INTERNATIONAL

Food and Agriculture Organization

COUNCIL HOLDS 47th SESSION

The 47th Session of the Food and Agriculture Organization (FAO) Council was held in Rome in October 1966. FAO is the specialized agency of the United Nations concerned with raising world nutritional levels and securing efficiency of food production and distribution. The FAO Council is an executive organ composed of 30 member nations, including the United States.

The Council was generally satisfied with the program of FAO's Department of Fisheries and its growth, provided for by the 13th Session of the FAO conference. Several developing countries appealed for more technical assistance in the field and for more FAO subregional offices. Delegates also suggested the need for more work on fisheries training, resource assessment, more and better statistics, marketing surveys, preinvestment studies, and improved liaison with international organizations.

At a ceremony in the FAO Director-General's office, the Japanese Ambassador to Italy signed the International Convention for the Conservation of Atlantic Tuna. At the Council Meeting, 9 nations indicated support of the Convention and said they intended to ratify it (seven ratifications are needed to place the Convention into force).

The next FAO Council Session will be held in Rome, June 12-23, 1967.

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INDO-PACIFIC COUNCIL SEEKS TO IMPROVE MARINE FOOD RESOURCES

The Indo-Pacific Fisheries Council of the UN's FAO met in Honolulu, October 3-17, 1966, and worked on a program to improve marine food resources for Southeast Asia. President Johnson has called better use of the sea's resources "one of the most consequential items on the agenda of mankind."

A 2-day symposium on fisheries education and training was devoted in part to papers describing training programs throughout the world. One result was the recommendation that one or more educational centers be established in the Indo-Pacific region to train extension officers, who could then train fishermen directly. These officers would also provide member nations with training information and advice.

The Council appointed a committee, scheduled to meet in Rome in October, to discuss the programming and coordination of investigations of the Indian Ocean's fishery resources. The Council also considered Hawaii's needs for new fish species to enrich its fauna and suggested several kinds that might be introduced there. And, it decided to promote the preparation of a multilingual manual to identify commercially important species of the Indo-Pacific region. The manual will consist of cards--carrying pictures and local names of fishes--which can be used by fishery officers and fish dealers. The use of cards will enable collection of more reliable statistics.

The Council has 18 member nations. U. S. delegate was John C. Marr, Area Director, BCF, Hawaii. His alternate was John A. Dassow, BCF, Seattle.

ICES Holds 54th Annual Meeting

The International Council for the Exploration of the Sea (ICES) held its 54th Annual Meeting in Copenhagen, Sept. 30-Oct. 12, 1966. ICES acts as scientific advisor to the North-East Atlantic Fisheries Commission.

The Comparative Fishing Committee discussed topside chafing gear, in double-mesh size, it was found to affect selectivity only slightly--a finding shared by the ICNAF Subcommittee on Gear and Selectivity. Several speakers indicated that fishing captains in some countries were reluctant to use this type of chafing gear because it does not prevent large catches from bursting the cod end. The Committee recommended additional research on the problem.

The Herring Committee reviewed the great increase in exploitation of northern North Sea herring stocks. It agreed that a 5- to 30-percent reduction from the 1965 catch

(more than 900,000 metric tons) was desirable. Ad hoc groups were formed to plan further resource studies using acoustic methods, tagging, and more extensive larval surveys.

The next annual meeting will be held in Hamburg, Germany, during early October 1967. (U. S. Embassy, Copenhagen, October 23, 1966.)

United Nations Approves Marine Resources Resolution

A resolution on the sea's resources, approved by a committee of the United Nations General Assembly, November 9, 1966, calls on the Secretary-General to initiate a comprehensive survey of activities in marine science and technology undertaken by members of UN organizations, member states, and intergovernmental groups.

The Secretary-General also is invited to formulate proposals to expand cooperation in learning more about the marine environment through science and the exploitation and development of marine resources. The resolution recommends that due regard be given the preservation of fish stocks and that marine education and training programs be strengthened.

The Secretary-General is asked to submit his proposals to the General Assembly at its 23rd session in 1968.

International North Pacific Fisheries Commission

HOLDS ANNUAL MEETING
IN VANCOUVER

After reviewing salmon, halibut, king crab, and groundfish resources in the North Pacific, the International North Pacific Fisheries Commission concluded its 13th annual meeting in Vancouver, British Columbia, on November 11, 1966.

The Commission operates under the International Convention for the High Seas Fisheries of the North Pacific Ocean, signed by Canada, Japan, and the United States in 1952. The Convention provides several kinds of action to promote conservation and proper use of the sea's resources. Where resources are exploited by fishermen of 2 or more member countries, the Commission studies the need for conservation measures as indicated by scientific research; if such measures are necessary, it recommends their inclusion in the domestic fishing regulations of each country. Where the Convention characterizes certain resources as being fully exploited and under effective conservation management, it provides that member countries refrain from fishing these resources if they have not previously done so. Under this provision, Canada abstains from exploiting salmon of the Bristol Bay area of Alaska; Japan does not fish for salmon in the eastern North Pacific and Bering Sea, halibut in the northeastern Pacific south of the Aleutian Islands and the Alaska Peninsula, and herring off most parts of the British Columbia coast. The Commission recommended no changes in these provisions.

Recommendations for 1967

One principal task on the agenda was to recommend fishing regulations for the halibut fishery of the eastern Bering Sea in 1967. The Commission has done this since 1963, when line fishing in that area first became open to the 3 countries. For 1967, the Commission agreed to recommend a slight lengthening of the fishing season in the focal part of the fishing ground, referred to as Area A, and intensified conservation measures for areas east and west of it. It will recommend that an extensive area in the southeastern Bering Sea--a nursery ground for young halibut--be closed to fishing completely and, within part of this area, Japan will undertake to prohibit all trawl fishing by its vessels. Canadian and U. S. representatives said their governments intend to require fishermen to release all halibut taken by trawl nets in any part of the Bering Sea. The Japanese delegates said their government intends to apply a minimum size limit of 66 centimeters (26 inches) for halibut to Japanese fishing operations throughout the Bering Sea.

In the Gulf of Alaska, the Commission's studies focused on effects of the expanding

trawl fisheries for various species of bottomfish and shrimp on the halibut stocks, which are exploited by Canadian and United States set-line fishermen. Groundfish catch statistics were exchanged. Scientists studied reports on numbers of halibut found in bottomfish trawl catches. The Commission approved recommendations by its Gulf of Alaska Groundfish Committee for further research in this field.

After considering king crab research, the Commission recommended that research on this species in the eastern Bering Sea be continued and strengthened.

The Commission noted reports that South Korea may enter the salmon, and perhaps other, fisheries in the Convention-covered area. It requested the Commission's chairman to call these reports to the attention of member governments, express the Commission's grave concern over the implications of such an action on its conservation program, and to ask the member governments to consider the matter.

The next annual meeting was scheduled for Tokyo, beginning November 6, 1967.

U. S. and Japan Renew King Crab Agreement

On November 18, 1966, the United States and Japanese delegations successfully concluded consultations in Washington on the Japanese king crab fishery in the eastern Bering Sea. The negotiations began November 14. The delegations agreed to recommend to their respective Governments extension for another two years of the agreement of November 1964. There is a single exception: the annual Japanese king crab catch for 1967 and 1968 would be set at the equivalent of 163,000 cases to avoid possible overfishing. The Japanese catch for 1965 and 1966 was the equivalent of 185,000 cases. The delegations also agreed to recommend further intensification of the study and research of the king crab resource in the eastern Bering Sea and presentation of the results to the International Commission under the North Pacific Fishery Convention.

The United States delegation was headed by Ambassador Donald L. McKernan, Special Assistant for Fisheries and Wildlife to the Secretary of State; the Japanese delegation was headed by Minister Ryozo Sunobe of the Embassy of Japan in Washington.

U.S. and USSR Hold Talks in Moscow

United States and Soviet fishery experts completed 10 days of talks on November 25, 1966, in Moscow, preparatory to a later meeting in Washington, D. C. Scientists assessed the condition of certain fish stocks exploited by Soviet and U. S. fishermen in the Pacific Ocean, primarily off the Oregon and Washington coasts, and in the Atlantic Ocean off the mid-Atlantic States. The talks also dealt with navigational and other technical problems caused by the appearance on the fishing grounds of many different-sized vessels using differing fishing tactics. The participants identified several categories of technical and navigational problems and various possible means for dealing with them.

The U. S. group was led by William M. Terry, BCF's Assistant Director for International Affairs. The Soviet group was headed by Peter A. Moiseyev, Deputy Director of the Soviet All-Union Institute of Marine Fisheries and Oceanography.

Fish Meal

WORLD PRODUCTION ROSE 23% IN JANUARY-OCTOBER 1966

The world's production of fish meal in the first 10 months of 1966 increased about 23 percent over the same period of 1965. Output in 1966 was up sharply in Peru, Chile, and Norway. U. S. output was down.

Most of the principal producing countries submit data monthly to the International Association of Fish Meal Manufacturers (IAFMM) (see table).

World Fish Meal Production by Countries, October 1966 with Comparisons				
Country	Oct.		Jan.-Oct.	
	1966	1965	1966	1965
	(Metric Tons)			
Canada	4,056	7,404	74,568	72,203
Denmark	11,564	12,578	94,902	103,683
France	1,100	1,100	11,000	11,000
German Fed. Repub.	6,543	6,190	61,750	57,404
Netherlands	1/	505	2/1,510	4,884
Spain	1/	1/	1/	3/13,247
Sweden	902	688	4,766	6,089
United Kingdom	7,249	6,633	73,559	66,669
United States	9,834	11,175	151,684	199,934
Angola	1/	6,343	4/ 36,211	35,362
Iceland	21,266	14,734	142,755	120,436
Norway	45,386	32,021	401,090	285,680
Peru	175,711	41,463	1,280,822	951,553
So. Afr. (including S.-W. Afr.)	6,690	6,375	251,911	267,824
Belgium	375	375	3,750	3,750
Chile	5,067	885	188,200	52,581
Morocco	1/	3,150	4/ 21,300	16,050
Total	295,743	151,619	2,799,778	2,268,369

1/Data not available.
2/Data available only for January-April 1966.
3/Data available only for January-May 1965.
4/Data available only for January-September 1966.
Note: Japan does not report fish meal production to the International Association of Fish Meal Manufacturers.

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FEO PRODUCTION AND EXPORTS, JANUARY-AUGUST 1966

The member countries of the Fish Meal Exporters' Organization (FEO) account for about 90 percent of world exports of fish meal. The FEO countries are Chile, Angola, Iceland, Norway, Peru, and South Africa/South-West Africa.

FEO Exports of Fish Meal, January-August 1966				
Country	August		Jan.-Aug.	
	1966	1965	1966	1965
	(1,000 Metric Tons)			
Chile	15.9	4.7	132.9	56.0
Angola	1/	2.9	2/27.9	30.1
Iceland	17.4	16.2	98.7	80.5
Norway	26.2	30.3	155.7	147.5
Peru	87.0	46.6	945.3	1,076.1
So. Africa (including S.-W. Africa)	12.6	22.1	102.3	154.8
Total	159.1	122.8	1,462.8	1,545.0

1/Data not available.
2/Data available only for January-July 1966.

