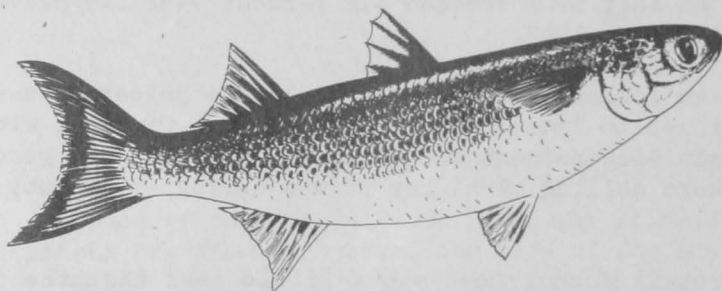




## Australia

**FISHERIES OF WESTERN AUSTRALIA:** The larger type of fishing boats are almost unknown in Australia, most of the fishing being done by 30- and 35-foot craft with sail and auxiliary power, according to a letter received from South Perth, Western Australia. There are only about seven of the larger-type boats in operation at present, 66 feet in length, powered by a 272 h.p. American marine diesel engine,

with a fuel capacity of 1,250 gallons and a range of 2,500 miles. These are designed as power boats with quarters forward, engine room forward of amidships, and all cargo space aft. The latter is insulated and fitted with refrigerating machinery to hold 18 tons at 32° F.



SEA MULLET (MUGIL DOBULA)

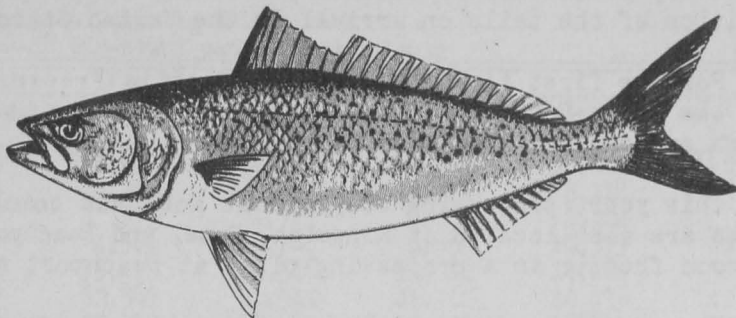
The freezers aboard these vessels are ammonia plants powered by a 15 h.p. motor driving a 6.5 ton compressor with 1,800 feet of coils. Coils in the hold are all welded. A large number of coils are set horizontally at one end to provide a fast freezer, and at the other end stowing compartments have a number of vertical coils. The air is stirred by two fans driven from a generator coupled to the refrigerator engine or from the main lighting system.

The capacity of the freezers onboard for "hard-freezing" the catch is limited. The fish are frozen "hard" to allow for handling and shipping south in the freezer holds of coastal ships which take about two weeks to get the catch to shore freezers. In this region, there are altogether 35 boats working the Sharks Bay area, mostly 30-odd footers, and seven large refrigerated craft. Those boats without refrigeration rely entirely on shore freezers to preserve their catch.

Fishing by these boats is conducted north of the winter storm belt, mainly inside Sharks Bay, a very large expanse of sheltered water where sea mullet (Mugil dobula) and similar inshore fish abound. These are caught by the simple means of setting a light mesh or gill net around the schools of fish. Nets are set from small boats which are rowed or even punted, for the sake of silence. This method, together with some set netting and hand-lining, averages 10 metric tons for two weeks of fishing.

Some of the larger boats are contemplating introducing a medium-sized otter trawl. To date, it is untried in these waters except for experimental work. Very few in this area have had any practical experience in otter trawling, Danish seining, and purse seining.

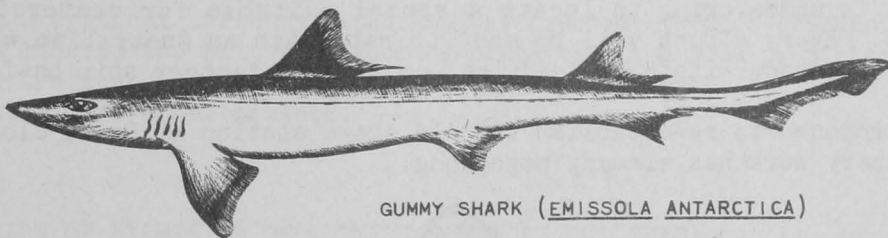
Australian salmon (Arripis trutta) makes up approximately 60 percent of the catch in Western Australian waters. The season for this fish runs from February to September. Found in quantity only on the South coast, the fish are driven in behind beach reefs by sharks and are scooped out by the ton in whatever type of net available. Some use ex-Army camouflage netting. Salmon brings \$96 to \$113 a metric ton on the average, at the canneries, and can be caught in 50-ton lots. Lack of transportation facilities limits the production. Another limiting factor, according to the fishermen, is the insistence of the canneries on the fish being delivered headed and gutted, although the catch is made within 10, 15, or, at the most, 25 miles from the cannery, and the fish are never more than three or four hours in transit.



AUSTRALIAN SALMON (ARRIPIS TRUTTA)

Beach-seining and hand-lining are really the main types of fishing practiced in Australia. The main species caught are sea mullet (Mugil dobula), tailor (Pomatomus pedica), Australian salmon (Arripis trutta), and a local herring.

