INTERNATIONAL

Northwest Pacific Fisheries Commission

JAPAN-USSR REACH 3-YEAR KING CRAB AGREEMENT

In April, Japan and the USSR reached a long-term agreement in Tokyo on king crab fishing in the sea of Okhotsk off Kamchatka's west coast. By 1969, the Japanese catch quota will be reduced to the equivalent of 216,000 cases, and the Soviet quota will be increased to 432,000 cases ($48\frac{1}{2}$ -lb. cans). In 1965 and 1966, the quotas were 240,000 and 420,000 cases, respectively. During 1962-1964, the quotas were 252,000 for Japan and 378,000 cases for the USSR. In 1967, catch quotas will be 232,000 and 406,000 cases; in 1968, 224,000 and 432,000.

Ratio 2 to 1 by 1969

Fleet strength and fishing area allotments will be in the ratio of 2 to 1 by 1969, the same ratio as catch quotas. For the past several years, Japan has been operating 4 factoryships with accompanying net-setting and picker boats. The Soviet Union has operated 7 factoryship fleets but, by 1969, it will have 8.

For 1966 and for several years prior, the ratio of fishing areas was 3 to 2 in favor of the Soviet Union. For 1967 and 1968, the ratio will be changed to 7 to 4 and, in 1969, will be 8 to 4 or 2 to 1.

The Japanese agreed, reportedly, to the new provisions because of the long-term arrangement and the admitted need for conservation. (Japanese press items, April 1967.)



FAO Conducts Caribbean Training Cruises

The UN's FAO Caribbean Fishery Development Project vessels "Alcyon" and "Calamar" completed cruises in March using livebait fishing. The Alcyon fished between Jamaica and Puerto Rico, and the Calamar in

the Southeastern Caribbean. Catches were light, although the Calamar made several sightings of sizable schools of skipjack, black fin, and frigate mackerel. The cruise's main emphasis was to develop skills in locating and capturing bait, and to train in the live-bait fishing method. Investigations of pelagic fish resources, particularly tuna, were expected to continue through May. Then, the Calamar was to change over to trawling and the Alcyon to carry out experimental snapper fishing. The "Fregata," after its arrival in May, was scheduled to begin live-bait fishing for tuna.

The U. S. Bureau of Commercial Fisheries! "Undaunted," which had 3 project cooperators on board in late February and in early March, sighted large schools of tuna, particularly west of the Grenadines. Two of those schools, one yellowfin and one skipjack, were estimated at about 100 tons of fish each. Like the project vessels, the Undaunted had trouble attracting the tuna with live bait. (UNDP/FAO Caribbean Fishery Development Project Headquarters, Barbados, West Indies, Apr. 1967.)



Tuna Conference Scheduled for Tokyo

A conference to discuss common problems of Asian tuna fishing nations was scheduled for Tokyo, May 30 and 31. It was sponsored by the Japan National Federation of Tuna Fishermen's Cooperative Association (NIKKATSUREN). Participating were tuna industry members representing Formosa, Japan, South Korea, and Okinawa.

The agenda included: (1) tuna production, (2) management and labor, (3) administrative systems and policies for the tuna fisheries, (4) marketing and consumption, and (5) regulations of the tuna industry. The conference was scheduled originally for an earlier date but was postponed because Formosa was unable to attend. ("Nihon Suisan Shimbun," April 5, 1967, and other sources.)



Sweden and Norway Megotiate Fishing Boundaries

A Norwegian-Swedish agreement defining fishing boundary between them in the Skagerrak Sea was signed April 5, 1967. The agreement, effective July 1, 1967, was necessitated by Norway's plan to put into effect on its east coast the 12-mile fishing limits previously authorized.

The Norwegian press reports that negotiations may soon begin with Denmark over the rights of Norwegian fishermen in waters that would be enclosed by Denmark's proposed 12-mile fishing limit. (U. S. Embassy, Oslo, April 21, 1967.)



S. Korea and Japan Report Jointly Regulated 1966 Catch

The Fishing Agencies of Japan and S. Korea have released information on the catch taken by their fishing vessels in the jointly regulated area in 1966: 50,131 tons for Japan, 41,972 tons for S. Korea.

The jointly regulated area beyond the 12-mile exclusive fishing zone of S. Korea was established by the Japan-South Korea fishing treaty. This controls number of boats and eatch to conserve mackerel and horse mackerel resources and to adjust differences between the fishing capabilities of the two countries. The treaty set the annual catch quota at 150,000 tons (with a 10 percent allowable margin) for each based on catches in the past. However, in this first year (1966) after conclusion of the treaty, the catch was only a third of the quota.

Type of Fishery	(Catch
- / Fo or rishery	Japan	South Korea
Large trawl (50 gross tons or more) Medium trawl (less than 50 gross tons) . Large and medium purse seine, and	23, 309 6, 775	ric Tons)
large pole & line mackerel boats	20,047	1,823
Total	50, 131	41,972

The large pole and line mackerel boats have been a source of dispute between fishermen of the 2 countries since the "Rhee Line." In 1966, no Japanese mackerel boats

fished in the area, although licenses were issued to 15 vessels. (Fishery Attaché, U.S. Embassy, Tokyo, April 7, 1967.)



Spain's 12-Mile Claim Will Hamper Japanese

Enactment by Spain of 12-mile fishing limits is expected to seriously hamper Japanese fishing in the former's territorial waters. As approved by the Spanish legislature on April 4, 1967, the law provides for negotiating agreements with countries whose fishermen claim historical fishing rights. However, these rights will be recognized only when the fisheries have been conducted regularly for 10 years, or the years 1953-1962.

Japan began fishing off West Africa in 1959 and would have only 4 years of actual fishing record within Spain's new fishing limits. The Japanese Government plans to renew fishing-rights negotiations with Spain. ("Nihon Suisan Shimbun," March 24, 1967, and U. S. Embassy, Madrid, March 9 and April 8, 1967.)



Japan-New Zealand 12-Mile Zone Talks Planned

Japan responded to a New Zealand note to discuss fishing within the latter's 12-mile exclusive fishing zone by proposing a meeting in late May 1967.

New Zealand's new fishing limit, which became effective January 1, 1967, prohibited foreign fishing inside the 12-mile zone. This closed her coastal waters to Japanese longline sea-bream fishing and trawling. Unable to resolve this issue with New Zealand, Japan had intended to refer the case to the International Court of Justice. ("Suisan Keizai Shimbun," April 21, 1967.)



Soviet Fisheries Minister Visits Iceland

Soviet Fisheries Minister A. A. Ishkov visited Iceland in mid-April as a guest of the Icelandic Government. It was in exchange for the 1965 visit to the USSR of Icelandic Fisheries Minister Emil Jonsson. Ishkov was interviewed by the Icelandic press. "In response to questions on the increasing Soviet fishing activities near Iceland, he reportedly responded that these did not necessarily mean a diminution in the amount of fish the Soviets would buy from Iceland."

Soviet fish purchases are important to Iceland's economy. Soviet catches on the Icelandic Continental Shelf have been increasing.

In December 1966, the Soviets concluded an agreement with the Icelandic town of Seydisfjordur for fresh-water, hospital, and ship-repair facilities for the 400-vessel Soviet herring fleet fishing off Iceland. Also in 1966, the USSR, Iceland, and Norway agreed to conduct joint research of herring resources in the Norwegian Sea. (U. S. Embassy, Reykjavik, April 20, 1967.)



Krill May Have Potential As Human Food

The interest in krill has been growing in recent years. Some scientists see in these planktonic crustaceans and larvaea large potential food source for humans. Krillare the traditional principal food of baleen whales, which strain the water to get them. The basic idea of the scientists who believe krill can become important for humans is to step down the food chain and harvest large quantities of krill no longer needed by the reduced whale population.

Some scientists feel that the annual seasonal yield of Antarctic krill (<u>Euphausia superba</u>) could exceed the entire present world fish catch-over 50 million metric tons a year. So reports Dayton L. Alverson, U. S. Bureau of Commercial Fisheries, after discussions with scientists of several nations.

Alverson is Base Director, Exploratory Fishing and Gear Research Base, BCF, Seattle, Wash.

Tentative estimates of the annual production of Antarctic krill can be made on the basis of food intake by whales, assuming a virgin stock of 300,000 baleen whales of 40-ton average weight. One estimate is based on the observed stomach content of $1-1\frac{1}{2}$ tons and assumes a clearance rate of 36 hours and 200 feeding days per year. Another estimate is based on the assumption that annual food requirements for subsistence and growth amount to 3 to 4 times the body weight; this gives figures of 120 to 190 tons of krill per year per whale, and of 36 to 57 million tons of krill eaten annually by the virgin stock of Antarctic whales. Krill have other predators, so the total stock presumably would carry an even higher exploitation by man, provided natural competitors, especially whales, are eliminated.

Choice of Whales -- or Krill

A whale stock that produces its optimum yield at about two thirds of the virgin stock-but consists mainly of relatively young, fast-growing individuals--presumably would reduce the fishery potential of krill by almost the same amount as given above for the virgin stock. It might still be preferable to catch about 1 million tons of whale, rather than 500 million tons of krill, as long as economic considerations are dominant and only particularly dense populations of krill are accessible to fishing operations.

The Soviet Union carried out its first explorations for Antarctic krill in 1964-1965. Its scientists reported patches of krill concentrated in the uppermost 5 meters, which were collected by pumps or trawls. The krill were pressed fresh, the liquid extraction processed immediately into a protein concentrate, and the dry cake used for fish meal.

At present, exploitation seems only profitable in dense patches close to the surface. Often, krill are scattered down to 100 meters and migrate daily.



ECD Fisheries Committee Meets

The Fisheries Committee of the Organizaon for Economic Cooperation and Developent (OECD) held its 17th session in Paris oril 17-18. The Committee continued its appraisal of fishery policies of member antries with emphasis on fishing fleet decopment over the last 8 years. Notes on E. U. S., Japan, Norway, and Denmark were resented.

In other actions, the Committee reviewed ports on progress of the North Atlantic lisheries Bio-Economic Assessment Working Group, and the compilation of fishing fleet tatistics in the North Atlantic (which OECD doing with other international organizations). It decided that OECD should try to ollect more complete economic data on fishing fleets. The Committee also decided to take available for general distribution resorts on electronic equipment in fishing and hanges in minimum and fixed prices in the shing industries.

The next meeting of the Committee is cheduled for September 1967. (U. S. OECD, Paris, April 26, 1967.)



oles and British Exchange Visits

A Polish fisheries and shipbuilders deleation was scheduled to visit Great Britain in ay 1967 as guests of the White Fish Authorty. They were slated to visit fishing ports and markets, processing plants, fishing vesels, shipyards, and research institutes in aberdeen and Hull.