Atlantic Tuna Convention Signed by 5 Nations

A convention to conserve the resources of tuna and tunalike fish of the Atlantic Ocean is receiving international recognition. On October 28, 1966, Japan became the fifth country to sign the Convention, following Brazil, Spain, South Korea, and the United States. It will come into force when 7 nations have ratified or otherwise approved it.

The convention was drafted at a 17-nation conference in Brazil, May 1966. It grew out of fears that Atlantic tuna were being overfished and that stocks might be damaged if the present fishing rate was maintained. The convention provides for the creation of an international commission to collect, analyze, and publish statistical information and recommend levels that will permit the maximum sustainable catch. (Food and Agriculture Organization, Rome.)

Studies Antarctica's Palmer Peninsula

A U. S. scientist is accompanying a British expedition supplying bases in the Antarctic during the short summer between December 1966 and March 1967. His assignment is part of an international program of peaceful scientific cooperation between the 12 signatory nations of the 1959 Antarctic Treaty. Each country invites scientific personnel from other nations to accompany such expeditions.

The scientist, Theodore R. Merrell Jr., supervisor of the Alaska Federal research programs on pink and chum salmon, has been with BCF's Auke Bay (Alaska) Laboratory for 10 years. He was chosen by the National Scientific Foundation. Merrell will evaluate the Palmer Peninsula area for fisheries and oceanography research by the U. S.

The Palmer Peninsula

The Palmer Peninsula is a mountainous peninsula several hundred miles long extending toward the tip of South America. It was named for the captain of a U. S. fur sealing ship who discovered the Antarctic Continent in 1820. The peninsula is on the opposite side of the "White Continent" from the major U. S. research bases. It has several United Kingdom, Chilean, and Argentinian year-round bases. Seals, sea birds, and fish are abundant. Whales were also numerous until recent years, but overkilling has nearly exterminated them.

FOREIGN

CANADA

EAST COAST PLANS FISH MEAL DEVELOPMENT

Two 125-foot seining vessels from Norway, scheduled to arrive in November 1966, will train Newfoundland fishermen around Stephenville. A new fish meal plant is to be established there, reportedly with help from two United States firms. According to a Newfoundland engineering firm, the Norwegian seiners "Stella Kristina" and "Stella Maria" will employ 25-man crews. There is cargo space for 350 tons of fish below deck and 50 tons on deck. The vessels will use seine nets measuring 227 fathoms by 92 fathoms for fishing in depths up to 120 fathoms off Newfoundland. (U. S. Consul, St. John's, Oct. 20, 1966.)

The Canadian Government believes the East Coast herring resource can support a much larger fish meal industry. Herring catches up to 150 tons a set were taken in the Gulf of St. Lawrence in summer 1966 by the 80-foot "Western Ranger" (from British Columbia) chartered by the New Brunswick Department of Fisheries.

* * *

WILL NOT LIMIT PACIFIC SALMON FISHING LICENSES IN 1967

Licenses to engage in the British Columbia salmon fishery in 1967 will be issued to any Canadian citizens applying before the deadline date of May 31, 1967.

The Canadian Government had proposed earlier that such licenses be issued only for vessels licensed to fish salmon in 1966, or which replaced such vessels. However, unforeseen difficulties require that more detailed discussions than anticipated be held with fishermen and industry in British Columbia. (Canadian Department of Fisheries, Vancouver, Oct. 28, 1966.)

* * *

SUBSIDIZES DOGFISH SHARK PROCESSING

To encourage the production and marketing of dogfish shark products, the Canadian Government announced on October 28, 1966, its readiness to assist by paying fishing companies 11 Canadian cents a pound on the production of up to 225,000 pounds of skinned dogfish flaps. This represents about 1,100 tons of whole dogfish.

The program continues the experimental marketing program started a year ago. At that time, it gave promise of expanding and providing a regular market in Europe for dogfish products. Companies participating in this program must provide the Department of Fisheries with a record of all costs associated with the program and reimburse fishermen at specified minimum costs.

It is recognized that the market for dogfish carcasses is limited. Under the new assistance program, companies can choose between purchasing round, fresh, dogfish direct from fishermen and producing flaps, carcasses, and livers -- or buying unskinned flaps from fishermen and producing only skinned flaps. In the latter, livers from dogfish can be sold through the fishing company or directly by fishermen to domestic buyers.

The Canadian Government wants to help reduce the large dogfish population that has become a problem to commercial and sport fishing on the Pacific Coast. At the same time, the program may encourage new markets. This could possibly develop into an operation that could sustain a dogfish operation without Government assistance. (Canadian Department of Fisheries, Vancouver, October 28, 1966.)

* * *

REPORT PROPOSES FRESH-WATER FISH EXPORTS BE CONTROLLED

A report by a Commission of Inquiry recommends that a freshwater fish marketing board be set up to handle all export and interprovincial sales of freshwater fish in Northwestern Ontario, Manitoba, Saskatchewan, Alberta, and the Northwest Territories.

The report proposes that the board be the sole buyer of freshwater fish from Canadian fishermen, but that services of present exporters, packers, and processors be utilized under contract with the board.

Canada (Contd.):

The report is being studied by the Federal Government, which will consult Provincial Governments and trade representatives before it decides on the report's recommendations.

The Commission was set up in 1965 following recommendations of a Federal-Provincial Prairie Fisheries Committee that studied instability of prices and demand in freshwater fisheries products and more efficient marketing means to improve returns to primary producers. (Canadian Department of Trade and Commerce, Ottawa, Oct. 17, 1966.)

* * *

TESTS SCOTTISH SEINE VESSEL IN HERRING FISHERY

The "Guiding Star," a 70-foot wooden vessel powered by a 152-horsepower diesel engine, has crossed the Atlantic from Aberdeen, Scotland, to Newfoundland. She is under a one-year charter to the Industrial Development Service of the Canadian Federal Department of Fisheries to determine whether Scottish seine netting can be adopted profitably by the herring industry. The Guiding Star will engage in full-scale commercial fishing. She also will undertake exploration.

A Scottish crew of seven will operate the vessel from ports in Newfoundland and later move to Nova Scotia, New Brunswick, Prince Edward Island, and Quebec. (Canadian Department of Fisheries, Ottawa, Oct. 6, 1966.)

* * *

TO BUILD MULTIPURPOSE PATROL-RESEARCH VESSEL FOR PACIFIC

Canada has awarded a contract for the construction of a multipurpose Department of Fisheries patrol vessel. Costing $2.8 million, it will be delivered in mid-1968.

The 180-foot steel vessel will be the largest and most versatile craft of the Department's protection fleet of 40 vessels on the Pacific coast. Besides regular patrol duties, she will be equipped for experimental fishing, oceanographic and biological research, and search and rescue activities. Her cruising range of several thousand miles will permit patrols to and from the Bering Sea without refueling. (Canadian Department of Fisheries, Ottawa, Nov. 23, 1966.)

* * *

CONDUCTS EXPLORATORY SHRIMP TRAWLING OFF BRITISH COLUMBIA

A 70-day shrimp trawling survey in Hecate Strait and Queen Charlotte Sound with the "Belina" was carried out by the Nanaimo Biological Station of the Canadian Fisheries Research Board.

Even before final assessment of the results were made, the scientists agreed that only one or two spots have commercial possibilities. In scores of net tows, the best showing of shrimp was found off Milbanke Sound, near the northeast corner of Goose Island fishing grounds. That is in the general area from Cape Mark to Currie Island. Of the 22 tows made there, to depths down to 700 feet, the best yielded more than 550 pounds. The average catch of all tows in that area was about 135 pounds.

Interesting prospects were found in Laredo Sound. Nine tows were completed from Kitasu Bay to Moody Banks. In one tow off Lombard Point, 182 pounds of shrimp were landed. The average tow yielded 89 pounds. (Canadian Department of Fisheries, Vancouver, Nov. 23, 1966.)

* * *

STUDIES FISHERIES TRAINING IN USSR, NORWAY, AND BRITAIN

A group of Federal and Provincial officials engaged in fisheries vocational training was scheduled to arrive in Moscow November 23, 1966, to begin a 2-week study of Soviet fisheries training methods. The Canadian group will then visit Norway and Britain. The tour resulted from a proposal made by the Canadian Federal-Provincial Atlantic Fisheries Committee.

Under a reciprocal arrangement, a group of Soviet fisheries officials will visit Canada early this year to study Canadian training methods. (Canadian Department of Fisheries, Ottawa, Nov. 18, 1966.)

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Canada (Contd.):

SECOND JOINT JAPANESE-CANADIAN WHALING COMPANY FORMED

Taiyo Fishing Company of Japan and the Canadian Fishery Products Company were scheduled to establish in mid-December 1966 a joint whaling venture in Newfoundland with a capital investment of $100,000. To be named "Atlantic Whaling Company," the joint company will conduct whaling operations with Taiyo's catcher vessel "Fumi Maru No. 15" (471 gross tons). Catch target for 1967 whaling season (June-September) was set at 175 blue whales.

Earlier in 1966, a Japanese fishing firm, Kyokuyo Hogei, sent its whaling vessel "Kyo Maru No. 17" (754 gross tons) to Newfoundland on an exploratory trip, with plans to enter into a joint venture with Canadian interests. (Minato Shimbun, November 27, 1966.)

* * * *

EXPANDS EAST COAST HERRING EXPLORATIONS

The recently built British Columbia herring purse-seine vessel "Western King" arrived at Harbour Breton, Newfoundland, in early December 1966 and began exploratory fishing for herring and capelin. She made the trip via the Panama Canal.

The 90-foot vessel is under charter until summer 1967 to the Industrial Development Service of the Canadian Federal Department of Fisheries. The main purpose is to obtain information on offshore stocks in the rapidly expanding herring fishery of the Northwest Atlantic. Canada previously explored for herring in inshore waters. The vessel also will carry out exploratory fishing for capelin and similar species off Newfoundland and Nova Scotia and in the Gulf of St. Lawrence. Another purpose is to demonstrate modern purse-seining techniques and shipboard fish-handling methods.

The vessel is commanded by an experienced British Columbia skipper who fished successfully earlier this year in the Gulf of St. Lawrence. The crew, which includes Newfoundland fishermen will also try to determine the feasibility of developing a year-round, deep-sea capelin fishery.

At the request of Newfoundland fisheries authorities, the Western King began exploratory fishing operations in Placentia and St. Mary's Bays for the benefit of inshore fishermen.

One shipboard technique to be used is holding herring and capelin in refrigerated sea water, a method developed by Federal fisheries technologists and used to some extent on the Pacific coast. (Canadian Department of Fisheries, Ottawa, Dec. 8, 1966.)

FISHING BY HELICOPTER IN NEW ZEALAND

A helicopter is the latest tool for commercial fishermen in New Zealand. A new company plans to use the helicopter to set as many as 50 miles of fishing line and 50,000 hooks in the water each day. Nets and crayfish pots will also be laid. The haul of fish will be carried in nets slung under the helicopter.

