

# TRENDS AND DEVELOPMENTS

## Additions to the Fleet of U. S. Fishing Vessels

During March 1950, a total of 58 vessels of 5 net tons and over received their first documents as fishing craft--9 less than in March 1949. California led with 11 vessels followed by Louisiana and Florida with 8 vessels each, reports the Bureau of the Customs of the Treasury Department.

During the first three months of 1950, a total of 142 vessels were documented, compared with 175 during the same period in 1949.

Vessels Obtaining Their First Documents as Fishing Craft, March 1950

Section	March		Three months ending with March		Total 1949
	1950	1949	1950	1949	
	Number	Number	Number	Number	Number
New England	2	-	7	2	35
Middle Atlantic	3	7	5	14	44
Chesapeake Bay	4	3	14	15	87
South Atlantic & Gulf	29	32	63	85	369
Pacific Coast	15	11	39	30	327
Great Lakes	1	7	3	15	38
Alaska	4	6	11	12	96
Hawaii	-	1	-	2	5
Unknown	-	-	-	-	1
<b>Total</b>	<b>58</b>	<b>67</b>	<b>142</b>	<b>175</b>	<b>1,002</b>

NOTE: Vessels have been assigned to the various sections on the basis of their home port.



## ECA Procurement Authorizations for Fishery Products

Included among the procurement and reimbursement authorizations announced by the Economic Cooperation Administration during May this year was \$219,000 for the purchase of edible and inedible fishery products from the United States and Possessions. Of this amount, \$210,000 was to be used by the Federal Republic of Germany for the purchase of inedible fish oil, and \$9,000 by Trieste for the purchase of canned fish (except shrimp, crab meat, and lobster meat).

Certain decreases in previous authorizations have taken place which reduce the total amount authorized for fishery products under the ECA program from

April 1, 1948, through May 31, 1950. All of the decreases (a total of \$397,000) involved authorizations for purchases from the United States and Possessions. The decreases consisted of \$125,000 for Belgium-Luxembourg for the purchase of canned fish; \$57,000 for Ireland for the purchase of canned fish; and \$215,000 for the German Federal Republic for the purchase of fish oil.

Table I - Total ECA Procurement Authorization for Fishery Products, April 1, 1948 - May 31, 1950			
Commodity	Country of Origin	Recipient Country	Amount Authorized
<u>FISH (Edible):</u>			U.S. \$
Fish, Canned	U. S. & Possessions	Belgium-Luxembourg	813,000
		Greece	304,000
		Ireland	722,000
		Italy	847,000
		Trieste	9,000
		United Kingdom	4,127,000
	Canada (including Newfoundland)	United Kingdom	6,636,000
Total Canned Fish .....			13,458,000
Fish, Salted	Canada (including Newfoundland)	French West Indies	150,000
		Greece	1,250,000
		Italy	2,688,000
Total Salted Fish .....			4,088,000
Total Edible Fish .....			17,546,000
<u>BYPRODUCTS:</u>			
Fish & Whale Oils	Norway	Austria	1,216,000
	U. S. & Possessions	France	23,000
	Newfoundland	France	257,000
	U. S. & Possessions	Germany	1,422,000
	Iceland	"	1,693,000
	Norway	"	2,960,000
	Belgium	"	2,201,000
U. S. & Possessions	Netherlands	678,000	
Total Fish & Whale Oils .....			10,450,000
Fish Meal	Iceland	Austria	183,000
	Canada (including Newfoundland)	Denmark	394,000
	Norway & Portugal	Germany	963,000
Total Fish Meal .....			1,540,000
Total Byproducts .....			11,990,000
Grand Total (Edible Fish and Byproducts) .....			29,536,000

Total authorizations for fishery products and byproducts from April 1, 1948, through May 31, 1950, amounted to \$29,536,000 (see Table 1). This amount consisted of \$13,458,000 for canned fish; \$4,088,000 for salted fish; \$10,450,000 for fish and whale oils; and \$1,540,000 for fish meal (see Table 2).

In addition, there were some authorizations for some related fisheries products during May. The Federal Republic of Germany received an authorization for \$30,000 for the purchase of pearl essence from the United States and Possessions, and Austria \$40,000 for the same purpose. The Netherlands received an authorization for \$5,000 for the purchase of fish glue from the United States and Possessions.

An authorization to Korea for building fishing vessels was announced during the month. The sum of \$1,424,000 was approved for the purchase of commodities for the

Table 2 - ECA Procurement Authorizations for Fishery Products by Country of Origin and Commodity, April 1, 1948 - May 31, 1950

Country of Origin	Canned Fish	Salted Fish	Total Edible Fish	Fish and Whale Oils	Fish Meal	Total By-products	Grand Total Fish & Byproducts
United States.....	6,822,000	-	6,822,000	2,123,000	-	2,123,000	8,945,000
Canada (including Newfoundland) ..	6,636,000	4,088,000	10,724,000	257,000	394,000	651,000	11,375,000
Iceland.....	-	-	-	1,693,000	183,000	1,876,000	1,876,000
Belgium.....	-	-	-	2,201,000	-	2,201,000	2,201,000
Norway.....	-	-	-	4,176,000	-	4,176,000	4,176,000
Norway and Portugal....	-	-	-	-	963,000	963,000	963,000
Total.....	13,458,000	4,088,000	17,546,000	10,450,000	1,540,000	11,990,000	29,536,000

ECA project to construct fishing vessels for rehabilitation of Korean fisheries. The commodities under this project are to be procured by the United States Federal Supply Service from Japan, United States and Possessions, British Dependencies in Asia and Oceania, and the Philippines. Of the total authorized, \$603,000 is to be spent for vessels and equipment, \$323,000 for engines, and the balance for miscellaneous equipment and materials for the project.

France received a procurement authorization of \$70,000 to cover the purchase of spare parts for vessels and barges from Canada. Of this amount, approximately \$50,000 will probably be used for the purchase of spare parts for fishing vessels.

Since ECA is placing increasing stress on capital equipment, there is a correspondingly decreasing emphasis on food products. This does not apply to surplus food products.

Under a new Marshall Plan project to give Koreans a chance to catch up on modern technical "know-how", 23 Americans will go to Korea, ECA reported on May 1. The U. S. instructors and administrators will be selected by the Illinois Institute of Technology to direct a study program at the new Korean Technical Institute at Seoul which is scheduled to open on July 1. A small phase of this project will be conducted at the Pusan Fisheries Institute, a branch of the Technical Institute in Seoul, where Koreans will be taught modern fishing practices, processing of marine food products (such as, canning, salting, smoking, drying, and freezing), principles of handling and sanitation, and plant management. The Americans will be sent to Korea under ECA's technical assistance program and will spend one year at the Institute bringing Korean teachers and student trainees up to date on technical skills. Dollar costs of \$475,000 for the entire project (fisheries is only a small part of this project) will be paid by ECA.

A list of new Italian import-license preliminary approvals issued by the Office of Small Business during May included an import license for 50 outboard motors for fishing boats with an approximate value of \$16,000. This list covers the purchase of equipment from the United States under ECA financing.

Establishment of a Special Technical and Economic Mission (STEM) to the associated states of Indo-China (Vietnam, Laos, and Cambodia) was announced on May 25 by ECA. Other ECA missions to strategic areas in southeast Asia are in prospect.

In its seventh quarterly report to Congress (for the last quarter of 1949), ECA pointed out that a record high industrial production rate, substantially increased exports, and removal of many quota restrictions featured economic recovery progress

in Western Europe during the fourth quarter of 1949. Devaluation of currencies, the report noted, did not set off a new cycle of inflation as had been feared.

