



International

INTERNATIONAL JOINT COMMISSION
(UNITED STATES AND CANADA)

INTERNATIONAL PASSAMAQUODDY FISHERIES BOARD COMPLETES ITS INVESTIGATIONS:

Members of the International Passamaquoddy Fisheries Board met with the International Joint Commission on January 13 to 15, 1960, in Boston, Mass. The purpose of the meeting was to explain to the Commission the probable effects of the proposed Passamaquoddy tidal power project upon fisheries of the area, principally in Passamaquoddy and Cobscook Bays in Maine and New Brunswick. Although the dams will eliminate several her-

ring weir sites, and changes in water level will require relocation or reconstruction of others, effects on the abundance of her-ring are expected to be negligible.

Groundfish landings also will suffer little change, but haddock will be eliminated inside the impoundment, pollock landings will be reduced, and winter flounder catches will increase. Clam production will be reduced, but scallop landings should increase. Lobsters may increase slightly in abundance, but conditions for holding lobsters in pounds will deteriorate. Shipworm damage to wooden structures will increase.

These changes will be brought about from the effects of changes in environ-



Fig. 1 - Passamaquoddy Fisheries Board and advisors. Photo taken at the January hearings; from left to right at the front table: Robert L. Dow, Maine Department of Sea and Shore Fisheries; Dr. Giulio Pontecorvo, Department of Economics, Bowdoin College, Maine, and Board members M. B. Pike, Lubec, Maine, Dr. J. L. McHugh, U. S. Bureau of Commercial Fisheries, and Dr. J. L. Hart, Fisheries Research Board of Canada. In the background, left to right, are W. F. Doucet, Canadian Department of Fisheries; Dr. R. W. Trites, R. A. McKenzie, and S. N. Tibbo, Fisheries Research Board of Canada; Dr. C. J. Sindermann and L. W. Scattergood, U. S. Bureau of Commercial Fisheries; D. F. Bumpus, Woods Hole Oceanographic Institution; and L. R. Day, Fisheries Research Board of Canada.

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mental conditions. The project under consideration would create two pools, one of which would have an average water level about 6 feet higher than at present, the other about 5 feet lower. Because the filling gates will be closed during about three-quarters of the tidal cycle, water circulation will be reduced. Seasonal variations in water temperature will be greater, and surface waters will be warmer in summer, colder in winter. Average salinity of the surface waters will decrease. These changes will increase the amount of ice cover in winter. Dissolved oxygen in the deeper waters will be reduced.

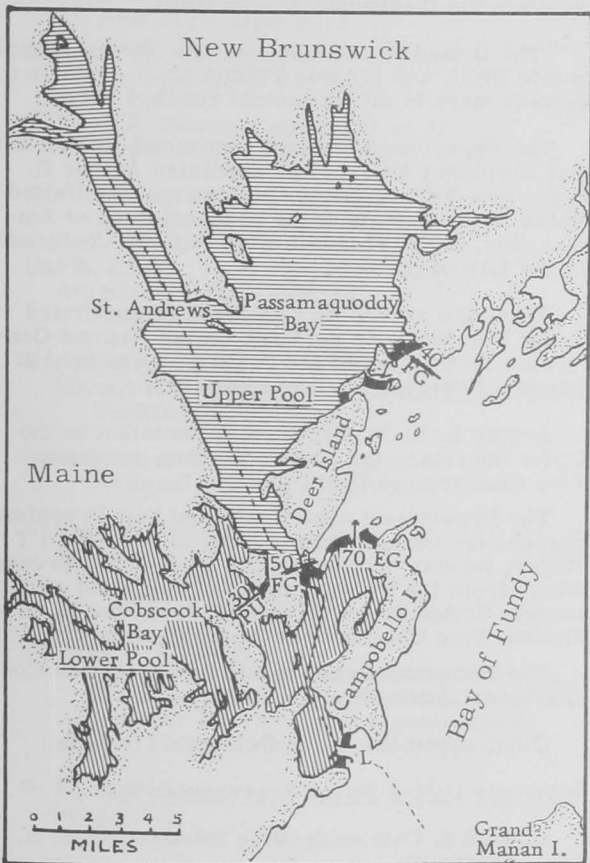


Fig. 2 - Passamaquoddy Tidal Power Project plan selected for detailed design.

The possibility of harnessing the power of the tides is a dream of long standing. Small tide mills were not uncommon along the Atlantic coast of North America in the last century but these were simple affairs, driven directly by tidal currents, and quite inefficient in their utilization of the available forces.

The Passamaquoddy project has been under serious consideration for more than 30 years, and the International Passamaquoddy Engineering Board has just completed a detailed study of the engineering and economic aspects.

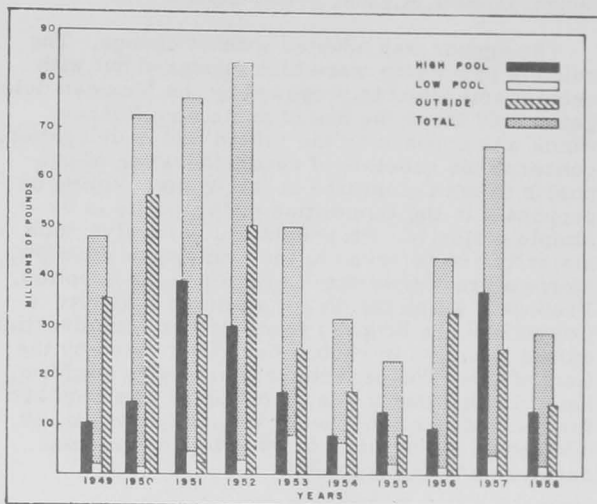


Fig. 3 - Total (Canadian and United States) herring landings in the high and low pools and in the part of the Quoddy Region outside the proposed dams.

Only a few places in the world have sufficient tidal rise and fall and suitable topography for practical utilization of the tidal power concept. The Bay of Fundy region, with the greatest tides in the world, is a particularly favorable spot. With completion of the Fisheries and Engineering Boards' studies, this project has become a serious possibility.

--J. L. McHugh, Chief,
Division of Biological Research
U. S. Bureau of Commercial Fisheries

Note: Also see Commercial Fisheries Review, April 1960, p. 38.

LAW OF THE SEA

SECOND CONFERENCE CONVENES:

The United Nations Conference on the Law of the Sea was convened at Geneva, March 17, 1960. The opening meetings were devoted to the election of officers, adoption of the agenda, and adoption of the rules of procedure. Prince Wan Waithayakon of Thailand was elected President by acclamation and Dr. Jose Correa of Ecuador was elected without opposition as Chairman of the Committee of the Whole. Max Sorenson of Denmark was elected Vice-Chairman of the Committee of the Whole and Edwin Glaser of Rumania, Rapporteur, Committee of the Whole. Representatives of the following countries were elected as Vice Presidents: Albania, Argentina, Canada, China, France, Ghana, Guatemala, Italy, Iran, Mexico, Norway, Poland, Switzerland, U. S. S. R., United Arab Republic, United Kingdom, and United States. These together with Prince

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Wan and Dr. Correa form the 19-man Steering Committee. Representatives of the following countries were named to the Credentials Committee: Brazil, Chile, France, Greece, Indonesia, Liberia, Sudan, U. S. S. R., and United States.

The agenda was adopted without change. The rules of procedure were also approved but with certain amendments proposed by the Mexican delegation. Of these the one of some significance, which was opposed by the United States delegation, concerns the question of reconsideration of proposals in the Committee of the Whole. Voting on proposals in the Committee of the Whole is by simple majority. Proposals which receive such majority are referred to the Conference Plenary, where a two-thirds vote is required for adoption. Proposals which fail to get a simple majority in Committee are dropped from further consideration unless a motion to reconsider is approved by the Committee. The provisional rules of procedure had provided that a simple majority was required for reconsideration; the Mexican amendment, as adopted by a vote of 41 to 30 with 7 abstentions, requires a two-thirds vote.

Three proposals have been submitted to the Conference.

The Soviet Union proposed on March 21 that each state be entitled to fix the breadth of its territorial sea at any distance up to 12 nautical miles, and to have an exclusive fishing zone of 12 miles. If the territorial limit were set at less than 12 miles, the state might nonetheless have a 12-mile fishing zone.

Mexico proposed on March 21 that each state be entitled to fix the breadth of its territorial sea at any distance up to 12 miles. In addition, each state would have a contiguous fishing zone, the breadth of which would be determined according to a formula set forth in the proposal. Nations choosing a territorial sea of from 3 to 6 miles would be granted a contiguous fishing zone 12 to 15 miles wide, as the case may be, for a total of 18 miles; nations choosing a territorial sea of from 7 to 9 miles, a contiguous fishing zone 6 to 8 miles wide, for a total of 15 miles; nations choosing a territorial sea of from 10 to 11 miles, a contiguous fishing zone 1 to 2 miles wide, for a total of 12 miles; and nations choosing a territorial sea of 12 miles would be granted no additional contiguous zone.

Neither of these proposals makes any provision for continuation of traditional fishing activities of other states off foreign shores.

The United States proposed on March 23 a 6-plus-6 plan, in which the territorial sea would be fixed at 6 miles and an outer 6-mile contiguous fishing zone would be established. In the outer zone, nations which had traditionally fished off foreign shores in areas within the 6- to 12-mile band would continue to do so, for "the same groups of species. . . to an extent not exceeding in any year the annual average level of fishing carried on in the outer zone" during the five-year period immediately preceding January 1, 1958.

Presenting the U. S. proposal, Arthur Dean, chairman of the United States delegation, said that the United States feels that failure to reach any agreement at this Conference would be a "serious and unfortunate mistake." However, in order to reach agreement, we feel we "must refrain from pursuing our preferred solution," he continued.

"The solution preferred by the United States which we believe to be in the interest of all nations, large and small, is a width of 3 miles and no more. The United States prefers that there be no exclusive fishery jurisdiction beyond the 3-mile limit. Efforts to maintain and maximize fishery production, a highly desirable objective, have, we believe, little to do with arbitrary lines drawn by man in or on the ocean. . .

"I find it hard to believe the logic, and the basic self-interest of nations, large and small, maritime and not-yet maritime, fishing and not-yet fishing, do not weigh heavily on the side of continuing to maintain the traditional 3-mile limit.

"The United States adheres, has always adhered to this limit, and for this reason shall continue to do so if there is no agreement reached here."

The Department of State announced on March 11 that President Eisenhower appointed Arthur H. Dean, New York City, as Chairman of the United States Delegation, with the personal rank of Ambassador, to the Second United Nations Conference on the Law of the Sea.

Dean also served as Chairman of the United States Delegation to the first United Nations Conference on the Law of the Sea which was held at Geneva, February 24-April 28, 1958.

Arthur L. Richards, Special Assistant to the Under Secretary for Law of the Sea, serves as Vice Chairman to Dean.

The Department also announced that President Eisenhower designated the Honorable Edward T. Miller, former member of the House of Representatives from the First District of Maryland as Alternate United States Representative, and as an additional Vice Chairman of the Delegation.

The Congress was asked to designate two Congressional Advisers.

Other members of the Delegation include:

Alternate United States Representatives:

Oswald S. Colclough, Vice Admiral, U. S. N.
(Retired),
Department of the Navy

William C. Herrington,
Special Assistant to the Under Secretary
for Fisheries and Wildlife,
Department of State.

Arnie J. Suomela,
Commissioner of Fish and Wildlife,
Department of the Interior

David W. Wainhouse,
Minister-Counselor,
American Embassy, Vienna.

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Raymund T. Yingling,
Assistant Legal Adviser,
Department of State.

Advisers:

Norman Armour, Jr.,
United States Mission to the United Nations,
New York, New York.

Frank Boas, Attorney,
Brussels, Belgium.

Wilbert M. Chapman,
Natural Resources Committee,
San Diego, California.

Ralph N. Clough,
First Secretary,
American Embassy, London.

George J. Feldman, Attorney,
New York, New York.

Leonard Hardy, Captain, U. S. N.,
Department of the Navy.

Wilfred A. Hearn, Captain, U. S. N.,
Department of the Navy.

Harold Hoag, Lieutenant Commander, U. S. N.,
Department of the Navy.

Nat B. King,
American Consul General,
Dacca, Pakistan.

Harold E. Lokken,
Manager, Fishing Vessel Owners Association,
Seattle, Washington.

John Lyman,
National Science Foundation.

William R. Neblett,
Executive Director,
National Shrimp Congress,
Key West, Florida.

Charles H. Owsley,
Deputy United States Representative at the
European Office of the United Nations and
Other International Organizations,
Geneva, Switzerland.

G. Etzel Pearcy,
Geographer,
Department of State.

Thomas D. Rice,
Executive Secretary,
Massachusetts Fisheries Association, Inc.,
Boston, Massachusetts.

Peter Roberts, Consul,
American Consulate General,
Seville, Spain.

Harry Shooshan,
Office of the Secretary,
Department of the Interior.

George H. Steele,
Director, Fishery Products Division,
National Cannery Association,
Washington, D. C.

Fred E. Taylor,
Office of the Special Assistant to the Under
Secretary for Fisheries and Wildlife,
Department of State.

William Terry,
Fish and Wildlife Service,
Department of the Interior.

William Witman, II,
First Secretary,
American Embassy, Paris.

Edward E. Wright,
Office of the Special Assistant to the Under
Secretary for Law of the Sea,
Department of State.

Secretary of Delegation:

Virgil L. Moore,
Resident United States Delegation to
International Organizations,
Geneva, Switzerland.

Technical Secretary:

Ernest L. Kerley,
Office of the Assistant Legal Adviser
for United Nations Affairs,
Department of State.

The Conference undertakes to resolve two highly important problems left unsolved by the 1958 conference--the breadth of the territorial sea and fishery limits. Representatives from about 89 countries were invited to participate.

NORTHWEST ATLANTIC FISHERIES COMMISSION

FISHING TRENDS IN
NORTHWEST ATLANTIC:

Canadian landings from the International Commission for the Northwest Atlantic Area were 9 percent higher in quantity in 1959 than in 1958. This was due to increased landings of cod and haddock, whereas ocean perch or redfish landings fell far below those of 1958. January 1960 compared to January 1959 showed a great increase in ocean perch landings and a somewhat smaller increase in cod landings, whereas haddock landings were far below those of January 1959.



Cod landings from the trawl and trap fishery in Newfoundland and from the trawl fishery in the Gulf of St. Lawrence were highly satisfactory during the 1959 summer. Off Labrador the summer fishery for cod yielded exceptionally good catches. During late summer, ocean perch which had been scarce returned in fair quantities in the Gulf of St. Lawrence. During autumn--in spite of unfavorable weather conditions, the Newfoundland fisheries

International (Contd.):

continued to consolidate their recovery from the very poor year of 1958.