Lines laid close to shore will be pulled in by jeep, while those farther out will be retrieved by a man in a small boat.

To protect their catch, the aircraft will be armed with harpoons to shoot sharks. (Reprinted, with permission from Science News, weekly summary of current science, c 1966 by Science Service, Inc.)

LATIN AMERICA

Peru

REPORT ON FISH MEAL AND OIL

Peru is the world's leading fishing nation in tonnage landed and its position is owed to the anchovy--the most important commercial fish in Peruvian waters and the principal source of fish meal and fish oil.

The relatively new fish-meal industry rose to great importance only within the past 6 years and now accounts for 25-30 percent of the total value of Peru's exports. Its 149 plants and about 1,800 purse-seiners ("bolicheras") are important employers.

In 1963, Peru produced 1.5 million metric tons of fish meal and sold it for an average of US$130 a ton f.o.b. Callao. In 1964, production dropped to 1.2 million tons and the average price rose to $160 a ton. The users found the supply unreliable, the cost exorbitant, and shifted to substitutes. In 1965, production was 1.4 million tons; average price was $140 a ton. In October 1966, the average price was $125 a ton. It is estimated that the average price for the present season will be about $130 a ton.

On September 1, 1966, stocks stood at 243,896 tons. On October 1, the estimated stocks had risen to 296,688 tons; sales were very slow; about 200,000 tons had been sold against future shipments.

September 1966 Production A Record

Production in first-half September 1966 was 61,636 tons; for second half it was estimated at 60,000 tons--a record September and almost double the next best September. An excellent fishing year was forecast. The catch is not expected to be less than 7.5 million tons and may be higher.

There are possibly more than $45 million in bank loans to the industry. Also, suppliers have extended much credit to their customers, perhaps as high as $150 million. While it is difficult to assess the value of investments, some place it at $200 million.

In October 1965, when the fishing season began, the industry faced an uncertain future. There were gloomy forecasts of a drastically reduced catch. However, production reached a record before the latter half of the season. Initially, the Government limited that season's catch to 7 million metric tons. Later, it extended the season several weeks, permitting the limit to be exceeded. The actual allowable tonnage is determined during the season, based in part on recommendations of the Peruvian Ocean Institute.

The labor force in the plants and fleets must be considered. The last season was extended partly because of pressure from workers facing almost 4 idle months due to the closed season. Strikes have not been unusual. An extended strike in a major fishing area could affect production and world price.

The fishing fleets have expanded rapidly in number and size of vessels. This increase has been disporportionate to the increase in fish meal production. For example, in 1962, 1,070 seiners (with a total hold capacity of 58,713 tons) landed anchovy for a fish meal production of 1,120,796 tons. In 1963, 1,523 seiners, with a combined capacity of 98,460 tons, caught anchovy for a production of 1,159,233 tons of meal.

For the past 4 years, fish meal stocks at the end of August, traditional end of the fishing season, were:

Year	Metric Tons
1966	244,807
1965	46,425
1964	129,356
1963	142,377

The great increase in 1966 stocks is believed to reflect the lower world price, the waiting attitude of producers who thought they may have sold hastily in 1965, and fish meal sold but unshipped on that date.

Fish meal is shipped to many countries. In the first 8 months of 1966, destinations for important shipments--given as percentages of total shipments of 945,335 metric tons--were:

Country	Percentage
West Germany	19.5
United States	19.1
Netherlands	10.7
Spain	7.2
East Germany	6.5
Italy	6.2
Japan	5.9
Yugoslavia	5.1
Mexico	4.2
Poland	3.6
Others	12.0

Peru (Contd.):

Fish Oil Production Less Than Expected

Fish oil is derived from anchovy processing and is exported crude and semirefined. Production in 1965 and 1966 was less than would have been expected from the tonnage of fish landed because the fish were of small size and oil content.

Crude and semirefined oil exports were:

Year	Metric Tons
1966 (1st 8 months)	49,557
1965	111,238
1964	134,023
1963	110,035
1962	150,596
1961	98,088

Crude and semirefined oil was shipped to: Colombia, Denmark, Ecuador, France, Germany, Mexico, Netherlands, and Norway.

In the long run, the fish meal industry needs better plants (not more plants), better and larger fishing vessels (not simply more vessels), improvements of its overextended credit, a stable price for fish meal, increased research, and better trained men at all levels, afloat and ashore. (U. S. Embassy, Lima, Oct. 11, 1966.)

El Salvador

SHRIMP IS NO. 1 COMMERCIAL FISHERY

The only commercial fishery of importance in El Salvador is the shrimp fishery. Almost the entire production is exported to the United States. In recent years, about 5 million pounds, valued at about US$ million, have been exported annually. An average of about 68 vessels accounts for the catch. (The Government presently restricts the number of shrimp vessels to 73.) The 68 vessels also land, incidental to the shrimp, about 3 million pounds of fish a year. Except for a small quantity exported to Honduras, the fish is sold entirely on the local market. Shrimp are El Salvador's third most valuable export--coffee and cotton are one-two.

The production of shrimp from coastal waters up to about 40 fathoms is believed at its peak, but further resources may exist in deeper waters. Modest increases in production can be expected in bottomfish trawling, pelagic fishing (chiefly anchovy for fish meal), and shellfish (from culture activities).

Marine science activities in El Salvador are restricted to very modest marine biology and resource-evaluation programs in the Government's fisheries administration, in the Ministry of Economy, and in the Biology Department of the University of El Salvador. Both programs are stimulated and supervised by a fishery biologist of the UN's Food and Agriculture Organization (FAO) and an associate expert.

The Government is keenly interested in expanding its fishing industry through internationally coordinated research. It was the original sponsor of a request to the Development Program (formerly Special Fund) of the United Nations for technical assistance on a regional basis (with the 5 Central American countries and Panama). The project was approved and is expected to initiate operations with headquarters in El Salvador. The nation also participated in a request to the UN Development Program for a regional project of coastal hydrography studies to improve navigation facilities and port development. This request presently is being considered. (U. S. Embassy, San Salvador, Nov. 29, 1966.)

Argentina

STERN TRAWLERS
CATCH AND FREEZE OCTOPUS

Two small freezer stern trawlers, "Puerto Madryn" and "Bahia Camarones," were delivered recently from Spain to Argentina. They are designed primarily to catch and freeze octopus (pulpo) on the Mauretanian fishing grounds. The octopus is a very profitable fish for the Argentine market. The vessels also will be used off the Argentine coast for fresh fish and frozen fish as the market demands.

They are equipped for stern trawling using the Unigan system, which is well suited to their size. Preparation tables with washing facilities are fitted behind the winch under the shelter of the superstructure deck. An overhead conveyor, with hooks on it, carries the octopus to be frozen from the preparation tables to the freezer compartment forward of the winch on the port side. The stomachs are removed and drained; there is further drainage on the conveyor.

Argentina (Contd.):

Two, 20-station, vertical plate freezers of the top-unloading type are provided, with a total maximum freezing capacity of nearly 15 tons a day. Each freezer station is fitted with 4 removable dividers so, when freezing octopus, 5 evenly shaped blocks are produced; but one large block may be produced, if desired, for other types of fish. In the extremely small space available, no other type of freezer of equal capacity could have been accommodated satisfactorily.

After freezing, the blocks of octopus are packed in cardboard cartons, 5 blocks per carton. They are passed down through a very small hatch into the forward end of the frozen fish hold, where a temperature of -25° C. (-13° F.) is maintained. To save storage space, the frozen fish hold is cooled by spirally gilled convection cooling grids mounted on deckhead only. Wooden battens are fitted to ship's sides and bulkheads, and gratings on the deck, to allow natural circulation of cold air around the frozen cargo. The storage capacity for cartons of frozen octopus should be about 80-90 tons maximum.

The owners intend to use the vessels for fresh fishing outside the octopus catching season. For this purpose, the deck insulation in the hold has been made watertight, and a slush well is provided for removing melt water. In addition, a small insulated space, aft of the main hold, can be used to provide extra storage capacity. (Coprima-Ranken, S. A., Madrid 10, Spain, Aug. 1966.)

Chile

FISH MEAL FIRMS INTEGRATE

Some fish meal firms have integrated into a single operation to offset the financial difficulty experienced during the relatively poor 1965 season. The Chilean Industrial Development Corporation (CORFO) has set criteria for integration and will financially support certain activities and assist in selling fish meal produced by the integrated plants. Two groups already have been formed and negotiations are taking place for creating others. (Pesca, July 1966.)

Mexico

12-MILE FISHING LIMIT BILL IS SENT TO CONGRESS

On October 20, 1966, President Diaz Ordaz signed and sent to the Congress an amendment to the 1935 law that would extend Mexican fisheries jurisdiction from 9 to 12 miles. The territorial sea of 9 miles would remain in effect with an extension of 3 miles applicable only to fisheries jurisdiction. If enacted, the new law would permit foreign nationals now fishing in the 9- to 12-mile zone to continue in that zone without restriction for 1 year starting January 1, 1967. During that period, Mexico would negotiate with the governments of those nationals the conditions under which they would be permitted to continue fishing in that area for a maximum additional 5-year period--through 1972. Starting in 1973, however, no foreign country would be permitted any fishing rights within the 12-mile limit, and no historic fishing rights of nationals of any country would be recognized. (U. S. Embassy, Mexico, Oct. 21, 1966.)

Brazil

EXTENDS FISHING LIMIT TO 12 MILES

On November 14, 1966, President Castello Branco signed a decree extending Brazil's territorial sea from 3 to 6 miles. The decree also established an additional 6-mile contiguous zone, thereby extending Brazil's fisheries jurisdiction to a total of 12 miles. (U. S. Embassy, Rio de Janeiro, November 17, 1966.)

WEST INDIES

Jamaica

PLANS TO EXTEND TERRITORIAL WATERS FROM 3 TO 12 MILES

Acting Prime Minister Donald Sangster, informed Parliament on October 18, 1966, of the government's decision to extend Jamaica's territorial waters from 3 to 12 miles. After parliament's approval of necessary legislation, a declaration will be made to the United Nations about this unilateral decision to expand the breadth of territorial waters around Jamaica, including the Morant and Pedro Cays.

The present 3-mile limit was established while Jamaica was a British colony. The need to protect the fishing industry was given as the primary reason for the extension. However, Sangster also noted that security interests were involved. (U. S. Embassy, Kingston, October 21, 1966.)

ELECTRIC SHARK BARRIER TESTED

An electrical shark repellent system is being tested by scientists from South Africa's National Physical Research Laboratory. It consists of two electrodes anchored to the sea floor and connected to a land-based generator. According to reports, laboratory experiments have shown that sharks in the presence of an electrical field tend to swim toward a positive electrode and away from the negative. The electrodes to be used in this test are so arranged that the positive electrode is farthest out to sea. A shark entering the electrical field will then presumably swim away from the shore. ("Sea Secrets," 1966.)