The improved competitive position of Western European goods in world markets, resulting from the devaluation of currencies in September, was followed by a substantially increased volume of exports. The report also described the proposed European Payments Union and told how it would promote full transferability of European currencies and assist in creating suitable monetary conditions for the expansion of European trade.



THIS POSTER, SUBMITTED BY REIJN DIRKSEN, A DUTCH ARTIST, WAS AWARDED FIRST PRIZE AND \$1,500 IN AN INTRA-EUROPEAN MARSHALL PLAN POSTER CONTEST SPONSORED BY ECA.

The Economic Cooperation Administration has announced the availability of publications designed to assist American business firms which desire to trade with Italy and Greece. The publications, prepared at the request of ECA's Office of Small Business, include directories of Italian and Greek importers. They also contain summaries of economic information on the two countries together with general data and trade regulations and resumes of export and import procedures. Both manuals<sup>1/</sup> also contain lists of products available for export.

To aid American businessmen interested in doing business with Greece, the Foreign Trade Administration of the Ministry of National Economy of Greece also

has opened an office in Washington, D. C.

<sup>1/</sup> Greece--A Businessman's Manual and Directory on Trading with Greece, see listing on page 79 of this issue. Italian Importers of U. S. Commodities, see listing on page 97 of the April 1950 issue of Commercial Fisheries Review.



## Federal Purchases of Fishery Products

DEPARTMENT OF THE ARMY, March 1950: A total of 825,341 pounds (valued at \$420,349) of fresh and frozen fishery products were purchased during March this year by the Army Quartermaster Corps for the U. S. Army, Navy, Marine Corps, and

Purchases of Fresh and Frozen Fishery Products by Department of the Army (March and the First Three Months, 1949 and 1950)							
Q U A N T I T Y				V A L U E			
March		January-March		March		January-March	
1950	1949	1950	1949	1950	1949	1950	1949
lbs.	lbs.	lbs.	lbs.	\$	\$	\$	\$
825,341	1,588,166	2,568,844	3,954,229	420,349	510,200	1,187,460	1,332,972

Air Force for military feeding. Purchases for March were 44 percent more in quantity and 57 percent higher in value than for February 1950. However, purchases for March 1950 were 48 percent lower in quantity and 18 percent lower in value, compared with March a year ago.

For the first three months in 1950, the quantity of fresh and frozen fishery products purchased was 35 percent lower and the value 11 percent below the corresponding period in 1949.



## Fishery Biology Notes

HAMMOND BAY CHOSEN AS FIELD HEADQUARTERS FOR SEA LAMPREY RESEARCH: The United States Coast Guard is permitting the Fish and Wildlife Service to use the Hammond Bay Boat Station on Lake Huron near Rogers City, Michigan, as field headquarters for research on methods of controlling the sea lamprey. This station not only has excellent office facilities, but can be fitted readily into an experimental laboratory. A boat slip and marine railways will permit the basing of small craft at the station.

The location of field headquarters for research on the sea lamprey on Hammond Bay is advantageous since the station is situated approximately in the center of the experimental control zone that will be established this year between Waugachance Point in Lake Michigan at the western end of the Straits of Mackinaw and Alpena, Michigan, on Lake Huron. Every spawning stream in this stretch of shoreline that does not now contain a barrier to the migration of the sea lamprey is to have a weir or other experimental device for the capture and destruction of the spawning run.

It was also in the Hammond Bay region of Lake Huron that the first scientific studies of the sea lamprey in the upper Great Lakes were initiated four years ago under the sponsorship of the Michigan Department of Conservation.

HATCHERY TO HELP RESTORE GREAT LAKES LAMPREY-DEPLETED LAKE TROUT FISHERY: Pencil Creek, 25 miles west of Sault Ste. Marie, Michigan, on Lake Superior, has been chosen as the site of the Upper Peninsula lake trout hatchery, the Secretary of the Interior announced on May 3. The experimental hatchery, designed to help restore the lamprey-depleted lake trout fishery of the Great Lakes, was made possible by a Congressional bill which authorized a total of \$325,000 for the project; \$92,500 of this sum was later made available.

Construction of the hatchery will begin early this summer. The hatchery is expected to be in full operation a year from this fall.

When the number of lampreys decline, officials of the U. S. Fish and Wildlife Service hope that the Lake Michigan fishery can be built up by restocking with lake trout. The introduction of large fingerlings follows the practice of the Pacific salmon cultural stations--which has shown that stocking with larger fish is much more effective than with fry.



## Fish Marketing Study Inaugurated in Latin America<sup>✓</sup>

In order to investigate and obtain information on current and potential markets in Latin America for United States fishery products, particularly canned fish, the U. S. Department of Agriculture has initiated a study under its Research and Marketing Act program. The project is sponsored by that agency's Office of Foreign Agricultural Relations in cooperation with the Fish and Wildlife Service, U. S. Department of the Interior.

Two specialists, already stationed in Latin America, have been assigned by the Fish and Wildlife Service to carry out the first-hand study. They are Milton J. Lindner, chief of the U. S. Fishery Mission to Mexico with headquarters at the American Embassy in Mexico City; and Robert O. Smith, who has been stationed since 1949 at the American Embassy at Lima as chief of the Fishery Mission to Peru.

The two specialists met the week of May 21 at Caracas, Venezuela, to confer and to complete final plans for the survey. Lindner will travel down the east coast of South America, and Smith will survey the West Coast. They will return to their posts in late June.

This survey is patterned after a similar survey of European markets for fishery products made in 1948. The two specialists will visit Venezuela, Argentina, Uruguay, Paraguay, Brazil, Surinam, Curacao, Colombia, Ecuador, Bolivia, Peru, and Chile.

1/See page 33 of this issue for a report on the Argentine Republic--the first of this series.



## Gulf Exploratory Fishery Program

"OREGON" RETURNS FROM FIRST CRUISE: Observations on tuna, snappers, bait fish, and shrimp were made by the Oregon on its first cruise in the Gulf of Mexico between May 8-25. This vessel of the Service's Gulf Exploratory Fishery Program left Pascagoula, Mississippi and proceeded west of the Mississippi River to shallow water off the Louisiana coast. About three days were spent in attempts to get a good supply of live bait for tuna. The vessel worked westward along the continental shelf and put in at Galveston May 17. The cruise was continued on May 23 off the Texas and Louisiana coasts along the 50-fathom curve, and the Oregon returned to Pascagoula on May 29.



THE OREGON OF THE SERVICE'S GULF EXPLORATORY FISHERY PROGRAM LEAVING FOR ITS FIRST CRUISE.

Observations on Tuna: On the Louisiana and Texas coasts a large

number of small schools of the little tuna (Euthynnus alletteratus) were encountered over depths greater than 30-fathoms, frequently among scattered schools of the common jack (Caranx hippos). Attempts to attract the little tuna with live bait were unsuccessful and trolling with artificial bait met with limited success. The little tuna captured were gorged with percomorph fish about  $1\frac{1}{2}$  inches long. Dolphin, barracuda,

and one wahoo, as well as common jacks, were taken while trolling with artificial bait for little tuna. A school of larger fish, possibly tuna, was sighted but could not be approached to permit identification or accurate estimate of the size of the fish.

The bait fish located were in water too shallow to permit the use of the typical lampara bait seine. Collection of a small quantity of bait was made with a shrimp trawl. The bait remained alive in the tanks until the return to Pascagoula but many of the fish obtained were not suitable for bait.

