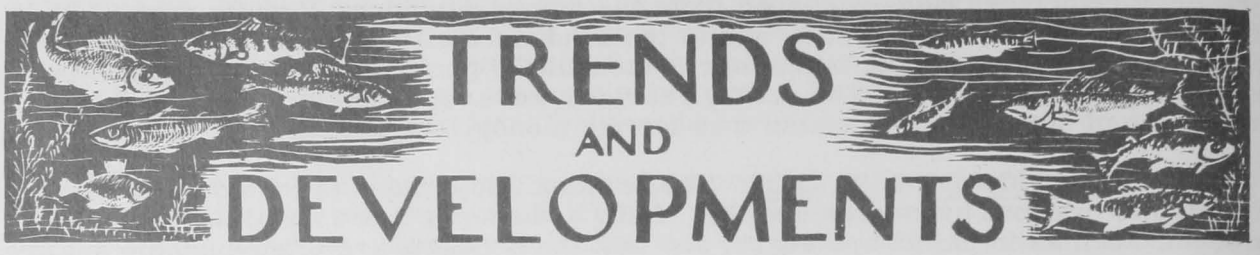


American Samoa

American Samoa Tuna Landings, 1958-59

Species	December		Jan.-Dec.	
	1959	1958	1959	1958
	(1,000 Lbs.)			
Albacore	2,655	2,452	22,474	22,251
Yellowfin	238	613	4,017	5,537
Big-eyed	63	53	982	1,060
Skipjack	1	-	15	-
Total	2,957	3,118	27,488	28,848

Note: Most of these tuna were landed by Japanese vessels; a small amount by South Korean vessels.

Byproducts

U. S. FISH MEAL, OIL, AND SOLUBLES PRODUCTION, 1959:

During 1959, fish meal and scrap production (based on information from firms which accounted for 91 percent of the 1958 production) amounted to 275,000 short tons--a gain of 48,000 tons as compared with 1958. The marine-animal oil yield amounted to 24.4 million gallons--2.4 million gallons above 1958.

Imports of fish meal and scrap during 1959 totaled 133,000 tons--33,000 tons more than in 1958. A sharp increase of 82.8 percent in the imports of fish solubles also occurred from 1958 to 1959. Exports of fish and fish-liver oils totaled 144.5 million pounds during 1959--a gain of 50.5 million pounds as compared with 1958.

Note: See Commercial Fisheries Review, April 1959, p. 37.

U. S. Production of Fish Meal, Oil, and Solubles, 1958-59

Product	Unit	1959 Preliminary	1958 Revised
		(Quantity)	
Meal and Scrap:			
Herring:			
Alaska	Tons	8,440	6,888
Maine	"	2,946	3,389
Menhaden	"	222,009	158,074
Sardine, Pacific	"	3,170	10,756
Tuna and mackerel	"	20,806	25,311
Unclassified	"	18,025	22,516
Total	"	275,396	226,934
Oil, Body:			
Herring:			
Alaska	Gallons	1,717,784	1,553,346
Maine	"	233,433	207,094
Menhaden	"	20,504,635	17,064,818
Sardine, Pacific	"	222,803	740,806
Tuna and mackerel	"	564,018	627,171
Other (including whale)	"	1,175,786	1,783,988
Total	"	24,418,459	21,977,223
Fish solubles	Gallons	29,894,692	20,980,221
Homogenized-condensed fish	Pounds	57,238,000	50,552,000

Note: Preliminary data based on information from firms which accounted for 91 percent of the 1958 production. The total production of fish meal in 1958 amounted to 248,140 tons.

California

AERIAL CENSUS OF COMMERCIAL ABALONE FISHING CONTINUED:

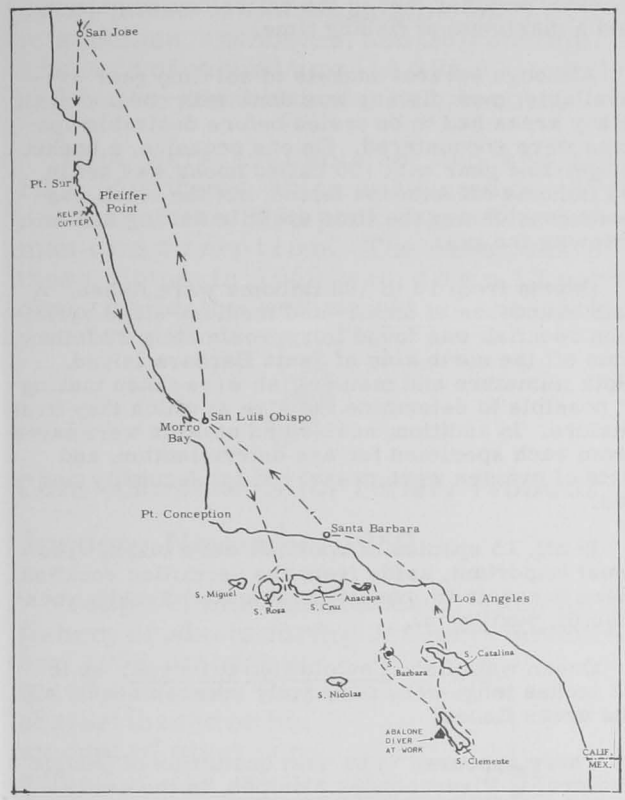
Airplane Spotting Flight 59-23-Abalone: The shoreline from Monterey to Morro Bay and the Channel Islands of Santa Rosa, Santa Cruz, Anacapa, Santa Catalina, Santa Barbara, and San Clemente was surveyed from the air on December 5, 1959, by the California Department of Fish and Game Twin Beechcraft to locate specific areas of commercial abalone diving.

Storm warnings had just been posted from Pt. Sur to the Mexican Border and gusts up to 70 m.p.h. in the Oxnard-Ventura region were reported.

From Monterey south to Morro Bay no diving boats were observed. A kelp cutter was operating below Pt. Sur in the cove at Pfiffers Point and several schools of unidentified fish were seen south of Pt. Sur.

Clearance from the military could not be obtained to fly over San Miguel Island but it was certain that no diving activity was in progress there because of the rough weather.

Among the Channel Islands, one diver was seen operating at San Clemente.



Airplane Spotting Flight 59-23-Abalone (December 5, 1959).

A kelp cutter was operating at Santa Barbara Island. Kelp growth along the mainland and among the islands had increased considerably since the flight on September 1959.

Note: Also see Commercial Fisheries Review, January 1960, p. 28, and February 1960, p. 29.

* * * * *

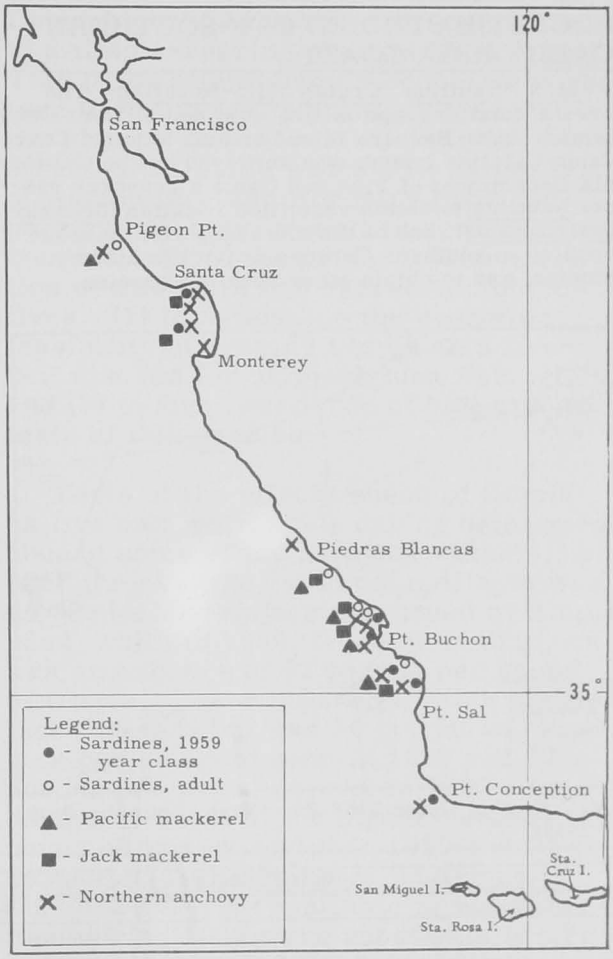
PELAGIC FISH POPULATION SURVEY OFF COAST OF CENTRAL CALIFORNIA CONTINUED:

M/V "Alaska" Cruise 59A9-Pelagic Fish: The coastal waters off central California from Point Reyes to Santa Barbara were surveyed (October 21-November 9, 1959) by the California Department of Fish and Game research vessel Alaska to sample young sardines for determining relative abundance and distribution resulting from 1959 spawning. Other objectives were to sample adult sardines, Pacific mackerel, jack mackerel, and anchovies; to transport live fish to San Francisco for behavior studies being conducted by the California Academy of Sciences; to collect live sardines for genetic studies conducted by the U. S. Bureau of Commercial Fisheries laboratory at La Jolla; and to collect specimens as requested by other investigations.

A total of 79 light stations was occupied. Sardines were collected at 11, anchovies at 12, jack mackerel at 6, and Pacific mackerel at 5.

A total of 390 miles was scouted between stations. Only 11 schools were sighted, all unidentified. Although not densely schooled, large numbers of Pacific saury and atherinid "smelt" were observed between most stations from Point Reyes to San Simeon Bay. South of San Simeon Bay, "smelt" and California bonito were seen in moderate numbers.

Unfavorable winds were encountered during the first half of the trip, but the weather from October 31 until the completion of the cruise was ideal. The almost total absence of wind and rough seas made it possible to achieve thorough coverage of the area from San Francisco to Point Conception.



M/V Alaska Cruise 59A9-Pelagic Fish (October 21-November 9, 1959).

Adult sardines (180-235 mm.) were sampled at 5 stations from Pigeon Point to San Luis Obispo Bay and young sardines (68-137 mm.) were taken at 7 stations from Santa Cruz Harbor to just north of Point Conception.

Airplane Spotting Flight 59-21-Pelagic Fish: The inshore area from the Mexican border to Piedras Blancas Point was surveyed from the air (November 16-17, 1959) by the Department's Cessna 180 (3632C) to determine the distribution and abundance of pelagic fish schools.

Although weather and visibility conditions were fair to good, only 20 anchovy schools were seen.