MID EAST

Israel

RECEIVES STERN TRAWLER-PURSE SEINER FROM DUTCH YARD

Probably the largest stern trawler yet built, which also can operate as a purse seiner without conversion, has been delivered to an Israeli firm by a Dutch shipyard. The 567-gross ton vessel the "Yam-Suf" is designed for tropical operations in the Red Sea and off the east and west coasts of Africa. The vessel can freeze 10 to 12 tons of fish a day. The purse-seine equipment is fitted on the starboard side and includes brailing boom and power block. The normal trawl winch is used to haul the purse-seine. A bow thruster unit is included to aid seine fishing. General specifications: length overall, 161 feet; moulded breadth, 28 feet; and main diesel engine, 1,200 horsepower.

Iran

AWARDS CAVIAR CONTRACT TO NEW YORK FIRM

A New York City firm, whose 3-year contract with the Iranian Fisheries Corporation had just expired, signed a 5-year contract for the sale of about 65 tons of Iranian caviar annually. The firm bid successfully on a tender covering all sales to the U. S. market. The Iranian Fisheries Company is government-controlled. (U. S. Embassy, Tehran, October 17, 1966.)

Kuwait

SHRIMP VESSELS BEING BUILT IN POLAND

The Szczecin Shipyards in Poland are building 20 steel cutters for Kuwait. The vessels are 17.6 meters (57.7 feet) long with a 170-hp. motor and a crew of 5. They will be used in shrimp fishing. (Budownictwo Okretowe, No. 7-8, 1966.)

EUROPE

USSR

STRESSES NEED TO IMPROVE FISHING INDUSTRY

In the list of 108 slogans approved for last October's 49th anniversary of the Russian Revolution approved by the Central Committee of the USSR Communist Party, slogan 79 was directed at the fishing industry. It stressed 3 aspects: 1) increased catch, 2) better quality of fishery products, and 3) lower costs for primary production. Of 28 industries or services, the fishing industry was one of only 4 where the necessity of lowering costs was specifically mentioned. The other 3 were transportation, coal mining, and hydroelectric power construction.

The slogan confirms the impression of some readers of Soviet publications that production costs are going to plague the fishing industry in the years ahead. New economic directives recently promulgated by the Soviet Government--"profit" not production is paramount--will begin to be introduced into the fishing industry early this year.

* * *

GOOD HERRING SEASONS IN NORWEGIAN SEA EXPECTED

The Norwegian Sea herring fishery was expected to be the largest operation conducted from the northwestern USSR during the 1966 fall fishing season. The Polar Scientific Research Institute for Fisheries and Oceanography (PINRO) forecast a good herring season because of the extremely large 1959, 1960, and 1961 year-classes--largest in recent years. Soviet scientists predict good herring fishing there at least until 1968.

The Fishery Administrations for Western and Northern European Soviet Union (headquartered at Riga and Murmansk) hoped that by increasing productivity of fishermen, improving gear, and increasing number of larger vessels, the 1966 average catch would be better than in 1965--despite forecasts by scientists of lower average catch per gill net. The 2 administrations are working on plans for the 1967 herring fishery.

Also, the Murmansk Fisheries Administration engaged in these fisheries during October 1966: 1) cod fishing off Western Greenland (1966 forecasts indicated better catches than 1965); 2) halibut fishing in the northern Atlantic (although catch expected to be lower than 1965, the forecast was for about 10 tons a day per vessel; in 1964, the total Atlantic Soviet halibut catch was 27,000 metric tons).

In the Barents Sea fishery, where catches have declined for years (probably because of overfishing) a dozen exploratory vessels were added to the fleet to find new stocks of the species formerly fished.

* * *

INCREASES HAIR SEAL HERDS IN CASPIAN SEA

By restricting the catch of adult, male, Caspian Sea hair seals, the Soviets have increased the herds to about 1 million animals. The Soviets plan to exploit hair seals at an increasing rate and, by 1980, hope to harvest 130,000 skins yearly. The processed skins are sold abroad and used for sport coat trimmings, ski skins, etc. Auctions take place in Copenhagen. Most of the world supply comes from Greenland.

* * *

UNDERWATER CRAFT TO STUDY CONTINENTAL SHELF RESOURCES

Leningrad designers have finished the blueprint for the construction of an underwater laboratory craft to study the fishery resources of the Continental Shelf. The laboratory, to be known as Benthos-300, will have a movie camera with telephoto lenses installed in the observation room. The facilities will be unusually spacious: 10 scientists at a time will be able to spend up to 2 weeks underwater in air-conditioned cabins with showers. There will be a dining room and kitchen for the crew. A rescue tower will connect the laboratory with the surface; equipped with a lock chamber, it will permit the crew to escape.

The Soviets are not neglecting the exploration of deeper ocean waters and the development of deep-water trawling, but they are quite aware that the bulk of the world's fishery catch (excluding seals and whales) is

USSR (Contd.):

presently landed from the Continental Shelf. The Benthos-300 is yet another indication that in the immediate future a great part of the Soviet fishing effort will continue to be on the Continental Shelf, where Soviet research has paid off in recent years by greatly increased landings.

The Institute involved in these plans is the Leningrad Branch of the Design Institute of the Fishing Fleet.

* * *

COLOR OF TRAWL NET AFFECTS CATCH

A Soviet gear specialist was recently placed aboard the medium side trawler "Navarin" fishing in the Gulf of Alaska to determine how the color of trawl nets affects catches. He found that a red-colored trawl caught more fish than a white trawl.

* * *

STUDY SEAWEEDS AS FOOD FOR COSMONAUTS

Scientists are studying the use of microalgae as food for space travelers on lengthy flights. Certain algae contain all the elements needed to feed man; also, they produce oxygen and absorb carbon dioxide. (Tass, October 12, 1966.)

The Soviet research may be done at least in part at Moscow's VNIRO Laboratory for the Study of the Technology of Marine Invertebrates and Seaweeds.

* * *

TEAM VISITS BRITISH LABORATORIES

A 3-man team of Soviet fisheries scientists visited Great Britain's biological laboratories at Lowestoft, Torry, and Aberdeen, the fishing ports of Hull and Grimsby, and other fishery installations. (Fishing News, October 28, 1966.)

The team found the Hull Fish Meal and Oil Works very interesting. The Soviet Union is greatly concerned about raising her fish meal production efficiently. Team members were second-level Soviet senior fishery scientists: Poliakov, Director of the Baltic Fisheries Research Institute, the leader; Ponomarenko, head of a laboratory at the Murmansk Fisheries Research Institute; and an engineer.

Scandinavia

SEEKS GREATER CONSUMPTION OF HERRING FOOD PRODUCTS

Iceland has proposed, and other Nordic countries are considering, the possibilities for upgrading the use of valuable herring stocks in the North Atlantic, according to a leading Danish trade periodical. When big catches are landed, as in 1966, the major part goes to the oil and meal factories. The Scandinavians say it is unfortunate that herring is not used as human food to a greater extent.

In the last five years, Iceland has tried to improve the marketing of herring products, but the results have not been sufficient to accommodate the present large catches. A leading Icelandic industry member has proposed that a Nordic committee be formed to expand the use of herring products for human consumption by applying modern food preservation techniques. He suggested that working capital might be supplied by a tax on all herring exported from participating countries. If people throughout the world merely had the opportunity to buy herring, he said, they would enjoy it just as the Northern Europeans have for so many years. (U. S. Embassy, Copenhagen, Nov. 2, 1966.)

Iceland

GROUNDFISH CATCH DROPS, HERRING FISHERY EXPANDS

The main trends in Iceland's fisheries are a declining groundfish catch, a rapidly expanding herring fishery, and rising production costs. So declining world prices for fish meal and oil may cause difficulties. (These trends interest the United States and other countries. Iceland is second only to Canada as a supplier of frozen groundfish blocks to the United States.)

Iceland (Contd.):

The rapid growth of the herring fishery has affected both the fleet and use of processing plants. Herring plants in some locations are now idle because the herring have moved elsewhere. At the same time, the trawler fleet has been allowed to become obsolescent.

It is estimated that herring plant operation is about 10 percent of capacity, and that the whole herring catch could be processed in 20 to 30 days if all existing facilities were fully used. Some underutilization of processing facilities, however, is inescapable because of the herring's roving habits. For several years, the herring banks have been moving from the north and south coasts to the northeast and east coasts of Iceland where herring fishing is becoming a year-round enterprise. Consequently the operation of the older herring plants, especially in the northwest, is now precarious because the plants remain idle most of the year.

Problems of Freezing Plants and Fleet

Production in freezing plants, which depend on cod and related groundfish, declined considerably during first-half 1966 due to an inadequate supply of fresh fish. (U. S. imports of frozen fish blocks from Iceland in January-September 1966 were down 17 percent from the 1965 period. The president of the Icelandic Freezing Plants Corporation said that production in some plants decreased by as much as 46 percent compared to 1964.

The modernization of herring vessels continues, but the deep-sea trawler fleet is in financial difficulties, despite high government subsidies. Years ago, the trawlers provided the freezing plants with a steady supply of fish on a nearly year-round basis. Now, however, the trawlers face inadequate catches and other operating difficulties. Some trawlers already have been sold; one has been converted into a herring vessel and another into a freighter. To alleviate these difficulties, proposals are being considered to grant trawlers new fishing grounds and reduce crew size.

The economic dependence on herring has caused increasing public concern about protecting fishing grounds and reserves. Fishermen are asking the government to extend fisheries limits even farther--to adopt conservation measures. In early 1966, the Minister of Fisheries prohibited fishing for small herring. (U. S. Embassy, Reykjavik, October 20, 1966, and other sources.)

Denmark

NEW PROCESS RECOVERS OIL, PROTEIN FROM FILLETING WASTE WATER

A new process to recover soluble protein and emulsified fats from filleting waste water is being used on a commercial scale at a large, new, herring fillet plant in Skagen, Denmark, The recovery operation involves concentration of oil and protein by chemical precipitation and flotation prior to heating--and separation of the residue by centrifuge. The process shows a high rate of recovery compared with traditional methods.

It is especially suitable for clarification of waste water from oily fish. Most filleting plants lose valuable residues through the usual washing and cleaning process. Removal of oil and proteins reduces contamination of waters by factory wastes. The oil from fresh fish is of fine quality and usually commands a high price.

How Process Works

First, the waste water is screened and the larger solid particles go to a fish meal factory. The water then goes into a storage tank, then it is pumped into a flotation tank where chemicals are added to precipitate the protein matter. By the addition of fine air bubbles, which become affixed to the free particles, the precipitate is brought to the surface of the flotation tank. Clear water remains below. The concentrated fat and solid matter is skimmed off into a heating tank to facilitate its separation in the centrifuge. The first step is a protein centrifuge, where the solid matter is separated. The fluid then is carried to an oil centrifuge, where the oil is separated from the water. The cleaned oil is carried to storage tanks, and the water is recirculated.

The firm ran tests on waste water from summer herring-filleting operations containing about 2.8 percent oil and 0.9 percent protein. The plant extracted per cubic meter 27.9 kilograms of oil and 7.5 kilograms of

Denmark (Contd.):

protein. By traditional methods, recovery was 25 kgs. of oil and 4 kgs. protein. Winter operations, in which waste water contained only about 0.3 percent oil, gave a recovery of 2.9 kgs. oil compared with 0.5 kgs. by traditional methods.

