheephead inhabit rocky areas, particularly around kelp forests. First spawning probably takes place during the summer months at 4 or 5 years of age. This is a long-lived species, "Old Sarge" lived for 23 years in Steinhart Aquarium

in San Francisco, and a 29-pound male was judged to be 53 years old from the rings on its opercle (cheek bone).

Lobster is said to be a favorite food item, stomach contents have included barnacles, sea urchins, mussels, worms, crabs, octopus, and other items.

5.14. 14. Lingcod

Total partyboat catch, 1947–1967: 600,957 fish.

Minimum and maximum catches: 13,011 (1953); 44,676 (1966).

Mean catch: 28,617

Only one southern California partyboat landing operator viewed lingcod among the top 10 gamefish in 1968. The lingcod is not abundant south of Point Conception. Central and northern California partyboat catches of lingcod outnumbered southern catches 6 to 1 during the 10 years 1958–1967.

Commercially, lingcod are caught with handlines, trolling lines, and trawl nets; trawling is least important. Most of the catch is utilized fresh. The fishery appears to be stabilized between 0.9 to 1.5 million pounds (Table 30). The greatest catches, approximately 2.0 million pounds, were made in 1947 and 1948. From 1961 through 1967, the number of lingcod landed by the commercial fleet was about three times greater than the partyboat catch for the same period. Lingcod may be taken by any legal gear. There is no season, size, or bag limit for commercial fishing. Sportsmen must adhere to a 10-fish limit.

TABLE 30
Origin, Pounds, and Number of Fish
Commercial Lingcod Landings, 1961-1967

Year	California pounds	Waters north of State pounds	Waters south of State pounds	Total pounds	Number fish ¹
1961	1,361,726 1,048,818 1,047,923 810,301 785,378 790,960 921,968	78,217 62,995 84,594 25,375 27,312 8,919 16,687	391 491 701 424	1,439,943 1,112,204 1,133,008 836,377 812,690 800,303 938,655	179,992 139,025 141,626 104,547 101,586 100,037 117,331

¹ Computed value, conversion factor eight pounds per fish.

TABLE 30

Origin, Pounds, and Number of Fish Commercial Lingcod Landings, 1961-1967

Lingcod are distributed from the Bering Sea to northern Baja California. The region of greatest abundance lies north of California; it is moderately abundant in California waters. This species lives near the bottom around rocky areas, reefs, and in kelp beds especially where there is a strong tidal current. A 5-foot, 70-pound specimen was reported from British Columbia in 1866, and there are unverified reports of 150-pounders, but it is unusual to take lingcod exceeding 52 inches and 55 pounds.

Female lingcod grow faster than males, and attain a greater size and age. First maturity occurs when the fish is about 23 inches long, and 3 years old. Practically all lingcod are mature at 25½ inches and 4 years. The eggs are adhesive and stick in large masses to rocky substrate.

The male guards the developing eggs until they hatch. Lingcod feed on anything alive in their environment, including rockfishes, herring, squid, small sharks, and small lingcod. Young lingcod utilize crustaceans until they are large enough to take fish.

5.15. 15. Jack Mackerel

Total partyboat catch, 1947–1967: 463,418 fish.

Minimum and maximum catches: 202 (1951); 196,280 (1953).

Mean catch: 22,068

Although southern California landing operators, in a recent survey, were not enthusiastic about jack mackerel, this was not true in 1953. In that year, large "jacks" appeared in great numbers on southern California fishing grounds to provide a much needed boost to the ailing partyboat fishery. More than one skipper was not at all sure what he was catching. Some of these fish were called amberjacks, saurels, Spanish mackerel, and so on. Jack mackerel have not made more than a modest contribution to the southern California partyboat fishery since 1953.

The commercial fishery was not of major importance until 1947, when it became a "substitute sardine" fishery. Since then jack mackerel may have substituted for Pacific mackerel on occasion, but the catch of both species has been on a sharp downtrend since 1962 (Tables 31 and 27).

TABLE 31
Origin and Pounds
Commercial Jack Mackerel Landings, 1961–1967

Year	Total pounds	Year	Total pounds
1961	97,606,304 89,978,933 95,442,284 ¹ 89,692,911	1965 1966 1967	66,666,380 40,862,409 38,180,547

¹ Includes 20,000 pounds from south of State.

TABLE 31

Origin and Pounds Commercial Jack Mackerel Landings, 1961-1967

The only fishing restrictions are those prohibiting the use of purse seines and lampara nets in specified areas.

Jack mackerel are distributed extensively, ranging from Gulf of Alaska southward at least to Cape San Lucas,

Mexico, and up to 1300 miles seaward. The commercial fishery extends from Monterey to San Diego, with most of the catch landed at Los Angeles, and lesser amounts at Monterey, Port Hueneme, and Newport Beach. A moderate fishery exists off Baja California at Ensenada and Cedros Island.

This species is known to live to an old age, perhaps in excess of 30 years. Fifty percent of the 2-year-old females, about 10 inches long, are mature. At 3 years, all female jack mackerel are mature. Spawning takes place during spring and early summer over an extensive area centered 80 to 240 miles offshore. Large adults may be around 5 pounds, and 3 feet in length.

Food studies show that pelagic crustaceans are very important, but anchovies, lanternfish, and juvenile squid are regularly eaten.

5.16. 16. Salmon

Total partyboat catch, 1947–1967: 1,409,272 fish.

Minimum and maximum catches: 5,018 (1947); 128,978 (1955).

Mean catch: 67,108

Prior to 1967, salmon would not have been considered one of the 20 most important species groups in southern California. From 1959 through 1966, southern California partyboats annually logged about 23 salmon. In 1967, southern boats reported 2,923 salmon and approximately 3,800 in 1968. Skiff and private boat fishermen also took many salmon during the same period and in the same areas, but the tally is unknown.

of the five Pacific salmons, king and silver salmon are by far the most important to California sport and market fishermen. In 1966, approximately 9½ million pounds of salmon were landed in California (Table 32), and these were valued at \$4.8 million. Only the landings of bluefin, skipjack, and yellowfin tuna were of greater value. Season, size limitations, local regulations, and bag limits are in force. Anglers and market fishermen should be fully cognizant of these laws before undertaking salmon fishing.

TABLE 32
Origin, Pounds, and Number of Fish
Commercial Salmon Landings, 1961–1967

Year	California pounds	Waters north of State pounds	Total pounds	Number fish ¹
1961	8,637,907		8,637,907	852,669
1962	6,672,717	144	6,672,861	604,026
1963	7,859,035	151	7,859,186	824,409
1964	9,481,215		9,481,215	933,831
1965	9,737,775		9,737,775	922,664
1966	9,446,995		9,446,995	999,367
1967	7,401,591	138	7,401,729	752,414

¹ Computed value, conversion factor recalculated annually.

TABLE 32

Origin, Pounds, and Number of Fish Commercial Salmon Landings, 1961–1967

Both king and silver salmon range from about San Diego to Alaska and south on the Asiatic side of the Pacific Ocean, to Japan.

A 50-pound king salmon is considered a giant, although the record stands at 126½ pounds. The largest silver salmon weighed 31 pounds. Sport caught silver and king salmon average 7 to 8 pounds. These fish enter freshwater streams and rivers to spawn. The availability of suitable spawning beds and maintenance of water quality pose ever present problems to salmon, and to the people of California. After spawning, salmon die a natural death.

In a few months to a year after birth, young salmon leave fresh water to enter the sea. A steady diet of seafood pushes their growth at an amazing rate. A recent study showed that king salmon taken in the San Francisco area utilized northern anchovies, rockfish, euphausiides, Pacific herring, squid, and crab larvae. Silver salmon feed on similar items.

5.17. 17. Cabezon

Total partyboat catch, 1947–1967: 215,705 fish.

Minimum and maximum catches: 2,516 (1960); 18,195 (1956).

Mean catch: 10,272

The cabezon is an important gamefish to the anglers of central and northern California. Angling is successful from shore, pier, jetty, and boat. In southern California, the cabezon does not rank as an important fish, although the catch may equal that from the central and northern areas. During the 10-year period 1958 through 1967, 41% of the partyboat catch of cabezon was logged from southern California.

The sportfishing and diving catch may be two or three times greater than the commercial catch (Table 33). Most of the commercial catch is taken with setlines incidental to rockfish fishing. Other than a 10-fish sport bag limit, restrictive catch regulations do not exist.

TABLE 33
Origin, Pounds, and Number of Fish
Commercial Cabezon Landings, 1961–1967

Year	Total ² pounds	Number fish ¹	Year	Total ² pounds	Number fish ¹
1961 1962 1963 1964	4,952 2,474 2,811 5,281	 	1965 1966 1967	7,438 12,599 14,284	

¹ A satisfactory conversion factor is not available.
² All California-caught.

TABLE 33

Origin, Pounds, and Number of Fish Commercial Cabezon Landings, 1961-1967

The range of the cabezon extends from northern British Columbia to Abreojos Point, Baja California. They are found the year around on almost all rocky bottoms from tide pools to depths in excess of 250 feet. The younger, smaller fish inhabit inshore areas, but larger fish prefer offshore life with feeding forays to shallow water during incoming tides.

A 39-inch cabezon was recorded in 1962, prior to that a 28½-inch fish weighing over 15 pounds was the largest authentic record. Male cabezon mature at 2 years and at 13½ inches, females reach maturity at 3 years and 17½ inches. Females grow faster and attain a larger size. Spawning takes place November through March. The eggs are attached to selected rocky sites where they are guarded by the male until hatching occurs.

The larvae and young are pelagic, feeding primarily on planktonic crustaceans. Juveniles feed on small tide-pool fishes and crustaceans. Adults continue feeding on fishes and crustaceans, adding abalone, octopus, limpets, chitons and clams to the diet.

5.18. 18. Miscellaneous Flatfish

Total partyboat catch, 1947–1967: 484,371 fish.

Minimum and maximum catches: 5,835 (1960); 64,872 (1953).

Mean catch: 23.065

Fifty percent of the partyboat catch of miscellaneous flatfish is taken in southern California. The most important species are sanddabs,

fantail sole, and petrale sole. Central and northern California partyboat anglers depend upon starry flounder, sanddabs, petrale sole, and rock sole. Other flatfishes enter the catch, but are relatively insignificant.

In the commercial market, "sole" refers to almost every flatfish. Petrale sole and sanddabs are important market fish while starry flounder is less important, 500,000 pounds being marketed annually. Otter trawls produce most of the catch, but in general, flatfish are said to be underutilized.

As a group, sole generally feed on bottom living invertebrates. The great range in size of these flatfishes means a large range of food items. The large species being more dependent on fish, large cephalopods, and crustaceans. Fantail soles eat crustaceans almost exclusively, while petrale soles prefer octopus and squid. The young of all flatfish undoubtedly utilize small planktonic forms.

5.19. 19. Sablefish

Total partyboat catch, 1947–1967: 123,741 fish. Minimum and maximum catches: 9 (1959); 36,724 (1954). Mean catch: 5,892

Ordinarily, sablefish contribute very little to partyboat fishing, but in some years, they are quite important locally. In southern California, Redondo Beach and the Long Beach-Newport Beach area produce relatively high catches at irregular intervals. In central California, Santa Cruz boats have made creditable catches, particularly from 1964 through 1967.

The peak commercial catch of 6,259,000 pounds was made in 1945. Annual fluctuations in the amount of fish landed are due mainly to demand, rather than to changes in availability of the stocks. Since 1961, the commercial fishery has been increasingly productive (Table 34). Baited longlines and otter trawls account for nearly all sablefish caught in California waters. There are no legal restrictions on the size or weight of fish landed by either sport or commercial fishermen.

TABLE 34
Origin, Pounds, and Number of Fish
Commercial Sablefish Landings, 1961–1967

Year	California pounds	Waters north of State pounds	Waters south of State pounds	Total pounds	Number fish ¹
1961	1,562,897 1,948,538 1,701,780	53,531 66,699 107,569	100	1,616,528 2,015,237 1,809,349	see note ¹
1964 1965 1966 1967	2,419,191 2,814,109 3,145,883 3,768,959	44,206 49,441 70,056 29,534	55 	2,463,452 2,863,550 3,215,939 3,798,493	

¹ A satisfactory conversion factor is not available.

TABLE 34

Origin, Pounds, and Number of Fish Commercial Sablefish Landings, 1961-1967

Sablefish are distributed from central Baja California to northwestern Alaska. Along the southern California coast they are uncommon and of relatively small size in areas frequented by partyboats. This

is a bottom dwelling fish, occurring most abundantly at depths exceeding 350 fathoms off southern California.

A record sablefish is said to have weighed 56 pounds. Females grow larger than males, attaining a maximum length of at least 42 inches and a weight of 30 pounds. They are about 13 inches long, and weigh one-half pound at the end of the first year. Some 3-year-old fish are mature, and these are 20 inches long and weigh over 2 pounds. Females attain a maximum age of at least 20 years, males somewhat less.

Adult sablefish feed primarily upon fish, squid, octopus, and other invertebrates that are abundant locally.

5.20. 20. White Croaker

Total partyboat catch, 1947–1967: 867,809 fish.

Minimum and maximum catches: 6,895 (1959); 121,053 (1949).

Mean catch: 41,324

The white croaker is important to pier and skiff fishermen from San Francisco southward, but to the partyboater, it is a nuisance 90% of the time.

The entire commercial catch is sold fresh. Market demand has maintained the fishery at a reasonably uniform level. From 1961 through 1967, the catch varied from 496,000 to 1,135,000 pounds (Table 35). It may be safe to say that the total sportcatch of white croaker varies to the same degree and within the same limits as the commercial catch.

TABLE 35
Origin, Pounds, and Number of Fish
Commercial White Croaker Landings, 1961-1967

Year	California pounds	Waters south of State pounds	Total pounds	Number fish ¹
1961	889,164		889,164	1,481,940
1962	687,633		687,633	1,146,055
963	550,653	406	551,059	918,431
964	838,512	72	838,584	1,397,640
965	1,135,316	250	1,135,566	1,892,610
966	790,997	85	791,082	1,318,470
967	496,378	39	496,417	827,361

¹ Computed value, conversion factor 0.6 pounds per fish.