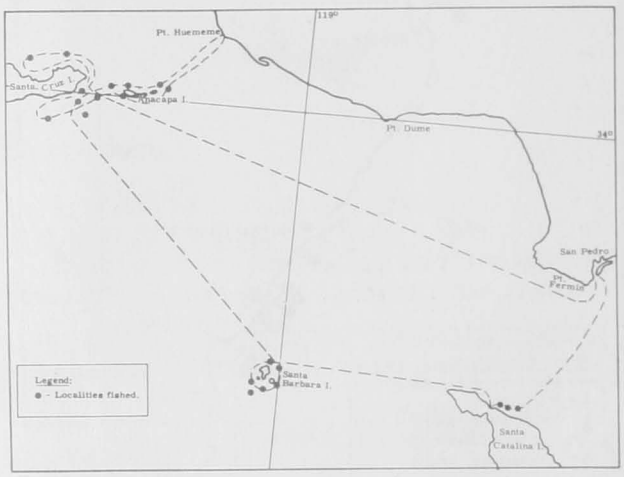
Sixteen thin schools were found close to shore between the Standard Oil dock at Morro Bay and Oro Flaco Lake. The remaining 4 schools were off southern California, 2 small ones at the end of the Huntington Beach pier and 2 large ones, accompanied by many birds and two gray whales, one mile south of Pt. Dume.

In addition, a large school of porpoises was seen between Point Dume and Point Mugu.
Note: Also see Commercial Fisheries Review, Feb. 1960, p. 27.

* * * * *

ROCKFISH STUDIED OFF SOUTHERN CALIFORNIA COAST:

M/V "Nautilus" Cruise 59N5-Rockfish: The area around Anacapa Island, east end of Santa Cruz Island, Santa Barbara Island and off Isthmus Cove, Santa Catalina Island, was surveyed by the California Department of Fish and Game's research vessel Nautilus to obtain vermilion rockfish (Sebastodes miniatus), one of the most important market species in southern California, for life history studies, and to obtain other rockfish species.



M/V Nautilus Cruise 59N5-Rockfish (November 9-18, 1959).

Good weather during the entire cruise permitted a maximum of fishing time.

Although several baskets of set-line gear were available, most fishing was done with rod and reel. Many areas had to be tested before desirable species were encountered. On one occasion, a basket of set-line gear with 100 baited hooks was set in 85 fathoms off Anacapa Island, but the catch was poor considering the time spent in setting and retrieving the gear.

Depths from 16 to 108 fathoms were fished. A fair abundance of small- and medium-sized vermilion rockfish was found in approximately 32 fathoms off the north side of Santa Barbara Island. Both immature and mature fish were taken making it possible to determine the size at which they first mature. In addition, scales and otoliths were saved from each specimen for age determination, and sets of ovaries were preserved for fecundity studies.

In all, 15 species of rockfish were taken. The most important, aside from the vermilion rockfish, were bocaccio (S. paucispinis) and whitebelly rockfish (S. vexillaris).

Ocean whitefish (Caulolatilus princeps), up to 22 inches long, were frequently taken in nearly all the areas fished.

There appeared to be vast quantities of pelagic red crabs, Pleuroncodes planipes, in the areas fished off southern California. Most of the fish had been feeding heavily on them. In many cases, tiny kelp scallops, Chlamys latiaurata, were attached to these pelagic red crabs.

Canned Fish

UNITED STATES PACK, 1958-59:

The United States pack of fish and shellfish for human consumption declined in 1959 as a result of sharply re-

United States Pack of Certain Canned Fish Products, 1959 and 1958

Product	1959 1/		1958	
	Standard Cases	Pounds	Standard Cases	Pounds
Tuna:				
California	10,700,000	-	11,001,422	-
Washington and Oregon	1,280,000	283,006,000	1,227,071	277,130,641
Other	2,415,000	-	1,865,608	-
Total	14,395,000	283,006,000	14,094,101	277,130,641
Salmon:				
Alaska	1,770,800	84,998,400	2,971,297	142,622,256
Pacific Coast States	692,400	33,235,200	760,663	36,511,824
Total	2,463,200	118,233,600	3,731,960	179,134,080
Sardines:				
Maine	1,750,000	40,950,000	2,099,959	49,139,041
Pacific	755,000	33,975,000	2,222,586	100,016,370
Mackerel, Jack and Pacific	595,000	26,775,000	404,425	18,199,125
Anchovies	3,000	93,750	53,735	1,679,219
Shrimp, South Atlantic and Gulf	745,000	11,175,000	808,314	12,124,710

1/Preliminary.
Note: Standard cases represent: tuna - 48 No. $\frac{1}{2}$ tuna cans (solid pack 7 ozs., chunks $6\frac{1}{2}$ ozs., flakes and grated 6 ozs. net); salmon - 48 1-lb. cans (16 ozs. net); Maine sardines - $100\frac{1}{4}$ -oil cans ($3\frac{3}{4}$ ozs. net); Pacific sardines - 48 1-lb. cans (15 ozs. net); mackerel - 48 1-lb. cans (15 ozs. net); anchovies - 100 cans (5 ozs. net); shrimp - 48 cans (5 ozs. net).

duced packs of salmon, Maine and Pacific sardines, anchovies, and Gulf shrimp. The pack of canned tuna (14,395,000 standard cases) established a new record.

Data were available on January 11, 1960, for items which accounted for 87 percent of the 1958 pack canned for human consumption. The case pack of these items in 1959 was down 13 percent, while the net weight of the pack was down 20 percent.

Cans--Shipments for Fishery Products, January-November 1959

Total shipments of metal cans for fishery products during January-November 1959 amounted to 109,026 short tons of steel (based on the amount of steel consumed in the manufacture of cans) as compared with 117,322 tons in the same period of 1958. Shipments of metal cans declined 13.3 percent from October to November 1959 and were down by 17.7 percent from November 1958 to November 1959.

As of the end of November, the canning of Maine sardines and Pacific salmon was about over for the 1959 season and packs were below normal. The California sardine pack at end of November 1959 was running about 65 percent under the 1958 pack. The lighter packs of those canned fish items were partially reponsible for the drop in the shipments of metal cans from January-November 1959 as compared with the same period in 1958.

Note: Statistics cover all commercial and captive plants known to be producing metal cans. Reported in base boxes of steel consumed in the manufacture of cans, the data for fishery products are converted to tons of steel by using the factor: 23.0 base boxes of steel equal one short ton of steel.

Central Pacific Fisheries Investigations

TILAPIA CULTURE AS SOURCE OF LIVE BAIT FOR TUNA FISHERY SUCCESSFUL:

As an important part of a program to supplement the short supply of natural tuna bait (nehu, principally), the Honolulu Biological Laboratory of the U. S. Bureau of Commercial Fisheries completed in December 1959 the two-year operation of a tilapia-rearing plant on Maui Island. This plant represented a cooperative venture in which the Laboratory operated the plant, a commercial fishing firm constructed the plant, and the Hawaiian Board of Agriculture and Forestry provided policing, fencing, and other services in connection with the project. The operation of this plant has served two objectives: (1) to determine the economic feasibility of rearing tilapia as a live-bait species for skipjack tuna fishing; and (2) to supply a source of bait for sea tests of this species.

Tests of the effectiveness of tilapia as live bait were made during both years aboard some of the skipjack vessels. In 1958 the average catch using tilapia was 46 pounds of skipjack per pound of tilapia used, while in 1959 the catch of skipjack was an average of 92 pounds per pound of tilapia. The comparable catch of skipjack, using nehu, was 50 pounds of skipjack per pound of nehu in 1958 and 57 pounds per pound of nehu in 1959. Undoubtedly some of the higher returns per pound of bait expended in 1959 should be attributed to the fact that, individually, the "season" fish available to the fishermen during 1959 were substantially larger than was true of the fish available during the same period in 1958. However, the relatively higher catch per pound of tilapia bait as compared to that obtained with nehu indicates that with increased familiarity with the behavior of tilapia and with some modifications of fishing techniques, tilapia bait was employed with much greater efficiency in 1959 than in 1958 for catching skipjack.

The operation of the plant during 1959 was improved through the utilization of other experiments conducted at the Kewalo Basin Laboratory on optimum sex

ratios and fish densities for a maximum rate of reproduction. In addition, the water in the brood tanks at Maui was aerated and, for one tank, heated during the winter and spring months of the year.

The total production of tilapia during 1959 exceeded that for 1958 by approximately 300,000 fry (1,293,457 as compared with 1,074,076). These production figures averaged 1,078 fry per female in 1959 and 724 fry per female in 1958.

While undoubtedly a lower concentration of fish, heating, and aeration contributed to the higher production in 1959 as compared to that of 1958, the spring of 1959 was a warm, sunny one while that of 1958 was wet and cloudy with somewhat lower than normal temperatures. Additionally, a higher grade of feed for the fish was used in 1959 as compared to that used in 1958.

Crabs

MARYLAND SAMPLES WINTER BLUE CRAB POPULATION FOR CLUES TO FUTURE HARVESTS:

To help unravel the mystery of the widely fluctuating blue crab harvest in Maryland, a team of biologists from that State's Chesapeake Biological Laboratory surveyed upper Chesapeake Bay waters late in January 1960.

The Laboratory's research vessel Cobia dredged for hibernating crabs between the Patuxent River and the Bay Bridge, as one phase of a long-range effort to predict crab harvests and possibly protect future crab populations.

The vessel's dredging runs criss-crossed the Bay in a sampling pattern designed to discover if crabs have highly specialized preferences regarding hibernating quarters. The area was sampled systematically in order to see if an adequate population-sampling technique could be devised. It is already known by scientists that all the crabs that will be caught in Chesapeake Bay in a given summer are also present during the preceding winter; there is no significant outside source.

The blue crabs in winter are practically motionless; their activity almost ceases when water cools to 41° F., and the bottom temperature is about 40° F. late in January.

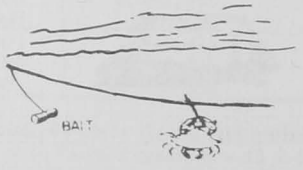
Most of the hibernating crabs, as shown by preliminary runs on the Patuxent River, were either large ones (six inches or wider) which escaped last summer's harvest, or were the very small (from $\frac{1}{4}$ to $1\frac{1}{2}$ inches) which hatched last summer and which will enter the harvest for the first time late next summer as $3\frac{1}{2}$-inch soft crabs.

Other points noted from the Patuxent River trials by the biologists (subject to further verification) are: (1) crabs apparently prefer to winter on bottoms of mud or oyster shells; and (2) most crabs taken with the dredge so far have been found in 10 to 20 feet of water. Practically none were found at or below 50 feet, although this depth is a common crab habitat in the lower Bay.

Maryland crabbers and packers will benefit considerably if harvests can be predicted even six months in advance. In the past, the harvest has been as low as 12 million pounds (in 1941) and as high as 32 million pounds (1950). Such fluctuations often leave the unsuspecting industry and market in grave difficulty.

The dredging program will also help in many other phases of crab research, including study of causes of good or poor crops, effect of harvesting on total numbers, and migration patterns. Many people feel that harvesting pressure controls the future supply, but there is some evidence that environmental factors are usually far more potent.

