

# INTERNATIONAL

## BREAKTHROUGH IN MIDWATER TRAWLING REPORTED AT FAO MEETING

Giant trawl nets half the size of a football field are being used successfully in the North Atlantic fisheries following the breakthrough in midwater-trawling in recent years.

The nets are aimed at the fish through the use of echo sounders, sonar and netsonde. Now FAO is testing the effectiveness of the nets in other parts of the world and for different fish species as part of its fishery development projects in developing countries. The nets already have yielded impressive catches of hake and anchovy in demonstration fishing in Peru and Argentina.

Began in Early 1950s

Commercial midwater trawling dates to the early 1950s. A Danish netmaker invented the Atom trawl, a "pair trawl" towed by two boats. It proved effective for catching herring in the winter when the fish are sluggish. During the next 10 years, attempts at one-boat midwater trawling had limited success, except under particularly favorable conditions.

Giant Net at Low Speed

In those early experiments, attempts were made to tow a small trawl at high speeds, but active fish were difficult to overtake as they escaped around the edges of the net's mouth. A breakthrough came only about 4 years ago, when a different approach was tried: a giant net was towed at very low speed. These nets have a mouth area up to 20,000 sq. ft. They are now used successfully in the West German fishery for herring, cod, coalfish, and redfish in the North Atlantic. This was reported to FAO Technical Conference on Fish Finding, Purse Seining and Aired Trawling, Reykjavik, Iceland, May 24-30.



## ACTIVE TUNA FISHING IN SOUTHERN INDIAN OCEAN

For 5 years, the Japanese trading firm Toshoku, jointly with Daien Reizo, has been buying tuna off the Malagasy Republic's east coast. Supported by a strong export market, business reportedly has been good.

At first, 4 or 5 reefers (7,800 tons each) were used; 5,000 metric tons of tuna were purchased per year. In January 1969, Daien Reizo bought the 'Eijin Maru' (8,000 tons) from Taiyo Gyogyo. Since then, the vessel has been used as a floating cold storage. In 1969, 20,000 tons of tuna were bought.

60 Vessels Fishing

At present, about 60 vessels (Korea 30, Taiwan 20, Okinawa 5 or 6, and Japan 4 or 5) are fishing off east Africa year-round under 2-year contract with Toshoku: albacore off Malagasy, Capetown, and Durban; yellowfin off Monbasa and Colombo.

20,000 Tons in 1969

The 20,000-ton catch in 1969 is reportedly less than in 1968. Catches for 1970 are estimated at 25,000 tons. Since tuna export market is at its highest, forecast is good for purchase of tuna off east Africa and Malagasy.

Off Capetown & Durban

The albacore season off Capetown and Durban will continue until August. Each vessel will take a maximum of 2 to 3 tons per day during the 7- to 16-day fishing trip. It is reported that a catch of 2 tons per day for foreign vessels will pay.

The yellowfin season will begin in September.

Seller's Markets

Informed sources believe supply will not meet the demand because present exports are in a seller's market in U.S. and Italy. Export price is as high as US\$680 a short ton for albacore to the U.S., and \$640 a metric ton for yellowfin to Italy.

About 70% of tuna taken off eastern Africa and Malagasy is being exported through Toshoku to U.S. and Italy. Therefore, Toshoku appears well established. ('Minato Shumbun,' Apr. 7.)



## JAPAN & INDONESIA EXTEND FISHERY AGREEMENT

The private fishery agreement between Japan and Indonesia was extended in Djakarta on May 21. It runs to July 26, 1972. The pact can be extended automatically for another year if requested by Japan and Okinawa.

### Identical Provisions

The new agreement continues the old provisions: (1) Japanese and Okinawan tuna long-line vessel owners, operating out of Ambon Island, will pay Indonesia an annual harbor fee according to vessel size: US\$300 if under 70 gross tons; \$390 if over 70 tons. (2) No more than 250 Japanese and 60 Okinawan vessels are permitted to operate annually. (3) Annual fish catches are not to exceed 15,000 metric tons for Japan, and 4,500 tons for Okinawa; their vessels are to operate in Banda and Ambon Island and other specified areas.

### Speedy Settlement This Year

The speedy settlement is attributed to the agreement on extending monetary credit to Indonesia under Japan's economic assistance program. In 1967, Japan extended credit limit of \$50 million; in 1968, \$110 million; in 1969, \$120 million.

This year, the Indonesians requested \$140 million. Japanese agreed under condition that \$5 million of it would be used to promote Indonesia's fisheries based on extension of bilateral fishery agreement. Then negotiations progressed rapidly. ('Suisan Tsushin', May 23.)



## ICELAND AND SOVIET UNION SIGN TRADE AGREEMENT

The annual trade agreement between Iceland and the USSR was signed at the end of Jan. 1970. The value was US\$8 million at prices slightly higher than before.