TABLE 35

Origin, Pounds, and Number of Fish Commercial White Croaker Landings, 1961-1967

White croaker are not abundant north of San Francisco, although catches have been made off Vancouver Island, British Columbia. Magdalena Bay, Baja California, marks the southern limit of distribution.

Although there is an unverified account of a 4-pound white croaker, fish over 2 pounds are extremely rare. The largest fish encountered by Miller and Gotshall (1965) was 15½ inches long. A 14½-inch specimen, found in a trawl catch in southern California, was full of roe, and weighed 1.4 pounds.

White croaker may live 15 years. Some spawning has been noted in 2- and 3-year-old fish, which were 5 to 6 inches long.

White croakers eat animal foods, fresh and otherwise. In turn, they fall prey to large fish of many kinds.

6. SUMMARY

In 1898, the Tuna Club of Santa Catalina Island was organized. As much as anything else, the Club hoped to discourage the practice of handlining the magnificent game fish which then abounded in southern California waters. Two-man launches, from which rod and reel fishing was conducted, came into being, marking the beginning of the great partyboat fleet that exists today.

Tuna Club anglers concentrated their efforts on bluefin ("leaping") and yellowfin tuna, giant sea bass, marlin, swordfish, yellowtail, and white seabass. Partyboat and barge fishermen of the 1920's, and later, found that barracuda, kelp and sand bass, California halibut, white croaker, and Pacific mackerel were the chief fare. Salmon, rockfish, and flatfish occupied central and northern California anglers.

In 1935, the California Legislature enacted a bill requiring written catch logs from all partyboat operators. Although the log program was interrupted during World War II, it was fully reinstituted by 1947. During the 21-year period 1947–1967, 400 to 600 boats participated in the fishery. Competition inevitably forced many changes in boats and shoreside facilities. Governmental regulations also affected boat operations from safety, liability, and conservation standpoints.

The statewide partyboat fleet operates in four distinct areas: northern, central, southern California, and the San Francisco bays-Sacramento River delta area. The fleet of each area fishes for somewhat different species, and the boats of each area differ in age, length, frequency of operation, angler capacity, and other features. In 1963, for example, 18 northern California partyboats had carrying capacities of from 6 to 28 anglers, with an average of 9.7. Carrying capacities of the 111 active bays-delta partyboats averaged 17.2 anglers. Northern anglers concentrated on a salmon-rockfish combination, but bays-delta fishermen harvested a salmon-striped bass crop. Forty-eight central California boats were capable of transporting an average of 31.9 anglers, while 197 southern California partyboats could handle 35.9, on the average. Central anglers depended upon rockfishes, flatfishes, lingcod, and salmon; southern California partyboat anglers took barracuda, kelp and sand bass, bonito, yellowtail, rockfishes, and a number of other species.

When fishing, northern California boats utilized 68.1% of their available capacity, leading other area fleets. Baydelta boats utilized 49%, southern California 48%, and central California 35% of total capacity. Commercial fishing was carried on by some vessels in each area, but was most common, from a percentage standpoint, in the northern fleet.

In southern California, the number of anglers carried tended to increase as the number of trips increased. A line fitted to plotted data, anglers per trip against trips logged, showed a curvilinear relationship; the formula was $Y = 11.64 + .099X - .00013X^{-2}$. Partyboats were active every month in 1963, but June, July, and August led, about equally. Trips per active vessel were lowest in April, highest in August, 12.7 compared to 21.9 trips per vessel month, respectively. of 20,673 trips reported by the southern fleet, 11,962 were all-day, 967 single half-day, and 7,744 multiple trips per day.

During the 21-year period, 1947–1967, the statewide marine partyboat fleet reported a catch in excess of 71 million fish. Consecutive catch records were maintained of 28 species and species groups. Annual catch totals ranged from 2.0 to 5.4 million fish. An estimated 435,000 anglers fished from partyboats in 1947; in 1966, 857,000 anglers were tallied.

In 1968, southern California landing operators named the 20 most important species of game fish. Barracuda was considered most important overall, followed by kelp and sand bass, California yellowtail, Pacific bonito, California halibut, etc., in rank order.

All except 1 of the 20 species entered into the commercial fishery. Sportfishing regulations exist for 12 of the 20 species, but not for albacore, bluefin tuna, sculpin, Pacific mackerel, sheephead, jack mackerel, sablefish and white croaker. Purse seining for barracuda, yellowtail, and white seabass is prohibited in California. Kelp and sand bass may not be fished commercially in California waters.

7. REFERENCES

Baxter, John L., and Parke H. Young. 1953. An evaluation of the marine sportfishing record system in California. Calif. Fish and Game, 39(3):343–353.

Baxter, John L. 1966. Inshore fishes of California. 3rd rev., Sacramento, Calif. Dept. Fish and Game, 79 p.

Bell, Robert R. 1963. Synopsis of biological data on California bluefin tuna, Thunnus saliens Jordan and Evermann 1926. FAO World Sci. Meet. Biol. Tunas and Related Species, Proc., Species Synopsis No. 12, FAO Fish. Biol. Synopsis No. 55. FAO Fish. Rept., 6(2):381–421.

Buchanan, Ken. 1933. Deep sea fishing at Halfmoon Bay. Pac. Sportsman, 14(4):14.

California Department of Fish and Game. 1965a. Section 7887. Fish and Game Code, 44th Ed., Sacramento, State Print. off., 299 p.

California Department of Fish and Game. 1965b. Section 7920.

California Department of Fish and Game. 1965c. Section 7923.

California Department of Harbors and Watercraft. 1967a. Section 680. Numbering of undocumented vessels. *In California Boating Law. Small Craft Harbors and Launching Facilities Registration*, Equipment, and Operation of Vessels, p. 29. Sacramento, 127 p.

California Department of Harbors and Watercraft. 1967b. Section 681.

California Department of Natural Resources. 1936. Ocean barge angling now all-year sport in south. Calif. Conservationist, 1 (12):1.

California Department of Natural Resources. 1941. Southland sea angling. 6(2):8.

California Fish and Game Commission. 1920. Sportsmen land many big fish. Calif. Fish and Game. 6(2):68.

California Fish and Game Commission. 1967. Report of fish taken, to be made by owner of barge or vessel for hire. *In Orders*, Rules and Regulations for 1967, Sec. 225.7, 2 p. California Administrative Code, Title 14, Natural Resources.

California Public Utilities Commission. 1964. Rules requiring all for-hire vessel operators to provide and thereafter continue in effect adequate protection against liability imposed by law upon such for-hire vessel operators for the payment of damages for personal bodily injuries (including death resulting therefrom) and damage to or destruction of property. Adopted March 17, 1964. Effective March 20, 1964. (Decision No. 66979, Case No. 7778.) Sacramento, 4 p.

Carmichael, Robert. 1936. For tuna with skipper Bill. Pac. Sportsman, 17 (3):9.

Chadwick, Harold K. 1962. Catch records from the striped bass sportfishery. Calif. Fish and Game, 48(3):153-177.

Clark, G. H. 1930. Shad, striped bass and salmon. *In* The commercial fish catch of California for the year 1928. Fish Bull., Calif. Div. Fish and Game (20:36–47).

Clark, G. H., and Richard S. Croker. 1933. A method of collecting statistics of marine sport catches in California. Trans. Am. Fish. Soc., 63 332-337.

Clemens, Harold B., and William L. Craig. 1965. An analysis of California's albacore fishery. Fish Bull., Calif. Dept. Fish and Game (128):301 p.

Croker, Richard S. 1930. The smaller fishing ports of central California. Calif. Fish and Game, 16(4):324–329.

Croker, Richard S. 1931. Sportfishing in southern California. Calif. Fish and Game, 17(3):339-340.

Croker, Richard S. 1938. Let's go fishing. Calif. Fish and Game, 24(3):280-287.

Croker, Richard S. 1939. Three years of fisheries statistics on marine sport fishing in California. Trans. Am. Fish. Soc., 69:117–118.

Croker, Richard S. 1941. A fishing record. Calif. Fish and Game, 27(1):40-41.

Davies, David H. 1958. The relationship between sportfishing in the kelp beds and the harvesting of kelp off the coast of California. Univ. Calif. Inst. Mar. Res., Kelp Invest. Prog., IMR reference 58–4, 60 p.

Davis, J. Charles, II. 1945a. Down to the sea. Bullets and Hooks, 2(1):8.

Davis, J. Charles, II. 1945b. Ibid., 2(6):7.

Davis, J. Charles, II. 1945c. Ibid., 2(9):6.

Fitch, John E. 1965. offshore fishes of California, 3rd rev. Sacramento, Calif. Dept. Fish and Game, 78 p.

Fry, D. H., Jr. 1931. Yellowtail. In The commercial fish catch of California for the year 1929. Fish Bull. Calif. Div. Fish and Game (30):44-48.

Hall, Lorin. 1934. Barge fishing. Pac. Sportsman, 14(8):8-9.

Halstead, Bruce W. 1959. Dangerous marine animals. Cornell Maritime Press, Cambridge, Md., 146 p.

Holder, Charles Frederick. 1903. The big game fishes of the United States. Macmillan Co., New York, 435 p.

Holder, Charles Frederick. 1910. Sportfishing in California and Florida. Bull. Bur. Fish., 28:129-207. Proc. Fourth Int. Fish. Cong. Wash.

Holder, Charles Frederick. 1912. The fishes of the Pacific Coast. Dodge Pub. Co., New York. 111 p.

Holder, Charles Frederick. 1914. Attempts to protect the sea fisheries of southern California. Calif. Fish and Game, 1(1):9-19.

Hosie, Michael J., and Carl E. Bond. 1968. Northern range extension for the kelp bass. Calif. Fish and Game, 54(3):216-217.

Leeds, Hill and Jewett, Inc. 1963. Interim report on coastal harbors of refuge. Prepared for the Division of Small Craft Harbors, Calif. Dept. Parks and Recreation. San Francisco. 56 p.

Miller, Daniel J., and Daniel Gotshall. 1965. Ocean sportfish catch and effort from Oregon to Point Arguello, California. Fish. Bull., Calif. Dept. Fish and Game, (130):135.

O'Connell, Charles P. 1953. The life history of the cabezon, Scorpaenichthys marmoratus (Ayres). Fish Bull., Calif. Dept. Fish and Game (93):76 p.

Parrish, Richard H., and C. E. Blunt, Jr. 1968. The Pacific mackerel fishery: a summary of biological knowledge and the current status of the resource. *In Calif. Mar. Res. Comm. Minutes of Meeting*, 13 March 1968, La Jolla, California. App. 3, 10 p.

Phillips, Julius B. 1964. Life history studies on ten species of rockfish (genus Sebastodes. Fish. Bull., Calif. Dept. Fish and Game (126):70 p.

Quast, Jay C. 1968. Observations on the food and biology of the kelp bass, Paralabrax clathratus, with notes on its sportfishery at San Diego, California, p. 81–105. *In* Utilization of kelp-bed resources in southern California, comp. and ed. by Wheeler J. North and Carl L. Hubbs. Calif. Dept. Fish and Game, Fish Bull. (139):1–264

Radovich, John. 1961. Relationships of some marine organisms to the northeast Pacific to water temperatures, particularly during 1957 through 1959. Fish. Bull., Calif. Dept. Fish and Game (112):62 p.

Roedel, Phil M. 1953. Common ocean fishes of the California coast. Fish. Bull., Calif. Dept. Fish and Game (91):184 p.

Roedel, Phil M. 1962. The names of certain marine fishes of California. Calif. Fish and Game, 48(1):19-34.

Sadler, R. J. 1928. Fishing off southern beaches growing in popularity. Calif. Fish and Game, 14(3):250.

Snow, Charles D., and Raymond N. Breuser. 1961. Occurrence of the California halibut in Oregon waters. Oregon Fish Comm., Res. Briefs, 8(1):74–75.

Thomas, George C., Jr., and George C. Thomas, III. 1930. Game fish of the Pacific. J. B. Lippincott Co., Phila. and Lond., 293 p.

Whitehead, S. S. 1930. Yellowtail. *In* The commercial fish catch of California for the year 1928. Fish. Bull., Calif. Div. Fish and Game (20) :52–53.

Wood, William F. 1967. Partyboat logs show how skindivers fared during 1963 and 1964. Calif. Fish and Game, 53(3): 192-196.

Young, Parke H. 1963. The kelp bass (Paralabrax clathratus) and its fishery, 1947–1958. Fish. Bull., Calif. Dept. Fish and Game (122):67 p.

U.S. Coast Guard. 1966. Rules and regulations for small passenger vessels (under 100 gross tons). Subchapter T (Title 46, C.F.R., parts 175 thru 187, inclusive). CG-323, U.S. Govt. Print. off., Washington, 92 p.

U.S. Coast Guard. 1967. Rules and regulations for uninspected vessels. Subchapter C (Title 46, C.F.R. parts 24, 25, and 26). CG-258, U.S. Govt. Print. off., Washington, 44 p.

APPENDICES

APPENDIX 1

Common and Scientific Names

Abalone Haliotis spp. Thunnus alalunga Albacore Anchovy, northern Engraulis mordax Barracuda, California Sphyraena argentea Stereolepis gigas Bass, giant sea Paralabrax clathratus kelp P. nebulifer sand spotted sand P. maculatofasciatus Roccus saxatilis striped Bonefish Albula vulpes Bonito, Pacific Sarda chiliensis

Cabezon Scorpaenichthys marmoratus Cockle, basket Clinocardium nuttalli smooth giant Laevicardium elatum

Trachycardium quadragenarium spiny

Crab, cancer Cancer spp.

