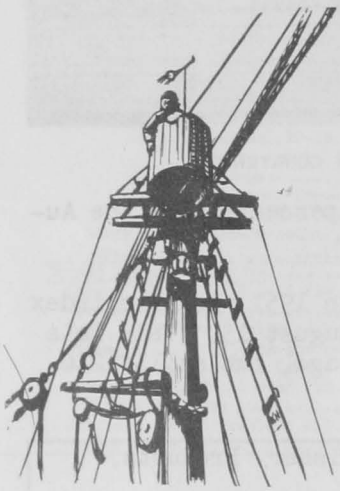
# FOREIGN

## International

ANTARCTIC WHALING, 1950-51 SEASON: During the 1950-51 Antarctic whaling season, 19 floating factories, 3 land stations, and 262 whale catchers were operating according to a review submitted by the Committee of International Whaling Statistics at the Third Meeting of the International Commission on Whaling held in Cape Town in July this year.



The number of pelagic whaling factory ships operating in 1950-51 was 19, accompanied by 241 catchers, and the total catch, inclusive of that of land stations, amounted to 2,305,187 barrels of oil (including 253,166 barrels of sperm oil) as compared with 2,166,505 barrels in the previous season. If the catch of the South Georgia land stations is included, approximately 34,000 whales were captured in the waters south of 40° S. latitude.

Excluding land stations, 31,174 whales were caught by the pelagic expeditions. Calculated in blue-whale units,1/ this catch amounts to 16,413 blue-whale units. Of these, 129 blue-whale units are known to have been lost, so that 16,284 units were actually processed. The output of these pelagic expeditions (exclusive of land stations) amounted to 1,910,000 barrels of oil, or 177.3 barrels per blue-whale unit. In addition, 243,000 barrels of sperm oil were produced.

An average of 8.6 whale catchers were attached to each factory ship during 1945-46, while in 1950-51 the number of whale catchers attached to each factory ship had increased to 12.7.

In 1931, the average gross tonnage of whale catchers was 226 tons, and in 1951 the average gross tonnage had increased to 453. During this period, the average international horsepower of the whale catchers increased from about 750 to 1,825.

The Antarctic whaling season during 1950-51 commenced on December 22, 1950, and terminated March 9, 1951. Consequently, the 1950-51 Antarctic season lasted only 78 days, the shortest season on record.

Humpback whaling commenced on February 1 and terminated on February 7, 1951. Although the permitted catch for humpbacks was 1,250, more than 1,600 were captured. Atmospheric disturbances which affected radio transmission and faulty returns from the pelagic expeditions were responsible in part for exceeding the established limitations.

1/ ONE BLUE-WHALE UNIT EQUALS ONE BLUE OR TWO FIN OR 2.5 HUMPBACK WHALES.

In 1939, for instance, the blue whale constituted approximately 80 percent of the total Antarctic catch, while in 1950-51 the stock of blue whales has been reduced to such an extent that they constituted only 22 percent of the total catch.

During December, the average output per blue-whale unit is 90 barrels of oil, while in March the average per unit varies from 140 to 150 barrels. The low yield per whale in December was the basis for the decision by the Commission at the third plenary session this year to postpone the opening of the next Antarctic season until January 2, 1952.

NOTE: THIS INFORMATION WAS OBTAINED FROM THE REPORT OF THE UNITED STATES COMMISSIONER ON THE THIRD ANNUAL MEETING OF THE INTERNATIONAL WHALING COMMISSION HELD AT CAPE TOWN, UNION OF SOUTH AFRICA, JULY 23-27, 1951.

## FOOD AND AGRICULTURE ORGANIZATION

LATIN AMERICAN FISHERIES COUNCIL AGREEMENT ADOPTED: At the Latin American Fisheries Meeting of the Food and Agriculture Organization (FAO) at Lima, Peru, September 17-22, the desirability of establishing a Latin American Fisheries Council was considered and favorably received. A form of agreement was adopted for submission to the Sixth Session of the FAO Conference to be convened at Rome in November 1951. If approved by the Conference, it will be forwarded to interested member governments for action, and if accepted by five of the member governments, the agreement will go into effect.

The Governments of Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, France, Mexico, the Netherlands, Nicaragua, Panama, Peru, the United States of American, the United Kingdom, and Uruguay, and members of the FAO were present at the meeting and agreed to the adoption of the Agreement. However, the Agreement shall be open to acceptance by Governments that are members of FAO.

The Agreement points out that the purpose of the organization is the development and proper utilization of the living aquatic resources of the Latin American region.

The functions of the Council are to be as follows (Article III of the Agreement):

A. TO FORMULATE THE OCEANOGRAPHICAL, LIMNOLOGICAL, BIOLOGICAL, AND OTHER TECHNICAL ASPECTS OF THE PROBLEMS OF DEVELOPMENT AND PROPER UTILIZATION OF LIVING AQUATIC RESOURCES;

B. TO ENCOURAGE AND COORDINATE RESEARCH AND THE APPLICATION OF IMPROVED METHODS EMPLOYED IN FISHERIES RESEARCH AND IN OTHER FIELDS OF FISHERIES IN EVERY DAY PRACTICE;

C. TO ASSEMBLE, PUBLISH OR OTHERWISE DISSEMINATE OCEANOGRAPHICAL, LIMNOLOGICAL, BIOLOGICAL AND OTHER TECHNICAL INFORMATION RELATING TO LIVING AQUATIC RESOURCES;

D. TO RECOMMEND TO MEMBER GOVERNMENTS SUCH NATIONAL OR COOPERATIVE RESEARCH AND DEVELOPMENT PROJECTS AS MAY APPEAR NECESSARY OR DESIRABLE TO FILL GAPS IN SUCH KNOWLEDGE;

E. TO UNDERTAKE, WHERE APPROPRIATE, COOPERATIVE RESEARCH AND DEVELOPMENT PROJECTS DIRECTED TO THIS END;

F. TO ELABORATE PLANS FOR THE TRAINING OF THE PERSONNEL ENGAGED IN FISHERIES RESEARCH, IN THE FISHING INDUSTRY OR FISHERIES ADMINISTRATION AND TO PROMOTE THE ESTABLISHMENT OF FISHERIES EXTENSION SERVICES THROUGHOUT THE REGION.

G. TO PROPOSE, AND WHERE NECESSARY TO ADOPT, MEASURES TO BRING ABOUT THE STANDARDIZATION OF SCIENTIFIC EQUIPMENT, TECHNIQUES, AND NOMENCLATURES;

H. TO REPORT UPON SUCH QUESTIONS RELATING TO OCEANOGRAPHICAL, LIMNOLOGICAL, BIOLOGICAL, AND OTHER TECHNICAL PROBLEMS CONCERNING FISHERIES AS MAY BE RECOMMENDED TO IT BY MEMBER GOVERNMENTS OR BY THE ORGANIZATION AND IF IT IS THOUGHT DESIRABLE BY OTHER INTERNATIONAL, NATIONAL OR PRIVATE ORGANIZATIONS, WITH RELATED INTERESTS;

I. TO REPORT AFTER EACH MEETING TO THE ORGANIZATION AND TO THE MEMBERS OF THE COUNCIL UPON ITS ACTIVITIES FOR THEIR INFORMATION AND IN ADDITION TO MAKE SUCH OTHER REPORTS TO THEM ON MATTERS FALLING WITHIN THE COMPETENCE OF THE COUNCIL AS MAY SEEM TO IT DESIRABLE.

## Argentine Republic

WHALE FACTORY SHIP "JUAN PERON" SAILS FOR ARGENTINA: The whale factory ship Juan Peron will be employed as an oil tanker pending acquisition of a suitable whale catcher fleet and the opening of the whaling season, an October 5 American consular dispatch from Buenos Aires points out. This 22,000-gross-metric-ton ship was scheduled to leave Belfast, Northern Ireland, October 20 on its maiden voyage to Curacao. Claimed to be the world's largest whale factory ship, the vessel's completion was delayed because of the failure to complete the whale-oil refinery installation as scheduled.

Doubts as to whether the Juan Peron might be sold prior to documentation as an Argentine ship appear to have been resolved as it is understood it now flies the Argentine flag. From unconfirmed reports in Buenos Aires, it appears that the necessary financing originally expected from the Argentine Government, but which did not materialize, has now been undertaken by Norwegian interests.

## Australia

THIRD WHALING ENTERPRISE ESTABLISHED ON EAST COAST: Australia's third whaling enterprise has been registered in Sydney to engage in whaling on the east coast of Australia, according to the August 1951 issue of the Fisheries Newsletter of the Commonwealth Director of Fisheries. This is the third whaling enterprise in Australia. The other two operate in Western Australia.

A representative of the newest whaling enterprise has been in Norway making arrangements to purchase whale chasers, a treatment plant, and plans of equipment that can be manufactured in Australia, as well as to secure key personnel for the enterprise.