The Faroese fisheries off West Greenland stopped in 1959 by the end of October. The catch was not satisfactory, partly because of bad ice and weather conditions, and partly owing to a scarcity of cod.

A joint Danish-Faroese-Norwegian fishing concern is planning a considerable development of its fishing plant in Faeringehavn, West Greenland, especially to meet the increased demand for fillets.

The third French campaign to the Northwest Atlantic was under way in October. The catches reported from the Labrador and West Greenland areas were, up to October, rather unsatisfactory.

The French trawlers started in January on the first trip to the Convention Area in 1960. About 32 trawlers are expected to take part in the fishery this year. In 1959 a total of 34 trawlers took part in the fishery. During the latter part of the year's fishery, a considerable increase in size of the cod caught in West Greenland waters was observed, and due to this a more satisfactory fishery is expected in 1960.

German trawl fishing mainly for ocean perch was carried out during the autumn of 1959 along the northeast shelf of the Newfoundland Bank with most satisfactory results, and with a catch per unit of effort about one-third higher than that from any other fishing grounds. The fishery was started in this area following an exploratory trip by a German trawler to the area between Flemish Cap and Labrador.

Norwegian hand-liners and trawlers returned from their last 1959 trip to the ICNAF area during October-November 1959. The fishery was carried out in West Greenland and in the Newfoundland area; off Greenland mainly for cod for salting with only insignificant catches of halibut; off Newfoundland as a mixed fishery for cod and halibut.

The last Spanish trawlers returned from the ICNAF area in December; the fishery in 1959 was reported as being better than in 1958. The 1960 campaign was expected to start at the end of January.

Russian exploratory trawlers in 1959 worked off West Greenland and found rich fishing grounds for cod and ocean perch on the banks and their western slopes between Kap Farvel and Disko Island. Data for preparing a fishery chart of the area were collected.

UNITED NATIONS

UNITED KINGDOM FIRST TO RATIFY 1958 CONVENTIONS ON TERRITORIAL SEA AND FISHERY CONSERVATION:

The United Kingdom has become the first country to ratify 2 of the 4 international conventions adopted by the United

Nations Conference on the Law of the Sea in April 1958, the United Nations Office of Legal Affairs announced March 15, 1960. British ratifications of the Convention on the Territorial Sea and the Contiguous Zone, and of the Convention on Fishing and Conservation of Living Resources of the High Seas, have been received at U. N. Headquarters.

In addition, the United Kingdom's ratification of the Convention on the High Seas was received. It is the second ratification of this treaty, the first having come from Afghanistan.

Each convention needs a total of 22 ratifications to bring it into force. A fourth treaty adopted by the 1958 Conference on the Law of the Sea, dealing with the continental shelf, has not yet been ratified. It also needs 22 ratifications.

The Convention on the territorial sea embodies the results of work of the 1958 conference on that subject but does not cover the width of the territorial sea, which was considered at a second U. N. conference in Geneva on March 17. Among other things, this convention establishes specific rules for the right of innocent passage of ships through territorial waters, with separate references to merchant vessels, government-owned ships used commercially, and warships; and lays down the rights and duties of states through whose waters the ships pass.

In addition, regarding the "contiguous zone," the convention gives the right for each state to exercise controls regarding fishing, emigration, customs and sanitation within a 12-mile belt to prevent infringements of the territorial sea.

The Convention on the High Seas among other things, provides for freedom of the high seas; specifies that "states having no sea coast should have free access to the sea"; deals with the nationality and the flag of ships; regulates practices on the high seas, including such matters as assistance to ships in distress, piracy, and the "right of hot pursuit" of foreign ships; calls for measures to prevent the pollution of waters by oil or radioactive waste; and deals with the laying of submarine cables and damage to them.

International (Contd.):

The Convention on Fishing and Conservation establishes regulations on the conservation of fisheries on the high seas, seas, lays down rules under which measures promulgated by one nation are applicable to other countries, and sets out arbitration procedures.

Note: Also see Commercial Fisheries Review, February 1960, p. 61; November 1959, p. 100; August 1959, p. 40; February 1959, p. 49; January 1959, pp. 54 and 71.

TRADE AGREEMENTSICELAND-EAST GERMANY TRADE AGREEMENT INCLUDES FISH:

Iceland has concluded a new trade agreement with East Germany, which includes some fishery products exports from Iceland to East Germany. The new list does not mention the subject of fishing vessels which has been important among East German export items. The 1960 protocol had been under discussion for some time. The actual negotiations have been between the Icelandic Chamber of Commerce and the German Democratic Republic Chamber of Foreign Trade. Some of the talks were held September 21-22, 1959, in Berlin, but the 1960 protocol was signed November 20.

A decline is noted from the 1959 agreement in respect to salted herring. Last year's provided for 65,000 barrels, whereas the new agreement provides for only 50,000 valued at US\$1.1 million. However, the possibility of purchasing additional herring is left open. By far the most important item in the agreement from the Icelandic side is the sale of at least 9,000 metric tons of frozen fish valued at \$3.15 million. East Germany is apparently quite interested in purchasing Icelandic frozen fillets and also would have been willing to take more than the 2,000 metric tons of fish meal (valued at \$340,000) provided for in the agreement.

Note: See Commercial Fisheries Review, January 1959, p. 54.

WHALINGWHALE OIL SALES:

The Norwegian whaling companies have reported to the press that 100,000 long tons of whale oil had been sold. The Norwegian marine oil processors

have bought 40,000 tons, and 60,000 tons have been sold to a large British firm. The price was reported as £72 10s. (US\$203) a long ton, or the same as the price paid by the British firm last year, but other unspecified conditions are reported to be more favorable for the sellers.

The press article includes reports on other sales of whale oil which have been made: 50,000 to 60,000 tons from Japan to the same British firm that bought the Norwegian oil; the total British production also was sold to the same British firm, with the exception of 8,000 tons which have been sold to independent buyers on the European Continent; Japan had previously sold 13,000 tons. The sales of Japanese and British oil to the British firm are reported at the same price as the price paid for Norwegian oil.

Total 1960 Antarctic whale oil production by the Norwegian expedition is presently estimated at about 120,000 metric tons, or roughly the same as in 1959. (United States Embassy, Copenhagen, report of March 11, 1960.)

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NO WHALING IN CANADA THIS YEAR:

The British Columbia whaling fleet and land station will not operate this year. Some 60 men employed on the boats and 90 in the plant have been advised that the operation will be suspended. Hunting and processing normally commences in April and continues for six months.



At west coast Canadian whaling station skilled workers using flensing knives to strip off blubber. Giant calipers are used to measure whale.

International (Contd.):

It seems evident that the reason for not operating this year is the depressed world markets for meal and oil.

LATIN AMERICAN FREE TRADE AREA AGREEMENT

An agreement to create a Latin American Free Trade Area was signed on February 18, 1960, culminating an intensive two-week conference in Montevideo. Representatives from Argentine, Brazil, Chile, Mexico, Paraguay, Peru, and Uruguay signed. Bolivia, although participating fully in the negotiations, did not sign but was granted four months to do so and still be considered a founding member. The agreement--to be known as the Treaty of Montevideo--will enter into force when ratified by at least three of the contracting parties.

The Treaty includes several annexed protocols relating to: (1) norms and procedures for negotiating reductions in restrictions, (2) the establishment of a provisional committee to act for the Association until the Treaty is ratified, (3) the form in which ECLA and the Interamerican Economic and Social Council are to provide technical advice, and (4) an exemption from Treaty requirements for agreements among the signatories on the purchase and sale of petroleum. Two Conference resolutions were signed at the same time as the Treaty. One grants Bolivia its four months to subscribe to the agreement as a founding member while the other calls for an informal meeting of Central Bank experts to study possible payments arrangements. (United States Embassy, Montevideo, February 24, 1960.)



Argentina

FISHERY TRENDS, FEBRUARY 1960:

Shrimp Fishery: The shrimp fishery in southern Argentina was over by early February with landings down sharply from the previous season. Ex-vessel prices were higher, ranging between 10 and 60 pesos per kilogram (5.4-30.7 U. S. cents a pound) according to size. The shrimp failed to appear in quantity

during the Argentine summer season. In the past, according to an article in an Argentine newspaper (La Prensa) of February 14, 1960, the shrimp vessels landed catches of up to 4 metric tons daily and landings were often limited because of the lack of processing capacity.

This past shrimp fishing season, severe weather along the coast curtailed the fishery from November 1959 to January this year. Fishing for shrimp in volume began about 1945 in the Comodora Rivadavia area and also about 28 miles off the Rio Chabut. Since 1947 landings have decreased and the drop is attributed by some to overfishing by the up to 50 vessels fishing the above areas.

Shark Fishery: In February the fishery for shark (cazon) had started and catches by the fleet averaged about 500 fish a day. These sharks were sold at 120 pesos (US\$1.44) per fish, which is considered a good price.

Tuna Fishery: The Japanese tuna vessel Yoshino Maru landed at Mar del Plata on February 6, 1960, with its first trip from an Argentine port. The vessel landed 9,828 albacore, 931 yellowfin, and 103 big-eyed tuna, 2,467 swordfish, 1,697 white swordfish, 18 other swordfish, and 162 sawfish. Prior to this trip the vessel had landed a trip in November 1959, caught while en route to Argentina from Japan. Another Japanese vessel, the Eisei Maru, landed tuna and other fish at Mar del Plata in 1959. (United States Embassy, Buenos Aires, February 16, 1960.)



Australia

FISHING INDUSTRY PROTESTS MARKETING OF SMALL SHRIMP:

In January this year Australian fishermen and fish wholesalers united to protest the landing and sale of small shrimp (under 3½-inches in length with heads on). The legal minimum sizes for shrimp were abolished by the Government in May 1959. At about the same time the mesh size for shrimp trawls was increased from 1¼-inch to 1½-inch.

Australia (Contd.):

In abolishing the minimum size for shrimp the Government acted on the advice of its fisheries experts who claim that legal lengths have no conservation value since school shrimp don't spawn until 4½-inches long and king shrimp until 9 to 11 inches long.

The request to impose a minimum size limit on shrimp was made in a letter to the Chief Secretary's Department jointly signed by the president of the New South Wales Master Fish Merchants' Association and the secretary of the New South Wales Fishermen's Co-op Union Ltd.

The letter said: "At a meeting of the Committee of this Union with the Committee of the Master Fish Merchants' Association, it was decided that we voice our joint protest against the abolition of a legal minimum size of prawns and both bodies hereby express their desire that the Department immediately impose a legal minimum length of 3 inches on prawns.

"It is pointed out that with the recent glut of small prawns on the market it is the firm opinion of both bodies that a continuation of this policy will eventually lead to a reduced quantity of prawns being available for catch, and consequently the public will be excluded from prawn buying. Neither the Union of Fishermen's Co-operative, the buyers, nor the actual consumer desires that this small prawn be allowed on the market. (Fish Trades Review, January 1960.)



Brazil

JAPANESE FISHING COMPANY CLOSSES BRAZILIAN RETAIL STORES TEMPORARILY:

The Japanese fishing firm, which has been operating out of Brazil since mid-1957, sold its landings of fish at retail through 14 sales units in the City of Sao Paulo.

The stands, small buildings with refrigerating facilities, were set up at

strategic points throughout the city under a special two-year license granted by the city government. The license expired at the end of 1959 and was not renewed. As a result, the Japanese firm and its distributors shut down and dismantled the fish stands. The catch from the company's fishing operations off the coast of Brazil, which totals over 400 tons of fish monthly, is now sold to wholesalers. The Japanese firm is dissatisfied with this arrangement, inasmuch as it is no longer able to control prices at retail levels, and has decided to rent space for retail stores at the locations where the fish stands used to operate. The company was planning to have a total of 11 outlets operational in late March or early April.

According to an officer of the Japanese firm, the company is now considering selling part of its catch of fish to the newly-created Centro Estadual de Abastecimento S. A. (State Supply Center) when that organization sets up facilities in various parts of the State of Sao Paulo.

The Japanese company now has in operation the full complement of ten vessels. (United States Consular report from Sao Paulo, March 4, 1960.)



Canada

BRITISH COLUMBIA SALMON MIGRATION AND ESCAPEMENT DEVELOPMENTS 1959:

Developments or trends of special interest associated with the British Columbia 1959 salmon migration and salmon escapement include:

1. The low returns of chum salmon to northern coastal areas are of major concern. In some cases they are the poorest on record. Despite an almost complete ban on fishing, chum escapement to Queen Charlotte Islands was very light, generally less than the weak brood year and only slightly better than the light runs of 1955 on the east coast and a portion of the west coast of Moresby Island. Escapement to streams of the Butedale area was the poorest on record, and in the Bella Bella area where fairly good runs were experienced four years ago a decline in the number of spawners was evident this year.

2. On the other hand, some improvement in chum runs to the southern areas of the Province over the weak 1955 cycle year was quite generally in evidence. The volume of catch reflected this improved state and spawning ground supplies were much more satisfactory.

Canada (Contd.):

3. Pink salmon runs generally were substantially below expectations based on good spawning escapements two years ago. The Fraser pink run was the second smallest in the history of the fishery and where a return aggregating some 4 million fish was looked for on the Skeena, the actual run was of the order of 2.2 million fish. The lesser returns are attributed to adverse survival con-

the province's rapidly expanding tourist and recreational fields in the southern coastal areas.

5. No large sockeye run was in prospect and returns were pretty much of the order anticipated with the exception of the Fraser where improved runs prevailed. The aggregate catch was appreciably reduced in volume by the two-week fishing tie-up during the last week in July and the first week in August.



Canadian purse-seiner brailing salmon out of the net.

ditions at sea. The volume of catch at some points was curtailed because of the two-week tie-up of fishing gear during the period July 25-August 9.

4. The coho and spring salmon runs were of good average volume. This is reflected by catch statistics and spawning ground escapements. Both of these varieties continue as a major attraction in

6. Regulatory measures in the interests of conservation were the most stringent and restrictive on record. These could not have been unexpected having regard to the degree of high efficiency, mobility, and skills being maintained by present-day fishing fleets and the fact that at best only moderate returning salmon runs were in prospect.

