

TRENDS AND DEVELOPMENTS

Additions to the Fleet of U. S. Fishing Vessels

One hundred nineteen vessels of five net tons and over were documented as fishing craft during July, 17 less than in the previous month, and 21 less than in July 1947, according to the U. S. Bureau of Customs. California led with 22 vessels, Washington with 15, and Texas and North Carolina with 9 each. A total of 682 vessels were documented during the first seven months of 1948, compared with 782 during the same period in 1947.

Vessels Obtaining Their First Documents as Fishing Craft

Section	July		Seven mos. ending with July		Total
	1948	1947 ^{1/}	1948	1947 ^{1/}	1947 ^{1/}
	Number	Number	Number	Number	Number
New England	6	9	32	34	55
Middle Atlantic	3	2	30	37	64
Chesapeake Bay	9	14	29	50	83
South Atlantic and Gulf	48	34	275	247	486
Pacific Coast	40	62	217	278	415
Great Lakes	4	6	29	23	45
Alaska	7	8	63	96	123
Hawaii	2	5	7	16	28
Puerto Rico	-	-	-	1	1
Total	119	140	682	782	1300

^{1/} Revised.

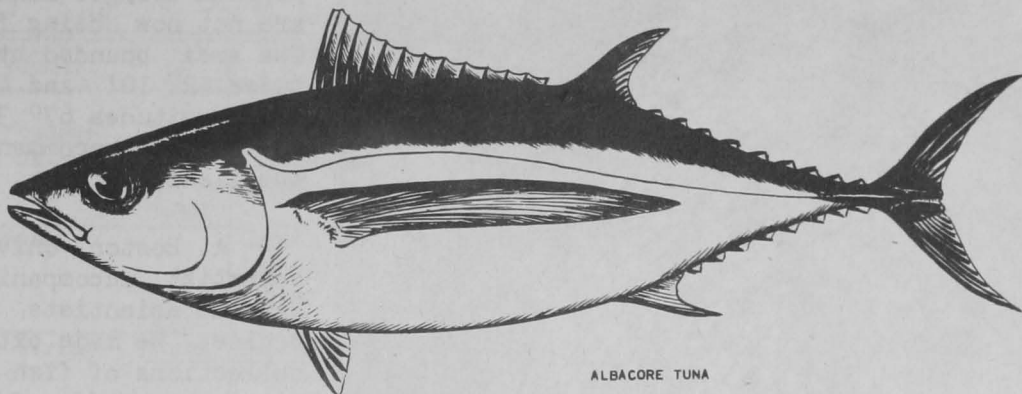


Albacore Tuna Landed in Alaska

For the first time in the history of Alaska's fishing industry, albacore tuna were landed on August 24 at Ketchikan, Alaska, when four trolling vessels brought in 62,000 pounds. During the period August 24 to September 30, 1948, a total of 42 trips were reported with landings of 360,500 pounds. The average weight of the tuna landed in Ketchikan was 14 pounds, with the fish running larger than those found off the California and Oregon coasts. Fishermen sold these albacore at prices ranging from \$500.00 to \$530.00 per ton with the majority being sold at \$520.00-\$525.00 per ton.

The appearance of tuna off the lower coast of Southeastern Alaska is rather unusual. According to reports, the fish were caught off Graham and Langara Islands and Dixon Entrance, or in a strip of water that extends about 100 miles along the Queen Charlotte Islands. Tuna are not only coming further north this year, but closer to the shore.

Although landings were quite steady from August 24 to September 3, since then only occasional catches have been made. Whether these landings will continue at



ALBACORE TUNA

Ketchikan will depend upon whether or not the fish are available, prices, and the weather.



"Albatross III" Reports Fish Scarce South of Nantucket

The scientists aboard the Albatross III, on its sixth cruise, August 3 to 7, found the commercially-important fish to be very scarce in the area south of Nantucket Island. Fourteen stations were occupied by the Service's research vessel in the area under study. The principal species caught were whiting and hake.

A bed of sea scallops was discovered about 3 miles southeast of Nantucket Shoals lightship in about 35 fathoms. Several bushels of these shellfish were obtained in two short tows.

