



International

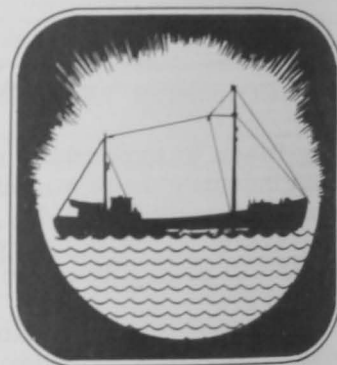
NORTHWEST ATLANTIC FISHERIES COMMISSION

SEVENTH ANNUAL MEETING: The Seventh Annual Meeting of the International Commission for the Northwest Atlantic Fisheries (ICNAF) was held in Lisbon, Portugal, May 20-25, 1957.

This is the first time that an annual meeting has been convened outside the North American continent. In the Convention of 1949 it was stated that annual meetings should be held in North America, but an amendment effected in 1957 made it possible to hold annual meetings in any of the member countries.

The Annual Meeting was preceded by a two-day meeting of the Standing Committee on Research and Statistics. In the week following the Annual Meeting a joint workshop was held by FAO, ICES, and ICNAF to consider a series of problems relating to population dynamics and selectivity of fish gear.

Commissioners, most of them accompanied by advisers, were present. Observers attended from the Federal Republic of Germany, the Union of Soviet Socialist Republics, the Food and Agriculture Organization of the United Nations, Conseil Permanent International pour l'Exploration de la Mer, the International Fisheries Convention of 1946, and the International North Pacific Fisheries Commission.



The German delegation of observers informed the Commission that the German Parliament had now ratified the adherence of Germany to the International Convention for the Northwest Atlantic Fisheries; and that when Germany, in the very near future, became a member of the Commission it would wish to have membership in Panel 1 (West Greenland).

The Standing Committee on Finance and Administration proposed a budget for 1957/58 of C\$45,175; in the budget expenses were included for a superannuation plan for staff members to become effective during the year. The Commission adopted the budget.

In the meetings of the five panels the research work carried out in the past year was reviewed and plans for future work were discussed. It was noted that several countries had extended their research and that further expansion was to be expected.

In Panels 3, 4, and 5 the measures taken by separate countries to enforce the regulations of the trawl fisheries for cod and haddock were considered. The problem of necessary protection of the trawl cod end was dealt with, and a proposal for an amendment was referred to the Plenary Session.

In Panel 4 the question of a further increase of cod-end mesh size aiming at the achievement of greater sustained yields was considered. Based on recommendations from the panel's group of advisers, it was agreed that more research should be carried out before further action could be taken.

Panel 5 considered the growing fishery for scallops (*Pecten*), especially by Canada. Collaboration on research between Canada and the United States was outlined; it was recommended to obtain the opinion of the Depositary Government as to whether scallops fall within the terms of jurisdiction of the Commission.

The United States reported that the regulations of the haddock trawl fisheries in Subarea 5, which had been in effect since 1952, had resulted in substantial savings of small haddock, an increase in size by age of haddock landed, and considerable increases in the quantities of haddock landed. These results had been so clearly shown by the extensive research carried out that the panel decided that part of the special research, carried out since 1952, could be suspended, to be reintroduced only if further analysis made it desirable.

The reports by the panels were considered and approved by the Commission in its Plenary Sessions.

The Standing Committee on Research and Statistics dealt with a series of questions related to the collection and publication of statistics and the planning and utilization of hydrographic and biological investigations and with a great variety of problems connected with the conservation of fish stocks. The Committee noted that the research reports for 1956 "show a gratifying advance in the magnitude of the Commission's research program. This increase has resulted largely from the interest of the several countries in problems of the Convention Area. It is particularly gratifying to note the increasing amount of coordination of research through meetings and exchange visits of scientists, and through joint investigations of the international problems with which the Commission is concerned."

An ad hoc committee dealt with matters of administration and management especially relating to the enforcement regulations of fisheries by member countries; it recommended measures to ensure that the Commission was duly informed by the member countries about their laws giving effect to the regulations of fisheries, their annual inspections, and the results of them. The recommendation was approved by the Commission.

It was decided that the 1958 Annual Meeting be held in Halifax, Canada, beginning on June 9, 1958.

In the week following the meeting, the Joint Workshop by FAO, ICES, and ICNAF took place in Estoril. A series of Plenary Sessions and of meetings of working groups took place; population dynamics and selectivity of fishing gear were the main subjects for consideration.

The Joint Workshop dealt not only with the problems themselves, the results achieved and the planning of further investigations, but also with the more technical aspects of the work, the best ways for coordination of methods, for compilation of data, and for distribution (publishing) of results.

Extensive proceedings of the findings of the meetings were distributed at the final Plenary Session, and it is planned that a final report shall be published by FAO.

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ITALY RATIFIES PROTOCOL AMENDING THE NORTHWEST ATLANTIC FISHERIES CONVENTION: Italy on June 7, 1957, deposited ratification of the protocol amending the International Convention for the Northwest Atlantic Fisheries of February 8, 1949, done at Washington, D. C., June 25, 1956.

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GERMAN FEDERAL REPUBLIC ADHERES TO NORTHWEST ATLANTIC FISHERIES CONVENTION: On June 27, 1957, the Federal Republic of Germany deposited its adherence to the International Convention for the Northwest Atlantic Fisheries, dated at Washington February 8, 1949, and entered into force July 3, 1950. On the same date the German Federal Republic also deposited its adherence to the Protocol amending the Convention, done at Washington June 25, 1956, but not in force yet.

FOOD AND AGRICULTURE ORGANIZATION

TONS OF DEAD FISH FOUND FLOATING IN ARABIAN SEA: Several million tons of dead fish were floating in the Arabian Sea between 60° - 70° E. and 10° - 12° N., according to a report sent to the Food and Agriculture Organization (FAO) by Professor P. Moiseev of the State Institute of Oceanology and Marine Fisheries, Moscow. Available data were insufficient for making an accurate estimate of the quantity of fish killed, but it was clear that this was a large-scale catastrophe.

"According to the information from Moscow, based on reports from a Russian ship sailing through the Arabian Sea, there were about 10 dead fish to the square metre," said Taivo Laevastu, oceanographer of FAO's Fisheries Division. "The area of mortality as reported covers about 200,000 square kilometres. The fish are reported to be 20 to 25 centimetres in length, and fish of this size generally weigh at least 100 grams.



"If we could assume only one-tenth of the area reported is covered with the dead fish at a density of 10 to the square metre, the total is 20,000,000 tons, which is almost equal to the world's yearly commercial catch of marine fish.

"The trouble is that we do not know how well this figure of 10 per square metre holds for the entire area. Assumption that the entire area was covered like this would mean mortality of 200 million tons of fish. This seems unlikely, although, to tell the truth, we cannot reject the possibility. But even if the figure of 10 to the square metre were true for only $\frac{1}{100}$ of the area, the resultant two million tons would represent a great catastrophe."

Mass death of fish occurs from time to time in many parts of the world, the FAO official said.

