

Sea Grant Depository

LOAN COPY ONLY



# Major Commercial Fisheries in California

NATIONAL SEA GRANT DEPOSITORY  
PELL LIBRARY BUILDING  
URI, NARRAGANSETT BAY CAMPUS  
NARRAGANSETT, RI 02882

Division of Agricultural Sciences  
UNIVERSITY OF CALIFORNIA

REVISED APRIL 1976

*Sea Grant*  
MARINE ADVISORY  
PUBLICATION  
LEAFLET 2272



Marine Advisory Publication

Commercial fishing is a big business in California. The nation's largest single fishing port is San Pedro, where \$78 million worth of fish were landed in 1974. More than 10 thousand commercial fishermen are licensed in the state, and thousands of other people earn a living by selling or processing fish. As an added bonus, commercial fishing provides many people with an independent life style.

Commercial fisheries today are faced with many problems such as pollution, declining resources, and competition from foreign fleets. Finding solutions to these complex problems will take many years of work.

*The authors are Christopher M. Dewees, Extension Marine Resources Specialist, and Jon K. Hooper, Staff Research Associate, Davis.*

*Illustrations were adapted from materials of the California Department of Fish and Game.*

The University of California's Cooperative Extension programs are available to all, without regard to race, color, or national origin issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. James B. Kendrick, Jr., Director, Cooperative Extension, University of California.

## Salmon - Albacore - Crab Fisheries

Salmon, albacore, and crab fishing are often carried out by the same boat during different seasons of the year.

Commercial salmon fishing takes place from Santa Barbara northward. Two species of salmon are landed—the king (chinook) and the silver (coho). The season for king salmon lasts from April to September; the silver salmon season opens later in the spring to protect undersized fishes. Approximately nine million pounds of salmon are landed annually in California.

In California, all commercial catches of salmon are made by trolling. A boat trolls at a speed of about 2 knots. Four to six lines, each having six or so lures or baits, are trailed behind the boat, pulled down as deep as 350 feet by heavy sinkers (10 to 40 pounds). The smaller salmon (under 12 pounds) are usually marketed fresh locally or are frozen. Larger salmon (called splitters) are used for smoked salmon and lox. Much of the salmon roe (eggs) is sold to Japan where it is a gourmet item.