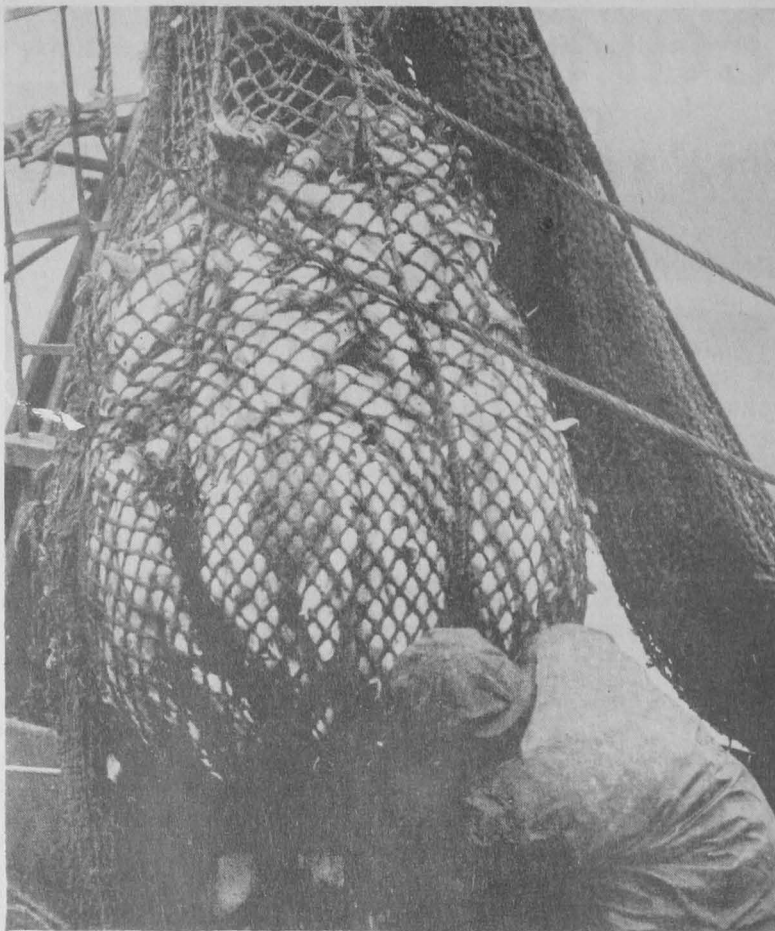
An uncharted wreck of considerable size was discovered on August 5 about 12 miles south southwest of Nantucket Shoals lightship. The position, obtained by Loran is at $40^{\circ} 26.5'$ N. latitude and $69^{\circ} 46.5'$ W. longitude in 40 fathoms of water. The depth recorder indicates that it extends 48 feet off the bottom.



Fish Census Continued by "Albatross III"

The census of fish on western Georges Bank was the major part of the scientific program conducted by the Albatross III on its seventh cruise, August 17-25.

The southwestern part of Georges Bank was found to be a major nursery ground for young haddock. Thousands of haddock hatched last spring, now 2 to 3 inches long, were caught in the fine-mesh trawls of the Albatross III.



COD END OF SAVINGS GEAR ABOARD THE ALBATROSS III

Large haddock and rosefish were found in commercial quantities in deep waters north of Georges Bank which are not now being fished. The area bounded by latitudes $42^{\circ} 10'$ and $42^{\circ} 20'$ and longitudes $67^{\circ} 30'$ and $68^{\circ} 30'$ was recommended to the fishing fleets.

A Boston University scientist accompanied the Service scientists on the cruise. He made extensive collections of fish parasites, especially of a copepod parasite on whiting.

Two of the haddock tagged on an earlier cruise of the research vessel were landed recently at the Boston Fish Pier. These are the first returns from haddock tagged with an otter trawl. One of them was caught near the point of release, the other migrated about 20 miles.



California Research Vessel on Tuna Exploration

The 100-foot N. B. Scofield, research vessel of the California State Division of Fish and Game, was engaged during August in a six-week exploration for albacore and bluefin tuna in Pacific Ocean waters between the mainland and Hawaii, according to the July 28th issue of the California State Division of Fish and Game publication, Outdoor California.

By set lines, gill nets, and trolling, representative fish were caught for racial comparison with the tuna caught by commercial craft along the North and South American Coast.

The vessel, on a scouting trip in July, reported a "fair abundance" of albacore tuna sighted off the southern California Coast. The fish were found to be numerous in an area centering at a point 85 miles due west of Piedras Blancas Point in San Luis Obispo County.



ECA Procurement Authorizations for Fishery Products

Among the procurement authorizations announced by the Economic Cooperation Administration for commodities and raw materials, the following are all the fishery products procurement authorizations from April 1, 1948 through September 30, 1948.

ECA Procurement Authorizations for Fishery Products

Product	Country of Origin	Procuring Agency ^{1/}	Recipient Country	Amount Authorized	Month Approved
Fish, canned	U.S.	Greece	Greece	\$ 128,800	Aug.
Fish, salted	Newfoundland Canada	Italy "	Italy "	2,145,000 195,000	Sept. "
Total				2,340,000	
Fish meal	Canada Iceland Norway	Denmark Austria U.S. Dept. Army	Denmark Austria Bizonc Germany	134,361 170,000 1,381,000	June " Sept.
Total				1,685,361	
Oil, herring	Iceland	U.S. Dept. Army	Bizonc Germany	1,594,000	Aug.
" , seal	Newfoundland "	France "	France "	134,400 123,200	July Aug.
Total				257,600	
" , technical fish	U.S.	U.S. Dept. Army	Bizonc Germany	100,000	Sept.
" , whale ^{2/}	Netherlands Belgium Norway	Austria U.S. Dept. Army " " "	Austria Bizonc Germany " "	1,216,000 2,202,150 2,960,000	June Aug. May
Total				6,378,150	
Grand Total Approved				\$12,583,911	

^{1/}Where the recipient country is shown as the procuring agency, the government of the participating country or its authorized agents or importers do the purchasing.