The biological oxygen demand (BOD) of the waste water is reduced by 85 percent of the original value. The process is automated and requires little manual attention.

The recovery equipment described has been developed by Aminodan A/S, Skagen, Denmark. Write to that firm for additional information. (U. S. Embassy, Copenhagen, November 2, 1966.)

East Germany

1965 LANDINGS UP ONLY 3 PERCENT

The 1965 landings of 231,000 metric tons of fish were only about 3 percent more than the 1964 landings of 225,000 tons. Freshwater fish landings were small: 11,100 tons in 1965, compared to 10,700 tons in 1964. Most marine fish came from the Northeast Atlantic (128,850 tons) and Northwest Atlantic (92,440 tons).

The good cod year (57,300 tons in 1965; 45,100 tons in 1964) insured higher total landings in 1965--since the traditionally large North Atlantic herring fisheries were poor in 1965--only 79,100 tons, compared to 87,700 tons in 1964. All Atlantic herring was caught in the Northeast Atlantic, while 90 percent of the cod (51,165 tons) was caught in the Northwest Atlantic.

During 1965, the East Germans did not fish in the Central or South Atlantic Ocean. Their expansion into those areas began in 1966.

Bulgaria

1965 LANDINGS WERE UP 30 PERCENT

In 1965, the Bulgarian fishing fleet landed 19,800 metric tons of fish and shellfish--30 percent more than the 13,200 tons of 1964. Crustacean landings of 2,500 tons were down from 1964's 3,300 tons, but fish landings almost doubled--from 9,900 tons in 1964 to 17,300 tons in 1965. The large increases in landings resulted from the high-seas fisheries developed during 1965, with Soviet-purchased stern factory trawlers, off Africa's western coasts--mostly off Walvis Bay.

Italy

JAPANESE ASSESS FROZEN TUNA IMPORT SITUATION

The Japanese Frozen Foods Exporters Association's Special Committee on Tuna Exports to Italy discussed the possible expansion of the frozen tuna 40,000-metric-ton import limit at a minimum tariff. The group decided to focus attention on 1967 export problems, not 1966's, for several reasons: It is impossible to control the exports to Italy in 1966; there is a good possibility that the 15-percent tariff rate (40,000 tons) may be avoided--and, because of market conditions, frozen yellowfin will go to the United States, not Italy.

Export market conditions for frozen albacore and yellowfin for North America are especially favorable. A recent contract was signed to ship frozen yellowfin to Canada at C$470-$475 a short ton c. & f.--a $30 rise in the last 10-20 days. Similarly, the price for albacore has risen to $520 c. & f.--about $30 above the end-of-August price. The active buying by United States packers is due to a good summer sale of canned tuna.

Japan Not Italy's Only Supplier

From January-July 1966, Italy imported frozen tuna from countries other than Japan: Taiwan, 3,000 metric tons; Republic of Korea, 1,400-1,500 tons; Australia, 600 tons. Italy plans to import another 2,000 metric tons from those countries through 1966.

Because of a strike at the Sala cannery on the Adriatic (for wages at least 25 percent higher), an increased inventory of tuna, and a possible imposition of the 15-percent tariff over 40,000 metric tons, the plant's buyers will attempt to lower the purchase price for frozen tuna. (Fishery Attaché, U. S. Embassy, Tokyo, October 6, 1966.)

Greece

ATLANTIC CATCH IS UP 14%

From January-August 1966, the Greek fleet in Atlantic waters landed 18,117 metric tons of frozen fish, compared with 16,029 tons in same period of 1965 (up 14 percent). On September 1, the Greek Atlantic fleet of freezer trawlers had 33 vessels in operation; another 3 were preparing for shrimp fishing in the Persian Gulf. The government is formulating plans to establish fishing jetties in Piraeus, Thessaloniki, Cavalla, and Chalkis which would include refrigerated storage. (U. S. Embassy, Athens, October 21, 1966.)

United Kingdom

MOUNTS PROMOTIONAL CAMPAIGN FOR "FISH--THE BIG DISH"

The slogan of a marketing campaign by the British Government's Fish Information Service (FIS) is "Fish--the Big Dish." The British consumer, like the American, often looks on fish as a substitute or supporting course. The FIS is working to change this attitude with an advertising campaign and efforts to get a new look in fish marketing shops. (Fishing News, October 14, 1966.)

* * *

MARINE FISH FARMING OF GROUNDFISH WILL BE LONG-RANGE PROJECT

Marine fish farming of groundfish species is still a long way off, according to the British White Fish Authority (WFA). A British project to raise plaice and sole in Scottish coastal lochs is continuing, but WFA says it may be at least 10 years before the project makes any contribution to British fish supplies. (Fishing News, London, October 7, 1966.)

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DOUBLED ITS FREEZER STERN TRAWLER FLEET IN 1966

At the beginning of 1966, there were 10 large freezer trawlers in the British fishing fleet. During the year, 12 were added. The latest addition was the 224-foot "Coriolanus" christened November 30. All but one of these new vessels are over 210 feet and can hold 400-600 tons of fish. The exception is the 185-foot "Criscilla," an experiment in economy, with a crew of only 21.

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NEW FISH-GUTTING MACHINE

A small machine said to be capable of gutting fish at the rate of 25 a minute is being tested by the fishing vessel "Coral Isle." The machine is 12 inches long, 18 inches high and has been patented by a British fish merchant. It was described in the "Fish Trades Gazette," 17/19 John Adam Street, Adelphi, London, W. C. 2, England. (Write to it for more information.)

ANTARCTIC SEALS PLENTIFUL

Although the whales are disappearing, the seals are coming back. Australian biologists working at a station on MacQuarie Island, Antarctica, found that the population of the elephant seal on the island has increased from near extinction 85 years ago to a present population of 100,000. The stable population consists of about 36,000 cows and 4,000 bulls, with about 35,000 young produced each year.

The elephant seal was almost exterminated as a result of commercial sealing operations during the nineteenth century. The population has increased steadily since the commercial killing of seals was halted nearly fifty years ago. (Sea Secrets.)

ASIA

Japan

PURSE-SEINE TUNA FISHING OFF WEST AFRICA IS POOR

The fishing company Nichiro's 3 vessels conducting experimental two-boat purse-seine operations in the Gulf of Guinea off West Africa are encountering poor tuna fishing again after a brief period of improvement in September. Catches in October, averaging 10-15 tons of tuna per vessel per day, were far below the planned production of 25 tons per day. (Shin Suisan Shimbun Sokuho, Nov. 1, 1966.)

* * *

PERMITS TRANSSHIPMENT BY PORTABLE-BOAT-CARRYING TUNA MOTHERSHIPS

The Japanese Government recently revised the Frozen Tuna Export Adjustment Regulations to permit portable-boat-carrying tuna motherships operating in the Pacific Ocean to transship their catches for export. Before, only the regular-type tuna motherships and overseas-based vessels were permitted to transship catches in the Pacific Ocean; all other vessels had to bring their tuna back to Japan before export. This meant doubling transportation costs in some cases. But the purpose of this regulation was to assure supply to domestic tuna packers and cold-storage operators. Transshipment was authorized for the portable-boat-carrying mothership fishery because the operation of regular-type motherships had declined--brought on by the difficulties of contracting catcher vessels to fish for them.

Following the revision, Taiyo Fishing Company's 3,700-gross-ton "Banshu Maru No. 5," operating in the South Pacific, would be the first portable-boat-carrying mothership to conduct tuna transshipments in the Pacific Ocean. It planned to deliver its catches to Suva, Fiji Islands, in mid-November 1966. (Katsuo-maguro Tsushin, Nov. 2; Minato Shimbun, Oct. 26, 1966.)

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VESSELS TRANSMIT REPORTS FROM YELLOWFIN TUNA REGULATORY AREA

Japanese vessels entering the eastern Pacific yellowfin tuna regulatory area are transmitting reports to the Fisheries Agency in accordance with reporting requirements prescribed in the Japanese tuna regulations. Transmission is proceeding smoothly. Reports received in early November were mostly from vessels that entered the regulatory area after October 21, 1966. (Katsuo-maguro Tsushin, Nov. 2, 1966.)

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1966 KING CRAB FISHING ENDS SUCCESSFULLY

The king crab factoryship "Keiko Maru" completed operations in Bristol Bay October 13 after attaining her 1966 production quota of 94,467 cases (48 half-pound cans) of canned crab meat. The "Dainichi Maru", the other factoryship licensed for Bristol Bay, attained her quota of 90,533 cases in September. Both vessels and their accompanying fleets began operations in March. Together, the vessels attained the quota of 185,000 cases agreed upon by Japan and the United States. Japan's 1966 production of canned king crab from all fishing areas was 463,000 cases.

The king crab fisheries are divided into factoryship fisheries and catcher-boat fisheries, the latter conducted in waters near Nemuro on the northeastern coast, and Wakkanai on the northwestern coast of Hokkaido. About 10 percent of the annual production comes from catcher-boat fisheries.

The factoryships, which produce 90 percent, operate in the Eastern Bering Sea (Bristol Bay), Western Bering Sea (off Cape Olyotorski), and in the Sea of Okhotsk. This year's Sea of Okhotsk quota was set at 240,000 cases as agreed upon by the International Northwest Pacific Fisheries Commission. This year, one company conducted trial operations off Cape Olyotorski and produced 38,000 cases of canned crab meat.

More than half of Japan's annual output of canned king crab meat is exported to the United States, the United Kingdom, France,

Japan (Contd.):

and other western countries. Canned king crab meat has consistently been a good money earner for Japan. Recently, however, because of the increase in the Japanese standard of living and the growing prosperity in the country, a strong domestic demand has developed for canned king crab meat. In October 1966 the retail price in Japan was close to $1.00 a can, about the same price as in the United States. It is expected, therefore, that Japanese exports of canned crab meat will decrease. (Nihon Keizai, Oct. 14, 1966, and other sources.)

* * *

LARGE FISHING COMPANY TO BUILD 300-TON PURSE SEINER

A large fishing company has ordered construction of a 300-ton purse seine vessel at a total cost of about 200 million yen (US$556,000). Launching is scheduled for February 1967. The vessel will have a power block, refrigerating capacity of 86 tons, and a speed of 11 knots. The firm plans to operate the seiner year-round in the central west Pacific off Guam Island, and the south Pacific off New Zealand, as a replacement for the 240-gross-ton "Kenyo Maru," which operated in the South Pacific in 1964-65. The latter was the first Japanese purse seiner to adopt the power block in 1962. (Shin Suisan Shimbun Sokuho, Oct. 26, 1966, and other sources.)

* * *

LARGE OCEANOGRAPHIC RESEARCH VESSEL LAUNCHED

The largest Japanese oceanographic research vessel, the "Hakuho Maru," 3,200 gross tons, was launched November 1, 1966, at the shipyard in Shimonoseki, southern Japan. Ordered by the Oceanographic Research Institute, University of Tokyo, the vessel is being built at a total cost of 1.65 billion yen (US$4.58 million). Completion of outfitting is scheduled for early May 1967.