Iceland will export to the USSR 13,000 metric tons of frozen fish fillets--9,500 tons will be redfish (ocean perch) and saithe, and 500-1,000 tons Greenland halibut (turbot).

## Export Totals

Iceland also will export 6,000 tons of whole frozen fish and 4,000 tons of frozen herring. Quantities are almost the same as in 1969 except for increase of 2,000 tons of whole frozen fish. ('Atlantica and Iceland Review' June 1970.)



## CUBANS ATTEND PERU'S INTERNATIONAL FISHING FAIR

Cuban fishery officials headed by the director of the National Fishing Institute visited the International Fishing Fair in Lima, Peru, in early April 1970. They were interested primarily in studying Peruvian fish-meal processing techniques and new developments in plastic-hulled fishing vessels.

The Cubans conferred with Peru's Fisheries Minister, and visited El Callao port to watch unloading and processing of fish meal. They also fished for anchovies.

### Cuba's Fish Meal Interest

The Cubans have become interested in fish meal only recently: their production in 1968 was 1,300 metric tons. In 1970, production goal is 20,000 tons; this parallels the rise in fishery catches.

The introduction of plastic-hulled vessels would be new to Cuba's shipbuilding industry.

### Cuba's Efforts Praised

Peru's Fisheries Minister praised Cuban efforts to increase catch from annual 20,000 tons to 170,000 tons.



## GOOD PINK-SALMON CATCHES IN N. PACIFIC

The catch of pink salmon by Japan and the Soviet Union was extremely good in 1969, the highest since 1964. It tends to support Japanese position that stocks have been recovering since 1964.

Species	Japan			U.S.S.R.		
	1967	1968	1969 (Metric tons)	1967	1968	1969
Rockeye	20,493	16,766	15,502	3,018	2,249	1,640
Chum	51,630	42,519	30,171	20,639	13,697	5,867
Hake	64,481	42,787	69,520	50,701	16,253	63,436
Other	4,904	7,039	11,127	4,523	3,992	4,525
TOTAL	141,508	109,111	126,320	78,881	36,191	75,468



## JAPANESE EX-DETAINEES ON SAKHALIN ISLAND DESCRIBE SOVIET TREATMENT

Three Japanese fishermen were released recently from detention on Sakhalin Island for violating Soviet-claimed territorial waters (12 miles off Kuril Islands). They described conditions in work camps to the Liberal Democratic Party newspaper 'Jiyu Shimbun'.

Extremely cold weather and forced labor in quarries made life miserable for all, they said. They had to work outside in temperatures as low as -30° C. (-22° F.), often in snowstorms, until work quotas were filled. Exceptions were persons with "medical certificates." Particularly offensive to the Japanese was that the old fishermen were not excused. Lack of proper heating in rooms made sleep impossible; serious illness was prevalent.

### Some Fishermen Seized Before

One fisherman said he and his vessel had been seized 3 times. Another detainee cited cases of Japanese fishermen seized 5, 8, and 10 times. In past 20 years, 11,000 fishermen and 1,300 vessels have been captured for fishing within 12 miles of some northern islands.

### Seizure Costly

Cost of being seized is high in human and economic terms. A new 30-ton coastal fishing vessel costs 20 million yen (\$555,400); used vessels cost 4-5 million yen (\$111,000-\$188,850). The Soviets have kept over one-third of all vessels seized. They sent those they did not want to North Korea.

### Danger in Seizures

There is much danger in the actual seizure, the fishermen said. Soviet patrol boats fire

flares directly at Japanese vessels to stop them.

The fishermen emphasized that, despite the dangers in fishing those waters, they will continue to do so because they consider the islands part of Japan. They felt their release under amnesty was political.



## LARGE CAPELIN STOCKS REPORTED OFF LABRADOR AND NEWFOUNDLAND

Norwegian fishery scientists report large stocks of capelin off Labrador, Newfoundland, and in the Davis Strait. Research vessels have discovered the capelin widespread and available for a new commercial fishery for fish meal.

### Factoryship May Be Sent

Norwegian vessels are not able to preserve catch adequately for transport to home plants. A new factoryship may be sent to produce fish meal on the grounds. Application has been filed for authority and funds to conduct such an operation, possibly this fall, with mothership and fleet. (U.S. Embassy, Copenhagen, June 12.)



## JAPAN RATIFIES S.E. ATLANTIC FISHERY CONVENTION

On June 22, Japan became the first nation to ratify a convention for preserving resources of the South East Atlantic threatened by overfishing. The convention will become effective 30 days after formal acceptance by 4 states--provided their combined catch amounts to at least 700,000 metric tons.

### 7 Convention Signers

Japan was one of 7 signers of the Convention drawn up in Rome in October 1969 at a meeting of nations that fish off Africa's South West coast. Other signers were Cuba, the Federal Republic of Germany, Italy, Portugal, the Republic of South Africa, and Spain.