The company has decided to operate from a shore-based treatment station during the May to October migratory period. In making this decision, the company took into consideration the high capital cost (approximately US$8,400,000) and operating cost of a factory ship. Successful offshore whaling is being carried on in Western Australia, Belgian Congo, South Africa, Chile, and Madagascar.

Investigations indicate that the most favorable whaling ground off the east coast of Australia is between Byron Bay and Lady Elliot Island. The company has secured a lease of 30 acres on Moreton Island (near Brisbane) where it proposes to erect its treatment plant. It is pointed out that the site is most suitable

for the proposed operations as it is close to the whaling ground, provides a suitable anchorage for the whale chasers, and is sufficiently close to Brisbane to ensure economic supply of fuel and other requirements.

Subject to certain technical requirements, the company has received an undertaking from the Commonwealth Government that it will be granted a license to catch 500 humpback whales each season. It is anticipated that the company will commence operations in 1952.

## British West Indies

TURTLE CANNERY PLANNED: The British Colonial Development Corporation has decided to build and operate a cannery on Grand Cayman Island, British West Indies, for the processing of turtles, reports an American consular dispatch from that area. Capitalization is about $140,000. Building plans are ready and equipment has been ordered. The cannery is expected to be in operation by the end of 1951. The chief product will be turtle soup for markets in the United States and Canada.

GREEN TURTLE (CHELONIA MYDAS), ONE OF THE SPECIES OF TURTLES TAKEN IN THE BRITISH WEST INDIES.

The aim of the scheme is to develop the turtle industry on which the people of the Cayman Islands depend in large part for their livelihood. It is reported that it will provide employment for 100 to 150 people, both in the cannery and in and around the fishing grounds, which are principally off the Caribbean coast of Nicaragua.

A minimum of 3,000 turtles will be required for the first year of operation, and the local fishermen have undertaken to supply the requirements to keep the cannery in operation.

## Canada

LONG-LINING EXPERIMENT OFF NEWFOUNDLAND EXTENDED: An extension of the long-lining experiment at Bonavista, Newfoundland, until December 15 this year has been decided upon by the Department of Fisheries of Canada, according to that agency's September 1951 issue of Trade News.

At the completion of last year's experimental fishing, which was supervised by the Fisheries Research Board of Canada, it was obvious that long-lining has great commercial possibilities on the east coast of Newfoundland. This year's fishing continues to bear out this conclusion.

Two vessels have been engaged during the summer to follow up investigations made last year to determine whether long-lining operations similar to those being used in Nova Scotia would be profitable off Newfoundland. One of the vessels wrecked on August 15 while under charter to the Department, has been replaced by the East Wind, a Newfoundland schooner-type vessel with two masts. The East Wind has been refitted to enable it to carry on the experimental fishing.

The other vessel, which is continuing to conduct long-lining experiments until December with the East Wind, is the 17-ton O-Johnny-O, which is 42 feet in length.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, JUNE 1951, P. 58.

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NEWFOUNDLAND FISHERMEN TO RECEIVE C$1,000,000 FROM THE CANADIAN GOVERNMENT: Canada's Dominion Government has recently decided to make deficiency payments totaling almost C$1,000,000 to Newfoundland fishermen on their 1950 catches of certain types of fish. About 20,000 Newfoundland and Labador fishermen will profit directly from these payments, states a September 21 American consular dispatch from St. John's. Because of low fish prices in 1950, the Dominion Government now proposes to pay C$1.30 per quintal (112 lbs.) on 645,000 quintals of Newfoundland shore-caught cod, and C$0.85 per quintal on 51,000 quintals of Labador semi-dry cod. Payments will total C$981,850. The deficiency payments of C$1.30 will be applied uniformly to all grades and sizes of Newfoundland shore-caught cod regardless of the price it was sold for. The value of the semi-dry cod will be the 1950 support price of C$7.00 plus the deficiency payment of C$0.85, netting the Labador fisherman a price of C$7.85. Some time will undoubtedly be required for the distribution of the payments.

Earlier in 1951, Newfoundland fishermen received aid from the Federal Government, which had found a way to convert pound sterling in Europe in order to permit fishermen to sell their catches on the continent.1/ The Government also had arranged for the Price Supply Board to take over the 1949 carry over of fish in order to clear the way for 1950 sales. It was also announced that there is no reason to give Federal assistance under the Fisheries Prices Support Act for the 1951 catch because of the improved market situation.

1/ SEE COMMERCIAL FISHERIES REVIEW, JUNE 1951, P. 60.

## France

CANNED FISH AND CRUSTACEAN IMPORTS FROM U. S. AGAIN PERMITTED: The suspension of imports of canned fish and crustaceans from the United States, which became effective in France on April 1, 1951, by a customs decision of March 21, 1951, has been lifted by a customs decision of July 17, published in the Moniteur Officiel du Commerce et de L'Industrie of August 30, 1951.

The suspension of imports from designated countries, including the United States, was ordered because the governments of these countries had not notified the French Government of agencies qualified to issue inspection certificates for the products concerned, as required under a French law of October 5, 1949.

The suspension is now discontinued in the case of the United States, according to the decision of July 17, because the American Government has communicated to the French Government information concerning the control procedure exercised by the United States over the products concerned.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, APRIL 1951, P. 51.

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WORLD'S LARGEST TRAWLER BUILT FOR FRENCH FIRM: The world's largest trawler was delivered to a French firm in Bordeaux by a Danish shipyard in July this year,

according to Vestjysk Fiskeritidende, a Danish trade paper, and as reported by the August 9 issue of Fiskets Gang. This trawler, Jutland, is about 250 feet long, 1,592 gross metric tons, and is powered with a 1,400 h.p. Diesel engine. Capable of a speed of 12 knots, the vessel has the most modern equipment, and is able to make four- to five-month trips to the fishing banks off Newfoundland and Greenland.

## German Federal Republic

CATCHING TUNA WITH ELECTRIFIED HOOKS: Equipment for catching salt-water fish on electrified hooks has been developed after many years of experiment by three Hamburg scientists (Dr. Kreutzer, Mr. Peglow, an engineer, and Dr. P. F. Meyer from the Coast and Freshwater Institute's research division for fisheries).

The method was tried in practice for the first time by the cutter Paloma from Busum in an area which is about 90 nautical miles southwest of Helgoland. The tuna is lured to the hook with the usual bait. Immediately after it has taken the bait, the tuna is given a powerful electric shock through the hook. This is accomplished through a newly developed apparatus which changes the direct current of the generator to alternating current, according to a report in Dansk Fiskeritidende of September 14.

The fish is stunned immediately as if by a narcotic so that it cannot fight or wear itself out as is ordinarily the case with the usual fish caught on a hook. Narcosis can be continued by additional electrical shocks according to the need; for example, until the fish is brought aboard.

Siemens-Schuckert will now construct 30 such peices of gear for fish cutters in Hamburg-Finkenwerder, according to reports.

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FIVE BELGIAN TRAWLERS PURCHASED BY GERMAN FIRM: Five Belgian trawlers have been purchased in Ostend by a German fishing firm in Bremerhaven, according to the August 10 issue of Dansk Fiskerintidende, a Danish periodical. The vessels are of 555 gross metric tons each and have a hold capacity of 250 metric tons. Vessels will be converted for deep-freezing of fresh marine fish at sea. Built in Belgium in 1947 and 1948 from drawings furnished by a German shipyard specializing in trawler construction, the vessels are oil-fired.

## Honduras

MARGINAL SEAS AND CONTINENTAL SHELF CLAIMS EXTENDED: A Honduran Congressional Committee, as well as the Congress itself, recently approved unanimously the extension of Honduran Sovereignty over marginal seas and the continental shelf, according to the September 5 American Embassy dispatch from Tegucigalpa. Regarding the rights of the Honduran Government over the marginal seas and continental shelf, the following points were covered:

1. "IT IS STATED THAT THE SOVEREIGNTY OF HONDURAS IS EXTENDED TO THE SUBMARINE PLATFORM OF THE NATIONAL, CONTINENTAL, AND INSULAR TERRITORY AND WATERS COVERING SAME, WHATEVER THE DEPTH AT WHICH IT IS TO BE FOUND AND THE EXTENSION IT EMBRACES, AND THE FULL DOMINION, INALIENABLE AND IMPRESCRIPTIBLE, BELONGS TO THE NATION OVER