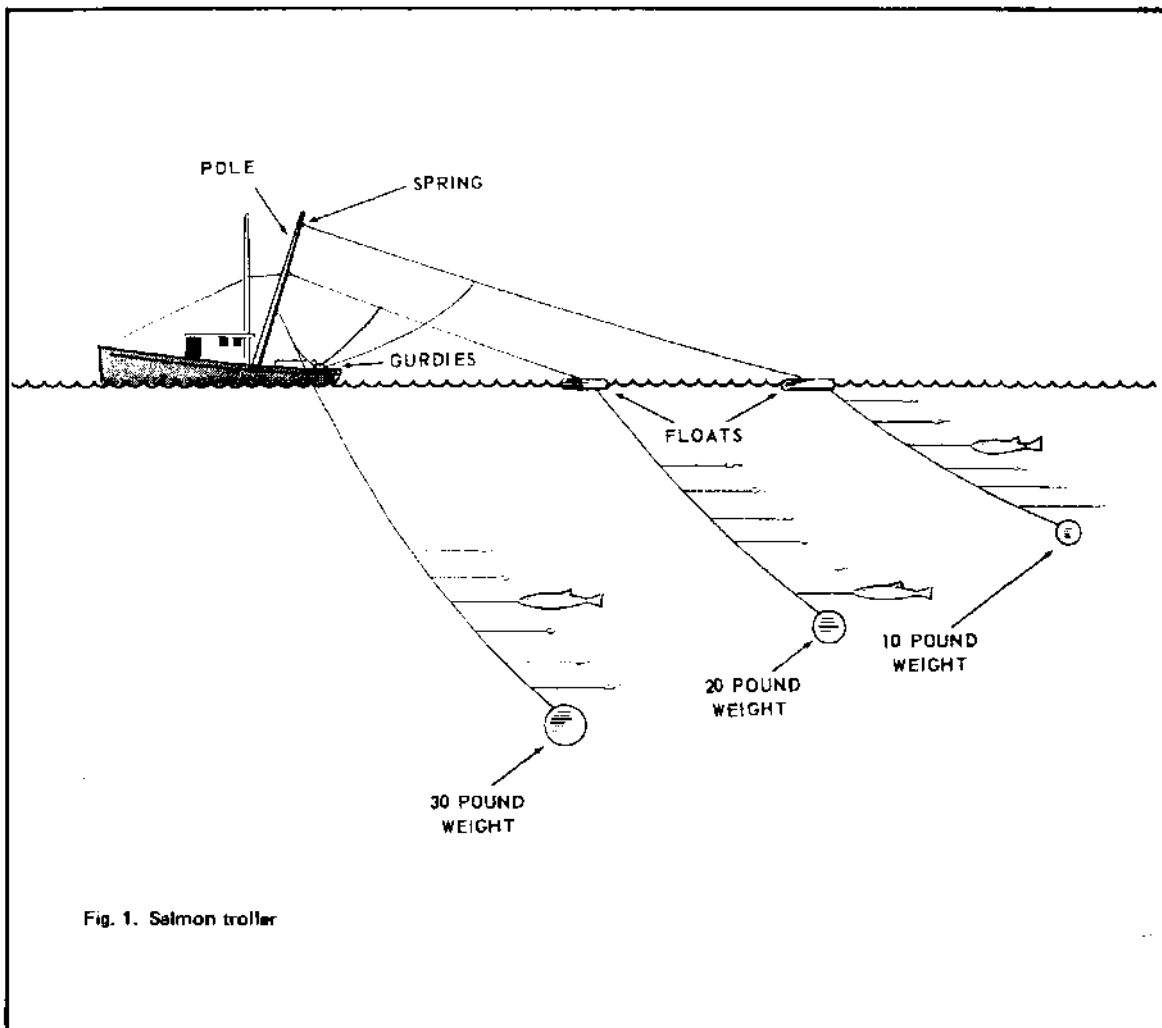


Fig. 1. Salmon troller

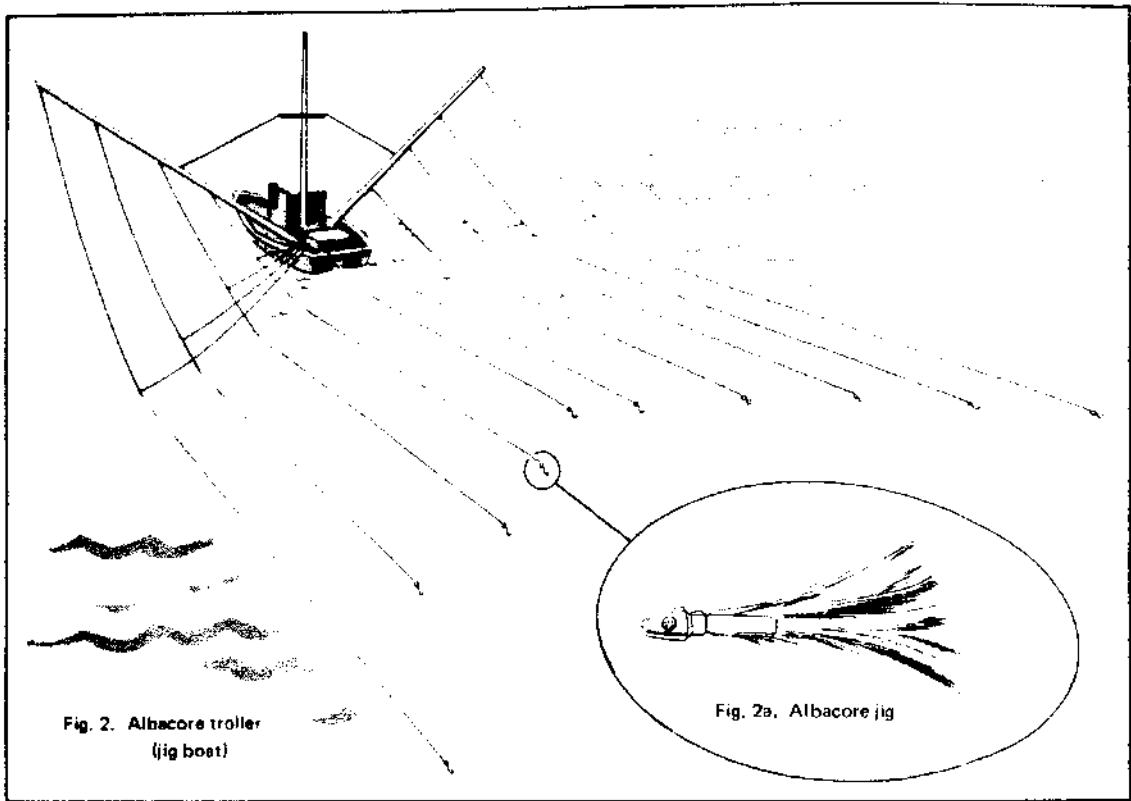


Fig. 2. Albacore troller  
(jig boat)

Fig. 2a. Albacore jig

Many of the salmon boats join the large albacore tuna fleet in late June or early July. Albacore is the highest grade of tuna and is always in demand. This small tuna is caught by trolling at 5 to 8 knots, usually near the surface, and using 8 to 14 lines with feathered lures, or by fishing with live bait.

Every year the fleet has to search for the migrating schools of albacore, which are common only in waters where the temperature averages 58° to 68° F. The fishing usually takes place