^{2/}Norwegian product.

ECA estimates that in the fifteen-months period from April 1, 1948 to June 30, 1949, they will authorize from ECA funds 53.3 million dollars for financing shipments of fishery products from the Western Hemisphere to the sixteen countries participating in the European Recovery Program.



Federal Purchases of Fishery Products

DEPARTMENT OF AGRICULTURE: The purchasing of fishery products by the Department of Agriculture was discontinued in April when this activity was transferred to the U. S. Army. Therefore, this particular section will be discontinued with the November issue of Commercial Fisheries Review.

Purchases of Fishery Products by USDA

Commodity	Unit	1948	
		Quantity	Cost
		Dollars	
FISH			
Fillets, cod, frozen	Lbs.	4,080	1,428
" , whiting, "	"	2,385	598
Total	"	6,465	2,026
Herring, canned ^{1/}	Actual cases	47,145	144,254
Pollock, flaked, canned ^{2/}	" "	1,385	7,735
Whiting, canned ^{1/}	" "	351	1,074
Squid, " ^{2/}	" "	772,500	362,625*
Total		121,381	515,698
Grand Total		-	517,724

^{1/}Actual cases contain 21 - 15 oz. cans.

^{2/}Actual cases contain 48 - 15 oz. cans.

*F. O. B. origin.

The total purchases of fishery products reported by the Department of Agriculture during the year 1948 were as shown in the preceding table. The purchases were made during the months of January, March, and April.

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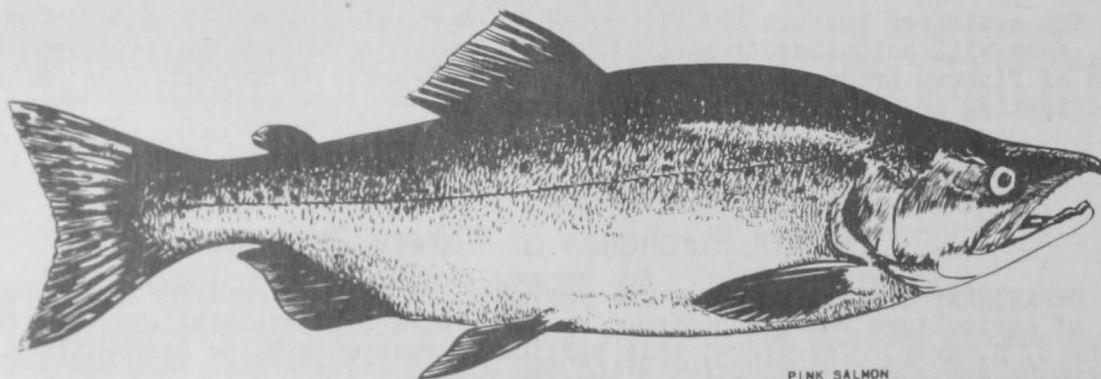
DEPARTMENT OF THE ARMY, July 1948: Purchases of fresh and frozen fishery products during July 1948 by the Army Quartermaster Corps for the U.S. Army, Navy, Marine Corps, and Air Force for military feeding amounted to 1,513,512 pounds valued at \$497,910. The total purchases to date, January through July, totaled 9,438,142 pounds valued at \$3,373,330.



Low Alaska Salmon Runs Cause Fishing Curb

Unusually poor salmon runs in Southeastern Alaska this season prompted the Service to prohibit practically all commercial fishing in that region during the week of August 16-23, explained Albert M. Day, the Service's Director. This was the first time in the history of the Southeastern Alaska salmon industry that fishing activities were curbed in the middle of the scheduled season.

The Service's Director, who returned to Washington on August 25 after a five-week stay in Alaska, declared that an insufficient number of salmon have reached their natural spawning grounds in inland streams.



PINK SALMON

The salmon runs in Southeastern Alaska (the chief pink salmon-producing area in the Territory) have become lower during each of the past six years. To protect them, the Service opened the 1948 season on August 9. The legal season ordinarily opens as early as June. This year's season is scheduled to close on September 3. If a late salmon run develops, however, the season may be extended a few days beyond the deadline to make up for the one week's fishing restriction.

Despite this protective measure, the salmon have appeared in too small numbers to provide either a satisfactory commercial catch or a sufficient seeding in the streams for reproduction of a new and heavy salmon cycle.

By the end of the third week of August, only 80,000 cases of pink salmon had been packed this year. In 1947, at a comparable time, 340,000 cases had been packed.

The production of pink salmon in Southeastern Alaska in the years 1935-39 averaged 2,126,100 cases. An average pack of only 1,795,883 cases was recorded in the next six years. Production dwindled to 991,713 cases in 1946, and to 682,261 cases in 1947. This year's total production will be even lower.

Heavy overfishing during the past decade is blamed for the present crisis in the Southeastern Alaska salmon fishery. In addition, many streams in which the salmon spawn are virtually dry this season because of the exceptionally dry weather.

Alaska's economy will be seriously affected if salmon fishing conditions do not improve. The fisheries are the most valuable of Alaska's resources, providing up to 80 percent of the Territory's income.