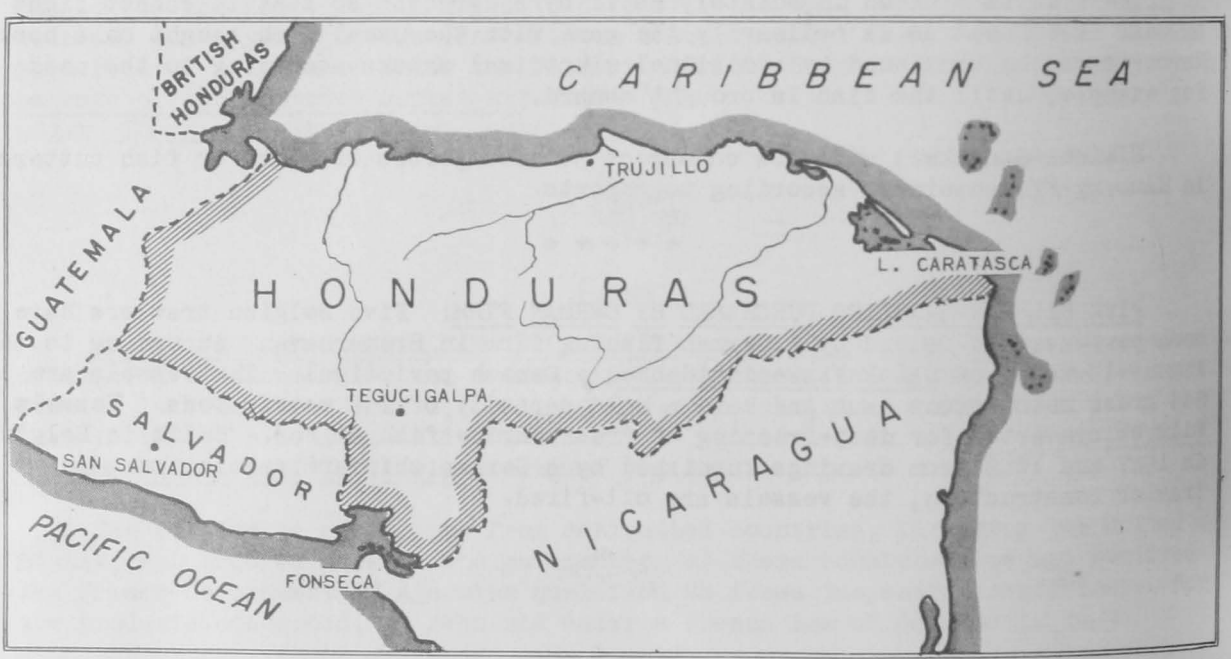
ALL THE WEALTH EXISTING OR WHICH MAY EXIST THEREIN, IN ITS LOWER STRATA OR IN THAT EXTENSION OF SEA EMBRACED BY THE VERTICAL PLANS DRAWN AT ITS BORDERS.

2. "THE DEMARCATION OF THE ZONE FOR THE PROTECTION OF HUNTING, FISHING, AND EXPLOITATION OF CONTINENTAL AND INSULAR SEAS WHICH BY VIRTUE OF THIS DECREE IS PLACED UNDER THE JURISDICTION OF THE STATE, SHALL BE MADE IN ACCORDANCE WITH THIS STATEMENT OF SOVEREIGNTY ONCE THE GOVERNMENT DEEMS IT CONVENIENT, WHETHER RECTIFYING, AMPLIFYING, OR AMENDING SAID DEMARCATION AS MAY BE DEMANDED BY NATIONAL INTERESTS.

3. "THE PROTECTION AND CONTROL BY THE STATE IN THE ATLANTIC OCEAN IS DECLARED OVER THAT EXTENSION OF SEA EMBRACED BY THE PERIMETER FORMED BY THE COAST WITH A MATHEMATICAL PARALLEL PROJECTED INTO THE SEA AT TWO HUNDRED SEA MILES DISTANCE FROM THE CONTINENTAL COAST OF HONDURAS. WITH REGARD TO THE ISLANDS IN THE ATLANTIC BELONGING TO HONDURAS, THIS DEMARCATION SHALL BE DRAWN INDICATING THE ZONE OF THE SEA ADJACENT TO THE COASTS OF SAID ISLANDS TO A DISTANCE OF TWO HUNDRED SEA MILES FROM EACH OF THE CONTOUR POINTS OF THEM.

4. "THIS STATEMENT DOES NOT IGNORE SIMILAR LEGITIMATE RIGHTS OF OTHER STATES ON THE BASIS OF RECIPROCITY, DOES NOT AFFECT THE FREEDOM OF NAVIGATION RECOGNIZED BY INTERNATIONAL LAW, NOR DOES IT LESSEN THE SOVEREIGN RIGHTS AND THOSE OF DOMINION WHICH THE STATE OF HONDURAS MAINTAINS OVER TERRITORIAL SEAS."

The Congressional Committee further requested that the phrase: "all the other islands, banks, and reefs over which Honduras exercises dominion and sovereignty", be added to the bill.




The Honduran extension of sovereignty over the marginal seas and continental shelf is similar to declarations made by other Latin American countries.

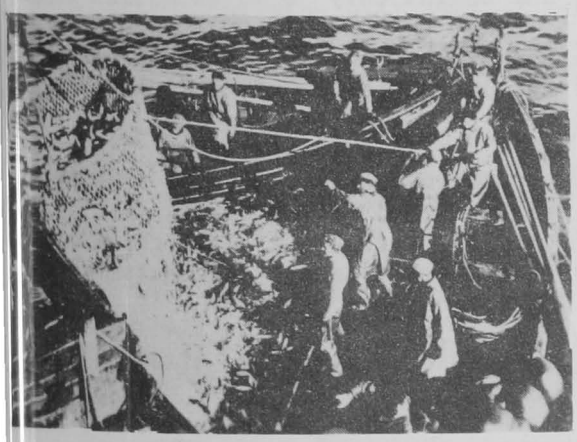
This statement of sovereignty was presented by the Executive Power to Congress through the Minister of Foreign Affairs as an amendment to the Agrarian Law. The Committee urged that this amendment to the Agrarian Law be decreed.

# Iceland

SUMMER HERRING FISHERY SHOWS NO IMPROVEMENT: Iceland's summer herring fishery has been thus far disappointing, the American Legation's August 14 dispatch from Reykjavik reports. Since the promising catches made during the first two weeks of the season at the beginning of July, herring has been sighted only infrequently and in relatively small numbers. Although the total catch on August 11, estimated at 53,904 metric tons, was about twice the 1950 total for the same period, it was, however, below the average of the past six years (all of which were considered failures).

There were 208 Icelandic boats using 206 purse nets participating in the 1951 summer herring fishery. Last year, 240 boats using 235 nets engaged in this fishery. More than half of the current fleet shared in the promising catches made off the Northwest Coast at the beginning of July. Herring were first sighted off the Northwest Coast in the fine summer seasons which preceded the failures of the past several years and this was taken as a good sign for the present season. Many boats remaining in home ports in other sections of the country, awaiting news of good catches, promptly proceeded to the North Coast. Most of the latter have had very disappointing catches. The average catch per net, as of August 11, was estimated at 245 metric tons (1,813 "mal"). The average catch per net for the same period in 1950 was 132 tons (981 "mal"). The 1950 summer herring season was the worst in recent memory. Disappointment with the current season was due to the fact that the average catch per net is almost 14 tons less than the average catch for the same period during the previous six summer seasons.

It is still questionable whether Icelandic boats participating in the North Coast herring fishery will be able to break even this year. Because of the considerable rise in the price for herring, the boats require a relatively small catch to break even. Smaller boats, up to about 70 tons, carrying a crew of a about 11 men and using only one net boat, need only about 202 tons (1,500 "mal") in order to pay expenses for the season. Larger boats, carrying an average crew of 18 men and using two net boats and a larger purse net, require about 337 tons (2,500 "mal") for the season. The average catch per net, thus far, of 245 tons (1,813 "mal") makes it certain that financial losses by the boats, if any, will be well under last year's level. A few good catches would enable many of the boats to come off with a profit.



BRAILING A GOOD HERRING CATCH

Price paid to fishermen for fresh herring delivered for salting has been fixed by the State Herring Board at I.kr.151.20 (US$9.28), on the basis of a barrel of cut and salted herring, requiring an average of 135 kilograms (300 lbs.) of fresh whole herring. The corresponding price paid in 1950 was I.kr.122.00 (US$7.49) per barrel. Under certain agreements with herring processors, fishermen may alternatively receive I.kr.112.32 (US$6.89) for a 100-kilogram (220-lb.) barrel of fresh herring; this price is equivalent to US$9.28 for a barrel of cut and salted herring. The price for the current season is predicated on an average catch per boat of under 5,000 "mal" (810 metric tons). If the average catch is over that figure, an 8-percent production charge (I.kr.11.20 or US$0.69 for a barrel of cut and salted herring) will be deducted from the price paid to fishermen and credited to the "Catch Guarantee Fund" established by the Government to assist the domestic small-boat fishing fleet.

The price of raw whole herring delivered by fishermen to reduction plants du ing the present season was previously fixed at I.kr.110.16 (US$6.76) per "mal" (3 lbs.). This price is also predicated on an average catch per boat of under 6,000 "mal" (810 tons). The corresponding price in 1950 was I.kr.70 (US$4.30) per "mal

Fewer foreign boats were participating in this year's summer fishery. About 200 Norwegian herring boats were reported off Iceland as compared with 211 in 195 In addition, there are about 25 Swedish boats (52 in 1950) and 5 Finnish boats, (15-20 in 1950). A few Russian boats, with a large ocean-going vessel as mother- ship, have also been sighted off the North Coast but no estimate of their number is available. It is reported, however, that the number of Russian boats is well below the 1950 figure. Whereas all Icelandic herring boats use purse nets, almos all foreign boats fish with drift nets. While satisfactory statistics are not available, it is understood that the catch by foreign boats thus far this year ha been poor. However, the drift-net season normally improves after the middle of August.