about 50 or more miles (and often hundreds of miles) offshore, between Baja California and Vancouver Island, Canada.

During the winter, the fishermen often pursue the Dungeness (market) crab, using pots baited with squid, clams, or fish. The pots have escape holes for undersized crabs because only large male crabs may be taken.

Although there appears to be a cyclic abundance of crabs, the catches in the San Fran-

cisco Bay area have been quite low in recent years. Scientists are trying to discover the reasons for the decline and are suggesting means for improving the catch.

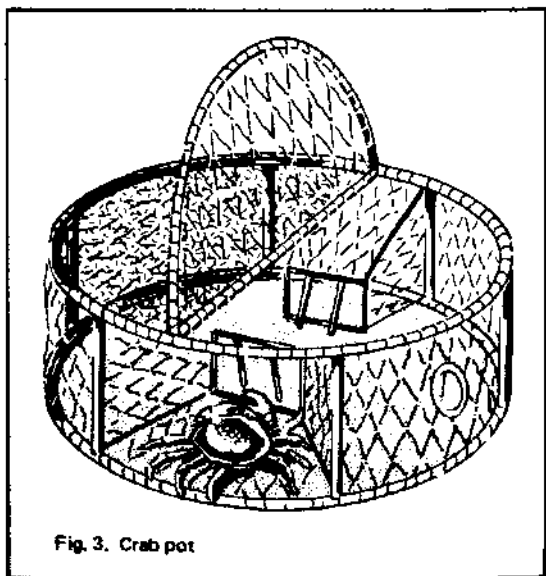
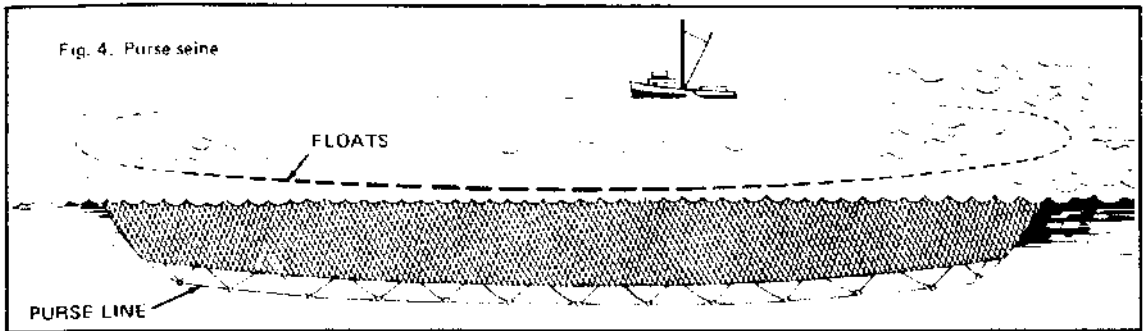