British Columbia Salmon Catch, 1952-1959								
Year	Sockeye	Pink	Coho	Chum	Red & White Spring	Steel-head	Jack	Total
(Number of Fish)								
1959	3,259,600	6,776,300	2,896,900	2,015,200	868,000	13,500	80,300	15,909,800
1958	12,044,500	6,908,200	2,989,500	3,191,400	960,200	27,000	108,500	26,229,300
1957	3,036,000	11,310,400	3,136,700	2,412,000	828,400	16,800	109,700	20,850,100
1956	3,257,500	7,352,000	3,049,600	2,458,400	922,800	23,000	60,300	17,123,600
1955	2,835,500	11,246,500	2,970,000	1,567,600	786,500	23,500	85,500	19,515,100
1954	6,710,400	5,443,900	2,445,100	5,941,400	798,000	53,000	78,800	21,470,600
1953	5,926,700	11,110,000	2,894,000	4,670,000	943,400	43,100	70,500	25,657,700
1952	4,863,300	11,235,200	2,745,400	2,481,100	830,200	54,600	74,800	22,284,600

Canada (Contd.):

7. A significant development was the substantial catch gain in pinks made by trollers, particularly along the west coast of Vancouver Island, where the fish were still long distances from their spawning streams, and in the Alert Bay subdistrict. The trollers took 809,100 pinks or 11.9 percent of the total pink catch. In the Alert Bay subarea the troll pink catch comprised 20 percent of the subarea catch of this species. Because of the successful competitive effort with purse seines and gill nets in the Alert Bay area, trollers were required to observe special weekly closed seasons for a 3-weeks' period at the height of the pink run in common with the net fishermen.

8. Improved volume of chum salmon escapement to the spawning streams between Vancouver Island and the mainland and to the Harrison-Chehalis streams on the Fraser is directly attributable to the "four-ten" conservation formula, i.e., 4 days fishing followed by 10 days of closure, during the fall fishing season in all areas between Vancouver Island and the mainland, including Johnstone Strait, Gulf of Georgia, and Fraser River. A regular, progressive influx and distribution from the Johnstone Strait migration towards the many streams draining into the Straits of Georgia was attained and the enhanced spawning escapements should bear fruit four years hence.



Cuba

MEMBERS DESIGNATED FOR GULF OF MEXICO SHRIMP COMMISSION:

Three representatives of the Government of Cuba have been designated to serve on the Commission for the Conservation of Shrimp in the Eastern Zone of the Gulf of Mexico. The designation was made by the Ministry of Foreign Relations in Decree No. 2471, published in the Official Gazette No. 41 of March 1, 1960.

The members designated by the Cuban Government are Dra. Isabel Perez Farfante, Director of the Fisheries Investigation Section; Dr. Jose Acosta Jimenez, Biologist; and Rene Buesa Mas, Technician.

In accordance with the Convention between the United States and Cuba on the Conservation of Shrimp in the Gulf of Mexico, Cuba is responsible for designating three members for the Commission which is to be established to implement the Convention between the United States and Cuba.

The three United States members of the Commission have not yet been designated. The purpose of the Convention between the United States and Cuba is scientific research and the adoption of conservation measures affecting shrimp harvested by fishermen of both countries in the Gulf of Mexico off the coasts of Cuba and Florida, where important shrimp areas exist.

This is the ninth international agreement by means of which the United States is now cooperating with neighboring countries in the conservation of fishery resources.

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FOUR IMPORTANT FROZEN FISH PRODUCTS COMPANIES INTERVENED:

Four important Cuban private frozen fish products companies in Habana Province have been intervened recently, according to a March 4 report from Cuba. The interventions were accomplished by resolutions issued by the Fisheries Division of the National Agrarian Reform Institute (INRA) signed by a Naval Captain of that agency, a delegate of the Office of Cuban Maritime Development (Oficina de Fomento Maritimo Cubano), and the president of the Cuban National Fisheries Institute (Instituto Nacional de la Pesca).

The "Whereas" clauses of one of the intervention orders attempted to justify the above action by claiming that the establishment of fishermen's cooperatives at over 20 ports in the Island had forced the INRA to assume control of packing firms in anticipation of increased fisheries production. It was further charged that it was "common knowledge" that the fish and shellfish packing firm was functioning in an "abnormal" manner and "did not fully render the social and economic functions it should." The Naval Captain of the INRA also reportedly stated that the companies were working only one or two days a week.

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CLOSED SEASON ON SPINY LOBSTER AND BULL FROG SPECIES:

The Cuban National Fisheries Institute (Instituto Nacional de la Pesca) of

Cuba (Contd.):

the National Agrarian Reform Institute (I.N.R.A.) imposed a closed season on the capture of the spiny lobster species, Panulirus argus, effective March 15, 1960, and on the bullfrog species, Rana catesbeiana, effective April 1, 1960. The closed seasons will remain in effect until cancelled by subsequent I.N.R.A. resolutions.

The resolutions announcing the closed seasons appeared in the Official Gazette--that for spiny lobster in No. 42 of March 2, 1960, and that for the bullfrog species in No. 52 of March 16, 1960. Both were adopted upon the recommendation of the Director of the Fisheries Investigation Center. (United States Embassy, Habana, reports of March 11 and 23, 1960.)



Egypt

SHRIMP INDUSTRY:

Egypt's shrimp landings (heads on) have averaged about 5,318 metric tons annually for 1956-58. In 1959 estimates indicate landings were 450 tons higher.

The motor fishing fleet of Egypt consists of 157 vessels (excluding 329 vessels engaged almost exclusively in sardine fishing). The percentage engaged in shrimp fishing is not known. There are in Egypt no modern shrimp vessels of the type used in the United States. In addition, there are large numbers (perhaps 700-1,000) of small sailing vessels which are engaged part-time in shrimp fishing.

There are a number of plans, none of which have been implemented as yet, to either construct or purchase from abroad modern shrimp trawlers. Such plans do not call for more than 10 vessels during the next three-year period.

Shrimp exports are subject to the same currency control regulations as other Egyptian exports. There is no export tax on shrimp; there is, however, a quarantine inspection designed to assure the export of only wholesome prod-

ucts, the charge for which amounts to approximately \$4.88 a metric ton. (United States Consulate, Alexandria, report of December 15, 1959.)



German Federal Republic

MARKET FOR FROZEN FISH AND OTHER FOODS EXPANDING:

The frozen-food industry in Germany has developed more slowly than in any other country in Western Europe. But it is now firmly established and progressing rapidly.

In 1955, after studying the frozen-food industry in neighboring countries and in the United States, the Germans attempted to establish theirs on a better basis. It caught on and since then has grown steadily. In 1956 there were only 5,000 deep-freezers in German stores. At the beginning of 1959 nearly 20,000 units, many of them much bigger than the first ones, were in operation throughout the country, though only about 10 percent of the grocery stores have them.

Comparing frozen-food consumption figures in certain other countries points up the great possibilities for expansion in the German market of 51 million people. Sweden, with a population of only seven million, has more deep freezers than Germany.

The number of firms turning out frozen foods in Germany is rising rapidly; in 1955 there were only 17 but by 1958 there were 42. Despite this substantial growth, German processors feel that production will not be able to keep pace with demand and that more and more frozen foods will have to be imported.

There are also production and distribution problems stemming from the newness of the frozen-food industry in Germany. The establishment of an efficient delivery chain from warehouse to shop has proven difficult, as has maintenance of uniform quality.

Table 1 shows the pattern of German frozen-food consumption in 1958.

Product	Metric Tons
Fruits and vegetables	6,000
Poultry	5,000
Fish	2,000
Ice cream	1,500
Prepared dishes, miscellaneous foods . .	1,500
Total	16,000

The 2,000 tons of frozen fish consumed in 1958 were principally in the form of fillets; the more popular kinds are cod, ocean perch or rosefish, sole, and plaice, though frozen shellfish is also being sold in increasing quantities. It is expected that the growth of the frozen-food trade will benefit particularly the fishing industry because inland consumers will be able to have fish year-round.

German Federal Republic (Contd.):

Table 2 -Imports of Frozen Fish Fillets, 1957-59

Country of Origin	Jan.-Sept. 1959			1958			1957		
	Quantity	Value		Quantity	Value		Quantity	Value	
	1,000 Lbs.	DM 1,000	US\$ 1,000	1,000 Lbs.	DM 1,000	US\$ 1,000	1,000 Lbs.	DM 1,000	US\$ 1,000
Norway	1,802	658	158	701	310	74	523	177	42
Denmark	1	2	1/	7	6	1	57	39	9
Britain	-	-	-	54	69	16	4	2	1/
Sweden	-	-	-	29	19	5	-	-	-
Japan	-	-	-	11	7	2	9	6	1
Iceland	-	-	-	3	2	1/	2	2	1/
Netherlands	1	1	1/	3	2	1/	-	-	-
Communist China	-	-	-	2	2	1/	-	-	-
Other	-	-	-	9	-	-	-	-	-
Total ^{2/}	1,804	661	159	819	419	100	595	226	54

1/Less than US\$1,000.

2/Will not total since quantities less than \$1,000 are included in totals.

Note: Values converted at rate of 4.17 Deutsche Mark equal US\$1.

The import of most deep-frozen foods will be liberalized within the next one or two years and it is felt in trading circles here that it will be fairly easy to obtain import licenses during the intervening period.

Development of the frozen-food market has boosted the consumption of frozen fish, especially fillets. There is a strong interest in imported ocean perch or rosefish and cod fillets, and an indication that frozen shellfish would also be popular; those products have been liberalized. Principal foreign suppliers at present are the Scandinavian countries. (Canadian Foreign Trade, February 27, 1960.)

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NORTH SEA TESTS PROVE MERIT OF NEW MIDWATER TRAWL:

A new type of the one-boat midwater trawl has been judged suitable for commercial fishing after a year-long trial in the North Sea.

Promising catches of herring and sprat had been reported during experiments in 1959 with the new gear. The gear consists of a high-opening nylon net, hydrofoil otter boards, and an echo-sounder telemeter, with the oscillator attached to the head rope of the net for continuous trawl-depth position and fish detection. This new equipment allows fishermen a degree of accuracy in the operation far superior to former midwater methods.

The gear trials were conducted by the Hamburg, West Germany, Institute for Fishing Methods and Gear Research for the Government, at the request of the Society of German Deep Sea Trawler Owners. Most of the technical development and experimental work at sea was planned and supervised by a gear technologist on the staff of the Fisheries Division of the Food and Agriculture Organization (FAO).

Basically, the FAO expert states, the problem was to devise an economic way for the German trawler fleet to catch herring, sprat, or any other pelagic (midwater) fish swimming higher than the reach of bottom trawls. The main demand for such means came from the smaller deep-sea trawlers who are not able to reach the distant fishing grounds off Greenland, Newfoundland, and Labrador. Furthermore, it was desirable to extend the herring season throughout the year to supply the herring processing factories and the fresh fish markets. Herring trawling had heretofore been restricted to the yearly periods when herring were on the bottom.

Midwater trawling with two boats, with the net towed between them, is an accepted method among North Sea fishermen. However, the two-boat method requires close cooperation between the two crews, and becomes risky in crowded fishing grounds, and in bad weather. It also is unsuitable for larger craft.

The experiments with the new gear, for one-boat trawling, began in December 1958. The first trips were mainly devoted to the technical development of the gear, with the catch being considered relatively unimportant.

The basic problem in midwater trawling is to adjust the net accurately to the depth of the fish. This requires a continuous indication of the depth of the net (so that proper action can be taken in time) and gear which can be quickly raised or lowered as desired.

The quick manoeuvrability of the gear is obtained by the special design of the hydrofoil otter boards. The idea of the echo-sounder telemeter, which is now being put to commercial use for the first time, has been used experimentally by other scientific workers. The present experiments included the development of this method to commercial reliability.

The echo-sounder oscillator attached to the bosom part of the headrope to sound downwards indicates not only the depth of the net, but also the position of the ground rope and the fish in the net opening and below the net. The connecting cable to the echo-sounding unit in the wheelhouse of the trawler is handled on large craft by an automatic electric winch. This enables the fisherman to know the depth of the net, to check if the gear is operating properly, and to see if the fish are really in the path of the net. With some experience, he should also be able to estimate the rate of catch from the fish traces in the net opening and so determine the right time for hauling.

Eight trips were taken with trawlers of 150, 600, and 1,400 hp. to develop and test the new gear. Trawling was done in the North Sea, the English Channel, and the Irish Sea at a towing speed from 3.5 to 4 knots. The opening height of the net was between 10 and 17 meters (32.8-55.8 feet), in depths down to 200 meters (109.3 fathoms), and with warp lengths up to 375 fathoms. Catches ranged up to 7 metric tons per haul.

During a final 12-day trip with a large deep-sea trawler, in the English Channel and Irish Sea, the net burst with an estimated catch of 30 metric tons. Although most of this catch was lost, this trip yielded 100 metric tons, mainly of herring with small amounts of mackerel and coalfish. This catch sold in Germany for about US\$14,500. This is not a tremendous catch for herring, the FAO expert stated. However, it was considered significant since the test was conducted prior to the early winter herring season, at a

German Federal Republic (Contd.):

time when bottom-trawling fishermen were catching hardly any herring.

The new gear is expected to become a valuable means of extending trawling to periods when the fish are off the bottom and beyond the range of conventional bottom trawls. This should lead to increased economy in trawling through fewer interruptions of fishing due to unsuitable fish distribution, better exploitation of fishing grounds, extension of certain fishing seasons, and even by making new areas and fish stocks accessible.



Ghana

MANY NATIONS FISHING OFF GHANA:

Ghana, in Northwest Africa, is reported to have obtained promising results in its investigations for expanding fisheries in its waters. Concentration is on tuna. The studies were carried out by a United States fishery firm in cooperation with the Government of Ghana.

In addition to Japanese long-line tuna vessels, Russian, Norwegian, and French vessels are also reported fishing off Ghana in the Atlantic. The Soviet Union is reported to have carried out mother-ship-type tuna fishing off Cape Verde.

A law prohibiting foreign fishing vessels to operate in the territorial waters of Ghana has recently been enacted. (Japanese Fisheries Economic News, March 4, 1960.)



Greece

FROZEN FISH PRODUCTION INCREASED:

Replying to a question put by a member of Parliament, the Greek Minister of Industry stated that the production of frozen fish in Greece today reaches 5,000 metric tons and that it will reach 16,000-18,000 tons when all the freezer-trawlers under construction are operating.

The frozen fish will be used, on the whole, to meet Greek needs since local demand is good.

In January 1960, the freezer-trawlers Evangelistria I, Evangelistria II, Evangelistria III, Zephyros I, and Polikos worked off the coasts of Mauritania (Northwest Africa).

The freezer-trawler Polikos completed her maiden voyage fishing until January 20, 1960--110 metric tons of fish were caught (average daily production 3.5 tons).

The new factoryship Evangelistria IV was expected to leave Cornebourg (Vienna) for Vraila, but was delayed because of bad weather.

Preparations have been made to complete another three freezer-trawlers in Viareggio, Italy; and still another two freezer-trawlers (Alieia, February 1960).



Haiti

NEW FISHING COMPANY DEVELOPING FISHING INDUSTRY:

A new fish company is developing the fishing industry of Haiti with the aid of a Food and Agriculture Organization technical assistance fishery officer.