Maryland's crab research is conducted in cooperation with the Virginia Fisheries Laboratory, and fits into the broad program of necessary blue crab research established by the Atlantic States Marine Fisheries Commission.



Federal Purchases of Fishery Products

DEPARTMENT OF DEFENSE PURCHASES, JANUARY-DECEMBER 1959:

Fresh and Frozen Fishery Products: For the use of the Armed Forces under the Department of Defense, 1.8 million pounds (value $876,000) of fresh and frozen fishery products were purchased in December 1959 by the Military Subsistence Supply Agency. This exceeded the quantity purchased in November by 23.0 percent and was 8.9 percent above the amount purchased in December 1958. The value of the purchases in December 1959 was higher by 22.9 percent as compared with November, but 0.8 percent less than for December 1958.

During January-December 1959 purchases totaled 22.7 million pounds (valued at $11.6 million)--increase of 0.6 percent in quantity, but down 9.5 percent in value as compared with 1958.

Prices paid for fresh and frozen fishery products by the Department of Defense in December 1959 averaged 49.4 cents a pound, unchanged from November, but 4.8 cents less than the 54.2 cents paid during December 1958. The average price of 51.3 cents paid for all purchases of fresh and frozen fishery products in 1959 was down sharply from the 1958 average of 57.1 cents a pound. This was due mainly to lower prices for nearly all fishery products in 1959.

Table 1 - Fresh and Frozen Fishery Products Purchased by Military Subsistence Supply Agency, December 1959 with Comparisons

QUANTITY				VALUE				AVERAGE PRICE	
December		Jan.-Dec.		December		Jan.-Dec.		Jan.-Dec.	
1959	1958	1959	1958	1959	1958	1959	1958	1959	1958
.....(1,000 Lbs.).....				.....($1,000).....				.. (¢ Per Lb.) ..	
1,775	1,630	22,651	22,511	876	883	11,624	12,850	51.3	57.1

Canned Fishery Products: Tuna was the principal canned fishery product purchased for the use of the Armed Forces during December 1959. In 1959, purchases of canned tuna were down by 37.2 percent and canned salmon purchases were lower by 67.5 percent as compared with 1958. However, canned sardine purchases in 1959 increased 315 percent from 1958.

Note: Armed Forces installations generally make some local purchases not included in the data given; actual total purchases are higher than indicated because local purchases are not obtainable.

Table 2 - Canned Fishery Products Purchased by Military Subsistence Supply Agency, December 1959 with Comparisons

Product	QUANTITY				VALUE			
	December		Jan.-Dec.		December		Jan.-Dec.	
	1959	1958	1959	1958	1959	1958	1959	1958
	...(1,000 Lbs.)...				...($1,000)...			
Tuna	741	918	3,698	5,884	315	486	1,672	1/
Salmon	-	-	1,085	3,336	-	-	737	1/
Sardine	25	142	1,051	253	11	19	177	1/
Totals	766	1,060	5,834	9,473	326	505	2,586	1/

1/Unavailable.

Fisheries Loan Fund

FISHERIES LOANS APPROVED OCTOBER 1-DECEMBER 31, 1959:

As of December 31, 1959, a total of 664 applications for fisheries loans totaling $21,060,664 had been received since the loan fund program was started. Of these, 355 ($8,356,095) had been approved, 230 ($6,741,309) had been declined or found ineligible, 53 ($2,314,156) have been withdrawn, and 26 ($2,626,133) are pending. Several of the pending cases had been deferred indefinitely at the request of the applicants. Sufficient funds are available to process new applications when received.

The following loans had been approved between October 1 and December 31, 1959:

New England Area: Alexander Smith, New Bedford, Mass., $18,800.

South Atlantic and Gulf Area: John M. Snedeker, St. Petersburg, Fla., $5,000; Roderick M. McCall, Jr., McIntosh, Ga., $2,900; Warren H. Rector, Awendaw, S.C., $20,000; and Barney Lee Sanders, Aransas Pass, Tex., $19,000.

California: Ernest & Elvera Montiero, San Diego, $64,000; John D. & Warren K. Simpson, San Diego, $3,550; and August W. Angellsen, San Pedro, $3,260.

Pacific Northwest (All Washington): Delbert B. O'Hara, Bellingham, $2,100; Robert Myette, Bellingham, $7,522; James W. McCormick, Olympia, $3,000; Gunnar Abelsen, Port Angeles, $3,000; John V. Linvog, Seattle, $10,000; and John Preece, Seattle, $5,100.

Alaska: Norton B. Sorrels, Juneau, $3,000; Erick W. Lindeman, Ketchikan, $14,000; and Adolph M. Nelson, Ketchikan, $10,000.

Hawaii

HIGHER SKIPJACK TUNA LANDINGS IN 1959 BEAR OUT PREDICTION BY BIOLOGISTS:

On the basis of early 1959 variations in selected oceanographic conditions in Hawaiian waters, a prediction was made by biologists of the U. S. Bureau of Commercial Fisheries during the month of March 1959 that the 1959 total landings of Hawaiian skipjack would be average or better than average. With inclusion of incomplete December 1959 statistics, the partial landings for 1959 totaled 11,429,350 pounds. Total average annual landings for the years 1948 to 1958 were 9,800,000 pounds. During only two years, 1951 with 12,900,000 pounds and 1954 with 14,000,000 pounds, did the landings at Honolulu exceed those for 1959.

The higher-than-average 1959 catches were made by a reduced fleet. Twenty sampans were in operation as compared to 28 for 1951 and 27 for 1954.

The Hawaiian skipjack tuna fishery is seasonal, with the bulk of the annual catch being taken between May and September. Normally, a large percentage of the skipjack caught during those months weigh 18-22 pounds, with small fish 4-8 pounds and large fish 28-32 pounds. The off-season (November to April) catches average 4-8 pounds per fish. During the 1959 season, the 24-31 pound group dominated the catch as compared with the expected 18-22 pound fish. During December 1959, a month well into the off-season, the dominant group in the catch continued to be larger fish, 20-22 pounds, as compared with the anticipated 4-8 pound skipjack.

Maine Sardines

CANNED STOCKS, JANUARY 1, 1960:

Distributors' stocks of Maine sardines totaled 235,000 actual cases on January 1, 1960--33,000 cases or 12.0 percent less than the 268,000 cases on hand January 1, 1959. Stocks held by distributors on November 1, 1959, amounted to 296,000 cases, and on July 1, 1959, totaled 176,000 cases, according to estimates made by the U. S. Bureau of the Census.

Canners' stocks on January 1, 1960, totaled 843,000 standard cases (100 3¾-oz. cans), a decrease of 48,000 cases (5.0 percent) as compared with January 1, 1959. Stocks held by canners on November 1, 1959, amounted to 1,001,000 standard cases.

The 1959 pack (from the season which opened on April 15, 1959, and ended on December 1, 1959) was about 1,751,000 standard cases as compared with 2,100,000 cases packed in the 1958 season. The pack for the 1957 season totaled 2,117,151 standard cases.

The total supply (pack plus carryover on April 15, 1959) at the canners' level as of January 1, 1960, amounted to

Table 1 - Canned Maine Sardines--Wholesale Distributors' and Canners' Stocks, January 1, 1960, with Comparisons 1/

Type	Unit	1959/60 Season		1957/58 Season				
		1/1/60	11/1/59	7/1/59	6/1/59	4/1/59	1/1/59	11/1/58
Distributors	1,000 Actual Cases	235	296	176	197	254	268	312
Canners	1,000 Std. Cases 2/	843	1,001	422	272	474	891	1,037

1/ Table represents marketing season from November 1-October 31.
2/ 100 3¾-oz. cans equal one standard case.

2,171,000 standard cases, or 10.8 percent below the total supply of 2,434,000 cases as of January 1, 1959. Canners' shipments from April 15, 1959, to January 1, 1960, amounted to 1,328,000 cases as compared to 1,543,000 cases for the same period a year earlier.

On January 1, 1960, a total of 52,000 cases of canned Maine sardines were in the hands of retail multiunit organizations--22.1 percent of the stocks in distributors' hands.

Marine Conservation

SEA LIFE CONSERVATION PROGRAM DISCUSSED AT WILDLIFE CONFERENCE:

The sea has been aptly called an unknown jungle but great potentials exist for the control, cultivation, and concentration of the harvest thereof, the Director of the U. S. Bureau of Commercial Fisheries told the Northeast Wildlife Conference January 11, 1960. The conference met in Providence, R. I.

After touching briefly on the history of commercial fisheries in this country and reviewing some of the current operations and results of recent research, the speaker plunged into the problems and possibilities of practicing conservation in the oceans. The principal concepts of the talk were:

New concepts in conservation are developing in the world's marine laboratories with interesting emphasis on the "weather" of the sea, the possibility of creating artificial "upwellings," the "farming" of bays and estuaries, the development of brackish water areas for fish culture, and the challenge of the nations of the world, one to another, for the fruits of the "rich ocean pasturages."

Marine scientists are recognizing that the important fisheries are not the only things which exist beneath the surface of the ocean. These fish live in complex communities and compete and struggle for their niche in their marine environment just as do land plants and animals. Studies of the environmental factors affecting the life and death of these marine communities seem to be essential for future conservation of the marine fisheries. Ocean "weather," that is, the conditions which exist below the surface, is a variable which affects the habits and life of all ocean fisheries. Conservationists must understand throughly the ocean environment and the various anomalies which affect the fishes living there.

Vertical currents of water, called "upwellings" which occur naturally in the vicinity of the equator, bring up minerals and nutrients from the ocean depths to the surface and provide the basis for the start of the food chain for ocean life. Even now some oceanographers are considering the possibility of heating deep areas in the open ocean, or even heating localized areas, and creating artificial upwellings which would transfer the nutrients and minerals from the depths to the surface.

International fisheries and the accompanying problems are increasing in importance. As nations turn to the sea for food and recreation, there is bound to occur the question of ownership of the resources, the problem of which nations shall share in the resources, and how the sharing can be done. Not only have nations like Russia and Japan established huge fishing fleets which seek out and harvest rich crops from the sea, but they are also developing large and efficient oceanographic research vessels. This is a challenge which the United States must meet to insure food and recreation for our citizens in the future.

Relative to the farming of bays and estuaries, the United States has a problem of its own to solve. In Asia and in some of the countries of southern Europe where conditions are favorable, this type of fish culture is rather well developed. The possibilities of intensive sea farming similar to that practiced on land is, therefore, not an impractical concept. But in this country, the demand for estuarial areas for industrial purposes or for subdivisions, or for some other purpose, is already threatening this area of conservation. This definite trend can not be stopped by negative action but facts are not at hand for affirmative action. Therefore we need to get on the job on an emergency basis for developing the facts which, in turn, will be the basis for a sound conservation program in those areas.