Observations on Snappers: Surface and bottom temperatures were recorded on snapper banks. Snapper stomachs were collected for examination. One shrimp trawl drag contained six snappers under 10 inches long. Snappers weighing 16 to 29 pounds were taken in other drags at night on mud bottom.

Shrimp: Six 30-minute drags with a 40-foot shrimp trawl, in fifty fathoms on mud bottom, were made at widely separated points off the Louisiana and Texas coasts. All of these drags produced grooved shrimp (*Peneus aztecus*), 8 to 15 count per pound (heads on), and no other commercial species of shrimp. Quantities obtained were small, one to nineteen pounds, and three trawls were lost when bogged in heavy mud. It is expected that difficulties encountered in dragging can be overcome with modifications of the trawling rigs.

Miscellaneous Observations: Scrap fish obtained at fifty fathoms included several species hitherto known chiefly in the West Indian and Caribbean region. Bottom temperatures at fifty fathoms were only 1° F. to 9° F. colder than surface temperatures.

"OREGON" SEARCHES FOR SURFACE-FEEDING TUNA IN THE GULF: Searching for surface-feeding tuna and other mackerel-like fish, and continuation of exploratory fishing for snappers are the main objectives of the Oregon's second cruise. This vessel of the Service's Gulf Exploratory Fishery Program left Pascagoula, Mississippi, on June 8, 1950, and is scheduled to return to port about June 30. Operations will be conducted in the Gulf of Mexico east of the Mississippi River, particularly near the 100-fathom curve between the Mississippi coast and Key West.

Collections of material and data similar to that collected on the first cruise in the west Gulf of Mexico will be made for comparison purposes. Shrimp trawl dragging in 50 to 100 fathoms also will be continued.



## Menhaden Fishery Movie in Production

The menhaden fishery (the largest fishery in the United States) is the subject of a U. S. Fish and Wildlife Service film now in production.

The new 16 mm. sound and color film is a cooperative project of the menhaden industry and the Fish and Wildlife Service's Branch of Commercial Fisheries. The menhaden industry is financing the film, and the Branch of Commercial Fisheries is directing its production and will be responsible for distribution of prints.

The picture will tell the story of menhaden--from the catching of these tremendous schools of small herring-like fish to the processing and utilization of

the fish meal and oil products in agriculture and industry. It is estimated that the film will be completed within one year.



## North Atlantic Fishery Investigations

"ALBATROSS III" CHECKS MOVEMENTS OF PRINCIPAL WINTER-TRAWL FISHERY SPECIES (Cruise 35): Checking the inshore movements of the principal species supporting



ABOARD THE ALBATROSS III--BIGELOW WATER SAMPLER READY TO BE LOWERED.

the offshore winter-trawl fishery and pertinent temperature observations were the principal objectives of an eight-day cruise by the Albatross III, research vessel of the Service's North Atlantic Fishery Investigations. Made in cooperation with the Woods Hole Oceanographic Institution, the cruise was completed on May 19 when the vessel returned to Woods Hole, Mass.

Additional objectives were underwater bottom photography and further brine-freezing of haddock in the round for the Technology Section of the Branch of Commercial Fisheries.

With the standard  $1\frac{1}{2}$  Iceland trawl (liners in bellies and cod end, no rollers or V-D gear) 63 half-hour tows were made beginning at a point ten miles southwest of Cox Ledge, extending to the edge of the Hudson Canyon in 210 fathoms, eastward to southeast Georges in depths ranging from 50 to 240 fathoms, westward in shoaler water (30 to 50 fathoms) to the Nantucket Shoals region, then northwest to the final station ten miles west of No Mans Land.

Temperatures were obtained by bathythermograph lowerings and on several of the deeper stations by reversing thermometers.

Although 51 species were taken during the cruise, only scup were caught in commercial quantities (between Cox's Ledge and Hudson Canyon).

Further data on the life history of the shad were added when a number of small ones were caught. These were of a size (10 to 14 inches) never seen in the rivers where they run on their spawning migration.



A catch of very large redfish was taken on the continental slope in 175-195 fathoms, off the south central part of Georges Bank. In this same haul two baby halibut about 6 inches long also were taken. The catch of fluke was relatively small and most of the fish were taken between 40 and 60 fathoms, indicating that a large percentage of the fish inhabiting the wintering grounds (50 to 70 fathoms) had not yet migrated far toward shoaler water.



## North Pacific Exploratory Fishery Program

**"JOHN N. COBB" LEAVES ON FOUR-MONTH CRUISE:** The Service's North Pacific Exploratory Fishery Program vessel, John N. Cobb, left Seattle on June 12, 1950, on a four-month exploratory fishing cruise in the offshore waters of the North Pacific. Primary objectives of this cruise are to locate commercial concentrations of albacore tuna; determine their pattern of abundance; trace their general migration in the waters off Oregon, Washington, and Southeastern Alaska; and determine the most effective means of capturing the tuna commercially.

The vessel will fish with usual commercial gear, such as, surface-trolled jigs and live bait. In addition, in an attempt to determine the vertical distribution of these fish, both linen and nylon gill nets will be used by the vessel. When conditions permit, long-lining and deep trolling for tuna will be tested. Oceanographic and other scientific information related to the problem will be collected.

A daily broadcast of findings will be made from the vessel to the fishing fleet in the North Pacific.



## Pacific Halibut Areas 1B and 2 Closed on June 1

The International Fisheries Commission announced on May 20, 1950, that Areas 1B and 2 (with a quota of 25,500,000 pounds) in the Pacific were closed at midnight June 1, 1950, to all halibut fishing except that provided for in Article 1 of the Convention. By that date the Commission estimated that the quota for Area 2 (located between Willapa Harbor, Washington, and Cape Spencer, Alaska) will have been filled. There is no quota for Area 1B (located between Cape Blanco, Oregon, and Willapa Harbor, Washington), but this area is closed with Area 2.

These two areas in 1949 were closed at midnight June 3. The 1950 season for these areas was 32 days long, compared with 34 days in 1949, 32 days in 1948, 39 days in 1947, and 42 days in 1946.

No closing dates have been announced as yet for other areas. The 1949 catch limits for Areas 3 and 4 are 28,000,000 and 500,000 pounds, respectively, the same as in 1949.



## Pacific Oceanic Fishery Investigations

"HENRY O'MALLEY" SAILS ON LOCAL FISHING CRUISE (Cruise No. 3): In order to determine the abundance of live bait at this time of the year, the research and exploratory fishing vessel Henry O'Malley left Pearl Harbor on May 16 on Cruise No. 3 for one month. This vessel of the Service's Pacific Oceanic Fishery Investigations will operate on French Frigate Shoals and will attempt to take a full load of live bait.

Using this bait and bait from other areas, the Henry O'Malley will engage in aku (skipjack) fishing in waters in the vicinity of the Hawaiian and Leeward Islands. The purpose is to develop techniques of employing mainland-style vessels and gear under conditions to be met with in the mid-Pacific, and to determine the catching rate of such gear for evaluation of subsequent exploratory fishing results in new and unexplored areas.

"HUGH M. SMITH" LOCATES FISH EGGS AND LARVAE AND INVESTIGATES TAGGING OF TUNA (Cruise No. 4): In order to determine the presence of tuna eggs and young, the Hugh M. Smith of the Service's Pacific Oceanic Fishery Investigations fleet sampled the waters lying within 400 miles of the Hawaiian Islands with fine-meshed nets. Although the material collected on the cruise has not been examined as yet, preliminary inspection revealed the presence of a large number of fish eggs and larvae, among them small sailfish between  $\frac{1}{4}$  and  $\frac{1}{2}$  inch in length, indicating a recent spawning of this species.