"The present catastrophe may have been caused by a layer of water known as the 'tropical subsurface oxygen minimum.' Sometimes this layer lies no more than 50 to 75 meters below the surface. The upwellings which take place along the divergent lines of currents, following the changes in the monsoon in April, May and November, often lead to the growth of rich crops of phytoplankton. Sardines, mackerel, tuna, and other fish tend to migrate from, presumably, the Indian Ocean to graze on the phytoplankton. Then conditions may favor particularly strong upwellings which bring the tropical subsurface oxygen minimum layer to the top and the fish are killed through lack of oxygen."

Whatever information can be gathered about the present disaster will be studied with intense interest by fishery biologists and by all those concerned with the fisheries of the area and of the Indian Ocean.

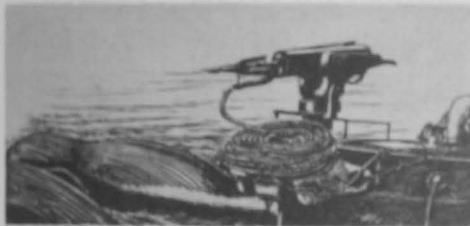
"The important aspect of the present report is that the undoubted magnitude of the catastrophe provides evidence to support the view that the Arabian Sea and the Indian Ocean are rich in fish resources," Laevastu said. "It seems unquestionable that for part at least of this area of the Arabian Sea there were fish in density ex-

ceeding 1 kilogram per square metre. Concentrations of pilchards in the North Sea as high as one kilogram to the square metre have been observed, but only occasionally, and not covering the vast area reported in this case in the Arabian Sea."

"The report is of interest from another point of view. If the fish are--as seems possible--Indian mackerel, the observation of this mortality may be evidence of the migratory path of this species from the fisheries off the coast of West Pakistan and India," continued Laevastu. "If this should prove to be true, we may find that this evidence on mortality and migrations will contribute valuably to analyzing the fluctuations that are a feature of these fisheries. In any case, mortality on the scale reported must severely deplete the stock and it could easily be that it will take several years for the stock to recover its abundance. This fact may perhaps be established by the catches made by Indian and Pakistani fishermen during the next two years."

WHALING

WORLD WHALE AND SPERM OIL OUTPUT IN 1957: World whale oil production in 1957 is forecast at 435,000 short tons and sperm oil output at around 90,000 tons. The forecast for whale oil is somewhat higher in 1957 than in 1956, even though the Antarctic pelagic catch limit for the 1956/57 Antarctic whaling season was reduced by 500 blue-whale units from 1955/56. The forecast for sperm oil output is nearly one-fifth less than last year's preliminary estimate.



Antarctic pelagic whaling (including production of South Georgian shore stations) which ended March 16, accounted for about 85 percent of the forecast world production of whale oil in 1957. This year's Ant-

Table 1 - Whale and Sperm Oil Estimated World Production, Annual 1955-57

Country	Whale Oil			Sperm Oil		
	1957 ^{1/}	1956 ^{2/}	1955 ^{3/}	1957 ^{1/}	1956 ^{2/}	1955 ^{3/}
(1,000 Short Tons)						
Norway	171	136	138	20	25	26
United Kingdom	66	76	77	6	12	11
Japan	95	83	73	25	27	23
Netherlands	16	16	11	1	3	1
Union of South Africa	21	20	21	4	9	6
Soviet Union	28	29	33	15	15	15
Panama	-	27	27	-	3	4/
Australia	18	18	18	-	-	-
Argentina	9	8	9	4/	4/	4/
Chile	3	3	3	4	4	3
Portugal	-	-	-	4	4	4
Others	8	7	8	11	8	8
World Total	435	423	418	90	110	97

^{1/} FORECAST, PRODUCTION OF SOME COUNTRIES ENDS ABOUT SEPTEMBER.

^{2/} PRELIMINARY.

NOTE: COMPILED FROM OFFICIAL AND UNOFFICIAL SOURCES.

^{3/} REVISED.

^{4/} LESS THAN 500 TONS.

arctic catch exceeded the internationally agreed limit of 14,500 blue-whale units by 237 units. In 1955/56, the Antarctic catch of 14,875 blue-whale units was 125 less than the agreed limit of 15,000 units.

While 1956/57 Antarctic sperm oil production was down almost one-third from last season, the whale oil output from the Antarctic pelagic season was up. With oil yield per blue-whale unit in 1956/57 at 127.9 barrels, compared with 121.6 barrels in the previous season, production was up even though fewer units were caught in 1956/57.

A total of 20 expeditions--one more than last season--participated in Antarctic whaling during the 1956/57 season, which lasted 69 days, or 11 days more than the previous season. The total catcher boats was 225, or 32 less than the previous season. This reduction in the number of boats was a result of an agreement between Norwegian, British, Japanese, and Dutch whaling interests to limit the number to 210. Actually, 207 boats were employed by these 4 countries and the Union of South Africa, while the Soviet Union has 18 catchers operating with its single floating factory.

The Union of South Africa's 1956/57 expedition was its final Antarctic whaling venture at least for the next 5 years. The floating factory Abraham Larsen has been sold to Japanese interests with an understanding on the part of the Union to refrain from Antarctic whaling for that period. However, offshore whaling by the Union will continue.

Table 2 - Whale and Sperm Oil Antarctic Pelagic Production, ^{1/} 1955/56 and 1956/57

Country	Whale Oil		Sperm Oil		Total Oil	
	1956/57 ^{2/}	1955/56 ^{3/}	1956/57 ^{2/}	1955/56 ^{3/}	1956/57 ^{2/}	1955/56 ^{3/}
	(Short Tons)					
Norway . . .	160,027	122,793	18,250	24,548	178,277	147,341
United Kingdom	^{4/} 57,065	64,366	5,318	12,105	62,383	76,471
Japan	^{4/} 78,273	90,582	13,722	15,772	91,995	106,354
Union of South Africa	15,175	15,059	^{5/} 745	5,386	15,920	20,445
Netherlands .	16,359	15,901	^{5/} 1,300	3,410	^{7/} 17,659	19,311
Soviet Union .	24,476	26,723	^{6/}	1,972	^{7/} 24,476	28,695
Total . .	351,375	335,424	39,335	63,193	390,710	398,617

^{1/} DOES NOT INCLUDE PRODUCTION OF 3 SOUTH GEORGIA SHORE STATIONS.

^{2/} PRELIMINARY.

^{3/} REVISED.

^{4/} INCLUDES PRODUCTION OF FORMER PANAMANIAN SHIP OLYMPIC CHALLENGER NOW OPERATED BY JAPANESE.

^{5/} ESTIMATE, BASED ON DATA THROUGH MARCH 3.

^{6/} NOT REPORTED.

^{7/} DOES NOT INCLUDE SPERM OIL PRODUCTION.

NOTE: COMPILED FROM OFFICIAL AND UNOFFICIAL SOURCES.

Argentine whaling interests--which have been operating the South Georgia Coast Station of Grytviken under a lease from the United Kingdom--have declared that they will not resume operations in 1957/58 unless an adjustment of the regulations governing foreign exchange earnings ("aforo") is made by the Government of Argentina.