Much has been learned and much must still be learned on the biology of fish, upon making intelligent harvests, and the economic and physical sciences involved if the nations of the world are to make the sea produce even a portion of its great potential.

The speaker also reviewed the work of many of the international commissions which now exist and showed their conservation successes in spite of what scientists concede to be only a fraction of the knowledge which man should have in formulating a conservation program for the various oceans.

New England

LANDINGS OF FOOD FISH LOWER, INDUSTRIAL FISH HIGHER IN 1959:

The principal New England fishing ports in 1959 produced less food fish but more industrial fish than the previous year, according to a preliminary report from the U. S. Bureau of Commercial Fisheries' Market News office at Boston, Mass. Total food-fish landings were 466 million pounds, 5 percent less than in 1958, while industrial-fish landings totaled 228 million pounds, 6 percent more than the previous year. The total ex-vessel value of $42 million for all 1959 landings was about the same as the previous year.

Landings at Boston, Gloucester, New Bedford, Provincetown, Woods Hole, Mass., Portland, Rockland, Me., Point Judith, R. I., and Stonington, Conn., represent about 75 percent of all New England landings.

The New England fishing fleets operated at capacity in 1959 and landed about 33,400 trips of all types as compared with 32,600 trips the previous year. Good relations between fishermen and vessel owners continued in 1959. Some vessels improved their physical condition with funds

obtained through the Bureau's Fishery Loan Fund program.

Gloucester was the leading food-fish producer in 1959 with 154 million pounds. Next was Boston with 111 million, New Bedford 70 million, Portland 56 million, Rockland 42 million, Provincetown 15 million, Point Judith 11 million, Woods Hole 4 million, and Stonington 3 million pounds.

Gloucester also had the largest drop in landings of food fish from the previous year--14 million pounds. Boston followed with a decrease of 13 million pounds.

Ocean perch continued as the leading food species landed at New England ports in 1959, as 136 million pounds were brought to the docks, 12 million pounds less than in previous years. Gloucester landings in 1959 of ocean perch were 18 million pounds less than in 1958, while Portland and Rockland, Me., had heavier landings.

Haddock landings totaled 96 million pounds in 1959 and was the next leading food species. This was also under the 1958 total by 7 million pounds. Boston, the leading haddock producer with 70 percent of the total, handled 13 million pounds less than in 1958.

Next in volume was whiting with a total of 82 million pounds, 75 percent of which was landed at Gloucester. The 1958 total was also 82 million pounds at all ports.

Total landings of the other important food species at the New England ports in 1959 were: flounders 50 million pounds, cod 30 million, and pollock 21 million pounds. Pollock landings were down 7 million pounds while cod and flounder landings in 1959 were close to the 1958 total.

Sea scallops, the most valuable of the New England ocean food species, set a new record volume in 1959. A total of 20 million pounds was landed, 90 percent of this at New Bedford, the Nation's leading scallop port.

The industrial-fish fleets at New England's ports produced 228 million pounds of fish for use in animal food and fish meal in 1959. This was 13 million pounds more than in 1958 due to more plentiful supplies of menhaden in North Atlantic waters. Poor conditions in the fish-meal market in 1959 precluded an even greater increase. Some fish-meal plants shut down before the end of the year due to the heavy inventories and poor market for meal destined for poultry feed. Point Judith continued as the leading industrial-fish producer with a total of 91 million pounds; trailing were Gloucester with 75 million, and New Bedford with 38 million pounds.

Stocks of frozen New England-produced fishery products were in very good supply in warehouses throughout the Nation as 1959 ended. Domestic production was augmented by imported products that continued to arrive at a record pace. As a result of the heavier inventories, wholesale prices of the major New England-produced fishery products in 1959 were lower than in the preceding years.

The fish-stick and fish-portion industry continued at at a good pace in 1959. Although these products were made almost exclusively from foreign-produced blocks of groundfish fillets, the industry did provide full employment at many processing plants, and provided business to many related industries. The fish-portion production increased considerably as this item is becoming very popular in the institutional market. In 1959 the U.S. Customs Court ruled that imported fish

blocks were dutiable at a lower rate than heretofore, giving an additional advantage to foreign fish block producers.

Replacement of fishing vessels continues to be one of New England's most serious problems. New construction was almost negligible as vessel operation has not always been profitable in recent years, due to ever-increasing costs of operation. Some New England fishing vessels were sold to Canadian interests in 1959. Federal aid in the form of a construction subsidy was sought. Both houses of the 1959 Congress passed bills to provide this aid, but adjournment came before a Conference committee could be appointed to work out a compromise. It is hoped by the industry that 1960 will see Federal legislation in this form to aid the New England groundfish industry reach a more favorable economic position to meet foreign competition.

Oysters

VIRGINIA BIOLOGISTS DISCOVER CAUSE OF OYSTER MORTALITIES IN CHESAPEAKE BAY:

Scientists at the Virginia Fisheries Laboratory, Gloucester Point, have found a micro-organism not known before in oysters from Virginia waters. This organism, possibly a member of a group of parasitic one-celled animals called Sporozoans, was discovered in Delaware Bay less than two years ago by a scientist of Rutgers University. It is believed to be the primary cause of extensive losses of oysters in Delaware Bay since 1957. It poses no public health problems.

During 10 years of oyster-mortality studies, biologists at Virginia's marine laboratory have refined the tray method of observation on natural beds and collected what is probably the most detailed and longest set of records on mortalities of oysters in existence. This backlog of information has proven invaluable in evaluating unusual oyster losses. One important cause of mortalities, the fungus Dermocystidium, has been studied fairly thoroughly; however, other agents have received inadequate attention until recently.

A more intensive surveillance of Virginia waters was begun in 1959 following the Delaware catastrophe of 1957 and 1958. Trays were established in most major oyster-producing areas early in 1959 and were examined frequently throughout the year to detect mortalities of oysters.

During 1959, two Laboratory biologists collected and examined thousands of oysters in a search for causes of mortalities. Approximately 4,000 oysters were examined individually for the well-known and long-established fungus-killer of oysters--Dermocystidium. Eight hundred of these have been used to prepare stained slides for microscopic search for other parasitic organisms. The new organism was found in these slides and its similarity to the Delaware Bay "Sporozoan" has been confirmed by the Rutgers University biologist.

The new unnamed organism has been found widely distributed in lower Chesapeake Bay--York River, Mobjack Bay, Chesapeake Bay proper, and both the bay and ocean sides of the Eastern Shore of Virginia. Examination of oysters preserved in earlier years is underway to determine how long the new organism has been in Virginia waters. It is possible that it has been in Chesapeake Bay for many years and will not cause serious trouble.

An unexplained spring loss was followed by heavy late summer and fall losses in lower Chesapeake Bay in 1959, but it appears most of the warm season losses were caused by the old oyster nemesis--Dermocystidium. The new organism has been found on the oceanside of the Eastern Shore where Dermocystidium is absent but no losses have occurred there since July 1959.

Although the new organism seems to have played a minor role in deaths of oysters in 1959, its reported importance in Delaware Bay provides a vivid warning of what could happen in Chesapeake Bay. James River oysters shipped by the Laboratory of New Jersey and planted in Delaware Bay in June 1959 were 60 percent dead by December 1959.

Oystermen have been advised to keep a close watch on their beds through the year beginning at the end of winter and particularly in spring.

Scientists at the Laboratory state that oysters stopped dying at the end of October--as usual--and that no public health problems are involved either with the new organism or with Dermocystidium.

Shrimp

CALIFORNIA'S LANDINGS HIGHER IN 1959:

The 1959 California ocean shrimp landings totaled 1,777,874 pounds, an increase of 47,652 pounds over the 1958 record of 1,730,222 pounds, the California Department of Fish and Game reported on January 22, 1960. The 1959 record was made possible by increasing quotas in the Crescent City and Fort Bragg area, the Department's Director explained.

Area A (California-Oregon State line to Cape Mendocino) led all others with California landings of 1,317,972 pounds, plus about 400,000 pounds landed in Oregon. The 1958 California landings were 1.1 million pounds.

The average catch per fishing hour in Area A was 638 pounds for the entire season as compared with 501 pounds in 1958.

The Area A fleet operated out of Crescent City the entire season, chiefly off the Klamath River and Redding Rock, working a 20-mile stretch in depths ranging from 52 to 90 fathoms and averaging 65 fathoms.

Other area catches: Area B-1 (Cape Mendocino to Pt. Arena) a record 444,998 pounds was landed during the 1959 season as compared with 329,714 pounds in 1958. Rough weather and strong currents cut down the catch per fishing hour from 656 pounds in May to 464 pounds in June and to 222 pounds in July.

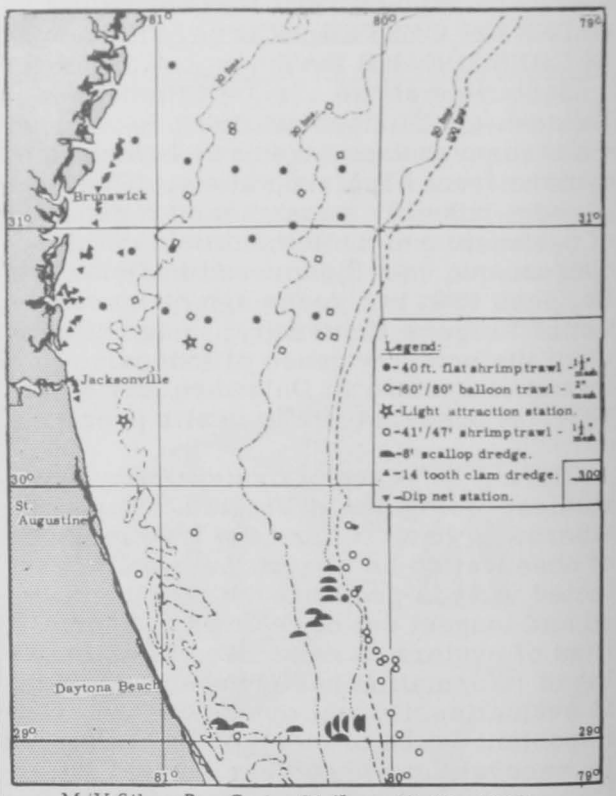
Area B-2 (Pt. Arena to Pigeon Point) failed to yield shrimp in 1959.

Area C (Pigeon Point to Pt. Conception) produced 14,904 pounds as compared with 87,949 pounds in the 1958 season.

South Atlantic Exploratory Fishery Program

COMMERCIAL BEDS OF SCALLOPS FOUND OFF FLORIDA EAST COAST:

M/V "Silver Bay" Cruise 21: Catches of commercial-size scallops by the U. S. Bureau of Commercial Fisheries chartered fishing vessel Silver Bay in 20 to 30 fathoms east of Cape Canaveral, Fla., indicate an extensive area with good possibilities for commercial-scale fishing. The January 13-29, 1960, cruise was the fourth in a series designed to explore the inshore and offshore areas along the South Atlantic Coast between North Carolina and Florida.