New Pacific Oceanic Fishery Program

The new Pacific Oceanic Fishery Program calls for "investigation, exploration, and development of the high seas fisheries of the Territories and Island Possessions and intervening areas in the tropical and subtropical Pacific Ocean." Tremendous areas will be covered by the investigation, extending from Hawaiian waters through the mandated islands. Authorized under the terms of the Farrington Act, approved August 4, 1947, the 80th Congress appropriated \$1,000,000 for this program.

The valuable tunas and the other fishery resources in these waters are the least understood, scientifically, of all important food fishes.

Through research and experimentation, Service investigators will develop and coordinate the basic information upon which a productive American fishing industry can be carried on in the Pacific. The yield of tuna, alone, from potential fisheries in the Central and Southwest Pacific, has been estimated to be worth from \$80,000,000 to \$100,000,000 a year.

Conversion of three ocean-going vessels into research ships, construction of the Pacific Oceanic Fishery Laboratory on the campus of the University of Hawaii in Honolulu, and development of a docking and warehouse site at Pearl Harbor will be the first problems to be tackled by the new laboratory staff. However, a preliminary reconnaissance of certain areas to be studied and a survey of the data gathered by Japanese fishermen and scientists will be made meanwhile as a basis for planning operations when the vessels are ready to go to sea.

Five technical experts of the Service have been appointed to key staff positions to implement this program. Oscar E. Sette has been selected to head this laboratory as Director, with Fred F. Johnson as Assistant Director. The scientific investigations of the biology of the tunas and other fishes of the Central Pacific will be under the supervision of Milnor B. Schaefer. Carl B. Carlson will be in charge of the exploratory fishing operations. Technological research will be under the supervision of Charles Butler.

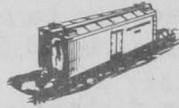


Proposed Changes in Railway Express Charges

A meeting was held in Boston, Mass., on September 14, to discuss proposed Railway Express Agency increases in minimum charges which must be added for ice in shipments of fresh and frozen fish and shellfish. (See Commercial Fisheries Review, July 1948, p. 23.) In attendance were members of the National Fisheries Institute's Traffic Committee, Railway Express Agency officials, and representatives of the Department of Agriculture and the Fish and Wildlife Service.

At the meeting, inequities of the proposal were pointed out by industry officials. Such arguments as "charging more than the traffic will bear" (in the case of low-priced fish, such as carp, mullet, lake herring, buffalofish, etc.) and "diversion of express shipments to trucks" were pointed out.

As a result of the discussions, officials of the Railway Express Agency decided to consider the proposals for another 30 days before determining whether or not to file the ice charges with the Interstate Commerce Commission. Should the Railway Express Agency decide to file the increased charges, there would be a further waiting period of 30 days from the date of the filing during which time a formal protest to the Interstate Commerce Commission requesting suspension of the charges may be filed by shippers. If no protests against the charges are made during that period, they would automatically go into effect.



Puerto Rican Vessel Fishing Out of Gloucester

The Reina del Caribe, a 70-foot Puerto Rican dragger-seiner, owned by the Puerto Rican Agricultural Company, has been fishing out of Gloucester for rosefish since early in July. Up to August 19th, 52,149 pounds of frozen fish had been received in San Juan. The fish was frozen in the vessel's refrigerated holds, packaged in wooden boxes and transferred at New York to steamers bound for Puerto Rico. Around 5 percent of the total shipment was made up of haddock, flounder, and cod. The vessel has a freezer capacity of 80 tons.

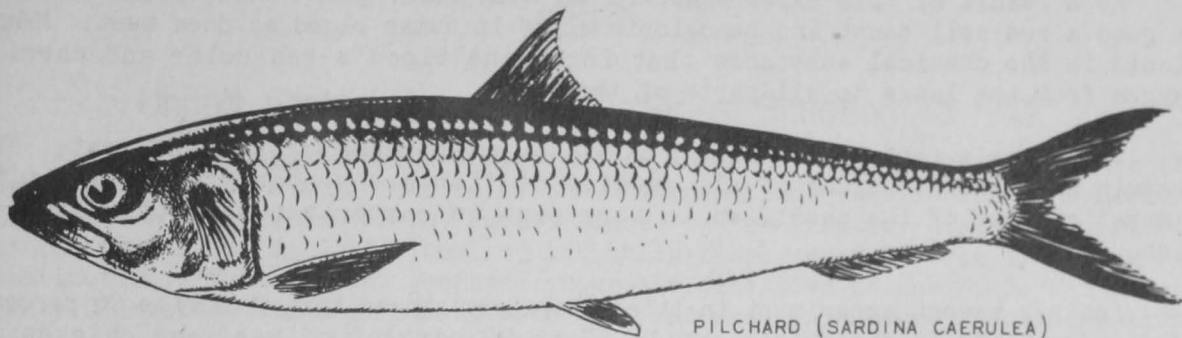
The Fisheries Division of the Puerto Rican Agricultural Company stated that the fish was to be thawed, scaled, eviscerated, and sold as dressed fish and fillets through wholesale and retail market outlets. The company has already established 14 grocery stores throughout the Island and the same are fairly well equipped with displays and meat freezers. The refrigerated truck recently acquired by this concern is to be used in supplying stocks to these stores. Dressed fish and fillets are selling at 25 and 52 cents retail, respectively.