Pleuroncodes planipes Croaker, black Cheilotrema saturnum white Genyonemus lineatus yellowfin Umbrina roncador Dolphinfish Coryphaena hippurus Flounder, starry Flyingfish, California Platichthys stellatus Cypselurus californicus Garibaldi Hypsypops rubicunda Greenling, kelp Hexagrammos decagrammus Hake, Pacific Merluccius productus Halfmoon Medialuna californiensis Halibut, California Paralichthys californicus Herring, round Etrumeus teres thread Opisthonema medirastre Jacksmelt Atherinopsis californiensis Kelpfish, giant Heterostichus rostratus Myctophidae

Lanternfish Lingcod Ophiodon elongatus Lizardfish, California Synodus lucioceps Mackerel, jack Trachurus symmetricus Pacific Scomber japonicus Marlin, striped Tetrapturus audax Midshipman Porichthys spp. Mola (ocean sunfish) Mola mola Moray, California Gymnothorax mordax

Octopus Octopus spp. Opah (moonfish) Lampris regius Queenfish Seriphus politus Rockfish Sebastes spp. Anoplopoma fimbria Sablefish Oncorhynchus tshawytscha Salmon, king

O. kisutch silver Sanddabs Citharichthys spp. Sardinops caeruleus Sardine, Pacific Sargo Anisotremus davidsonii Sculpin Scorpaena guttata Seabass, white Cynoscion nobilis Oxyjulis californica Señorita Serranid, red Anthias gordensis Shad, American Alosa sapidissima Sheephead, California Pimelometopon pulchrum Sole, fantail Xystreurys liolepis petrale Eopsetta jordani rock Lepidopsetta bilineata Spiny lobster Panulirus interruptus Sturgeon, green Acipenser medirostris Surfperch Embiotocidae Swordfish Xiphias gladius

skipjack Katsuwonus pelamis yellowfin Thunnus albacares Turbot, diamond Hypsopsetta guttulata Pleuronichthys spp.

Thunnus thynnus

Whitefish, ocean Yellowtail, California Caulolatilus princeps Seriola dorsalis

Tuna, bluefin

APPENDIX 2

Number of Fish by Species, Angler Days, Anglers, and Angler Hours Reported and Number of Mobile Boats Reporting
California Partyboat Fleet. 1947-1967

			California	Partyboat Fl	eet, 1947–1	967						64
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	
Albacore. Barracuda, California. Bass, giant sea Bass, kelp, sand Bass, striped	11,445 677,449 160 682,789 †	15,414 384,056 439 630,223 †	22,692 366,423 212 796,959 †	118,087 256,367 179 619,397 †	75,924 269,545 261 781,609	187,267 336,862 92 536,075 †	23,363 170,550 135 711,395 †	20,098 282,552 102 876,667	78,688 154,962 162 497,343	65,814 87,603 74 470,362 †	41,540 577,184 151 609,071	
Bonito, Pacifie. Cabezon	36,496 9,886 58,034 8,166 15	14,519 14,590 89,825 3,667	5,372 14,125 121,053 3,032	2,359 15,971 76,765 999 1	14,475 18,029 62,945 663	7,649 10,847 77,948 708 2	6,321 9,650 57,606 1,367	70,078 13,132 66,964 2,411 12	22,409 12,366 27,349 595	61,404 18,195 16,289 1,099	258,555 14,479 8,648 275 2,805	3
Flatfish, miscellaneous Halibut, California Lingcod Mackerel, jack Mackerel, Pacific	13,012 104,436 22,011 4,505 148,041	16,513 143,462 24,406 2,351 203,012	21,158 104,639 26,131 2,932 95,158	29,437 85,935 23,868 557 66,969	48,998 59,295 24,052 202 47,188	35,677 34,158 17,389 4,395 76,568	64,872 34,292 13,011 196,280 61,467	48,410 59,674 22,940 19,407 315,037	39,136 35,802 29,113 39,473 151,018	23,912 21,661 37,649 23,493 121,136	19,390 10,795 38,012 6,878 151,960	FISH BULLETIN
Marlin Rockfish Sablefish Salmon Sculpin	37 193,652 9,159 5,018 26,062	58 410,665 3,546 11,209 52,554	28 570,637 45 23,057 37,030	115 679,164 96 56,337 53,419	58 721,808 581 71,970 35,721	57 705,761 87 86,472 39,068	696,480 6,487 98,723 28,952	9 1,149,367 36,724 119,911 33,462	1,737,707 15,992 128,978 28,613	32 2,036,708 5,177 114,505 36,558	22 1,395,151 271 44,701 13,473	TIN 145
Seabass, white	20,724 13,004 ‡ 2,194 137	24,078 17,261 ‡ 104 18	65,545 15,440 ‡ 1,941 11	54,718 14,281 ‡ 27 6	44,367 20,416 ‡ 7,142 56	41,043 16,481 ‡ 145 34	28,182 17,349 ‡ 4,276	41,588 21,499 966	30,103 14,102 8,179	19,755 14,789 2 34,187 78	19,030 15,105 6,428 325	
Tuna, skipjack Whitefish, ocean. Yellowtail, California. All others.	698 5,160 6,948 11,194	460 14,124 13,028 20,437	9 14,576 17,710 13,879	31 14,925 6,971 13,432	132 8,828 23,721 12,658	38 10,003 59,263 22,044	279 4,963 27,702 16,452	50 9,952 40,872 22,653	10 9,508 36,468 15,800	13 7,951 29,198 15,349	6,453 4,389 242,686 11,808	
Total	2,070,432	2,110,019	2,339,794	2,190,413	2,350,644	2,306,133	2,280,158	3,274,537	3,113,883	3,262,995	3,499,585	
Number angler days. Number anglers. Number angler hours. Number boats statewide.	359,436 § § 343	407,757 § § 430	469,915 § § 464	544,264 § § 596	556,949 § § 562	588,087 § § 593	502,146 § § 599	532,190 § § 612	496,286 § § 556	523,063 § § 515	536,175 § § 454	

APPENDIX 2

Number of Fish by Species, Angler Days, Anglers, and Angler Hours Reported and Number of Mobile Boats Reporting California Partyboat Fleet, 1947–1967

Species	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Albacore. Barracuda, California. Bass, giant sea. Bass, kelp, sand. Bass, striped.	203 653,671	39 1,195,585 184 428,426 †	76,075 755,408 228 478,656 *30,856	184,891 391,884 310 613,604 *42,357	229,314 335,507 390 789,149 *39,682	158,372 483,699 598 1,219,344 *58,551	112,358 303,070 353 1,103,394 34,163	99,771 443,304 580 1,230,313 16,488	74,680 892,697 548 1,278,939 44,869	96,497 470,480 622 1,003,914 23,794
Bonito, Pacific Cabezon Croaker, white Croaker, yellowfin Dolphinfish	9,909 20,000 95	776,386 5,329 6,895 132 4	1,199,919 2,516 8,633 275 1	849,426 2,639 21,782 325 3	798,725 4,538 27,256 778	775,719 9,726 37,225 562 139	1,298,884 6,491 23,269 993 4	806,322 7,575 21,448 1,386 341	644,415 10,293 17,285 1,619 48	349,952 5,419 20,590 645 198
Flatfish, miscellaneous. Halibut, California. Lingcod. Mackerel, jack Mackerel, Pacific.	16,192 39,801	7,755 25,365 31,206 11,820 88,952	5,835 48,310 28,232 8,537 79,370	9,316 108,011 23,466 28,891 113,988	8,956 118,966 25,399 9,029 116,738	8,005 125,669 27,513 9,342 146,560	14,449 141,465 25,263 6,577 101,219	15,755 118,213 33,260 25,619 151,896	20,238 88,726 44,676 19,027 205,090	24,282 63,582 43,559 16,236 108,366
Marlin. Roekfish Sablefish Salmon. Seulpin	1,561,132 39 52,676	349 1,177,979 9 55,945 11,477	9 1,015,673 39 37,941 15,111	8 898,641 622 42,965 26,672	956,438 2,231 87,612 33,314	37 962,659 1,232 72,457 53,896	48 966,801 4,722 92,021 73,844	46 1,347,430 8,601 51,677 71,888	40 1,688,718 21,693 70,151 69,851	81 1,894,057 6,388 84,946 63,280
Seabass, white	18,120 884	10,593 17,146 2 1,330 4	15,697 11,541 97 2,124	14,082 15,210 1 2,268 21	14,564 13,488 1 2,453 3	19,800 18,443 3 737 80	14,901 26,822 832 693 103	9,775 41,651 1,731 92 101	3,972 52,967 1,874 1,998 241	3,385 42,676 2,258 3,166 10,801
Tuna, skipjack	6,143	514 5.608 457,350 12,191	378 5,850 254,969 7,754	11 6,647 42,367 13,225	40 6,157 21,826 13,437	8,149 6,231 45,705 28,049	3,961 6,949 39,104 31,503	2,142 13,810 18,367 94,976	1,012 15,587 80,163 57,003	1,656 18,184 31,392 53,758
Total	3,950,880	4,328,575	4,090,034	3,453,633	3,655,993	4,278,502	4,434,176	4,634,558	5,408,420	4,444,164
Number angler days	§ §	557,154 § § 396	516,255 637,498 2,710,890.2 402	495,805 593,916 2,861,660.2 384	595,866 2,903,001.6 358	643,155 3,193,687.7 377	695,373 3,478,965.9 373	688,103 2,486,217.5 363	857,000 4,193,764.5 407	780,102 3,880,630.4 397

Ocean and San Francisco Bay catch (Sacramento-San Joaquin Delta catches not included until 1964)

APPENDIX 1—Cont'd.

Fishery closed 1917-1953.

Partyboat Catch and Effort for Crescent City, Trinidad, Smith River, Klamath, Little River, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon		11 171 10 17	::	1,349 61				1,785 1,198 158 7	1,602 1,564 272 11	2,642 3,399 703 8 48 24	2,580	714 3,445 277 11	954 2,072 278 3 15 45		627 959 103 12	1,896 24 	1,763 156 2		1,197 316 33	2,408 176 3 1	2,252 713 8
Total catch		260		1,531	2,185	2,525	3,033	3,184	3,453	6,824	5,300	4,477	3,367	2,976	1,708	1,920	1,924	2,847	1,546	2,588	3,117
Angler days		73		231	673	729	700	820	1,300	1,933	2,052	1,007	1,797	1,621	1,148						
Anglers	1	1	t	t	t	t	t	t	t	t	t	, t	t	1,639	1,148	1,130	1,466	2,346	1,331	1,749	2,300

† Not available until 1960.

APPENDIX 3

Partyboat Catch and Effort for Crescent City, Trinidad, Smith River, Klamath, Little River, 1947–1967 APPENDIX 4 Partyboat Catch and Effort for Eureka and Fields Landing, 1947–1967

	_		_			-															
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon Rockfishes Lingcod Misc. flatfish Albacore	23	49 77 4 	54 3 3	314 48 	2,356 50 3 1	3,982 160 2 5	5,240 271 3 2		4,707 45 	2,513 325 1 70	2,231 938 12	558	777 332 3 2 18	1,879 456 5 12	1,102 173 2 7	2,135 513 41	2,504 393 1 21	2,335 335 23	1,811 1,059 38	1,373 126 9	380 1 3
Miscellaneous	1		3	1	2	7	8	1	7	6	7			25	1	9	5	5	4	7	30
Total	52	130	495	370	2,412	4,156	5,524	5,130	4,760	2,915	3,220	944	1,132	2,377	1,285	2,698	2,924	2,698	2,912	1,515	1,386
Angler days Anglers	16 †	55 †	623 †	363 †	1,552 †	1,961 †	2,481	2,471 †	2,830 †	1,898 †	1,394	489 †	1,020	1,941 1,941	1,278 1,278	1,418	1,531	1,537	1,506	1,305	1,378

† Not available until 1960.

APPENDIX 4

Partyboat Catch and Effort for Eureka and Fields Landing, 1947–1967

APPENDIX 5
Partyboat Catch and Effort for Fort Bragg, Albion and Pt. Arena, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon	=	-	==	7 13 1 	=	909 105 	4,054 67 16 3	4,392 540 67 2 74	3,642 280 90 2		1,914 449 78 .3 .1	420	717 1,533 244 5 7 27	627	407 1,369 183 19 35	2,130 988 54 2 13	3,004 1,156 84 1 21 5	3,831 763 141 1 28 4	1,413 1,977 269 34 38 45	2,528 1,376 222 335 48 25	2,692 865 106 10 24 33
Total Angler days Anglers	 ;			21 12 1		1,014 355 †	4,140 1,235 †	5,076 1,413 †	4,014 1,895 †	6,194 3,374 †	2,446 1,478 †	1,137 1,060 †	2,533 1,574		2,013 606 606	3,187 1,883	4,271 2,505	4,768 3,154	3,776	4,534	

[†] Not available until 1960.

APPENDIX 5

Partyboat Catch and Effort for Fort Bragg, Albion and Pt. Arena, 1947–1967

APPENDIX 6

Partyboat Catch and Effort for Bodega Bay, Dillon Beach, Marshall, Inverness and Tomales Bay, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
					_																
Rockfishes			2,000	4,902		20,440		19,037	9,422	13,332	15,187	40,775	19,638	31,650	21,586	18,400	26,767	18,955	26,463	24,594	31,476
Salmon			28 714	34		240	1,336	2,253		3,426	707	1,221	737	235	362	816	449	1,378	463	883	1,021
Lingcod	2	214	714			1,046	1,157	1,333		832	2,075	2,698	1,500	1,055	979	795	836	766	533	528	570
Misc. flatfishes			6	70	536	739	491	466	117	182	150	170	100	210	181	208	176	247	163	217	683
Cabezon		401	764		1,573	624				125	180	201	95	136	136	48	155	135	125	54	56
Kelp greenling			57	151	355	111	2	64	31	20	27	153	8	18	12		19		15	17	13
Pacific hake			2		6		15			56				1		100		535	5	350	25
Miscellaneous		380	30	142	13	36	81	35	76	42	73	249	121	373	205	141	40	30	64	31	47
Total	5	1,355	3,601	8,017	22,600	23,236	28,438	23,481	17,855	18,015	18,399	45,467	22,199	33,678	23,461	20,508	28,442	22,046	27,831	26,674	34,118
Angler days Anglers	3 †	200	627 †	1,349 †	3,113 †	3,051 †	3,968 †	4,137 †	5,901 †	6,555 †	3,623 †	4,038 †	3,316 †	4,100 4,132	2,768 2,768	2,995	3,161	3,484	2,625	3,761	4,06
			1			1			1												

[†] Not available until 1960.