It will accommodate 55 crew members, 32 scientists and technicians, and foreign researchers. Its specifications: total length--86 meters (282 feet); beam--14.8 meters (48.5 feet); draft--7.3 meters (23.9 feet); main engine--four 1,100-horsepower diesel engines; maximum speed--15 knots; cruising speed--12 knots; maximum cruising range--15,000 nautical miles. (Minato Shimbun, Nov. 2, 1966.)

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OBSERVERS ARE ABOARD SOVIET VESSELS

A 4-man team left Japan for a Murmansk base on October 11, 1966, to board a large Soviet factory stern trawler scheduled to leave for the Northwest Atlantic on October 26. The team--2 scientists from Tokai Fisheries Research Laboratory and 2 representatives of 2 large Japanese fishing companies--will observe Soviet fishing and processing operations. (Suisancho Nippo, Oct. 7, reported by U. S. Embassy, Tokyo, Oct. 18, 1966.)

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INCREASES FISH MEAL IMPORTS

Japan had to increase imports of fish meal to supplement her own expanding output between 1960-1964. She did this even in 1965, when domestic production reached 374,100 metric tons. The increases were absorbed by the animal feed industry which doubled its use of fish meal during 1960-1964.

Fish Meal Production, Foreign Trade, Consumption, and Prices, Fiscal Years, 1960-1965

Item	Fiscal Years					
	1965	1964	1963	1962	1961	1960
	(1,000 Metric Tons)					
Production	374	375	301	323	278	244
Imports	84	122	86	36	38	18
Consumption:						
For mixed feeds	346	371	308	243	218	171
For fertilizers	76	88	72	92	89	89
Exports	13	6	4	18	5	-
	(US$)					
Avg. import prices (c.i.f.) per metric ton	155.0	134.6	133.3	132.3	121.7	108.4
Number of fish meal factories in Japan	169	165	157	1/	1/	1/

1/Not available.

Imports and consumption declined slightly in 1965, probably as a result of rising prices and the tight world supply situation. Exports were insignificant in 1960-1965.

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41% OF IMPORTED EDIBLES COMES FROM 3 COMMUNIST NATIONS

During first-half 1966, Japan imported 76,240 metric tons of edible fishery products,

Japan (Contd.):

Imports of Fishery Products from Communist Countries, January-June 1966						
Product	North Korea	China	USSR	Total	Total Imports	Percentage of Total
	(Metric Tons)					%
Fresh & Frozen:						
Fish:						
Bonito & tuna	-	73	-	73	4,721	2
Herring	-	50	3,001	3,051	3,051	100
Spanish mackerel	-	2,824	-	2,824	5,238	54
Sea bass	-	56	-	56	110	50
Hair tails	-	3,636	-	3,636	3,809	95
Croakers	-	2,457	-	2,457	3,187	77
Other fish	-	1,450	558	2,008	5,432	37
Shellfish:						
Shrimp, etc.	-	6,476	4,986	11,462	19,367	59
Other shellfish	-	551	35	586	22,776	3
Roe:						
Caviar, etc.	-	10	60	70	123	58
Herring	-	15	49	64	201	32
Salted Dried:						
Shellfish	2	42	-	44	1,865	2
Jelly fish	-	1,984	-	1,984	1,984	100
Other	-	368	1,131	1,499	1,526	98
Canned:						
Shellfish	-	50	-	50	135	37
Otherwise Preserved:						
Shellfish	40	1,473	-	1,513	2,714	56
Total	42	21,515	9,820	31,377	76,240	41

of which 31,377 tons (41 percent) came from three Communist countries--China, USSR, and North Korea, in the order named. Fresh and frozen shrimp was the largest volume item--19,367 metric tons, of which 11,462 tons (59 percent) came from those three. (Fishery Attaché, U. S. Embassy, Tokyo, Oct. 21, 1966.)

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CANNED CRAB SALES DECLINE IN 1966

Decreased sales of canned crab were reported by the Japanese Canned Salmon and Crab Joint Sales Company. Exports for 1965 and 1966 by country of destination were:

Canned Crab Sales, 1965 and 1966				
Destination	1965 Total	1966		
		To Nov. 1	Future	Total
	(In Cases)			
France	85,000	46,000	35,000	81,000
United States	132,000	38,000	30,000	68,000
United Kingdom	90,000	48,000	-	48,000
Other	37,000	18,000	1/	1/
Total	344,000	150,000	1/	1/

1/Not available.

Exports of canned crab in 1966 would be about 100,000 cases less than in 1965, and the difference would occur in lower exports to the United States and United Kingdom. (Fishery Attaché, U. S. Embassy, Tokyo, Nov. 8, 1966.)

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RAISE CANNED SHRIMP PRICES

Prices for canned shrimp were raised again by the Canned Shrimp and Crab Joint Sales Company. Price quotations for various sized case packs were:

Canned Shrimp Price Quotations					
Cans/ Case	Size	Type	New	Previous	Beginning of Fiscal Year
			(US$)		
24	No. 2	Mix size	9.50	9.00	8.50
48	No. 3	Mix size	11.40	10.80	10.20
24	No. 2	Broken	8.50	8.00	7.50
48	No. 3	Broken	10.20	9.60	9.00

Of 150,000 cases consigned to the Joint Sales Company, 50,000 cases sold at the price at the beginning of the fiscal year, 50,000 cases were sold at the previous price, and the remaining 50,000 cases were to be sold at the new price. Prices rose following the poor 1966 season for "northern" shrimp and the smaller pack. (Fisheries Attaché, U. S. Embassy, Tokyo, Nov. 8, 1966.)

日本

India

SETS FISHING GOALS UNDER NEW 5-YEAR PLAN

An annual fish catch of 1.53 million metric tons by 1970-71 is the goal of the Indian Government's fourth 5-year plan. A catch of 1.3 million tons in 1964 was reported by the UN's Food and Agriculture Organization, although India estimates its current annual catch at only about a million tons. The 5-year plan calls for new investment in the industry of Rs. 1,130 million (US$149 million). It calls for almost a threefold increase in fishery exports--to an annual value of Rs. 200 million ($26.3 million)--by 1970-71.

Technological improvement and expansion of the fisheries cooperatives will be stressed so they may play an increasingly important role in production and marketing. In particular, it is proposed to acquire 200 trawlers, construct 8,000 mechanized vessels, develop fishing harbors, set up more ice and cold storage plants, and provide refrigerated vans for long-distance transport from points of landing to points of consumption.

For inland fisheries, production is to be increased by developing unutilized areas,

India (Contd.):

intensive exploitation of existing culturable waters, and other measures. Facilities for research and training also are to be expanded. (Seafood Trade Journal, Cochin, India, Oct. 1966.)

South Korea

PLANS FISH CANNERIES WITH HELP OF U. S. FIRMS

The Republic of Korea plans to develop, in a joint venture with U. S. firms, marine product canneries and a fishing fleet. The fleet will operate in the fishing grounds south of Cheju Island in the East China Sea where mackerel are plentiful, and in the Southwest Pacific, where skipjack and yellowfin tuna abound.

Under the plan, 60,000 metric tons of mackerel and 20,000 tons of tuna are expected to be caught and canned annually by the processing plants. (Korean Business Review, Sept. 1966.)

North Korea

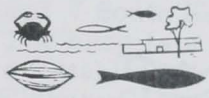
NEEDS BETTER FACILITIES FOR FISHERY PRODUCTS

North Koreans presently catch 500,000-600,000 metric tons of fish, shellfish, and other aquatic products, First Deputy Prime Minister Kim II said on October 10, 1966. He made the statement during a major policy speech to the Conference of North Korean Communist Activists.

Despite this large catch, the public's demand is not being met because of poor processing facilities and unsatisfactory marketing and distribution methods. To overcome these problems, fish-processing facilities must be built not only in fishing areas but in consumption (urban) areas. Refrigerated storage facilities will be built in Pyongyang and in other major cities.

In 1955, according to FAO statistics, North Koreans landed 312,000 metric tons of fishery products, about 50-60 percent of the present catch. This growth rate is much smaller than that of South Korea; there, landings of 265,000 tons in 1955 increased by 112 percent to 562,000 metric tons in 1965. (If aquiculture's production is added to the 1965 figure, as North Korea did, then the total South Korean production would be 636,000 tons.)

The Republic of Korea, unlike North Korea, has developed modern fish-processing facilities, purchased many large-powered vessels, and thus established a solid base for a modern fishing industry.



Taiwan

U.S. BUYS OVER HALF FISHERY PRODUCTS

During 1965, the Republic of China (Taiwan) exported NT$61.0 million worth of fishery products and imported NT$38.5 million. Almost 95 percent of all exports were shipped from the port of Tainan in southwestern Taiwan; the remaining 5 percent from Taipei. The United States was the largest buyer (NT$34.7 million), followed by Japan (NT$25.6 million); exports to other countries--Ryukyu Islands, Hong Kong, Singapore, Thailand, etc.--were negligible. The largest single export item (NT$36.6 million) was shrimp and other crustaceans; both were imported mainly by the United States (NT$18.6 million) and Japan (NT$18.1 million). Fresh and frozen (mostly frozen tuna) fish, the second largest export item (NT$19.3 million), were bought mostly by the United States (NT$16 million) and Japan (NT$3.3 million).

Taiwan's fishery imports in 1965 were NT$38.5 million; most (NT$34.6 million) entered at Taipei in north Taiwan. South Korea was the largest supplier of fishery products (NT$29.8 million), followed by Japan (NT$7.3 million) and "unidentified countries" (NT$1.2 million). Cuttlefish made up the largest part of the imports (NT$27.2 million), coming mostly from South Korea (NT$26.5 million). Other major imports were seaweeds (NT$6.9 million) from Japan and South Korea, and fish fry (NT$1.4 million) from Japan. (The Trade of China, 1965, pp. 205-212.

Note: NT$40.10 equal US$1.00.

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Taiwan (Contd.):

PRODUCERS MAY ESTABLISH
JOINT TUNA SALES SYSTEM

Leading tuna producers in Taiwan may organize a joint sales company to handle export tuna. Despite the spectacular advance made by the industry with government assistance, the lack of sufficient marketing experience by fishery firms has caused producers to sell catches for immediate gains or at low prices. The establishment of a joint sales system is considered likely to exert a significant effect on tuna sales. (Katsuo-maguro Tsushin, Nov. 2, 1966.)

Malaysia

ANNUAL LANDINGS CONTINUE TO RISE

Malayan fishery landings have risen steadily in recent years despite the impasse over trawling in Indonesian waters that has prevented greater progress in the fishing industry. The 1965 catch of 198,000 metric tons (worth about M$168 million) was 31 percent above the 1961 figure. The increase is believed due mainly to mechanization and the use of larger craft.

As vessels become larger, traditional methods of navigation and fishing will no longer suffice. The Malayan Government intends to prepare for this by setting up a Fisheries Training Center in Penang. (U. S. Embassy, Kuala Lumpur, Sept. 13, 1966.)