The main difficulty has been that up to now the Haitian fishermen have found it very hard to market their fish. There are very few paved roads in the country--the rest are jeep or mule tracks--which means that fresh fish never gets out of the coastal villages. What fish fishermen catch beyond their own needs, they salt and sell to professional trading women, known as Madame Sarahs, who come on donkeys over the mountains. These women pay the fishermen 5 to 7 cents a pound for their fish, and often buy on credit, rather than cash.

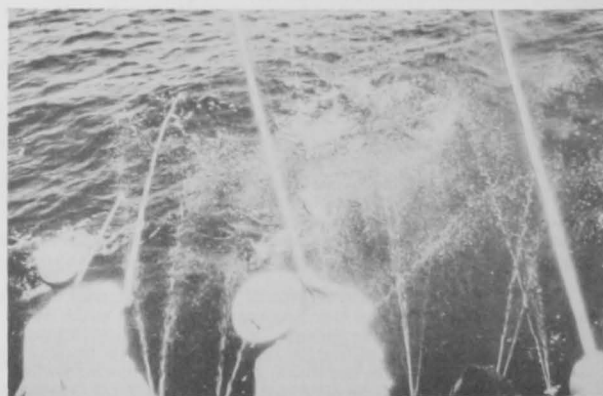


Fig. 1 - Cuban vessel Santona chartered by FAO fishery expert to explore tuna fishing possibilities. Fishing bonito with pole and line and using water spray to attract fish in waters near Haiti.

Haiti (Contd.):

The new company offered 10 cents cash a pound for fish. In one instance, the fishermen, in two days, landed 1,200 pounds of fish. Their previous production was 300 pounds a week.

A schoolmaster, recruited by the company to use his spare time buying fish, netted nearly the equivalent of his month's salary in two days of fish buying. His commission was one cent a pound.

The FAO expert from Canterbury, England, was sent at the request of the Haitian Government, to make a general survey of Haitian fisheries and proposals for fishery development. He decided on



Fig. 2 - Part of a day's catch of bonito aboard chartered vessel *Santona*. Fish have been eviscerated and washed and are about to be iced down in the hold.

two main lines of approach. First, to try and develop a large-scale industry for fish like tuna to increase the animal protein in the people's diets, and second, to help the small fishermen improve production by developing their fishing methods and providing them with a market. These aims were in accordance with the Government's policy of encouraging new enterprises.

Since Cuba, Haiti's next door neighbor, was landing some 12 million pounds a year of tuna, mostly bonito and albacore, the FAO expert thought that these fish could also be found in the waters around Haiti, although the local fishermen were not fishing for them. On the advice of the expert, the Haitian government chartered a Cuban bonito boat with a skeleton crew and the fishery officer went out and tested and plotted the tuna grounds to be exploited. A second charter of the same boat was to demonstrate the commercial possibilities. Although the vessel operated at the end of the season, nearly three-fourths ton of bonito a day was caught. A very simple fish-drying station was set up at Mole St. Nicolas, the bay where Columbus first landed, and the dried salted fish were sold to the Haitian people.

The new company fitted out the 45-foot boat bought from the Coast Guard--the first motorized boat ever to fish commercially in Haiti--with an insulated hold and small refrigeration unit, besides the gear necessary for bonito fishing. Then, to assure themselves of a continuous source of a

variety of fish, they organized the fishermen in the scattered villages and began to collect fish from them. This April, the company plans to have its first try at the tuna.

To collect the fish, the company has established eight centers on the northern coast of Haiti's southern peninsula. There, its agents have started buying fish offered by the local fishermen, storing the fish in discarded domestic refrigerators packed with ice treated with antibiotics. The company's one boat has made regular rounds to deliver ice and to pick up the catch.

Now the new company has obtained a loan from the National Bank of Haiti, and a second Diesel-driven boat has been put into operation. This will enable the company to set up further collecting centers and permit fishermen in other outlying areas to sell their catch more profitably.

The new company has already opened three fish shops, one of which is particularly well equipped, in Port-au-Prince, Haiti's capital. All are clean and fitted with refrigerators. The company at present brings in roughly 3,500 pounds of fish a week, and this will increase as further centers are opened up and the company's newly-acquired cold storage goes into operation.

The company started exporting spiny lobsters, or crawfish, to the United States only last year. Now the company exports nearly 1,000 pounds of spiny lobster tails every two weeks.



Hong Kong

SHRIMP INDUSTRY:

Shrimp landings in Hong Kong in 1958, according to data furnished by the Fish Marketing Organization of the Cooperative Development Department of the Hong Kong Government, amounted to about 6.2 million pounds valued at US\$1.5 million wholesale. Landings for the first six months of 1959 of 785,000 pounds (valued at \$207,000) were down sharply from the 3.5 million pounds (valued at \$668,000) landed in the same period of 1958.

Cost of Production for Export: No detailed information on cost of production for export is available. As of June 1959, frozen headless and deveined shrimp for export was valued at 51.5 U.S. cents a pound to point of shipment or f.o.b.

Exports: Shrimp exports prior to January 1, 1959, were included with other fresh and frozen shellfish (crustaceans and mollusks). During 1958 a total of 6.6 million pounds (value US\$3.8 million) of fresh and frozen shellfish were exported. For the first nine months of 1959, exports of fresh and frozen shrimp (exclusive of other shellfish) were only 774,000 pounds, valued at \$515,000. The United States was Hong Kong's principal customer for fresh and frozen shellfish in 1958--shipments to the United States were about 4.1 million pounds, valued at \$2.8 million, or about 63.1 percent of the quantity and 74.0 percent of the value of fresh and frozen shellfish exports. In addition to exports of frozen shrimp to the United States, some quantities of dried, salted, or pickled shrimp were shipped.

The U. S. Treasury Department in mid-1959 prohibited shrimp imports from Hong Kong because shrimp produced in Communist China was coming into the United States through Hong Kong. Thus exports of shrimp to the United States from Hong Kong ceased in June 1959.

Hong Kong (Contd.)

January-June 1959			January-June 1958			12 Months 1958		
Quantity	Value	Average Price	Quantity	Value	Average Price	Quantity	Value	Average Price
1,000 Lbs.	US\$1,000	¢/lb.	1,000 Lbs.	US\$1,000	¢/lb.	1,000 Lbs.	US\$1,000	¢/lb.
785	207	26.4	3,494	668	18.5	6,201	1,491	24.0

Country of Destination	January-September 1959		1958		1958	
	Fresh or Frozen Shrimp ^{1/}		Fresh or Frozen Shellfish		Salted, Dried, or Pickled Shellfish	
	1,000 Lbs.	US\$1,000	1,000 Lbs.	US\$1,000	1,000 Lbs.	US\$1,000
United States ^{2/}	514	365	4,139	2,796	94	99
Canada	88	43	960	329	60	47
Other	172	107	1,460	655	1,115	445
Total	774	515	6,559	3,780	1,269	591

^{1/}Classification was changed on January 1, 1959, to separate shrimp from other shellfish.
^{2/}Imports of frozen, dried, or otherwise preserved shrimp from Hong Kong to the United States in 1958 amounted to 4,029,143 pounds, valued at US\$2,803,015, and in 1959 totaled 640,000 pounds, according to U. S. Customs records.

Export Controls and Taxes: As of 1959 there were no export controls or taxes on shrimp. (United States Consulate, Hong Kong, report of December 9, 1959.)



India

SHRIMP INDUSTRY:

The shrimp fishery of India has in the past been confined largely to the shallow coastal waters (chiefly South India) and the catches are mostly small immature shrimp plus smaller quantities of the larger sizes. Biological surveys by the Government have indicated that the older shrimp inhabit the deeper waters. Evidence pointing to the presence of such shrimp in deeper waters has been afforded by the catches of large shrimp by pilot fishing trawlers of the Indian Government. Increased mechanization envisaged under the country's Second and Third Five-Year Plans is expected to help develop marine fishing by extending operations far beyond the present limits, and to increase the volume and change the character of India's shrimp catch.

Landings: Despite the relatively primitive nature of India's shrimp fishery, landings are considerable. (Term "shrimp" as used includes prawns and lobsters and no differentiation is made in

the Government statistics.) According to official statistics, landings amounted to about 20,000 metric tons during the first three months of 1959 and the total for the year was expected to be close to the 1958 landings of 85,200 tons. The landings for 1957 were reported to be about 136,812 tons and for 1956 close to 159,600 tons. In addition to the ocean catch, considerable quantities are caught in lagoons, estuaries, and fresh water for which reliable statistics are not available. No statistics on the value of the shrimp catch are maintained.

Fishing Fleets: No data on the number of vessels solely employed in shrimp fishing are available because of the fact that the use of a fishing vessel in India generally is not confined to catching any particular species but catches many types of fish. In 1959 there were about 95,000 nonpowered and about 1,600 mechanized vessels in the marine fishing industry. The mechanized vessels are divided among the coastal states about as follows: 1,300 in Bombay, 200 in Kerala, 50 in Madras, 30 in Mysore, 25 in Andhra Pradesh, and 10 in Orissa.

High priority is being given to the mechanization of fishing vessels, establishment of vessel-building yards, the supply of improved fishing gear, and provision of shore facilities for handling

India (Contd.):

catches. The Third Five-Year Plan (1961-66) target for mechanized vessels has been tentatively placed at 5,000 vessels.

Prices: The Ministry of Food and Agriculture states that ex-vessel prices differ widely from place to place and the approximate average ex-vessel price of shrimp is about Rs.25 a hundredweight (5.25 U. S. cents a pound). According to the Bulletin of Agricultural Prices, the market prices of shrimp in October 1959, averaged about Rs.84.00 (US\$17.64) per 100 pounds at Bombay and Rs.68 (\$14.28) per 100 pounds at Madras.

Country of Destination	Jan.-June 1959		1958		1957	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 Lbs.	US\$ 1,000	1,000 Lbs.	US\$ 1,000	1,000 Lbs.	US\$ 1,000
Burma . . .	1,887	572	7,374	2,583	9,473	2,935
United States . .	968	460	1,463	749	932	438
Ceylon. . .	383	86	918	203	611	152
Singapore .	98	32	102	31	408	43
Hong Kong	383	119	42	9	189	61
Other . . .	113	59	130	74	67	28
Total .	3,832	1,328	10,029	3,649	11,680	3,657

Note: Rupees converted at rate of Rs.4.730 equal US\$1 for 1958 and January-June 1959, and Rs.4.750 equal US\$1 in 1957.

Exports: Current export prices by types and sizes are not available, but export quantity and f.o.b. value statistics for the first half of 1959 indicate an average price of Rs.164 (\$34.44) per 100 pounds, as compared to Rs.148 (\$31.08) in 1957 and Rs. 172 (\$37.16) in 1958. The average value of shrimp exports (includes frozen, canned, dried, etc.) to the United States has been considerably higher than the average for exports to all countries--Rs.223 (\$46.83) in 1957, Rs.242 (\$50.82) in 1958, and Rs.224 (\$47.04) in January-June 1959 per 100 pounds. The composition of shrimp exports compared to total shrimp production accounts for the wide difference between average domestic market prices and average export prices.

Taxes: There are no restrictions on the export of shrimp. However, the Government levies a tax of Rs.0.75 (about 16 U. S. cents) per 100 pounds on all shrimp exported from India.

(Report of November 27, 1959, United States Embassy, New Delhi.)



Iran

JAPANESE-IRANIAN FISHERY ENTERPRISE AMONG FOREIGN INVESTMENTS APPROVED:

Among the foreign investment projects approved by the Iranian Government Foreign Investment Board is a Japanese-Iranian fishery enterprise. Activities of the firm consist of fishing and exploiting fish and other edible marine animals in the Persian Gulf and the Sea of Oman. The center of activity will be in Abadan. The Board of Directors consists of five members, three to be elected by the Plan Organization and the other two to be elected by the Japanese shareholders. The capital of the firm is 10 million rials (US\$66,666), and it operates in partnership with the Plan Organization. Two-thirds of the total capital (the initial capital is 30 million rials) belong to the Plan Organization.

The Foreign Investment Board, the chairman of which is the Governor of the Bank Melli, functions under the authority of Article II of the Law on the Attraction and Protection of Foreign Capital Investment of November 28, 1955. (United States Embassy, Tehran, March 2, 1960.)



Japan

FISHING INDUSTRY PREPARING FOR NEW EXPORT YEAR:

With the Japanese 1960 fishery products export year beginning on April 1, the associations of exporters of fishery products and the Government agencies concerned are reviewing the 1959 record and making plans for export quotas and their allocation for the coming year. As far as the plans for exports have been revealed, they indicate a cautious holding of the line at or below last year's level.

Figures prepared by the Japanese Fisheries Agency for the use of the var-

Japan (Contd.):

ious consultative councils on exports show that in calendar 1959 the value of Japan's fishery exports was US\$233 million, an increase of about US\$12 million over 1958. Because of the great over-all increase in all of Japan's exports, however, the relative weight of fishery products in the total declined from 7.7 percent to 6.8 percent. In terms of value, frozen products accounted for 20.2 percent of fishery products exports and pearls for 10.4 percent, both showing slight gains, while the relative importance of canned goods, dried and salted products, and fats and oils declined.

Plans for 1960 exports, which are well along toward final determination, call for 2.28 million cases of canned tuna for the United States market, a cut of nearly 200,000 cases from last year's target. Exports of frozen tuna to the United States are slated to be held at or near the 1959 target levels of 30,000 tons of albacore and 30,000 tons of yellowfin to be shipped from Japanese ports. The quota for transshipments of yellowfin from the Atlantic to United States canners is set at 100 trips as compared with last year's target of 120 trips (which, as it turned out, was not even approached in actual performance). Prepared cooked tuna loins, which have been a troublesome item in the past, would have been increased to 4,000 tons, if the industry's early views had prevailed, but it now appears that last year's export level of 3,000 tons will be continued. Production of canned sardines for export is reportedly to be cut to 755,000 cases, about 100,000 cases under last year because of uncertain prospects in the Philippines, Japan's principal market. Can-

ned crab-meat export sales plans call for continuation of the 1959 levels without important changes. (United States Embassy, Tokyo, report of March 18, 1960.)

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**TYPE-OF-PACK RATIOS
ESTABLISHED FOR CANNED TUNA:**

A directors' meeting of the Japanese Export Canned Tuna Manufacturers Association held on February 29 agreed that more than 40 percent of the tuna packed in 1960 should be white meat as compared to 35 percent in 1959. As regards the can type, the current ratio of No. 1 cans 20 percent, No. 2 cans 50 percent, and 2-kilo (4.4 lbs.) cans 30 percent would be followed in packing white meat and a new ratio of No. 1 cans 15 percent, No. 2 cans 40 percent, and 2-kilo (4.4 lbs.) cans 45 percent would be followed for light meat. In 1959 the ratio for light meat was 15 percent No. 1 cans, 45 percent No. 2 cans, and 45 percent 2-kilo cans. (Japanese fishery periodicals of March 1, 1960.)