This was the vessel's fourth cruise--left Pearl Harbor on May 10 and returned 22 days later on June 2.

As a secondary mission of the cruise, methods of tagging tunas were investigated. Twenty skipjack (aku) and small yellowfin (ahi) were tagged and three skipjack were held in the live well aboard the vessel for the last two days of the cruise. Of the total tagged, 13 were tagged with hooks placed in the jaw, and 7 by inserting a flat tag into the body cavity.

Approximately 750 pounds of small bait fish were caught during the baiting operations on this cruise--nehu (a small anchovy), iao (a small silverside smelt), and mosquito fish (Mollienesia sp.). The bait was used to fish six schools of fish. The catch consisted of 162 skipjack tuna and 85 dolphin.



## South Pacific Fishery Investigations

"BLACK DOUGLAS" CONTINUES SARDINE RESEARCH: The Service's South Pacific Fishery Investigations has revised the station pattern for the research vessel, Black Douglas, in order to provide more intensive coverage of spawning areas and still retain extensive coverage. Sardine spawning during February and March was reported confined to an area off Lower California.

The 1947 and 1946 year-classes comprised 80 percent of the 1949-50 catch in numbers of fish. These same year-classes contributed 87 percent in 1948-49. The incoming 1948 class appears subnormal for one-ring fish. The 1945, 1944, and 1943 classes, which hitherto have been either weak or underrepresented, appeared over-available.

From April 3 to April 17, the Investigations' Black Douglas made a cruise at stations located between Cape Mendocino and Monterey Bay, Calif. This was one of the regular monthly cruises of the cooperative sardine research program, which is attempting to determine the amount and extent of sardine spawning, productivity of the area, the current pattern of the region, and other related characteristics of the marine climate off the west coast of North America.

Volumes of plankton collected on this cruise were large as on the two previous cruises in this area. However, no adult sardines were sighted during the cruise. The numbers of sauries observed were less than on previous cruises. Fur seals were observed over the entire extent of the cruise, although they were fewer in number than those observed during February and March this year.



### Splitting of Fish Fillets Being Adopted

As a result of the work carried out by the Service's Technological Laboratory in Seattle<sup>1/</sup> on the splitting of rockfish fillets, several commercial fishery firms have now adopted this procedure for special use, such as, the fish and chips trade.

Modern fish-skinning machines can be adapted for splitting fish fillets at any desired thickness. This has several advantages, such as, (1) the production of more desirable thin sections from thick fillets, (2) the preparation of fillets of uniform thickness, (3) the preparation of extremely thin sections of fillets for use in special recipes.

The removal of most of the dark flesh beneath the skin of the rockfish fillets by use of the skinning machine set to remove approximately 1/8 inch of the flesh as well as the skin was recommended by the Service. This practice about doubles the cold-storage life of the frozen rockfish fillet. In view of this, certain fish companies now specify in their orders that all rockfish fillets have the dark flesh and skin removed by a fish-skinning and splitting machine.

<sup>1/</sup> See "Storage Life of Whole and Split Rockfish Fillets" by M. E. Stansby and J. Dassow, Commercial Fisheries Review, July 1949, Vol. 11, No. 7, pp. 1-8 or Separate No. 233.



### Pack of Maine Sardines (Including Sea Herring), 1949

The 1949 pack of Maine sardines (including sea herring) amounted to 3,074,523 standard cases, valued at \$21,051,675 to the packers. This was a decline of 17

Table 1 - Pack of Maine Sardines by Style of Pack, and by Size of Can and Case, 1949  
(Quantity in Standard and Actual Cases, and Value to the Packers)

Style of Pack	Quantity	Total	Avg. Price	Size of Can and Case	Quantity	Total	Avg. Price
	Std. Cases <sup>1/</sup>	Value	Per Std. Case		Actual Cases	Value	Per Actual Case
actual	48,728	106,000	2.15	3 1/2 ounces net (100 cases)...	2,941,434	20,614,890	7.01
in soybean or other vegetable oil	2,760,926	19,199,855	6.95	10 " " (48 " " )...	20,184	129,811	6.43
in mustard sauce	174,777	1,237,962	7.08	15 " " (48 " " )...	40,688	283,933	7.01
in tomato sauce	52,346	170,220	3.25	Other sizes converted to			
in olive oil	22,072	209,483	9.49	3 1/2 ounces net			
in olive oil	12,554	124,210	9.89	(100 cases)	12,554	124,210	9.89
Total	3,074,523	21,051,675	6.85	Total	3,074,523	21,051,675	6.85

<sup>1/</sup> Standard cases represent cases of various sizes converted to 100 1-oz cans (3 1/2 ounces net) to the case.

<sup>2/</sup> Includes special packs of sardines (including sea herring), smoked and kippered; smoked in soybean oil; smoked in olive oil; and fillets in soybean oil.

percent in quantity and 28 percent in value as compared with the previous year. The average price per standard case declined from \$7.97 in 1948 to \$6.85 in 1949.

Sardines (including sea herring) were canned in 47 plants in Maine, 3 in Massachusetts, and 1 in New Hampshire.

Table 2 - Pack of Maine Sardines (Including Sea Herring) 1941-49  
(Quantity in Standard Cases<sup>1</sup> and Value to the Cannery)

Year	Quantity	Total Value	Avg. Price Per Std. Case	Year	Quantity	Total Value	Avg. Price Per Std. Case
	<u>Std. Cases</u>	\$	\$		<u>Std. Cases</u>	\$	\$
1949	3,074,523	21,051,675	6.85	1944	3,261,984	14,819,803	4.54
1948	3,682,392	29,359,114	7.97	1943	2,505,114	11,104,570	4.43
1947	3,013,910	28,310,674	9.39	1942	2,873,246	12,162,451	4.23
1946	3,276,338	20,275,590	6.19	1941	3,164,787	12,590,958	3.98
1945	2,725,216	12,077,201	4.43	1940	1,117,748	3,736,394	3.34

<sup>1</sup>Cases of various sizes converted to 100  $\frac{1}{4}$ -oil cans ( $3\frac{1}{4}$  ounces net) to the case (standard case).

Note: The pack of herring previously reported as canned sea herring has been converted to the equivalent of 100  $\frac{1}{4}$ -oil cans ( $3\frac{1}{4}$  ounces net) to the case and included with the pack of sardines.

Prior to 1949, the packs of fish canned as sardines and as sea herring were tabulated separately. However, in 1949 the tabulation of the packs was combined. The comparative data in Table 2 likewise represents the combined packs for the past ten years.