Thailand

EXTENDS TERRITORIAL LIMITS

The King of Thailand signed a proclamation, published October 18, 1966, establishing a 12-mile territorial limit measured from the low-water line.

Australia

INTEREST IN FISH MEAL
PRODUCTION RISES

Consumption of fish meal has increased twentyfold in the past 10 years, due mainly to its value as a high-protein food for fattening poultry and pigs. No serious attempt has yet been made to establish a large-scale industry in Australia, which relies heavily on imports. But interest is quickening. The Fisheries Branch, Commonwealth Department of Primary Industry, recently studied prospects for a local industry.

Consumption of fish meal rose from 1.3 million lbs. in 1956/57 to 26.7 million lbs. in 1964/65. During the five-year period to 1963/64, pork production rose by 20 million lbs., and poultry meat production by 11 million lbs.

Domestic production of fish meal did not increase at the same rate as consumption between 1956/57 and 1964/65. Today, it supplies only about 9 percent of local requirements. Existing plants rely mainly on offal from processing factories. The fish meal produced is only about 50 percent protein--compared with 65 percent in imported meal.

Imports from S. Africa

Australia imported 24.3 million lbs. of fish meal worth $1.2 million in fiscal year 1964/65. South Africa was the main supplier. The price rose to $A220 (about US$245) a short ton for 65 percent meal.

It is anticipated that the demand for fish meal will continue to increase to satisfy the growing broiler industry, but unless domestic production increases significantly, most of its requirements will be imported. Any significant increase in production can only be achieved by exploiting fish specifically for fish meal.

Unassessed stocks of pilchards and other fish suitable for reduction are in waters around Australia. The present demand and high price for fish meal has stimulated interest in a fish meal industry to exploit them.

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Australia (Contd.):

TUNA FISHING GOOD IN 1966

The total tuna catch in 1966 was about 9,164 short tons, most destined for the United States.

South Australia's record-breaking tuna catch for the 1966 season was 6,688 short tons, about 625 tons higher than the 1964 record. One reason was that 10 more vessels were used, bringing the fleet to 31.

Tuna fishing is now a vital part of the fishing industry, although it was not widely practiced until the early 1950s. An aerial survey of tuna schools off the New South Wales south coast in 1936 aroused interest in tuna fishing It was tried in 1937, with no significant catches.

Learned Pole-and-Line Bait Method

In 1950-51, the Australian Federal Government sponsored the visit of a 53-ft. American-Fijian tuna clipper with a trained crew to instruct local fishermen in the pole-and-line-bait method of fishing. Australian fishermen rapidly became expert and the tuna catch rose dramatically.

Fishermen concentrate on the southern bluefin tuna, which has a juvenile weight of 20-80 lbs. The young tuna swim in schools and fishermen can pole-catch many in little time. As the tuna grow, they move into deeper waters and are caught largely by the Japanese using the long-line method. ("South African Shipping News and Fishing Industry Review," Oct. 1966.)

Fiji Islands

TUNA BASE CONTRACTS TAIWAN AND ROK VESSELS

The Fiji Islands tuna base has contracted 8 Taiwanese and 7 South Korean vessels to fish for it. The base is a joint Japanese-Fijian venture established in 1964 by the South Pacific Fishery Cooperative Association and the Pacific Fishing Company and operating 10 Japanese tuna vessels.

The 15 vessels, ranging from 80-170 gross tons, will begin operations at the end of 1966. Fishing off the Fiji Islands, unfavorable in November because of the seasonal change in the fishery, normally improved in December. Tuna catches in nearby waters now are averaging 0.8 ton per vessel per day, mostly albacore. (Suisancho Nippo, Nov. 4, 1966.)

AUSTRALIA DEVELOPING PEARL CULTURE INDUSTRY

The Australian pearl culture industry, started in 1956, is still developing. There are now 11 culture farms scattered across Northern Australia from Exmouth Gulf to Torres Strait, in various stages of production, and they employ 82 Japanese and 153 Australians.

Pearls are being cultured in the large Australian pearl oyster (Pinctada maxima) which can produce a round pearl up to 18 mm. ($\frac{45}{64}$ inch) in diameter in from 2 to 3 years--about half the time it takes in Japan where the culturing technique was perfected. The Japanese culture the small Akoya oyster (Pinctada martensii) which produces a pearl up to 11 mm. ($\frac{7}{16}$ inch) in diameter in 4 to 7 years.

Japan has 3,000 culture farms which in 1963 produced 79 metric tons of pearls for export, worth ŁA23 million (US$51.3 million). The United States, Switzerland, West Germany, and Hong Kong were main buyers.

Australian cultured pearls are sent to Japan where rounds are graded and half rounds processed, then re-exported to world markets where they have a high reputation for size and quality. (Australian Fisheries Newsletter.)

AFRICA

South Africa

SHOAL CATCH WAS DOWN IN 1966

The Cape west coast shoal fish catch, January-August 1966, was somewhat less than for the same period in 1965 (see table).

Species	1966		1965	1964
	Aug.	Jan.-Aug.	Jan.-Aug.	Jan.-Aug.
	(Short Tons)			
Pilchards	5,746	125,766	222,920	282,301
Maasbanker	3,987	26,419	44,753	22,121
Mackerel	-	61,285	43,967	57,222
Anchovy	25,271	155,452	134,807	25,709
Red-eye herring	-	4,980	-	-
Total	35,004	373,902	446,447	387,353

In 1965, the season for pilchard, maasbanker, and mackerel closed at the end of July, but anchovy fishing continued until the end of September. The 1966 shoal fishing season, scheduled to end on August 31, was extended through September. In 1964, the pelagic fishing season closed at the end of July.

The August 1966 catch yielded 7,766 short tons fish meal, 116,000 imperial gallons of fish-body oil, and 456,420 lbs. of canned maasbanker.

In South-West Africa, the August 1966 catch was 57,750 tons pilchards and 27 tons of anchovy. This brought the total catch for the first eight months of 1966 to 680,186 tons. August fish meal production was 14,451 tons, bringing the total to 163,707 tons. ("South African Shipping News and Fishing Industry Review," Oct. 1966.)

* * *

DRY OFFLOADING REDUCES EFFLUENT AT FISH MEAL PLANTS

Dry fish offloading systems help to cut the amount of effluent from fish meal factories. "All fish factories discharge considerable quantities of water which has been used for offloading or washing fish," says the assistant director, Fishing Industry Research Institute. He adds: "Originally trouble rose at Hout Bay, south of Capetown, where offloading water containing oil and other soluble matter was discharged into the Bay. When the currents and the winds were unfavorable some of this used to wash up on to the beach. Then the factory installed a dry offloading system--the biggest installation of its kind in the world. It operates like a colossal vacuum cleaner. Hoses with a diameter of 10 inches simply suck up the fish. However, it is suitable only for fish intended for fish meal, as it damages fish too much for canning."

The usual method of offloading pelagic fish is to pump water into the boat's hold and then to suck it out, taking the fish with it. (The Cape Town Times, Shipping Supplement, Oct. 7, 1966.)

South-West Africa

PILCHARD FILLETS ARE EXPORTED

An export market has been established for frozen South-West African pilchard fillets. The Fishing Industry Research Institute has developed a way of freezing them so that rancidity is reduced to a level that insures a shelf life of several months. Without this treatment, the oils in frozen pilchard would turn them rancid in a matter of weeks. (The Cape Town Times, Shipping Supplement, Oct. 7, 1966.)

* * *

PILCHARD EGGS ARE SCARCE

An apparent shortage of pilchard eggs off Walvis Bay in 1966 has been worrying scientists manning research vessels operating from that port. The Chief Fisheries Officer of the South-West African Administration, Marine Research Laboratory at Walvis Bay, said it was difficult to attribute this development to any particular cause at this stage. But foreign fishing trawlers do not normally operate in the spawning grounds, so the lack of eggs could not be ascribed to these vessels. ("South African Shipping News and Fishing Industry Review," Oct. 1966.)

* * *

16 NATIONS FISH OFF COAST

Vessels from all over the world fish off the coast of South-West Africa. At first the

South-West Africa (Contd.):

foreign trawlers caught white fish, but later extended their activities to pilchard. This was especially true of the Soviet fishing fleet. Fifteen countries, plus South Africa, operate off the South-West Africa coast:

USSR: It has by far the most modern fishing fleet, which catches pilchard, white fish, and crab. It was estimated that the Russians would catch about 150,000 metric tons of pilchard in 1966. At times, the fleet numbered over 40 vessels and operated mainly north of Walvis Bay. It is supplied by depot ships and tankers shuttling between Russian ports and the fishing grounds. Most fish products are taken back to the Soviet Union, although some is sold to West Africa.

Spain: A fleet of about 50 vessels, second largest, specially designed for African waters. They catch hake, all sent back to Spain. They make regular use of Walvis Bay for stores, oil, water, and transshipping to reefer vessels.

Japan: A sizable fleet catches white and red fish, which are sent back to Japan. The vessels use Cape Town as a base.

West Germany: 3 ultramodern trawlers catching hake.

France: Small trawlers for spiny lobster.

Ghana: 3 Soviet trawlers on charter and manned mainly by Russian crews.

Israel: 2 modern trawlers operating between Walvis Bay and Cape Town. The fish is frozen and sent back to Israel.

Belgium: One trawler operating under charter to a South-West Africa fishing concern and catching hake for the Congo and Belgium markets.

Poland: A small fleet catching mainly white fish.

East Germany: One stern trawler catching white fish.

Bulgaria: Several trawlers catching both white fish and pilchard.

South Korea: A fleet of 20 tuna long-liners operating in the South Atlantic between 200 to 400 miles of Walvis Bay. They make regular use of Walvis Bay for stores, oil, and fresh water.

Nationalist China: A small fleet of tuna long-liners, also operating further out to sea off the coast.

Holland: Several stern trawlers. There is talk they may leave to find other fishing grounds nearer home.

Italy: 3 large stern trawlers catching white fish.

South Africa: In addition to white fish trawlers, there is the world's biggest floating factoryship, the "Willem Barendz." Operating outside the 12-mile fishing limit, she is expected to catch about 110,000 tons of pilchard a year. ("Namib Times," Walvis Bay, South-West Africa, Sept. 30, 1966.)

Morocco

SARDINE CATCH IS UP, EXPORTS DOWN

Among the recent measures taken by the Moroccan Government to revive the ailing fishing industry was the reduction of the cost of cans and packing oil used by canneries. The fixed price paid by canneries to boat owners for raw fish was also reduced by the Government to make the Moroccan fish pack more competitive in the world markets. It is too early to see if increased export sales will result from these measures.

Early reports of the actual catch indicate that the 1966/67 season may be a record one in total catch of sardines. However, statistics for 11 months of the 1965/66 season show that exports of canned fish were lower than in any of the last 10 seasons. Morocco faces difficult problems in reestablishing its canned fish in world markets.

Fresh fish sales in local markets (an important source of income to fishermen) have continued to drop because the European population, principal consumer of fresh fish, declines. The Casablanca wholesale fish market accounted for the sale of US$2 million in fresh fish during the first nine months of 1966. Agadir supplies over half the fresh fish for the Casablanca market. (U.S. Embassy, Rabat, Nov. 21, 1966.)