Japan had 5 floating factories in the Antarctic in 1956/57, 2 more than last season. The floating factory Olympic Challenger, which last year was under the flag of Panama, this season operated under the Japanese flag, and a new floating factory, the Matsushima Maru was added. In 1957/58, with the addition of the Abraham Larsen, Japan expects to operate a total of 6 floating factories. Earlier plans to purchase the British ship, Southern Venturer, did not materialize. Pressure was reportedly exerted by the Japanese Government on the prospective buyers to refrain from further increasing the Japanese whaling industry at the present time.

At a meeting in Norway in March 1957, representatives from Japan, the United Kingdom, the Netherlands, and Norway drafted an agreement to place a neutral observer aboard each floating factory taking part in future Antarctic whaling. The draft agreement has been submitted to interested governments for final ratification. The Soviet Union declined an invitation to take part in the meeting. (Foreign Crops and Markets, July 1957, U. S. Department of Agriculture.)

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1956, P. 53.

INTERNATIONAL WHALING COMMISSION

REPORT ON 1957 MEETING: Whale Catch Quota for 1957/58 Season: The Antarctic pelagic whale catch for the 1957/58 season has been set at 14,500 blue-whale units, the same as for last season. This was the result of discussions in London late in June by the International Whaling Commission at its regular annual meeting. The total catch for the 1956/57 Antarctic season exceeded the permissible limit by 237 units.

The Commission's scientific committee recommended a reduction, but the Commission decided that the limit should stand for another year in view of all the economic and practical factors involved, points out The Fishing News (July 5, 1957), a British trade periodical.

The Commission will meet next at The Hague on June 23, 1958

Whale Oil Production 1956/57: The 1956/57 Antarctic whale catch, including land stations, yielded 2,245,435 barrels of oil, including sperm oil. (Six barrels equal one ton.) The 1956/57 season yield was 61,734 barrels below the previous season. Twenty factoryships took part, with 225 catchers.

Outside the Antarctic, the 1956 output was about 605,189 barrels, compared with 520,090 the year before.

Tagging: A total of 225 whales were marked in the Antarctic before the start of the 1956/57 season. A further 50 were marked by the U.S.S.R., and about 500 in Australia and New Zealand.

Among the 56 marks recovered so far this season was one which had been in a whale for 22 years. Another showed that a blue whale had moved 1,900 miles in not more than 47 days.

Russia's Big Factoryship: The keel of what is claimed will be the world's largest whaling ship, of 45,000 tons, has been laid at a Russian shipyard, according to the Moscow radio.

Catcher Boat Limitations: Although Japanese and Dutch whaling companies have refused to prolong last year's international agreement on the limitation of the number of catcher boats in the Antarctic, the Norwegian whaling expeditions are not likely to use more boats for this season, a Norwegian shipowner stated in Oslo.

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SEVERAL COUNTRIES RATIFY PROTOCOL AMENDING THE INTERNATIONAL WHALING CONVENTION: A number of countries recently deposited ratification of the protocol amending the International Whaling Convention of 1946, done at Washington, D. C., November 19, 1956. Sweden deposited its ratification on June 6, 1957; New Zealand on June 21, 1957; and the Union of Soviet Socialist Republics on July 3, 1957; reports the U. S. Department of State. The protocol is not in force yet.

SECOND INTERNATIONAL FISHERIES TRADE FAIR AT COPENHAGEN

The second International Fisheries Trade Fair was held in Copenhagen, Denmark, from September 27-October 6, 1957. A total of 13 countries presented their products. Fish, fishery products, nets, navigation equipment, echo-sounding equipment, engines, fishing gear, machinery for all purposes in connection with the fisheries trade, etc., are some of the things displayed.

The first International Fisheries Trade Fair, Copenhagen, 1956, was visited by buyers from 33 countries.

For information apply to: The International Fisheries Trade Fair Secretariat, Puggaardsgade 10, Copenhagen V, Denmark.

A complete filleting plant incorporating the most up-to-date and modern fish processing machines, packing and weighing tables, and freezers was shown at the fair. The latest production methods, from the raw fish to frozen fillets, were displayed. Machines for herring processing also were shown.



EUROPEAN COMMON MARKET

The 18-member Intersessional Committee of the Contracting Parties to the General Agreement on Tariffs and Trade (GATT) met in Geneva beginning April 24. The Committee, of which the United States is a member, discussed the procedures to be followed for the consideration of the European Common Market Treaty by the Contracting Parties.

The Treaty, signed on March 25 in Rome by France, Germany, Italy, Luxembourg, the Netherlands, and Belgium, is now in process of being submitted to parliaments for ratification. It establishes a European common market, which is intended to present a common tariff against goods from outside the area while permitting the free circulation of goods produced within the area.

In addition, quantitative restrictions between members of the common market such as import quotas are to be eliminated. These aims are to be achieved in a transitional period of at least 12 years divided into three stages of four years each.

The general principle is that the common tariff to be adopted by the six states for imports from other countries by the end of the transitional period is to represent a mathematical average of the tariff levels of the six states on January 1, 1957. This rule is qualified by agreement on five lists of products to be excepted from it.

The first cut in tariffs would be made one year after the treaty takes effect and will be a 10-percent reduction applied uniformly to all duties. Another tariff reduction of 10-percent would be made 18 months later, and a third at the end of the fourth year. After the first four-year stage, tariffs must come down by at least 25 percent, and after the second stage 50 percent.

Taxes having the effect of customs duties are to be gradually eliminated during the transitional period, except that France was granted permission to continue her special import taxes.

The overseas territories of the six member states are to be "associated" with the European common market.



Australia

SHRIMP RESOURCES SURVEY TO INCREASE EXPORTS: In order to increase further Australia's rapidly rising exports of shrimp to the United States, the Department of Primary Industry will undertake a survey of the shrimp grounds off the Northeastern coast of Australia. The survey is expected to locate many beds pres-

ently untouched, thus permitting an expansion of this small but potentially valuable export trade.

In 1955/56, 100,000 pounds of shrimp (prawn) were exported, mainly to the United States. During the first 6½ months of Australia's 1956/57 fiscal year, exports reached 206,000 pounds and were valued at £A60,000 (US\$134,000). At present, however, only a small portion of the probable shrimp grounds are being fished. An officer of the Fisheries Division of the Department of Primary Industry states that shrimp have been found along the eastern coast of Northern New South Wales north and west all the way to Java and that the survey is expected to locate commercially-useful beds throughout the length of the Queensland Coast. The presently known beds (off Northern New South Wales and Southern Queensland) are being heavily fished.

The survey will be undertaken by the Fisheries Division of the Department of Primary Industry and will be financed from the Fisheries Development Trust Fund. This Fund was established from the sale of the assets of the Government Whaling Commission.

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FISHERY RESOURCE SURVEY OF GREAT AUSTRALIAN BIGHT: A survey of the fishing prospects in the Great Australian Bight, off the southern Coast of Australia, will be financed from the Fisheries Development Trust Fund. (This Fund was established from the sale of the assets of the Government Whaling Commission.) It is hoped that better supplies of fresh and frozen fish will become available. According to a June 26 announcement by the Minister of Primary Industry, "the Bight represents the only readily accessible major source of fish suitable for the fresh fish market which has not been exploited."