The announcement of the visit followed closely the visit to Poland of James Johnson, Chairman of the Labor Party's Parliamentary Fisheries Committee, who was reported reatly impressed with developments in Polish fisheries. Said Johnson: "They have a completely modern fleet, the last word in design and safety. A thing that impressed me was the comfort and spacious accommodations of their ships." Johnson had been invited by the Polish Seamen's, Dockers' and Fishermen's Union. ("The Fishing News," April 14, 1967.)



Antarctic 1966/67 Whaling Season Closes

The Antarctic 1966/67 whaling quota of 3,500 blue-whale units had been reached when the season closed April 7. The results by nations were:

	No. of Expeditions	Catch of Blue-Whale Units	Date Fulfilled Quota	Production Whale Oil	
Norway	2	801	Mar. 26	79,500	26,500
Japan	4	1,633	Mar. 10	182,623	11,754
USSR	3	1,069	Apr. 5	1/	1/



Tanzania Claims 12-Mile Territorial Waters

The President of Tanzania issued a proclamation on April 14, effective the preceding March 30, establishing a 12-mile limit for territorial waters. In places where the Island of Pemba is less than 24 miles from the Kenya mainland, Tanzanian territorial waters extend only to a line midway between Pemba and Kenya. (U. S. Embassy, Dar Es Salaam, Apr. 19, 1967.)



Japanese and Formosans Plan Joint Mackerel Fishing

A Japanese purse-seine fishery operator in Nagasaki and Formosan interests are planning to establish a joint purse-seine mackerel fishing enterprise in southern Formosa. A purse-seine fleet led by the "Yusei Maru No. 18" will be chartered by the joint company and dispatched to Formosa to pick up 26 Formosans for training.

Three-fourths of the mackerel landings will be canned in Formosa for export, and one-fourth marketed locally.

Two Japanese officials from Nagasaki were sent to Formosa on May 1 to complete arrangements. ("Minato Shimbun," May 3, 1967.)

FOREIGN

CANADA

NEWFOUNDLAND BAIT PRICES RAISED

On April 1, the Canadian Government raised the price of herring bait supplied to Newfoundland fishermen to $3\frac{1}{2}$ Canadian cents a pound (up 1 cent). Current prices charged by the Government bait service for squid (3 cents a pound) and capelin $(1\frac{1}{2}$ cents a pound) were unchanged, although they will be reviewed later in the spring in the light of market conditions.

Under terms of Newfoundland's 1949 union with Canada, the Federal Government is required to supply bait to that Province's fishermen who are not adequately served by private enterprise. The service supplies about 5 million pounds annually through 21 depots and 37 holding units. A specially designed vessel and refrigerated trucks deliver supplies from depots to the units located in fishing areas. (Canadian Department of Fisheries, Ottawa, March 29, 1967.)

* * *

HERRING MEAL PLANT BEING BUILT ON EAST COAST

The construction of a herring fish meal plant in Stephenville, Newfoundland, was begun in early April. The plant reportedly will cost about C\$525,000, have an hourly capacity of 10 tons of herring, and be supplied by 2 trawlers converted to seine fishing. The plant is being financed partly by the Newfoundland Government to provide new industry for an area with substantial unemployment. Two U. S. firms will be involved in managing the plant.

Several new fish meal plants already have been established in the area. The Canadian East Coast herring catch increased from 405 million pounds in 1965 to 551 million pounds in 1966. (U.S. Consul, St. John's, April 5, 1967.)

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DEMONSTRATES SCOTTISH SEINE-NET FISHING METHODS

In 1965, a program to demonstrate Scottish seine-net fishing to Canadian east coast fishermen was begun by the Industrial Development Service, Canadian Federal Department of Fisheries, in cooperation with Provincial Fisheries Departments. In 1966, demonstrations were begun in various Canadian ports by a Scottish fishing captain. He was joined recently by another Scottish captain who will do similar work this year. Also, Canada has chartered for one year the Scottish vessel "Guiding Star" (70 feet, 152-horsepower diesel engine) to test this gear in Canadian fishing grounds. The vessel made several successful trips out of Nova Scotia last fall and winter.

Although the technique is not entirely new in the Atlantic Coast Provinces, there is a growing trend among fishermen to adopt the special Scottish techniques and gear. Both are particularly effective for catching off-the-bottom species of groundfish, such as cod, haddock, pollock, hake, and bottom-hugging species, such as flounder. The net is called a wing trawl, although different from a conventional otter trawl.

The Seine-Netting Method

Seine-netting is carried out by vessels ranging from 40 to 80 feet. Engine power requirements are low compared to bottom trawling. This method can be used by any vessel with enough deck space to tow the very long ropes that are an important part of the gear. On larger seine-netters, these ropes may exceed $3\frac{1}{2}$ miles.

The vessel first sets out a buoy with a flag. One end of the rope is attached to the flag. One half of the rope is then set out in a semicircle. The funnel-shaped net is attached, and the circle completed back to pick up the buoy, while setting out the second half of the ropes. While the ropes are hauled in by a winch, the vessel tows slowly away from the net, thus closing the circle of ropes, which stir up a wall of mud and sand as they are dragged over the sea bottom. This helps lead fish into the path of the net. The net then moves forward and scoops them up. A specially designed mechanical rope coiler, attached to the winch, eases the work of haul ing back the gear.

Scottish seining is similar to Danish seining, with one basic difference. With the

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cottish technique, the vessel tows the net; In Danish seining, the boat is anchored and the net is pulled in motion by a winch alone. Danish seining was designed to catch flounder or flatfish.

he Curriculum

The Scottish captain began last year's program with instructions to fishermen at the School of Fisheries in Caraquet, New Brunswick. He taught net construction and advised on the rigging of vessels. He supervised preliminary test fishing operations out of Caraquet aboard the "Gloucester II," and successfully experimented with seining gear on 4 different types of bottom. He supervised the rigging up of 35 Scottish seine nets.

In Nova Scotia, he sailed aboard the dragger "Acadian Pal" and fished Brown's, Georges, and LaHave banks. At that time, tides in the areas tried on the offshore banks were found too strong for practical operations with seine-net gear.

The same program is being followed this spring. The Caraquet fisheries school, northern New Brunswick fishing ports, the south shore of Nova Scotia, Cheticamp on Cape Breton Island, and Newfoundland are to be included in the program. (Canadian Department of Fisheries, Ottawa, April 24, 1967.)

* * *

FISHERIES COUNCIL URGED FO HELP BOOST CONSUMPTION

J. H. G. LeBlanc, the retiring president of the Fisheries Council of Canada, urged

that group at its annual meeting in May to increase its efforts to boost fish consumption in Canada. He said production increased 25 percent in less than 10 years, and that two-thirds of production was exported. The fishing industry is an investment of over \$205 million in vessels and gear. It employs 80,000 fishermen and 20,000 others in processing.

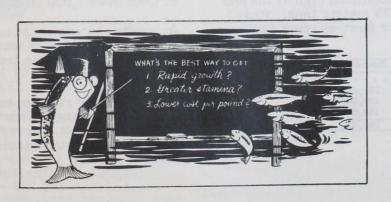
H. J. Robichard, Minister of Fisheries, reported that a significant development of the past 3 years has been the growth of the groundfish fisheries on the Atlantic and Pacific coasts.

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CANADIAN FISHERIES MINISTER VISITS USSR

H. J. Robichard, the Canadian Minister of Fisheries, completed a 10-day tour of Soviet fishery facilities on April 5, 1967. He was accompanied by the Deputy Fisheries Minister, the Chief Scientist of the Canadian Fisheries Research Board, and 3 members of the fishing industry. The Canadian delegation visited Murmansk, Leningrad, Riga, and the Black Sea to see Soviet fishery installations.

At the end of the tour, a joint statement was issued stressing the importance of exchanging scientific information in fisheries research and the need to expand contacts between experts of both countries. The Soviet Minister has accepted an invitation to visit Canada.



LATIN AMERICA

Mexico

1967 PRODUCTION OFF TO GOOD START

During the first 2 months of 1967, Mexican production of fishery products was 46 percent higher than in January-February 1966, according to preliminary data of the Secretariat of Industry and Commerce.

Food fish (including shellfish) landings gained 35 percent. The total was 29,070 metric tons (all weights in metric tons, "as landed": heads on, heads off, cleaned, shelled, round, etc.). Most important species showed substantial gains: shrimp 6,038 tons (up 15 percent); sardine, 3,986 tons (nearly triple); anchovy, 3,459 tons (more than triple); and lobster, 439 tons (up 14 percent). Catches of other leading species were: sierra mackerel, 914 tons (equal); oyster, 3,468 tons (down 17 percent); and giant sea bass, 751 tons (down 16 percent).

Industrial fishery products gained 148 percent. The harvest of giant kelp, 3,853 tons, was 6 times as great as in 1966. Production of fish meal was 1,605 tons (up 13 percent).

Exports of shrimp were valued at US\$9,976,000, up 48 percent. If this rate can be maintained, the shipments of one of Mexico's leading export items will reach an impressive figure. (U. S. Embassy, Mexico, Apr. 15, 1967.)



Peru

REPORT ON FISH MEAL

Fish meal stocks continued high at the end of March 1967--596,275 metric tons. Production and exports for first-quarter 1967 were:

Month							Production	Exports
			11				(Metric	Tons)
January .							287, 466	100, 281
February							109, 644	115,673
March							163,512	117, 282
Tota								333, 236

Exports of fish meal to principal countries for first quarter 1967 were:

Country of Destination									Exports
	ī								Metric Tons
United States.									112,564
West Germany									52,685
Netherlands .									25, 124
Yugoslavia									24, 223
Spain									23,014
Czechoslovakia									15, 399
East Germany									13,927
Poland									11,628
Others									54,672
Total									333,236

Anchovy Season Closed Earlier

As a conservation measure, the Government closed anchovy fishing earlier on the entire coast--from Feb. 15 to March 14, 1967. The objective might also have been to decrease fish meal production and with the continuation of shipments draw down stocks during those months. Unfortunately, the high Peruvian production coincided with weakening world prices and demand. The end of March saw f.o.b. Callao prices as low as US\$112 a ton to U. S. ports and \$115-\$117 to European ports. (Previous reports of prices as low as \$100 a ton were in error. Prices quoted as \$109 a ton were based on anticipated sales that did not materialize.)

Fishing conditions remained excellent in March. Fish were abundant, although their oil content was low.

In mid-April 1967, freight and insurance rates for shipments of fish meal from Peru to Gulf and East Coast ports in the U.S. were:

- a. Lots under 300 short tons -US\$29.50
- b. Lots from 300 to 999 tons \$27.50 c. Lots over 1,000 tons - \$24.50

According to one source, shipments to Hamburg, regardless of tonnage, were temporarily \$24.00 a metric ton, down recently from \$25.50 a ton.