Small catches of herring have been made this summer off the Southwest Coast of Iceland by about 30 domestic boats using drift nets. It has been hoped that favorable runs of herring would be encountered in this area, similar to those in the winter of 1947-48 and the late summer of 1950.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, AUGUST 1951, PP. 38-40.

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TRAWLERS REPORT POOR OCEAN PERCH CATCH: Most of the Icelandic trawlers fish- ing for ocean perch were changing to fishing for the iced-fish or salt-fish marke according to newspaper reports which state that in mid-August the fishery for oce perch (rosefish) was very poor. One vessel, which had been out five days and tri the best banks as far as the Faroe Islands, had caught only 50 to 60 metric tons.

Additional Icelandic trawlers may join the two now engaged in the Greenland cod fishery. Fishing for the German market was uncertain but was not expected to develop to any extent in August.

In August, of Iceland's fleet of about 40 modern trawlers, 7 were engaged in fishing for the salt-fish market, one for iced fish, and 4 were taking part in the North Coast herring fishery. Eight trawlers were in harbor for classification, repairing, etc., while most of the remainder sought ocean perch, the September 6 issue of Fiskets Gang reports.

## Indonesia

FIRST SHIPMENT OF ECA FISHING BOATS RECEIVED: Indonesia received the first ECA-financed shipment of fishing boats and motors from Japan and they were turned over to the Indonesian Sea Fisheries Service for distribution to the local fishing areas on August 20, a September 12 American Embassy dispatch from Djakarta reports The second ECA-financed shipment of fishing boats was expected to arrive in early September.

# Japan

ANTARCTIC WHALING EXPEDITION FOR 1951-52 SEASON AUTHORIZED: Approval for the operation of a Japanese whaling expedition in the Antarctic for the 1951-52 season was requested from SCAP by the Japanese Government on June 30 this year. In reply to this request, SCAPIN 7462-A (Subject: Japanese Whaling Operations in the Antarctic in the 1951-52 Season) was issued on August 16. This order permits the whaling vessels to leave the authorized fishing area around the Home Islands and go to the Antarctic to engage in whaling operations. However, regulations on Japan's whaling operations are not included, inasmuch as Japan is now a member government of the Whaling Convention and is bound by its articles and schedule regulating the conduct of whaling in the same manner as other member governments. The expedition will consist of two fleets, states the August 25 Weekly Summary of SCAP's Natural Resources Section.

Although Japan has been prominent as a whaling nation since 1930, Japan did not become a signatory of the International Whaling Convention until April 1951. Adherence by Japan became effective on April 21, 1951, and Japan then became a member government.

The five previous expeditions authorized by SCAP produced approximately 578,000,000 pounds of edible oils and meat products valued at not less than US$70,000,000.

NINTH MOTHERSHIP-TYPE TUNA EXPEDITION PLANNED: A small, short-term, Japanese mothership-type tuna expedition will operate in the waters adjacent to the Trust Territory Pacific Islands during the period September 11-October 13, 1951. Area of operation will be from 3°-5° N. latitude and from 150°-168° E. longitude.

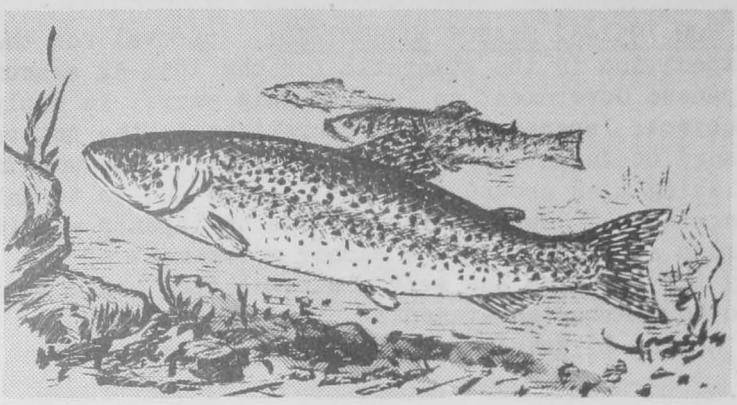
This expedition will consist of a mothership, the Tenryu Maru, of 557 gross metric tons, two 5-ton dory-type catchers carried on the deck of the mothership, and two catchers of the 170-gross-ton class.

The expedition has been designated the ninth and will be attached to the eighth tuna expedition for administrative and control purposes. One catcher left Japan on August 25, and one was scheduled to leave August 28. The mothership was to sail on August 30, transporting the two dory-type catchers.

A catch of about 500,000 pounds of fish is expected. Past experience indicates that the catch will consist of about 65 percent yellowfin tuna and 35 percent of other tunas, swordfish, and shark. Plans are to offer all of the catch for domestic use rather than for export.

RAINBOW TROUT INDUSTRY: Japanese rainbow trout growers raise 2,622,000 fish annually. Although only 2,000 pounds were exported to the United States in 1950, it is estimated that in 1951 these imports will increase to about 17,200 pounds. The size of the fish are a quarter pound each (four to a pound), and about 96 percent of the total exports consist of this size. The balance is made up of one-third pound (three to a pound) fish. Few if any trout more than three to a pound are exported from Japan.

There are 26 Government-operated hatcheries and 144 privately-operated hatcheries raising rainbow trout. The principal freezing, cold storage, and shipping point is Shimizu City, Shizuoka Prefecture. Growers generally clean the trout before shipping to the freezing plant. The trout are frozen at a temperature of -13° F.



RAINBOW TROUT (NIDIMASU), SALMO IRIDEUS (GIBBON), CHIEF COMMERCIAL TROUT OF JAPAN, CAME ORIGINALLY FROM CALIFORNIA.

For export shipment, the trout are packed in 10-pound cartons and shipped in a cardboard case holding five 10-pound cartons. Trout are generally sold by individual growers to one shipper having the necessary freezing facilities. October through December are the months when the largest shipments are made.

Trout cleaned, frozen, and packaged in cellophane bags are quoted at 45 cents per pound f.o.b. Shimizu City.

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CATCH OF SEVENTH MOTHERSHIP-TYPE TUNA EXPEDITION: A total of about 6,235,400 pounds of tuna and other species of fish were caught by the seventh Japanese mothership-type expedition, reports the September 8 Weekly Summary of SCAP's Natural Resources Section. On September 5 the Settsu Maru, mothership of this expedition, together with catcher boats, returned to Japan after 120 days of operation.

The catch of the expedition consisted of: 2,741,460 pounds or 44 percent of yellowfin tuna, 1,467,140 pounds or 23 percent of other tunas, 1,418,150 pounds or 23 percent of spearfishes, 536,400 pounds or 9 percent of shark, and 72,250 pounds or 1 percent of other species.

The average weight per fish was 65 pounds for yellowfin, 80 pounds for other tunas, 114 pounds for spearfish, and 55 pounds for sharks. Average catch per boat per day of operation was 5,200 pounds.

Because of the lack of adequate refrigeration facilities on many of the fishing boats, only about 1,644,800 pounds or 60 percent of the yellowfin catch may be suitable for export. The balance of the production will be sold for local consumption.

The expedition operated from June 12, 1951, to August 26, 1951, from 1°-3° N. latitude and from 153°-168° E. longitude during the first two months, and from 6°-7° N. latitude and 170°-176° E. longitude during the last month of operation.

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REGULATION OF EXPANDING PURSE-SEINE FISHERY UNDER STUDY: Ways and means of regulating the Japanese purse-seine fishery to prevent overexpansion and subsequent overfishing by this fishery are being considered by the Fisheries Agency, Ministry of Agriculture and Forestry. Under the present system, prefectural governments issue all purse-seine licenses and regulations affecting this fishery. The fleet has expanded at an alarming rate since 1940, especially during 1947-50. Purse seiners are increasing not only in number but also in size of vessels and horsepower. The area of operation is extending farther out to sea, and additional species are being included in the purse-seine catch. Problems such as overfishing, interference with established fisheries, and lack of uniformity in conservation

measures arising from this expansion are becoming increasingly difficult to cope with on the local level. The Fisheries Agency is now assembling data and background material to be used in drafting new regulations. A summary of the information supplied to date indicates the magnitude of the purse-seine industry.