M/V Silver Bay Cruise 21 (Jan. 13-29, 1960).

A total of 18 tows was made with an 8-foot scallop dredge, with activities partially handicapped by heavy seas at the time. Considerable variation was evidenced in both the abundance and size of scallops taken. Catches as high as 7-10 bushels of mixed shells and live scallops were taken per 15-minute tow. The ratio of shells to live scallops was about five to one by weight. Generally, a single size group of medium-size scallops ($1\frac{1}{2}$-2 inches) were taken in the 10-15 fathom depth range, while two size groups, very small and large ($2\frac{1}{2}$-3 inches) marketable-size scallops, were taken in the 20-30 fathom depth range.

Other objectives of the cruise were to: (1) determine catch-rate data for species of fish suitable for use as pet food or for reduction out to the 25-fathom curve between Brunswick, Ga., and Daytona Beach, Fla.; (2) explorations for hard clams (Mercenaria species) along the 3-5 fathom depth range between Altamaha Sound, Ga., and the St. John's River, Fla.; and (3) to recheck royal-red shrimp fishing grounds previously located in the Florida stream along the 200-fathom depth curve between 29 and 30 degrees N. lat.

Exploratory Fishing for Industrial Fish: A total of 39 tows along east-west transects was made with a 40-foot, two-seam, balloon trawl; and a 40-foot flat trawl fished on a 25-fathom bridle with a single towing warp and six-foot chain doors; and an 80-foot, two-seam balloon trawl fished with two warps and eight-foot bracket doors. Catches up to 225 pounds per 1-hour tow of large (7-13 inch) vermillion snapper (Rhomboplites aurorubens) were made over typical snapper-type bottom in the vicinity of 30°39' N. lat. and 80°17' W. long. Only small catches of industrial fish were taken in the area fished with trawl nets.

Exploratory Fishing for Hard Clams: Thirty sets were made with a 14-tooth Fall River clam dredge. Sets were concentrated near inlets, and where possible on mud bottom. Typically, hard sand bottom was encountered and only 3 live clams were taken.

Test Fishing for Royal-Red Shrimp: A total of 16 3-hour tows was made with a 40-foot, two-seam balloon trawl to obtain samples of royal-red shrimp for biological studies. Small numbers of royal-red shrimp were taken in the 175-225 fathom depth range. Gear fouling and depth recorder difficulties caused some loss of fishing time and poor depth control.

Tuna

TAGGED BLUEFIN TUNA CROSS ATLANTIC:

For the past several years, personnel from the Woods Hole Oceanographic Institution have accompanied the U. S. Bureau of Commercial Fisheries' exploratory fishing vessel Delaware on various offshore tuna explorations in order to tag bluefin tuna and other pelagic species captured during long-line operations. As a result of these cooperative efforts, a bluefin tuna tagged from the Delaware on May 24, 1959, 325 miles east of Ocean City, Md., was caught during tuna-seining operations in the late summer of 1959, near Provincetown, Mass. The tag was recovered during canning operations.

In addition, the Woods Hole Oceanographic Institution reports 2 bluefin tuna tagged near No Man's Land, Mass., in July 1954, were captured during the summer of 1959 in the Bay of Biscay. According to French authorities, probably 8 more bluefin tagged by personnel of the Woods Hole Oceanographic Institution have been caught by French fishermen who failed to save the tags.

United States Fishing Fleet[1/] Additions

OCTOBER 1959:

A total of 34 vessels of 5 net tons and over were issued first documents as fishing craft during October 1959--a decrease of 21 vessels as compared with the same

1/Includes both commercial and sport fishing craft.

Table 1 - U. S. Vessels Issued First Documents as Fishing Craft by Areas, October 1959

Area	October		Jan.-Oct.		Total
	1959	1958	1959	1958	1958
	(Number)				
New England	1	-	14	11	13
Middle Atlantic	1	1	11	12	13
Chesapeake	18	18	87	87	99
South Atlantic	2	12	71	122	135
Gulf	8	16	125	247	270
Pacific	4	7	88	103	112
Great Lakes	-	-	6	6	10
Alaska	-	1	31	31	31
Virgin Islands	-	-	-	1	1
Total	34	55	433	620	684

Note: Vessels assigned to the various areas on the basis of their home ports.

month of 1958. The Chesapeake area led with 18 vessels while the Gulf area was second with 8 vessels, and the Pacific was third with 4 vessels.

Table 2 - U. S. Vessels Issued First Documents as Fishing Craft by Tonnage, October 1959

Net Tons	Number
5 to 9	22
10 to 19	5
20 to 29	4
30 to 39	1
40 to 49	2
Total	34

During the first ten months of 1959, a total of 433 vessels were issued first documents as fishing craft--187 less than in the same period of 1958. The number of vessels issued first documents in the Gulf area dropped 122 below the number reported for the first ten months of 1958.

* * * * *

NOVEMBER 1959:

Thirty-two vessels of 5 net tons and over were issued first documents as fishing craft during November 1959--4 less than in November 1958. The Chesapeake led all other areas with 13 vessels, followed by the Pacific with 7 vessels, the Gulf with 6 vessels, and the South Atlantic with 3.

Table 1 - U. S. Vessels Issued First Documents as Fishing Craft by Areas, November 1959

Area	November		Jan.-Nov.		Total
	1959	1958	1959	1958	1958
	(Number)				
New England	1	1	15	12	13
Middle Atlantic	1	1	12	13	13
Chesapeake	13	6	100	93	99
South Atlantic	3	9	74	131	135
Gulf	6	12	131	259	270
Pacific	7	4	95	107	112
Great Lakes	-	3	6	9	10
Alaska	1	-	32	31	31
Virgin Islands	-	-	-	1	1
Total	32	36	465	656	684

Note: Vessels assigned to the various areas on the basis of their home ports.

A total of 465 vessels were issued first documents as fishing craft during the first eleven months of 1959--191 less than during the same period of 1958.

Table 2 - U. S. Vessels Issued First Documents as Fishing Craft by Tonnage, November 1959

Net Tons	Number
5 to 9	21
10 to 19	3
20 to 29	4
30 to 39	1
50 to 59	1
80 to 89	1
110 to 119	1
Total	32

* * * * *

DECEMBER 1959:

A total of 14 vessels of 5 net tons and over were issued first documents as fishing craft in December 1959--a decline of 14 vessels as compared with the same month of 1958. The major portion of the decline occurred in the Gulf area where only 4 vessels were issued first documents as compared with 11 in December 1958.

Table 1 - U. S. Vessels Issued First Documents as Fishing Craft by Areas, December 1959

Area	December		Total			
	1959	1958	1959	1958	1957	1956
			(Number)			
New England	-	1	15	13	19	15
Middle Atlantic	-	-	12	13	23	26
Chesapeake	6	6	106	99	104	138
South Atlantic	2	4	76	135	130	119
Gulf	4	11	135	270	166	100
Pacific	2	5	97	112	102	76
Great Lakes	-	1	6	10	8	6
Alaska	-	-	32	31	48	40
Hawaii	-	-	-	-	-	1
Puerto Rico	-	-	-	-	1	-
Virgin Islands	-	-	-	1	-	-
Total	14	28	479	684	601	521

Note: Vessels assigned to the various areas on the basis of their home ports.

Table 2 - U. S. Vessels Issued First Documents as Fishing Craft by Tonnage, December 1959

Net Tons	Number
5 to 9	7
10 to 19	4
20 to 29	2
50 to 59	1
Total	14

Table 3 - U. S. Vessels Issued First Documents as Fishing Craft, 1938 to 1959

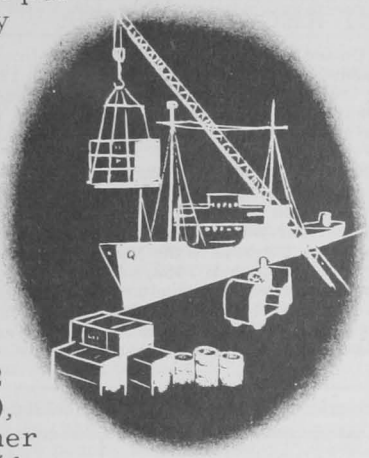
Year	Number
1959	479
1958	684
1957	601
1956	521
1955	418
1954	717
1953	729
1952	675
1951	780
1950	812
1949	1,002
1948	1,184
1947	1,300
1946	1,085
1945	741
1944	635
1943	358
1942	358
1941	354
1940	320
1939	357
1938	376

Year 1959: A total of 479 vessels were issued first documents as fishing craft during 1959--a decrease of 205 vessels (30 percent) as compared with 1958.

U. S. Foreign Trade

EDIBLE FISHERY PRODUCTS, NOVEMBER 1959:

Imports of edible fresh, frozen, and processed fish and shellfish into the United States during November 1959 decreased by 23.0 percent in quantity and 11.4 percent in value as compared with October 1959. The decrease was due primarily to lower imports of groundfish and other fillets (down 14.2 million pounds), frozen tuna other than albacore (down 10.6 million pounds), and frozen shrimp (down 5.0 million pounds). The decrease was partly offset by a 1.3-million-pound increase in the imports of lobster and spiny lobster, frozen albacore tuna (up 1.4 million pounds), and fresh and frozen salmon (up 2.4 million pounds).



U. S. Imports of Edible Fishery Products, November 1959 with Comparisons

Item	Quantity			Value		
	Nov.		Year	Nov.		Year
	1959	1958	1958	1959	1958	1958
	(Millions of Lbs.)			(Millions of $)		
Imports:						
Fish & shellfish:						
Fresh, frozen, & processed1/ . . .	86.9	80.1	956.8	26.5	22.7	278.4
Exports:						
Fish and shellfish:						
Processed only1/ (excluding fresh & frozen)	9.6	5.8	41.2	4.5	1.8	15.6

1/Includes pastes, sauces, clam chowder and juice, and other specialties.

Compared with November 1958, the imports in November 1959 were up by 8.4 percent in quantity and 22.7 percent in value due to higher imports of frozen albacore tuna (up 1.1 million pounds), groundfish fillets (up 5.3 million pounds), canned tuna in brine (up 4.7 million pounds), and canned salmon (up 2.6 million pounds). Compensating, in part, for the increases was a drop of about 5.3 million pounds in the imports of tuna other than albacore and 1.7 million pounds in fresh and frozen salmon.

United States exports of processed fish and shellfish in November 1959 were higher by 52.7 percent in quantity and 136.8 percent in value as compared with October 1959. Compared with the same month in 1958, the exports this November were higher by 64.6 percent in quantity and 150.0 percent in value.