The insurance rate appears to be flexible, depending on arrangements between shipper and insurance agent. According to one major marketing groups, the insurance rate was as follows:

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a. Peru-New York 1.75 percent c.i.f. b. Peru-Hamburg 2.25 percent c.i.f.

* * *

ERUVIANS OWN 2/3 OF THEIR ISH MEAL PLANTS COMPLETELY

Political circles in Peru are concerned tout the extent of foreign ownership of donestic fish meal plants. Some persons favor egislation restricting foreign ownership to 3 percent of a plant. The distribution of wnership, according to fish meal production f all plants in January 1967, was:

* * *

BANDONS FISH MEAL QUOTA SYSTEM

Reports from the April meeting in London the Fishmeal Exporters Organization (FEO) by the Peruvian fish meal "quota system" as been abandoned. The system was set up serve as a catalog of sales projections-signing quantities of fish meal that Peruians anticipated selling in given areas. Poor ales abroad in early 1967, however, have endered the quota system more or less teaningless. Undoubtedly, the Peruvians will parket fish meal at going prices wherever the demand exists. ("The Feed Bulletin," Inicago, Apr. 18, 1967.)



Chile

TISH MEAL PRODUCTION DROPPED HARPLY IN JANUARY-FEBRUARY

During January and February 1967, Chilen fish-meal production was 36,217 metric ons, compared with 60,617 tons in 1966 and 4,207 tons in 1965--down 41 percent from 966 for the two-month period. Anchovy atches were: 1967--207,241 metric tons; 966--353,734 tons; 1965--153,760 tons. Pro-

duction of fish oil was 2,484 tons, compared to 2,977 tons in 1966, and 2,851 tons in 1965.

Prices paid for anchovy by independent wholesalers in Arica fluctuated from US\$12 to US\$12.88 a metric ton during January and February. (BCF Branch of Foreign Fisheries, April 19, 1967.)



Panama

REPORT ON SHRIMP AND FISH MEAL IN 1966

The 1966 shrimp catch was 12,440,440 pounds, according to first data of Panama's Bureau of Fisheries. This was about 3.6 percent below 1965 and roughly 20 percent below 1964, the record year. Unofficial preliminary data of the largest local shipping lines show that shrimp exports were about 10 million pounds worth US\$8,600,000, including an estimated 75,000 pounds of spiny lobster tails.

Premium grade "whites" taken in 1966 increased nearly 5 percent over 1965, the catch of valuable "pinks" decreased about 12 percent, but this was offset partially by the higher catch of "titi," the only other important species in Panamanian waters. So, the high percentage of premium grade shrimp in the total catch and good prices in U. S. markets pushed value of shrimp exports in 1966 to \$8.6 million, almost \$1 million and about 14 percent above 1965.

Marketing within Panama is handled by individual fishermen; sales promotion does not exist.

The bulk of the shrimp catch is transported by sea, mostly to New York. An increase in shipments to the U.S. west coast was reported in early 1967. More increases in shipments to the U.S. west coast are predicted. At the same time, shipments to the U.S. east coast will remain normal. Some production in the Chiriqui region is shipped by air to Miami.

Fish Reduction Industry

Panama's second fish meal plant started "limited" operation during second-half 1966. Understandably, this new effort was hampered by unexpected problems and delays. The

Panama (Contd.):

other company operated near capacity during 1966 and began an expansion program. When completed, it will permit doubling processing to about 80 tons of fresh fish per hour.

Aware of plans by other companies to build plants, the Minister of Agriculture recommended a ceiling on the number of fishing craft used by existing firms--and applications for official authorization to enter field. This produced Law No. 168. The fall in world prices of fish meal and fish oil reportedly is an additional factor in the official stand.

The 1966 catch of anchovy was 56,895 short tons, compared to 12,660 tons of herring.

The catch in the early months in 1967, according to government and industry, has been "poor." However, these are traditionally the poorest months. An appreciable increase was expected for April. (U. S. Embassy, Panama, March 23, 1967.)



El Salvador

UN TEAM SURVEYS FISHING INDUSTRY

A team led by Dr. Juan Cordini, an Argentine marine biologist attached to the UN Central American Fisheries Research Project, has begun a survey of El Salvador's fishing industry. The survey will cover the subsistence and commercial fishing activities. It is designed to determine the number of persons engaged in fishing, the methods used, and the fishermen's social and economic status.

The Current Situation

In general, the price of fish--40-50 cents per pound--and the fact that freezer refrigerating facilities are required limit outlets to stores and restaurants catering to wealthier customers. Sales of fish in these outlets have increased steadily in recent years.

There seems to be interest in establishing facilities to produce fish meal. Three separate proposals are being prepared for Government approval. Raw material would be the trash and other fish now caught incidental to shrimp fishing and, for the most part, discarded at sea. According to one report, Mex-

ican interests recently proposed a joint Salva doran-Mexican company to construct facilities to handle 35 metric tons of raw fish daily. (U. S. Embassy, San Salvador, April 21, 1967.



Colombia

JAPANESE TO EXPLORE FOR SHRIMP OFF COAST

The Japanese firm Nichiro Gyogyo reportedly was negotiating with Colombia for cooperative exploration of shrimp resources off Colombia. Nichiro plans to operate a 60-gross-ton trawler for 7 months (May-November 1967). If the operation proves successful the company hopes to establish a joint shrimp venture with local Colombian interests. Nichiro presently operates a shrimp enterprise in Guatemala with 20 vessels. ("Shin Suisan Shimbun Sokuho," April 8, 1967.)



Cuba

LEADING MARINE BIOLOGIST JOINS BCF

Dr. Isabel C. Canet, the former director of Cuba's Fisheries Research Center who left in 1960, has joined BCF as a zoologist is the Washington, D. C., ichthyological laboratory. Dr. Canet was the driving force in Cuba's first extensive commercial exploration for shrimp with nets and trawlers. She is an international authority on shrimp. She contributed much to Cuban research on oyster growth.

Dr. Canet said the atmosphere of revolutionary turbulence made it "impossible to do reasonable work." The last straw was added with the appointment in April 1960 of a new chie of fisheries who had "no scientific background. We were told that fisheries research and education would be conducted aboard vessels rathe er than in laboratories," Dr. Canet said.

A serious illness provided the chance to escape. "Fortunately, I became sick," she said, "and needed medical attention in the United States." She and her family were permitted to go.

In 1966, she became a U. S. citizen and joined BCF late in the year.



UROPE

SSR

ESSEL DELIVERY ROUTE CHANGED

Although nearly all large Soviet fishing issels are constructed in the shipyards of iropean USSR, many are deployed in Paciffisheries. In the past, the delivery route in these vessels was through the Suez Canal at the Indian Ocean to Vladivostok, and then the fishing grounds.

Recently, however, economists of the Far astern Fisheries Administration calculated at the Ministry of Fisheries could save over me million rubles (US\$1.1 million) a year if he new vessels were delivered via Gibraltar, he Atlantic Ocean, Panama Canal, and then eployed immediately in Soviet Pacific fishries off the U. S. or Mexican coasts. This would shorten the delivery route by several housand miles with savings in vessel time and crew salaries. The old delivery route box over 2 months, but with the changed nute a new vessel could be fishing in the acific less than a month after leaving the hipyards.

Among the large stern trawlers that remitly passed through the Panama Canal were "Fedor Krainov" (sighted in January off lifornia) and the "Galifan Batorshin" and larko Reshetnikov" (both sighted fishing U. S. coasts).

* * *

E SEARCH SHOWS FISH POSTURES BE MEANS OF COMMUNICATION

Experiments carried out at the Ichthyogical Laboratory of the Soviet Institute of
nimal Morphology have shown that posres--positions fish assume while swiming--serve as means of communication.
sloped and somewhat curved body, with
ightly compressed fins, indicates the presice of food. This posture is characteristic
many fish species.

Menacing poses are common in various arine and fresh-water fish. These poses to indicated by erect fins, open gill covers, uping mouth, and an undulating movement the dorsal and caudal fins.

Turns Bluish At Sight of Enemy

At the sight of an enemy the aquarium fish Astatotilapia strigigena (Pfeffer) takes on a bluish color. The fish spreads its unpaired fins and approaches the enemy, displaying its coloration and enlarged body contours. The opponents stay parallel to one another. A fight results if the enemy also changes its coloration and spreads its fins.

Some cichlids (these are like U. S. sunfishes) assume a characteristic posture of defeat. With head raised, tail sunk, and fins adhering to the trunk, the surrendering fish exposes the abdomen, its most vulnerable part, to enemy attack.

Also, there are specific postures for attracting the female, summoning the young, and for signalling other fish of the school. ("Rybnoe Khoziaistvo," December 1966.)

* * *

EXPORTS FROZEN SHARK TO ITALY

The Italian Ministry of Foreign Trade has confirmed a previous authorization to import from the USSR frozen shark meat not to exceed 250 million Italian Lire (about US\$400,000) by June 30, 1967 ("La Pesca Italiana," March 9, 1967.)

* * *

CANCELS ALASKA MEETING WITH U. S.

On April 4, Coast Guard Headquarters in Alaska announced that Evgenii Gromov, Commander of the Soviet fleet fishing off Alaska, had requested a meeting with the Coast Guard and the Bureau of Commercial Fisheries to discuss the February 1967 Agreement relating to the U.S. 12-mile fishery zone. The Coast Guard's press release stated that the two U.S. agencies had agreed to the meeting, that it probably would take place near Kodiak Island, and that officials of the State of Alaska had been invited to participate.

On April 9, however, the captain of the Soviet shrimp cannery "Vasilii Putintsev" transmitted the following message to the Coast Guard: "Commander Gromov excuses himself

USSR (Contd.):

and regrets that he cannot participate in the meeting at this time." The reason given was "circumstances." (Coast Guard, April 7, 1967.)

Norway

FISHERY EXPORTS TO EAST BLOC DROPPED 20%

In 1966, Norwegian exports to East-Bloc countries of fishery products other than fish meal and oil were worth Kr. 62.3 million (US\$8.7 million). That was a drop of 20 percent from 1965. They amounted to 5.9 percent of total fish exports in 1966, compared with 7.8 percent in 1965. Only Czechoslovakia and Hungary increased their purchases in 1966; sales to the Soviet Union, Poland, East Germany, Bulgaria, and Romania declined.