During 1955/56 Australian production of fresh fish was 64 million pounds (live weight), valued at £5,400,000 (US\$12.1 million), while imports of fish (frozen, smoked, dried, and salted, but not canned) amounted to 53 million pounds, valued at £A2,200,000 (US\$4.9 million).

The Government's decision has already received editorial support in the South Australian press, and market conditions there indicate that even a large increase in supplies could be readily sold.



Bahama Islands

SPINY LOBSTER INDUSTRY: Spiny lobsters or crawfish continued as one of the Colony's leading exports. During the season which opened on October 1, 1956, and closed on March 15, 1957, approximately 1,263,325 spiny lobsters weighing 2,100,000 pounds were captured, an increase of 170,303 spiny lobsters over 1955. The value of spiny lobster exports reached £172,957 (US\$484,000) in comparison with £160,647 (US\$450,000) in 1955.

Exports of finfish were minor.

SPONGE INDUSTRY: Sponge beds, with the exception of the Rights of Andros, were opened on January 1, 1956, for three months' fishing, and the sponge market opened April 16 and closed May 11. Sizes ran large, quantity exceeded expectations, and the quality was excellent. The total value of sponges sold was £27,234 (US\$76,000). The production consisted of wool, grass, hardhead, and reef.

The sponge beds were opened again in 1957 from April 17 to June 16, and the total value of sponges sold was £29,939 (US\$84,000). Prices were about the same as the previous year.

A survey will be made this coming fall to determine whether the sponge beds can be opened again next year. (U. S. consular dispatch from Nassau, July 15, 1957.)

NOTE: VALUES CONVERTED AT THE RATE OF £1 EQUALS US\$2.80.



Canada

LOBSTER AND OYSTER CULTURE AT PRINCE RUPERT, B. C.: Successful experiments transplanting Eastern lobsters (*Homarus americanus*) and cultivating Pacific oysters (*Crassostrea gigas*) have been carried on since 1954 near Prince Rupert, British Columbia, Canada. The development of these new commercial fishery enterprises in the northern waters of British Columbia may be applicable to the inside coastal waters of Southeastern Alaska.



FIG. 1 - AERIAL VIEW OF THE PRINCE RUPERT LOBSTER AND OYSTER FARM.

During the past decade several attempts have been made to transplant the common or Northern lobster from Canada's Atlantic coast (Nova Scotia) to the Pacific coast. These experiments which began in 1945 were conducted at Nanaimo, Ladysmith, and Vancouver, B. C. The projects were abandoned by 1954. However a retired Canadian Naval officer was convinced that lobsters could be transplanted successfully into Western waters. In 1954 he obtained a permit from the Dominion Government for transplanting Northern lobsters from the Atlantic coast, and he organized a company to do this at Prince Rupert.

This firm selected a well situated cove located on the Tsimpsean Peninsula across the harbor from Prince Rupert and obtained a deed which gave it full possession to the tidelands of the cove (figure 1). Live pens for keeping the small lobsters were constructed. Log rafts were used to support the pens in the water (figure 2). The rafts were also ideal for attaching the "strings" of seed oysters.

The first order from Nova Scotia consisted of 70 small lobsters. Upon arrival 69 were dead. Although this experience was discouraging, another test shipment was made using a new type of container designed to be shockproof and heatproof. This container proved to be the answer for keeping the lobsters alive and in prime condition for the long journey across the country from Nova Scotia to Prince Rupert.

To keep the lobsters in pens, heavy-gauge, fine mesh, stainless steel screens were used to line the pens. After 52 days, the lobsters were released and immediately they went to the bottom of the cove. Some of the small lobsters found homes within the cove while others migrated to the outside coastal waters.

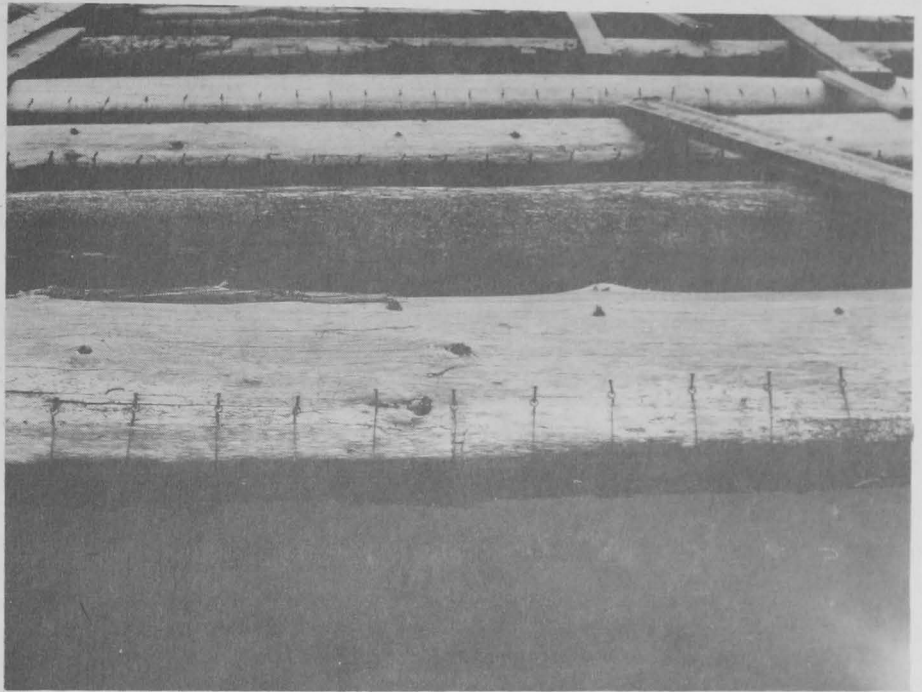


FIG. 2 - LOG RAFTS. NOTE WIRES ATTACHED TO LOG IN FOREGROUND. OYSTERS ARE ATTACHED TO THESE WIRES.