* * * * *

GROUNDFISH FILLET IMPORTS:

December 1959: Imports of cod, haddock, hake, pollock, cusk, and ocean perch, classified as fillets, during December 1959, totaled 3.2 million pounds. Canada was the leading country with 2.0 million pounds or 61 percent of December's total imports. Seven other countries supplied the remaining 39 percent.

The sharp decline since August 1959 in the imports of groundfish fillets was due to a United States Customs Court ruling which held that fish fillet blocks imported in bulk (15 pounds and over) are dutiable at one cent per pound under Tariff paragraph 720 (b) rather than $1\frac{7}{8}$ cents per pound under Tariff paragraph 717 (b). This ruling became effective on September 15, 1959. Thus data on imports of groundfish fillets since that date are not comparable with previous figures.

Year 1959: Preliminary data indicate that United States 1959 imports of groundfish (including ocean perch) fillets and blocks into the United States totaled 144.9 million pounds as compared with 155.9

Table 1 - United States Imports of Groundfish (Including Ocean Perch) Fillets and Blocks, 1958-59

Country of Origin	1959	1958 1/
	. . . (1,000 Lbs.) . . .	
Canada	75,128	103,013
Miquelon and St. Pierre . . .	1,456	709
Greenland	938	189
Iceland	37,826	30,356
Norway	11,619	6,201
Denmark	14,195	9,779
United Kingdom	408	237
Ireland	3	-
Netherlands	632	552
France	-	91
West Germany	2,693	3,977
Union of South Africa	-	66
Japan	12	763
Total	2/144,910	3/155,933

1/Revised.
2/Does not include about 40.0 million pounds of blocks of fillets, bits and pieces received under Tariff paragraph 720 (b).
3/Does not include about 9.6 million pounds of blocks of bits and pieces received under Tariff paragraph 720 (b).

million pounds in 1958. An additional 40.0 million pounds of fillets, bits, and pieces were imported in 1959 and 9.6 million pounds in 1958 under Tariff paragraph 720 (b). This means imports of groundfish fillets under all categories totaled 184.9 million pounds in 1959 as compared with 165.5 million pounds in 1958.

Imports of groundfish classified as blocks of fillets in bulk (15 pounds and over), and bits and pieces are not included in table 1. The quota of groundfish and ocean perch fillets and blocks permitted to enter the United States at 1⅞ cents a pound in the calendar year 1959 was 36,919,874 pounds, based on a quarterly quota of 9,229,968 pounds. The quota for the calendar year 1958 amounted to 35,892,221 pounds. Imports during individual quarters in excess of the established quarterly quota enter at a duty of 2½ cents a pound.

Note: See Chart 7 in this issue.

* * * * *

UNITED STATES FISH OIL EXPORTS SET RECORD IN 1959:

United States exports of fish oils (including fish liver oils) reached a record 72,240 short tons in 1959, slightly exceeding the previous high in 1955. The upsurge in exports follows 2 years of sharply declining shipments, notably to Western Europe--the major market for United States fish oils.

Exports to Western Europe in 1959 were up 74 percent from 1958 and accounted for virtually all of the total exports. Shipments to Sweden in 1959 were over 6 times larger than in the previous year, reflecting the shortage of Norwegian marine oils. Exports to the Netherlands last year were more than double those of 1958; however, they were almost 50 percent below the record volume of 1955. Shipments to Canada dropped sharply in 1959 following a recovery of Canadian marine-oil production late in 1958 and continued high output throughout last year in that country.

U. S. Exports of Fish Oils (Including Liver Oils) by Country of Destination, Averages 1935-39 and 1950-54, Annual 1955-59

Country of Destination	1959 1/	1958 1/	1957	1956	1955	Average 1950-54	Average 1935-39
	(Short Tons)						
North America:							
Canada	1,904	6,485	1,238	1,621	11,308	2,707	458
Cuba	57	99	129	112	84	113	155
Mexico	176	123	56	63	96	109	45
Other	146	12	9	37	3	26	71
Total	2,283	6,719	1,422	1,833	11,491	2,955	729
South America	6	26	42	62	56	84	96
Europe:							
Belgium-Luxembourg	2,167	2,344	661	759	1,098	215	8
Denmark	577	-	-	866	-	-	-
France	40	5	5	-	9	273	19
West Germany 2/	16,588	17,118	26,296	32,491	10,503	12,913	126
Italy	10	119	178	60	106	71	15
Netherlands	22,058	10,920	14,978	25,023	39,642	18,260	15
Norway	8,054	5,794	5,272	6,251	6,758	1,444	10
Sweden	20,355	3,370	7,716	2,646	-	-	7
Switzerland	-	558	794	367	646	4,994	15
United Kingdom	5	-	854	920	881	335	77
Other	-	-	-	-	23	25	8
Total	69,854	40,228	56,754	69,383	59,666	38,530	300
Asia:							
Philippine Republic	-	-	7	10	-	585	66
Other	30	31	6	5	55	28	24
Total	30	31	13	15	55	613	90
Africa	-	17	305	24	68	25	19
Oceania	-	-	4	-	-	-	-
Grand Total	3/ 72,240	47,021	58,540	71,317	71,336	42,207	1,234

1/Preliminary. 2/Total Germany. 3/Includes 67 tons whose destination is not indicated.

* * * * *

INPORTS AND EXPORTS OF SELECTED FISHERY PRODUCTS, 1959:

Summary: During 1959, increased quantities of most fishery products were imported into the United States. Tuna again led all other fishery products in the quantity imported. Fish meal, groundfish and ocean perch fillets and blocks, shrimp, and other leading imports were also substantially higher than in 1958. Significant gains were reported for frozen tuna (except albacore), up 26 percent; canned tuna in brine, up 22 percent; frozen blocks of groundfish and ocean perch, up 22 percent; fish meal, up 33 percent; and shrimp, up 25 percent.

The quantities of leading U. S. fishery products exported were also generally higher than during 1958. As in past years, exports consisted primarily of fish oils and canned fish products. Exports of fish oils were up 54 percent from 1958 levels; canned salmon up 50 percent; canned sardines (not in oil), up 110 percent; and canned squid, up 63 percent.

Imports: Frozen tuna imports in 1959 were at a record high of 235,912,000 pounds. Japan supplied about 64 percent of that total. Additional quantities, however, were received in the United States by transshipment from Japanese tuna vessels operating in the Atlantic Ocean. Frozen tuna imports from Peru were nearly double those of 1958. A large increase also occurred in imports from Ecuador. Imports of frozen albacore were about the same as in 1958, but imports of other species of tuna rose 26 percent.

Tuna loins receipts increased during 1959. Japan supplied 4,731,000 pounds more in 1959 than in the previous year; total imports of 7,545,000 pounds were, however, less than the 10,600,000 pounds imported during 1957. Self-imposed limits by the Japanese have governed the quantity shipped to the United States.

Table 1 - U. S. Imports of Selected Fishery Products, 1959 Compared with 1958

Commodity	1959	1958
	....(1,000 Lbs.)....	
Groundfish and ocean perch:		
Fillets	99,544	95,442
Blocks or slabs 1/	85,290	70,089
Total	184,834	165,531
Fillets other than groundfish:		
Flounder	14,491	14,779
Fresh-water fish	15,930	14,568
Swordfish, mainly fillets	16,487	16,236
Other	20,971	19,550
Total	67,879	65,133
Tuna, fresh or frozen:		
Albacore	51,956	51,645
Other than albacore	183,956	146,313
Total	235,912	197,958
Tuna, canned in brine:		
Albacore	12,879	12,498
Other than albacore	42,428	32,948
Total	55,307	45,446
Tuna, canned in oil	830	756
Tuna, loins and discs	8,164	4,983
Bonito and yellowtail, canned	13,521	1,118
Crab meat, canned	7,306	5,854
Fish meal	265,910	200,704
Fish solubles	53,260	29,134
Lobster, fresh or frozen:		
Northern	20,635	21,413
Spiny	28,093	25,938
Lobster, canned	4,442	2,761
Oysters, mostly canned	5,953	5,379
Salmon:		
Fresh or frozen	19,700	26,180
Canned	31,155	29,226
Sardines:		
Canned in oil	21,152	18,001
Canned, not in oil	1,012	10,155
Sea scallops, fresh or frozen	5,110	3,903
Shrimp, mostly frozen, some canned and dried	106,555	85,394
Swordfish, fresh	5,572	4,106

1/Mostly fillets but including some bits and pieces.

Canned tuna receipts rose 22 percent above the previous record level of 1958. Owing to favorable tariff provisions, nearly all canned tuna imported is packed in brine. A 12½-percent ad valorem duty was paid on canned tuna in brine which entered under the 1959 quota of 52,372,574 pounds; a 25-percent duty was paid on about 2,934,000 pounds received over the quota. Canned tuna in oil, dutiable at 35 percent, was imported only in small amounts.

Fresh and frozen groundfish and ocean perch fillet (exclusive of blocks) imports increased slightly despite lower receipts of ocean perch fillets. Imports of frozen fillet blocks and slabs rose 22 percent to a record high. Canada accounted for 58 percent of the fillets and 50 percent of the blocks; and Iceland, for 27 percent of the fillets and 19 percent of the blocks.

On July 15, 1959, the U. S. Customs Court of New York ruled that all fish blocks were dutiable under Paragraph 720(b) at one (1) cent per pound, if the blocks and container weighed in excess of 15 pounds. Previously, fish fillets pressed and frozen into blocks had been subject to the same duty as plain fillets.

During 1959, imports of groundfish and ocean perch fillets, including blocks classified and received under Tariff paragraph 717(b), totaled 144,900,000 pounds. These were dutiable at 1-7/8 and 2-1/2 cents a pound, depending upon the status within the tariff quota applying to this paragraph. An additional 40,000,000 pounds of fillets in blocks or slabs, dutiable at one cent a pound under Tariff paragraph 720(b), were imported.

Prior to the ruling, frozen blocks of fillets accounted for a considerable part of the fillets entered at the 1-7/8 or 2-1/2 cent rate under the tariff quota. Since blocks of fillets are now classifiable under a different tariff paragraph, the entire quota at the 1-7/8 cent rate under paragraph 717(b) will be filled by fillets (not fillet blocks). As a result, larger quantities of such fillets will be imported at the lower rate of 1-7/8 cents.

Although the United States is one of the leading producers of fish meal, large quantities have been imported to supply the U. S. market. Imports of 132,955 short tons in 1959 were the highest since 1954. The principal foreign suppliers were Peru, Canada, and Angola.

During the past two years, Peru has been the leading foreign supplier of fish meal to the U. S. market. The fish meal industry of Peru is based on the anchoveta fishery. During 1959, the estimated Peruvian fish-meal production of about 300,000 short tons was over four times greater than its production in 1957. This rapid rise in production has made a large impact on the world trade in fish meal. A sharp increase in the U. S. production of fish meal and solubles and heavy imports caused prices to drop sharply in the last quarter of 1959. Prices in other world markets were also lower.