Table 1 - Va (Exclu			oc of Fishery , 1965-1966			
Country	19	066	1965			
USSR Poland Czechoslovakia East Germany Bulgaria Romania	Kr.1,000 26,753 33 24,454 7,249 3,077	US\$1,000 3,745 5 3,424 1,015 431 - 101	Kr. 1,000 35,600 1,127 22,798 14,479 1,263 1,257 1,240	US\$1,000 4,984 158 3,192 2,027 177 176 174		
Total	62,286	8,721	77,764	10,888		

Fish Meal Exports Fell

Norway's exports of fish meal to East-Bloc countries fell from 31,472 metric tons in 1965 to 23,832 tons in 1966--from 12 percent to 9 percent of total fish meal exports. Czechoslovakia, Hungary, and Cuba did not buy any during 1966, while sales to East

Germany declined; only Poland purchased more in 1966 than in 1965. (U. S. Embassy, Oslo, April 7, 1967.)

* * *

PRODUCTION OF MARINE OILS WAS UP IN 1966

Norwegian production of fish-body oil totaled 227,000 metric tons in 1966, up 36 percent from 1965. This was due to much heavier landings of mackerel and winter herring. However, output of whale oil and sperm oil declined sharply to 22,280 tons. As a result, 1966 production of marine oils was an increase of only about 20 percent above 1965.

Norway's supply of crude whale and fish body oil in 1966 included 57,906 tons on hand at the beginning of the year, and 17,697 tons imported during the year--a total supply of 319,336 tons.

Table 1 - Norwegian Proc 1965-1966 and 1			,
Commodity	Forecast 1967	1966	1965
Fish-liver oils		12,000 227,000	1 11,500
Total fish-body and fish-liver oils	212,000	239,000	178,500
Seal oil	3,000	4, 100	2,700
Sperm oil: Antarctic	4,000 170	5,271 276	9,869
Total sperm oil	4, 170	5,547	10,046
Whale oil: Antarctic	13,523 400	16, 384 349	29, 877
Total whale oil	13,923	16,733	30,5
Total marine oils	233,093	265, 380	221,7

Of that total, 89,831 tons were exported, and an estimated 165,742 tons were processes by the domestic hardening industry. This left stocks on hand at the end of 1966 of 63,763

Landers with a lane	Table	2 - Exports of Fis	h Meal to the East	Bloc, 1965-1966	Extrat bears				
Country	Qua	antity	Value						
Country	1966	1965	196	66	196	55			
	(Metric	Tons)	Kr. 1,000	US\$1,000	Kr. 1,000	US\$1,000			
Poland	13,992	6, 115	18, 341	2,568	7,847	1,099			
Czechoslovakia	-	8, 147	-		11,950	1,673			
East Germany	9,840	13,054	13, 134	1,839	18,063	2,529			
Hungary	-	2, 156		-	2,946	412			
Cuba	-	2,000	-	-	2,890	405			
Total	23,832	31,472	31,475	4,407	43,696	6, 118			

Vorway (Contd.):

Table 2 - Norwegian Crude Wh Supply and Disposition		ody Oils
	1966	1965
	(Metric	Tons)
pply: Opening stocks, January 1	57,906	85,214
Production: Whale oil	16,733 227,000	30,531 167,000
Total	243,733	197,531
Imports: Whale oil	2,952 14,745	10,737
Total	17,697	10,741
Total supply	319, 336	293,486
isposition: Exports: Whale oil Fish-body oil	8,990 80,841	13, 329 32, 960
Total	89,831	46,289
rocessed by hardening industry $\frac{1}{2}$. adding stocks, December 31	165,742 63,763	189, 291 57, 906
Total disposition	319, 336	293,486

Arrived at by deducting ending stocks and exports from "Total Supply." burces: Norwegian Central Bureau of Statistics, Oslo, and The International Association of Whaling Companies, Sandefjord.

ons. The United Kingdom is the leading maret for Norwegian marine oil. (U. S. Embasy, Oslo, April 14, 1967.)

* * *

TEREST IN FISH PROTEIN ONCENTRATE GROWS

Under Secretary Fjaervoll of the Norweian Ministry of Fisheries said in a newsper interview on April 18 that herring proin concentrate for human consumption would the primary concern of a special committee to be set up by the Norwegian Export Counil. The committee will organize the export high-protein fish products and maintain lose contact with the Ministry of Fisheries.

The Norwegian interest in fish protein conentrate (FPC) reportedly is related to approvby the U. S. Food and Drug Administration FPC made from whole hake.

Norway has developed and publicized a fish aste as a low-cost food. However, it contins only 11 percent protein; its water content is 50-60 percent. (U. S. Embassy, Oslo, pril 26, 1967.)

Denmark

EXPORTS OF FISHERY PRODUCTS TO U. S. ROSE CONSIDERABLY

Danish exports of edible fishery products to the U. S. rose substantially in 1966, due mainly to a 46-percent gain in frozen cod fillets and blocks--the bulk of exports there. About half the cod exports were shipped directly from Greenland. Heavier landings of cod in Greenland, and higher prices on the world market early in 1966, stimulated production for export. However, the price for frozen cod blocks in the U. S. declined from about 29 to 22 cents per pound during 1966. The U. S. imported about half of Danish exports of cod fillets. The United Kingdom and Sweden also were important buyers.

		1966		1965			
Commodity	Qty.	Va	lue	Qty.	Value		
	Metric Tons	Kr. 1,000	US\$ 1,000	Metric Tons	Kr. 1,000	US\$ 1,000	
Fresh & Frozen:		ET 207	0.001	10 590	20 221	5 700	
Cod fillets	502	57,387	8,321 523	10,536	39,331	5,703	
Other	971	7,091	1,028		10,398	1,506	
Total fresh & frozen	16,845	68,082	9,872	12,594	53,835	7,806	
Canned	835	5,425	787	817	5,049	732	
Semipreserved	57	540	78		421	61	
Salted & smoked	13	66	9	54	228	33	
Total edible	17 750	74 113	10.746	13.502	59,533	8.632	

1	try, 1966	
Country	1966	1965
	(Metric	Tons)
United States	15,372	1 10,536
United Kingdom	1 10 10 1	6, 189
Sweden		3,709
Switzerland	1,848	1,887
Italy	4 000	1, 120
Other countries		4, 139
Total	30,855	27,580

Among other principal fishery exports to the U.S., pond trout and canned shrimp were down, while canned herring increased slightly.

Exports of industrial fishery products to the U. S., which consist principally of fish solubles, amounted to 541 metric tons in 1966 and 600 tons in 1965. (U. S. Embassy, Copenhagen, April 12, 1967.)

United Kingdom

1966 LANDINGS REACHED 2 BILLION POUNDS

Landings of fish (excluding shellfish) in England, Wales, and Scotland totaled 2 billion pounds in 1966, a gain of about 2 percent from 1965's 1.96 billion pounds. Cod landings in England rose in 1966, probably as a result of the increased capacity of the long-range freezer-trawler fleet, which concentrates on cod.

Haddock landings declined in both England and Scotland. Herring landings were up substantially in Scotland but down in England.

S		1966		1965			
Species	Quantity	Va	lue	Quantity	Value		
	1,000 Lbs.	L1,000	US\$1,000	1,000 Lbs.	L1,000	US\$1,000	
Cod	614, 203	21,310	59,668	593, 141	21,110	59, 108	
Haddock	122, 465	4,801	13,443	136,675	5,397	15, 112	
Plaice	74,967	5, 125	14, 350	73,941	4,926	13,793	
aithe (coalfish)	79,609	1,322	3,702	81, 899	1,364	3,819	
lake	5,788	780	2, 184	9, 167	1,077	3,016	
Herring	28,697	450	1,260	33,727	621	1,739	
Other fish	185,430	5,426	15, 193	209,992	5,835	16, 338	
Total (excluding shellfish)	1, 111, 159	39,214	109,800	1, 138, 542	40,330	112,925	

1/Preliminary. Source: British Ministry of Agriculture, Fisheries, and Food.

Species		1966		1965			
Species	Quantity	7	/alue	Quantity	Value		
Cod	1,000 Lbs. 102,276 212,946 99,845	11,000 3,748 6,029 2,209	48 10,494 104,024 3,9 29 16,881 234,877 5,4	<u>11,000</u> 3,914 5,451 1,469	US\$1,000 10,959 15,263 4,113		
Herring	223,718 257,897	2,401 4,380	6,723 12,264	182,278 213,286	2,277 4,397	6, 376 12, 312	
Total (excluding shellfish)	896,682	18,767	52,547	823, 360	17,508	49,023	

1/Preliminary.
Source: Department of Agriculture and Fisheries for Scotland.

		1966			1965		
	Quantity	Va	lue	Quantity	Va	lue	
infish products: Groundfish:	1,000 Lbs.	L1,000	US\$1,000	1,000 Lbs.	<u>L1,000</u>	US\$1,000	
fresh	131,040 121,520	7,209 14,025	20, 185 39, 270	121,632 147,840	7, 108 15, 677	19,902 43,896	
Herring: fresh	11,536 4,928 11,424	204 134 769	571 375 2, 153	10, 304 2, 464 11, 200	190 58 720	532 162 2,016	
Canned	137,760 691,264 439,600	28,086 21,221 13,956	78, 641 59, 419 39, 077	154, 336 808, 416 495, 600	34,615 22,572 17,454	96,922 63,202 48,871	
Total fish products	1,549,072	85,604	239, 691	1,751,792	98, 394	275,503	
hellfish: Frozen Fresh Canned Other shellfish products	10,304 4,592 12,320 7,728	3,953 457 4,480 2,299	11,068 1,280 12,544 6,437	9, 184 8, 400 12, 208 4, 928	3, 126 527 4, 311 925	8,753 1,476 12,071 2,590	
Total shellfish products	34,944	11, 189	31, 329	34,720	8,889	24, 890	
Grand total all fishery products	1,584,016	96,793	271,020	1,786,512	107,283	300, 393	

Source: "Fishing News," London, Feb. 24, 1967.

nited Kingdom (Contd.):

et Exvessel Value Record

The 1966 landings of fish and shellfish in the United Kingdom yielded a record exvestable value of £61.4 million (US\$171.9 million). 1965, the value was £60.7 million (\$170 million).

While British landings of frozen cod inreased, imports of frozen groundfish delined noticeably. Imports of canned fish ad fish meal also were down, according to reliminary data.

* * *

ISH MEAL FUTURES ARKET OPENS IN LONDON

A fish meal futures market opened in ondon on April 12 with rules similar to lew York's futures market. Contracts on oth markets are based on delivery of Perulan and Chilean fish meal at Hamburg, Germany. However, the London market allows abstitution of South African or Angolan meal ta reported discount of \$2.80 a ton. Trading units in London are 25 metric tons as gainst 100 metric tons in New York. ("London Financial Times," April 11 and 13, 1967.)