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**PRODUCTION AND SHIPPING QUOTAS
PROPOSED IN 1960 FOR FROZEN TUNA:**

The Japanese Export Frozen Tuna Manufacturers Association held a directors' meeting on February 26 to determine Japanese production and shipping quotas for frozen tuna. The proposed quotas were to be presented at a general meeting planned for March 9, 1960. At the directors' meeting it was agreed to establish an "Atlantic Tuna Liaison Society" within the Association as a liaison group for those members who are engaged in Atlantic fisheries. The liaison

Japanese Production and Shipping Quotas for Frozen Tuna (Proposed for 1960 and Actual for 1959)

	1960	1959
Shipment quota for the United States (including Canada):		
Albacore	29,900 short tons	29,700 short tons
Yellowfin from Japan	30,000 " "	35,000 " "
Yellowfin transshipped from Atlantic	100 trips	120 trips
Tuna loins	2,980 short tons	2,980 short tons
Shipment quota for Italy	15,000 metric tons	12,000 metric tons
Broadbill swordfish for United States .	4,500 short tons	4,500 short tons

Japan (Contd.):

group is to meet monthly to discuss random sales of Atlantic frozen tuna.

On frozen tuna loins, an application has been filed for licensing 4,000 short tons. On frozen broadbill swordfish, the quota is being restudied before the general meeting because there is a strong demand from some members to increase it to 5,000 tons. (Japanese fishery periodicals of February 27, 1960.)

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CANNED TUNA CONTROL ORDER:

On February 14, the Japanese Fisheries Agency held a meeting of the Export Fisheries Promotion Council to advise on the "Ministerial Order for the Control of Canned Tuna Sales Methods in the 1960 Export Year" and received the Council's approval of the draft order. The draft is essentially the same as the regulatory provisions approved on February 1 by the general meeting of the Export Tuna Cannery Association. Its immediate objective is to apply to "outsiders" the same restrictions on production and sales that apply to members of the Association. The Ministerial Order will be in effect from April 1, 1960, to March 31, 1961. (Nikkan Suisan Tsushin, February 15, 1960.)

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FIRM PLANS TO RAISE SHRIMP IN PONDS:

A Japanese corporation, with head offices in Tokyo, is building Japan's first hatchery and rearing plant for "kuruma" shrimp (*Penaeus japonicus*) in abandoned salt ponds at Takamatsu in Kagawa Prefecture. The complete rearing of shrimp from the egg to the adult stage is planned. The shrimp farm is also an example of a way to utilize abandoned solar-salt beds.

Japanese aquaculture in shallow marine waters has been expanding rapidly. According to the 1958 fishery census, if 1953 is taken as 100, the 1958 production index for "nori" (laver) was 147, and for oysters was 150. However, "kuruma" shrimp rearing has been an exception in that the increase in production has been slight. There are various reasons why shrimp rearing has not developed, but the principal ones are (1) the only source of young stock has been from natural spawning and it has been very difficult to obtain, and (2) the supply of rearing stock has been so limited that its price has been high. If seed shrimp could be obtained easily and cheaply, shrimp rearing would expand.

The president of the firm (former chief of the Research Division of the Japanese Fisheries Agency) experimented for more than 10 years at his laboratory in Chiba Prefecture on the complete rearing of "kuruma" shrimp and finally succeeded in complete artificial propagation from

the egg to the adult stage. Since there were prospects for commercial success, he formed last September a corporation (capitalization ¥35 million or US\$97,000) with the support of two large Japanese fishing companies. He plans to establish commercial facilities for hatching and rearing shrimp in abandoned salt beds on the Inland Sea of Japan. The company is planning also to supply larval and juvenile shrimp for rearing to coastal fisherfolk at reasonable prices. Thus the company's operations will aid the development of shrimp culture and contribute to the prosperity of coastal fishery enterprises by solving the problems of difficult supply and high prices of seed shrimp.

The old salt beds which the company is to use for shrimp rearing are located west of Takamatsu, close to the large consuming area of Kyoto, Osaka, and Kobe. The officers of the company made a personal survey of the old salt beds around the Inland Sea and decided that the 11 hectares (27 acres) of salt beds near Takamatsu was the most suitable place. The beds were purchased in January for ¥10 million (\$28,000) and construction work was begun in February 1960 and is proceeding rapidly. According to the plans, the total construction cost will be ¥40 million (\$111,000). Facilities will include 89,000 square meters (957,996 square feet) of rearing ponds, 1,800 square meters (19,375 square feet) of nursery tanks, sea-water intake and drainage lines, filtering installations, a 60-ton water tank in addition to the existing 300-ton tank, refrigerated storage, feed preparation shed, laboratory, office, and living quarters. Construction was scheduled to be completed by the end of March 1960.

The corporation will begin shrimp rearing in April. According to operating plans, the eggs will be taken from breeding stock in that month (300,000-700,000 eggs per spawner) and will be placed in hatching tanks with apparatus for regulating the temperature. It is now possible to hatch and rear as many as 10,000 shrimp. The larval shrimp will develop in nursery tanks until June, then will grow to adult size in rearing ponds, and the first shipments will be ready for market in the autumn. It is planned to produce about 25 metric tons in 1960. The scope of the facilities will be increased progressively, and plans call for production of 225 tons in the second year, 3,000 tons in the third year, and 10,000 tons in the fifth year. For the present, the shrimp will be put on the domestic market, but future plans call for export to the United States.

In order for any form of aquaculture to develop as a modern industry, it must have the following elements: (1) the organism to be reared must have a short culture period and have a high commercial value; (2) production in large quantities must be possible; (3) it must be possible to lower the cost of production by technical progress; and (4) it must be possible to lower production costs by large-scale production and still leave possibility for further expansion. Most of the forms of aquaculture practiced at present do not have these factors, and they are not therefore developing into modern industries. For example, "nori" (laver) culture is producing a fairly large harvest, but the form of business organization is undeveloped and the industry has developed simply as an aggregation of very small enterprises (largely as a part-time occupation of coastal fishermen or farmers). On the shores of the Inland Sea the rearing of yellowtail has developed very rapidly in recent years, but because of the rapid increase in facilities and production, supply has exceeded demand, the price has dropped, and this year there are many operators who are losing money. Rainbow trout rearing, which has undergone an astonishing expansion in inland waters, is limited by environmental factors related to the water supply and is not suitable for a large-scale industry. The plan of the Japanese shrimp corporation for complete rearing of shrimp has all of the necessary elements. At present the total production of cultured shrimp is only 150 tons.

All of the prefectures around the Inland Sea have been trying to find ways of utilizing the abandoned salt beds of that area. According to the Japanese shrimp corporation, out of a total of 1,400 hectares (3,459 acres) of abandoned salt beds, about 500 hectares (1,236 acres) offer the proper conditions for rearing "kuruma" shrimp. Just by turning the shrimp loose in the salt ponds, a production of 3.75 kilograms per hectare (3.3 pounds an acre) is possible. The corporation is encouraging the use of the abandoned salt beds for rearing shrimp, and plans to supply seed shrimp at reasonable prices. It is also offering its plans to the prefectures around the Inland Sea and to salt companies in the area, showing them how shrimp culture can offer a new use for the abundant unused land and disused salt beds around the Inland Sea coast.

Japan (Contd.):

The Japanese Fishery Agency has been working on its plans for developmental financing in the 1960 fiscal year. Included in the plans is a loan for the "kuruma" shrimp rearing facilities. Of the total capital of ¥52 million (\$144,000), ¥20 million (\$55,000) is scheduled to come from the Development Bank. (Nippon Suisan Shimbun, February 16 and 19, 1960.)

FISHERY PRODUCTS EXPORTS,
CALENDAR YEAR 1959:

At a February meeting of the Japanese Export Fisheries Promotion Council, the following data on Japanese fishery products exports in calendar 1959 were presented:

Product	1959		1958	
	Quantity	Value US\$	Quantity	Value US\$
Frozen products	164,317 short tons	47,239,000	130,679 short tons	42,931,000
Canned tuna (48 No. 2 cans/cs.)	3,442,555 cases	26,936,000	3,035,910 cases	23,267,000
Canned salmon (96 No. 2 cans/cs.) . . .	2,758,104 "	64,852,000	2,482,843 "	68,608,000
Canned crab meat (48 No. 2 cans/cs.) . .	760,663 "	15,115,000	681,758 "	12,814,000
Canned sardines (48 oval No. 1 cans/cs.)	629,710 "	4,756,000	687,789 "	5,237,000
Canned saury (48 oval No. 1 cans/cs.) .	741,067 "	4,940,000	957,144 "	6,385,000
Other canned products	1,326,625 "	7,700,000	1,038,586 "	6,243,000
Salted and dried products	147,276 lbs.	5,716,000	204,176 lbs.	5,984,000
Fish and marine oils	103,564 metric tons	23,550,000	108,232 metric tons	25,302,000

WINTER ALBACORE TUNA
FISHERY TRENDS, FEBRUARY 1960:

Landings of winter albacore were good during late February in the Shizuoka District of Japan, but landings of other tuna, mostly big-eyed, dropped.

Buying by canneries (which had been packing mandarin oranges--season was over) and freezing plants had become brisk since about the beginning of February. Each day 50 to 100 tons were landed at both Yaizu and Shimizu.

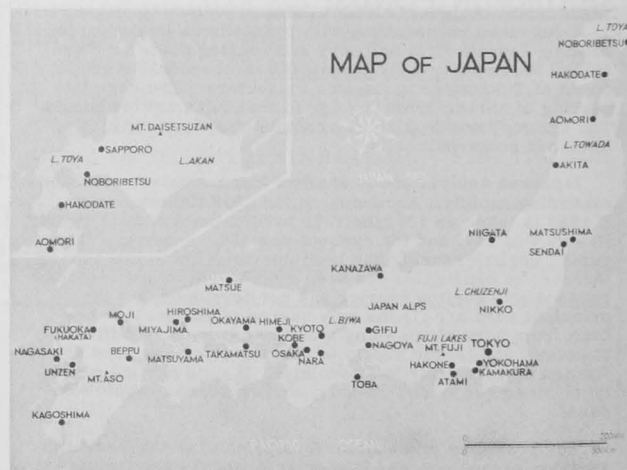
The landed price once showed a slight decline, but as buying became active the price stiffened. At the end of February the ex-vessel price for albacore was ¥100-105 a kilo (US\$252-260 a short ton) for prime fish and ¥80-90 a kilo (\$202-226 a short ton) for marred fish. (Japanese fishery periodicals of February 26, 1960.)

FORECAST ISSUED ON TUNA
FISHING CONDITIONS IN PACIFIC:

The Kanagawa Prefecture Fisheries Experimental Station released the following forecast on tuna fishing conditions in the Pacific in April-May 1960. The quantity given is the expected catch for a set of 18,000 hooks.

In the East Pacific (5° N. lat. -10° S. lat., east of 150° W. long.): Yellowfin catch ratios on the increase in the area between the equator and 5° N. lat., and although it will be low in April, in May it is expected to be 1.4 metric tons at the equator--2° N. lat.; 1.8 tons at 2°-3°

N. lat.; and 2.3 tons at 3°-4° N. lat. Although yellowfin fishing is on the decline in certain areas, in the area of the equator--2° S. lat., and 4°-5° S. lat., the catch will be 1.8 tons more than other areas. Big-eyed tuna fishing is poor at 3°-5° S. lat., and on the decrease at 5°-7°, but catch is higher than surrounding areas with 2.3 tons at 3°-5° and 3.5 tons at 5°-7° in April, and about 2.3 tons in May.



In the Central Pacific (5°-20° N. lat., 170° E. long.-150° W. long.): In the area around 5°-13° N. lat., between the Mar-

Japan (Contd.):

shall Islands and Fanning Island, big-eyed fishing is nearing the end of its good fishing period, and although in the usual year catches of 1.6 tons in April and 0.8 tons in May are obtainable west of 180° long., and 2 tons east of 180°, in April this year 0.8 tons is the expected catch west of 180°, and 0.4 tons in May. In the area east of 180°, 1.2 tons are expected in April and 1.3 tons in May.

In the Central Pacific (5° N. lat.-10° S. lat., 170° E. long.-150° W. long.): In the entire area, yellowfin fishing is entering into a good fishing season. Around the Gilbert Islands catches are expected to be 1.6 tons in April and 2 tons in May. In its eastern area 3.2 tons are expected and around Christmas Island 2.8 tons can be expected. Also 2.8 tons are expected in the area of the equator--5° S. lat., between the area south of Christmas Island and south of the Gilbert Islands; 1.6 tons near 5°-10° S. lat., and west of 180°; and in the east, 2.4 tons are expected. South of the line connecting three points, i.e., 10° S. lat., and 170° E. long., the equator and 175° W. long., 10° S. lat., and 160° W. long., the albacore catch is expected to be high with 0.8 tons at the equator--5° S. lat., and 1.1 tons at 5°-10° S. lat.

In the Central Pacific (10°-30° S. lat., 170° E. long.-150° W. long.): Good albacore fishing prevails in the area 10°-15° S. lat., with 0.9 tons. Also albacore is on the increase between 22°-30° S. lat., and the catch is either about the same or more, with 0.9 tons in April and 1.1 tons in May. In the area between the south and north fishing grounds, fishing is expected to be poor with 0.5 tons. (Japanese periodicals of March 5, 1960.)

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FINANCING FOR FISH-MEAL OPERATIONS IN NORTH PACIFIC:

A number of Japanese fishing companies have been seeking 800 million yen (US\$2.2 million) to finance their fish-meal factoryship operations in the North Pacific. As a result of conversations on January 28 between the Japanese Fisheries Agency and the Development Bank, it appears that a decision will soon be made

to supply the 350 million yen (\$972,000) requested by one of the fishing companies. The deciding factor in the firm's application was the fact that the tanker, which the company plans to buy from a Japanese oil company, was built with Development Bank financing and has already been partly paid for, so that the actual financing would amount to only about 120-130 million yen (\$333,000-361,000). It looks as if the 300 million yen (\$833,000) sought by another fishing company and the 150 million yen (\$417,000) asked by a third company are out of the question for this year but will be recommended for inclusion in next year's financing for fish-meal factoryships. (Nippon Suisan Shim-bun, February 5, 1960.)

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FISH MEAL REMOVED FROM LIST FOR TRADE LIBERALIZATION:

On January 29, the Japanese Ministry of International Trade and Industry removed fish meal from the list of items scheduled for liberalization after April 1960. Items scheduled for liberalization are placed on automatic allocation of foreign exchange for import.