Fig. 3. Crab pot

# Tuna Fishery



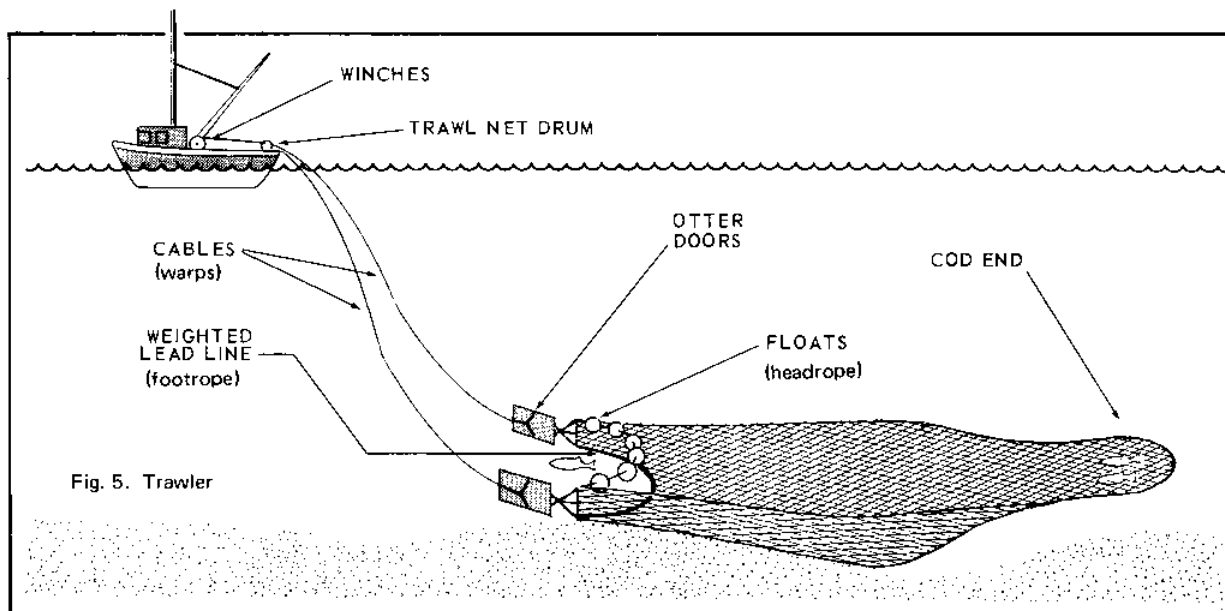
Southern California is the center of the world's largest tuna industry. Most of the tuna fleet is based and the tuna is canned in San Pedro and San Diego. Most of the tuna is caught by large (200- to 300-foot) tuna vessels that usually fish off the coasts of Mexico and Latin America. Many of the vessels use a purse seine. This giant net is strung around a school of tuna and then the bottom of the net is closed by tightening a line, much as purse strings are tightened.

American tuna boats often are fined for fishing inside the 200-mile off-shore fishing limit established by some South American countries. The United States does not accept the unilaterally established 200-mile fisheries limit at this time, recognizing only the more common 12-mile limit. Solutions to this international legal dispute, one of the major problems facing the United States tuna fleet, are being sought at the on-going Law of the Sea Conference (1976).

## Trawling

About 60 million pounds of sole, flounder, rockfish, shrimp, sablefish and similar species are landed annually in California's trawl fishery. The 40- to 80-foot trawlers are often called "dragners," because they drag large nets across areas with a smooth ocean bottom. Trawlers follow the migrations of bottomfish in waters approximately 300 to 2,500 feet deep.

This large industry ranges northward from Santa Barbara and is centered in the Eureka area. Most of the fish landed are filleted in processing plants and sold as fillet of sole, Pacific red snapper, etc. The trawl fishery has the potential to expand significantly.



## Other Fisheries

Sizeable commercial fisheries exist in California for abalone, sea urchin, anchovy, jack mackerel, squid, sablefish, spiny lobster and rockfish.

Both abalone and sea urchin are harvested by commercial divers in southern California. Abalone are a highly prized gourmet food in California and the fishery is very intensive. Sea urchins are harvested for their roe (eggs) which are exported fresh to Japan, where they are a delicacy. This is California's newest fishery.