Sardine Five-point Voluntary Conservation Program

Effective with the opening of the northern California sardine fishing season August 1, the five-point voluntary conservation program submitted to the California Fish and Game Commission by the Sardine Industry Advisory Committee became a part of sardine reduction permit regulations, according to the July 28th issue of the California State Division of Fish and Game publication, Outdoor California.

At their regular monthly meeting in San Diego, the Commissioners adopted Committee recommendations to establish a five-day sardine fishing week, shorten the fishing season by two months, ban fishing during the five-day full moon period, and requiring a \$5,000 performance bond from each of California's 100 sardine reduction plants.



The earlier proposal of the Industry Committee setting an eight-inch minimum size limit on sardines and mackerel was adopted by the Commission in June on an emergency basis.

The Advisory Committee stated that the sardine industry recognizes the serious threat posed by the recent shortage of sardines, and that the voluntary proposals for additional regulation are unprecedented in conservation history.



Tests Prove Fishery Foods as Good as Meat

Tests conducted by a Service pharmacologist and a graduate assistant in fisheries at the Service laboratory in College Park, Md., to show the effect of a diet containing fish on the red cell count and hemoglobin value of human blood have proven that fishery foods are the equal of meat.

The experiment, in cooperation with the University of Maryland's College of Home Economics, was the first of its kind in the College Park Technological Laboratory to use human subjects. The results were announced August 6.

Six University of Maryland co-eds, 19 to 24 years of age, participated in the eleven-week experiment. They consumed a diet of their own choice for three weeks. Blood tests taken once a week during this period reported their red cell counts and hemoglobin values.

During the next seven weeks, four of the girls reduced their meat consumption markedly and consumed fishery foods as the big noon-day dish of their diets. They ate fresh-water fish, salt-water fish, and shellfish--broiled, baked, steamed, and fried. The two other girls continued on their regular diets in which meat was an important item for the duration of the test.

The four girls on the diet of fish returned to their free-choice food fare in the last week of the experiment to provide a second check.

It was noted that the red cell count and hemoglobin value of the four girls on the fish diets remained about the same as when they were eating meat. The

counts and values were the same in relationship as the two girls' on the control diets during the seven-week period. There was even a small increase in the cell count and in the hemoglobin value for the four girls on the fish diets for several weeks.

As a result of this experiment, it has been shown that fishery foods maintain as good a red cell count and hemoglobin value in human blood as does meat. Hemoglobin is the chemical substance that forms the blood's red color and carries oxygen from the lungs to all parts of the body.

The protein content of fishery foods is about equal to that of meat. The protein and mineral values of all species of fish are probably the same. The mineral content of the shellfish is very high in comparison with the flesh of fish.

Another recent experiment in this laboratory showed that from 89 to 96 percent of fishery foods is digestible, while 87 to 90 percent of beef and chicken is digestible.



To Identify Grooved Shrimp

The pinkish, tan-colored fresh and frozen shrimp now being widely distributed throughout the country are not spoiled common shrimp.

The pinkish, tan-colored shrimp are an infrequently-found species known as "grooved," "brown," or "Brazilian" shrimp. During the past season, they have been caught in unusual quantities in the Gulf of Mexico, particularly by Texas fishermen.

Ordinarily, the grooved shrimp comprise about five percent of the total shrimp catch in this country. Because they have always been cooked and canned, or consumed locally near the point of landing, grooved shrimp in fresh form have never been widely known.

The increased demand for fresh and frozen shrimp over the canned variety and the heavier landings of grooved shrimp in Gulf States fishing centers account for their current overflow on the market.

Because of their pinkish tinge, the grooved shrimp have been mistaken for spoiled common shrimp. In raw form, common shrimp are a greenish-gray. When spoiled, they lose their light color and acquire a bright pinkish tint, not unlike the normal color of raw grooved shrimp.

A Service biologist explains that the grooved shrimp can be definitely identified by their translucent, brownish tone, which is darker than the color of common shrimp when spoiled. Besides, spoiled shrimp can be recognized by a foul odor, which grooved shrimp do not have. The taste and food value of grooved shrimp is identical to that of common shrimp. The size and life histories of both species of shrimp, their appearance after cooking, and the amount of cooking time required are also the same. Grooved shrimp keep better for longer periods of time because of their firmer meat.