There is a small amount of long-lining, locally known as setlining, for sharks. The lines used for this type of fishing are extremely heavy and are buoyed to fish the surface waters. Consequently, two large sharks are a "good" catch for one set of the line. The most common species caught is the tiger shark (Galeocerdo rayneri).



GUMMY SHARK (EMISSOLA ANTARCTICA)

Long-lining on the bottom brings good catches of school shark (Notogaleus rhinophanes) and gummy shark (Emissola antarctica). School and gummy sharks are mainly confined to the portion of the coast from Fremantle to the Eastern portion of the South Coast.

There is a demand at present in this country for albacore tuna for the fresh fish market. These tuna are caught by trolling. It is reported that if any quantity can be produced, even seasonally, one of the local canneries could use the catch.

\* \* \* \* \*

CRAWFISH (CRAYFISH) INDUSTRY: A South Australian Fishermen's Co-operative would export more crayfish tails to the United States this summer than the total quantity of lobster tails frozen in the Australian States in 1945, according to the Australian Fisheries Newsletter, June 1948.

The export is essential for the stabilization of the crayfish industry in South Australia (by the prevention of local gluts) and is welcomed by hundreds of South Australian crayfishermen. The export of crayfish tails applies only to surplus production.

Every precaution is taken in processing and packing to ensure the satisfactory condition of the tails on arrival in the United States.

For the first time, an automatic mobile freezer for transporting products from the South-East overland to Adelaide is being used. All crayfish tails for export are carried in this freezer.

This year, processing crayfish at Robe has commenced. Crayfish processing plants are also located at Kingston, Robe, and Beachport. To allow for expansion, a second freezer in a processing plant at Beachport has been built.

The crayfish are de-tailed, wrapped in cellophane, graded according to their weights, then boxed in 30-pound containers. Before being shipped, all consignments are subject to examination by the Australian Fisheries Department.

The crayfish season at the Abrolhos Islands, from 35 to 60 miles offshore from Geraldton, started with a rush on March 16. This year, nearly 60 men are engaged in the fishery, and the indications are that last year's take will be considerably exceeded. About two-thirds of the catch is being de-tailed and frozen for the American market, and most of the balance is being canned at the local cannery.

**TO ESTABLISH WHALING INDUSTRY:** A Norwegian whaling advisor engaged by the Australian Commonwealth Government, soon after his arrival in Australia, together with the Australian Director of Fisheries, visited Western Australia to investigate proposals to establish shore-based whaling stations. However, the advantages of whaling from a factory ship were considered so great that the Commonwealth Fisheries Office is endeavoring to locate a vessel suitable for conversion into a factory ship. Every effort will be made to establish an Australian whaling industry, in accordance with expert advice, on a sound factory ship basis.

It is proposed to re-establish the old shore station at Point Cloates where some preliminary work has already been done.



## Canada

**BRITISH COLUMBIA SALMON PACK AT SIX-YEAR HIGH:** British Columbia's salmon pack for the current season totaled 355,697 cases on July 31, a six-year high, according to the August 14th issue of the Canadian periodical, Foreign Trade. Unexpected large runs of pink and chum salmon have accounted for a marked increase in the current pack. It also appears that larger quantities of springs, steelheads, bluebacks, and coho salmon are being canned this year, instead of being processed in the fresh and frozen forms.

Since 1948 is a small cycle year insofar as the popular sockeye variety is concerned, production is down for this particular salmon. The large run of sockeye salmon takes place every four years. The last big pack of sockeye was in 1946, when 543,027 cases were put up.

Earlier estimates by the Department of Fisheries placed the 1948 pack at less than 900,000 cases, but with the large runs of pink and chum salmon materializing, it is anticipated that the current pack should reach 1,000,000 to 1,250,000 cases. The following are the figures for the 1948 production as of July 31 in comparison with previous packs:

British Columbia Salmon Pack  
(In cases--48 one-pound cans or equivalent)

Species	For Week Ending					
	July 31 1948	Aug. 2 1947	Aug. 3 1946	July 28 1945	July 29 1944	July 31 1943
Sockeye .....	146,245	224,257	154,238	211,889	139,880	112,236
Springs .....	8,734	3,208	4,095	3,971	3,114	3,787
Steelheads .....	1,932	977	1,715	1,055	1,224	623
Bluebacks .....	17,787	4,306	2,168	6,656	10,373	12,184
Coho .....	50,450	33,415	25,546	31,212	14,064	30,944
Pinks .....	94,082	32,583	31,542	41,740	40,736	42,198
Chums .....	36,467	25,319	35,631	10,413	8,811	9,300
Totals .....	355,697	324,065	254,945	306,926	218,202	211,272

Exports of canned salmon for the five months ended in May of this year totaled 15,326,800 pounds and were valued at \$4,754,011. Shipments have been made to 48 countries. In 1947, 36,814,300 pounds of canned salmon, valued at \$9,759,051, were shipped to a total of 47 countries.

The leading countries importing Canadian canned salmon in 1947 were:

Destination	lbs.	Value - \$
United Kingdom .....	18,508,800	4,482,175
Union South Africa .....	2,390,500	696,039
Australia .....	2,553,100	688,860
Belgium .....	6,476,200	2,099,564
Philippines .....	1,049,900	257,190

While the critical currency situation may preclude further shipments of canned salmon being made to the United Kingdom and other sterling area countries this year, indications are that there is a good demand for this commodity in Belgium, South Africa, Mexico, and other markets.