According to the company, the mortality rate is very high while the baby lobsters are going through the free surface-swimming period, and for this reason it

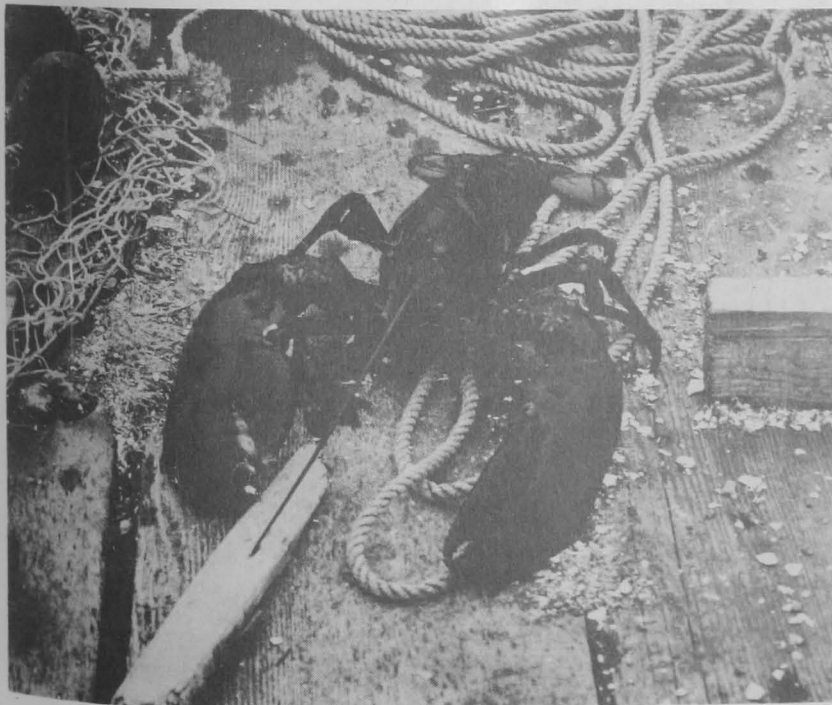


FIG. 3 - IN TWO YEARS, THIS LOBSTER HAS DOUBLED ITS SIZE IN A PEN.

is impractical to make an estimate of how many lobsters have migrated to the coastal areas or how many remained in the cove. It is known that four lobsters released two years ago have been captured in the outside waters. Three of these lobsters were taken incidental to other types of fishing. When they were caught, the fishermen released them without making any measurements as to size or weight. The last of the four lobsters was taken in a Dungeness crab pot by a fisherman who reported his catch to the Royal Canadian Mounted Police at Prince Rupert. This lobster apparently had traveled

only about 20 miles from the place of its release in the two years of liberation. It was taken on a bottom known to be suitable for lobsters.

When kept in live pens, the lobsters that have been pegged will go through two moulting stages. New shipments of young lobsters must be made to keep the supply of newly-hatched lobsters coming.



FIG. 4 - OYSTERS BEING GROWN BY THE HANGING METHOD.

removed from the wires, broken loose from the clusters, and scattered on the beaches at low-water mark for fattening. The time required for fattening depends on water conditions, such as amount and kind of plankton, and temperature. It is estimated that it will take six years to produce a large-size marketable oyster. The marketing of these oysters is expected to begin at Prince Rupert within the next two years.

--BY FRED HIPKINS, FISHERY MARKETING SPECIALIST,
BUREAU OF COMMERCIAL FISHERIES,
U. S. FISH AND WILDLIFE SERVICE, KETCHIKAN, ALASKA.

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SUBSIDY ON SALT FOR ATLANTIC COAST SALT-FISH PRODUCERS: A rebate on the cost of salt to Atlantic Coast producers of salted fish products will be continued, the Canadian Fisheries Minister announced recently.

The Minister pointed out that these fishermen who depend on markets for salted fish products do not have access to the fresh and frozen fish plants and that price

The lobsters maintained for spawning must be fed. Fish is often put in the pens for food, but crushed mussels are used as the main diet.

Although experimental lobster farming at Prince Rupert is still in the early stages, it can now be said that the Northern lobster of the Atlantic coast can be transplanted successfully to western waters.

In addition to lobster culture, oyster culture also is being carried on. The seed oysters which are attached to wires are purchased in Japan and shipped to British Columbia. The wires are attached to floating logs on rafts. Although the hanging method which is common in Japan is new in British Columbia, it is also being used successfully in Southeastern Alaska by a company at Ketchikan, Alaska.

Oyster spat, strung on soft stainless steel wire, are lowered into the water from the log rafts (fig. 2). This method induces a rapid growth rate. In one year the oysters grow to cocktail size. After the first year the oysters are

for their products have remained low in the face of increased costs. The assistance will be paid in the provinces of Newfoundland, Nova Scotia, New Brunswick, Prince Edward Island, and Quebec. It applies to all salt used by fishermen except where the product is to be marketed in the United States. The Minister stated that prices were higher for those products which go to the United States and that the government did not wish there to be any suggestion of assisted exports to that country.

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, JULY 1956, P. 75.



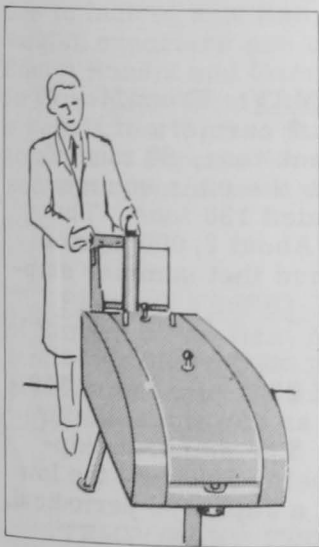
Ecuador

REGULATIONS FOR PERMITS TO EXPLOIT PACIFIC FISHERIES: Regulations for permits to exploit the maritime wealth of the Pacific Ocean as issued by the third ordinary meeting of the Permanent Commission of the Conference on the Development of Conservation of the Maritime Wealth of the South Pacific were approved by Executive Decree No. 6216. The Decree was published in Ecuador's Official Register early in the year. Ecuador is a member of the Permanent Commission, states a June 24 United States Embassy dispatch from Quito.



German Federal Republic

HERRING SPLITTING AND BONING MACHINE DEVELOPED: A new type of herring splitting and boning machine has been put into use in a Newhaven, England, plant and has done excellent work in the short period of use. The first unit of its type in this country was made by a firm in West Germany.



HERRING SPLITTING AND BONING MACHINE.

It is compact, very simple in operation, and is streamlined to meet normal factory-type layout. The herring is beheaded by one rotating blade set on the upper end of the machine, and the beheaded fish then slide down a chute into the main handling line. This consists of two continuously rotating belts equipped on their external perimeter with hooks. These hooks seize the fish as it emerges down the chute belly-down and carry it over a vertical pair of blades which split the belly and then carry the split fish over three sets of abrasive stones which clean the fine bones on the lugs and then discard the cleaned, boned, gutted herring down a second chute for later handling.

The machine does a very clean job, and can be regulated for speed and for pressure to suit the type of fish being handled.

While it is early yet to indicate the success of this unit or the rate of handling, the users regard it as a very promising development, especially in view of the simplicity of design and clean work which is turned out.

When not in use the whole unit is protected by a flap cover rather like the bonnet of a car which folds over the operating parts (Fish Trades Gazette, June 29, 1957).



Japan

ALBACORE TUNA FISHING GOOD AT SHIMIZU EARLY IN JUNE: When the albacore tuna season got into full swing, steady landings of 200 to 400 metric tons a day were being made at Shimizu, Japan, early in June. This year the fish were larger than usual--25 to 32 pounds. The canners and freezers were buying actively, but the price dropped to half that of last year and averaged around \$168 a ton ex-vessel. The boats brought in fares of up to 130-140 tons. Good catches were coming in earlier than in the average year, but dissatisfaction was expressed at the low prices.

According to reports from the fisheries branch of Tokai University at Shimizu, dense schools have come to Japanese coastal waters this year and the fishing improved earlier than usual. Furthermore, large fish were taken comparatively close to the coast, catches were particularly good in the Kinan area and along the Izu Islands chain, where boats of the 80- to 100-ton class fish.