Anchovy and jack mackerel are harvested and landed mainly in the Los Angeles area by 40- to 80-foot purse seiners. Most of the anchovies are made into fish meal to be used in animal feeds. The jack mackerel are canned. The size of the annual catch of anchovies is closely controlled by a quota system administered by the state.

Traps are used by fishermen in two other important fisheries: sablefish and spiny lobster.

Sablefish, also known as blackcod, are landed in large (3' x 8') traps in 600 to 3,000 feet of water. About 6 million pounds of sablefish are captured in traps each year and smoked or sold fresh as "butterfish" fillets. Sablefish is also caught on longlines and in trawls. The spiny lobster fishery is centered in southern California and smaller traps are used. The catch for this gourmet item has declined drastically in recent years.

There is a growing commercial rockfish fishery in California, using both gill nets and longlines. This fishery often serves as an alternative fishery during years of poor crab landings.

Squid is another expanding fishery concentrated in the Monterey, San Pedro, and San Diego areas. Squid are captured in nets at night, when they are present in large numbers on their spawning grounds. Continued improved consumer acceptance of squid will lead to fuller utilization of this large resource.

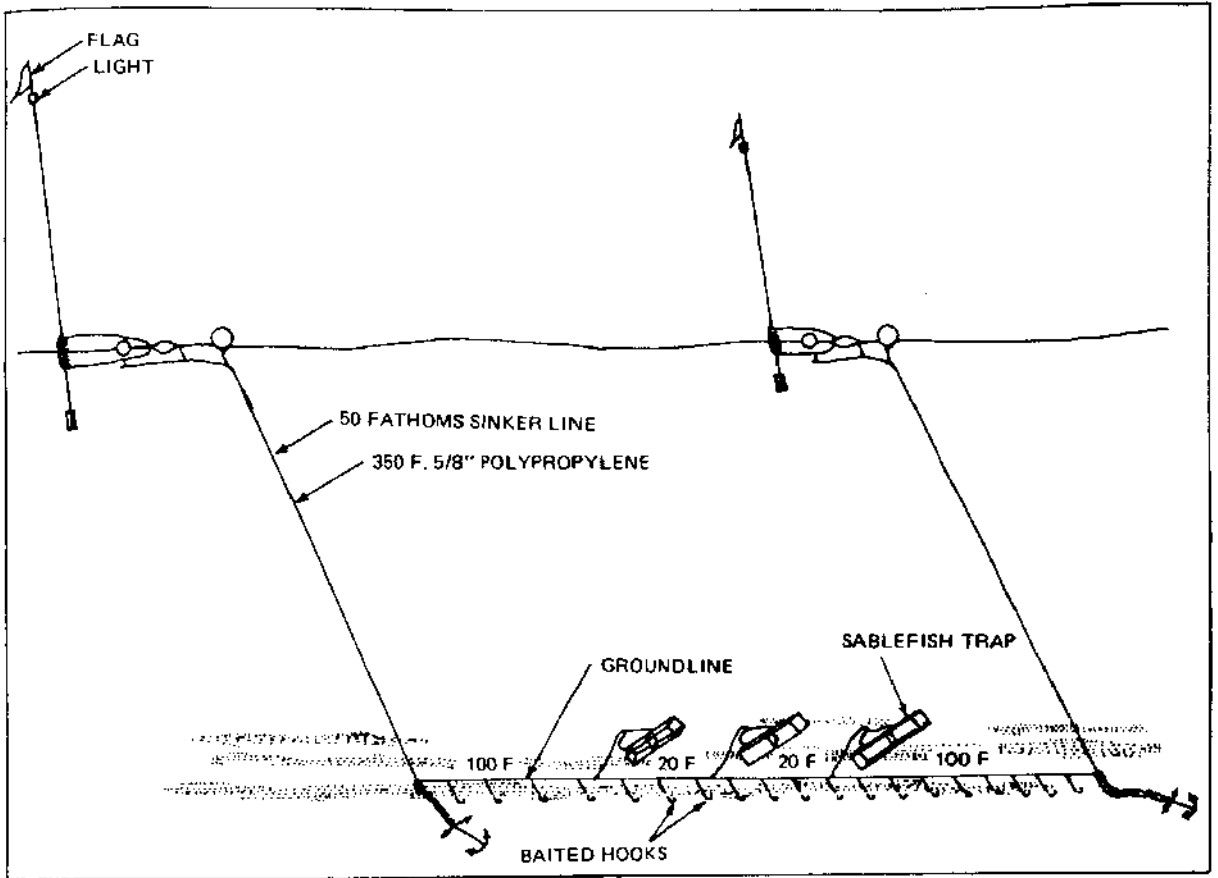


Fig. 6. Longline for bottomfish and a modified longline for fishing with traps

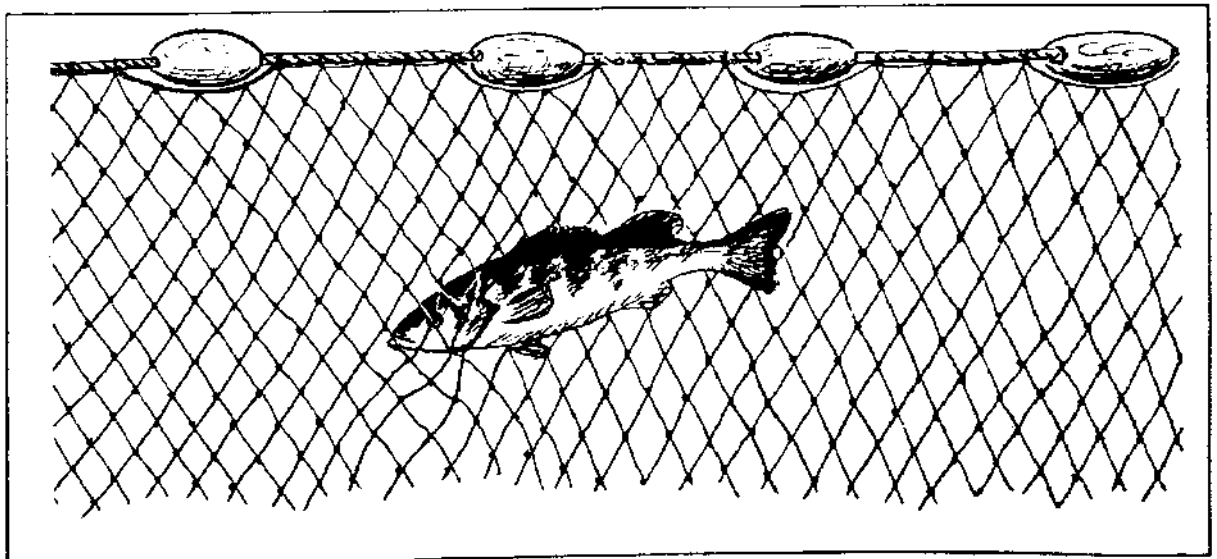


Fig. 7 Gill net