Purse-seine fisheries in Japan are classified as one- or two-boat operations. The vessels range in size from small nonpowered boats to powered vessels of over

Table 1 - Number of Nets Used for Purse-Seine Fisheries, By Type of Operation, 1949

| Type of Operation | Non-powered | Powered (Tonnage in Metric Tons) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Under 10 | 10-20 | 20-30 | 30-40 | 40-50 | Over 50 | Total |
| One boat... | 29 | 38 | 146 | 39 | 183 | 66 | 24 | 525 |
| Two boats.. | 1,256 | 264 | 556 | 177 | 110 | 7 | 0 | 2,370 |
| Total... | 1,285 | 302 | 702 | 216 | 293 | 73 | 24 | 2,895 |

100 metric tons (table 1). In 1949, the last year for which complete production statistics are now available, 22 percent of the total reported finny-fish landings was taken by this fishery (table 2). Before 1940 only sardines were taken; however, since that time the sharp decrease in sardine production has resulted in

Table 2 - Position of Purse-Seine Fisheries in Relation to Other Finny-Fish Fisheries, 1949

| Item | Unit | All Finny-Fish Fisheries | Purse Seine Fisheries | |
|---|---|---|---|---|
| | | | | Percent |
| Total powered vessels.. | Number | 119,969 | 6,686 | 5.5 |
| Total tonnage..... | Metric Tons | 864,818 | 69,254 | 8.0 |
| Total horsepower..... | Horsepower | 2,138,822 | 222,904 | 10.0 |
| Total production..... | Metric Tons | 1,941,562 | 432,262 | 22.2 |

purse-seine operators turning to other species, such as mackerel, yellowtail, skipjack, atka mackerel, and even sea bream and mullet in the Seto Naikai (Inland Sea), to supplement their income. Despite the reduced sardine catch, 73 percent of which is taken by purse seines, the fleet doubled between April 1, 1948, and April 1, 1950.

Table 3 - Number of Purse-Seine Nets by Size of Operating Vessels, 1939, 1947, and 1949

| Year | Number of Nets Operated (Tonnage in Metric Tons) | | | |
|---|---|---|---|---|
| | Vessels Under 10 | Vessels 10-20 | Vessels Over 20 | Total |
| 1939 | 629 | 537 | 125 | 1,291 |
| 1947 | 805 | 470 | 112 | 1,387 |
| 1949 | 1,587 | 702 | 606 | 2,895 |

In 1949, a total of 3,152 nets were used in the purse-seine type fisheries (table 3). Of this number, 1,962 were utilized in the sardine fisheries, 281 for mackerel, 50 for tuna and skipjack, and 602 for miscellaneous fisheries. The remaining 257 nets were surrounding-type nets operated with weights.

JAPANESE GOVERNMENT

## Morocco

SARDINE CANNING INDUSTRY FACES BLEAK 1950-51 SEASON: The Moroccan sardine canning industry is currently experiencing difficulties with rising costs of labor and materials, and Great Britain's failure to renew the 1950 contract for 1,000,000 cases of sardines, an August 3 dispatch from the American Consulate at Casablanca points out.

Great Britain is Morocco's biggest single customer. Britain's failure to renew its contract for canned sardines is the most severe misfortune facing Moroccan canners. The local British Ministry of Food representative, commenting on this situation, pointed out that during 1950 Great Britain stock-piled canned sardines and that these stocks in October totaled over 1,000,000 cases (Britain's annual consumption is estimated at 500,000 cases). Secondly, Moroccan sardines have been selling slowly in Great Britain, not because of the quality but because they are relatively unknown, and the marketing of the canned sardines under the terms of the 1950 contract was very poor. Moroccan canners were given the option of using lithographed cans or plain cans with small colorless paper labels. Most canners selected the latter unattractive labeling method. Furthermore, the canners were unable to agree upon a program of publicity in the British market and promotional efforts to move the sardines were very limited. There still exists the possibility of canners receiving a contract for the current season, but it would most likely be only a small one.

Prospects for substitute markets are not bright. France, Morocco's second biggest customer, is unlikely to increase it's annual contingent (number of cases admitted into France free of duty) of 600,000 cases, and a further drop in canned fish exports to Germany is expected. In search for new markets, the canners are further handicapped by foreign unfamiliarity with the Moroccan product.

Manufacturing costs have risen nearly 22 percent due mainly to increases in oil and raw material costs (tin, fish, etc.). Production costs rose from 3,520 francs (US$10.06) to 4,315 francs (US$12.33) per case of 100 cans (¼ club) packed in olive oil (see table 1). Production costs for the peanut oil pack have not, however, increased as much as the olive oil pack mainly because peanut oil prices have not risen as much as olive oil prices. But due to the numerous canneries (180), production costs for individual companies vary widely.

Minimum costs in 1951-52 for these factories with lower labor costs or lower fixed costs are probably 3,800 to 3,900 francs (US$10.86-11.14) per case for peanut oil and 4,000 francs (US$18.43) for olive oil; costs for the less efficient factories, it is estimated, may be 4,500 to 4,600 francs (US$12.86-13.14) per case.

Table 1 - Estimated Average Production Costs for Moroccan Sardine Canners

| Item | Per case of 100 cans ¼ club | | | |
|---|---|---|---|---|
| | 1951-52 | | 1950-51 | |
| | Francs | U.S.$1/ | Francs | U.S.$.1/ |
| Oil2/ (3.5 kilos): | | | | |
| Peanut | 980 | 2.80 | 770 | 2.20 |
| Olive | 1,155 | 3.30 | ,770 | 2.20 |
| Cans | 1,300 | 3.71 | 1,000 | 2.86 |
| Fish (30 kilos)3/ | 660 | 1.89 | 600 | 1.71 |
| Labor4/ | 400 | 1.14 | 350 | 1.00 |
| Other4/ | 800 | 2.29 | 800 | 2.29 |
| Totals: | | | | |
| Peanut oil pack | 4,140 | 11.83 | 3,520 | 10.06 |
| Olive oil pack | 4,315 | 12.33 | 3,520 | 10.06 |

1/ MOROCCAN FRANC ON PARITY WITH METROPOLITAN FRANC - 350 FRANCS EQUAL TO U.S.$1.00.
2/ F.O.B. CASABLANCA.
3/ IF FISH NOT OF TOP QUALITY, 40-60 KILOS MAY BE NECESSARY.
4/ LABOR AND OTHER COST VARY CONSIDERABLY.

Early in 1951, oil dealers prompted by the Protectorate and canners bought their annual stocks, anticipating further price rises. Canners contracted for their entire season's supply at that time. Since then, oil prices have sharply dropped in the world market and many canners are now complaining and petitioning the Protectorate to authorize new imports of lower-priced oil.

It has been generally accepted that the sardine canning industry has become overcrowded (from 45 firms in 1938 to approximately 180 in 1950). Many trade sources have openly suggested that the industry would benefit if during the current season the number of firms was reduced by 10 percent. It is reported that the Canners' Federation is not seriously trying to pressure the Protectorate for industry help, but prefers to forego Protectorate assistance in the hope of eliminating some of the marginal firms.

High profits obtained on exports to France should permit the sounder firms to cover costs and to realize some return on their investments. Profits will not, however, reach the same level as in the 1950-51 season. Many of the firms which were hastily established in the postwar years to cash in on high profits are now marginal firms and need the most help.

Of the estimated 180 odd firms, approximately 25 are large (with a capacity of over 50,000 cases), 70 are medium (with a capacity of 30,000 to 50,000 cases), and 85 are small (with a capacity of 10,000 to 30,000 cases). Using this estimate, total annual capacity of the industry approximates five to six million cases.

Table 2 - Export Prices for Moroccan Canned Sardines, 1951-52 1/ (f.o.b. Casablanca, per case of 100 cans, ¼ club)

| Exports To: | Price | |
|---|---|---|
| | Francs | U.S. $ 2/ |
| United States: | | |
| Standard pack..... | 3,600-3,700 | 10.29-10.57 |
| Skinless and Boneless..... | 4,900-5,200 | 14.00-14.86 |
| France: | | |
| Standard pack..... | 5,200 | 14.86 |
| Western Europe: | | |
| Standard pack..... | 3,750-3,850 | 10.71-11.00 |

1/ PRICES ARE FOR STANDARD QUALITY SARDINES PACKED IN OLIVE OR PEANUT OIL IN LITHOGRAPHED CANS WITHOUT WRAPPING OR KEY.
2/ MOROCCAN FRANC ON PARITY WITH METROPOLITAN FRANC - 350 FRANCS EQUAL U.S.$1.00.

The inefficient firms are not necessarily always the small ones. Many small firms are family enterprises, where there are low overhead costs and careful supervision of the work. A few of the larger firms, on the other hand, are corporate enterprises, with large administrative staffs and elaborate Casablanca offices. From 5 to 15 percent of the firms will probably merge, go bankrupt, or sell out in the current season.