\* \* \* \* \*

EXPANSION OF FISHERIES DEPARTMENT SERVICES OUTLINED: At the request of the Fisheries Council of Canada, the Honorable Mr. R. W. Mayhew, newly elected Minister of Fisheries, provided a statement which enlarged upon the observations he made when presenting the annual and supplementary estimates of his Department to Parliament, according to the June-July 1948 issue of the Fisheries Council Bulletin. Excerpts follow:

"Canada's 1947 fisheries production, as estimated by the Department's economists had a marketed value of about \$117,500,000. As compared with 1946, there was a decrease of \$3,600,000, but 1946 was Canada's record year in dollar returns from the fisheries. The 1947 total exceeded 1945 by well over \$3,000,000.

"In the United States, demand is firm and fish prices are relatively high. Present information indicates that the market there will absorb all the fresh and frozen fish available to it, and fresh and frozen fish is the principal single item in our trade across the border.

"About two months ago, our Fisheries Prices Support Board placed orders with East Coast producers for 190,000 cases of canned fish, representing about \$1,750,000. The main purpose is to support the income of fishermen who diverted their catches to the canning industry for the production of canned fish for war and postwar emergency purposes, and to permit an adjustment in operations to the difficult postwar conditions.

"An examination of the fisheries estimates for 1948-49 will show that they contemplate outlays of \$6,413,810. In round terms, that is an increase of almost \$1,190,000 over 1947-48.

"The basic long-run activities of the Department and its scientific branch, the Fisheries Research Board, are the development of our fisheries resources and, secondly, the improvement in the processing of fish products and their distribution to market. These objectives are sought through a number of different lines of action. Development includes, for instance, the search for new fisheries on both coasts and in the Arctic, programs for increasing the yield of established fisheries like Atlantic lobster and Pacific salmon.

"Similarly, improvement in distribution of products is not a single operation of one particular kind. It includes, among other things, new techniques of catching and processing, like new smokers and dryers, new refrigerated cars for the railroads, to mention only a few. In addition, there is extensive research and its application in evolving an efficient system of grading and inspection. I think it is essential to fisheries progress that the Department and the Research Board should concentrate a very large part of their efforts on this field of quality control.

"A share of the over-all increase in the estimates is traceable to an increase of \$141,000 in the educational extension vote. It is explained, in part, by the decision to place fisheries exhibits in some of the larger fairs, so that popular interest in the fisheries and their products may be widened. Under this vote, special motion picture films for instructional and perhaps other purposes will also be made.

"The market outlook for 1948 is generally sound, but the products of the fishing industry have to offer value for cost right to the consumer's table. This means a constant striving for lower costs and better qualities from the fishing vessel to the housewife. The Department's work is extending along that whole front, from its biological studies, its research into methods of preventing fish spoilage, its extension of economic study into the marketing of fish, the educational work being undertaken in consumer services, and the extension of inspection for quality improvement. In short, the work of the various units is integrated into a program that should be considered as a whole.

"Canada has great fisheries resources on both coasts, in the inland provinces, and, as we have recently been finding out through research, in the far north as well. The work of the Department and the Board is increasing in all these areas. It is important to the nation that we see to it that the work is done as effectively and as rapidly as possible."

\* \* \* \* \*

LOBSTER: The peak of the Canadian lobster season is reached in May, and the combined May and June catches normally amount to two-thirds of the annual total.

Present trends indicate a total catch of at least 30,000,000 pounds in 1948, according to the Canadian fisheries periodical, Trade News. Up to the present, the utilization pattern shows no significant deviation from that of the last year or two. About 50 percent of the catch has been canned, 10 percent has been used for the production of fresh meat, chilled or frozen, and the remainder marketed in the live state. If the pattern of previous years for the fishery as a whole continues to be followed, the proportion disposed of in the live state will probably increase during the later months of the season and the proportion utilized for canning will decrease. A pack of approximately 45,000 cases of canned lobster is thus indicated for the current year.

**WHALING:** Whaling is under way on the Canadian Pacific Coast for the first time since 1943, and, at mid-July, 80 whales had been taken. This compares with 91 whales for the whole season in 1943. Moreover, the catch thus far may actually be less than what is potentially possible. The catchers are restricted to three whales per day, because of limited plant capacity. It is reported that this number is attained without difficulty. Most of the whales being taken this year are humpbacks, with a few finback and sei whales. A new development is the utilization of whales for the production of fresh chilled meat. Trial offerings of this product on West Coast markets met with favorable initial response.



\* \* \* \* \*

**MANITOBA WINTER FISHING--1947-48 SEASON:** The total catch for the winter fishing season in Manitoba (December 1, 1947 to March 15, 1948) amounted to 17,368,000 pounds, valued at \$2,063,914, according to the June 1948 issue of Monthly Review of Canadian Fisheries Statistics. Pickerel (yellow pike) was the leading species (4,752,800 pounds - value, \$950,586); followed by sauger (1,789,200 pounds - value, \$319,301); and whitefish (2,153,300 pounds - value, \$248,311). The marketed wholesale value of this catch was \$2,828,870.