The London Exchange closing prices (in S. dollar equivalents) on opening day and month later are shown below:

Delivery	Bidding Dates			
Period	May 15, 1967	April 12, 1967		
	(US\$ a l	Metric Ton)		
Sept. 1967	140.80	148.40		
Nov. 1967	143.00	149.50		
in. 1968	145.00	150.90		
Mar. 1968	145.30	152.30		

* * *

NNUAL REPORT ON FISHERIES ESEARCH ISSUED

"Annual Report of the Director of Fishery esearch, 1966" has been issued by the Brith Ministry of Agriculture, Fisheries, and bod. It describes work on bottomfish poputions, pelagic fisheries, fish behavior and sh physiology, fish cultivation, shellfish

studies, gear research, and pollution problems. It also describes British research facilities, which include the Fisheries Laboratory, Lowestoft; the Radiobiological Laboratory, Lowestoft; the Fisheries Laboratory, Burnham-on-Crouch; and the Fisheries Experiment Station, Conway.

A particularly interesting section describes work on bottomfish stock assessment. The annual British summary of groundfish resources is based on it. The latest British "Fish Stock Record" showed that in 1965 the cod, haddock, and plaice stocks of the North Sea contained outstanding year-classes. It was anticipated that catches in those fisheries would remain relatively high for a year or two. The distant-water forecasts were: (1) the northeast Arctic stocks might begin to recover following a period of depletion that was sufficient to divert fishing effort to other areas; (2) the Newfoundland cod stock is strong and, at Labrador, the fishery is expanding; and (3) at West Greenland, the prospects are clouded because of unexpectedly heavy destruction of young cod.



Italy

MAY HELP DEVELOP AUSTRALIAN INDUSTRY

A "multi-million dollar cooperation scheme" to develop the Australian fishing industry into a minor export earner was disclosed by an Italian trade mission after talks with the Commonwealth Government in mid-February 1967. The scheme proposes a joint venture of private Italian and Australian capital and, hopefully, Government investment, to build a fleet, develop canning and freezing facilities, and supply machinery.

The first step is to develop an industry to supply the local market, which imports over A\$40 million (US\$44.8 million) worth of fish a year, and to export fish to Italy, one of the world's biggest buyers. This project could supply considerably more than A\$10 million (US\$11.2 million) worth of fish a year. ("The Australian," Feb. 21, 1967.)

* * *

TUNA PACKERS SEEK JAPANESE SUPPORT

The Italian Tuna Packers Association reportedly asked the Japanese Frozen Tuna



Portugese fishermen pulling in their nets. (Photo: USIA/National Archives.)

taly (Contd.):

Producers Association to help finance a pronotion campaign to overcome depressed sales resulting from removal of meatlessfriday restriction by the Roman Catholic hurch. The Japanese said they were willing o cooperate but that other suppliers of tuna to Italy should also participate.

In 1964, Italy first sought Japanese support or its promotion program. ("Nihon Suisan Shimbun," April 3, 1967; "Suisan Tsushin," March 29, 1967.)



Portugal

1966 CANNED FISH PACK DROPPED 18%

The Portuguese pack of canned fish in oil or sauce in 1966 was down 18 percent on a weight basis from 1965. Excepting anchovy illets, the packs of all leading items dropped, noluding the important sardine pack. ('Conservas de Peixe," February 1967.)

Product	19	66	1965		
o oil or sauce:	Metric Tons	1,000 <u>Cases</u>	Metric Tons	1,000 Cases	
Sardines	52,386	2,757	56, 147	2,955	
Mackerel	1, 198 6, 438	257	2,330 13,055	122 522	
Tuna & tunalike Anchovy fillets	4, 117 4, 859	137 486	7,253	242 422	
Others	947	50	1,838	96	
Total	69,945	3,750	84,855	4,359	

* * *

966 CANNED FISH EXPORTS ECLINED 9%

Portugal's exports of canned fish in oil or sauce in 1966 were down about 9 percent from 1965, due mainly to lower shipments of sarines.

Product	19	66	1965		
	Metric Tons	1,000 Cases	Metric Tons	1,000 Cases	
oil or sauce: Sardines Chinchards	55,778 869	2,935	61, 383 2, 667	3,230 140	
Mackerel Tuna & tunalike Anchovy fillets	10,096 2,833 4,375	404 94 438	10,310 3,456 3,654	412 115 365	
Others	817 74,768	3,960	794	4, 304	

Her principal canned fish buyers were: Italy, 12,669 metric tons; Germany, 10,632 tons; the United Kingdom, 9,484 tons; France, 7,494 tons; U. S., 6,390 tons; and Belgium-Luxembourg, 5,283 tons. Germany's purchases of canned fish were down 43 percent from 1965. ("Conservas de Peixe," February 1967.)



Poland

1966 REPORT ON FISH MEAL PRODUCTION AND IMPORTS

In 1966, Poland's available supply of fish meal was 82,000 metric tons, or about 10 percent above 1965. However, domestic output of fish meal is still low--only 14,800 tons were produced in 1966, mostly aboard fishing vessels on the high seas.

Production and Impo	orts of Fish l	Meal, 1965	-1966
The state of the s	1966	1965	Percentage Increase
	(Metri	c Tons)	<u>%</u>
Domestic production: Aboard vessels	10, 122 4, 678	7,175 4,925	41.1 5.0
Total domestic	14,800	12,100	22.3
Imports	67, 162	62,870	6.8
Total supply	81,962	74,970	9.3

Seeks Increased Production

Poland is making a great effort to increase the production of fish meal from raw inedible fish, or from fish offal, aboard stern factory trawlers. In 1966, they were quite successful. This type of fish-meal production increased by 41 percent, although it represented only one-eighth of the year's fish-meal needs. It is going to increase further.

In early 1967, the first processing mothership, "Gryf Pomorski," was added to the fleet. It is a shelterdeck vessel of 13,000 gross tons, with crew of 260, equipped with 2 fish and offal reduction plants-each can handle daily 50 metric tons of raw material. Also, the 5-Year Plan (1966-1970) provides for construction of 16 large stern factory trawlers (each about 3,000 gross tons) equipped with fish-meal reduction plants.

The need for fish meal is expected to grow considerably in the next few years,

Poland (Contd.):

and it will take time before increased production will satisfy it.

In 1966, Poland's fish meal imports increased even faster (about 4,300 metric tons) than domestic ouput (only 2,700 tons). It is believed, however, that in the long run this trend will be reversed, if for no other reason than to conserve vitally needed hard foreign currencies.



Romania

JOINS EAST EUROPEAN FISHERIES AGREEMENT

On February 28, Romania officially adhered to the Agreement on Cooperation in High-Seas Fisheries concluded between the Soviet Union, Poland, and East Germany, and signed in Warsaw on July 28, 1962. (U. S. Embassy, Bucharest, Mar. 24, 1967.)

The Agreement, administered by a Joint Mixed Commission, stipulates close collaboration among the signatory powers in fishery research, fisheries technology, and development of joint high-seas operations. The Commission reportedly also forecasts fishery stocks in the Northwest Atlantic and coordinates fishery research there.

Actually, the Romanians have been participating in activities of the group since 1965.

New Book Surveys Small and Medium Vessels

A book devoted mainly to vessels of 100 tons and under has been published by Fishing News (Books) Ltd., 110 Fleet St., London,

E. C. 4, England. Entitled "Fishing Boats of the World: 3," it was produced under an arrangement with the Food and Agriculture Organization (FAO). Price: \$23.50 to U. S. residents, including postage.

The book resulted from FAO Fishing Boat Congress held in Gothenburg, Sweden, in October 1965. It has 6 sections: (1) the social and economic factors in boat building; (2) performance of various vessels; (3) materials used in construction; (4) engineering; (5) design of small vessels; and (6) recent developments and new trends.

The performance section includes a statistical analysis of resistance data for medium fishing craft. It also discusses how computers can be used when designing fishing vessels of low resistance and good stability.

The section on materials reviews construction with wood, aluminum, plastic, and fiberglass-reinforced plastic. It compares plastic and conventional materials.

Engineering problems discussed in the fourth section are related to engine location, engine types, deck machinery, and refrigeration equipment.

The final section discusses new craft for stern trawlers, tuna vessels, and combination vessels.

Two earlier volumes in this series were also published by Fishing News (Books) Ltd., London, under an arrangement with FAO: "Fishing Boats of the World" (1955), Price: \$21.50. This contained a great deal of basic information on fishing vessel design and operation; and "Fishing Boats of the World: 2" (1960), Price: \$22.50, which gave detailed attention to tactics in fishing, vessel construction, sea behavior of vessels, and productivity. All three volumes were the outcome of FAO Fishing Boat Congresses. The editor of all three is Jan-Olof Traung, Chief, Fishing Vessel Section, FAO Department of Fisheries, Rome.



ASIA

Japan

ADOPTS FISHERIES "WHITE PAPER"

The Japanese Cabinet, at its April 4 meeting, adopted the "1966 Annual Report on Fishery Trends" for submission to the Diet. Called the "Fisheries White Paper," the report describes the supply, demand, and prices of fishery products, as well as production, management, employment, and financial trends in the fisheries, primarily for 1965.

Highlights of the 1966 annual report:

1. Supply, demand, and prices of fishery products

Consumption of processed products is increasing, and consumer preference leans toward higher-priced fresh and processed products. Domestic supply of fishery products is becoming increasingly inadequate and, to meet growing demand, production must be increased. Both exports and imports of fishery products in 1965 reached new highs: 119 billion yen (US\$330.6 million) in exports, and 37.4 billion yen (\$103.9 million) in imports. (Note: 1964 exports totaled \$311 million and imports \$89.7 million.) Canned salmon and pearls primarily accounted for the export gains, purchases of shrimp and fish meal contributed to the increase in imports. Fish prices rose both in distribution and consumer areas; the rate of ncrease was higher in consumer area due to cising transportation costs and growing demand.

2. Production trends

Fishery production in 1965 was 6.91 million metric tons (excluding whales) worth 556.2 billion yen (US\$1,545 million). This was an increase of 8.8 percent in quantity and 11.8 percent in value over 1964. Good catches of bottomfish and bulk fish (such as squid, saury, and mackerel) in 1965 raised production above 1962's high of 6.86 million tons. Longline tuna production in 1965 totaled 498,000 tons, compared with 507,000 tons in 1964; salmon accounted for 115,000 tons, a 22.3-percent increase over 1964.

Annual income of fishery households in coastal fisheries averaged 790,000 yen (\$2,194) in 1965, slightly less than in 1964.

Average annual income of fishery households with 3- to 5-gross-ton vessels was 864,000 yen (\$2,400) in 1965, surpassing income level of city laborers.

3. Management and employment trends

The number of fishery managements on January 1, 1966, was 224,000 units, a 2.2-percent decline from a year earlier.

The number of people engaged in the fisheries, which is decreasing annually, totaled 612,000 in 1965. In the coastal fisheries, over half the fishermen were over 40; the average age is increasing. To retain younger people, better working conditions aboard vessels and higher pay are necessary.