APPENDIX 6

Partyboat Catch and Effort for Bodega Bay, Dillon Beach, Marshall, Inverness and Tomales Bay, 1947–1967

APPENDIX 7
Partyboat Catch and Effort for Sausafito, San Rafael and Tiburon, 1947–1967

					, -					, .				,							
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon Striped bass* Rockfishes Misc. flatfishes Lingcod Cabezon Jack mackerel. California halibut. White croaker. Miscellaneous	659 1	70	14	13,091 1,375 107 18 123 5 11 6	25,103 1,216 69 51 4 1 10 20 167	32,874 2,616 166 160 94 38 137 121	35,120 3,464 246 321 132 145 176 169	38,976 3,263 198 330 36 70 141 21 211	17 259 27	27,894 2,106 269 378 37 18 107 171 294	11,891 6,630 180 1,240 310 4 94 36 234	16,100 43,546 323 1,416 237 3,418 14 527 338	18,114 1,264 78 311 65 1,112 62 888	12,091 6,441 1,953 11 73 1 2,340 33 148 205	14,751 6,200 2,434 32 196 7 1,210 216 54	29,548 3,925 2,200 49 100 21 2,086 164 101 43	26,564 4,007 2,218 80 209 20 2,244 505 279	85 351 46	16,996 1,011 29,364 90 1,551 307 1,493 148 115 65	23,814 1,136 41,706 164 3,725 300 741 140 50	28,007 1,478 15,558 30 390 87 564 119 140 254
Total	2,094	2,789	8,583	14,792	26,641	36,206	39,773				20,619	65,919	27,894	23,301	25,114	38,237	36,256	36,073	51,140	71,892	46,627
Angler days Anglers	1,162 †	1,631 †	4,808 †	9,319 †	14,455 †	21,523 †	22,706 †	24,619 †	22,034 †	22,178 †	12,099 †	13,493 †	15,418 †	13,940 13,954	16,426 16,426	19,270	20,570	22,672	18,999	23,757	24,557

^{*} The ocean and bay catch of striped bass was not included with the marine catch until 1990. In 1964, striped bass catches from the Sacramento delta area were incorporated into the annual reports.
† Not available until 1990.

APPENDIX 7
Partyboat Catch and Effort for Sausafito, San Rafael and Tiburon, 1947–1967

APPENDIX 8
Partyboat Catch and Effort for Richmond, 1947–1967

						rarty	DOAL CA	iten ant	FIIOIT	IOF RIC	nmonu,	1947-	130/								
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
SalmonStriped bass*	683	597	984	515	527	861	1,312	702	815	440	313	281	213	51 2,284	1,818 7,193	1,088 8,841	1,889 23,372	2,358 7,874	1,389 2,108	1,441 12,974	7 619
Rockfishes Misc. flatfishes	113 68	411	434	62 1	32 3	349 24	354	162 88	130	219 11	49	937	619		4,175 31		26,287 68	4,933 116	2,169 246	4,959 29	327 562
Lingcod Cabezon	21		2			20 143	56 1	26 1	13 3	67 9	92 9	45 6	24 9	2	439 21	1,685 257	2,922 497	706 106	146 68	201 33	5 5
fack mackerel California halibut.	1	2	=			2	3	5 1	13	1		56	4	29	189 15		824 596	123 600	77 27	13 93	36
Sturgeon Miscellaneous	191	1	=			27	1	46	4	īī		2	8	::	119	74	39	50	36 155	16 9	377 1
Total	1,077	1,011	1,420	578	562	1,426	1,727	1,031	985	758	469	1,327	880	2,386	14,000	30,229	56,495	16,869	6,421	19,768	1,939
Angler days Anglers	638 †	588 †	998 †	381 †	366 †	790 †	983 †	835 †	643 †	570 †	263 †	214	342 †	1,262 1,268	6,156 6,156	6,817	14,593	8,589	4,145	8,928	1,347

^{*} The ocean and bay eatch of striped bass was not included with the marine catch until 1960. In 1964, striped bass catches from the Sacramento delta area were incorporated into the annual reports.

69

APPENDIX 8
Partyboat Catch and Effort for Richmond, 1947–1967

APPENDIX 9
Partyboat Catch and Effort for Crockett, Rodeo and Vallejo, 1947–1967

													•								
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Striped bass*		٠,				213	10	99	22			::		1,915	765	364	2,722	9,010	5,399	13,075	4,327
Salmon Mise, flatfishes Rockfishes	6		-	-	14 3			140 2	483 19	11 181	-	61 17 361	68 63	32 22 75	351 13	59 1	29 1 301	1,610 213	268 2,460 4,684	45 4,031 332	6,640
Miscellaneous Sturgeon	::	::	::	::	-:	-	::	21	97	18	::	121	::	27	98	51	653	496 828	517 1,580	87 1,830	125 1,774
Total	31	5			17	213	10	262	621	210		560	135	2,071	1,232	477	3,706	12,170	14,908	19,400	12,873
Angler days Anglers	29 †	27 †	 †		19 †	159 †	7	1,035	909 †	326 †		166	97 †	1,192 1,192	551 551	230	1,377	13,484	15,119	22,779	18,468

^{*}The crean and bay catch of striped base was not included with the marine catch until 1990. In 1994, striped base catches from the Sacramento delta area were incorporated into the annual reports.

Not available until 1990.

APPENDIX 9

Partyboat Catch and Effort for Crockett, Rodeo and Vallejo, 1947–1967

APPENDIX 10

Partyboat Catch and Effort for Bethel Island, Isleton, Pittsburg, Franks Tract, Martinez, Port Costa and Antioch, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Striped base*		-:	53	-:		45		14	-:					-:				353	192	211	169
Misc. flatfishes Miscellaneous		=	::	::			::	181 6			::	-		-	==		==	-1	23	-:	63
Total	74		53			45		201	79									354	215	211	232
Angler days		-7	82 †	-;	-7	30 †	-7	229 †	116 †	7		-7		::	::	::	::	332	189	235	177

Party-boats from these ports seldom fished for marine species.

*The ocean and bay catch of striped bass was not included with the marine catch until 1960. In 1964, striped bass catches from the Sacramento delta area were incorporated into the annual reports.

*Not available until 1990.

APPENDIX 10

Partyboat Catch and Effort for Bethel Island, Isleton, Pittsburg, Franks Tract, Martinez, Port Costa and Antioch, 1947–1967

APPENDIX 11 Partyboat Catch and Effort for Oakland, Berkeley, Alameda, and Redwood City, 1947–196

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon	480	1,198	5,919	16,182	22,300	21,331	23,307	28,547	24,733	16,711	6,645	13,125	14,065	7,845	7,206	18,887	15,768	17,655	9,789	11,715	12,315
Striped bass* Rockfishes	16	469	1,816	1,752	23 3,663	2,066	3,024	2,502	613	1,077	970	32,479	16,411	12,942 3,680	16,343 4,175	16,108 5,626	15,597 6,120	10,024 5,643	4,944 17,032	12,133 18,406	9,695 28,141
Misc. flatfishes	39	62	84	53 28	106 187	79 105	73 327	99 398	17 170	107 376	57 384	76 1,106	65 834	16 136	19 254	23 334	46 353	101 471	150 1,363	404 721	326 1,020
Cabeson White croaker			3	2	128 257	47 85	48 29	182	25	15 184	13	80 36	100 120	37 50	68 26	93 102	107 362	71 89	664 586	124 146	335 467
Sablefish	2					30	59	5		2			120				2			5	1
Calif. halibut Miscellaneous	31	41	100	23 130	18 200	30 84	141	54 198	111	27 36	14 43	35 3,424	965	30 1,812	91 585	110 1,854	443 1,509	1,408 391	301 1,455	787 453	274 578
Total	570	1,772	7,935	18,194	26,882	23,858	27,008	32,025	25,724	18,535	8,144	50,361	32,560	26,548	28,767	43,137	40,307	35,853	36,284	44,894	53,152
Angler days	601 †	1,879	5,894 †	14,228	15,950	16,506	17,273	19,867	18,780	14,215	7,028 †	11,647 †	15,049	13,906 13,918	14,981 14,981	18,908	21,076	21,946	15,675	20,449	19,896

The ocean and bay catch of striped base was not included with the marine catch until 1960. In 1964, striped base catches from the Sacramento delta area were incorporated into the annual reports.
 Yot available until 1960.

71

APPENDIX 11 Partyboat Catch and Effort for Oakland, Berkeley, Alameda, and Redwood City, 1947–1967

APPENDIX 12
Partyboat Catch and Effort for San Francisco, 1947–1967

					,	rartyuu	it cate	ii aiiu i	illort 10	ir Saii i	rancisc	0, 134	-1307									
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Salmon Rockfishes Striped base* Misc. flatfishes Lingcod Cabezon Calif. halibut White croaker	1 4	127 1 2 7	8,711 2,268 18 2	233 36 9		23	25,903 1,804 	31,982 2,187 374 172 218 78 22	3	137	6,698 997 34 434 17 12	12,638 8,328 18 366 82 2	15,565 2,208 29 101 7 1	10,103 1,897 7,272 8 98 15 17 56	9,985 1,484 11,856 10 177 33 58	24,698 1,646 10,285 16 120 15 71 124	18,782 1,060 12,853 43 72 18 284 100	26,826 623 5,429 76 157 26 481 193	16,851 4,193 2,834 43 327 100 226 363	25,163 6,418 5,335 117 374 43 245 174	31,001 6,843 7,505 66 473 226 217 663	FISH BULLETIN
Miscellaneous	2,505	8	36	145	22,694	26,160	75 28,356		57	53	106 8,299	3,011	1,423	2,405	1,193	2,096	1,958 35,170	432 34,243	1,599	1,286	1,081	145
Angler days	1,426	.,	7,057	16,914 †	12,875 †	16,961 †	16,452 †	20,924	.,	.,	6,833 †	9,493 †	13,831	12,315 12,325	14,248	18,231	18,888	23,245	18,189	27,016		

^{*} The ocean and bay catch of striped base was not included with the marine catch until 1990. In 1994, striped base catches from the Sacramento delta area were incorporated into the annual reports.

Not available until 1990.

APPENDIX 12
Partyboat Catch and Effort for San Francisco, 1947–1967

APPENDIX 13
Partyboat Catch and Effort for Princeton and Half Moon Bay, 1947–1967

					Partyt	oat Cat	cn and	Effort 1	or Prin	ceton a	nd Half	Moon E	Bay, 194	17-1967							
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Rockfishes		58,581 2,489	64,542 4,503		117,009 5,702	105,669	111,987 3,591	131,868 4,518	140,157 3,432	164,492 3,347	93,863 4.461	147,244 4,044	145,261 5,704	119.275 5,887	77,010 7,364	72,601 4,708	98,531 3,920	64,255 3,426	114,643 3,960	101,976 2,927	130,042 3,921
Cabezon Misc. flatfish	637 28	407 260	772 1,642	1,186 3,873	1,359 3,500	1,797 3,190	2,560 2,391	1,401 1,314	324 3,765	1,019 3,843	1,048 414	681 112	395 121	206 58	530 91	313 130	634 191	656 1,498	1,097 194	621 399	401 588
Salmon Calif. halibut Jack mackerel	104 16	109	337 16	216 17	112 15	388 66	136 15		794 31 12	295 9	59 	654	72 4 183	58 1 73	66 3 94	72 14 42	48 14 41	67 13 181	34 70 47	102 47	57 11 2
White croaker Sablefish	61	183 855	890 3	498	 1	390	410 1,171	239	265 40	320	11			52	115	133	322	52	210 406	2,187 10	301
Miscellaneous	7,140		72,905	146,302	1,943	491 116,456	122,492	139,747	149,304	223 173,548	_		952 152,692	125,624	85,276	78,181	103,707	70,357	120,687	243 108,541	135,344
Angler days			8,350	,	l '				16,519	' '		9,130		15,627	12,035			·	·	·	·
Anglers	1	1	†	†	†	1	†	†	1	1	1	†	1	15,627	12,035	8,933	10,450	8,306	10,355	10,490	14,162

[†] Not available until 1960.

73

APPENDIX 13 Partyboat Catch and Effort for Princeton and Half Moon Bay, 1947–1967

APPENDIX 14
Partyboat Catch and Effort for Santa Cruz and Capitola, 1947–1967

					rait	yuuat G	attii aii	u Elluli	L IUI SA	iita Gru	ız anu c	apitoia	, 1347-	1307								
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Rockfishes. Lingcod. Misc. flatfish Sablefish. Cabezon Salmon. White croaker Calif. halibut Jack mackerel Kelp greenling	985 1,626	9,263 1,829 1,882 43 3,338 35	1,768 4 614 85 6 3	5,702 580 60 825 26 11,771 1	156,493 6,877 891 1,430 16 8,574 6 1	96,722 4,404 570 50 1,561 21 13,842 3 1		78,879 5,060 249 700 63 1,416 1 5	110,801 4,970 422 300 2,012 1,092 2 72 95	807 3,910 1,357 5,064	112,525 7,227 405 892 2,750 1,612 11 5	7,679 104 849 1,053 918	3,449 75 .553 187 1,877 1	4,240	419 460 168 645 150 1 80	72,622 3,828 648 1,800 267 1,670 170 242	26,822 1,931 147 299 408 233	70,363 1,881 1,855 3,815 308 588 355 9 488	48.168 2,016 577 7,205 326 261 3 127	83,302 3,207 2,920 10,460 471 141 	72,775 2,837 1,179 3,676 223 793 165 2 32	
White seabass Miscellaneous	176	ı	23,525	969	153 1 453	803	103 456	162	95 1 47	1,988 1 65	13 234	59 434	12 892	60	13			 89	1 15	62	56	
Total	81,979	138,896	198,203	133,177	174,895	118,128	85,523	86,562	119,814	108,760	125,760	143,825	112,917	109,569	68,134	81,247	29,840	79,751	58,699	100,649	81,738	
Angler days Anglers	20,728 †	18,869 †	18,351 †	14,239 †	20,667	15,367 †	13,192 †	12,877	16,084 †	18,756 †	17,677	13,538	10,317 †	11,625 11,662	8,376 8,376	9,651	4,531	8,816	6,755	11,937	11,347	

[†] Not available until 1960.