## Italy

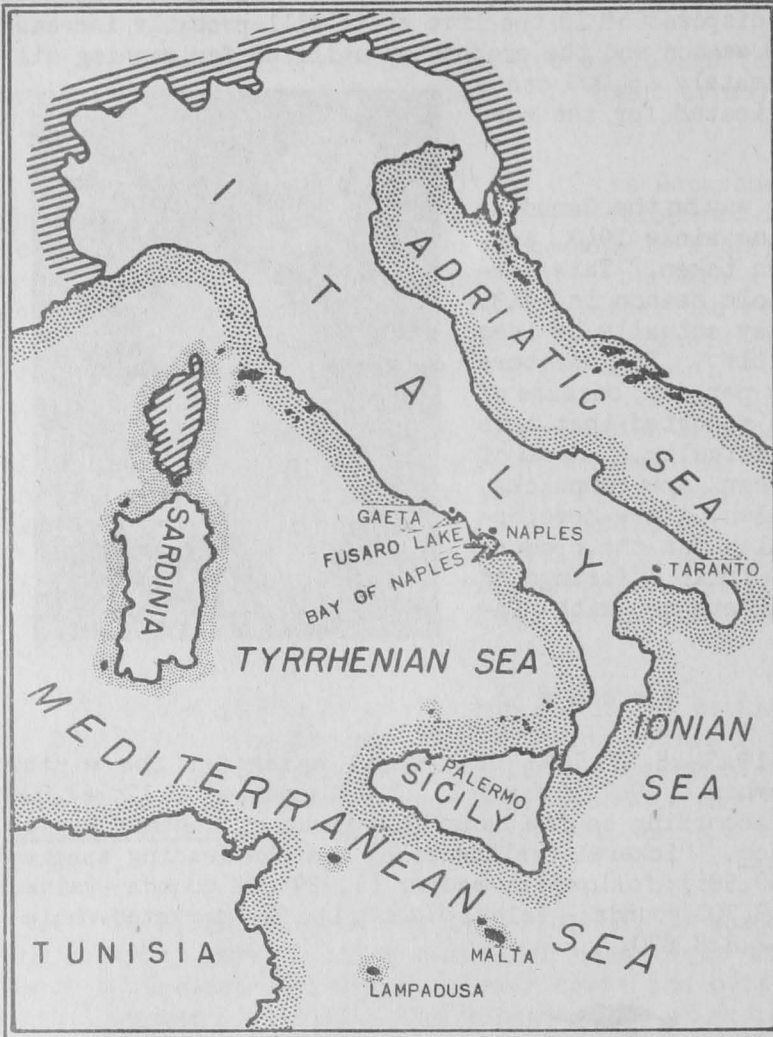
**NAPLES FISHING INDUSTRY: Economic Importance:** The Naples fishing industry, of considerable economic importance to the city, provides part of the local demand for fresh fish and gives employment to about 8,000 to 10,000 people. The wholesale value of the fish caught annually is estimated at about \$1,750,000 to \$3,500,000. The individual income of fishermen is small by American standards, averaging less than \$1,000 a year, but because of the number of people involved, their gross earnings are an important factor in the economic activity of Naples, according to the American Consulate General at Naples.

**Fishing Vessels and Methods:** The fishing fleet consists of 590 small boats with engines up to 60 horsepower (many of these are sailboats with auxiliary motors) and 15 vessels with engines of over 60 horsepower. In addition, 2,000

unregistered and unlicensed small rowboats are used for fishing with nets and lines in the Bay of Naples.

The small motorboats usually fish only in the Bay of Naples and surrounding islands. Some of the larger boats fish along the coast as far north as Gaeta,

as far south as Sapri and along the North Coast of Sicily from Cape Orlando to Palermo. While the quality of fish obtained in the Bay of Naples is good, the quantity available is usually not large and any boat which is large enough goes to a fishing ground outside the Bay.



The larger vessels, of which there are several with about 100 horsepower, three of 150 horsepower, two of 200 horsepower, and one of 300 horsepower, usually fish in a bank running between Tunisia and south of the islands of Lampadusa and Malta. They are gone from port about two weeks and they carry ice. The 300 horsepower vessel, which was recently completed, is the only one with mechanical refrigeration. None of the vessels freeze their catch nor do any salt, dry, or otherwise preserve the fish.

The Naples fishing fleet is able to supply

no more than about 30 to 40 percent of the local demand for fresh fish. The balance comes from the Adriatic Coast of Italy and from Sicily.

With 2,000 rowboats used for fishing in the Bay of Naples, plus about 50 small motor auxiliary boats, the grounds are crowded and more vessels can be used for fishing locally only when there is an abundance of fish to be caught.

On the largest vessels, in accordance with an agreement with their union, fishermen are employed on a share basis. The owner of the vessel receives 25 shares and provides equipment and food. The captain and chief engineer each receives two shares and the crew receives one share each. The average catch for a vessel with an engine of 120 horsepower is about 4,100 to 5,100 pounds on a trip lasting about 12 days to 2 weeks. This gives each member of the crew about \$21 to \$25 net income a trip. When fishermen are hired on a wage basis, they receive

about \$26 to \$35 a month plus food. Some of the small boats are owned by several fishermen who fish and divide the profits in accordance with their investment.

In the Bay of Naples, fishing is with both nets and lines, mostly the former. Some of the fishing is with nets from the shore with men in rowboats placing the nets and people on shore pulling them in. Another method is to place a net around a school of fish and then draw it into a boat. This method is sometimes used at night with an artificial light to draw fish into the net. Anchovies and sardines are usually caught with gill nets. Outside the Bay of Naples, most of the fishing is by trawling.