4. Financial loans to fisheries

All commercial and government loans to the fishing industry at end of fiscal year March 31, 1966, totaled 434.5 billion yen (\$1,207 million), down 10 percent from the preceding fiscal year. The rate of increase in loans was the lowest in five years. This was due particularly to a decline in investments by medium and small fishery operators, who began withholding investments in 1963-64, a recession. ("Suisan Keizai Shimbun," April 5; "Shin Suisan Shimbun Sokuho," April 5, 1967.)

* * *

INCREASES FISHERY PRODUCTS EXPORT TARGETS FOR FY 1967

The Japanese Government held a meeting on April 10 and 11 of the Agricultural and Fishery Products Export Council (government

Fi	FY 196 resh and	7 Export Frozen	Targets Fishery	for Products		
Product	196 Tar Qty.	get	Actual Qty.			1966 entage Value
Tuna Swordfish Rainbow trout Shrimp Molluscs Others	Metric Tons 200,000 7,000 2,200 2,500 9,000 80,000	US\$ 1,000 62,000 5,200 2,200 5,000 2,700 24,000	2,052 2,460	1,910	105.3 107.2 101.6 100.0	92.5 115.2 98.1 105.8
Total	300,700	101,100	248,135	112,274	121.1	90.0

bed (a)			ert Targets ery Produc			
Product	19 Tar		1966 Actual Ex	1967/1966 Percentage		
	Qty.	Value	Qty.	Value	Qty.	Value
e ancie	Cases	US\$ 1,000	Cases	US\$ 1,000	<u>%</u>	<u>%</u>
Tuna Salmon. Crab Sardines Saury Mackerel Others.	5,500,000 1,032,500 334,000 220,000 700,000 700,000 4,810,000	48,880 36,554 8,978 1,644 4,550 4,275 28,280	W 4 W W W W	44,721 42,751 9,877 1,211 3,348 4,567 28,955	86.1 94.9 127.2 129.4 98.6	85.5 90.9 135.7 136.0 93.6
Total.	13,296,500	133,161	12,662,632	135,430	105.0	99.1

and industry members) to set fiscal year 1967 (April 1967-March 1968) export targets for canned and frozen agricultural and fishery products. The export targets for fishery products, which will be submitted for approval to the Supreme Export Council (headed by Prime Minister) total 300,700 metric tons of fresh and frozen fish valued at US\$101,100,000, and 13,296,500 cases of canned fishery products worth \$133,161,000. ("Suisan Tsushin" and "Suisan Keizai Shimbun," April 13, 1967; "Kanzume Nippo," April 14, 1967.)

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REPORT ON MEAL AND OIL

The demand for oilseed meals, especially soybean meal, continued to increase in 1966. The reasons were increasing poultry and livestock feed requirements, and decreased imports and domestic production of fish meal. This year, the production of oils from domestic oilseed crops and from whaling is expected to decline further.

On the other hand, oil requirements are expected to continue increasing. In view of the expected increase in feed protein requirements being generated by the developing poultry and livestock industries, the demand for oilseed cake and meal is expected to continue the upward trend of recent years.

The use of fish meal, mostly for feed, in 1966 declined to 427,000 metric tons, 7 percent below 1965. Production dropped to 347,000 metric tons, but imports declined to 96,000 metric tons, or by 15 percent from 1965. Imported fish meal is under the import allocation system, and programs are de-

cided for each half of the fiscal year after discussion between the government's Livestock Bureau and Fisheries Agency and interested groups, such as Feed Manufacturers Association and Aquatic Oil Association.

Why Imports Declined

Reasons for decreased imports in 1966 were: (1) Higher world prices at the beginning of 1966; (2) increased use of methionine as additive to oilseed meal, which reduced the need of animal protein in mixed feed manufacturing. If prices of oilseed meal remain relatively lower than fish meal this year, it is expected that imports of fish meal will decline still further.

Total production of marine oil in 1966 declined 37 percent: fish oil, whale oil, and fish liver oil dropped 4,000 metric tons, 45,000, and 700, respectively. Early in April 1967, 3 major whaling firms reportedly had contracted with Unilever of the Netherlands to sell all of 34,000 metric tons of whale oil scheduled for export at £60 (US\$168) c.i.f. per long ton, or about £30 (\$84) lower than 1965's price. This would be the second lowest export price in the whaling industry's history. Reasons for this sharp price decline reportedly are: increased world production of fish oil, especially by Peru and Norway, and disappearance of many fats and oils enterprises in Western Europe, leaving only one major ready buyer. Domestic consumption of whale oil in processed food also has been declining.

Consumption of margarine and shortenings has been increasing rapidly because of improvement in quality and a rather tight supply of butter. To improve quality, manufacturers have increased the vegetable oils content and decreased percentage of animal fats and oils. The use of soybean oil, which has been rather small, appears to be increasing at a substantial rate. (Agricultural Attaché, U. S. Embassy, Tokyo, April 17, 1967.)

* * *

ARTICLE DISCUSSES 1967 OUTLOOK FOR EXPORT OF CANNED FISHERY PRODUCTS

Japan's export of canned tuna (white meat) in 1967 depends entirely upon production writes the Vice Chief, Fisheries Department

Mitsubishi Trading Company, appearing in The Canners Journal" of January 1967. Sales will not be easy because the cost of white meat is high due to a shortage of raw fish and narrow market for canned light meat. It will be necessary, therefore, for both producers and trading firms to promote sales because of the importance of canned tuna in the total exports of canned goods.

The article discusses prospects to attain the export target for fiscal year 1967; outlook or export by months of major commodities: anned tuna, salmon, crab meat, sardine, torse mackerel, saury, mackerel, and shell-lish (mainly oysters and baby clams). It also contains two tables showing actual exports or April-September 1966 and the forecast or the October-March period.

A loan copy of this report, translated by he U. S. Embassy, Tokyo, is available only of firms in the United States. To borrow Outlook for Export of Canned Fishery Prodects for 1967," dated January 1967, write to Branch of Foreign Fisheries, BCF, Room 015, U. S. Department of the Interior, Washagton, D. C. 20240.

* * *

ISHING VESSEL CONSTRUCTION OSE IN 1966

Vessel construction licensed by the Japanse Fisheries Agency during April-December 66 was 807 fishing vessels totaling 117,753 ross tons, up 35 percent in number and 85 ercent in gross tonnage over the 1965 perd. The sharp increase in tonnage was due timarily to the construction of many distantater trawlers.

Tuna vessel construction licensed in the 66 period rose sharply too--surpassing 65 figures by 85 percent in number and 117 ercent in tonnage. However, construction of teel tuna vessels in 1965 had declined mark-dly from 1964. On the whole, vessel contruction in FY 1966 (ending March 1967) was spected to reach about 1,100 vessels of 40,000 gross tons, which would exceed the revious 5-year average of 1,038 vessels of 26,000 gross tons. ("Suisan Shuho.")

SUMMER ALBACORE SEASON STARTS SLOWLY

The Japanese summer albacore fishery was off to a slow start because pole-and-line vessels operating in the central-west Pacific continued to have good skipjack fishing and only a few vessels had begun scouting for albacore. A good albacore run was expected to develop from mid-April until June.

The Fisheries Research Institute, Tokai University (Shimizu), in its first summer forecast for 1967, has predicted a good albacore tuna season in Japan. It pointed to the development of oceanographic conditions closely resembling those of 1965, a year of excellent catches. (Japanese summer albacore landings in 1965 totaled about 42,000 metric tons; in 1964, 24,000 tons; in 1966, 18,000 tons.)

The first 1967 summer albacore landings (about 60 metric tons) were unloaded at Yaizu and Shimizu and sold to local canneries at 150-160 yen a kilogram (US\$378-403 a short ton). ("Suisan Keizai Shimbun," April 11, 1967; "Suisan Tsushin," April 12, 1967.)

* * *

TO INCREASE PACK OF CANNED TUNA IN OIL

Japanese tuna packers, anticipating a good summer albacore season, plan to increase production of canned tuna in oil for the domestic market. They foresee a drop in albacore prices to where it would be sufficiently profitable to pack albacore in oil for domestic sale.

As in 1966, a promotion campaign to increase domestic demand for albacore and to help stabilize tuna prices is being conducted by the Japan Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN). ("Kansume Nippo," Apr. 15, 1967.)

* * *

EXPORTERS' AGREEMENT REACHED FOR CANNED TUNA IN BRINE

Following months of negotiations with the Tuna Packers Association, the Japan Canned Foods Exporters Association adopted on March 24 the new Exporters Agreement

governing exports of canned tuna in brine to the U.S. for business year 1967 (April 1967-March 1968).

The new agreement provides for an export quota of 3 million cases for BY 1967: 2.9 million cases will be allocated to exporters on past performance and 100,000 cases were unassigned. ("Suisan Tsushin," March 25, 1967.)

* * *

GOVERNMENT APPROVES TUNA EXPORT QUOTAS FOR OVERSEAS BASES

The Japanese Fisheries Agency approved for fiscal year 1967 (April 1967-March 1968) an export quota of 48,000 short tons for the 5 overseas tuna bases operated by fishing firms.

Overseas Base	Firm	Export Quota
		Short Tons
Samoa, American	Chuo Gyogyo Kosha	9,000
	Nippon Reizo	6,000
	Nichiro	6,000
	Kanagawa Prefectural Tuna Fishery Cooperative	4,000
Espiritu Santo (New Hebrides)	Taihei Suisan	6,000
Fiji Islands	South Pacific Fishery Cooperative Assoc.	9,000
Penang (Malaysia)	Overseas Fisheries Cooperative Assoc.	6,000
St. Martin Is. (Netherlands Antilles, West Indies)	Nippon Reizo	2,000

("Nihon Suisan Shimbun," April 5, 1967.)

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WHALE OIL PRICE DROPS

Japan's "big three" fisheries companies reportedly concluded a joint contract to export about 34,000 metric tons of whale oil to a Dutch firm.

The commitment was made for about US\$166 c.i.f. per metric ton, considerably lower than they offered last year in European markets, and the lowest export price since 1962. The 1966 price was \$258 per ton.

Dutch Firm Reportedly Cornered Market

The bargain price was due to last year's sharp increase in fish oil production and the lack of buying interest by European oil and fat firms in Japanese whale oil.

The Dutch firm reportedly cornered the Japanese oil--beating down the 3 firms selling offer to the low price.

The slump in whale oil prices will be a heavy blow to the Japanese firms because the annual whale catchhas fallen to one-third that of several years ago. ("The Yomiuri," Mar. 28, 1967.)