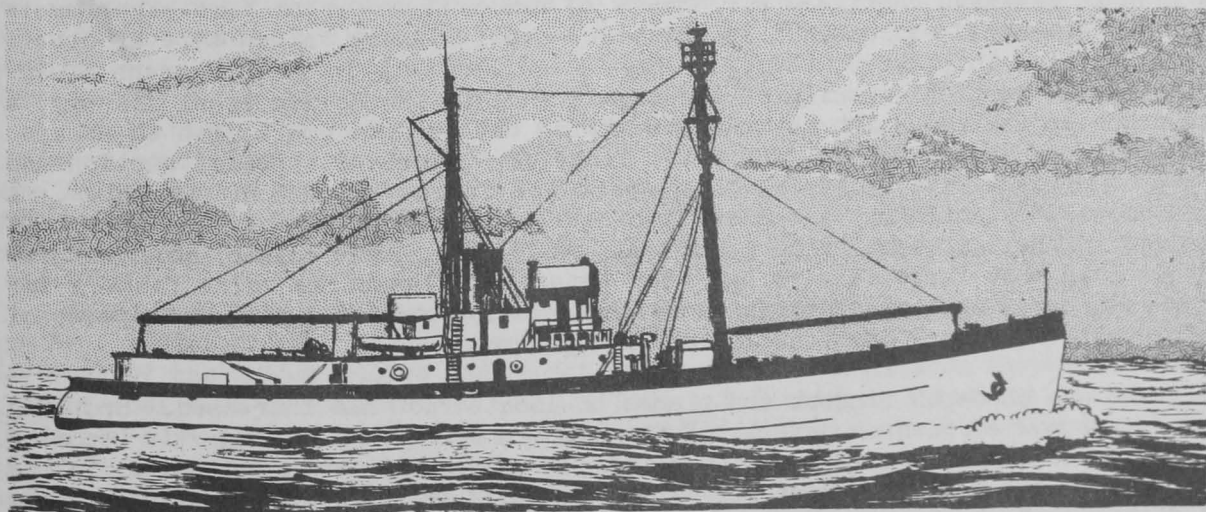
The grooved shrimp get their name from the grooves on the back of their heads. In marketed form, the heads are removed from all shrimp. The difference in color, which is actually insignificant, is therefore the only difference between the grooved and common shrimp.



United States Report of Fisheries Situation to FAO

The "Annual Report of the Government of the United States of America to the Food and Agriculture Organization of the United Nations" was issued in June 1948 and is the annual report of the United States to the Director-General of the FAO for the year 1948, in fulfillment of its obligations under Article XI of the FAO constitution. This report, prepared under the direction of the U. S. FAO Inter-agency Committee, deals primarily with the food and agriculture, including fisheries, situation in continental United States, although certain aspects are equally applicable to the territories and island possessions. Pertinent fishery items follow:

Fish Catch About Prewar in 1947: The catch of fish and shellfish in the United States and Alaska amounted to 2,200,000 short tons in 1947 and contributed an estimated 2.6 billion dollars, or 1.28 percent, to the national income, according to this report. This catch is about the same as the 1935-39 average. Landings of menhaden were over 496,000 short tons--the greatest on record--as compared with 457,450 tons in 1946. About 5,200,000 cases (124,600 tons) of salmon were packed, almost 600,000 cases (14 tons) more than last year, but still below the average for prewar years. The pack of tuna, 5,800,000 cases (56,200 tons) was over one million cases (9,700 tons) larger than in 1946 and a new record. The catch of pilchards was about 125,000 tons--the smallest in over 20 years--due to another failure of the runs off Northern California and appreciably decreased catches off Southern California. The Maine sardine pack totaled 2,800,000 cases (28,400 tons)--only 10 percent under the previous year. Over one million cases (22,000 tons) of mackerel were canned.



1948 REFRIGERATED TUNA CARRIER

Reporting cold storage warehouses froze 123,000 tons of fishery products which was 17,000 tons less than during the previous year. The monthly holdings of frozen fishery products were consistently below the same months in 1946. The manufacture of fish meal amounted to 190,000 tons and the production of fish oil to 57,100 tons.

Imports of groundfish fillets were only 16,800 tons as compared to the record total of 24,600 tons in 1946. However, in 1948 they are expected to equal or exceed the 1946 level. Exports probably will decrease.

Additions of fishing craft to the fleet were about four times the prewar average with 1,300 vessels over 5 net tons being documented. The leading fishing port was San Pedro, Calif. It received some 214,950 tons of pilchards, tuna, and mackerel, primarily for canning purposes. At Lewes, Del., about 125,000 tons of menhaden were landed for reduction to fish meal and fish oil. In third place, Boston received over 100,000 tons of fish and shellfish, almost wholly for the fresh and frozen trade.

Trends in production have been toward the use of refrigerated carriers operating between shore plants and fishing craft on distant banks. Mechanized and more durable gear have been tested, and numerous aids to navigation and to locating fish have been utilized.

Processing trends include new types of packs of canned anchovies, salmon, and tuna. There have been developments in electronic smoking, fish products for baby foods, and pharmaceutical products from salmon waste. The wider distribution of frozen fish products and an increase in the volume and variety of frozen consumer size packaged products have been noticeable.

Outlook: The food and agriculture situation in the United States continues favorable. Supplies of most products of agriculture, forests, and fisheries remain high, although they have fallen below wartime peaks. However, the unusually high demand for these products is pressing dangerously on supplies.