The equipment used in fishing out of Naples is practically all made in Italy. Hemp for nets produced in Italy costs about \$380 to \$475 for a net of 274 to 360 pounds, and it costs about \$350 extra to have a net made. Vessels cost about \$175 a gross ton, and engines about \$85 per horsepower.



ITALIAN FISHING VESSELS

Amount and Kinds of Fish Caught: There is no statistical record of the amount of fish caught by the Naples fishing industry, but it is estimated that about 1,217,000 to 1,521,000 pounds a year are caught by local fishermen with sailboats and motor powered vessels, and sold on the municipal wholesale market. It is also estimated that an equal amount, and possibly more, is caught by fishermen in rowboats in the Bay. The latter usually sell their fish directly to retailers and consumers. It is believed that they get an average of at least 101 pounds a month for each rowboat, 202,900 pounds a month in all during the period of year when they can fish. Allowing for periods of unfavorable weather when fishing in the Bay is impossible, especially from November through January, they should be able to catch from 1,521,500 to 2,028,600 pounds a year.

In summer, the principal fish caught in the Bay of Naples and nearby are sardines and anchovies. Fishing is usually carried on at night with artificial lights, and under favorable conditions and on a moonless night (when moonlight does not compete with the artificial lights) as much as a ton of these fish may be caught with a small boat. Other fish caught in the Bay include gray mullet, red mullet, mackerel, perch, cod, sea bass, ray, and octopus. The latter are caught at night with artificial lights and spears. Similar fish are caught off the North African Coast except that sardines and anchovies are less abundant there.

Marketing: Fishermen are supposed to dispose of their fish on the Naples wholesale market, which is controlled by the municipality and where commission agents' fees and other expenses amounting to 10.1 percent are paid by sellers. In addition, a municipal consumption tax of about 2 percent to 6 percent, depending on quality, is levied on fish sales and comes out of the price received by the seller. As the municipal market provides the only means of disposing of large quantities of fish, it is used by the most important fishers for disposing of their catch and for the sale of fish coming in from the Adriatic and from Sicily. Retailers come to the market each morning to buy the fish they estimate they will need for the day. The retail markup is supposed to be fixed in relation to the wholesale price, but it is reported that retailers evade this control. In order to maintain retail prices as prescribed by regulations, the municipality issues special licenses to one fish seller in each of the principal food markets who is supposed to sell at legal prices. This plan has not been successful.



The fishermen who evade the municipal wholesale fish market sell their catch direct to retailers, to the mutual profit of both, and sometimes direct to consumers. Such fishermen include practically all those who fish from rowboats and many of the owners of small sailing vessels with motor auxiliaries.

Consumption of Fresh Fish: The amount of fresh fish sold to the Naples wholesale market has been as follows during recent years:

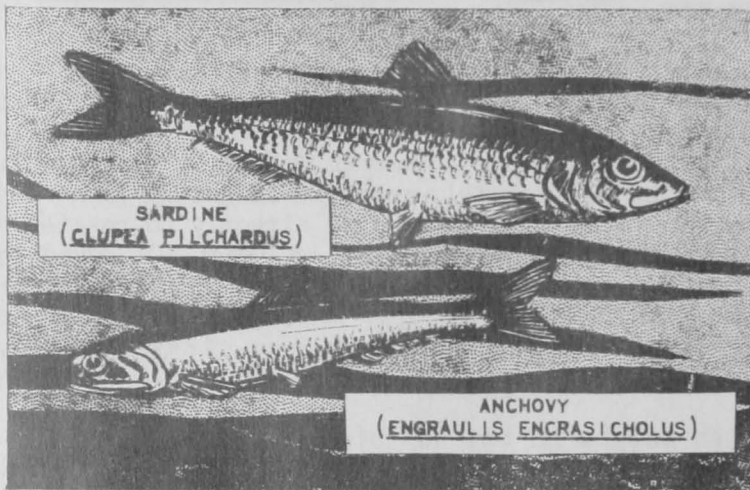
<u>1947</u> <u>lbs.</u>	<u>1946</u> <u>lbs.</u>	<u>1938</u> <u>lbs.</u>	<u>1937</u> <u>lbs.</u>	<u>1936</u> <u>lbs.</u>
6,086,000	6,492,000	6,999,000	6,796,000	6,796,000

About one-fifth of the foregoing represents fish caught by Naples fishermen, most of the rest coming from Sicily and Italian ports along the Adriatic. These figures do not include the fish disposed of outside of the municipal market. Taking this into consideration, the estimated annual consumption of fresh fish in Naples is about 8,114,000 to 10,143,000 pounds or about 17.6 to 22 pounds per person per year.

Dried, Salted, and Frozen Fish: Dried and salted cod imported from Scandinavian countries, Iceland, and Canada, are consumed in important quantities in Naples

and are cheaper than locally-caught fresh fish. They are sold in special stores which deal only in such fish and also in grocery stores. The amount of salted and dried fish sold in Naples in 1947 was 2,739,000 pounds as compared with 2,536,000 pounds in 1938.