* * *

FROZEN TUNA EXPORT PRICES DROP

Prices of frozen tuna and loins for direct export to the U. S. and Canada in March 1967 declined for all species, according to the Japan Frozen Tuna Producers Association. Export prices (c.i.f.) especially for albacore loins declined sharply--almost \$300 a short ton--from a high of \$1,150 a ton in early March to a low of \$829 at month's end. Price ranges for about 4,000 tons of frozen tuna and loins exported to U. S.-Canada during March 1967 were:

	C	March 196	
Kind of Tuna	High	Low	Average
		(US\$/Short	Ton)
Albacore, round	450	420	446.60
Yellowfin, g. &g	425	380	401.66
Albacore loins		829	912.33
Yellowfin loins	790	710	772.54

California fishermen were making good yellowfin tuna catches and Italian tuna packers were not buying, so Japanese frozen tuna export prices continued to decline in early April. Several trading firms have recently sold gilled-and-gutted yellowfin to U. S. buyers at US\$375 a short ton. c.i.f. Albacore tuna prices for direct exports to the U. S. have dropped below \$380 a short ton f.o.b.

Japanese tuna industry circles are very pessimistic about the present export market situation--particularly because major frozen tuna producers are said to be carrying large quantities of unsold tuna in their cold storages. ("Suisancho Nippo," April 6, 1967; "Suisan Tsushin," April 12 & 17.)

* * *

CONCERNED OVER EXPANDING S. KOREAL AND FORMOSAN TUNA FISHERIES

The expansion of S. Korean and Formosar fishing fleets in the Pacific, Atlantic, and Indian Ocean in recent years, already

outnumbering the Japanese vessels in some fishing grounds, is causing great concern within the Japanese tuna industry. Some inustry members fear a sharp decline in tuna rices on the international market once S. Korea and Formosa, whose fishermen now deliver catches to Japanese trading firms, bein handling their own exports. These inustry members are urging Japan to develop measures immediately for this eventuality. They say Japanese tuna producers are restricted as to landings and transshipment of catches. Moreover, they must reduce vessel operating costs to compete successfully abroad. But the S. Koreans and Formosans face no such restrictions, and their substantially lower labor costs enable them to sell catches at lower prices. ("Katsuo-maguro Tsushin," March 27, 1967.)

* * *

SALMON FISHERMEN TO CANCEL JOB CONTRACTS WITH S. KOREAN FIRM

The 21 Japanese salmon fishermen recruited by a South Korean salmon fishing firm will be able to cancel their contracts formally. Their employment was barred by the Japanese Government.

They had received a total of about 3 milion yen (US\$8,333) as advance pay, spent most of it and so were unable to cancel their contracts. But it was reported that sufficient money to pay back this amount had been raised for them by Japanese salmon organizations. "Suisan Tsushin," March 24, 1967.)

* * *

FIRM AGAIN WILL FISH ARCTIC SALMON

The Japanese Government is expected to license only one firm (Hoko Suisan) for the 1967 experimental salmon fishing in the Chukthi Sea north of 66° N. latitude. Over 10 other firms applied for fishing licenses, but the Soviet warning at the Japan-USSR fishery legotiations in Tokyo early this year makes it almost certain that Japan will not authorize more than one firm.

In 1966, Hoko Suisan initiated the Arctic operations. It sent the "Dairin Maru No. 8" 204 gross tons) to the Chukchi Sea, where about 85 metric tons of chum salmon were

caught. But this year the firm plans to use a 300-ton vessel. ("Suisan Tsushin, Apr. 14, 1967.)

* * *

LARGE STERN TRAWLER TO EXPLORE OFF U. S. EAST COAST

The Japan Overseas Trawlers Association, which since 1966 has been developing plans to explore the northwest Atlantic fishing grounds, has selected the 2,500-gross-ton trawler "Kaimon Maru" for the survey. The trawler, owned by Nihon Suisan and operating off Las Palmas, was scheduled to depart for the northwest Atlantic around April 20 on a 90-day trip. Its objective was to survey the waters off the U. S. east coast from Florida northward to around 42° N. latitude (off Massachusetts).

That area was explored recently by the 300-ton trawler "Taiyo Maru No. 32" without success. The vessel ended test operations on March 17. ("Shin Suisan Shimbun Sokuho," April 8, 1967.)

* * *

SURVEY TEAM RETURNS FROM PERU AND MEXICO

The Japanese fishery specialists sent to Peru in early February 1967, and later to Mexico, by the Japan Fishery Resources Conservation Association to investigate fishery conditions, completed their surveys and returned in mid-March.

They found Peru highly interested in developing her abundant fishery resources and eager for Japanese technical assistance and study. Since Peruvians do not eat much fish, the survey team noted the need to develop techniques for processing fish into acceptable forms. It also emphasized the need for capital investment compatible with Peru's national interests and aimed only at long-term gains. ("Suisan Tsushin," March 25, 1967.)

* * *

TUNA LONG-LINE REEL NEEDS TO BE IMPROVED

The Japanese Government-operated research vessel "Shoyo Maru" (604 gross tons) returned March 26 after a 5-month tuna survey



Japanese factory fishing vessel "Tokei Maru" processing king crab for food. (Photo: U. S. Coast Guard)

cruise to the Atlantic and Pacific Oceans. It tested the new long-line reeling device. Due to operational defects, the gear was found to need further research before it could be used commercially. The Shoyo Maru is scheduled to depart around November 1967 to retest the gear. ("Suisancho Nippo," April 7, 1967, and other sources.)

* * *

TAIYO TO FISH TANNER CRAB IN BERING SEA

Taiyo Fishing Co. plans to conduct experimental tanner crab fishing this year in the Bering Sea with the "Banshu Maru No. 5" (3,678 gross tons). The vessel, assigned to the Bering Sea gill-net herring fishery, also will harvest the unutilized tanner crab resource in Bristol Bay and other areas in the Bering Sea.

Production target is 100-150 tons of frozen crab meat. If this operation is successful, Taiyo plans to send a canning factoryship to the Bering Sea for full-scale operations aimed at producing annually 375,000 cases $(48\frac{1}{2}-lb.cans)$ of canned crab meat for export. ("Suisan Keizai Shimbun," April 17, 1967.)

* * *

SETS NORTH PACIFIC WHALE QUOTA

On April 14, the Japanese Government and ounced a whale catch quota of 1,001 blue-whale units for the 16th (1967) North Pacific Whaling expedition, the same as the 1966 quota. The catch limit for fin whales, however, was reduced by 11 percent, to 1,126 whales.

On April 22, the Fisheries Agency licensed the operation of 3 whaling fleets scheduled to participate in the 1967 expedition. Catch targets assigned to the 3 fleets are:

Name of Firm	Whaling Fleet	Catch Quota
	To the North Control of the No	Blue-Whale Units
Kyokuyo Hogei	"Kyokuyo Maru No. 2"	467
Taiyo Gyogyo	"Nisshin Maru"	267
Nihon Suisan	"Tonan Maru"	267

Scheduled fleet departure dates from Japan are: "Nisshin Maru," May 12; "Kyokuyo Maru No. 2," May 13; "Tonan Maru," May 15. "Suisan Tsushin," April 24; "Suisan Keizai Shimbun," April 17, 1967.)

* * *

GOVERNMENT RESEARCH VESSEL LAUNCHED

The Japanese Fisheries Agency's new research vessel "Kaiyo Maru" (3,200 gross tons), largest of its kind in Japan, was launched on April 24 at the Kanasashi Shipyard in Shimizu. It is a stern trawler type designed for deep-water trawling with a complement of 71 and capable of operating under all climatic conditions. The Kaiyo Maru will carry a portable boat with which to operate drift-net, surrounding-net, and long-line gear. Completion is scheduled for September 10, 1967.

Specifications: total length 84.65 meters (262.4 feet); beam, 15 meters (49.2 feet); draft, 9.2 meters (30.2 feet); speed, about 13.5 knots. ("Suisan Keizai Shimbun," May 1, 1967.)



Communist China

BUYS TUNA VESSEL FROM JAPAN

The largest tuna vessel (320 gross tons) in the fishing fleet of Mainland China was purchased from the Japanese early in 1967. Named "Yuan Yu 702," the vessel is 43 meters (141 feet) long and has a 750-hp. diesel main engine capable of developing a maximum speed of 12.5 knots. Cruising speed, however, will be 10.5 knots. A tunnel freezer operated by ammonia compressors has a daily freezing capacity of 6.5 metric tons of fish. The frozen product will be kept in holds refrigerated to -20° C. (-4° F.). ("Fishing News International," April 1967.)



Pakistan

CLAIMS 12-MILE TERRITORIAL WATERS

On December 28, 1966, the President of Pakistan proclaimed the extension of territorial waters to 12 nautical miles from coastal base lines. (U.S. Embassy, January 2, 1967.)

On February 19, 1966, Pakistan had claimed fishing limits of 12 nautical miles from the coastline; the right to establish conservation zones up to 100 nautical miles from outer limits of territorial waters. Also, she claimed the right to regulate fisheries in the zones so established, subject to any international agreement to which she was a party.

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SOUTH PACIFIC

Australia

REPORT ON FISHERY EXPORTS AND IMPORTS, JUNE-DEC. 1966

Australian shrimp exports for July-December 1966--the first half of fiscal year 1966/67 (July-June)--were 1,755,000 pounds worth US\$1,875,000 (433,000 lbs. or 58% above 1965/66 period). This is reported by the "Australian Overseas Trade in Marine Products" of the Fisheries Branch, Commonwealth Department of Primary Industry.

Exports to the U.S. increased sharply--to 154,000 lbs. worth \$189,000, compared to 63,000 lbs. worth \$54,000 in the 1965/66 half-year to December 31. Japan remained Australia's best customer; she imported 1,132,000 lbs. worth \$1,250,000.

Abalone exports also rose in quantity and value. The 1,077,000 lbs. of meat were worth \$551,000, up 73 percent over the 1965 period. Of that amount, canned abalone was worth \$401,000. Malaysia, Singapore, and Japan took the bulk of exports.

Value Down Slightly

Value of marine products exported was \$10,247,000--\$208,000 less than the 1965 period, due mainly to a 30-percent drop in value of spiny lobster tail exports. Lobster tail shipments for the first half-year in 1965/66 were particularly heavy because of a carryover from a year earlier due to shipping difficulties; exports were worth \$3,838,000, compared with \$5,482,000 a year earlier.

Scallop exports dropped by \$24,000 in December but rose by \$25,000 for the 6-month period.

The value of cultured pearl exports for the half-year was \$1,732,000--an increase of \$552,000.

The value of marine products imports dropped slightly. They totaled \$17,562,000, compared to \$17,680,000 for the first 6 months in 1965/66 year.

The value of fish fillet imports in packages of one pound or less jumped 81 percent to \$2,855,000. But imports of similar fish

in packs greater than one pound fell $4\frac{1}{2}$ percent to \$1,972,000. ("Australian Fisheries Newsletter," April 1967.)