## Manufacture of Meal and Oil Utilizes Half of the Fisheries Catch

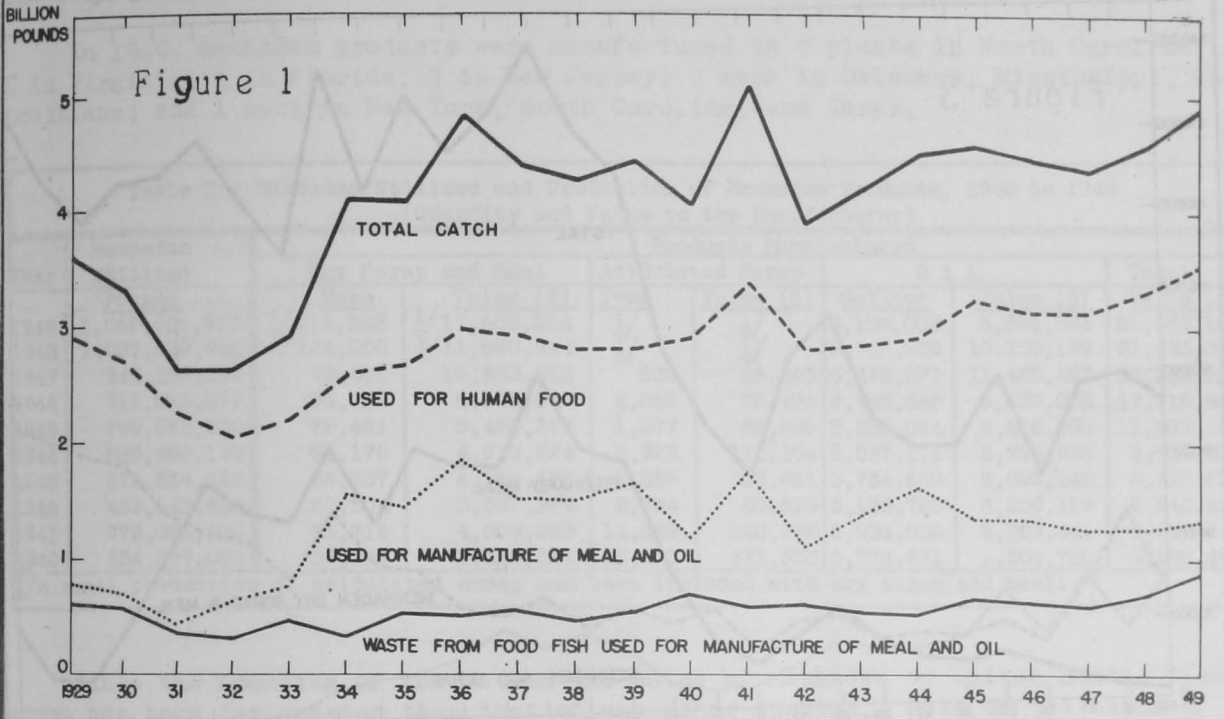
About 46 percent of all fishery products landed in the United States and Alaska during 1949 was utilized in the manufacture of fish meal and oil (Figure 1). Because fish meal and oil are used where they are not recognized as fishery by-products, the importance of the fisheries that supply this industry is little known by the public.

On the farm, fish meal is an important ingredient of poultry and hog feeds. In industry, fish oil is utilized in soap, paint, varnish, insect spray, machinery lubricants, printing ink, oil cloth and linoleum, and in industrial processes (like leather tanning and aluminum casting). Thus, meal and oil from fish are converted into products which are used daily by everyone.

The raw material is derived from two sources--whole fish caught specifically for reduction purposes and fish waste from filleting, canning, and other fisheries processing (Figure 2). Fully 2,250 million pounds of fish was processed by meal and oil manufacturers in 1949.

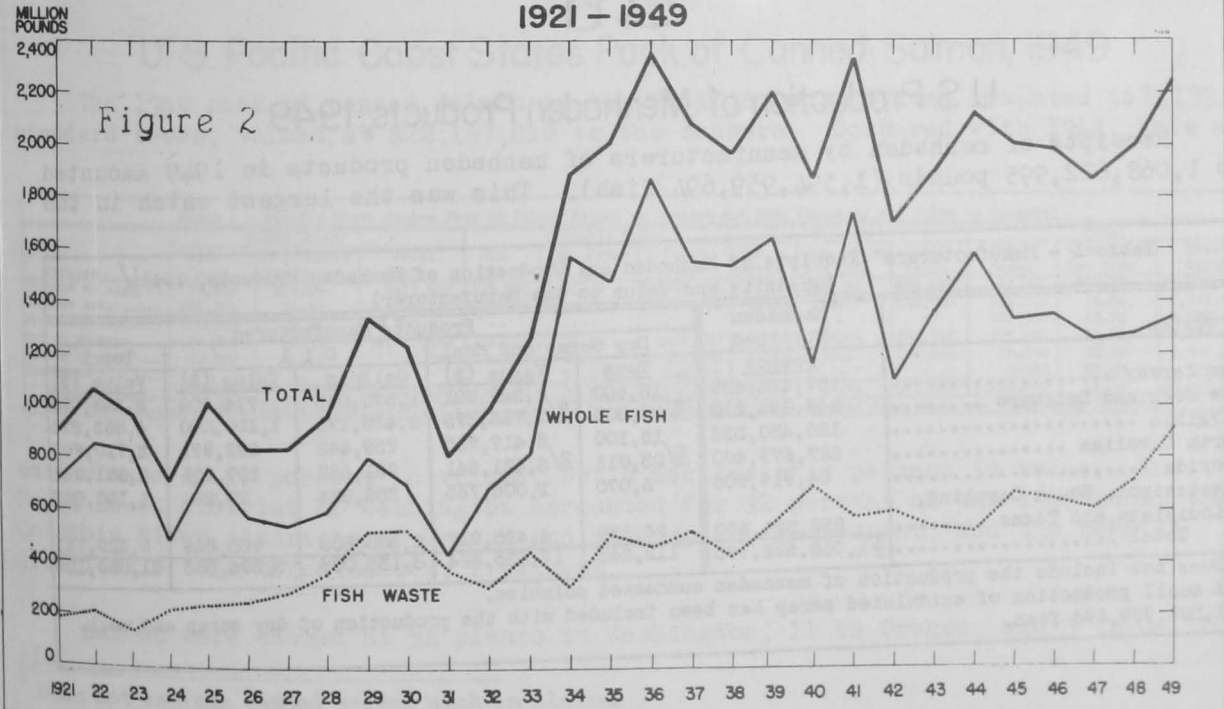
Rendering plants utilize two principal species of fish--menhaden and pilchard. The menhaden catch last year was 1,069 million pounds, while that of pilchards amounted to 640 million pounds.