APPENDIX 14
Partyboat Catch and Effort for Santa Cruz and Capitola, 1947–1967

APPENDIX 15
Partyboat Catch and Effort for Moss Landing, 1947–1967

						Partybo	at Cato	h and E	ffort fo	r Moss	Landin	g, 1947	-1967								
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Salmon Misc. flatfish	4,580	8	2,943 3,315	6,410	2 393		5 193	757 392	9,805 165	15,439 190	3,996 494	2,087 105	1,962	904	2,061 10	2,778 50	373	152	31	5	176
RockfishLingcod	54 92	429 31		4,046 32			495 120	557 3	202	461 10		2,269 27	572 48	84 23	66	3	156 12	=		62	-
Sablefish White croaker	4,065 16		==	488	115	=	15	20	300 12	18							=	=	==	-	-
California halibut Albacore	84			3					21	26 95	3 47	2			9	8	16	6		9 18	218
Miscellaneous	34	16	3	179			11	9	9	15	4	352	5	7	10	1	18	2		116	64
Total	8,925		6,261	11,159			839	1,738	10,519	16,262	.,	4,842		1,018	-,	2,847	576	160	31	210	458
Angler days Anglers	249 †	94 †	364 †	556 †	10	-7	71 †	378 †	5,443 †	8,993 †	4,000	1,553	1,654	1,036 1,036	1,678 1,678	1,647	525	217	83	71	294

† Not available until 1960

75

APPENDIX 15
Partyboat Catch and Effort for Moss Landing, 1947–1967

APPENDIX 16
Partyboat Catch and Effort for Monterey and Pacific Grove, 1947–1967

						-																
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Rockfishes	40,081 4,173 3,076 5,006 585 185 14 440	43,820 2,491 3,656 2,685 1,139 16 4 647	1,110	65,501 1,620 1,514 1,008 19 5	67,794 1,358 1,301 136 374 40	65,913 1,333 4,436 	47,447 934 33,544 2,422 360 1,293 3 326 1	65,195 1,468 4,155 1,432 126 4,811 16 178 16 283	59,633 1,043 1,218 785 172 11,182 23 4,589	64,515 3,902 703 4 2,090 15,925 9 8,997	61,408 3,394 1,008 657 4,888 45 326	137,487 4,287 361 116 3,118 4 1,496	146,521 3,774 294 147 1,991	143,320 3,981 314 	94,492 1,931 356 9 2,733 37 1,140		344 311 16 552	85,514 1,965 805 100 92 923 9 1,173	151,618 4,338 747 34 114 116 1 1,623	181,706 6,681 1,215 1 38 81 12 268 1,476	9,306 1,588 51 2,054 7 1,677 384	FISH BULLETIN I
Miscellaneous	462 54,022	2,660 57,118	61,429	69,822	71,344	72,345	2,025 88,355	77,680	79,548	96,482	72,385	994 147,863	516 153,890	1,815	100,990	301 121,698	742 158,342	90,588	556 159,239	1,412	261	5
Angler days	7,128 †	5,564 †	6,301 †	7,634 †	8,140 †	8,777 †	8,376 †	11,012 †	13,725 †	15,864 †	10,456 †	11,030 †	12,073 †	10,808 10,808	9,733 9,733	9,991	10,663	7,761	9,993	15,562	16,223	

[†] Not available until 1960.

APPENDIX 16
Partyboat Catch and Effort for Monterey and Pacific Grove, 1947–1967

APPENDIX 17
Partyboat Catch and Effort for Avila, 1947–1967

						ra	гтуроат	Caten	and Emo	ITT TOF F	wiia, is	347-19	o/								
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Rockfishes	18,331 2,333 3,556 58 42 21	30,720 3,713 5,697 175 8 30 104	39,327 6,756 4,960 717 23 38 77	48,207 6,001 5,424 948 10 27	75,487 4,959 8,106 2,245 7 30 74	2,543 1,359 3	44,278 672 1,120 706 25 75	1,146 639 1,282 29	1,420 884 5	99,653 2,026 1,608 1,418 51 5 214	94,340 3,811 1,296 1,641 59 3 231	155,964 4,399 1,041 614 348 6 153	388 20 14	56,398 1,646 329 236 873 11	47,961 869 395 307 997 66	41,479 742 457 217 746 37	38,627 908 862 231 582 34	30,410 1,191 1,068 150 2,002 8	42,038 939 569 137 967 12 15	48.476 1,613 1,843 318 353 56	27,511 895 258 120 508 2
Jack mackerel White seabass Miscellaneous	124	9 1 140	174 1 362	1 192	17 288	 8 90	302	3 444	2,425 985	6,523 2,205	110 131 807	863 426 607	99 86 354	13 3 279	10 109	1 8	8 1 103	7 43	21 272	5 62	63 23
Total	24,465		52,435	60,920	91,213	,	47,197	74,421					106,150	,	50,714	43,691	41,368	34,885	44,970	52,748	29,385
Angler days Anglers	4,722 †	7,795 †	10,764	10,466	13,353 †	13,439 †	10,438 †	9,123 †	9,260	9,253 †	9,346 †	10,315	9,024 †	6,586 6,586	6,945 6,945	5,855	5,069	5,180	4,337	4,596	4,299

[†] Not available until 1960.

77

APPENDIX 17 Partyboat Catch and Effort for Avila, 1947–1967

APPENDIX 18
Partyboat Catch and Effort for Morro Bay, Cayucos and San Simeon, 1947–1967

					. u. t.j 20	ut 0410				Duj, c	uj ucos	unu ou	ii Oiliice	, 104.	-1007						
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Rockfishes	21,680	38,327	49,781	89,054	89,665	86,797	77,962	114,571	145,381	213,936	246,759	339,796	324,114	212,996	192,614	235,959	221,225	173,881	270,420	257.204	245.026
Lingcod Cabezon	1,774 1,860	4,189 3,021	2,818 3,450	2,749 3,356	2,130 2,967	1,360 1,147	546 299	2,300 582	3,621 1,358	5,148 2,139	7,791 3,090	8,782 1,885	9,487 2,313	8,195 923	6,112 495	7,607 1,099	9,221 2,614	8,870 845	12,386 1,044	16,990 2,200	16,476 1,205
Misc. flatfishes Salmon	689	1,926 15	2,645 12	4,686	6,307 10	5,763 2	1,978	4,428 106	2,101 59	1,845	4,976 289	2,117 874	1,809 566	1,371 68	2,976 195		2,615 153	2,183 1,096	2,547 64	2,263 130	
California halibut.	155 1	200 153	228 93	498	188	12	13 4	21 80	26 613	36 4,267	115 1,212	18 1,826	47 440	45 129	112 228	169 242	48 379	72 294	91 397	346 154	108 205
Albacore Miscellaneous	133	515	1 379	36 595	12 246	603	634	135 1,102	9 687	122 1,541	137 4,292	2,532	2,683	176 725	256 958	1,220 846	8,169 4,114	7,302 1,755	7,880 1,906	4,822 518	8,174 874
Total	26,299	48,346	59,407	100,982	101,525	95,684	81,440	123,325	153,855	229,601	268,661	357,831	341,459	224,628	203,946	250,770	248,538	196,298	296,735	284,627	275,271
Angler days	3,589 †	8,489 †	9,272 †	13,447 †	12,873 †	10,933 †	9,000	11,511	12,330	16,020 †	20,343 †	20,622	21,411	18,173 18,186	17,996 17,996	20,434	20,396	21,551	20,944	22,755	22,079

† Not available until 1960

APPENDIX 18
Partyboat Catch and Effort for Morro Bay, Cayucos and San Simeon, 1947–1967

APPENDIX 19 Partyboat Catch and Effort for Santa Barbara, Goleta and Gaviota, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes	::	1,195 2,798	196 288	4.527	164 3.627	6,936	6,393	20,152		34,315 130 2	40,422 4,922 4,422	39,417 18,016 2,992	26,187 7,579 4,704	14,626 1,593 5,735	26,939 1,144 12,646	40,000 518 13,793	50,869 1,013 12,571	39,710 27 18,722	30,945 241 13,266	20,441 102 5,115	16,016	
California halibut.		2,798	288	4,527 80	3,627	4,188 22	2,790 41	7,448 164		93,034 194	56,242 66	51,845 25	26,973 116	23,588 606	22,895 2,767	24,037 765	40,591 882	82,933 2,619	44,532 1,989	56,391 2,327	96,141 1,116	
Calif. yellowtail Albacore Yellowfin tuna		15		160	3	=		-	-	427	80	524	5,749	1,168	320 1,456	236 1,579	145	11 207		336	1	
Skipjack tuna Bluefin tuna	=	==				==		-	=	34	2	-1	1		2		==					
Pacific mackerel Jack mackerel Calif. sheephead	=	1,624 55	129 18	229	226 40	84 64	70 45	8,115 8 113	1,161	627 56 1,490	2,792 117 434	4,250 475 413	7,000 316 292	4,886 33 197	10,133 252	371 255	118 5 387	26 577	47 129	759 362	10 276	
SablefishLingcod		171		71	22	72	95	30 340		2,324	927	406	357	332	194	902	1,650	1,469	1,478	880	2,463	
Mise, flatfish Sculpin Cabezon Giant sea bass Salmon		41 63 	24	15 225 	65 7 	49 329 13 	28 190 8 	18 83 167		50 247 934 13	17 35 317 1	4 6 100 3	11 36 91	13 220 31 2	9 71 26 4 2	12 104 	31 144 3	48 56 97 2 5	20 46 284 	3 144 193 2 2	125 1,234 273 69 164	
White seabass White croaker Halfmoon		62	12	2 		9 98 4	2 60	6 471	107 101	18 50	29 28	271	195 4	300 145	176	196	524	585 40	89	379	118	
Sargo Ocean whitefish Miscellaneous	-:	295 344	43 36	375 13	115 2	177 534	201 309	487 230	1,026 399	1,748 364	821 54	878 102	364 3	190	234 15	34 2	114 10	57 15	330 1	64 103	40 1	
Total		6,666	747	5,704	4,277	12,592	10,232	37,838	137,557	136,057	111,728	119,728	79,978	53,665	79,285	82,810	109,060	147,206	93,399	87,603	118,280	
Angler days Anglers	ij	907 †	210 †	1,104	582 †	2,406	2,044 †	3,752 †	13,421	17,213 †	10,258 †	12,333 †	10,595 †	6,150 6,474	10,021 10,031	9,246	9,369	12,832	7,991	11,166	9,018	;

[†] Not available until 1960

APPENDIX 19
Partyboat Catch and Effort for Santa Barbara, Goleta and Gaviota, 1947–1967

APPENDIX 20 Partyboat Catch and Effort for Ventura and Oxnard, 1947, 1964-1967 *

Species	1947	1964	1965	1966	1967
Kelp-sand bass	241	28,719	80,649	124,938	83,031
alifornia barracuda		1,679	3,802	6,789	515
Pacific bonito		19,368	13,319	28,969	3,830
Rockfishes	100	56,266	157,450	285,828	339,569
California halibut	100	1,448	6,971	10,612	4,912
Amortina namouv		1,440	0,011	10,012	4,012
California yellowtail	558	601	355	1,843	3
Ibacore			20	21	25
Tellowfin tuna					
kipjack tuna					
Bluefin tuna					
	19	. 121		1 000	298
acific mackerel	19		732	1,336	298
ack mackerel	::	118		74	
California sheephead	11	1,557	5,140	5,699	6,379
ablefish	**		1		8
ingeod	11	1,100	1,621	4,469	3,714
Miscellaneous flatfish	33	264	1,103	875	939
culpin	31	1,338	2,950	931	1,609
Cabezon		37	167	1,459	571
Fiant sea bass		10	10	8	5
almon		ı	1	2	1,836
				~	1,000
White sea bass	27	238	426	244	150
White croaker	169	75		102	743
Halfmoon			27		7
Sargo			2	14	
Ocean whitefish	13	631	538	2,275	2,987
Miscellaneous	177	468	432	607	104
Total	1,391	114,039	275,722	477,095	451,244
Angler days	1,033	l	l		
Anglers	-,	9.012	24,241	38,829	42,012

No data, 1948 through 1963.
 † Not available until 1960.

APPENDIX 20 Partyboat Catch and Effort for Ventura and Oxnard, 1947, 1964–1967

APPENDIX 21 Partyboat Catch and Effort for Port Hueneme, 1947–1967

					-	,						,										
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito	:	9,986 34	31,810 140	35,570 13 1	29,717	69,851 6	61,017	99,683 361 30	79,183 14	71,526 1 41	90,362 8,860 4,699	63,551 19,565 3,502	41,105 45,288 24,572	30,872 5,824 17,312	52,581 5,448 23,095	43,373 3,258 10,059	67,848 5,730 17,484	55,707 2,204 27,385	66,676 5,327 19,713	92,558 8,229 22,641	92,904 641 4,518	
Rockfishes Calif. halibut	::	11,868 1,072	24,736 2,569	18,969 415	5,393 220	33,476 1,263		74,216 386	105,696 137	79,584 191	91,535 136		75,222 247	62,999 414	58,401 245	41,197 974	52,605 1,116	91,777 1,840	79,537 1,344	133,183 1,901	126,820 724	
Calif. yellowtail	-	3	4	491	123	175	109	1	19	2 925	6	29	6,281	1,606	560	495 1,959	1,228	275	223	479	16	
Yellowfin tuna Skipjack tuna											393	=	=	=					=	=	=	
Bluefin tuna				- ::		- ::	-:	- ::	ī	13	4			==	461	-4	==	==	=	=		
Pacific mackerel Jack mackerel		1,456 9	1,473 6	307	134		234 3	859 7	3,734 28	2,058 9	2,652 3	400 178	95 75	747	494	604 31	308 3	328	196 60	192	159	
Calif. sheephead Sablefish	-:	650	969	676	599		1,288	2,807	3,043	2,684	3,802	3,287	1,388	1,048 1	1,616	-,	2,581 1	1,612 13	1,761 161	3,991 81	2,144 425	
Lingcod		249	130	32	3		203	921	4,180	1,054	1,163	1,650	557	410	557	392	630	1,759		1,031	625	
Misc. flatfish Sculpin	-	271 870	1,937 1,401	4,165 923	95 416	2,376		5,215 2,080	1,677 1,295	2,745 1,249	3,197 1,160	1,263 594	1,307 462	639 1,225	618 1,650	399 361	361 405	668 1,423	886 567	964 1,209	655 517	
Cabezon Giant sea bass		15 6	40 3	28	5	63 1	39 1	250 3	335	205 5	126	190	31 8	7 2	12 2	34 2	43 6	189 8	73 26	107 9	54 3	
Salmon White seabass		32	228			1		1	1				1			7		9			633	
White croaker Halfmoon		179	424 2	12 25	120 12	29 140	147 58	20 48	21 8	8	301 265	583	107 44	215 3 125	133	496	515 1	525 145	230 398	232 691	35 160	
SargoOcean whitefish	-	998	1,126	792	496					20			53				17		39	33		
Miscellaneous	==	451	431	157	255	1,231 1,216	517 655	1,674 645	674 109	946 655	1,541 540	1,060 109	389 95	35 81	242 237	66 240	139 288	208 3,133	99 85	384 16	511 421	
Total		28,149	67,430	62,577	37,593	114,237	123,274	189,214	200,161	163,925	210,745	246,325	197,327	123,565	146,359	105,442	151,311	189,208	178,523	267,931	231,965	
Angler days	-;	4,373	10,106	11,391	4,833	16,951	18,770	18,389	18,197	19,582	20,908	17,132	18,900	11,799 11,799	13,147 13,170	10.524	15,303	17,001	15,083	22,062	21,070	
	'	'	'	'	'	<u>'</u>	<u>'</u>	'	l '	'	'	_ '	'	11,799	10,170	10,024	10,000	17,001	10,083	20,002	-1,070	

[†] Not available until 1960.