Fish solubles imports nearly doubled during 1959 reaching 26,630 short tons. Denmark, with 18,723 short tons, was the leading supplier. Fish solubles are a concentrate made from the liquid residue left in the production of fish meal.

Shrimp (mostly frozen) imported in 1959 increased by 25 percent and exceeded 100,000,000 pounds (heads-off) for the first time. Although Mexico supplied 64 percent, or the major share of those imports, 51 countries shipped shrimp to the United States. Among countries from which shrimp entered the U. S. market for the first time in 1959, British Guiana sent 970,000 pounds and Iran sent 740,000 pounds.

Canned salmon imports of 31,155,000 pounds in 1959 were at a record high level. Japan supplied nearly 30,000,000 pounds and Canada the remainder.

Canned crab-meat imports rose by 13 percent in 1959. Japan supplied nearly the entire amount. Crab meat packed in the Soviet Union is still prohibited from entering the United States.

Sea scallops, fresh or frozen: Both Canada and Japan, which supply almost the entire amount, sent increased quantities of sea scallops in 1959. Imports were up 31 percent.

Canned sardine imports (not in oil) fell sharply in 1959. This followed the past pattern of trade in this product. Heavier U. S. landings of pilchards in 1958 enabled domestic producers to pack sardines under more favorable conditions. Shipments in 1959 from the Union of South Africa fell to 619,000 pounds from nearly 8,000,000 pounds in the previous year. Norway, Portugal, and Denmark, the three leading U. S. suppliers of canned sardines in oil, all sent increased quantities in 1959.

Exports: Despite strong competition from foreign products, U. S. exports of canned sardines, not in oil, were 37,454,000 pounds, or more than double those of 1958. The Philippine market with 67 percent took the major share of those exports.

The United Kingdom continued to be the major market for U. S. canned salmon, taking 70 percent of the U. S. exports. During 1959, the Philippines was the other large market, reportedly taking over 2,000,000 pounds.

During 1959, canned squid ranked third in quantity of U. S. fishery exports. The Philippines, consistently an important market for U. S. canned fish, imported 6,139,000 pounds. Mediterranean countries, primarily Greece, have also been good markets for U. S. canned squid.

Table 2 - U. S. Exports of Selected Fishery Products, 1959 Compared with 1958

Commodity	1959	1958
	...(1,000 Lbs.)..	
Fish oils	144,481	94,043
Miscellaneous fish, mostly fresh-water	6,378	18,361
Oysters, shucked	783	834
Salmon:		
Fresh or frozen	1,464	1,083
Canned	13,826	9,227
Mackerel, canned	742	2,308
Miscellaneous canned fish (mostly California anchovies)	373	1,199
Sardines:		
Canned, not in oil	37,454	17,816
Canned in oil	1,270	645
Shrimp:		
Mostly frozen	2,091	1,648
Canned	2,875	2,161
Squid, canned	9,110	5,583

During 1959, U. S. exports of fish oils reached a record high of 144,481,000 pounds. European countries imported over 95 percent of this product. Sweden increased its imports of U. S. fish oils by about 34,000,000 pounds. The 40,710,000 pounds taken during the year placed Sweden second only to the Netherlands, as the leading buyer of U. S. fish oils.

The upsurge in exports follows two years of declining shipments, notably to Western Europe. Shipments to Sweden in 1959 were unusually large (over six times those of 1958), primarily reflecting the shortage of Norwegian marine oils. Shipments to Norway also increased. Shipments to Canada dropped sharply in 1959 following a recovery of Canadian marine-oil production late in 1958 and continued high output in 1959.

By far the world's largest importer of shrimp products, the United States also exports considerable quantities of shrimp. During 1959, exports of fresh and frozen shrimp were 2,091,000 pounds, up 27 percent from the previous year and of canned shrimp 2,875,000 pounds, up 33 percent. Cured shrimp, primarily sun-dried, is also exported. Canada takes the major share of the U. S. exports of frozen and canned shrimp and a large part of the cured shrimp.

* * * * *

SHRIMP IMPORTS, 1959:

United States imports of all shrimp (fresh, frozen, canned, and dried) from all countries in 1959 amounted to 106.6 million pounds as compared with 85.4 million pounds for the same period in 1958. Shrimp imports from Mexico in

United States Shrimp Imports (Fresh, Frozen, Canned, and Dried), 1958-59

Country of Origin	1959	1958
	. . (1,000 Lbs.) . .	
Mexico by Customs Districts:		
Florida	490	138
New Orleans	3,270	2,871
Laredo	21,631	20,947
El Paso	110	29
San Diego	1,444	1,718
Arizona	41,674	30,334
Los Angeles	34	61
St. Lawrence	1	-
Total Mexico	68,654	56,098
British Honduras	83	4
Greenland	-	41
Canada	134	263
El Salvador	1,838	1,129
Guatemala	182	39
Honduras	271	836
Nicaragua	213	278
Costa Rica	1,156	717
Panama	8,805	7,917
Canal Zone	64	193
Bahamas	-	4
Cuba	229	391
Leeward & Windward Islands	13	-
Netherlands Antilles	46	-
Jamaica	48	-
Colombia	1,899	890
Venezuela	370	121
British Guiana	967	-
Surinam	288	82
Ecuador	4,712	4,438
Peru	279	487
Chile	327	163
Brazil	79	-
Argentina	946	606
Iceland	32	16
Sweden	13	21
Norway	160	144
Denmark	196	46
United Kingdom	62	2
Netherlands	2	1
Western Germany	82	86
Finland	1	-
Spain	192	230
Italy	185	267
Lebanon	5	-
Turkey	2	5
Iran	740	-
Israel	43	14
India	2,866	1,700
Pakistan	640	637
Singapore	1	-
Philippines	1	5
Vietnam	1	1
Thailand	52	-
Korea	198	128
Hong Kong	640	4,029
Taiwan	15	-
Japan	7,229	2,552
Australia	284	362
Egypt	1,310	450
Grand Total	106,555	85,393

1959 totaled 68.7 million pounds as compared with 56.1 million pounds in 1958.

Most of the imported shrimp is frozen except for some canned shrimp from northern Europe and Japan and some dried shrimp from Hong Kong and Japan.

The United States imported shrimp from 48 countries in 1959 as compared with 39 countries in 1958. Some notable increases occurred in the imports of frozen shrimp from El Salvador, Costa Rica, Mexico, Colombia, Argentina, India, Japan, Iran, and Egypt. On the other hand, imports from Hong Kong dropped from 4,069,000 pounds in 1958 to only 640,000 pounds in 1959.

Note: Also see Commercial Fisheries Review, April 1958, p. 55.

U. S. Production of Fish Sticks and Portions, 1959

The United States production of fish portions in 1959 amounted to 37.0 million pounds, while the production of fish sticks totaled 60.3 million pounds. This was an increase of 15.2 million pounds or 70 percent in fish portions, but a drop of 643,000 pounds or 1 percent in fish sticks as compared with 1958.

Table 1 - U. S. Production of Fish Sticks by Months and Type, 1959[1/]

Month	Cooked	Uncooked	Total
	(1,000 Lbs.)		
January	5,717	548	6,265
February	5,784	556	6,340
March	5,132	462	5,594
April	4,342	366	4,708
May	4,084	314	4,398
June	4,284	291	4,575
July	3,477	306	3,783
August	3,560	312	3,872
September	4,752	591	5,343
October	5,434	395	5,829
November	4,496	324	4,820
December	4,406	327	4,733
Total Quantity 1959	55,468	4,792	60,260
	($1,000)		
Total Value 1959	27,062	1,889	28,951

1/Preliminary data.

During 1959, 5.5 million pounds of breaded cooked and 29.0 million pounds of breaded raw portions were processed. Of the 1959 total production of portions, 93 percent was breaded raw and cooked portions, and unbreaded portions (2.4 million pounds) accounted for the remaining 7 percent.

Table 2 - U. S. Production of Fish Sticks, 1955-1959

Month	1959[1/]	1958	1957	1956	1955
	(1,000 Lbs.)				
January	6,265	5,471	4,261	4,862	5,345
February	6,340	5,925	5,246	5,323	5,794
March	5,594	5,526	5,147	6,082	7,205
April	4,708	4,855	4,492	3,771	5,953
May	4,398	4,229	3,380	3,873	4,879
June	4,575	4,702	3,522	3,580	5,392
July	3,783	4,574	3,821	3,153	4,340
August	3,872	4,358	4,643	4,166	4,520
September	5,343	5,328	4,861	4,085	4,535
October	5,829	5,485	5,162	5,063	5,261
November	4,820	5,091	4,579	4,585	4,946
December	4,733	5,359	4,014	4,019	4,876
Total	60,260	60,903	53,128	52,562	63,046

1/Preliminary data.

Fish stick production in 1959 consisted of 55.5 million pounds of cooked fish sticks, or 92 percent of the total. The remaining 4.8 million pounds, or 8 percent, was made up of raw fish sticks.

Table 3 - U. S. Production of Fish Sticks, by Areas, 1959 and 1958

Area	1959[1/]		1958	
	No. of Firms	1,000 Lbs.	No. of Firms	1,000 Lbs.
Atlantic Coast States	25	50,448	24	49,905
Inland and Gulf States	6	5,408	4	6,003
Pacific Coast States	10	4,404	12	4,995
Total	41	60,260	40	60,903

1/Preliminary data.

The Atlantic Coast States led all other areas in the production of fish portions and fish sticks with 19.8 and 50.4 million pounds, respectively.

Table 4 - U. S. Production of Fish Portions, 1959[1/]

Month	Breaded			Unbreaded	Total
	Cooked	Uncooked	Total		
	(1,000 Lbs.)				
January	577	1,959	2,536	156	2,692
February	571	2,329	2,900	125	3,025
March	529	2,315	2,844	381	3,225
April	399	2,018	2,417	217	2,634
May	228	2,199	2,427	257	2,684
June	323	2,694	3,017	230	3,247
July	216	1,884	2,100	127	2,227
August	287	2,333	2,620	176	2,796
September	592	2,783	3,375	183	3,558
October	535	3,551	4,086	165	4,251
November	490	2,759	3,249	172	3,421
December	763	2,220	2,983	217	3,200
Total Quantity 1959	5,510	29,044	34,554	2,406	36,960
	($1,000)				
Total Value 1959	2,517	9,529	12,046	1,030	13,076

1/Preliminary data.

Table 5 - U. S. Production of Fish Portions, by Areas, 1958-1959

Area	1959[1]		1958[2]	
	No. of Firms	1,000 Lbs.	No. of Firms	1,000 Lbs.
Atlantic Coast States	25	19,793	19	12,047
Inland, Gulf, and Pacific Coast States	13	17,167	8	9,743
Total	38	36,960	27	21,790

1/Preliminary data.
2/Revised.