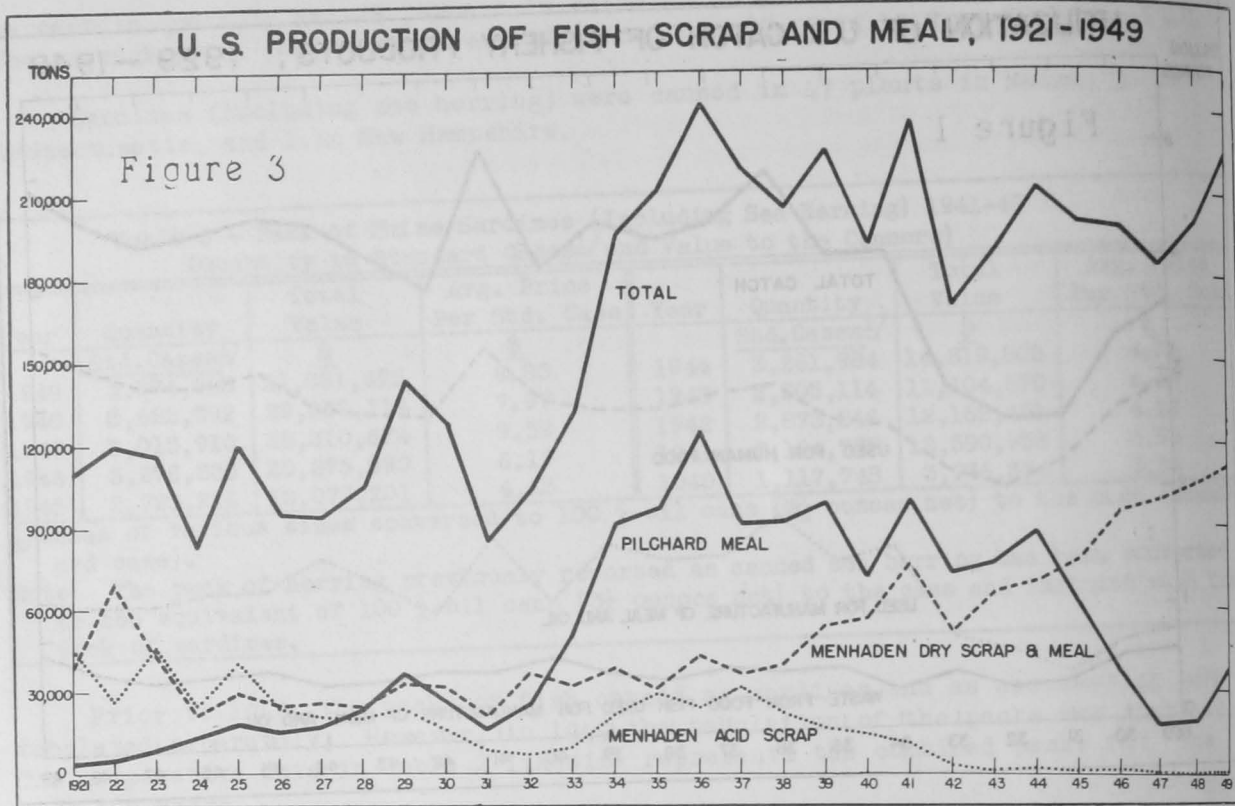
UTILIZATION OF U.S. CATCH OF FISHERY PRODUCTS, 1929 - 1949



The pilchard catch in the Pacific reached a high of 1,500 million pounds in 1936, but following that year the catch fluctuated between 800 and 1,300 million

WHOLE FISH AND FISH WASTE USED FOR MANUFACTURE INTO MEAL AND OIL 1921 - 1949





pounds. After 1945, it declined sharply to a low of 250 million pounds in 1947, but then increased again. While the catch of pilchards was fluctuating, the menhaden catch in the Atlantic and Gulf of Mexico increased to record levels.



### U. S. Production of Menhaden Products, 1949

Receipts of menhaden by manufacturers of menhaden products in 1949 amounted to 1,068,622,995 pounds (1,594,959,694 fish). This was the largest catch in the

Table 1 - Manufacturers' Receipts of Menhaden and Production of Menhaden Products, 1949<sup>1/</sup>  
(Quantity and Value to the Manufacturer)

States	Menhaden Utilized Pounds	Products Manufactured				
		Dry Scrap and Meal		Oil		Total Value (\$)
		Tons	Value (\$)	Gallons	Value (\$)	
New Jersey .....	157,582,459	16,620	2,549,391	1,570,065	714,605	3,263,996
New York and Delaware .....	249,684,210	<sup>2/</sup> 25,303	<sup>2/</sup> 3,763,875	2,428,176	1,100,000	4,863,875
Virginia .....	126,430,336	15,100	2,417,735	739,442	292,971	2,710,706
North Carolina .....	227,679,400	<sup>2/</sup> 23,016	<sup>2/</sup> 3,421,841	751,687	259,901	3,681,742
Florida .....	54,919,900	6,070	1,006,765	259,834	93,262	1,100,027
Mississippi, South Carolina, Louisiana, and Texas .....	252,326,690	26,139	4,495,917	2,383,805	933,844	5,429,761
Total .....	<sup>3/</sup> 1,068,622,995	112,248	17,655,524	8,133,009	3,394,583	21,050,107

<sup>1/</sup>Does not include the production of menhaden condensed solubles.  
<sup>2/</sup>A small production of acidulated scrap has been included with the production of dry scrap and meal.  
<sup>3/</sup>1,594,959,694 fish.

history of the fishery, and was the second successive year that the yield exceeded one billion pounds.

In 1949, menhaden products were manufactured in 9 plants in North Carolina; 6 in Virginia; 4 in Florida; 3 in New Jersey; 2 each in Delaware, Mississippi, and Louisiana; and 1 each in New York, South Carolina, and Texas.

Table 2 - Menhaden Utilized and Production of Menhaden Products, 1940 to 1949 (Quantity and Value to the Manufacturer)

Year	Menhaden Utilized Pounds	Products Manufactured						
		Dry Scrap and Meal		Acidulated Scrap		Oil		Total Value (\$)
		Tons	Value (\$)	Tons	Value (\$)	Gallons	Value (\$)	
1949	1,068,622,995	1/112,248	1/17,655,524	1/	1/	8,133,009	3,394,583	21,050,107
1948	1,007,888,840	1/104,058	1/11,560,914	1/	1/	8,763,939	10,132,179	21,693,093
1947	948,155,592	98,602	10,883,852	632	26,863	8,473,371	11,425,497	22,336,212
1946	916,013,079	94,622	8,605,118	2,022	78,475	9,758,648	9,033,032	17,716,625
1945	759,073,820	77,451	5,483,377	1,577	62,200	8,335,094	5,656,550	11,202,127
1944	685,980,170	69,170	4,913,224	2,922	111,104	6,067,111	3,725,498	8,749,826
1943	615,554,460	66,357	4,766,672	1,555	58,821	5,734,668	3,892,142	8,717,635
1942	482,643,880	50,504	3,362,279	2,594	80,520	5,128,760	3,200,129	6,642,928
1941	775,086,820	75,316	4,008,355	11,029	242,792	6,034,050	2,829,441	7,080,588
1940	634,589,000	56,249	2,423,229	15,520	271,533	5,774,671	1,304,720	5,999,482

1/A small production of acidulated scrap has been included with dry scrap and meal.

Since the founding of the Nation the catch of menhaden by United States fishermen has been far greater than that of any other species. Data on the catch of menhaden (which are available for most of the last 76 years) indicate that during this period about 35 billion pounds of menhaden were taken for manufacture into meal and oil.



### U. S. Pacific Coast States Pack of Canned Salmon, 1949

The 1949 pack of canned salmon in the Pacific Coast States amounted to 1,133,325 standard cases, valued at \$22,167,812 to the canners. Compared with 1948, this was

Table 1 - Pacific Coast States Pack of Canned Salmon by Species and Area (Quantity and Value to Canners)

Species	Puget Sound			Columbia River			Coastal			Total		
	Std. Cases	Avg. Price Per Case	Total Value	Std. Cases	Avg. Price Per Case	Total Value	Std. Cases	Avg. Price Per Case	Total Value	Std. Cases	Avg. Price Per Case	Total Value
Chinook or king ..	21,622	\$19.33	\$417,972	133,073	\$30.47	\$4,055,146	3,166	\$20.43	\$64,684	157,861	\$28.75	\$4,537,802
Chum or keta .....	199,225	14.49	2,887,121	10,797	15.54	167,791	9,630	14.18	136,534	219,652	14.53	3,191,446
Pink .....	553,987	15.94	8,832,216	-	-	-	-	-	-	553,987	15.94	8,832,216
Red or sockeye ...	93,520	31.18	2,915,749	6,592	35.98	237,187	7,689	34.64	266,365	107,801	31.72	3,419,301
Silver or coho ...	63,516	21.14	1,342,829	16,466	30.16	496,562	5,161	20.17	104,081	85,143	22.83	1,943,472
Steelhead .....	-	-	-	8,881	27.43	243,575	-	-	-	8,881	27.43	243,575
Total .....	931,870	17.59	16,395,887	175,809	29.58	5,200,261	25,646	22.29	571,664	1,133,325	19.56	22,167,812

Note: "Standard cases" represent the various-sized cases converted to the equivalent of 48 one-pound cans, each can containing 16 ounces.

an increase of 40 percent in volume, but a decline of 8 percent in value. The Puget Sound district of Washington accounted for 82 percent of the 1948 pack; the Columbia River districts of Oregon and Washington, 16 percent; and the coastal districts of the three states, 2 percent.