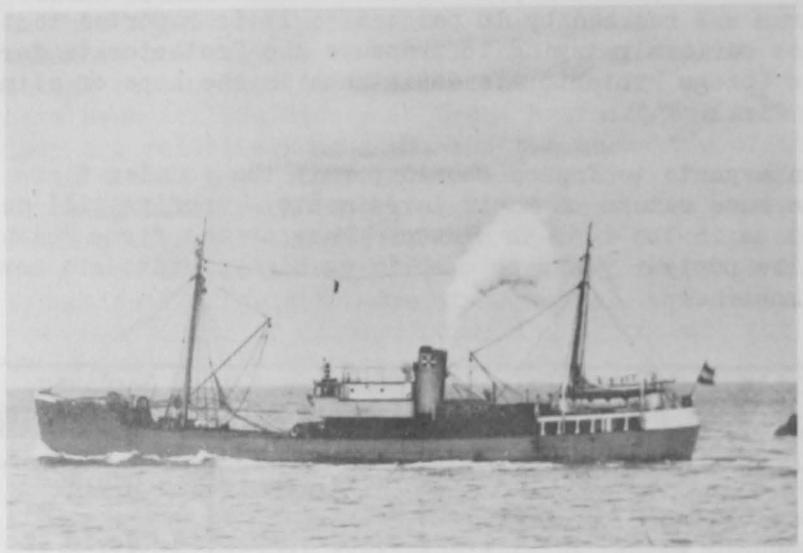
Exports: Estimates place the exports of canned sardines during the 1951-52 season at 1,200,000 to 1,500,000 cases. Sales of canned sardines to countries other than France are running below cost, but sizable profits are accruing from French sales (table 2). Except for shipments to the United States, trade sources report that only a negligible difference exists in prices of sardines packed in olive oil and peanut oil.

NOTE: SEE ALSO COMMERCIAL FISHERIES REVIEW, AUGUST 1951, P. 48.


## Netherlands

FISH CANNING INDUSTRY, 1946-50: The Netherlands fish canning industry commenced heavy operations immediately following World War II. Although sufficient raw materials were available prior to that time, American and Japanese competition prevented the industry from operating profitably because domestic consumption was relatively poor, and exports averaged scarcely 500 metric tons annually.

During the war, the number of canning plants increased steadily even though tin plate was scarce and proper fish varieties were not always available. Herring drift-net fishing was forbidden and trawling was restricted. Of the 43 fish canning plants in existence at the end of the war, 15 plants were primarily engaged in the preservation of mussels. Processing was almost entirely by hand, causing production costs to soar. Machinery and equipment are now bringing the plants up to date, an August 23 American Embassy dispatch from the Hague points out. The number of factories in operation at the present time has been reduced to 34, most of which are organized as corporate companies.



TYPICAL STEAM TRAWLER USED BY FISHERMEN OF THE NETHERLANDS.

There has recently been a decrease in the types of fish processed. While herring fishing was restricted, the items mainly produced were fish pastes, spreads and minced fish, for which all varieties of sea and fresh-water fish were used. The demand for fresh and salted herring was excellent and during 1946-48 only small quantities were available for the canning factories. Since 1949, however, about 25 percent of each year's herring catch is sold to canners.

Table 1 - The Netherlands Canned Fish Production, By Species, 1946-49

| Product | 1949 | 1948 | 1947 | 1946 |
|---|---|---|---|---|
| | (Metric Tons) | | | |
| Herring | 8,491 | 5,503 | 4,192 | 2,838 |
| Mackerel | 1,357 | 572 | 295 | 127 |
| Sprat | 753 | 55 | 62 | 32 |
| Coalfish | 7 | 78 | 62 | 27 |
| Fish livers | 159 | 114 | 92 | 23 |
| Eel | 21 | 23 | 54 | 45 |
| Salmon | 28 | 24 | 22 | - |
| Mussels | 1,913 | 3,895 | 6,855 | 2,600 |
| Other fish | 320 | 1,937 | 3,565 | 1,699 |
| Total | 13,049 | 12,201 | 15,199 | 7,391 |

The bulk of the fish processed by Dutch plants is supplied by herring trawlers, and the important production season begins in September and lasts until January after which production gradually declines. In the mussel-processing plants, September to January is likewise the period of greatest activity.

Table 2 - The Netherlands Exports of Canned Fish and Mussels, 1946-50

| Year | Quantity | Value | |
|---|---|---|---|
| | Metric Tons | Guilders | U.S.$ |
| 1950 | 5,669 | 8,700,000 | 2,283,950 |
| 1949 | 6,779 | 12,799,000 | 4,419,226 |
| 1948 | 5,345 | 8,935,000 | 3,365,645 |
| 1947 | 6,492 | 9,282,000 | 3,504,892 |
| 1946 | 1,359 | 1,895,000 | 716,556 |

The Netherlands monetary position requires large exports, and in 1946 the Ministry of Agriculture, Fisheries and Food Supplies, ordered that tin plate be used mainly for export products. Fish canners have concentrated on foreign sales and have attained a remarkable degree of success (see table 2).

It has been necessary to maintain very high standards of quality to meet competition, and all exports must be approved by a committee of the Control Board for Fisheries in cooperation with the trade association of fish canning industries.

NOTE: CONVERSION FACTORS: 1 FLORIN EQUALLED 37.813 CENTS U.S. IN 1946; 37.7601 IN 1947; 37.6681 IN 1948; 34.5279 IN 1949; AND 26.2523 IN 1950.

## Norway

FROZEN FISH PRODUCTION AND EXPORTS EXPANSION PLANNED: Exports to the United States of frozen Norwegian fish in 1951 are expected to amount to US$1,960,000, according to a report of a director of the Norwegian Frozen Fish Association as published in the August 15 issue of Fiskaren, a Norwegian trade paper. Established in 1946, the Association has now overcome its early difficulties. Two Norwegian steamship lines have equipped a number of their fast vessels with refrigerated space so that transportation facilities for frozen fish are now adequate. The Association has established subsidiary companies in the United States and has stocks of fish in nine cities. A sales organization has been developed and the products are reported winning acceptance in the United States.

Securing sufficient raw material is the greatest problem at present. With the organization available, it should be possible to sell from US$2,800,000 to US$3,500,000 worth of frozen fish annually to the United States, according to the Association. Exports began in 1948 with a value of only US$70,000, and consisted of fillets of wolffish (catfish), cod, haddock, halibut, and ocean perch (rosefish). Cod fillets are not the most important fish product, as many believe.

The Association does not export to the United States alone, although it is and will continue to be the most important market. About 40 percent of the Norwegian frozen fish exports go to the United States with the balance spread among a dozen countries. For example, considerable pollock fillets go to Europe. There are contracts with Austria, Czechoslovakia, Israel, and Italy. There has been no difficulty to date in selling all that has been produced. In fact, at present it is difficult to fulfill the contracts, according to reports.

Several thousand tons of frozen tuna are being shipped to Italy in specially-built boats. Tuna are a difficult fish to handle since they are fat and are caught in the summer when they spoil easily. There is a large demand for tuna in Italy, both frozen and canned. A large amount of frozen Greenland halibut has been marketed in Europe and the Association is attempting to develop a market for frozen fish in India.

* * * * *

RESEARCH VESSEL TESTS FLOAT LINES FOR COD FISHING: Along with the herring studies being carried on by the Norwegian fishery research vessel G. O. Sars, the vessel attempted to fish for cod with float lines from north of the Faroe Islands northward to Jan Mayen.

So many cod were caught on the float lines that there is reason to believe that, in addition to an oceanic fishery for herring, there can also be developed a substantial cod fishery. Apparently a large number of cod follow the herring in their wanderings over the ocean depths. The fishing tests yielded one cod for every five or six hooks, a result which is seldom achieved in the bank fishery. The quality of the cod was as good as it possibly could be. They were exclusively large fish, about 39 inches long or longer. The trial fishery for cod has been

most promising, but naturally must be confirmed by further tests before a pelagic float-line fishery for cod can be initiated.

The G. O. Sars returned to Bergen in early September after surveying the herring fisheries in the Norwegian Sea, Iceland, and Jan Mayen. Fishery Scientist Finn Devold, in an interview reported in the September 5 issue of Fiskaren, a Norwegian fishery periodical, reported that the herring fishery at Jan Mayen had not been as extensive as expected. There probably was no shortage of herring, but fishing operations at 71° N. latitude were hindered by bad weather and the long light nights.

* * * * *

1951 KLIPFISH OUTLOOK: This year's Norwegian production of klipfish will amount to approximately 46,000 metric tons, exclusive of coalfish, according to a statement by the Norwegian Klipfish Exporters' Association. It is estimated that klipfish produced from coalfish will total some 2,000 tons.

KLIPFISH STACKED DURING CLOUDY WEATHER, BUT LATER WILL BE LAID OUT FOR SUN DRYING.

The total production is somewhat smaller than anticipated, but this is said to be due to the fact that nearly all cod caught off Greenland was salted, states a September 20 American consular dispatch from Oslo.

The inventory of klipfish on hand at the start of 1951 was 15,500 tons and it is believed that exports this year will amount to almost the same as expected production--46,000 tons. Brazil, Norway's best klipfish customer, purchased 30,000 tons last year, and indications are that 1951 sales will be almost the same.

## Peru

CLIMATIC CONDITIONS THREATEN FISHERIES PRODUCTION: Highly unusual climatic conditions along the central Pacific coast of Peru threatened to strike a serious blow against Peru's fishing industry, according to an American consular dispatch from that country. The continued presence of warm currents immediately adjacent to the coast, in lieu of the cold Humboldt (or Peru) Current, which is usually close inshore at this time of the year, has resulted in a marked drop in the number of commercially valuable fish available in the area This is due to a decrease in plankton and correspondingly fewer anchoveta, the principal source of food for the larger fish.