# Aquaculture

Aquaculture is the raising of fish and shellfish in a controlled environment. With commercial fisheries facing such problems as foreign competition, overfishing, and pollution, aquaculture could be an important future source of seafood. Fishing is basically hunting; aquaculture is similar to farming.

Research in aquaculture centers on the production of species that sell for a high price, such as lobster, shrimp, salmon, and oysters.

Scientists are trying to develop fast-growing, disease-resistant breeds—considerable work is needed, however, to develop good feed for the animals grown.

In California, the following fish and shellfish are cultured commercially: Oysters, trout, catfish, abalone, and shrimp are sold for direct consumption. Other species, such as minnows, salmon, trout, bass, and sunfish, are raised for sport fishing.

## Glossary

Environment	— all the things (conditions, circumstances, and influences) that surround and affect organisms	Season	— time when fishing for a particular species is permitted
Fishery	— business of catching, packing, and selling marine organisms	Species	— a population or group of distinct organisms that have some common characteristics and are reproductively isolated from other organisms
School	— a group of fish organized for purposes of feeding, reproduction, and protection		

## Reference

Frey, W., ed. 1971. *California's Living Marine Resources and Their Utilization*. Sacramento, California: State Department of Fish and Game.

Browning, R. J., 1974. *Fisheries of the North Pacific*. Anchorage, Alaska: Alaska Northwest Publishing Company.