Salmon were canned at 34 plants in Washington, 11 in Oregon, and 3 in California.

\* Does not include canned salmon pack in Alaska.





This was an increase of 4 percent in quantity, but a decline of 13 percent in value as compared with the previous year. The average price per standard case declined from \$16.00 in 1948 to \$13.40 in 1949.

Table 3 - Pack of Canned Tuna and Tuna-Like Fish, 1940-49  
(Quantity in Standard Cases<sup>1/</sup> and Value to the Cannery)

Year	Quantity Std. Cases <sup>1/</sup>	Total Value \$	Avg. Price Per Std. Case \$	Year	Quantity Std. Cases <sup>1/</sup>	Total Value \$	Avg. Price Per Std. Case \$
1949 ..	7,290,320	97,710,325	13.40	1944 ..	3,560,020	40,836,117	11.80
1948 ..	7,037,758	112,612,296	16.00	1943 ..	2,696,073	31,430,189	11.66
1947 ..	5,894,495	90,609,175	15.37	1942 ..	2,484,749	30,742,493	12.37
1946 ..	4,784,484	59,135,823	12.36	1941 ..	2,931,581	19,397,887	6.62
1945 ..	4,531,565	47,407,451	10.46	1940 ..	4,188,460	23,727,560	5.66

<sup>1/</sup>Cases of various sizes converted to the equivalent of 48 No.  $\frac{1}{2}$  tuna cans to the case, each can containing 7 ounces net weight of solid-packed meat or 6 ounces net weight of flakes or grated meat.

California firms packed 6,566,268 cases (90 percent of the total); followed by Oregon with 539,964 cases; Washington, 107,754 cases; and the states of Maine, Massachusetts, and Maryland--76,334 cases.



### U.S. Pack of Canned Shrimp, 1949

The United States pack of canned shrimp in 1949 amounted to 664,721 standard cases (48 5-ounce cans), valued at \$11,203,325 to the packers. This was an increase

Table 1 - Pack of Canned Shrimp by States, 1949			Table 2 - Pack of Canned Shrimp by Size of Can, 1949			
State	Quantity Std. Cases <sup>1/</sup>	Value \$	Size	Quantity Actual Cases	Value \$	Packers' Price \$ Per Std. Case
Mississippi .....	116,314	1,967,274	5 ounces net (48 cans) .....	545,116	10,886,777	16.88
Louisiana .....	495,800	8,371,199	7 ounces net (48 cans) .....	4,373	90,505	20.70
Georgia, Alabama, and South Carolina ...	52,607	864,852	Other sizes (std. cases) ...	13,483	226,043	16.77
Total .....	664,721	11,203,325	Total .....	662,972	11,203,325	-

<sup>1/</sup>"Standard cases" represent the various-sized cases converted to the equivalent of 48 cans of 5 ounces each.

of 105,851 cases as compared with the previous year, and was the largest pack since 1942. However, the 1949 pack was only 47 percent as great as the record 1937 production of 1,412,702 cases.

Table 3 - Pack of Canned Shrimp, 1940-49 (Quantity and Value to the Cannery)

Year	Quantity Std. Cases <sup>1/</sup>	Value \$	Packers' Price \$ Per Std. Case	Year	Quantity Std. Cases <sup>1/</sup>	Value \$	Packers' Price \$ Per Std. Case
1949 ..	664,721	11,203,325	16.85	1944 ..	561,649	4,854,799	8.64
1948 ..	558,870	7,791,313	13.94	1943 ..	660,436	5,360,647	8.12
1947 ..	472,333	8,192,004	17.34	1942 ..	963,352	7,347,330	7.63
1946 ..	522,130	8,428,735	16.14	1941 ..	884,874	4,882,544	5.52
1945 ..	214,971	1,918,633	8.93	1940 ..	1,116,249	4,318,325	3.87

<sup>1/</sup>Standard cases represent the various-sized cases converted to the equivalent of 48 5-ounce cans for both wet and dry pack.

Nearly 75 percent of the 1949 pack was canned in Louisiana, while Mississippi canners accounted for 17 percent of the production.

Shrimp were canned in 17 plants in Mississippi, 35 in Louisiana, 2 each in Alabama and South Carolina, and 1 plant in Georgia.



## U.S. Pack of Canned Mackerel, 1949

In 1949, the United States pack of canned mackerel (including jack mackerel) amounted to 1,049,927 standard cases, valued at \$6,848,930 to the packers. This was a decline of 18 percent in quantity and 30 percent in value, compared with the previous year.

State	Quantity	Total Value	Avg. Price Per Std. Case	Size of Can and Case	Quantity	Total Value	Avg. Price Per Std. Case
	Std. Cases <sup>2/</sup>	\$	\$		Actual Cases	\$	\$
Maine .....	19,021	127,420	6.70	15 ounces net, tall (48 cans) ...	962,688	6,187,087	6.43
Massachusetts ..	95,142	815,625	8.57	15 " " , oval (48 " ) ...	17,971	106,251	5.91
Maryland .....	18,954	139,470	7.36	15 " " (24 cans) .....	45,455	161,086	3.54
Total Atlantic Coast .....	133,117	1,082,515	8.13	14 " " (24 " ) .....	73,831	282,241	3.82
California .....	916,810	5,766,415	6.29	Other sizes (converted to standard cases) .....	12,087	112,265	9.29
Grand total...	1,049,927	6,848,930	6.52	Total .....	1,112,032	6,848,930	-

<sup>1/</sup>Includes the pack of jack mackerel in California.  
<sup>2/</sup>"Standard cases" represent cases of various sizes converted to the equivalent of 48 1-pound cans to the case, each can containing 15 ounces net of fish.

The California pack was 10 percent less than in 1948, while the production in the Atlantic Coast States declined 49 percent.

Mackerel were canned in 41 plants in California, 7 in Maine, 6 in Massachusetts and 4 in Maryland.

Year	California			Atlantic Coast			Total		
	Quantity	Total Value	Avg. Price Per Std. Case	Quantity	Total Value	Avg. Price Per Std. Case	Quantity	Total Value	Avg. Price Per Std. Case
1949 ..	916,810	5,766,415	6.29	133,117	1,082,515	8.13	1,049,927	6,848,930	6.52
1948 ..	1,018,973	7,541,931	7.40	262,219	2,308,903	8.81	1,281,192	9,850,834	7.69
1947 ..	1,477,198	12,571,059	8.51	277,752	2,447,574	8.81	1,754,950	15,018,633	8.56
1946 ..	723,688	5,599,894	7.74	238,462	1,975,397	8.28	962,150	7,575,291	7.87
1945 ..	638,191	3,590,614	5.63	54,557	456,077	8.36	692,748	4,046,691	5.84
1944 ..	992,280	5,096,749	5.14	232,780	1,937,248	8.32	1,225,060	7,033,997	5.74
1943 ..	831,660	4,379,996	5.27	105,591	891,207	8.44	937,251	5,271,203	5.62
1942 ..	616,436	3,000,604	4.87	104,753	692,478	6.61	721,189	3,693,082	5.12
1941 ..	843,719	2,947,233	3.49	91,282	556,485	6.10	935,001	3,503,718	3.75
1940 ..	1,400,016	3,986,695	2.85	21,878	114,674	5.24	1,421,894	4,101,369	2.88

<sup>1/</sup>Cases of various sizes converted to a case of 48 1-pound cans, each can containing 15 ounces net of fish.