Because it looked as if the price would drop excessively, there was a danger that from the middle of June on the boats would cease to follow the schools of small 16- to 24-pound fish and would go after the larger albacore more to the south, thus losing the schools of smaller fish. Also because of the low price, there was a danger that when the schools of skipjack accompanying basking sharks began to appear in June, most of the Mie Prefecture boats would turn from albacore to skipjack fishing and that consequently the catch from the grounds 500 to 1,000 miles off the coast would decrease.

Since the conditions on the fishing grounds are good, it is necessary to stabilize the price to such a degree that the fishermen will not lose their desire to fish for albacore, points out the Nippon Suisan Shimbun (June 10, 1957), a Japanese periodical. Landings at Shimizu during May 1957 were 1,950 tons, or about 190 tons less than in the same month last year.

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FIRST ALBACORE TUNA LANDINGS AT SHIOGAMA IN MAY: From May 20-29, the Shioagama fish market received landings of 6 seiners, 3 carriers of trap fish, and 1 pole-and-line boat, amounting to 48 tons of skipjack tuna, 80 tons of mackerel, and 20 tons of albacore tuna, a total of 148 tons as the main summer fishing season approached. The first landing of albacore totaled 130 tons. The fish were caught on pole and line 160 miles off Nakaminato. About 2,000 pounds of skipjack were mixed in with the albacore, and it is anticipated that summer skipjack fishing off Kinkazan will be better than usual this year.

The albacore landed were comparatively small, weighing on the average of about 14 pounds. The price was high, ranging from a high of \$207 to a low of \$181 a ton ex-vessel. The greater part was bought up by canners as raw material for canned exports, but some of the fish went to local retailers. The seiners' skipjack brought high prices, better than the albacore, the high being \$288 and the low \$235 a ton, states the Nippon Suisan Shimbun (June 7, 1957), a Japanese periodical.

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NORTH PACIFIC MOTHERSHIP SALMON FISHERY CATCH AS OF JUNE 30, 1957: The Japanese North Pacific mothership salmon fishery as of June 30, 1957, reported a catch of 65,586 metric tons as against the quota of 100,000 tons. Of the total, 60,462 tons were caught in the North Pacific area as against the quota of 87,000 tons and 5,124 tons in the Okhotsk area as against the quota of 13,000 tons. These catch figures were released by the Japanese Fisheries Agency in a recent news release.

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SEED OYSTERS FIND FAVORABLE MARKET IN UNITED STATES: Kumamoto Prefecture exported 280 cases of breeding or seed oysters to the United States this spring. The price ranged from \$8.50 to \$9.50 a case. Recently the American Pacific Coast Oyster Breeding Association informed the Kumamoto Prefectural Fishery Experimental Farm that breeding oysters from Kumamoto are proving popular in the United States and opened negotiations for the import of 1,500 cases during the next year, points out a July 3 United States consular dispatch from Fukuoka.

JAPANESE GOVERNMENT



Republic of Korea

ENTERS DEEP-SEA FISHING FIELD: One Korean 220-ton fishing vessel (Jinam-ho) cast off early in July for an area near the Philippine Islands for tuna fishing.

The departure of the Jinam-ho represents Korea's entry into a long-desired program of deep-sea fishing activity. It is looked upon by the Korean Minister of Commerce and Industry as an opportunity for the crew to learn modern fishing techniques. The vessel has been equipped with \$75,000 worth of imported equipment which was financed through the United States aid program. (United States Embassy dispatch dated July 8, 1957.)



Norway

FILLET EXPORTERS HAVE DIFFICULTY MEETING QUOTAS: Frozen fish fillet stocks in Norwegian cold storage warehouses have dwindled to such an extent, due to lack of raw fish supplies as a result of the poor winter cod season, that Norwegian exporters are currently unable to fulfill their export contract obligations to Soviet Russia and Czechoslovakia. Barter deals calling for exports of frozen fillets in return for West German, French, and Italian automobiles have been postponed as a result, the United States Embassy reports in a June 7 dispatch. However, the total fillet exports for 1957 will be better than the results from the winter cod season alone would indicate because of the carry-over of stocks from 1956.

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FISHING VESSEL EQUIPPED FOR FISH-BLOCK FREEZING: The M/V Senior of Bergen is the first Norwegian fishing vessel to be equipped with a freezing system to freeze fish blocks. The quick-freezing unit is expected to freeze about 3 metric tons daily of fish that would be otherwise culled out at sea. (News of Norway, May 9, 1957.)

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TEMPORARY FISH PRICE INCREASE GRANTED: The Norwegian Ministry of Fisheries announced early in June 1957 that a special fish production premium was to be paid for all fish caught between May 1 and September 30. The amount of the premium has not been established, but the press estimates that it will be about 5 øre a kilogram (about $\frac{1}{3}$ U. S. cent a pound), subject to negotiations between the fishermen and the Board of the Price Fund for fish. The money is to be taken from that fund, which is about exhausted. Representatives for the fishermen have argued that the Government used tax money to help farmers to overcome the effects of the 1955 drought and that it should do the same for the fishermen who have had poor catches, states a June 7 dispatch from the United States Embassy in Oslo.



Portugal

FISHERIES TRENDS FOR 1956: The Portuguese fishing and fish canning industries had a generally successful year in 1956, despite a slow start caused by small runs of fish in the first half of the year.

The catch of all kinds of fish in 1956 amounted to 246,087 metric tons--exclusive of cod--13 percent greater than 1954 (a record year). Canneries in general profited from the abundant catch and the sustained foreign demand.

Production of canned fish and fish in brine totaled 76,321 metric tons, an increase over 1955 of 33 percent for canned fish and 134 percent for fish packed in brine.

Because of the small size and sometimes inferior quality of many of the sardines caught, canneries were unable to pack qualities normally required by some European markets or the boneless and skinless variety preferred in the United States market. Consequently, a large number of orders remained unfilled.

Exports of fish canned and in brine in 1956 totaled 63,335 metric tons, only slightly less than the 63,894 metric tons in 1955.

In the 1956/57 cod fishing season, the Portuguese fleet consisted of 50 hand-line schooners and 22 trawlers. Total cod catch for the season, according to preliminary figures, was 75,054 metric tons of wet cod, compared with 68,537 metric tons in the 1955/56 season.

Portuguese whalers, operating from the Azores and Madeira landed 704 sperm whales and one finback in 1956. The whaling station in Continental Portugal remained inactive during the year.

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FISHERIES TRENDS, JANUARY-MARCH 1957: Sardine Fishing: The Portuguese sardine catch during January-March 1957 of 3,858 metric tons (value US\$680,000) was all caught in the month of January. A closed season on sardine fishing went into effect on January 15 and was scheduled to end April 15.

Sardines purchased by the packing centers during January amounted to 2,607 tons (value US\$513,000) or about 68 percent of the catch. The fresh fish markets in January 1957 took 1,283 tons and only 13 tons were used for salting.