The Ministry stated that the Peruvian fish meal price has dropped substantially, giving rise to fears that Japanese producers and fishermen would be adversely affected if imports increased.

Late last year in 1959 a Japanese trading firm contracted to import 4,500 metric tons of Peruvian fish meal, and it was loaded on January 16, for shipment to Japan. The meal was scheduled to arrive at Nagoya around the end of February. The purchase was made before the decision was made to remove fish meal from the list of items scheduled for liberalization.

Removal of fish meal by the Ministry of International Trade and Industry from the list of items slated for automatic allocation of foreign exchange has brought a feeling of relief to present North Pacific fish-meal factoryship operators--small producers as well as to big fishing companies. (Nikkan Suisan Tsushin, January 30, February 3 and 8, 1960.)

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Japan (Contd.):

EXPORTS OF PET FOOD IN 1959:

It is estimated that Japan sold about 450,000 cases of pet food to the United States in 1959. This is 10 times the exports in 1958 and represents 90 percent of initial predictions of 500,000 cases. About 90 percent was made from tuna and skipjack and the other 10 percent from saury or mackerel-pike.

Saury pet food, which was a new product introduced in 1959, has the advantage over tuna as far as the supply of raw material goes, and it is possible that it will greatly expand this year. However, according to informed sources, pet food made from saury is inferior in quality to that made from tuna. There is some uneasiness in Japan as to whether or not it will be accepted by consumers in the United States. (Nikkan Suisan Tsushin, February 11, 1960.)

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MACKEREL-PIKE FISHERY, 1959:

Japan's 1959 catch of mackerel-pike or saury was 518,679 metric tons, second in recent years only to the 1958 landings of 557,667 tons. Of the 1959 catch, 136,301 tons were landed in Hokkaido and 382,378 tons in the northern prefectures of Honshu.

Utilization of the 1959 catch was 35 percent for reduction, 31 percent for freezing, 22 percent for marketing fresh, 8 percent for canning, and miscellaneous uses accounting for the remaining 4 percent. The total 1959 saury oil production was 23,310 metric tons, and 38,328 tons of pressed scrap resulted.

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YELLOW SEA "TAISHO" SHRIMP CATCH POOR THIS YEAR:

Japanese "Taisho" shrimp fishing in the Yellow Sea, in contrast to last year's big landings, is really poor this year. One Nagasaki dealer who had 18 sets of pair trawlers in operation this season reports that whereas last year he got 40,000 cases (average 150 shrimp to the case), this season his boats landed only about 40 percent of last year's landings.

According to the Nagasaki Branch of another Japanese fishing company, it had 17 sets (34 boats) of trawlers working and got only about one-third of last season's landings of around 50,000 cases. Since the "Taisho" shrimp season runs only to the first part of March, it is certain that this season will be a poor one over-all. (Nikkan Suisan Tsushin, February 18, 1960.)

JAPANESE GOVERNMENT



Republic of Korea

FUNDS EARMARKED FOR SOUTH KOREA'S FISHERIES:

The Combined Economic Board in South Korea in mid-March 1960 approved the release of counterpart funds for financing of irrigation projects, and also earmarked US\$700,000 of International Cooperation Administration salable imports for fisheries supplies for South Korea's fishing industry.

According to data released by the South Korean Office of Marine Affairs, a total of \$17 million of United States aid funds has been allocated for fisheries development since 1953. The money was about evenly divided between investment projects and imported supplies. The fishing industry suffered severe damages in the typhoon of September 1959, when nearly one-third of the total fishing fleet was destroyed. Second to housing, fisheries rehabilitation is receiving highest priority in allocation of typhoon relief funds. (United States Embassy, Seoul, report of March 18, 1960.)

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FISHING INDUSTRY HIT HARD BY TYPHOON:

The havoc of Typhoon Sarah which hit Korea in September 1959 is estimated to have cost the fishing industry fully one-fourth of the potential production of 1959. Out of a fleet of 37,000 fishing craft, 11,000 or nearly one-third were totally destroyed and numerous other vessels were damaged. With so many vessels out of commission during the fourth quarter, what is generally a highly productive season (especially for the an-

Republic of Korea (Contd.):

choy and mackerel fisheries), 1959 marine production of 382,125 metric tons was off 3.3 percent from 1958 whereas developments before Sarah

struck in September had warranted expectations of peak postwar output.

Despite the unavoidable decline in the production, 1959 exports of all varieties of marine products, valued at



Republic of Korea (Contd.):

US\$4 million, were the highest since 1953. An unusually good crop this winter of laver (seaweed), which normally commands premium prices in Japan, portends continued progress of the marine-products category as an important earner of foreign exchange--assuming an early normalization of Korean-Japan trade relations, for Japan has been the sole purchaser of Korean laver and the major customer for all categories of marine exports.

Rehabilitation of the fishing industry is receiving high priority by a committee concerned with typhoon reconstruction. With over \$1 million in United States funds and 681.5 million hwan (\$524,000 at the rate of US\$1=1,300 hwan) allocated by the Korean Government, it is planned to construct 8,453 small craft (under 5 tons). A long-term, low-interest loan program is enabling individual fishermen as well as the fishery cooperatives and associations to resume their operations. (United States Embassy, Seoul, report of March 3, 1960.)



Mexico

GUAYMAS SHRIMP FLEET TIE-UP SETTLED:

The Guaymas (west coast) shrimp fleet, other than cooperative-owned vessels, was tied up because of a labor-management dispute from mid-January to March 20, 1960. Information has been received that the dispute was settled and the fleet was scheduled to resume fishing on March 22.

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SHRIMP INDUSTRY TRENDS, FEBRUARY 1960:

An ex-vessel price increase in Ciudad del Carmen and Salina Cruz, the continued tie-up of the Guaymas fleet, bad weather in the Gulf of Mexico, and the threat of possible United States import duties or quotas on shrimp were the topics of conversation in the Mexican shrimp industry in February.

The National Chamber of the Fishery Industry held its annual meeting during mid-February at which it was decided to ask support of the Mexican Government to oppose proposed tariff or quotas on Mexican shrimp entering the United States.

The Guaymas (West Coast) fleet, other than cooperative-owned vessels, has been tied up since about mid-Jan-

uary and there were no signs in February of an early return to fishing. The landings being made at Guaymas are mostly small brown shrimp.

Mazatlan and Salina Cruz (both ports on West Coast) catches are reported to be holding up, although boat owners are grumbling about losing money. Toward the latter part of February, Salina Cruz ex-vessel prices were increased one U. S. cent a pound. This followed a five-cent rise a week earlier in Ciudad del Carmen (East Coast). Guaymas and Mazatlan prices did not change. Increased ex-vessel prices are not indicative of an improved market. They are the result of a local buyers' dispute and probably are only temporary.

Mexican Ex-Vessel Shrimp Prices, February 29, 1960		
Size (No. Shrimp to Lb.)	Ciudad del Carmen (Brown and Pink)	Salina Cruz (Brown)
(U. S. Cents a Lb.).....	
10-14	63	-
Under 15	-	48
15-20	58	-
16-20	-	46
21-25	49	34
26-30	44	28
31-35	39	-
31-40	-	26
36-40	33	-
41-50	28	21
51 plus	-	16
51-60	22	-
61 plus	17	-

In both Ciudad del Carmen and Salina Cruz, the ex-vessel price of white shrimp was two cents a pound a cross-the-board more than for browns. Salina Cruz was landing mostly large browns. Most of the catch was under 20 count shrimp. A succession of "northers" in the Gulf of Mexico kept shrimp vessels in port for many days during February.

The Carmen landings-per-trip were about the same as in January, about 1,000 pounds of tails per trip. Campeche trips yielded less than during January and were about the same as those for Carmen. (The Carmen-Campeche landings per trip in January were reported to have been about 1.0 and 1.2 metric tons, respectively, but actually they were 1,000 and 1,200 pounds, respectively).

Carmen landings by species were the same as during January--about 50 percent pink, 35 percent white, and 15 percent brown. At Campeche the proportion of whites rose a bit to about 15 percent of the landings; pinks were about 85 percent; and browns were but a trace.

A greater proportion of smaller shrimp showed up in the Carmen February landings as compared with January. Only about 45 percent of the February landings were 30 count and larger, while in January 60 percent of the landings were in that category. Campeche landings also dropped in size composition from about 80 percent 30 count and larger during January to about 70 percent in February. (United States Embassy, Mexico City, report of March 4, 1960.)



Morocco

TRADE AGREEMENT WITH JAPAN INCLUDES FISHING ITEMS:

The Moroccan Bulletin Official of February 17, 1960, announced that the trade agreement of May 16, 1958, with Japan has been renewed. The renewal will extend from December 24, 1959,

Morocco (Contd.):

to December 23, 1960. The only items involving the fishing industry are exports of nylon and vinylon fishing nets (value \$400,000), nylon and vinylon ropes (value \$75,000), and plastic floats (value \$50,000) from Japan to Morocco. (United States Embassy in Rabat reported on February 23, 1960.)



Norway

SUPPLEMENTARY SUBSIDY FOR COD AND HERRING FISHERIES APPROVED BY PARLIAMENT:

Supplementary appropriations of 22 million kroner (US\$3.1 million) to subsidize cod and herring fisheries have been approved by the Norwegian Parliament. Of the total, 10 million kroner (\$1.4 million) is earmarked for the northern provinces. (News of Norway, March 24, 1960.)

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STERN-FISHING TRAWLER TO BE BUILT FOR EXPERIMENTAL FISHING:

The Norwegian Ministry of Fisheries has proposed construction of a 150-foot-long stern-fishing trawler, to cost about Kr. 3.2 million (US\$448,000), for experimental fishing in North Norway. The tests should provide conclusive proof whether it is more efficient to operate the trawl from the stern rather than from the side of the trawling vessel.

Meantime, a three-man committee, named to explore means of assuring the supply of raw material for fish filleting and freezing plants in Troms and Finnmark, has recommended construction of three stern trawlers, to cost Kr. 5-6 million (\$700,000-840,000) each. If tests over a one-year period demonstrate their superiority over conventional side trawlers, the committee suggests it might be advisable to build up a fleet of 30 stern trawlers. This should provide enough fish to assure year-round operation and steady employment at all of the filleting and freezing plants in Troms and Finnmark.

A special type of stern trawler designed to meet Norwegian requirements has been extensively tested in the Ship Model Tank at the Norwegian Institute of Technology at Trondheim. The Bergen shipyard has developed an extremely efficient nozzle rudder, with built-in propeller, which looks very promising. At low speeds, the novel combination system provides 30 percent more thrust than a propeller alone, and better steering than a conventional rudder. (News of Norway, March 17, 1960.)

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WINTER HERRING FISHERY FAILS AGAIN:

The 1960 seasonal herring fishery off the coast of West Norway has failed for the third year in a row. When the season for the fat or high-priced winter herring was called off at midnight February 23, the total catch amounted to less than 200,000 metric tons. This is the poorest result since 1946 when fishermen landed only about 125,000 tons. The start of the spring herring fishery on February 24, automatically reduced the price per ton, because of lower fat content.

Only nine of the 450 purse-seiners which took part in the winter herring fishery managed to catch more than the 1,000-ton minimum required for profitable operation. The rest finished the season deep in debt for gear and other equipment. The herring were too deep to be reached by purse seine.

Meanwhile, the Norwegian Prime Minister told Parliament that the government will appoint a special committee to propose measures for remedying the damage caused by the fishery failure. The committee will also evaluate problems arising from the steadily diminishing influx of herring. (News of Norway, March 3, 1960.)

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HERRING FISHERY FAILURE IS GRAVE CHALLENGE TO INDUSTRY:

Failure of Norway's winter herring fishery should serve as a challenge to seek new fishing grounds and new operating methods, the Norwegian Fisheries Minister said in a recent address at Bergen. It is up to us, he stressed, to take advantage of the growing world demand for fishery products.

Norway (Contd.):

A strong plea was made for switching from purse-seiners to trawlers in the herring fishery. If fishermen show willingness to adopt new operating methods, he said the State would facilitate acquisition of larger engines and trawling gear.

Outlining a program for future development of the herring fishery, the Minister suggested that suitable purse-seiners, after installation of more powerful engines, should go over to trawling for herring in the North Sea, the Skagerak, the Norwegian Sea, and off Iceland. As a natural supplement to trawling, some of the purse-seiners might take part in the annual winter herring fishery off the coast of West Norway. Their participation, however, should be guided by biological and hydrographic conditions. Drift-netters, too, should seek out the herring in the open sea, thus becoming less dependent on shoals reaching coastal waters. From now on these operating methods should receive decisive consideration in building new fishing vessels, the Minister continued.

Equally radical suggestions were recently offered by a Member of Parliament and Director of the North Norway Development Fund. He urged year-round fishing activities, primarily to be conducted by ocean-going stern trawlers. In his opinion, this is the only way to provide enough fish for Norway's large frozen fillet industry. Now able to operate but a few months a year at full capacity for lack of raw material, filleting plants are in serious straits. Until Norway's own fishing fleet is big enough to assure year-round operation of the filleting industry, he suggested that foreign fishing vessels be permitted to land their catch for processing at Norwegian plants. In his opinion, this would be a sensible division of labor.

The Member of Parliament emphasized that industrialization of Norwegian fisheries must be accomplished without destroying chances for part-time fishing, which provides supplementary earnings for thousands of small farmers in North and West Norway. The main objective, he said, should be to extend the radius of operation, with far more vessels engaging in ocean fishing. Stern trawlers, 150-200 feet long, would be best suited for that purpose. These craft, however, are far too costly for most fishermen, unless they receive assistance from the State. Considering the vital importance of industrializing the fisheries, he felt such aid would be warranted. (*News of Norway*, March 10, 1960.)



Pakistan

ABOLITION OF DUTY ON FISHING EQUIPMENT AIDS PAKISTAN'S FISHERIES:

Following the abolition of duty on imports of fishing equipment, thus putting it on a par with agricultural equipment, the marine boat-building business boomed in the East Pakistan ports of Chittagong and Khulna.

In January, a fishing firm in Cox's Bazar started deep-sea operations, sending the catch to Chittagong in "cold-storage" vessels. Arrangements are being made for freezing, canning, and exporting of fish from Chittagong and Khulna. The first shipment of frozen shrimp from East Pakistan to the United States was announced in November.

A new East Pakistan fishing firm is likely to be formed with help of Japanese capital and technical assistance, according to an announcement made by the new Government Food and Agriculture Minister in Chittagong in January this year. (United States Embassy in Dacca, reported February 9, 1960.)