Prices for standard cases to the canner declined during the year. The biggest drop occurred in the California pack which declined from \$7.40 per case in 1948 to \$6.29 per case in 1949. Mackerel canned on the Atlantic Coast averaged \$8.13 per standard case in 1949, compared with \$8.81 in 1948.



## Wholesale and Retail Prices

**WHOLESALE PRICES, APRIL 1950:** In April this year the fish and shellfish (fresh, frozen, and canned) wholesale index was 95.5 percent of the 1947 average--2.3 percent below March 1950 and 8.7 percent lower than in April 1949, according to the Bureau of Labor Statistics of the Department of Labor. The biggest drop occurred in the prices of fresh and frozen fishery products, but mainly in the drawn, dressed, or whole fin-fish category. (See table 1.)

Table 1 - Wholesale Average Prices and Indexes of Fish and Shellfish, April 1950

GROUP, SUBGROUP, AND ITEM SPECIFICATION	POINT OF PRICING	UNIT	AVERAGE PRICES (\$)			INDEXES (1947 = 100)		
			Apr. 1950	Mar. 1950	Apr. 1949	Apr. 1950	Mar. 1950	Apr. 1949
ALL FISH AND SHELLFISH (Fresh, Frozen, and Canned)						95.5	97.7	104.6
Fresh & Frozen:						100.5	103.8	94.3
Drawn, Dressed, or Whole Fin Fish:						106.0	112.4	95.3
Haddock, large offshore, drawn, fresh ...	Boston	lb.	.09	.10	.07	95.0	108.6	76.6
Halibut, Western, 20/80 lbs., dressed, fresh or frozen	New York City	"	.35	.34	.33	103.2	99.2	95.6
Salmon, king, lge. & med., dressed, fresh or frozen	" " "	"	.46	.48	.47	112.2	117.1	115.2
Lake trout, domestic, mostly No. 1, drawn (dressed), fresh	Chicago	"	.69	.62	.47	151.9	136.4	104.1
Whitefish, mostly Lake Superior, drawn (dressed), fresh	"	"	.58	.60	.51	166.5	172.7	146.0
Whitefish, mostly Lake Erie pound net, round, fresh	New York City	"	.63	.63	.57	141.5	142.4	127.7
Yellow pike, mostly Michigan (Lakes Michigan & Huron), round, fresh	" " "	"	.38	.58	.32	88.4	135.8	74.9
Processed, Fresh:						91.9	92.1	91.7
Filletts, haddock, small, skins on, 20-lb. tins	Boston	lb.	.30	.33	.25	106.4	119.5	88.5
Shrimp, lge. (26-30 count), headless, fresh or frozen	New York City	"	.64	.63	.66	92.9	91.2	95.6
Cysters, shucked, standards	Norfolk area	gal.	3.50	3.50	3.50	86.2	86.2	86.2
Processed, Frozen:						102.5	103.0	97.2
Filletts: Flounder (yellowtail), skinless, 10-lb. boxes	Boston	lb.	.40	.37	.24	127.5	119.4	77.1
Haddock, small, 10-lb. cello-pack	"	"	.26	.28	.22	116.2	126.7	98.4
Rosefish, 10-lb. cello-pack	Gloucester	"	.20	.21	.23	101.0	103.1	115.0
Shrimp, lge. (26-30 count), 5- to 10-lb. boxes	Chicago	"	.64	.63	.64	92.9	91.1	92.6
Canned:						88.0	88.6	120.3
Salmon, pink, No. 1 tall (16 oz.), 48 cans per cs.	Seattle	case	14.53	14.53	22.66	94.7	94.7	147.7
Tuna, light meat, solid pack, No. 2 tuna (7 oz.), 48 cans per cs.	Los Angeles	"	14.25	14.25	16.75	92.7	92.7	109.0
Sardines (Pilchards), California, tomato pack, No. 1 oval (15 oz.), 48 cans per cs.	" "	"	5.50	5.50	7.50	61.5	61.5	83.9
Sardines, Maine, keyless oil, No. 1 drawn (3 1/2 oz.), 100 cans per cs.	New York City	"	7.38	7.75	8.75	72.3	76.0	85.8

Wholesale prices for fresh and frozen fishery products during the month dropped 3.2 percent below March 1950, but were still 5.5 percent higher than the corresponding month in 1949.

Mainly due to lower prices on fresh drawn haddock, the drawn, dressed, or whole fin-fish prices were 5.7 percent lower in April 1950 as compared with the previous month, but 11.2 percent higher than in April 1949. Fresh drawn haddock prices during April dropped 12.5 percent below March 1950, but were still 24.7 percent higher than the corresponding month the previous year.

Although prices of fresh processed fishery products during the month were only 0.2 percent below March, fresh haddock fillet prices dropped 11 percent during the same period. However, an increase in shrimp prices compensated for the large decline in fresh fillet prices. Fresh haddock fillet prices were still 20.2 percent higher than in April 1949.

Frozen processed fish and shellfish prices during the month were 0.7 percent lower than in March, but 5.5 percent higher than in April 1949. Frozen flounder fillet and shrimp prices rose during the month, while frozen haddock and rosefish fillet prices dropped.

During April, canned fishery products at wholesale were priced only 0.7 percent below the previous month and were still 26.8 percent lower than in the corresponding month in 1949. Wholesale prices of canned pink salmon, California sardines, and tuna were quoted in April at the same level as in March, but Maine sardines were quoted 4.9 percent lower.

**RETAIL PRICES:** Food prices on the average rose 0.3 percent between March 15 and April 15 this year. The retail food price index on April 15 was 196.6 percent of the 1935-39 average, 3.1 percent lower than a year ago, but 35 percent above the June 1946 level. (See table 2.)

Table 2 - Retail Price Indexes for Foods and Fishery Products, April 15, 1950 with Comparative Data

Item	Base	I n d e x e s		
		Apr. 15, 1950	Mar. 15, 1950	Apr. 15, 1949
All foods .....	1935-39 = 100	196.6	196.0	202.8
All fish and shellfish (fresh, frozen, & canned)	do	297.4	302.5	321.3
Fresh and frozen fish ....	1938-39 = 100	276.0	281.2	261.4
Canned salmon: pink .....	do	328.2	332.1	460.7

The retail index for all fish and shellfish (fresh, frozen, and canned) on April 15 was 297.4 percent of the 1935-39 average, 1.7 percent lower than on March 15, and 7.4 percent lower than on April 15, 1949. The decline was attributed to lower prices on most fresh and frozen fishery products, and slightly lower prices for canned fishery products.

The retail index for fresh and frozen fish on April 15 was 276.0 percent of the 1938-39 average, 1.8 percent below mid-March, but 5.6 percent higher than mid-April 1949. Canned pink salmon prices also dropped 1.2 percent from mid-March to mid-April and the index was 328.2 percent of the 1938-39 average. Canned pink salmon prices during April were still 28.2 percent below the corresponding period a year ago.