Other Fishing: The January-March 1957 landings of fish other than sardines were dominated by 6,610 metric tons (value US\$391,000) of chinchard and 795 tons of mackerel (value US\$89,000). Small quantities of anchovy (21 tons) and bonito (less than one ton) were also landed (Conservas de Peixe, May 1957).

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FISHERIES TRENDS, JANUARY-APRIL 1957: Sardine Fishing: The new Portuguese sardine season opened on April 16. The total amount of sardines caught the last half of April amounted to 2,775 metric tons (valued at US\$327,061 ex-vessel, or \$118 a ton). In April 1956 only 434 tons of sardines were landed with an ex-vessel value of US\$101,670.

Sardines purchased by the canneries during April amounted to 2,775 tons (valued at US\$94,191 ex-vessel, or \$125 a ton), or 27 percent of the total landings. Only 8 tons were salted, and the balance of 2,014 tons, or 72.5 percent of the total, was purchased by the fresh fish market.

The new sardine season showed a certain marked lack of interest on the part of the canneries because of reports that buying by foreign markets was light.

Other Fishing: The January-April 1957 landings of fish other than sardines consisted of 539 tons of anchovy and 6,887 tons of chinchard. (Conservas de Peixe, June 1957.)

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SARDINE FISHING FLEET OWNERS FAVOR CONTROL OVER SIZE OF FLEET: The Portuguese sardine fishing vessel owners, in their report for 1956, recommend that present restrictions on the expansion of the sardine fishing fleet be maintained; that old boats be withdrawn; and that a fund be formed to compensate owners who withdraw dangerously small and uneconomic boats.

They also recommend that those who wish to replace or modernize their boats should be encouraged to do so, says an economic report on Portugal, issued by the Board of Trade in London.

During 1956, a total of 93,172 metric tons of sardines were caught, an increase of 9,205 tons over 1955. The canners utilized 48,295 tons of the 1956 sardine catch and the balance was consumed as fresh, frozen, or salted sardines (Fishing News, June 7, 1957).



Spain

BILBAO FISHERIES TRENDS, APRIL-JUNE 1957: Fishing vessel operators in the Bilbao district of Spain were not too disappointed in the anchovy catches this season, which were somewhat irregular, as the fish made an unusually early appearance in March and, after a long spell of sparse hauls, appeared again in great numbers at the end of May. As a whole, the fish were excellent and abundant for both fresh consumption and canning purposes. The wholesale price averaged 5.50 pesetas a kilo (6 U. S. cents a pound).

The sardine season, which normally opens during the month of June, appears to be long overdue. (Sardines still continue to be brought to Bilbao from Mediterranean ports at the rate of several truckloads daily.) Consequently, the fishing fleet is concentrating its efforts on tuna which has made an early appearance this year in the Bay of Biscay. The first catches of tuna by the local fishing fleet operating principally off the coasts of Galicia were made early in June, and they promise good prospects for the season. Prices are reported to be remunerative for the fisherman who averages 15 pesetas a kilo (US\$320 a short ton) for the whole fish. (U. S. consular dispatch from Bilbao, July 16, 1957.)

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VIGO FISHERIES TRENDS, MAY 1957: Fishing: During May landings at Vigo sold over the fish exchange amounted to about 8.1 million pounds, valued at US\$770,274. The May landings decreased in quantity about 12.9 percent as compared with the previous month and were about 3.5 percent below the May 1956 landings. The sardine catch was light and amounted to only 44,000 pounds. The sardine fishery up to the end of May has failed to bear out earlier predictions that the sardines had started to return in volume to Spanish coastal waters after an absence of 10 years.

The principal varieties of fish landed in May 1957 were: small hake 1.5 million pounds, horse mackerel 1.4 million pounds, a species known locally as "gallo" (Lepidorhombus

bosci) 0.5 million pounds, and pomfret or dollarfish 0.4 million pounds.

The average price of fish and shellfish sold on the Vigo fish exchange in May was 9.5 U. S. cents a pound as compared with 8.2 U. S. cents in April and 9.1 U. S. cents in May 1956.

Fish Canning: The fish canneries in the Vigo area purchased about 374,000 pounds of fish during May as compared with about 704,000 pounds in April and 289,000 pounds during May 1956.

The canneries packed cuttlefish (or sepia), octopus, pomfret, horse mackerel, and sardines during the first three weeks of

May 1957 but on a very reduced scale. As the result of the lack of fish suitable for packing, practically all canneries were idle during the last week of May--definitely a poor month for the canneries.

Domestic sales of canned fishery products were slow in May and have been estimated to be about 25 percent under May 1956. Exports of canned fishery products showed an improvement over April as the result of the new exchange rate (42.00 pesetas to US\$1 plus a premium of 3.00 pesetas per dollar). The principal export markets during May 1957 were Finland, Germany, Great Britain, Central and South

American countries, and Mexico. Stocks of canned fishery products in the Vigo area are reported to be low.

Canneries and lithographers are more concerned than ever over the tin plate situation in view of the coming tuna and albacore seasons. Small lots of tin plate continue to arrive for local canneries which have been able to export and thereby obtain 20 percent of the foreign exchange for the payment of approved imports. However, import licenses are not being granted for any large lots of tin plate. It is reported that the Spanish mills are only able to supply from 15 to 20 percent of Spain's tin plate requirements.



Sweden

FROZEN FISH INDUSTRY: The Swedish frozen fish industry is a comparatively new industry. Estimates of the quantity of quick-frozen fish consumed in Sweden vary considerably. In the past some estimates have been as high as 15,000 metric tons yearly but it now appears that during the current year consumption is running at a rate of about 3,000 metric tons. According to the trade, this figure is disappointing in the sense that they had expected a slightly higher increase over the preceding year, but some satisfaction is found in the fact that it is in any event an improvement which is viewed as a good sign.

A Norwegian expert after studying the Swedish market recently stated that in his opinion production in Sweden could very well rise to between 15,000-20,000 metric tons a year in five years, provided, however, that the Swedish industry entered competition whole-heartedly, principally with Iceland.

The local industry has found that frozen cod is the most popular item with haddock gaining ground. Other species that are frozen are Baltic herring, other herring, mackerel, and kingfish. New products are gradually appearing in the market. Recent examples are frozen fish pudding and fish steaks, a June 18 dispatch from the United States Consul in Goteborg reports.

The trade also claims that the appearance of frozen fish on the market has improved the demand for fresh fish, aided by the fishing industry promotional activities. Another point made is that surplus fish is now being used to a far greater extent because of freezing facilities. Exports are said to have been stimulated by the freezing process. Large quantities of cod were frozen this year and several hundred metric tons are said to have been exported.



Thailand

THAI-JAPANESE JOINT FISHING BASE PROPOSED: The Japanese Embassy in Thailand has proposed to the Thai Government the establishment of a fishing base on Terutao Island, off the Southwest coast of Thailand. The plan proposes the construction of a port, supply facilities, refrigeration plant, cannery, and auxiliary facilities at a total estimated cost of about US\$9.5 million. This capital is available in Japan. The Thai Government's contribution would be the use of the uninhabited island, in return for a 50-percent ownership of the venture.