Both canning and freezing operations have been cut back sharply, according to reports, and the swordfish industry has dropped to a level of negligible production. As a consequence, a considerable decline in Peru's production of fishery products is expected, compared with that of the past year.

## El Salvador

FISHERY RESOURCES SURVEY PLANNED: The Government of El Salvador is planning a survey of its fishery resources, according to that country's Minister of Economy. The survey will implement the fisheries development program recently embarked upon by the Government of El Salvador with the assistance of a United States Point IV technical mission. The purpose is eventually to increase the supply of protein food available to the people of El Salvador.

The Minister drew attention to a recent Salvadoran law which provides very favorable conditions for capital interested in establishing fishery enterprises in El Salvador, and said that it was his hope that the results of this survey would stimulate investments, both foreign and domestic, in the industry.

The Government is seriously considering the purchase of a modern otter trawler (50-60 feet in length, Diesel-powered, and fully rigged) to be used for the contemplated survey.

## United Kingdom

"AFRICAN QUEEN" VENTURE DISCONTINUED: After six months of exhaustive trials on a commercial basis, Britain's Colonial Development Corporation has concluded that the African Queen could never be run at a profit due to high operating costs, according to the September 15 Fishing News, a British fishery publication. In the original scheme, it was intended that the African Queen should process the produce of the shark and tuna fisheries off the West African Coast. Liver oils were to be marketed in hard-currency areas, while fish meal and other byproducts were to be used in a Gambian poultry-development scheme.

The total capital involved in this project came to £505,500 (US$1,515,400). While no decision has yet been reached about the future of the African Queen, the possibilities of her disposal are being investigated.

NOTE: SEE ALSO, COMMERCIAL FISHERIES REVIEW, AUGUST 1951, PP. 35-6.

* * * * *

PER CAPITA CONSUMPTION OF FISH, 1950: Consumption of fish (edible weight) by the civilian population of Great Britain has dropped from prewar levels, according to the August 18 Fishing News, a United Kingdom publication. Prewar consumption averaged 21.8 pounds per capita, and in 1948 it had risen to 29.0 pounds. However in 1949 the consumption of fish dropped to 25.5 pounds per person and 1950 shows a further drop to 20.0 pounds.

Shellfish, consumed at the rate of 1.3 pounds per capita prewar, was down to 0.7 lbs. in 1950. Average canned fish consumption prior to World War II was 3.6 lbs. per person, but in 1950 this figure had fallen to 1.6 lbs. As meat becomes more plentiful in the United Kingdom, it is believed that the consumption of fishery products will decline even more unless some steps are taken to popularize this food.

UNDERWATER RESEARCH ON BEHAVIOR OF THE OTTER TRAWL: A series of experiments to discover the shape of the otter trawl in action and to measure it as it is towed have been conducted within the past few years by the Fisheries Laboratory of Great Britain's Ministry of Agriculture and Fisheries at Lowestoft. Fisheries

scientists working in cooperation with two frogmen from the Admiralty Research Laboratories have now collected enough information to form a picture of the traw in action.

Two research trawlers, Platessa and Sir Lancelot, were used to measure the working distance between the otter boards or the width of the mouth of the trawl Platessa towed the trawl while the Sir Lancelot made observations. The method used was to attach a buff by wires to the headline bracket of each otter board in such a way that when the trawl was shot the buffs were towed along on the sur face and the second ship could observe the distance between them. To minimize water resistance, fine piano wire was used for the buff attachments.

The testing sea bottom selected for the first observations was one of smoot hard sand at a depth of 16 fathoms in the southern North Sea, and at a time when there was little or no swell running. From the way in which the buffs rode on th surface when the trawl was towed on a straight course, it was apparent that the buffs had no effect on the trawl and the distance between them on the surface gave a true picture of the distance between the submerged otter boards. Of seve different measurements made, the distance between the buffs was determined to be 70 percent of the maximum possible stretch of the trawl.

To measure the height of the headline of a trawl in action, three methods were used. The first was by an echo-sounding device in which echo traces were obtained from the trawl on the bottom. The highest object from which a trace wa obtained, which was assumed to be the center of the headline, was about 8 ft. above the sea bed. Echo traces subsequently obtained from a similar trawl by th Scottish Home Department confirm this result.

A second method of measuring the height of the headline employed the use of 15 ft. poles heavily weighted with concrete at one end so that they would stand upright on the sea bottom. The poles were then painted with bands of different colors, each band a known distance from the base. With the paint still wet, the pole was dropped overboard in front of the moving trawl. The pole was supposed to settle upright on the sea bottom in the path of the moving trawl, and as the headline of the trawl contacted the pole, one of the colored paint bands would rub off where the contact was made. The trawl was then immediately hauled in an the headline examined for the color of wet paint marks in order to determine the height of the trawl when in contacted the pole. This method worked only moderately well. Two measurements on Platessa's 62-ft. headline trawl gave the heigh of the headline as between 7 and 9 ft. at a point 7 ft. from the center of the trawl, and between 5 and 6 ft. at a point 18 ft. from the end of the wing. More reliable results of measurements on Sir Lancelot's 80 ft. headline trawl fitted with 11 North Sea spherical floats but without V. D. gear or tickler chains were that the headline height was about 6 ft. half-way between the quarter and end of the wing, between 6 ft. and 6 ft. 6 ins. in the wing near the quarter, between 8 ft. and 10 ft. in the center of the headline, and about 4 ft. and 5 ft. in the quarter.

The third method of measuring the height of the trawl was by direct observa tion and motion pictures made by the frogmen. Frogmen, stationed aboard a small tender, took to the water ahead of the oncoming trawler. Each frogman held a line connected to a float on the surface. The floats guided the trawler to the frogmen and the lines, touching the trawl warps after the trawler had passed the floats, guided the frogmen to the trawl. Then moving quickly in front of, beside and above the trawl, the frogmen observed the action of the net, then surfaced to be picked up by the waiting tender.

Findings by the frogmen showed that the trawl in action stirs up a great cloud of dirt, even on a hard sandy bottom. Otter boards cause the greatest disturbance while the ground rope (of wire heart wound with rope and a little chain) causes less. (Tickler chains were not used.) The upper part of the net when submerged was seen to allow plenty of flow, ballooning slightly with the meshes opening into wide diamonds. The cod end of the net appeared to be oval in cross section with meshes wide open. The frogmen's estimates of the height of the headline was 7 ft., which was confirmed by the other methods of measurement, when V. D. gear was not used and 7 orthodox 8-in. diameter spherical steel floats in the bosom were utilized. However, the height of the headline tended to vary with different type floats, and it is reported that a new Siamese-twin float (two 8-in. spherical floats are connected together by a curved lifting surface welded between them) model raised the headline to about 15 ft. It is reported that the type of floats and net design are both of importance in obtaining the desired fishing shape of the trawl.

The experiments were not conducted on frequented fishing grounds and only a few fish were seen, mainly skates or rays and John Dories. None were seen entering the trawl, but one large John Dory was seen in the cod end, not against the meshes but in the center, upright, facing the mouth of the trawl, and swimming along with it. A dogfish was also seen unsuccessfully trying to gnaw its way out of the lower end of the battings.

The frogmen's remarks about the ocean floor were not in complete agreement with the picture that was traced on the echo-sounding device. The echo sounder showed the bottom to be quite smooth and flat, yet the frogmen reported that the bottom was actually ridged and furrowed.

Attempts to photograph the trawl in action were not entirely successful since the turbidity of the water near the British Isles prevented shots from being taken of the whole trawl. However, the photographs taken confirmed that the meshes of the trawl net are wide open while the trawl is in action, that the headline is well arched, and that the height of the headline could be raised above normal by the use of certain special floats.

On August 12 the Sir Lancelot left Great Britain for a region near Gibraltar in the Mediterranean Sea. It is hoped that in the clear Mediterranean waters motion pictures can be made far enough away from the trawl as it sweeps the ocean bed to produce a complete picture of the trawl in action. The work will be undertaken at a depth of 60-70 ft. A still camera will also be employed to confirm the findings of the motion picture camera. The findings of the Sir Lancelot are expected to deeply influence the fishing industry in choosing the best gear and equipment to prosecute more efficient fishing trips.

## Yugoslavia

INTERNATIONAL BANK FOR RECONSTRUCTION LOAN AIDS FISHERIES: A loan has recently been granted to Yugoslavia by the International Bank for Reconstruction to assist in the economic development of seven basic projects--one of which is farm and fisheries production, an October 11 press release from the Bank reports. Under the fisheries project, the loan will be used to procure marine engines, radio and sound equipment for fishing boats, and equipment for refrigeration, canning, and processing fish.

The total loan for the seven projects, expected to be entirely in European currencies, is equivalent to US$28,000,000.