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DEVELOPING SHRIMP AND OTHER FISHERIES:

Pakistan exports of frozen shrimp to the United States have climbed from 150,000 pounds in 1956 to 471,000 pounds in 1957 and 637,000 pounds in 1958. Twelve commercial trawlers are under construction by private individuals. Previously no commercial trawlers were in operation in Pakistan.



Bidding on fish at wholesale market at Karachi.

Interest and enthusiasm in the development of fisheries resources is high both among Government officials and private individuals.

United States Operations Mission-Pakistan has, through its aid in constructing a modern fish harbor at Ka-

Pakistan (Contd.):

rachi and encouraging the exploitation of fishery resources particularly by the private sector, been instrumental in the recent expansion of the fishing industry in Pakistan. Since October 1959, when the fish harbor and market was officially opened, an average of 100 metric tons of fish have been auctioned daily through the market. (United States consular dispatch from Karachi, March 7, 1960.)



Portugal

FISHERIES TRENDS, 1959:

The situation in the Portuguese fishing industry remained unchanged during the fourth quarter of 1959 as compared with the preceding quarter, and although final 1959 statistics were not available as of the end of January 1960, the results of the year are comparatively poor. While the various types of fishing which supply fresh fish for local consumption, principally the trawl catch, had a satisfactory year, there was a decline in the sardine catch, and the cod season on the Newfoundland and Greenland banks is regarded locally as "disastrous." The cod fleet returned with only about a 60-percent capacity load and owners sustained large losses.

The bad weather which prevailed through Western Europe during the last quarter of the year took its toll in Portuguese fishing. Two trawlers collided and sank on October 22, with a loss of two lives. A large number of small fishing craft were damaged and a few lost, but the most serious economic effect was from the fishing days lost. For a number of days the weather at fishing ports was so rough that the Portuguese Coast Guard forbade fishing. While the total number of such days was not large, it was a serious matter for the fishermen, who have no savings to fall back upon.

The "Fund for the Renovation and Equipment of the Fishing Industry," the extension of which was reported earlier, was authorized a loan in November 1959, of 50,000,000 escudos (US\$1,750,000) with which to continue its current operations.

The sardine catch through August was about 14 percent less than in 1958. The 1958 catch, however, was one of the largest on record, so the comparison is somewhat misleading. From trade and government information, however, it seems that the trend in the last four months of 1959 was downward, and that the 1959 catch will be lower than the recent average.

Exports of canned fish, chiefly sardines, anchovies, and tuna were at a high level in 1959, partly reflecting the abundant 1958 sardine catch. Through November, about 70,000 metric tons valued at \$35.9 million were exported. Of these, about 76 percent were canned sardines. Portugal's anchovy exports to other European countries, notably France and Italy, increased significantly in 1959.

Portugal faces a difficult problem with its supply of dried cod this year. On top of a poor year in 1958/59, the 1959 catch is estimated to be even worse, and the supply of dried cod available in world markets is limited. After the late return of the fleet from the banks in the third week of October, and the confirmation of the poor catch, the Secretary of State for Commerce called a press conference on October 27, 1959, regarding the cod supply. The Secretary assured the press that existing ceiling prices would be maintained and that steps would be taken to ensure a regular supply of dried cod. However, an increase was permitted on December 16, 1959, in the prices of the highest grade only of domestic and imported dried cod. He stated, there was no need for hoarding and speculation would be promptly and rigorously punished. The Government has from time to time since October 1959 announced the release of quantities of dried cod to dealers. Nevertheless, stores have only barely adequate supplies, and the press has reported frequent instances of attempted hoarding by dealers, and of under-the-counter and tied sales. The Government, for its part, is apparently making its best efforts to sustain an orderly flow of this key product--at ceiling prices--to consumers. Since the shortage developed toward the end of 1959, and other countries with cod industries are concentrating more and more upon frozen fish, Portugal has been unable to obtain sufficient imported

Portugal (Contd.):

cod to take care of the shortage. Imports of dry and wet cod through November 1959 were 22 percent less than imports in the first 11 month of 1959, the United States Embassy in Lisbon, reported on January 27, 1960.

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FISHERIES TRENDS,
NOVEMBER 1959:

Sardine Fishing: During November 1959, the Portuguese fishing fleet landed 17,604 metric tons of sardines (valued at US\$1,346,156 ex-vessel or about \$76 a ton). In November 1958, a total of 26,767 tons of sardines was landed (valued at \$1,603,930 ex-vessel or \$60 a ton).

Canneries purchased 41.6 percent or 7,332 tons of the sardines (valued at \$633,530 ex-vessel or about \$86 a ton) during November 1959. A total of 10,044 tons was purchased for the fresh fish market, and 228 tons were salted.

Other Fishing: November 1959 landings of fish other than sardines were principally 3,340 tons of chinchards (value \$156,730). (Conservas de Peixe, January 1960.)

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CANNED FISH PACK,
JANUARY-NOVEMBER 1959:

The total Portuguese pack of canned fish for January-November 1959 amounted to 56,142 metric tons. Canned sardines in oil (43,985 tons) accounted for 78.3 percent of the January-November 1959 pack, the January 1960 Conservas de Peixe reports.

Product	Net Weight	
	Metric Tons	1,000 Cases
<u>In Olive Oil:</u>		
Sardines	43,985	2,315
Sardinelike fish	617	32
Anchovy fillets	5,201	520
Tuna	4,424	158
Mackerel	582	23
Other species	1,333	71
Total	56,142	3,119

* * * * *

CANNED FISH EXPORTS,
JANUARY-NOVEMBER 1959:

Portugal's exports of canned fish January-November 1959 amounted to 69,752 metric tons (3,801,000 cases), valued at US\$35.7 million, as compared with 58,938 tons, valued at US\$31.4 million, for the same period in 1958. Sardines in olive oil exported during the first 11 months of 1959 amounted to 52,906 tons, valued at US\$25.6 million.

Species	Jan.-Nov. 1959	
	Metric Tons	US\$ 1,000
Sardines in olive oil	52,906	25,597
Sardine & sardinelike fish in brine	1,449	302
Tuna & tunalike fish in olive oil .	3,759	2,631
Anchovy fillets	5,899	4,325
Mackerel in olive oil	3,187	1,603
Other fish	2,552	1,232
Total	69,752	35,690

During January-November 1959, the leading canned fish buyer was Germany with 15,115 tons (valued at US\$7.6 million), followed by Italy with 9,628 tons (valued at US\$5.4 million), United States with 6,758 tons (valued at US\$4.6 million), Great Britain with 6,755 tons (valued at US\$3.1 million), and Belgium-Luxembourg with 4,507 tons (valued at US\$2.2 million). Exports to the United States included 2,464 tons of anchovies, 944 tons of tuna, 3,135 tons of sardines, and 40 tons of mackerel. (Conservas de Peixe, January 1960.)



South-West Africa

DISPUTE OVER WAGES FOR SPINY
LOBSTER FISHERMEN SETTLED:

The dispute over higher wages for 300 Portuguese spiny lobster fishermen in Luderitz, South-West Africa, was settled in February. Details of the final settlement are not known. The fishermen were seeking an increase from 9 shillings (US\$1.26) per 100 pounds of spiny lobster landed to £1.4.0d. (\$3.44). Other payments received by the fishermen were not involved in the dispute. These include a bonus of 3-4 shillings (42-56 U. S. cents) per 100 pounds, wages of up to £50 (US\$140) a month, and a food allowance of £8-£10 per month (US\$22.40-28.00).



Sweden

EUROPEAN COMMON MARKET CREATES EXPORT PROBLEMS FOR FISHERY PRODUCTS:

In the light of the development towards increasing exports which the Swedish fishing industry has shown in the last years, it is natural that most of the problems for commercial fishermen are on the international level, said the Swedish Minister of Agriculture in a speech on March 18 which was "Fisherman's Day" of the Agricultural Week.

The minister also said that apart from normal risks, which always exist because of the technical and economic development, the largest risk arising out of West German's connection with the European Common Market seems to be that this group gradually will introduce a common outer customs barrier. According to present plans, this would in a few years cause increasing sales difficulties for Swedish fish to West Germany, or seriously reduce the profit for that part of the fishing industry concentrating on this market. However, this development, the minister stated, is very difficult to judge.

The minister said further that in the Convention of the European Free Trade Association (EFTA), the special regulations pertaining to fishery are limited to a general aim. The purpose, he said, is to ease the development in the trade with fish and similar products, which give other member countries, whose economy is depending on such export, a reasonable reciprocity. The abolishment of customs protection, he said, affects the duties on canned fish products, and as respects frozen fish fillets, the EFTA Convention gives a certain room for increased Swedish export. From this point of view, he said, the EFTA Convention is more advantageous to the Swedish fishing industry than the proposed Nordic market, where the import fees would have been abolished immediately. The EFTA Convention, on the other hand, provides for a gradual abolishment over a ten-year period. (United States Consulate in Goteborg, reported on March 22, 1960.)

TEN STEEL TRAWLERS ORDERED FROM EAST GERMAN SHIPYARD:

A Goteborg firm has signed a contract with a shipyard in Brandenburg, outside of East Berlin in East Germany, for delivery of 10 steel trawlers. The trawlers will be of a special type, called "Schwedenskutter" (Sweden cutter), each with a total length of 104 feet and a width of about 22 feet. They will be equipped with 560-horsepower 4-stroke Diesel engines and will also have radar, echo-sounding devices, and radiotelephones. Two 16 kilowatt generators will furnish each trawler with electricity for heating and cooking purposes. Auxiliary motors of 28 horsepower will also be installed. The loading capacity is 1,500 boxes of fish.

Deliveries are scheduled to be made during a period of one year with the first trawler completed in the beginning of 1961.

The transaction, which represents an amount between 5 and 6 million crowns (US\$965,000-1,158,000) provides for increased export of Swedish fish to East Germany. A contract for export of 2,000 metric tons of North Sea herring during the month of July and 500 metric tons of mackerel has been signed.

The background to the order for the ten steel trawlers is that Sweden's export of fish to East Germany in the last years has been rather irregular. In October 1959 for instance, export of fish to East Germany stopped because Sweden had discontinued importing fodder products, brown coal, and grain from East Germany as provided for in the global compensation arrangement for 1959. As a result of the uncertain export opportunities, Swedish representatives for the fishing industry sought to find other products that Sweden could import from East Germany. There is at present a demand for modern steel trawlers in Sweden. Several orders have been placed outside of Sweden, for instance in Holland. No orders, however, have previously been placed in East Germany by Swedish fishermen. However, it is reported that Danish fishermen have contracted for a similar type trawler for delivery in the summer of 1960.

Sweden (Contd.):

The company that has contracted for the trawlers is canvassing Swedish fishermen seeking to obtain sales contracts for the ten steel trawlers. (United States Consulate, Goteborg, report of March 8, 1960.)

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FISHERY LANDINGS IN 1959:

The total catch of Swedish fishermen in 1959 totaled 260,000 metric tons, valued at 163,000,000 crowns (US\$31.5 million), compared with 238,000 tons (revised), valued at 154,000,000 crowns (\$29.7 million) in 1958. This set new records both for quantity and value.

West coast fishermen landed 75 percent of the total quantity and 70 percent of the total value. South coast fishermen accounted for 14 percent of the quantity and 16 percent of the value, and the share of the east coast fishermen amounted to 11 percent of the quantity and 14 percent of the value.

The increase in quantity originates from the west coast; the increase on the east coast was significant, while the landings by south coast fishermen dropped by 2,200 tons.

The value of the landings by west coast fishermen increased by 7,400,000 crowns (\$1.4 million); the value for east coast fishermen increased by 400,000 crowns (\$77,200) and the landings by south coast fishermen represented a gain of 1,200,000 crowns (\$231,600). The increase in value on the south coast, despite the reduced landings, is explained by increased landings of more expensive fish, such as eel.

In comparing total landings as far back as 1939 with 1959, it is noticeable that the catch during the 20 years has increased by more than 200 percent. In 1939, west coast fishermen landed 75,000 tons as compared with 192,000 tons in 1959; south coast fishermen landed 12,000 tons in 1939 as against 36,800 tons in 1959; east coast fishermen landed 32,000 tons in 1939 compared with 27,800 tons in 1959.

During the same period the number of full-time fishermen dropped from 13,600 to 9,500. The catch per fisherman in 1959 is three times as much as in 1939. Larger boats with powerful engines, modern and more efficient gear, and new fishing methods account for the largest part of the increase, but a more intensive use of craft and gear is also a factor.

Exports of fish and fish products in 1959 also reached a new record and totaled 122,000 tons, valued at 76,500,000 crowns (\$14.8 million). Direct landings in foreign ports, included in the above total, amounted to 80,000 tons, an increase of 17,000 tons and 7,000,000 crowns (\$1.4 million) compared with 1958.

Imports of fish and fish products in 1959, dropped to 47,300 tons, valued at 105,400,000 crowns (\$20.3 million), compared with 49,200 tons, valued at 105,900,000 crowns (\$20.4 million), in 1958. (United States Embassy, Goteborg, report of March 15, 1960.)

Note: Values converted at rate of one Swedish crown equal \$0.193.

**Taiwan**FISHERIES LANDINGS IN 1959:

The 1959 fishery landings in Taiwan reached 246,327 metric tons, an increase of 7.25 percent over 1958 landings of 229,677 tons. The catch by categories as compared with 1958 is shown in the table.