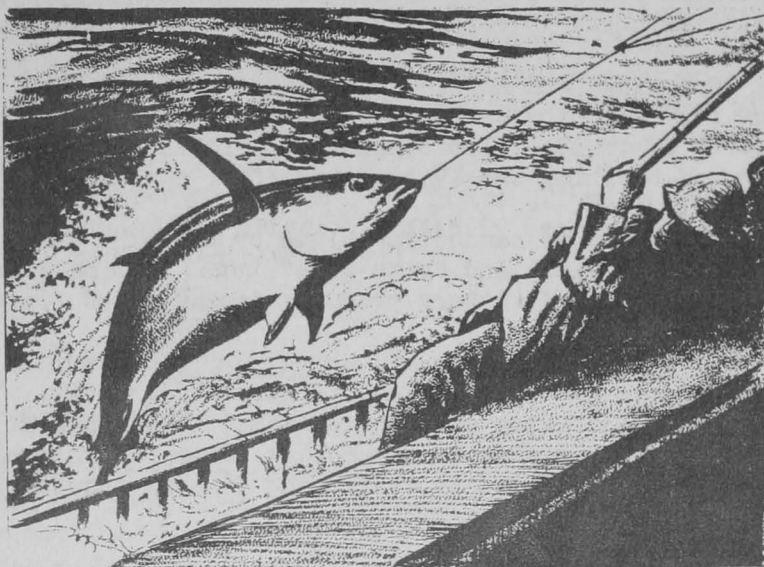
Developments in Production and Processing: Attempts to aid the production of fish at sea have continued with tests of new methods as well as experiments with war developed equipment. In the otter-trawl fishery, a new type of otter-board has been introduced; there has been great interest in various means of increasing the vertical opening of the trawl; and, in the shrimp trawl fishery, a bag has been devised which retains the shrimp but permits small fish to escape. Steel has been tried for net and trawl lines, and improved types of suction and conveyor dredges have been placed in operation in the shellfish fisheries. A mechanical pole which may increase fishing capacity considerably is under test for use in the bait-boat fishery for tuna. A 135-foot purse seiner, about a third longer than most large seiners has been launched. The purse seine fishery for tuna is undergoing a great expansion of its fishing area with the development of refrigerated carriers stationed at distant grounds.

The use of depth finders and planes to locate fish has increased. Spotting planes are now carried on several of the larger fishing craft. Radar is becoming more common equipment as a navigation aid, and extensive tests are underway in the field of sonics with the expectation that means will be devised of locating schools of fish, particularly in a horizontal direction from the fishing craft.

Handling of the catch at sea has improved primarily by introducing shore processing methods. Dressing, packaging, and freezing of fishery products on

fishing craft or on factory vessels have increased steadily. Some fishing craft are equipped to produce frozen packaged crab, shrimp, or fillets. There has been a greater development in refrigerated carriers of substantial size which operate on distant fishing grounds. They carry supplies of fuel, food, and equipment for the shorter range fishing craft and freeze their catches. A number are operating in relays on the tuna grounds of Central America thus providing a new fishing area for Pacific Coast purse seiners formerly limited to nearby banks.

Somewhat similar operations are being carried on in Alaska where, also, the 8,500-ton factory ship Pacific Explorer is canning and freezing crabs, filleting groundfish, and producing liver oils, fish meal, and fish oil from the catches of a fleet of fishing vessels in Bering Sea.



FISHING FOR TUNA

Other handling developments include extended use of pumping equipment for unloading the catch, and experimentation with the filleting and freezing in shore plants of fish that were frozen in the round at sea.

Improvements in Distribution: The handling of fishery products during marketing has improved with the trend toward sealed consumer-size packages distributed through freezer cabinets along with other frozen packaged products. Better wrapping materials and cartons have improved products and added to storage life. Lightweight shipping cartons using increased insulation and a minimum of wet or dry ice are more prevalent. One producer is marketing a consumer package in which the fillets remain in a solid block. The block of fish can be cut into serving portions and will remain intact while being cooked and served.

Competition from domestic food products and more particularly from imported fishery products has tended to stress the need for better quality and better handling. Some fishermen are considering a limitation on trip lengths presumably with the thought that shorter trips will produce fewer but better fish with a greater eventual return.

There have been no important developments in inspection systems. The Food and Drug Administration is considering new standards for oysters. The public health services of the United States and Canada have renewed a memorandum agreement relative to shellfish certification. At the National Fisheries Institute Convention in April, a panel discussion on inspection and grading indicated that most phases of the industry were not satisfied with the product reaching the ultimate consumer and several stated that inspection and grading was the apparent solution.

Supplies of fishery products available to consumers appear to have been, on the whole, about the same as during 1946-47. The total catch was about the same,

exports were greater, while imports declined. The tuna pack established a new record, the salmon pack was larger than the previous year but well below prewar years, the California pilchard pack was a failure, the Maine sardine pack held up well, and the canned mackerel pack was the largest in history. There was a considerable volume packed of lesser known and less expensive varieties which may have difficulty in retaining a market when conditions become more normal.

Freezings and holdings of frozen products generally have remained below figures for 12 months earlier. Imports of canned products have been more available. Imports of frozen fillets, particularly in the first quarter of 1948, have shown signs of breaking the 1946 record after a slump in 1947.