An Italian company, which markets frozen fish all over Italy, both what it catches itself and what it imports, has eight retail outlets in Naples. The latter sell in all about



30,400 pounds a month. This is small compared with the amount of fresh fish sold in Naples, but the frozen fish industry is comparatively new and is growing. So far, frozen fish have not been popular, despite being considerably less expensive, because the public prefers fresh fish.

Oysters and Clams: Oysters and several species of clams are artificially raised in small quantities in Fusaro Lake near Naples. This is a small salt water lake connected with the Bay of Naples by a canal. The local shellfish industry is much too small for the needs of the Naples market and most of such fish consumed in this region come from Taranto.

Prices: The following table shows approximate average wholesale prices of six important fresh fish caught near Naples during the first two and a half months of 1948 as compared with average prices in 1938. The present retail markup, according to municipal regulations, is supposed to be no more than 1.7 cents per pound for fish selling up to 17.4 cents per pound and no more than 22 percent for those selling for over 17.4 cents per pound.

Wholesale Fresh Fish Prices - Naples

	First 10 Weeks	
	1948	1938
	Average	Average
	<u>¢ per lb.</u>	<u>¢ per lb.</u>
Gray Mullet .....	.44	.17
Red Mullet .....	.36	.14
Sea Bass .....	.64	.31
Octopus .....	.25	.21
Ray .....	.14	.06
Anchovy .....	.08	.08

Current prices of fresh fish are approximately 60 times prewar, or about the same as the rise in the cost of living in this region. Salted and dried cod are retailing for about 24 cents to 32 cents per pound and mussels are selling for about 9½ cents to 10 cents per pound retail.

Frozen fish are being retailed as follows:

Wholesale Frozen Fish Prices - Naples

	<u>¢ per lb.</u>		<u>¢ per lb.</u>
Fillet of Codfish ....	.30	Dentex .....	.23
Small Codfish .....	.15	Sole .....	.28
Mackerel .....	.13	Salmon (without head) ..	.20
Squid .....	.30	Sea Bass .....	.28

Governmental Aid: The Italian Government is assisting the fishing industry by grants for the construction of new vessels and by special interest rates on bank loans for the same purpose. For the 300 horsepower fishing vessel with 112 tons gross weight recently built in Naples, the Government paid \$14,600 and gave an exemption from taxes amounting to \$697. For loans from banks toward the building of fishing vessels, the rate of interest is 10½ percent of which the Government pays 2 percent. As a guarantee, the banks require a mortgage on the vessel and also require that the vessel be insured. As the insurance rates are high, the owner of the 300 horsepower vessel mentioned above has to pay a premium of \$2,435 on a policy of \$69,565.



## Japan

CROSSBREEDING OF OYSTERS: The marine laboratories in Onagawa, Hokkaido, and Hiroshima are crossbreeding oysters in an attempt to develop an ideal commercial oyster, according to a recent release of the Natural Resources Section of the Supreme Commander for the Allied Powers in Japan. The oyster now raised in Hokkaido is too large and has an inferior flavor. It has, however, an early spawning period, which allows time to fatten the oyster for market, after breeding it. The Hiroshima oyster has a better size and flavor but spawns late. These two oysters were crossbred three years ago, and results are anticipated this summer.



## Japan and Korea

**FOOD CONDITIONS:** The collection and distribution of food in Japan is more rigidly controlled than in any other country in the world, according to a "Report on Food Conditions in Japan and Korea, and Factors Affecting Far Eastern Procurement" made public by the Department of the Army. All significant food products are subject to rationing controls. Even fresh vegetables and fish are rationed. An intensified fish and vegetable rationing program, instituted in December 1947 in Japan has resulted in quite effective control considering the special problems encountered in rationing perishable foodstuffs.

The present Japanese staple food ration--cereals and potatoes--equals 1246 calories per person per day for normal consumers and provides the major source of calories in the Japanese diet. It is supplemented by rations of miso (soybean paste), shoyu (soy sauce), and edible oil which currently provide an additional 50-60 calories daily. On the average, the rations of fish and vegetables provide 100-150 calories daily, making a total official ration level of about 1450 calories. This is below a minimum subsistence diet, so there is intense pressure for consumers to supplement the official ration.

Japan's production of fish, the largest in the world, is highly important as it provides the major source of animal protein in the Japanese diet. Considerable progress has been made in restoring fish production to prewar levels, but the deterioration of fishing equipment and the extreme shortage of replacement supplies has created a serious situation in which Japan is faced with a drop in fish production of possibly 25 percent unless minimum requirements of fishing gear are obtained. Recent procurements of hard fibers and cotton will help to alleviate the acute shortage of nets and rope, but these are recurring requirements and a high priority must be given to the procurement of these items on a continuing basis.

Fishing supplies are extremely short in Korea. As in the case of Japan, the requirements are recurring and must be adequately provided for in the 1949 fiscal year budget. Boats available for fishing are also inadequate.

The report recommends that maximum emphasis should be placed on the procurement of fertilizers, insecticides, and fishing supplies for Japan and Korea.



## Mexico

**SHRIMP FISHING IN GUAYMAS:** With commercial fishing at a standstill, business in general has dropped to the customary low point of summer in the Guaymas Consular District. The major activity is the repairing of the fishing fleet's boats and equipment, according to a consular report from Guaymas.

The fishing fleet prepares for the September 1 opening of bay shrimping, and the October 1 season for deep-sea shrimp fishing. The shrimp season just completed marked up higher production figures than in the previous year, but the catch per unit was smaller. Shark fishing is virtually over until February.