The base would enable Japanese fishing boats to exploit the Indian Ocean, which the Japanese Embassy spokesman said is necessary because of shrinking fishing areas in Northern waters. The base, however, would be available to fishing vessels from any nation. The Thai Government is studying the plan, states a July 5 dispatch from the United States Embassy in Bangkok.



Union of South Africa

PILCHARD INDUSTRY RESEARCH EXPANDED: Expansion of research facilities is part of an accelerated program of fisheries research in African South Atlantic coastal waters from the Cape to Walvis Bay, points out the Union of South Africa Director of Fisheries. Twelve additional research laboratories (costing £15,000 to £18,000 or US\$42,000-50,000) for the Division of Fisheries of the Department of Commerce and Industries are being built and are expected to be finished early next year. The new buildings will be devoted to the biological side of fisheries research and the existing 8 laboratories will then become a physical and chemical oceanographic research section.

South-West Africa was combining with the Union in the program, which because of the importance of the industry was basically concerned with the life history of the pilchard and maasbanker. West coast fishermen receive an annual income of about £2 million (US\$4 million) from these two fish.

"Research has been in progress for seven years, but there is still much to be done if conservation methods are to preserve the industry for the future," the Director said.

"For several years it has been laid down that not more than 250,000 tons of pilchards and maasbankers may be landed in the Union or in South-West Africa. This is purely an arbitrary figure. From prolonged research we hope to be able to predict the annual migration and population of these fish and make our conservation plans accordingly."

The intensified research program will cost more than £175,000 (US\$490,000) in extra capital outlay, to be recouped from a levy on the industry, and at least £25,000 (US\$70,000) extra in recurring annual expenditures, to be met from State funds.



United Kingdom

CANNED SALMON IMPORT QUOTAS: The British Board of Trade announced in June 1957 that further quotas have been arranged for canned salmon imports from North American countries and Soviet Russia for the year ending June 30, 1958 (United States Embassy dispatch dated June 24).

Canned salmon cannot be put on open general license for balance of payment reasons, the British Minister of State Board of Trade told the House of Commons. A member of the House asked if there would now be an opportunity for people not previously granted an import quota but importers of other canned fish to get a salmon quota. The Minister said the basis of quota distribution was that 85 percent of imports go to firms which were first-hand distributors for the Government in the period of control, and the remaining 15 percent to postwar importers of canned fish other than salmon.

The United Kingdom's import quota for canned salmon from North America for the year ending June 30, 1958, has been set at £3.5 million c.i.f. (US\$9.8 million) as compared with £3.3 million (US\$9.2 million) for the previous 12-month period. The present quota for Soviet canned salmon is £1.1 million (US\$3.1 million), the same as last year. There exists also a quota of £4.89 million (US\$13.7 million) for imports from Japan, which runs out September 30, 1957.

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RUSSIA NOT INTERESTED IN IMPORTS OF BRITISH FROZEN WHITE FISH FILLETS: Soviet Authorities have rebuffed an attempt by the British fishing industry to secure an outlet for its large surplus of fish through exports to Russia. They have replied to the offer by the industry's export organization, Britfish, Ltd., of frozen white fish fillets that they are not interested but might be prepared to import herring if the price was acceptable.

For the past two years Britain has been unable to meet the orders placed for herring by Moscow in return for Britain's agreement to import about £1.0 million (US\$2.8 million) worth of canned crab and shellfish from Russia.

The British fishing industry had, before the Russian reply was received, been promised Board of Trade support in securing a Soviet contract as part of the Anglo-Soviet trade agreement, and it is expected that the Board of Trade will make strong representations to Moscow to secure agreement that the shortfall in herring shall be made up with white fish.

The situation is serious, for unless some reasonably profitable outlet can be found, the existing surplus on the British market is likely to become a glut.

British trawlermen are at present landing much more fish than is being eaten. Fish was often scarce in the winter, but since the weather improved the industry has put on a tremendous spurt to make it up to the housewife by landing heavy catches of good quality fish at reasonable prices.

The industry points out that "if we can persuade the housewife to serve fish regularly two days a week--on Tuesday as well as the traditional Friday--we shall have gone a long way towards solving the problem of the summer surplus, but we realize that this will take time.

"We are still hopeful that exports to Russia and other East European countries may ease the situation. Freezing firms have already helped by taking up large quantities for storage in the expectation that the Board of Trade will be able to secure orders."



Two Roads... Which?

GESTURES made by individual states to pass laws which make inspection of *all* frozen food plants mandatory are understandably worrying the industry. There exists, quite soundly, a school of thought which doubts that all-inclusive inspection is necessary. That school asserts that mandatory inspection would bring with it a mountain of red tape which could make the life of every frozen food packer a living nightmare.

For that reason, sharp distinctions should be drawn between inspection of *specific* seafood products as opposed to inspection of *all* seafood products and *voluntary* standards as compared to *mandatory* standards.

Any industry, which packs and sells a very small part of its products in frozen form, will rise or fall by the quality of those products and the demand for them. It cannot put the cart before the horse. It cannot have inspection before a condition exists which warrants the effort.

This does not mean that the sanitary codes should not be observed. It does mean that hands should be kept off products which have not reached their optimum yet.

The reasons for this stand are simple and basic economics. Until a product has perfected the right formula to achieve maximum sales success, it may not be protected by inspection, but it may be killed with restrictions.

Voluntary inspection means a packer may adopt inspection services at his own discretion and need. Under mandatory inspection he cannot avoid it. Where inspection is needed for *the good of the industry*, voluntary inspection should be tried before any attempt is made to frame mandatory inspection rules.

The fish stick industry is a case in favor of inspection. Here we had a "natural" being destroyed by poor quality and merchandising. The formula for success was known, but there was no way quality packers could follow it and still remain competitively on the market.

Breaded shrimp packers, by and large, want inspection. Business is good, but in some cases it is good in spite of low quality, not because of it. They want inspection as insurance against the day when there is a sufficiency of shrimp on the market and price cutting makes fair competition impossible.

EVERYONE knows that there are leading packers in the seafood industry who do not have inspection and yet process products as high in quality as many of those who do. Such packers complain that they are being forced to adopt inspection, even though, from the standpoint of quality, they do not need it. The reason it is being forced on them, they say, is that those who do have inspection are using the label as a selling point.

They further point out, that plants which started with fish stick inspection have broadened inspection to many of their other products.

It narrows down to the following: Would the industry rather have its members drumming up business by clean, open and constructive emphasis on the minimum guarantees of quality which the USDA seal represents, or would it prefer ruinous cutthroat price cutting with its concomitant quality reduction?

While some seafood products are enjoying marvelous expansion, others can't seem to get off the ground. Others have reached a plateau and do not appear to be able to rise above it. If the inspection seal makes it possible for such products to resume their growth, some red tape will be a cheap price, indeed, to pay. If it does not help, what we have today is still *voluntary* inspection and can always be dropped.

The choice is not the completely blind and unalterable one of mandatory inspection. It is actually a case of clearly discernible paths with alternative branches.