New products canned in volume by domestic plants include boned and skinned salmon, anchovies, and "bite size" tuna. There also has been a large increase in the variety of fishery products packaged and frozen in consumer sizes.

Fisheries Education and Research: Opportunities for vocational training and academic education have not increased greatly. The University of Washington in Seattle is taking steps to broaden the curriculum in its School of Fisheries, particularly in fisheries technology. Those few universities which graduate students with training adapted to use in the fishery industries have little difficulty in placing them.

The U. S. Fish and Wildlife Service has produced several films of educational interest, namely, "Retailing Fish," "Filleting and Packaging Fish," and has under way an instructional film on net mending.

The research activities of the Fish and Wildlife Service in the field of commercial fisheries were curtailed considerably during the year. Work at each of the five laboratories was reduced and the use of the four mobile trailer laboratories ceased. Through a cooperative agreement, extensive research was begun, however, on the use of the salmon waste discarded by Alaska canneries.

A new research vessel, Albatross III, was placed in operation in New England waters in March. Biological and oceanographical research will be conducted from the vessel and an improved laboratory at Woods Hole, Mass. Funds have been provided in California by the State and by the industry for the State University to study the diminished pilchard runs with three research vessels. Congress has under consideration at this session a request for an appropriation to conduct extensive fishery studies in Hawaiian waters and in the sub-tropical waters of the Pacific. Preliminary estimates contemplate a laboratory in Honolulu and three ocean-going research vessels—two primarily for exploratory fishing and the third largely for oceanographical and biological research.

Broad fishery studies have been developed in the Philippines under the Service's Philippine Fishery Program. Fishery missions have been at work in Mexico, Guatemala, Venezuela, and Panama. In-service training was provided students from Brazil, Uruguay, Peru, Venezuela, Costa Rica, Bolivia, Argentina, and Philippines.

The Geneva Conference of FAO recommended that FAO should take action to initiate the formation of regional councils for the scientific exploration of the sea. The United States participated in the first meeting called for this purpose at Baguio in February. An agreement was formulated and accepted by the various delegations of Member nations present for submission to their Governments for approval.

The tables in the original report show that the estimated supply and distribution of fish and shellfish in 1949-50 in the United States will total 4,600 million pounds (round weight) per year of which amount 3,285 million pounds are for domestic human consumption and the balance of 1,314 million pounds for industrial use. It is estimated that 4,812 million pounds (round weight) per year will be available in 1949-50 to meet the estimated requirements of which 4,398 million pounds will be produced in the United States and Alaska and 414 million pounds will be imported into this country. The surplus difference between the amount that will be available and the amount that will be consumed will amount to 212 million pounds.

Consumption of fishery products per person per year in the United States during 1935-39 amounted to 11.1 pounds (edible weight), and it is estimated that the 1949-50 consumption will be 12.0 pounds (edible weight).



Wholesale and Retail Prices

Although the wholesale index for all commodities on August 14 increased 0.1 percent compared with the previous month and 10.7 percent over a year ago, the wholesale index for all foods declined 0.5 percent compared to the previous month, but increased 10.4 percent over a year ago, according to the Bureau of Labor Statistics, U. S. Department of Labor.

The wholesale average price of canned pink salmon at Seattle during August increased 2.7 percent compared with July 1948 and 29.1 percent compared with August 1947. On the other hand, the wholesale average price of canned red salmon declined 7.4 percent compared with the previous month but was 18.2 percent higher than a year ago.

Wholesale and Retail Prices

Item	Unit	Percentage change from--		
		August 14, 1948	July 17, 1948	August 16, 1947
<u>Wholesale: (1926 = 100)</u>				
All commodities	Index No.	169.0	+0.1	+10.7
Foods	do	190.3	-0.5	+10.4
Fish:				
Canned salmon, Seattle:		August 1948	July 1948	August 1947
Pink, No. 1, tall	\$ per doz. cans	5.565	+2.7	+29.1
Red, No. 1, tall	do	6.60	-7.4	+18.2
Cod, cured, large shore, Gloucester, Mass.	\$ per 100 lbs.	14.60	+0.7	+ 8.1
<u>Retail: (1935-39 = 100)</u>				
All Foods	Index No.	216.6	-0.1	+10.2
Fish:				
Fresh, frozen, and canned	do	304.4	+0.9	+16.0
Fresh and frozen	do	254.4	+0.2	+ 9.7
Canned salmon: Pink	¢ per lb. can	54.7	+2.2	+29.0

The decline in retail food prices from mid-July to mid-August, which interrupted a steady increase amounting to 7.2 percent over the four previous months, was primarily the result of more-than-seasonal declines in prices of fresh fruits and vegetables, offsetting increases in meats, dairy products, eggs, and fish. As of August 15, the fresh, frozen, and canned fish index continued to increase and was 0.9 percent greater than the previous month and 16 percent higher than August 15, 1947. The increase, however, was mainly in canned fish. The average retail price of canned pink salmon also continued to increase and was 2.2 percent higher than the previous month and 29 percent over a year ago.