New Zealand

SEIZES JAPANESE VESSEL

A New Zealand patrol boat seized a Japanese fishing vessel April 27 charging it was violating territorial waters. The vessel reportedly was fishing beyond the 3-mile sea limit--about 8 miles from the coast. On April 29, the vessel was fined 22 pounds 10 shillings (US\$63) and her catches were confiscated. ("Shin Suisan Shimbun Sokuho," May 2, 1967.)

American Samoa

TUNA PRICES DROP

Japanese tuna suppliers and U. S. packers in American Samoa agreed on tuna delivery prices for April 1967. The new prices are a substantial reduction from March and January 1967 prices. ("Suisan Keizai Shimbun," April 10, 1967.)

The tuna price for January, unsettled since end of 1966, was decided in mid-month. The compromise was a drop of US\$20 for bothal-bacore and yellowfin, and a drop of \$10 for big-eyed.

The prices for April 1967 and previous months were:

	19	67		19	966	
	Apr.	Jan.	Dec.	Nov.	Oct.	Sept.
			(US\$/S	hort To	n)	
Albacore, round:			1	1	1	1
ship-frozen	345	390	410	410	400	390
iced	330	375	395	395	385	375
Yellowfin, gilled						
and gutted:			THE REAL PROPERTY.			
ship-frozen	305	350	370	370	365	355
iced	285	330	350	350	345	335
Big-eyed, gilled						
and gutted:	100				ALC: N	
frozen	205	-	-	-	-	-
iced	195	-	-	-	-	-



AFRICA

South Africa

MORE FISH MEAL
FACTORYSHIPS PLANNED

Within the next year or two, South Africa will have 3 fish meal factoryships in operation. The 31,220-ton dead-weight tanker "Suiderkruis" arrived in Cape Town in February to be converted in $3-3\frac{1}{2}$ months into South Africa's second fish meal factoryship at a cost of US\$1,400,000.

The 671-ft. vessel was bought for \$2,100,000 in 1966. The company's capital is \$5,600,000. A second company with \$2,500,000 will run a fleet of catchers to feed this processing ship and a second to be commissioned later.

The project will benefit from an appraisal of the "Willem Barendsz" operation, which established a successful formula for flotilla fishing on the grand scale. There probably will be significant innovations, including a plan to transship directly into cargo vessels at least some fish meal at sea.

The Suiderkruis will be fed by about 18 catchers of various sizes and types from existing factory stock. Later, the company will build boats designed for the job--with steel or glass reinforced plastic hulls.

Of the 120-person ship's complement about 70 will work in the factory.

It will have 2 fish meal reduction lines with a capacity of 70 tons an hour--10 tons more than the Willem Barendsz.

From the catchers' holds, the fish will be pumped aboard the factoryship by two 12-inch units and will pass to fish pits.

The Barendsz's First Anniversary

On March 1, the first anniversary of her arrival in Table Bay (Cape Town), the 30,000-ton Willem Barendsz was preparing to leave on her 4th trip. It is the world's biggest and South Africa's pioneer fish meal factoryship.

It had spent only 3 weeks in port discharging its cargo of fish meal. This period, the shortest yet, indicates progress in overcoming handling problems that initially had dogged the vessel.

"We have had no problems in bulking or bagging the meal," explained a company spokesman. "The difficulty has been to find a technique which will enable us to discharge rapidly.

"We are trying out different techniques each time the ship comes into port and once we have established which of them will give us the quickest discharge, we will install permanent equipment. Because this venture is the first of its kind, we have no effective precedent to investigate. All the work involved has to be original."

In her first 3 trips, the vessel processed a total of 98,000 tons of fish. While the ship and reduction machinery functioned completely satisfactorily, the 72-ft. wooden seiners have not proved ideal for this type of flotilla fishing. The original fleet of 7 was expanded to 9 after the first trip, and the company is now experimenting with a 110-ft. steel boat, the "Silver Angler."

Good Social Amenities for Fishermen

"In view of the fact that the fishermen have to stay at sea for so long," explained the spokesman, "it is the company's policy to provide good social amenities, both on the catchers and on the mothership. We therefore feel that another type of boat must be developed specially for this project. The Silver Angler has already completed one trip successfully.

"In time, we hope to build a fleet of specialist vessels to our own design which will be based on our operating experience."

Although the company has decided to improve the amenities, no difficulty had been experienced in finding crews. In fact, the good rewards associated with a high catching rate have drawn applications from all over South Africa.

All catchers now are fitted with U.S.-made submersible fish pumps to transfer fish from net to hold. But the fish still are pumped from there to the factoryship by an eight-inch unit mounted on the "floating jetty."

In her first year in South African waters, the Barendsz has spent only 100 days actually working at sea. The other 265 have gone to

South Africa (Contd.):

lengthy conversion and other factors. "It has therefore been a year of expenditure rather than income," commented the spokesman, "and it is difficult to say what the ultimate profitability of the venture will be in a normal full year of operation. However, on results achieved so far, the directors feel confident for 1967." ("The South African Shipping News and Fishing Industry Review," March 1967.)

* * *

ANCHOVY WAS 46% OF 1965/1966 CATCH

The full significance of the anchovy--only recently exploited in South African waters--to the reduction plants is reflected in statistics of the Fisheries Development Corporation of South Africa Limited.

They reveal that while total landing of shoal fish declined by 17 percent--from 536,082 short tons in 1964/65 to 444,276 short tons in 1965/66--the contribution of anchovy towards the total catch increased from 40 to 46 percent. Considering that August and September 1966 were "open" months for catching all types of fish, while during the same period of 1965 catching anchovy only was permitted, the anchovy part of total landings, when compared with pilchard, appears significant.

Pilchard Catch Decreases

The decreasing pilchard catch (in 1964/65 42 percent of total catch and 29 percent in 1965/66) reflects a disappointing commercial development. The anchovy is still regarded as an "industrial" fish. It is not used for direct human consumption, and processing it for this purpose is both time consuming and difficult. Unlike the pilchard, it is not acceptable for immediate canning. As an alternative raw material for fish meal and oil factories, it suffers by comparison with the pilchard on which the local industry was founded. The anchovy returns a lower oil yield, deteriorates more rapidly, and it is relatively more expensive to catch. ("Barclays Trade Review," April 1967.)



South-West Africa

COMMISSION REPORTS ON FISHING INDUSTRY

The 3-man Commission of Inquiry into the Fishing Industry of South-West Africa, appointed by the South-West African Administration, has submitted its report after a 10-month study. It calls for legislation setting up a Fisheries Research Council to replace the existing Fisheries Research Laboratory and to be financed by public and private funds. The Council would assist the industry in applying research findings. Suggested areas of study are the exploitation of anchovy, maasbanker, and white fish. To finance the Council, the Commission proposes supplementary sardine quotas of 6,000 tons per factory (now 90,000 tons each) to be taxed at R 5 (about US\$7) per ton.

The report urges that the 2 huge factory-ships operating off South-West Africa be removed because they are depleting resources while contributing nothing to South-West Africa. The ships are licensed in South Africa and owned by South Africans. If these ships are removed, the report favors the issuance of 2 new licenses for sardine (pilchard) fishing, with quotas of 90,000 tons each. (A license for sardines also is proposed for the struggling white fish industry.) The new licenses would allow use of Walvis Bay only until facilities proposed for Ricky Point, on the North coast, are completed.

Plans for Walvis Bay

The Commission recommends expansion and improvement of the port of Walvis Bay. It proposes construction of a 10,000-foot sea wall 400 feet off shore, and parallel to it, to protect existing and proposed wharves and warehouses. It believes the Administration should provide the necessary R 3 million (about \$4,200,000).

The report, rejecting the suggestion that Walvis Bay have a fish flour plant, says there is no real market for fish flour (also called Fish Protein Concentrate or FPC).

The Commission also recommends that no new licenses for fishing or factories, except for a white fish processing plant, be awarded in Luderitz.

A fast patrol boat should be bought to allow greater surveillance of fishing activities and to help prevent the use of illegal or wasteful fishing practices.

buth-West Africa (Contd.):

ardines Nearly Depleted

The Commission noted several factors dicating sardine population may be on verge depletion. The Director of Sea Fisheries South Africa has reported an absence of ardine ova in many areas off South-West frica and a sharp decrease in spawning. The arge increase in the anchovy population is aid to mean that the sardine population has ropped drastically. Annual sardine catches ff South Africa have dropped from 450,000 ons to 125,000 tons since the quotas for outh-West Africa were raised. (Sardines nigrate southward.)

Despite these factors, the Commission sks for 3 more sardine licenses with quotas of 90,000 tons each. Two licenses would be contingent on the prior departure from South-West Africa of the factoryships. The report recommends removal of tonnage restrictions on sardine vessels and proposes instead that the number of boats in service be limited. It suggests that no new sardine canneries be limited.

The sardine industry is to be used as a support for the white fish industry in 2 ways:

1) research and development geared prinpally to white fish will be paid for by the proposed levies on the extra sardine quotas of 6,000 tons per ship per year; (2) a quota or sardines is to be allowed holders of white ish licenses.

roblems of White Fish Industry

There are 8 licensees in South-West Africa to catch white fish. In 1965, the take was only 11,830 short tons; foreign trawlers off South-West Africa, however, continue to take large quantities. The industry is plagued by a limited local market, high rail and electricity rates, and poor processing and packaging facilities. The Commission proposes that the small companies form a central marketing agency in conjunction with the white fish firms in South Africa.

The report asks that the companies consider merging into one viable entity, either as a new company or through a board com-

posed of all. If the resulting organization agreed to build a white fish processing plant with initial annual production of 20,000 tons and 90,000 tons within three years, the Commission would grant it a lucrative sardine license of 90,000 tons annually to bolster its financial position. This new factory should be situated at Luderitz. Protection from domestic competition would be guaranteed for a reasonable time.

Depletion of Spiny Lobster

Depletion of spiny lobster is a serious threat. The Commission recommends that certain areas be closed earlier in the year than at present, and that special traps allowing small lobster to escape be introduced. Other protective innovations are suggested, including refusal of new licenses. If quotas must be reduced, sardine quotas should replace them. The Commission calls for use of the lobster offal, presently discarded. Only the tails are packaged, and almost all go to the U.S. (U.S. Embassy, Pretoria, April 14, 1967.)



Senegal

SETS TUNA PRICES

The Government of Senegal issued a decree on March 18, 1967, governing the 1966/67 tuna fishing season.

The basic provisions are the same as those for the 1965/1966 season: tuna prices remain at 82.50 francs CFA (\$0.34)/Kg. (\$340 a metric ton) for albacore and 55 francs CFA (\$0.22)/Kg. (\$220 a metric ton) for skipjack.

The French import quota of 11,000 tons of canned tuna from Senegal continues to be allotted among the three canneries. (U.S. Embassy, Dakar, Apr. 22, 1967.)