Foreign Fishing Off U. S. Coasts in October and November 1966

IN NORTHWEST ATLANTIC

Soviet: Weekly sightings showed fleet ranged between 50 and 60 fishing and support vessels through October, the same as at the end of August. However, the greatest number of individual vessels sighted during October was 72. Not all 72 were present throughout the month.

Fleet size during August-October 1965 was about the same as that during same period in 1966. Beginning in mid-October 1965, however, the fleet decreased rapidly. By month's end, only 10 fishing and support vessels remained on Georges Bank. The greatest number of individual fishing and support vessels sighted in October 1965 was 74.

In October 1966, the fleet was scattered but generally concentrated in two main groups: (1) Between 15 and 20 vessels (mostly large side trawlers of "Pioner" class and several processing ships) were located in 10-15 mile area 40 miles south of Nantucket Island. Heavy to moderate catches appeared to be primarily whiting (silver hake). The Soviets maintained a sizable fleet in that area since early September, but it had declined by late October. (2) A larger concentration, 30-40 vessels (mostly stern trawlers and some fish transports) were dispersed along the northern slopes and inner shoals of Georges Bank, 80 to 120 miles east of Cape Cod. Huge catches of fish, primarily herring, filled the open storage areas on the decks. Numerous trawls were bulging with catches estimated in excess of 30,000 to 40,000 pounds each. Most stern trawlers had their dehydration plants operating, an indication that they were also manufacturing fish meal and oil.

Soviet emphasis on catching herring in 1966 contrasted with their small herring catch on Georges Bank in 1965, but it was similar to their extensive herring fishing during August-September 1964.

Late in October, both fleet concentrations shifted. Those vessels fishing south of Nantucket Island moved north to the Cultivator Shoals area; most stern trawlers extended operations eastward beyond 100-fathom curve between northeast peak of Georges Bank and Browns Bank (south of Nova Scotia).

On October 11, the luxury tourist liner "Ivan Franko" was sighted about 12 miles east of Chatham, off Cape Cod (Massachusetts). This recently constructed ultramodern passenger vessel brought replacement crews for the factory stern trawlers fishing on Georges Bank and off Newfoundland. Several hundred fishermen were exchanged. Three stern trawlers, BMRTs "Topaz," "Safir," and "Perekat," fishing as far as Nova Scotia and Newfoundland, also came for replacement crews. The Ivan Franko, which came from Odessa, left 2 days later and returned home.

The fishery research vessel BMRT-395 "Atlant" fished about 5 miles east of the main group of vessels. No catch was observed.

Polish: Five factory stern trawlers were sighted on Georges Bank early in October operating among Soviet herring fleet. By mid-month, the trawlers had shifted to eastern Nova Scotia and Newfoundland fishing grounds.

East German: Two stern trawlers fished intermittently on Georges Bank during October, one of which first appeared early in September 1966. By month's end, both returned to their traditional fishing grounds off Canada.

Romanian: One stern trawler was sighted among Soviet fleets early in October.

IN GULF OF MEXICO

Soviet: No fishing vessels were sighted near U. S. coasts. Several large stern trawlers of "Tropik" class were sighted in Straits of Florida on way to newly opened Soviet fishing grounds in southwestern Atlantic off South American coast. Those vessels are based in the Havana fishing port, which became operational in early September 1966.

OFF PACIFIC NORTHWEST
(Washington and Oregon)

Soviet: The fleet in October 1966 consisted of 70-80 vessels catching primarily hake. Observers noted more ocean perch and other rockfish in the catches than before.

During first-half October, greatest concentration of vessels was off Oregon; later, they moved back off Washington coast. For week ending October 27, 50 side trawlers and 14 factoryships were sighted off Washington

coast, and 8 stern and 1 factoryship off Oregon coast. The fleet moves between coasts of the two States seeking the greatest concentration of fish.

OFF ALASKA

Soviet: The fishing effort off Alaska in October 1966 continued to decline--from over 20 vessels early in the month to about 14 by month's end.

Pacific ocean perch operations in Gulf of Alaska were conducted by two stern factory trawlers off Southeastern Alaska throughout October. Two other stern trawlers were active in the Shumagin Islands area during first half of month.

Perch operations along Aleutian Islands were reduced from about 6 stern factory trawlers and a few support ships to 4 stern trawlers and a refrigerator vessel located south of Fox Islands in eastern Aleutians at month's end.

Soviet shrimping in the Shumagin Islands declined from 7 medium freezer trawlers and a few support ships in early October to about 5 medium trawlers by month's end.

Japanese: The vessels off Alaska declined to about 14 by mid-October and remained at about that level.

The decline of factory trawlers fishing for ocean perch in Gulf of Alaska continued. By October's end, only 3 vessels remained: the "Kirishima Maru" off coast of Southeastern Alaska, and the "Akebono Maru No. 72" and the "Daishin Maru No. 12" on Albatross Bank.

A new factory trawler, the "Zuiyo Maru No. 2," arrived south of Fox Islands in early October and fished for ocean perch. Later, she was joined by two factory trawlers, the "Tenyo Maru No. 3" from Japan and the "Kyoshin Maru No. 55" from the Gulf of Alaska.

The king crab fleet in the eastern Bering Sea achieved its quota and ended operations by mid-October.

Long-line vessels fishing sablefish off Alaska increased from 2 in early October to 8 by month's end. Two long-liners, the "Tenyu Maru No. 18" and the "Tenyo Maru," were off coast of Southeastern Alaska. The "Fukuyoshi Maru No. 15 was southwest of Chirikof Island. Four Japanese long-liners were north of eastern Aleutians--the "Kotoshiro Maru" No. 18, No. 25, No. 28, and No. 30. The "Fukuyoshi Maru No. 35" fished north of central Aleutians.

PACIFIC NORTHWEST

Boarding Soviet Vessel: On October 25, the U. S. Coast Guard and BCF officers boarded 2 Soviet vessels: one (the medium side trawler "Azimut") had lost her propeller screw; the other (the salvage tug "Dekabrist") towed the trawler into calmer waters off Neah Bay (in Strait of Juan de Fuca, Washington) where repairs could be made.

During boarding, the Soviet Fleet Commander, V. M. Sergeev, said Soviet fishery patrol vessels will strictly enforce compliance with the new U. S. fishery limit of 12 miles. Any Soviet vessel found within 12 miles of the U. S. coast will be punished with one week's loss of pay for crew. Soviet fishermen confirmed that fishing off Pacific Northwest was still good, but less so than earlier.

November 1966

IN NORTHWEST ATLANTIC

Soviet: During early November 1966, fishing and support vessels on Georges Bank fluctuated between 15 and 20, a marked decrease from the 50-60 during October 1966. By end of November, almost all vessels left the Georges Bank fishing grounds, most of them for southern part of Grand Bank (off Canada).

Fleet movements of this type are not uncommon at that time and the absence is probably only temporary. A similar decline occurred in 1965. But late in December, when the Soviets shifted operations to southern New England areas (Hudson and Block Canyon), the number increased again.

During November, 16 individual vessels were identified as 10 factory stern trawlers, 1 processing and refrigerated freezer trawler, 3 refrigerated fish transports, and 2 medium side trawlers. This compares with 72 vessels sighted during October 1966 and 16 in November 1965. The vessels were scattered along northern edge of Georges Bank (Georges Basin) and southwest slopes

of Browns Bank (Fundian Channel) 120 to 200 miles east of Cape Cod. Only limited catches of fish were observed. Based on visual observations, fleet location, and depth of water (100-160 fathoms), it appears that argentine (herring smelt) and possibly some mixed groundfish were principal species caught.

No Polish, East German, or Romanian fishing vessels were sighted on Georges Bank during November.

OFF MIDDLE AND SOUTH ATLANTIC

Japanese: A 1,000-ton trawler was reportedly exploring off the U. S. Atlantic coast, including waters from Newfoundland to Argentina. Initial explorations will seek out resources off Florida coast. Future plans depend on results.

Soviet: Fishing vessels were not sighted off Middle and South Atlantic coast in October-November 1966.

OFF ALASKA

Japanese: About 12 vessels were active off Alaska's coast during most of November.

The "Kirishima Maru" fished for Pacific ocean perch off Southeastern Alaska the first two weeks. It is believed she returned to Japan about mid-month and that the "Takachiho Maru" began fishing there shortly thereafter. The "Akebono Maru No. 72" and "Daishin Maru No. 12" fished for perch on Albatross Bank the first week. The "Akebono Maru No. 72" moved to north of central Aleutians during second week. It is believed the Daishin Maru No. 12 returned to Japan about mid-month. The "Ryuyo Maru" presumably began operations on Albatross Bank about mid-November. The "Tenyo Maru No. 3," "Zuiyo Maru No. 2," and "Kyoshin Maru No. 55" fished for perch south of Fox Islands in eastern Aleutians most of the month. The Tenyo Maru No. 3 docked at Seward near end of November to take on fuel and other provisions. The "Inase Maru No. 5" began perch operations north of central Aleutians in early November and was joined shortly thereafter by the Akebono Maru No. 72 from Gulf of Alaska.

The "Fukuyoshi Maru No. 15," a long-line vessel, fished for sablefish near Chirikof Island in Gulf of Alaska during first week. The long-liners "Kotoshiro Maru's" No. 18, No. 25, No. 28, and No. 30 and "Fukuyoshi Maru No. 35" fished for sablefish along north side of eastern and central Aleutians during most of November. Those vessels may have returned to Japan by month's end.

Soviet: Its vessels ranged from 14 to 17, about the same as October.

Pacific Ocean perch operations in Gulf of Alaska were conducted by 4 large factory stern trawlers and 1 medium freezer trawler. Two of the stern trawlers fished off southeastern Alaska in early November and then, presumably, moved south.

Four stern factory trawlers, 1 medium side trawler, and 1 refrigerator carrier were active in the perch fishery south of Fox Islands in eastern Aleutians during early November. By month's end, only about 3 stern trawlers continued operations.

The Soviets doubled their effort in the Shumagin Islands shrimp fishery. Their vessels increased from 5 trawlers in early November to 9 trawlers, 1 refrigerated carrier, and 1 tanker by month's end.

OFF PACIFIC NORTHWEST
(Washington and Oregon)

Soviet: Number of vessels ranged between 61 and 75. The greatest number worked off Washington coast from Grays Harbor to Cape Flattery, with major effort off Point Grenville and Destruction Island. From 40 to 65 vessels were sighted at one time off the Washington coast; off Oregon, the greatest number was 13.

Off Oregon the Soviets operated stern ramp trawlers and caught primarily Pacific hake, but catches were not as good as those further north.

The fleet had been following the seaward migration of hake so vessels in November were 15 to 30 miles off coast. They still were making fair-to-good catches.

Japanese: One 550-gross-ton trawler was dispatched from Japan on December 1, 1966, to work southward from waters off northern Washington to San Diego, California. The trip will last 4 months and involve about 90 days of actual fishing. The same vessel explored off Vancouver Island, British Columbia, in October and early November and took some Pacific hake and rockfish.