APPENDIX 21
Partyboat Catch and Effort for Port Hueneme, 1947–1967

									APPENE	IX 22												
					Partyb	oat Cato	ch and	Effort f	or Malit	u Beac	h and i	aradise	Cove,	1947–1	967							82
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	89,717 2,720 180 1,768 15,684	47,730 580 21,885 20,388	83,581 154 8 30,743 14,156	63,454 89 3 21,857 7,183	73,152 734 1 16,571 4,865	47,977 2,622 7 31,971 4,983	35,431 10 2 42,509 3,568	55,132 1,128 62,808 11,801	12,221 113 163,553 5,508	8,697 1 4 209,522 1,304	19,696 20,496 5,233 46,836 646	46,906 34,434 9,515 46,512 1,990	24,195 18,821 13,495 25,968 1,118	33,206 13,461 38,850 78,603 4,780	42,806 2,285 24,833 109,454 12,866	52,650 365 47,364 56,125 14,158	67,979 2,175 34,708 57,987 17,508	51,135 43 39,730 33,319 15,883	39,329 318 5,248 8,868 6,260	73,101 7,483 18,676 50,795 9,711	55,065 1,629 7,131 130,170 3,356	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	70 1	174 6 	=======================================	1,512 	1 136 	2 	 14	=	370 47	457 50	235 1 	1,320	5,130 2	571 	89 59 2	50 946 9	14 1	13 	:	663 	=	
Pacific mackerel	12,701 1,042 1,018	14,130 18 782 3 214	12,603 1,146 948 20 88	7,493 474 1 197	152 570 60		169	23,057 11 1,254 426 1,422	5,669 62 463 475 1,037	10,028 618 150 577	6,904 182 251 146	17,616 1,394 1,128 1 166	13,613 444 353 44	3,781 1 170 305	6,271 52 160 10 178	1,676 20 59 104 253	3,297 37 262 209 982	867 6 16 275 127	483 5 39 	3,491 136 177 129	225 290 82 75	FISH BULLETIN
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	23 1,978 907 10	1,731 6,317 706 4	1,841 5,406 1,390 4	1,042 3,544 871 3	225 2,830 608 1	489 1,400 327 1	301 601 167	7,660 3,051 2,646 2	1,780 1,481 802 2 1	935 399 600	289 223 508 1	243 236 611 1 3	178 61 92 1	380 357 33 9 3	733 830 96 19	401 2,566 392 75	690 4,930 1,852 82 2	614 6,491 600 32 11	849 2,234 327 21	435 1,621 762 39 1	2,119 2,154 335 5 10	etin 145
White seabass White croaker Halfmoon Sargo Ocean whitefish	171 14,203 222	122 14,131 457	22,045 43	23 15,884 1 57	982 7,015 25	375 8,430 354	10,170 19	162 18,624 51	7 3,530 278	2,297 71	357 460 43	434 831 37 243	117 194 2 38	46 546 283	131 445 2 196	173 5 149	64 1,714 105	22 722 4	4 412 3 1 34	90 245 1 	19 70 3 	
Miscellaneous Marlin	1,879	1,308	4,131 	1,688	692	831	755 	1,128	2,014	1,088	589	1,181	364	271	1,705	397	3,177	961	7	154	4	
Total	144,336	130,687	178,353	125,377	108,620	101,095	103,392	190,366	199,413	236,800	103,096	164,802	104,230	175,656	203,222	177,937	197,775	150,871	64,499	167,859	202,758	
Angler days	18,840	18,008	18,534	17,819	18,002	11,110	11,750	21,016	21,951	18,564	13,217	22,450	12,261	16,380 21,510	20,627 28,249	26,887	30,817	29,459	16,706	37,974	36,333	

APPENDIX 22
Partyboat Catch and Effort for Malibu Beach and Paradise Cove, 1947–1967

APPENDIX 23
Partyboat Catch and Effort for Santa Monica and Ocean Park, 1947–1967

						Dout ou	ton unc	Liioit	101 041	ica moi	iiou uiiu	occum	· uik, i	047-10	-						
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Celp, sand bass alif. barracuda acific bonito lockfishes alif. halibut	38,376 38,494 3,774 6,655 23,323	24,462		12,727 3,420 380 22,368 28,475	32,792 10,644 1,360 25,875 14,592	14,969 15,372 57 12,523 5,583	10,863 964 5 15,617 5,245	14,349 10,777 105 96,894 8,206	6,992 831 21 126,391 8,065	4,407 453 606 199,919 1,339	12,482 45,508 16,340 114,520 602	12,792 37,752 19,543 32,404 1,028	11,334 90,794 42,790 26,413 3,355	31,822 39,373 58,000 11,060 9,468	32,114 5,600 39,024 13,843 17,716	37,574 1,108 36,151 21,085 10,156	81,167 6,260 47,040 14,441 18,266	59,319 1,153 49,947 10,067 14,396	61,335 2,629 32,689 13,550 11,261	47,611 15,791 26,603 19,553 2,659	22,511 783 11,326 26,418 1,860
alif, yellowtail lbacore fellowfin tuna kipjack tuna lluefin tuna	9 5 7	1	5 1 	4,940 1	16 1,083 1	3 11 	59 1,189	24 12	70	1,255 172	244 6 46	206 	2,379 	1,816 1	291 12 2	447 2	23 1 1	:- :: :	5 	2 1 38	 1
acific mackerel sck mackerel alif, sheephead ablefish ingcod	32,633 402 329 6 48	39,543 245 175 1 128	17,033 168 312 1 152	7,164 93 46 371	3,089 195 93	574 59 161 72	5,347 30,353 36 471 24	15,298 1,446 185 942 62	2,191 1,348 81 224 162	7,804 94 43 145 576	7,198 53 72 2 53	21,201 2,678 127	3,736 612 113 28	2,615 20 20	2,486 19 21 9	1,486 29 7	3,049 31 13	1,987 23 24 7 22	2,504 167 22 12	1,514 105 88 78 3	80 27 62 1
fise, flatfisheulpin	414 8,620 233 14	1,436 11,795 235 6	575 5,071 167 7	666 10,850 98 3	1,281 2,566 181 5	629 7,394 157 	4,353 4,526 153 3	2,103 3,994 253 5	4,168 6,255 274 8	1,702 8,215 434 5 14	1,421 1,459 348 3	617 2,778 24 2	378 1,744 10	61 1,219 1 22 1	36 1,986 4 35 1	183 1,916 24 17	185 5,609 26 35	58 6,271 41 21 1	104 2,694 64 21 2	1,470 5 10 1	321 2,455 65 10 11
Vhite seabass Vhite croaker Ialfmoon argo leean whitefish	986 25,796 174	471	239	 87	2,392 11,824 2,261	3,235 21,629 1 24	23 12,661 334	50 14,550 10	17 4,312 10	3 226 97	644 109 10	782 1,307	1,508 695 135	1,198 355 19	210 250 10	33 4	223 3	103 1	17 64 131	15 150 	69 820 5
fiscellaneous	3,085	2,827	1,731	1,534 123,850	111,098	2,371 84,824	93,396	1,101	217 161,637	391 227,901	201,214	197	186,053	157,071	113,680	110,223	176,442	143,442	127,517	115,779	66,825
ingler days inglers	35,677 †	32,224 †	28,932 †	34,128 †	27,533 †	19,102 †	22,433 †	21,230 †	16,464 †	16,946 †	16,057 †	15,041 †	21,620 †	17,610 31,353	14,746 25,029	21,426	29,597	27,417	25,664	22,888	16,901

[†] Not available until 1960.

APPENDIX 23
Partyboat Catch and Effort for Santa Monica and Ocean Park, 1947–1967

				Partybo	at Catc	h and E	ffort fo		APPEND Ido Bea		ya Del F	Rey and	Hermo	sa Beac	:h, 1947	-1967						84
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	16,885 23,388 4,455 2,505 4,536	15,181 2,841 1,909 3,830 6,166	37,768 3,164 151 13,599 4,614	15,601 366 269 64,745 3,356	22,118 1,746 2,873 54,366 1,820	15,688 14,417 4,051 27,598 3,305	13,471 693 5 18,262 2,377	23,475 7,571 235 71,914 1,996	5,709 1,219 41 165,929 1,489	11,394 1,079 1,721 220,106 514	28,419 27,298 18,093 128,706 626	15,815 29,351 24,659 56,523 354	8,389 50,235 50,524 24,169 1,165	20,111 70,249 97,635 20,402 1,395	46,185 13,213 106,672 18,325 6,564	46,032 4,395 65,115 44,081 4,938	59,544 18,333 82,104 31,207 1,529	81,341 3,792 116,910 54,108 4,371	136,645 11,972 104,554 101,583 6,275	86,671 114,251 67,633 129,024 1,541	71,121 4,782 45,381 187,096 907	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	21 	19 2 	31 4 1 3	10 2,775 	39 760 10	93 493 	68 18	2 30	124 1	1 307 178	1,593 51 55	716 52 1	5,158 	9,995 1	2,130 814 1 	309 2,161 14	1,403 609 7	261 623 1	204 914 	922 157 50 99	77 697 516	FI
Pacific mackerel Jack mackerel Calif. sheephead Sablefish Lingcod	13,285 10 252 163	6,393 243 105	7,982 6 368 170	4,145 197 609	2,426 1,056 125 216	1,189 155 506 45	139 6,006 29 999 15	9,119 1,332 99 221	4,906 5,311 48 21 71	2,388 62 33 25 55	8,313 243 23 35	2,207 1,774 102	1,136 334 43 21	665 61 95 	5,621 2 565 25 43	2,794 33 760 54 21	5,724 5 1,285 556 11	6,371 41 2,875 410 59	19,731 16,798 3,540 591 127	21,917 7,516 3,996 11,004 120	11,554 571 2,997 2,211 71	FISH BULLETIN
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	2 893 27 4 1	461 2,265 104 3	438 3,043 160 1	1,177 3,105 80 1 2	25,246 3,906 101 4	2,054 2,670 131 1	1,220 1,391 366	363 795 452 	2,336 1,040 635 1	221 677 884 12	216 520 702 1	248 1,503 319 2 1	116 2,334 47 	1,293 14 1	423 2,249 69 2	634 2,467 113 8	322 4,556 115 2 1	165 7,010 158 10 1	672 6,509 109 17	1,671 4,830 90 6 2	1,042 4,643 88 47 3	TIN 145
White seabass White croaker Halfmoon Sargo	76 702 	18 1,949	35 2,465	78 2,064	784 1,650	625 669 	974 	22 23 	27 160 	5 544 	28 2	133 2	77 21 15	168 210 132	54 667 1,257	34 769 648	434 1,064 433	381 320 6,379	112 658 22,362 1	271 52 11,176	31 108 4,380	
Ocean whitefish Miscellaneous	21 142	16 494	419 525	339 673	354 411	1,043 276	17 395	37 59	92 81	251 175	43 39	97 235	132 74	431 24	1,389 1,072	1,463 60	673 46	789 118	1,274 692	1,995 47	1,418 86	

[†] Not available until 1960

APPENDIX 24
Partyboat Catch and Effort for Redondo Beach, Playa Del Rey and Hermosa Beach, 1947–1967