The Bank's loan is only a small part of the total investment (equivalent to US$200,000,000) in the seven projects. Yugoslavia will finance the major part of the whole investment out of its own resources.

## OPS REGIONAL AND DISTRICT OFFICES

### ADDRESSES AND TELEPHONE NUMBERS

REGION I

| | |
|---|---|
| BOSTON, MASS.—18 Tremont St., 8th floor. | Hubbard 2-5350. |
| Providence, R. I.—49 Westminster St. | Elmhurst 1-5000. |
| Hartford, Conn.—106 Ann St. | Hartford 7-4171. |
| Portland, Maine—616 Congress St. | Portland 3-8165. |
| Montpelier, Vt.—4 E. State St. | Montpelier 2178-9. |
| Springfield, Mass.—1597 Main St. | Springfield 2-7492. |
| Boston, Mass.—141 Milk St. | Hubbard 2-5350. |
| Manchester, N. H.—801 Elm St. | Manchester 3-7225. |

REGION II

| | |
|---|---|
| NEW YORK, N. Y.—70 E. 10th St., 4th floor. | Oregon 7-1100. |
| Buffalo, N. Y.—740 Main St. | Washington 4-2000. |
| Newark, N. J.—185 Washington St. | Market 2-6010. |
| Rochester, N. Y.—360 East Ave. | Locust 6290. |
| New York City—401 5th Ave. | Oregon 9-4660. |
| Trenton, N. J.—200 E. State St. | Trenton 6-3527. |
| Syracuse, N. Y.—410 S. Salina St. | Syracuse 5-9961. |
| Albany, N. Y.—55 Columbia St. | Albany 62-2631. |

REGION III

| | |
|---|---|
| PHILADELPHIA, PA. — Commercial Trust Bldg., 15th and Market St., 11th floor. | Locust 4-4000. |
| Pittsburgh, Pa.—643 Liberty Ave. | Grant 1-5300. |
| Wilmington, Del.—9 E. 3d St. | Wilmington 4-3191. |
| Erie, Pa.—1005 State St., Baldwin Bldg. | Erie 4-5580. |
| Philadelphia, Pa.—15th and S. Pennsylvania Sq., Commercial Trust Bldg. | Locust 4-4000. |
| Camden, N. J.—538 Broadway | Emerson 5-4164. |

REGION IV

| | |
|---|---|
| RICHMOND, VA.—900 N. Lombardy St., 2d floor. | 6-3841. |
| Baltimore, Md.—306 W. Franklin St. | Plaza 8460. |
| Charlotte, N. C.—101 N. Graham St. | 4-5373. |
| Washington, D. C.—310 6th St. NW. | Sterling 2750. |
| Charleston, W. Va.—601 Virginia St. E. | 3-5111. |
| Raleigh, N. C.—700 Tucker St. | 4-3441. |
| Norfolk, Va.—1216 Granby St. | 2-5378. |
| Richmond, Va.—802 E. Broad St. | 7-8183. |

REGION V

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| ATLANTA, GA.—147 Hunter St. SW. | Alpine 4682. |
| Memphis, Tenn. — 149 Monroe Ave. | 5-8831. |
| Jackson, Miss.—126 E. Amite St. | 5-9351. |
| Birmingham, Ala.—1706-08 2d Ave. N. | 53-3421. |
| Jacksonville, Fla.—610 Julia St. | 6-5501. |
| Columbia, S. C.—1313 Main St. | 3-8336. |
| Nashville, Tenn.—814 Church St. | 42-1865. |
| Montgomery, Ala.—14 Commerce St. | 3-7521. |
| Miami, Fla.—20 S. E. 3d Ave. | 2-1703. |
| Savannah, Ga.—102 W. Broad St. | 2-6131-2. |
| Atlanta, Ga.—114 Marietta St. NW. | Walnut 4121. |

REGION VI

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| CLEVELAND, OHIO—1101-9 Euclid Ave. | Tower 1-2700. |
| Cincinnati, Ohio—37-41 W. 7th St. | Dunbar 2200. |
| Detroit, Mich.—1000 Book Tower Bldg. | Woodward 3-2762. |
| Louisville, Ky.—307 S. 5th St. | Amherst 2581. |
| Toledo, Ohio — Summit-Cherry Bldg. | Fairfax 6741. |
| Columbus, Ohio—68 E. Gay St. | Fletcher 2651. |
| Grand Rapids, Mich.—148 Ransom Ave. NE. | Glendale 6-5481. |
| Cleveland, Ohio—1101-9 Euclid Ave. | Tower 1-2700. |

REGION VII

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| CHICAGO, ILL.—9 W. Washington St., Rm. 400. | State 2-3001. |
| Indianapolis, Ind.—730 E. Washington St. | Atlantic 2401. |
| Milwaukee, Wis.—161 W. Wisconsin Ave., Rm. 3027. | Broadway 6-9301. |

REGION VII—Continued

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| Peoria, Ill.—Citizens' Bldg., Main and S. Adams Sts., 4th floor. | Peoria 3-3781. |
| Green Bay, Wis.—311 S. Adams St. | Adams 4340. |
| Springfield, Ill.—628 E. Adams St. | Springfield 8-7505. |
| Chicago, Ill.—188 W. Randolph St. | State 2-3001. |

REGION VIII

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| MINNEAPOLIS, MINN.—Northwestern National Bank Bldg., 620 Marquette Ave., Rm. 720. | Atlantic 1192. |
| Sioux Falls, S. Dak.—114 S. Main Ave. | 4-5894. |
| Helena, Mont.—Power Block Bldg., 6th and Main Sts. | 4584. |
| Fargo, N. Dak.—617 4th St. N. | 2-7161. |
| St. Paul, Minn.—First National Bank Annex, 5th and Minnesota Sts. | Cedar 8421. |
| Duluth, Minn.—120 N. 4th Ave. W. | 7-5001. |

REGION IX

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| KANSAS CITY, MO.—New England Bldg., 112 W. 9th St. | Jackson 5218. |
| Omaha, Nebr.—408 S. 18th St. | Jackson 7900. |
| Wichita, Kans.—3234 E. Douglas St. | 63-3461. |
| Des Moines, Iowa—615 Securities Bldg., 418 7th St. | 8-7231. |
| St. Louis, Mo.—314 N. Broadway, Boatman's Bank Bldg. | Central 9720. |
| Kansas City, Mo.—220 Admiral Blvd. | Victor 3755. |

REGION X

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| DALLAS, TEX.—3306 Main St. | Riverside 1581. |
| Houston, Tex.—517 LaBranch St. | Capital 7201 or Atwood 4926. |
| New Orleans, La.—Jackson and St. Charles Aves. | Canal 6651. |
| Oklahoma City, Okla.—114 N. Broadway St. | 3-9411. |
| Little Rock, Ark.—223 Main St. | 2-3452. |
| San Antonio, Tex.—128 S. Flores St. | Garfield 1391. |
| Fort Worth, Tex.—2900 W. Lancaster St. | FA-4368. |
| Shreveport, La.—1007-09 Texas Ave. | 5-5411. |
| Tulsa, Okla.—910 S. Boston. | 2-6221. |
| Lubbock, Tex.—1202 Texas Ave. | 3-5337. |
| Dallas, Tex.—1200 Jackson St. | Riverside 6951. |

REGION XI

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| DENVER, COLO.—552 Central Bank Bldg., 5th floor. | Keystone 4151. |
| Salt Lake City, Utah—Old Terminal Bldg., Rm. 104, 222 SW. Temple. | 5-7541. |
| Albuquerque, N. Mex.—142 N. Monroe St. | 5-8621. |
| Cheyenne, Wyo.—1509 Bent Ave. | 8931. |
| Denver, Colo. — New Custom House Bldg., 20th and Stout Sts. | Keystone 4151. |

REGION XII

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| SAN FRANCISCO, CALIF.—870 Market St., Rm. 575. | Klondike 2-2350. |
| Los Angeles, Calif. — Cairns Bldg., 108 W. 6th St. | Prospect 4711. |
| Phoenix, Ariz.—Harbor Bldg., 313 N. Central Ave. | 8-4864. |
| Reno, Nev.—1475 Wells Ave. | Reno 6161. |
| San Diego, Calif.—Fox Theatre Bldg., 1215 7th Ave., Rm. 408. | Franklin 8122. |
| San Francisco, Calif.—870 Market St. | Yukon 2-5800. |
| Fresno, Calif.—1550 Van Ness Ave. | 6-9582. |
| Sacramento, Calif.—1330 J St. | GI 2-5059. |

REGION XIII

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| SEATTLE, WASH.—506 2d Ave. | Elliott 9010. |
| Portland, Oreg.—208-222 SW. 5th Ave. | Atwater 9131. |
| Boise, Idaho—American Legion Bldg., 7th and Bannock Sts. P. O. Box 1337. | 4588. |
| Spokane, Wash.—Howard and Main Sts., 714 Welch Bldg. | Riverside 6171. |
| Seattle, Wash.—905 2d Ave. Bldg. | Elliott 9030. |

Regional offices shown in capital letters. All others are District offices.