## Norway

**NEW NORWEGIAN GALAPAGOS EXPEDITION:** Twenty Norwegians are taking part in a new Norwegian expedition to Galapagos, Ecuador, where they will set up and start a fishing and canning industry, according to the Royal Norwegian Information Service. There were 650 applicants for the expedition which went to Las Palmas and from there through Panama.



## Republic of the Philippines

**CHALLENGE OF PHILIPPINE FISHERIES:** The first group of Filipino fisheries trainees to be sent to the United States for a year's training in American fishing and fish-handling techniques, under the fisheries program authorized by the Philippine Rehabilitation Act of 1946, returned to the Philippines recently following completion of their studies in America, according to a recent press release of the Philippine Bureau of Fisheries and the U. S. Fish and Wildlife Service.

These trainees--18 in number--left the Islands in April of last year. While in the United States, they underwent intensive practical training in the various phases of fishery work. In addition, six trainees were sent to different American institutions of learning for instruction in the scientific aspects of fisheries.



PHILIPPINE DRIED FISH

They have come back with definite ideas and plans as to what they will do and what should be done locally in order to develop to best advantage the marine resources of the Philippines.

Some of the trainees are planning to carry their studies further along the lines they have studied, some have entered the Government in order to apply their fisheries knowledge, and some would like to go into the fishing business, if there are people willing to back them in the introduction of modern methods of fishing in the Islands.

On the subject of Philippine marine resources development, the trainees are generally agreed on the following points:

1. That a thorough scientific survey of Philippine marine resources and potentialities should be made, aimed at determining the best methods of development,
2. That more adequate and strict conservation laws should be enacted and enforced to safeguard the piscatorial wealth of the country,
3. That the Filipinos should be enlightened on the wise use of modern fishery methods, so that they can reap greater profits from their investments,

4. That the Philippine Government should arouse public enthusiasm in fisheries as an important factor in the food supply of the Philippines.



## Western Caroline Islands

**POTENTIAL TUNA AND SKIPJACK FISHERIES:** The following is based on a brief survey of the Western Caroline Islands conducted by the M/V Oregon between April 25 and May 22, 1948, according to a report by O. R. Smith, Aquatic Biologist of the U. S. Fish and Wildlife Service. The survey included the islands of Ulithi,

Yap, the Palau group, and a southward leg to Helen Reef (Lat.  $20^{\circ} 52' N$ ,  $131^{\circ} 45' E$ ). Most of the period of the survey was taken up with scouting or fishing for live bait around the many small islands south to Koror, in the Palau group.



Fish suitable for live bait are abundant along most of the tortuous shorelines of islands south of Koror.

Jagged rocks and coral limit the seining areas but, nevertheless, schools of bait amounting to several hundred scoops can be found and seined on numerous small sand beaches scattered through the islands.

The fish seen were an atherined, like the Hawaiian "Iao",  $2\frac{1}{2}$  to 5 inches long, a flat herring of about the same size, and a smaller round herring. The "Iao" was the most common along the beaches. The flat herring also occurred along the beaches, but it proved very wild and very little was seined. The "Iao" is also wild but can be seined more easily than the herring. In making a set, stealth seemed to be more effective than speed. The small round herring was more often caught under a light at night. It was not caught in large quantities but more thorough trials, especially in shallow water, might bring up a good supply of these fish. Where fishing with lights works, it offers great economy in man hours.

The natives of Koror stated that "Iao" was "number two bait" for the Japanese. "Number one bait" was apparently a small translucent anchovy, but none of these were found.

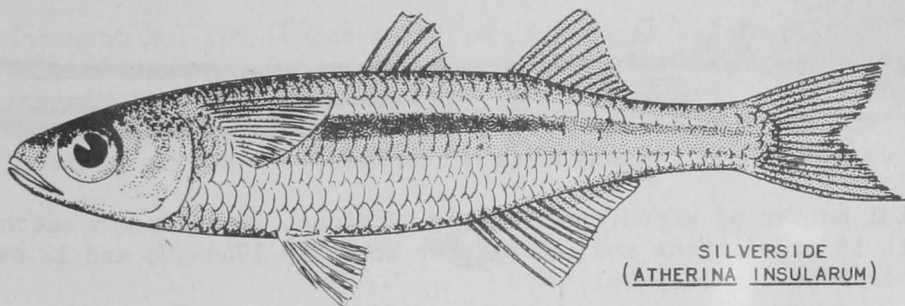
The bait fishes are relatively delicate, but after numerous failures it was found that they can be kept alive in a modern bait tank for several days or a week. Most of the mortality seems to result from mechanical injuries, at least partly due to their habit of continually pushing against the seine. Because of this habit, bait should be transferred to a receiver, and thence to the vessels' tanks as rapidly as may be consistent with careful handling. Once in the bait tank, they did not injure themselves further. It is recommended that the bait

be handled with buckets and never lifted out of water, following the Hawaiian-Japanese methods.

Bait was not found in deep water suitable for a West Coast lampara.

Both the "Iao" and round herring tended to stay bunched and close to the vessel when thrown out as bait.