APPENDIX 25 Partyboat Catch and Effort for San Pedro, 1947–1967

							boat ou				,											
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	156,699 94,788 1,201 3,657 4,457	127,421 48,329 964 6,201 9,837	98,269 44,532 16 11,557 3,808	66,631 20,023 35 8,167 2,586	126,343 19,213 1,027 7,769 1,990	56,161 17,511 405 7,043 1,785	70,194 4,380 508 8,867 936	71,529 10,742 609 15,861 744	33,504 2,295 26 12,407 783	51,342 955 427 8,105 608	68,125 37,508 18,259 8,399 796	84,867 90,852 47,995 3,337 903	69,070 30,684 86,068 4,035 1,558	71,721 93,929 136,827 2,568 4,104	58,349 32,450 56,176 4,233 2,978	86,507 31,222 38,078 9,560 8,093	137,873 33,009 76,299 4,918 4,981	134,646 24,003 123,888 6,556 6,706	154,187 21,380 67,100 5,656 5,057	167,454 83,165 49,808 12,939 2,631	112,923 22,728 13,145 23,038 3,804	CAL
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	113 4,702 19 87 583	399 3,676 1 8 19	435 2,259 267	58 19,819 5	473 9,401 18 1,027	1,545 23,711 5 1	398 3,598 1 173	319 2,180 215	221 7,949 2,035	204 8,344 7,348	13,283 6,064 5 347 813	6,086 155 10 31 400	47,161 3 197 303	35,944 8,367 132 14 5	6,481 28,006 5 73	1,821 34,490 697	4,327 14,700 1 67 178	4,141 7,624 18 51	804 8,353 1	3,082 3,408 17 92	506 6,689 77	CALIFORNIA PA
Pacific mackerel	17,817 253 7,428 30 128	30,969 246 6,973 306	5,357 33 5,639 63	6,099 5,128 2 47	5,964 5 7,377 6 28	10,593 619 3,395	4,931 3,667 2,330 62 109	12,310 1,018 1,818 524 56	6,711 510 1,442 3,203 60	4,864 121 2,198 253 114	14,650 1,318 2,497 53 23	3,164 383 2,047	2,779 240 4,144 45	16,601 2,476 13 46	9,725 733 2,799 26	19,725 90 3,862 30	29,284 229 3,372	16,735 424 6,995	33,830 44 6,334 21 9	26,870 2,179 8,100	4,187 724 10,250	PARTYBOAT
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	524 4,416 66 7	994 7,263 134 12	981 5,503 60 20	750 6,079 70 25	994 4,587 136 20	838 3,644 68 6	2,509 981 89 14	2,636 893 191 7	1,451 923 200 6	635 1,156 152 4 1	1,119 1,371 383 12	590 608 398 13	273 879 86 9	845 1,340 114 18 1	855 2,283 49 9	128 3,913 92 32 2	233 3,379 65 36	227 6,112 158 50 6	219 8,120 185 16	158 5,554 57 15 3	464 5,852 113 16 19	FISHERY
White seabass Marlin White croaker Halfmoon Sargo	2,926 6 1,033	1,662 2,672	4,147 1,487 28	5,305 1 1,079 5	2,854 770 37	1,448 1 247 4	720 657	587 103	82 175 583	67 1 91 345	775 1 45 670	725 1,373 667	392 64 346	1,129 677 357	465 1 95 185	425 428 251 122	373 1 498 2,834 4	397 2 480 3,022 805	858 12,210 229	311 2 102 3,794	610 15,478 210	
Ocean whitefish Miscellaneous	2,043 2,513	2,870 5,589	1,398 1,441	1,524 640	1,680 831	552 703	231 1,079	416 432	430 651	210 93	131 1,571	264 655	597 371	283 419	204 301	1,126 1,559	791 235	807 285	2,217 210	1,702 191	2,251 469	
Total Angler days Anglers	305,496 41,206 †	256,545 48,485 †	187,301 44,850 †	144,078 45,863 †	192,550 46,245 †	130,335 39,338 †	106,434 24,796 †	123,275 21,896 †	75,647 20,417 †	87,638 24,964 †	178,218 34,905 †	245,644 38,342 †		377,930 48,848 56,548	206,481 40,036 42,487	242,253 46,217			327,440 46,352	371,663 52,727	223,703 42,115	85

[†] Not available until 1960.

APPENDIX 25
Partyboat Catch and Effort for San Pedro, 1947–1967

APPENDIX 26
Partyboat Catch and Effort for Wilmington and Los Angeles, 1947–1967

					ган	yuuat G	attii aii	u Ellul	(101 m 1	ııııııgtu	ili allu i	LUS AIIR	eles, 13	147-130	"							
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	86
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	3,401 5,819 565 112 911	5,827 5,052 156 131 4,498	9,123 5,577 4 238 1,890	55,239 18,487 11 692 2,739	43,239 10,518 1,337 1,506 1,170	14,623 9,278 137 1,580 466	11,206 562 30 1,600 1,227	15,621 3,119 239 2,762 1,217	4,932 131 4 3,724 475	3,173 11 7 3,332 122	3,351 4,361 2,710 2,233 113	3,100 3,954 3,842 1,872 87	1,649 21,240 8,465 1,388 295	1,863 3,992 5,464 288 278	888 1,451 3,022 1,758 496	2,619 836 1,471 2,960 723	6,029 2,708 2,821 1,135 464	559 138 1,715 1,552 271	214 374 463 2,324 94	533 1,037 668 1,546 51	592 250 578 2,072 146	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	158 2 18 11	52 423 2 4	183 311 1 92	130 4,830 1 1	279 5,333 2 524	544 14,704 3	55 1,407 2 17	73 770 51	2,681 193	3,239 1 2,153	296 829 1 3 212	161 25	3,597 40 98	1,227	28 348 	15 1,559 2	88 259 1	14 3 	ï 	11 	1 27 	
Pac. mackerel Jack mackerel Calif. sheephead Sablefish Lingcod	4,270 106 157	4,991 26 365 9	2,481 60 406 	3,596 27 763 44	3,929 32 1,153	5,486 48 829 8	1,512 1,566 681	8,446 177 729 633 124	69 419 491	1,224 37 308 54 10	1,240 48 525 1 66	342 2 173 68	241 153 161 12	232 137	673 254 44 5	1,089 88 17	169 153 20 1	50 18 	88 4 11 	301 15 16 5	18 61 5	FISH BU
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	9 177 4	39 1,004 6 1	35 702 3 3	301 1,392 22 13	280 1,528 35 8	1,283 1,679 105 8	1,214 439 41 5	1,049 406 66 1	881 218 48 4	388 103 56	393 107 144	213 69 25 1	314 94 8	105 76 6	274 149 	23 166 7	76 298 1 1	55 241 	166 61 1	122 216 	411 232 6 1	BULLETIN 14
White seabass Marlin White croaker Halfmoon Sargo	128 132	403 648	2,114 527 15	2,343 1,155	651 1,393 2	1,077 8 563 16	248 461	93 232 142	47 92 32	158	98 1 23	33 23 76	51 3 65	53 	38 20 	6 	33 		 14	 2	:	\$5
Ocean whitefish Miscellaneous	2 106	69 374	30 140	747 252	203 469	135 803	62 467	181 141	52 118	116 161	66 325	17 43	47 230	31	5 379	295	14 270	1 215	82	2 74	128	
Total	16,091	24,080	23,952	92,785	73,602	53,389	22,826	36,272	16,694	14,665	17,146	14,126	38,151	13,755	9,832	11,876	14,547	4,832	3,910	4,599	4,528	
Angler days Anglers	3,406 †	6,922 †	8,037 †	18,950 †	21,966 †	19,168 †	7,352 †	7,479 †	4,610 †	6,192 †	4,905 †	2,703 †	5,632 †	2,198 2,200	1,736 1,736	2,089	2,160	666	588	913	711	

[†] Not available until 1960.

APPENDIX 26
Partyboat Catch and Effort for Wilmington and Los Angeles, 1947–1967

APPENDIX 27
Partyboat Catch and Effort for Long Beach, Seal Beach, Huntington Beach, Sunset Beach, Avalon, Los Alamitos and Terminal Island, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	139,254 202,684 8,680 17,420 21,357	117,462 95,473 1,608 22,675 38,042	189,164 117,519 51 25,226 16,741	114,218 91,324 48 28,912 17,937	86,664 1,479	97,252 90,667 1,091 81,455 5,263	215,791 28,613 1,102 104,298 3,765	259,584 63,279 6,070 176,666 13,686	132,351 17,551 418 358,212 3,953	106,994 4,269 1,800 371,249 2,173		140,250 212,366 119,502 84,496 3,554	80,613 389,251 175,639 49,144 8,728	31,534	101,798 166,193 54,009	198,054 92,806 162,590 92,733 39,721	178,893 180,458	216,645 56,755 229,722 91,968 51,276	253,827 99,181 148,784 103,396 34,466	271,599 216,539 114,868 90,183 23,020	204,469 106,681 54,905 74,140 18,684	CALIFORNIA
Calif. yellowtail	303	462	2,010	219	881	7,647	2,550	3,785	1,859	518	25,049	16,241	71,992	50,209	5,182	2,155	4,956	4,280	1,501	5,568	450	FO
Albacore	1,067 5 118 572 20,234	2,161 17 10 27,845	1,902 3 1,505 21,705	22,951 6 8 18 20,207	17,396 8 51 4,384 19,683	47,866 14 1 28 40,704	9,099 39 885 24,462	6,485 464 112,756	21,507 7 4,211 75,809	19,091 22 2 16,770 44,494	9,617 2 158 2,071 84,224	10 2 223 226 35,973	1 110 268 38,603	697 144 48	302	61,740 1 35 814 40,798	30,752 9 5,595 370 56,869	938	10,028 21 6 41,661	4,815 1 414 154 53,367	4,067 222 63 120 12,388	
Jack mackerel Calif. sheephead Sablefish Lingcod Misc. flatfish	330 1,936 153 620	752 3,529 151 1,721	3,326 17 193 1,768	355 3,451 29 101 1,798	5,760 6 42 3,098	1,273 5,045 102 8,855	34,895 9,390 899 54 6,847	4,081 8,929 18,305 285 10,357	5,482 4,919 9,125 726 12,838	1,645 5,121 632 977 2,960	2,198 4,508 207 487 1,887	3,247 5,636 37 210 1,044	3,505 6,441 9 491 830	4,244	6,154 12 343	267 3,333 243 355 1,031	67 4,333 2 343 621	422 6,650 19 133 1,818	923 16,537 8 212 2,324	2,753 14,925 2 217 2,365	3,229 11,165 197 3,137	PARTYBOAT FIS
Sculpin Cabezon Giant sea bass Salmon White seabass	1,728 53 71 3 4,795	6,487 174 67 13 4,431	5,503 148 81 30,597	17,258 270 50 3 22,916		10,810 616 33 1 5,544	8,142 1,675 48 3 2,996	13,472 2,910 30 1 880	11,258 2,614 41 3 2,244	15,655 3,213 9 10 521	5,401 2,216 26 3,878	5,008 1,460 89 3,812	3,866 457 44 1,577	5,027 241 65 1 1,457	9,365 163 104 1 1,658	10,778 123 92 573	16,877 554 101 931	13,739 192 60 10 851	22,330 591 93 3 971	17,490 296 55 7 120	13,878 187 23 138 720	FISHERY
Marlin	1,934	7,995 22	7,941 	6,300 122	600	16,983 241	17,783 	17,228 4,327 82	11,013 3,030 1	2,666 287	3,295 1	1 10,456 1,765 2	2,972 386 8	4,475 1,155 7	2,265 1	21,926 365 106	30,897 4,778	1 16,688 879 769	10,608 32,444 1,178	4,272 17,305 30	8,590 13,498 2	
Ocean whitefish Miscellaneous	1,365 4,647	1,813 2,994	2,974 1,563	2,523 5,131	2,839 3,413	3,751 4,111	2,884 4,578	4,333 6,691	4,505 4,043	2,899 5,699	960 2,340	1,541 3,821	1,759 7,037	3,142 1,144	2,873 2,064	2,242 3,612	2,455 5,786	2,831 1,799	6,722 2,721	5,532 2,425	7,198 2,867	
Total	429,329	335,909	429,998	356,161	369,271	429,358		734,686	687,720	609,677								735,124		848,322		
Angler days Anglers	64,821 †	71,921 †	102,183 †	110,847 †	111,246 †	111,815 †	96,120 †	98,178 †	82,220 †	89,059 †	98,770 †	107,275 †	113,091 †	98,532 138,514	96,169 124,568	126,111	137,244	121,111	134,302	137,976	109,093	87

† Not available until 1960.

APPENDIX 27

Partyboat Catch and Effort for Long Beach, Seal Beach, Huntington Beach, Sunset Beach, Avalon, Los Alamitos and Terminal Island, 1947–1967

APPENDIX 28
Partyboat Catch and Effort for Newport Beach and Balboa, 1947–1967

						,	Outon	u E	011 101	ченрог	Deacii	unu De	iibou, i	047-10	• •							
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	88
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	129,783 244,938 13,871 11,745 30,195	104,048 102,967 2,278 5,573 18,557	141,511 102,151 1,023 8,756 12,965	92,193 32,683 224 3,733 13,631	108,754 43,926 1,329 2,295 13,407	51,061 43,436 19 3,934 5,495	58,387 11,306 166 9,083 7,226	79,645 43,576 2,454 81,997 12,617	24,870 15,910 817 37,417 7,659	26,717 8,238 2,758 31,142 2,996	54,335 73,760 29,554 19,113 1,567	60,206 90,122 58,268 7,467 1,253	43,144 121,096 117,230 11,456 3,198	51,798 97,478 177,616 31,876 7,241	52,982 52,224 122,239 21,625 9,441	68,806 39,020 116,764 11,853 12,874	117,968 46,809 92,263 23,270 11,770		126,385 88,133 110,793 29,409 16,394	133,140 128,683 81,678 58,769 11,680	89,563 80,600 48,137 55,838 9,528	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	244 5,122 101 348 844	639 8,273 3 296 71	716 15,066 6 1 64	102 51,266 19	68 34,530 47 42 1,129	6,640 76,853 8 20 44	2,522 6,385 231 34	288 7,428 3 46	12 18,780 1 3 706	21 15,262 1 3,838	12,870 9,926 67 981 1,551	7,024 99 4 29	48,848 5 410	35,726 4,907 573 119	5,027 23,699 3 373	709 25,923 2 105	1,431 17,797 9 828 49	1,024 6,676 4 54	168 4,317 	1,027 3,948 76 71	113 3,396 1 36	
Pacific mackerel Jack mackerel Calif. sheephead Sablefish Lingcod	33,162 641 1,091	45,133 195 1,804 2 46	13,740 35 1,794 71	8,786 8 1,936	6,275 54 1,885	8,288 2,041 1,296	12,480 76,861 1,655 112 30	55,011 9,788 2,489 14,320 949	9,963 3,674 642 1,230 247	5,773 158 892 57 129	3,708 235 821 96	10,091 521 2,253 85	4,477 47 1,954 22	3,682 81 1,151 57	8,657 13,555 873 2 28	7,469 47 1,074 3 27	12,390 1,242 2,032 46 23	9,712 1,474 3,064 76 22	21,953 823 1,857	34,393 444 5,796 1 89	14,425 96 2,926 2 18	FISH BU
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	1,854 1,648 239 17	1,640 4,933 315 254	1,484 4,452 269 18 2	694 6,282 334 15	1,290 8,244 277 14	649 3,787 271 4 2	1,125 4,652 500 30 2	2,254 4,456 809 11 9	2,850 2,378 778 34 42	1,607 3,782 753 4 36	468 1,000 862 23 4	253 865 484 41 1	412 935 92 19	200 1,751 30 25 5	265 2,707 111 55 1	152 3,130 319 40 3	823 5,895 394 76	1,002 11,145 464 29 11	812 12,962 548 52 6	452 15,088 549 38 9	459 11,101 304 21 33	BULLETIN I.
White seabass Marlin White croaker Halfmoon Sargo	6,235 28 4,355	6,128 28 6,801 16	18,431 15 5,428 8	8,625 30 4,650	11,427 13 7,535 55 4	6,629 29 5,514 34 8	4,667 3 5,545 25	9,226 7,559 314 1	5,400 2 3,051 10 1	3,425 14 2,434 3	1,919 9 701 3 3	5,995 1 1,283 618 70	829 5 335 51 181	1,718 1 378 67 14	1,137 937 35 20	2,360 90 5	979 746 4,426 13	1,227 2,606 353 53	1,147 7 4,737 8,698 260	454 14 7,728 8,051 633	109 9 5,948 4,346 65	45
Ocean whitefish Miscellaneous Swordfish	522 3,769 1	179 3,039 5	307 1,737 1	281 1,102	513 1,648	164 2,770	255 2,196	511 2,095	162 971	321 655	175 936	799 805	1,130 862	585 1,744	108 1,743	152 2,329	151 803	312 2,814	480 5,917	885 5,099	1,367 2,039	
Total		313,224 90,321 †	330,051 93,484 †	226,640 102,726 †	244,776 98,380 †	,	205,478 71,602 †	,	137,610 42,626 †	,	214,687 43,674 †		356,738 45,483 †	418,824 48,758 54,328	317,847 45,561 51,412	293,865 44,964			435,900 71,288	498,795 80,256	330,480 63,880	

[†] Not available until 1960.