Table 6 - U. S. Production of Fish Portions, by Months, 1958-1959

Month	1959[1]	1958[2]
	...(1,000 Lbs.)...	
January	2,692	1,973
February	3,025	1,254
March	3,225	1,478
April	2,634	2,268
May	2,684	1,478
June	3,247	1,504
July	2,227	2,161
August	2,796	1,516
September	3,588	1,566
October	4,251	2,560
November	3,421	1,979
December	3,200	2,060
Total	36,960	21,790

1/Preliminary data.
2/Revised.

Washington

EXPERIMENTAL PLANTINGS OF EASTERN HARD CLAMS IN PUGET SOUND WATERS SUCCESSFUL:

Thousands of quahogs or hard clams (Mya arenaria) from Massachusetts are being planted on muddy beaches in Oyster Bay and other south Puget Sound areas by the Washington State Department of Fisheries in a mass clam-planting program. The mass plant is being made from a ton of hard clams. The shipment totaled between 15,000-16,000 cherrystone clams from 2 to 3 inches in length.

"Small test plantings of quahogs conducted the past two years at Pt. Whitney and elsewhere have proved highly successful," said the State's Fisheries Director. He believes that this mass plant will become the foundation of adequate seed stocks for use on muddy ground and beaches, favored by the eastern hard clam, but not utilized by any of the Pacific Coast native hardshell clams.

"For the time being, we are asking that these clams not be dug, in order to build up a good supply of seed stock," the Director stated.

Previous test plants of hard clams have proved successful, but this is the first large-scale transfer of the shellfish from the East Coast. It will not be the last. The plantings now under way will be followed by other mass plants in the San Juan Islands area on selected mud flat areas. It is also the beginning of a long-range, comprehensive program, instituted by the State's Fisheries Director, to fully utilize the State's oyster reserves and public clam beaches both commercially and for the enjoyment of the public for personal-use clam digging.

Fisheries Department personnel have begun a survey of public tidal areas to determine practical means of transplanting seed clams (both Pacific and Atlantic) from abundant areas to public clamming beaches and deep-water areas and for the distribution of native and cultured varieties of clam seed produced by laboratory rearing.

* * * * *

GOVERNOR CONCERNED OVER OUTCOME OF LAW OF THE SEA CONFERENCE:

The Governor of the State of Washington announced on January 22, 1960, that he was concerned over the outcome of the forthcoming International Law of the Sea Conference scheduled to open on March 27, 1960, at Geneva, Switzerland.

He stated that the State of Washington stands to lose a good deal more under Canada's 12-mile territorial sea proposal than people realize.

"After conferring with the Director of Fisheries and others of the sport and commercial fishing industry, it appears the State's all-out effort to build up the salmon runs returning to Washington streams would be in jeopardy," the Governor said.

"I have issued instructions that it is the State's policy to cooperate with Canada and with our neighboring states in every way to maintain and improve the coastal fisheries resources. We have also made it clear that we will exert every effort to maintain our historic

fishing rights in common with our neighbors.

"If the two countries on State Department level fail at the Geneva Conference to balance these interests, our whole salmon program and coastal bottom fisheries may be seriously affected.

"I share this concern along with Senator Warren Magnuson that it may be necessary to send someone to the Geneva meeting to at least keep us informed about what takes place at the Conference," he remarked.

Wholesale Prices, January 1960

Prices in wholesale markets for edible fishery products (fresh, frozen, and canned) declined slightly (0.7 percent) between December 1959 and January 1960 to 121.9 percent of the 1947-49 average. A weaker market for drawn and filleted haddock was chiefly the cause for the drop. From January last year to January this year the wholesale price index was down almost 10.0 percent due mainly to lower prices for fresh and frozen shrimp and drawn and filleted haddock.

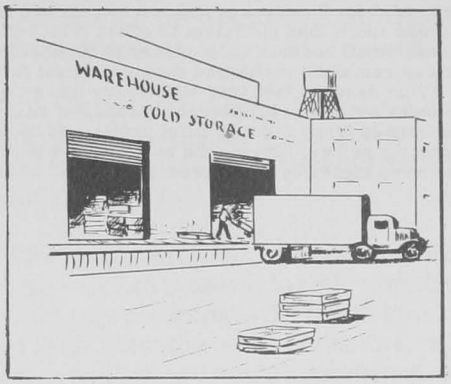


Table 1 - Wholesale Average Prices and Indexes for Edible Fish and Shellfish, January 1960 With Comparisons

Group, Subgroup, and Item Specification	Point of Pricing	Unit	Avg. Prices 1/ ($)		Indexes (1947-49=100)			
			Jan. 1960	Dec. 1959	Jan. 1960	Dec. 1959	Nov. 1959	Jan. 1959
ALL FISH & SHELLFISH (Fresh, Frozen, & Canned)					121.9	122.7	120.7	135.4
Fresh & Frozen Fishery Products:					135.1	136.4	133.4	160.6
Drawn, Dressed, or Whole Finfish:					148.7	154.8	147.2	174.1
Haddock, lge., offshore, drawn, fresh	Boston	lb.	.13	.16	127.4	163.9	129.2	232.9
Halibut, West., 20/80 lbs., drsd., fresh or froz.	New York	lb.	.30	.31	93.8	96.4	95.9	103.7
Salmon, king, lge. & med., drsd., fresh or froz.	New York	lb.	.77	.76	171.9	171.3	168.5	174.1
Whitefish, L. Superior, drawn, fresh	Chicago	lb.	.65	.47	159.9	115.3	179.7	166.1
Whitefish, L. Erie pound or gill net, rnd., fresh	New York	lb.	.80	.88	161.9	177.0	126.4	146.6
Yellow pike, L. Michigan & Huron, rnd., fresh	New York	lb.	.71	.59	166.5	138.4	164.2	153.6
Processed, Fresh (Fish & Shellfish):					135.8	134.6	134.0	154.2
Fillets, haddock, sml., skins on, 20-lb. tins	Boston	lb.	.44	.49	148.0	166.7	153.1	214.4
Shrimp, lge. (26-30 count), headless, fresh	New York	lb.	.68	.65	106.6	101.9	102.7	150.1
Oysters, shucked, standards	Norfolk	gal.	7.00	7.00	173.2	173.2	173.2	148.5
Processed, Frozen, (Fish & Shellfish):					107.9	106.8	106.4	138.9
Fillets: Flounder, skinless, 1-lb. pkg.	Boston	lb.	.38	.38	98.1	98.1	98.8	108.6
Haddock, sml., skins on, 1-lb. pkg.	Boston	lb.	.31	.31	97.3	97.3	99.7	128.7
Ocean perch, skins on, 1-lb. pkg.	Boston	lb.	.27	.27	108.8	108.8	108.8	124.9
Shrimp, lge. (26-30 count), 5-lb. pkg.	Chicago	lb.	.65	.64	100.3	98.4	96.4	137.7
Canned Fishery Products:					103.8	103.8	103.4	98.9
Salmon, pink, No. 1 tall (16 oz.), 48 cans/cs.	Seattle	cs.	24.50	24.50	127.8	127.8	127.8	114.8
Tuna, lt. meat, chunk, No. 1/2 tuna (6-1/2 oz.), 48 cans/cs.	Los Angeles	cs.	10.80	10.80	77.9	77.9	77.9	79.3
Sardines, Calif., tom. pack, No. 1 oval (15 oz.), 48 cans/cs.	Los Angeles	cs.	8.00	8.00	93.9	93.9	88.1	91.0
Sardines, Maine, keyless oil, No. 1/4 drawn (3-3/4 oz.), 100 cans/cs.	New York	cs.	8.75	8.75	93.1	93.1	93.1	90.1

1/ Represent average prices for one day (Monday or Tuesday) during the week in which the 15th of the month occurs. These prices are published as indicators of movement and not necessarily absolute level. Daily Market News Service "Fishery Products Reports" should be referred to for actual prices.

Because of lower wholesale prices for large drawn haddock at Boston and frozen halibut and round whitefish at New York, the drawn, dressed, and whole finfish subgroup index declined 3.9 percent from December 1959 to January 1960. Compared with January a year ago, the subgroup index was down sharply (14.6 percent) with prices for large haddock down 45.3 percent, frozen dressed halibut down 9.5 percent, frozen dressed salmon down 1.3 percent, and Lake Superior whitefish down 3.7 percent. But wholesale prices for Great Lakes round whitefish and yellow pike were higher.

Fresh processed fish and shellfish wholesale prices in January increased by about 1.0 percent from the preceding month. An increase of about 3 cents a pound in fresh shrimp prices at New York was more than sufficient to offset a 11.2-percent drop in fresh small haddock fillet prices at Boston. Shucked oyster prices remained unchanged during the past three months. From January last year to January this year, the subgroup index declined 11.9 percent because of sharp drops of 31.0 percent in fresh haddock fillet prices and 29.0 percent in fresh shrimp prices. During the same period shucked oyster prices were higher by 16.6 percent.

The wholesale price index for frozen processed fish and shellfish in January 1960 was up 1 percent from the preceding month. A one-cent-a-pound rise in frozen headless shrimp prices at Chicago was responsible for this increase. However, a substantial decline of about 22.3 percent occurred in the wholesale price index for this subgroup from January a year ago to this January, due to lower first-hand prices for frozen fillets and frozen shrimp.

From December to January 1960 canned fish prices were unchanged, although there was some weakness in the wholesale prices for canned light meat tuna which was reflected in many types of promotional allowances rather than in listed prices. As canned tuna was the only canned fish item in good supply in January this year, prices for the other canned fish items were firm. As compared with January 1959, canned fish prices were higher by 5.0 percent this January due to higher (11.3 percent) canned pink salmon prices and lesser increases in prices for California and Maine sardines, and slightly higher tuna prices.

SHRIMP CREOLE--A TEMPTING DISH

Shrimp, one of the most versatile foods available, are in plentiful supply and are available fresh, frozen, cooked, and canned, in all parts of the country. The fine flavor and good food value of shrimp can be utilized in appetizers, soups, main dishes, and salads.

Although the recipes for Shrimp Creole may be many and varied, the home economists of the U. S. Bureau of Commercial Fisheries suggest the following recipe:

SHRIMP CREOLE

1½ pounds shrimp, fresh or frozen
¼ cup chopped onion
¼ cup chopped green pepper
1 clove garlic, finely chopped
¼ cup butter or other fat, melted
3 tablespoons flour
1 teaspoon chili powder
Dash pepper
1 teaspoon salt
2 cups canned tomatoes
Rice ring

Peel shrimp, remove sand veins, and wash. Cut large shrimp in half. Cook onion, green pepper, and garlic in butter until tender; blend in flour and seasonings. Add tomatoes and cook until thick, stirring constantly. Add shrimp and simmer uncovered for about 20 minutes. Serve in a rice ring. Serves 6.