Schools of yellowfin tuna and of oceanic skipjack were sighted under birds along most of the islands. They seemed to be most abundant along the southeast side of the Palau reef, and around Helen Reef. Tuna were seen with porpoises only once. All of the fish seen were rather wild and never more than 5 or 6 from any one school were caught. That particular habit, however, must either be seasonal or something that can be overcome with local experience because it is known that the Japanese had a sizable live bait fishery in the same region. The natives state that the Japanese live bait boats did not bother to go out in May because the tuna "were having babies" and would not bite. It was true that some of the tuna and skipjack caught were in a spawning condition.



Japanese fishery statistics indicate that the Japanese skipjack fishery in the Palau area was expanding rapidly until 1937, when 13,774 metric tons were caught.<sup>1/</sup> After that, pressure from the rival fishing interests resulted in a limitation on the number of boats allowed in the Palau area, so there is no evidence that the limit of profitable production had been reached.

The impression is prevalent that only the Japanese, with their skill and cheap labor, can make tuna and skipjack fisheries pay from Hawaiian waters westward. The exploratory work of the Oregon would seem to have disproven at least a part of that impression. Live bait was successfully fished with a crew of seven or eight men and the bait was kept alive for about a week. The Japanese in Saipan used bait tanks which depended upon holes through the hull for circulation of water, and with these tanks they could not keep bait alive overnight.<sup>2/</sup> Natives at Koror reported that the Japanese used the same methods around the Palaus.

A tuna and skipjack fishery probably can be developed in the Western Caroline Islands.

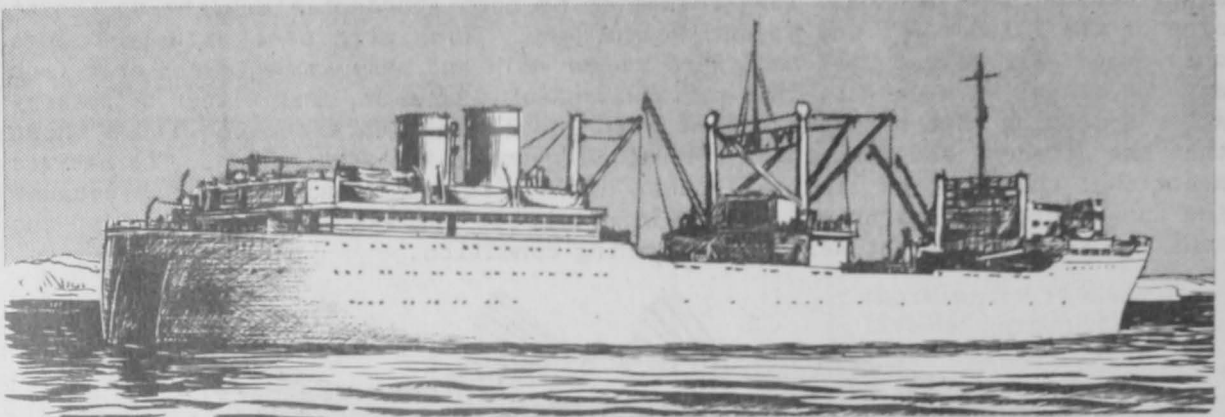
The type and size of vessel that should be used to develop the fishery will depend on the logistics of the area. A relatively small vessel would seem to have an advantage in coming in close to the bait grounds, but a larger tuna clipper type might be necessary if the fish must be carried outside the Palaus. Fishing vessels should have bait tanks provided with pumped circulation.

<sup>1/</sup> Fishery Leaflet 297, U. S. Fish and Wildlife Service.

<sup>2/</sup> Fishery Leaflet 273, U. S. Fish and Wildlife Service.

## International

**WHALING, 1947-48 SEASON:** The number of whaling expeditions in the Antarctic this season was the greatest since before the war, according to the Australian Fisheries Newsletter, June 1948. Norway sent 9 factory ships with 81 catcher boats; Britain, 4 factory ships, including 1 South African, with 45 catchers; Japan, 2 factory ships, 12 catchers; Holland, 1 factory ship, 8 catchers; Russia, 1 factory ship, 8 catchers. In addition, there were 3 shore stations--1 Norwegian, 1 British, and 1 Argentine--with 21 catcher boats.



MODERN WHALE FACTORY SHIP

The total number of expeditions was, therefore, 20 with 175 catcher boats, compared with 18 expeditions and 147 catcher boats in 1946-47, and 12 expeditions and 93 catcher boats in 1945-46.

Whaling (except of sperms and from shore-based stations) ceases when the catch by all expeditions reaches 16,000 blue whale units, equal to about 300,000 tons of oil. As oil has risen by about \$40 a ton to about \$440, the Antarctic catch is now worth about \$132,000,000.



### THE OYSTER AND THE OYSTER INDUSTRY IN THE UNITED STATES

Under natural conditions, oysters are found in brackish waters in depths ranging from half way between tide marks to 40 and 50 feet. Oysters can grow even in deeper water, but no commercially important beds occur below 40 feet. They are well adapted to withstand considerable fluctuations in temperature and salinity of water, thriving in the bays and estuaries where environmental conditions frequently change. In the Gulf of Mexico and on the flats of the inshore waters in southern States, the temperature at oyster bottoms often reaches or even exceeds 90° F.; whereas, in the northern States, nearly freezing temperatures occur every winter. Their tolerance to salt content is also very great. Natural oyster beds are usually located near river mouths and in bays where the salt content of the water is greatly reduced.

--Fishery Leaflet 187