APPENDIX 28
Partyboat Catch and Effort for Newport Beach and Balboa, 1947–1967

APPENDIX 29
Partyboat Catch and Effort for San Clemente and Capistrano Beach, 1947–1967

Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Kelp, sand bass Calif. barrucuda Pacific bonito Rockfishes Calif. halibut	42,387 46,266 3,111 2,222	84,600 73,252 1,243 716 8,669	75,963 58,976 673 358 5,427	62,982 42,950 11 344 6,713	53,567 31,999 803 301 5,670	43,227 47,414 15 3,381 3,612	63,576 19,972 227 2,536 3,542	35,602 31,487 4,452 7,654 4,588	23,007 27,619 777 22,952 3,832	20,868 10,688 4,515 23,317 5,936	42,386 58,177 16,970 2,626 1,476	45,684 55,099 38,597 5,550 1,071	31,317 67,774 57,812 1,464 2,470	998	46,597 45,257 81,740 505 6,421	86,274 42,693 74,021 3,033 11,477	124,126 55,881 48,949 760 15,477	121,104 31,350 108,228 1,565 12,805	1,413	78,914 33,987 1,752	65,989 56,779 24,705 805 7,866	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	242 251 68 126	1,100 261 82	1,286 1,553 1 7 9	6,782 1	25 4,829 12 25	5,388 13,129 1 13 13	3,235 940 13	321 766 31	6,227 37	13 1,028 499	8,350 66 47	3,508 33	24,791 5 166	19,736 115 4	3,124 4,415 2 308	343 1,558 5	349 855 6	374 12 			8 12	
Pacific mackerel Jack mackerel Calif. sheephead Sablefish Lingcod	12,336 1,171 318	20,266 15 1,316	8,660 21 456 	46 333	2,425 24 256	2,939 155 564	4,255 26,772 792	19,570 99 1,144 1	3,674 6,535 429 16 13	4,295 4 497 55	5,352 542	11,528 1,083 649	6,338 328 519	1,952 54 364 	6,128 4,834 503	4,230 8 556 2	1,261 2 420 3	905 2 305 			2,204 1 209 1	
Misc. flatfish Sculpin Cabezon Giant sea bass Salmon	8 312 13 5	96 1,606 218 35	199 860 201 43	130 587 120 24 1	219 617 62 12 5	64 1,355 121 10	99 1,424 268 15 2	165 887 334 16	128 711 651 22 7	82 795 1,035 24	24 584 728 62 1	18 368 276 27 1	17 198 37 41	8 459 21 26	55 900 26 29	41 1,324 160 32	24 643 102 92	16 1,252 183 34 5	143 1,291 257 11 3	17 2,429 148 9 4	874 33 12 16	
White seabass Marlin White croaker Halfmoon Sargo	2,241 2,674	6,085 2,078	7,329 2,764	4,841 1,859	3,670 2,499 77 1	7,409 1 8,140 153	4,869 3,371 1	12,008 4,845 12 36	4,723 2,741 2 6	2,904 3,925	3,496 819 64	3,805 1 1,956 162 22	907 1 247 69 38	1,901 314	2,474 846 63 11	1,918 418 1	3,938 580 147 1	2,225 288 1	875 696	350 100 76 26	217 189 100 91	
Ocean whitefish Miscellaneous Swordfish	1,268	110 1,292	22 2,139 		23 549	4,000 	3,527	344 3,918	108 1,470	109 1,264	5 585 	145 415	30 355 	137 	9 197 	31 85	20 102 	630	20 193 	131 	5 	
Total Angler days Anglers		,	166,947 26,261 †					128,280 22,125 †	105,698 19,560 †	81,861 17,168 †	142,360 24,928 †	170,002 22,280 †	194,924 24,664 †	,	204,444 23.862 34,051	29,626	28,867	281,288	26,891	26,984	29,355	

[†] Not available until 1960

APPENDIX 29
Partyboat Catch and Effort for San Clemente and Capistrano Beach, 1947–1967

APPENDIX 30
Partyboat Catch and Effort for Oceanside, 1947–1967

						rarty	boat ca	ten anu	EHUIL	ior oce	ansiue,	1947-	30/									
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	90
Kelp, sand bass Calif. barracuda Pacific bonito Rockfishes Calif. halibut	14,550 6,553 276 24 482	24,493 15,764 902 35 385	19,437 6,830 447 10 373	39,418 11,070 13 25 1,480	64,756 22,515 1,470 151 1,004	66,594 51,384 77 225 1,486	96,359 63,755 3.839 1,949 2,239	89,882 78,216 6,817 3,914 2,911	69,971 57,282 7,293 3,093 2,639	69,096 33,952 17,830 9,811 3,956	56,359 83,701 28,433 3,941 997	61,131 59,237 47,238 3,673 3,071	45,481 80,885 87,120 1,072 2,466	54,100 63,171 80,596 251 3,349	71,181 70,696 73,944 401 9,161	75,043 64,010 64,438 3,049 10,378	107,378 66,231 53,786 3,918 13,230	127,619 74,445 100,899 3,449 11,495	79,220 81,122 59,437 14,276 12,889	85,000 101,446 40,870 8,442 11,100	93,360 85,741 36,107 7,566 6,903	
Calif. yellowtail Albacore Yellowfin tuna Skipjack tuna Bluefin tuna	48 50	833 70 	155 13 	15 957 2	705 1,217 1 2 4	7,572 7,153 3 3	2,868 308 4	363 812 9	212 4,209 8	1,208 581 52 1 186	8,289 22 1 29 23	2,357 1 2	36,430 148 28	19,043 235 176 34	2,625 3,776 1 108	1,128 6,033 1 36	1,549 2,541 5 5	870 3,225 120 28	442 2,032 7 3	2,776 1,508 18	156 2,118 17 2 22	
Pacific mackerel	591 13 8 7	368 53	554 153	2,688 189	199 736	3,955 423 5	7,688 658	10,185 13 488 89	8,008 8,551 459 1 137	2,010 21 460 224	6,021 165 422 94	25,012 928 1,064	3,755 361 772 36	1,056 22 496 15	5,545 59 495 8	5,180 14 509 	6,910 961 1 51	8,821 250 1,174 4 17	3,905 1 645 78	11,784 72 1,919 57	13,398 5,613 1,497	FISH BU
Mise, flatfish Sculpin Cabezon Giant sea bass Salmon	3 35 3 	7 43 1	15 199 107 1	8 184 189 6	8 305 138 4 1	43 1,378 377 2	144 1,659 450 6	142 689 555 8	78 664 1,245 16 1	45 1,147 921 11 3	26 342 316 9 1	58 706 516 23	42 272 164 15	6 602 37 11	27 1,363 55 16	19 2,497 253 40	99 3,548 212 51	142 12,460 497 42 7	524 4,173 156 27 8	384 8,082 431 41 4	659 7,329 156 27 18	BULLETIN 14
White seabass Marlin White croaker Halfmoon Sargo	1,535 95	1,736 170	692 41 	5,905 167	7,252 60 	7,852 120 5	12,067 245 	16,656 476	9,895 263	9,794 529	4,742 521 23	6,849 1 904 9	2,672 1 15 14	3,624 838 50	6,353 1 234 	7,514 273 	10,680 1 561 249 65	7,342 1 781 85 301	4,666 964 84 73	629 772 259 513	1,196 619 19	5
Ocean whitefish Miscellaneous Swordfish	17 18	96	19 37	23 115	153 200	127 1,531	38 1,132	63 488	111 287	105 1,004	19 373	203 183	403 143	146 284	90 248	58 1,465	54 872	109 5,001	185 1,017	2,237 	205 3,891 1	
Total	24,308	44,956	29,083	62,455	100,885	150,315	199,461	212,776	174,423	152,948	194,869	213,247	262,295	228,142	246,387	241,954	272,958	359,184	265,934	278,432	267,277	
Angler days Anglers	3,088 †	5,840 †	4,034 †	9,891 †	12,163 †	18,246 †	22,946 †	23,035 †	19,446 †	21,629 †	22,913 †	22,955 †	20,619 †	20,752 25,599	21,688 26,729	29,940	29,344	40,489	38,242	42,602	41,783	

[†] Not available until 196

APPENDIX 30
Partyboat Catch and Effort for Oceanside, 1947–1967

APPENDIX 31
Partyboat Catch and Effort for San Diego, Mission Beach and Coronado, 1947–1967

		1		Ī	1		1	1	1		Ī	T	1	1	1						1
Species	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
celp, sand bass alif. barracuda acific bonito lockfishes alif. halibut	51,496 11,799 383 1,809 273	68,562 25,359 3,441 14,907 1,502	78,525 25,463 2,972 37,589 336	61,360 35,942 1,357 38,259 730	95,519 41,583 2,796 30,789 983	51,493 44,739 1,786 34,897 685	68,707 40,295 437 45,689 1,634	112,013 32,296 49,067 56,410 1,033	42,162 31,997 13,012 86,135 736	61,833 27,826 31,693 134,256 2,061	55,466 86,556 57,805 67,700 1,361	79,952 131,876 46,912 71,168 2,580	45,942 171,932 105,892 55,964 581	42,206 64,154 208,412 74,260 971	43,624 60,315 139,842 81,207 4,782	52,217 55,276 168,879 60,644 3,993	74,577 66.640 124,553 53,663 2,244	66,811 60,564 244,761 51,714 3,200	96,146 71,965 164,526 71,292 1,893	89,353 130,267 150,767 69,494 1,244	96,370 109,351 98,467 67,470 2,959
alif. yellowtail lbacore 'ellowfin tuna kipjack tuna luefin tuna	5,966 70 10 9 50	9,348 522 14 55	12,885 1,576 1	6,434 1,523 1	21,234 1,098 5 37	29,831 3,167 3 26	16,074 1,388 2 1,933	35,720 1,482 47 107	34,148 16,743 940	27,226 14,559 9 2,945	172,391 14,728 249 4,537 1,604	85,212 6,165 2 232 166	199,821 7 54	77,928 45,397 431 61 43	16,510 69,239 10 2 637	14,565 89,699 4 765	30,192 82,637 61 1,653 116	27,240 76,450 103 2,880 508	14,551 65,669 100 2,096 67	63,307 54,499 240 453 1,520	30,061 70,702 10,561 1,591 2,373
Pacific mackerel ack mackerel Zalif. sheephead lablefish .ingcod	972 96 455 651	9,543 36 1,316 545	2,896 15 1,051 492	3,200 15 859 309	2,114 788 464	2,104 391 447	1,576 39 235 391	39,131 1,011 1,444 1,491	23,379 109 996 4,314	31,885 639 913 8,718	6,037 634 1,208 3,539	2,399 104 1,240 1,781	3,072 854 966 1,757	11,317 192 1,143 1,195	11,517 235 1,727 734	30,734 769 1,472	26,030 169 2,626	28,497 585 1,954 	23,299 443 5,284	44,122 2,938 7,048	49,407 2,228 4,663
disc. flatfish culpin abezon Jiant sea bass ialmon	6,216 74 31	9,908 102 35	626 4,866 171 31	209 2,990 206 39	798 2,107 262 120	3,140 2,230 405 26	1,700 1,947 132 13 1	3,147 2,656 333 19	1,659 2,276 373 28 1	3,173 3,133 574 12 3	1,154 1,271 285 13	821 1,002 309 26 1	825 596 88 36	454 1,542 42 47	436 3,119 128 35	371 4,184 254 51	440 7,725 330 113 1	643 6,306 449 55 10	533 7,951 355 286 2	289 10,787 420 315 7	388 11,402 363 452 41
Vhite seabass farlin Vhite croaker Ialfmoon largo	1,594 3 221 	2,924 24 331	1,831 12 93 63	4,521 78 54 	2,846 45 765 	6,788 13 757 	2,102	2,370 9 459 445	7,528 4 298 41	2,994 16 489 4	1,666 7 601 90	8,860 80 220 147	1,863 333 26 18	3,878 8 10 411	1,252 6 54 45	2,586 2 381 	1,132 32 61 115	1,000 42 365 66	836 38 778 138	875 24 490 218	1,140 72 378 85 5
Ocean whitefish Miscellaneous	781 740 1	6,845 1,768	7,956 234	8,108 106	2,386 431 	2,429 281 	284 213	1,844 1,034	2,060 562	1,071 732	574 3,734	793 1,440	429 927 	727 990 	1,283 1,228	827 1,778	1,691 2,765	1,191 2,790	1,773 6,405	2,398 4,618	2,121 3,150 27
Total	83,707	157,198	179,684	166,300	207,170	185,638	184,996	343,569	269,501	356,764	483,210	443,488	591,983	535,821	437,967	490,129	480,030	578,604	536,745	636,117	566,106
ngler days	32,899 †	41,997 †	48,840 †	45,647 †	60,018 †	57,005 †	62,567 †	71,909 †	72,320 †	78,865 †	116,815 †	88,638 †	99,890 †	83,923 102,312	68,272 80,720	90,819	94,001	101,597	94,563	142,275	140,691

† Not available until 1960. △78860—800 5-69 5M

printed in California Office of State Printing

APPENDIX 31
Partyboat Catch and Effort for San Diego, Mission Beach and Coronado, 1947–1967