Taiwan's Fishery Landings, 1957-59			
Type of Fishery	1959	1958	1957
	(Metric Tons)		
Deep-sea fisheries	76,411	61,160	52,223
Inshore fisheries	91,240	81,720	71,552
Coastal fisheries	32,183	38,267	38,468
Fish culture	46,493	48,530	45,878
Total	246,327	229,677	208,121

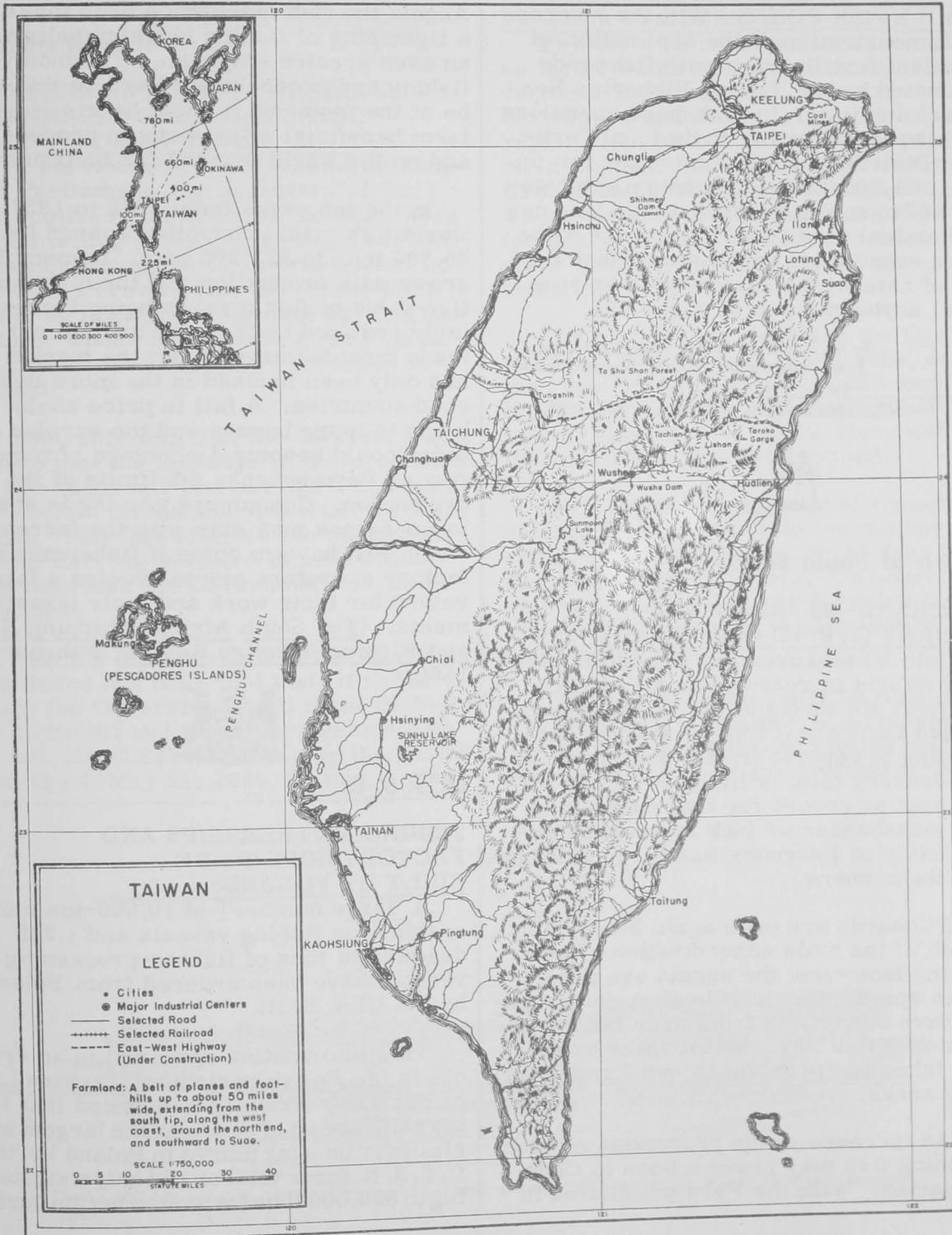
Over 70 percent of the 1959 production was contributed by the deep-sea and inshore fisheries and the remaining 30 percent by coastal fisheries and fish culture. This is in contrast to the production of 1952 in which the deep-sea and inshore fisheries accounted for only 40 percent of the total catch. The drop in

Taiwan (Contd.):

landings from the coastal fisheries is attributed to the motorization of many sampans which placed them in the in-shore fisheries. Fish-culture production in 1959 was set back by the serious flood of August 7.

The 1959 fishery catch exceeded the planned goal of 242,000 tons. The new goal set for fisheries production in 1960 is 255,000 tons.

OUTLOOK FOR TUNA FISHING BRIGHT: Encouraged by the successful operation of the four 350-ton tuna long-



Taiwan (Contd.):

liners built in 1957, the fishing industry is planning the construction of two 550-ton tuna boats in 1960. Export of frozen tuna to the United States amounted to 688 tons in 1959 as compared to 146 tons in 1958.

USE OF CHEMICAL FERTILIZERS IN MILKFISH PONDS: With the successful demonstration of the application of chemical fertilizers in milkfish ponds conducted by the Taiwan Fisheries Research Institute, the fish-pond operators in Taiwan have applied to the local Fertilizer Distribution Administration for a total of 1,505 tons of ammonium sulphate and 587 tons of superphosphate. The use of chemical fertilizers has proved to be more economical and sanitary than the use of natural fertilizers such as rice bran, soybean meal, or night soil.

--By T. P. Chen, Chief, Fisheries Division,
Joint Commission on Rural Reconstruction,
Taipei, Taiwan.

Note: See Commercial Fisheries Review, April 1959,
p. 90.



Union of South Africa

PILCHARD-MAASBANKER FISHERY OFF TO GOOD START:

Both Maasbanker and pilchards have been caught in reasonable quantities in the first six weeks of the Union of South Africa Cape shoal fishing season. According to reports from some factories, the January total is likely to be one of the best on record for that month, and the maasbanker or jack mackerel fishing early in February was a hopeful sign for the canners.

Pilchards are once again being found south of the main concentration of processing factories; the shoals are reported to spread over a wide area and catches have been made from near Dassen Island to False Bay. Maasbanker are being taken in the Saldanha and Lambert's Bay areas.

An increase in the proportion of good canning fish may prove a boon to Cape factories. With the Peru production in

1959 adding nearly 20 percent to world fish meal output, the export price has taken a drastic plunge and may be some time recovering. The price drop is serious, but, like other raw materials, fish meal could gain from it, according to the South African industry.

For the Union, South-West Africa, and Angola the fish meal price drop may cause a tightening of fishing industry belts and an even greater emphasis on economy in fishing and processing. Hard as this may be at the moment, it could have a long-term beneficial effect both on producers and on the world demand for their product.

In the ten years from 1948 to 1957 world fish meal production soared from 96,900 tons to 523,200 tons. Demand has grown with production and the high nutritive value of fish meal is being increasingly realized by farmers and animal feeds manufacturers. But the market has only been touched in the more developed countries. A fall in price could bring in more buyers and the surplus of today could become a shortage of tomorrow as Peru reaches the limits of its production. Consumers coming in at the lower prices may stay with the increase which will have to come if fishermen and factory operators are to receive a fair return for their work and their investments. (The South African Shipping News and Fishing Industry Review, February 1960.)



U. S. S. R.

FISHING MOTHERSHIPS AND FACTORYSHIPS TO BE BUILT BY POLAND:

A "large number" of 10,000-ton motherships for fishing vessels and 1,250 deadweight tons of fishing-processing vessels have been ordered from Poland by the U. S. S. R.

This information appeared in an article in the Polish periodical Trybuna Ludu of February 29 which announced that Polish shipyards had received the largest single order thus far placed in Poland by the U. S. S. R. for a total of 122 ships amounting to 830,000 tons for construction during

U. S. S. R. (Contd.):

1961-1965, i.e., the period of the next Polish five-year plan as well as the five-year Polish-Soviet Trade agreement, which was expected to be signed soon.



United Kingdom

GOVERNMENT TO AID HERRING FISHERMEN WHEN CATCHES SOLD FOR FISH MEAL:

In the House of Commons of the British Parliament, the Secretary of State for Scotland was asked if "he was aware of the falling price of fish meal brought about by excessive and unrestricted imports of Peruvian fish meal; and what steps he is taking to protect herring fishermen, whose catches frequently go to fish meal, from bearing the losses involved."

The reply was that the Secretary was aware that the increase in the production of fish meal in Peru has had a considerable effect on the world market for fish meal. This has affected the operations of the Herring Industry Board, which has informed the Government of its difficulties.

Pending a full review of the situation, the Board has been told that, if necessary, the Government will meet its losses on its oil and meal arrangements up to £30,000 (US\$84,000) during the period January 1-May 31, 1960, so that during

that period the schedule of prices which the Board pays to the fishermen for surplus herring which is sold for reduction may be maintained. (Report of March 17, from United States Embassy, London.)

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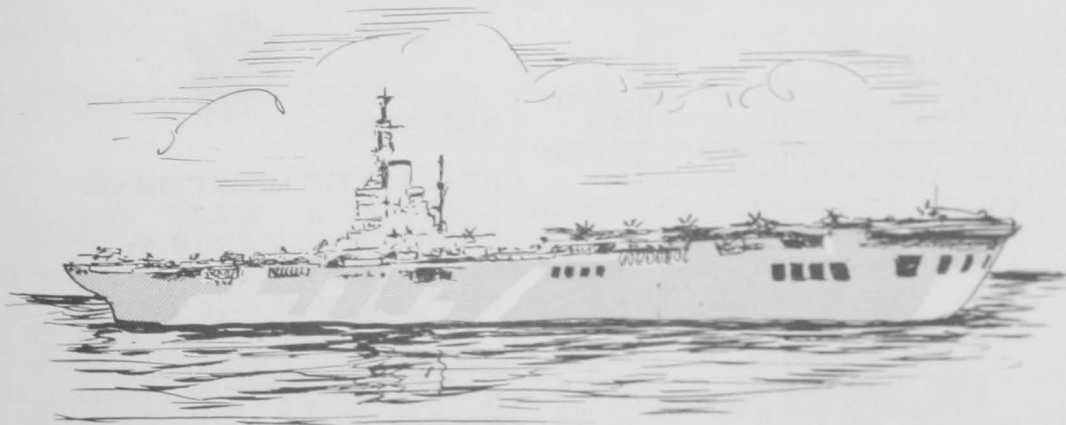
AIRCRAFT CARRIERS AS FISHERY FACTORYSHIPS:

Two aircraft carriers are to be used as factoryships to service the British deep-sea trawling fleet. The carriers have been purchased, along with an old repair ship, by a British company formed in London. Behind the venture is a firm of shipbrokers and managers, which has been working on the project for nearly a year. Capital amounting to more than £2.5 million (US\$7 million) is behind the plan.

The aircraft carriers are the Ocean and the Theseus, both 13,000 tons, and the repair ship, Ranpura (16,000 tons). Equipment from the latter will be used in the conversion of the carriers and thereafter she will be scrapped.

Helicopters will be used to transfer catches from trawlers to the motherships, each of which will make four 90-day round trips in a year. On board the motherships the fish will be quick frozen. Products will be sold to distributors on a contract basis.

The firm estimates that 50 trawlers will be required to service each carrier. Trawler owners seem to realize that the plan is an excellent one and that it would



The 13,000-ton aircraft carrier Theseus to be used as factoryship to service British deep-sea trawling fleet.

United Kingdom (Contd.):

allow their vessels to spend more time on the fishing grounds.

In addition to acting as factoryships, the carriers, each with a complement of 425, will act as servicing ships supplying the catching vessels with fuel, ice, and other requirements. They will have what are described as "shore amenities" for the trawlermen.

The trawlermen's trade union has been consulted on matters affecting pay and conditions. (The Fishing News, February 19, 1960.)



Venezuela

RESEARCH ON SARDINE STOCKS PLANNED:

A British marine fisheries biologist is working in Venezuela on a year's assignment for the Food and Agriculture Organization in order to assist the Government of Venezuela to set up a research program to investigate the stocks of sardines and other commercial fish found in the Gulf of Cariaco and in other Venezuelan waters.

The present thriving sardine fishery in Venezuela produces fish for the canning factories and it is hoped that the research program will be able to determine to what extent the fishery may be developed without danger to the stocks.

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FISHERIES TRENDS, FEBRUARY 1960:

The Venezueland Banco Agricola y Pecuario announced in February that the Fishing Cooperative of Zulia will receive a loan of 1.5 million bolivares (about US\$485,000) for housing, nets, and other fishing equipment. The principal objective of these loans, according to the Director of the Bank, is to reduce the price of fish and help the small fisherman. The Bank also is planning to organize a cooperative of fishermen in eastern Venezuela which will also receive a credit of 1.5 million bolivares.

The new marine biology institute will be inaugurated in the near future on the island of Margarita to study (1) Venezuela's fishery resources, (2) the importance and possibility of modernization, (3) the possibility of new employment sources, and (4) the possibility of lowering the cost of living by introducing fishery products.

Wholesale trawling by the large commercial fishing and canning companies again came under attack from small fishermen in December 1959. The latter claim that trawling is depleting their fishing grounds and thus affecting their livelihood. The government, on the other hand, felt it necessary to extend its permission another four months (until April) for trawling in certain areas of Venezuela's seacoast. Otherwise, a spokesman said, a fish shortage would occur and 3,000 employees in the industry would be without work. The government believes that one answer to the problem is the fishing cooperatives which would permit the small fisherman to compete with trawling gear.

The first 50 tons of tuna were delivered by Japanese fishing boats to a Venezuelan cannery during July 1959. The boats belong to a joint Venezuelan and Japanese company (majority of capital is Venezuelan). The company expects to deliver 30 tons of tuna to the Margarita cannery every 10 days. The cannery expects ultimately to supply the entire Venezuelan market at prices no higher than imported tuna. (United States Embassy in Caracas reported in a depatch dated February 15, 1960.)



Viet-Nam

REARING OF MILKFISH ON COMMERCIAL SCALE DEVELOPING RAPIDLY:

The pond rearing of milkfish (chanos), which was started in Viet-Nam late in 1958, on a commercial scale, is developing rapidly in Central and South Viet-Nam. During 1959 two rearing stations were developed by the Fisheries Directorate and over 100,000 milkfish fry were captured for rearing purposes. In 8

Viet-Nam (Contd.):

months, 10,000 fry will yield about 6 metric tons of prime marketable fish.

A number of privately-owned commercial rearing ponds have now been built and others are under construction this year. All are designed similar to those built by the Inland Fisheries Culture Service.

As surveys reveal additional areas of fry concentration in coastal brackish waters, up to a million milkfish fry may be captured by 1962.

In Taiwan, where the rearing of milkfish has been conducted for the past 30 years, it is the most important pond fish and is one of the leading food fishes.

The magnitude of the Taiwan milkfish industry may be judged by noting that between 90 and 100 million fry are captured annually for pond-rearing purposes with 118 million being the record catch. The pond-rearing area exceeds 13,000 hectares (about 32,123 acres).

Pilot-rearing stations established during 1959 indicate that the vast mangrove swamp area of coastal Viet-Nam is admirably suited for milkfish rearing. The limiting factors will be the ability of the Fisheries Directorate to discover sufficient milkfish spawning areas and the development of techniques for catching them in volume, the United States Overseas Mission to Viet-Nam reported on February 18, 1960.



TESTS SHOW FISH AVOID FATIGUE

Encouraging results have been obtained relative to the degree of fatigue fish experience during lengthy ascents of fishways. In the summer of 1959, tests were conducted by U. S. Bureau of Commercial Fisheries biologists to examine the ability of salmonoids to make extended ascents of fishways with slopes of 1 on 8 and 1 on 16. These ascents ranged from 200 to 1,000 feet. Whole blood extracts were obtained from each fish immediately following the exercise period. These samples were then analysed.

In general the results imply that salmonoids do not become excessively fatigued in the ascent of either a 1 on 8 or 1 on 16 slope fishway even when the height achieved is up to 1,000 feet.

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