FAO called the October 1969 conference after experts found that the South East Atlantic was in danger of being overfished. Main catches there are hake and pilchard.

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## SOVIET-JAPANESE FISHERY NEGOTIATIONS

The 14th annual meeting of USSR-Japanese Northwest Pacific Fisheries Commission, in Moscow, ended on April 30 after 59 days of negotiation. The two agreed on 1970 Pacific salmon catch quotas and on regulating Japanese herring fishery in Okhotsk and Bering Seas. The meeting overlapped crab negotiations.

### Japan's Crab Catch Cut 10%

Japan's 1970 catch quota for all crab species was reduced 10% from 1969. However, sharpest reductions applied to areas off West Kamchatka, where king-crab quota was reduced 15.3% (from 216,000 cases in 1969) and off Cape Oliutorskii (West Bering Sea) where tanner-crab quota was cut 14.5% (from 13 million crabs in 1969). Tanner crab quota also was reduced 10.5% off East Sakhalin (from 19 million crabs in 1969).

### Vessel Number Almost Unchanged

Number of Japanese vessels allowed to fish remains essentially unchanged: 4 king crab and 2 'Ibaragani' crab fleets will operate off West Kamchatka; 42 vessels in West Bering Sea (no more than 21 at one time); 6 vessels off East Sakhalin for blue crab and 39 vessels for tanner crab; 14 vessels in Nijoiwa area; and 37 vessels in "triangle area."

### Soviets Set New Boundaries

Soviets established new fishing ground boundaries: northern limit of 'Ibaragani' crab fishing grounds off West Kamchatka at 56° N. (56.2° N. in 1969), and western limit of tanner crab fishing grounds off Cape Oliutorskii at 168° E.

### Salmon

According to Japanese press, 1970 Japanese catch quota of 90,000 metric tons is lowest since Soviet-Japanese Fisheries Treaty in 1956; it is about 15% below 1969 (105,000 tons).

### Fishing Zones for Japan

The Japanese agreed to 2 "no-fishing zones" off Southeast Kamchatka: in one, salmon fishing was banned between May 15 and June 19. Fishing season in zone A (N. of 45°

N., where Japanese operate high-seas salmon fishery with motherships and catcher vessels) will end Aug. 10, as in 1969.

### Soviet Salmon Catch

Japanese newspapers report Soviets have set their 1970 coastal salmon catch target at 40,000 tons. In 1969, it was 80,000; in 1968, 60,000. Soviets do not catch salmon on high seas. They have cut Japanese mother-ship catch from 54,000 tons in 1960 to 45,000 tons in 1970.

	Japan		USSR	
	Quota	Catch (in metric tons)	Plan	Catch
1970	90,000	n. a.	40,000	n. a.
1969	105,000	109,757	80,000	75,460
1968	93,000	92,012	60,000	36,190

### Negotiations

Japanese salmon catch quota is set each year by negotiations of Soviet-Japanese Fisheries Commission. These usually begin in March and last until April, when Japanese coastal salmon fishery begins. The Japanese are forced to agree to Soviet terms or lose fishing time.

The fishery is divided by treaty into 2 zones: north of 45° N. (Zone A) and south of 45° N. (Zone B). Japanese salmon fishery in the latter is entirely coastal. Negotiations are purely a political exercise without scientific basis, except beginning of talks (usually first 2 weeks) when a joint scientific committee discusses expected salmon run and tries to determine catch quota. In 1970, scientists were so divided on size of run, they were unable to submit joint report to Commission.

### Artificial Salmon Breeding

Japan and USSR have agreed to confer about artificial salmon breeding. Prior to negotiations, Soviets proposed a joint artificial spawning and incubation project to increase salmon resources of North Pacific. According to Japanese, this was revival of a past proposal by them but ignored by Soviets. The project would involve suitable estuaries of Soviet rivers where salmon hatcheries could be built.

The Japanese Fisheries Agency is ready to cooperate fully with project and provide funds for hatcheries, materials, and equipment. Japan will proceed with studies of artificial salmon incubation in rivers of Soviet Far East.

#### Herring

Herring fishing was prohibited off Karagin Island (Bering Sea off North Kamchatka) and in Shelikhov Bay (Northwest Sea of Okhotsk) between May 1 and 15. Number of Japanese herring vessels in those 2 areas will be cut: off Karagin Island to 5 (98 in 1969), and in Shelikhov Bay to 3-5 (67 in 1969). Beginning in 1971, it was agreed to prohibit taking herring smaller than 22 centimeters in fishing grounds north of Hokkaido.

#### Agreement Is Compromise

The herring agreement is a compromise on original Soviet request to: (1) completely ban herring fishery off Karagin Island until resource is restored; (2) ban herring fishery off Kuril Islands, Hokkaido, and in entire Sea of Okhotsk for 3 years beginning in 1970; and (3) close Shelikhov Bay herring fishery at specific periods.

Reportedly, Soviets in 1969 had closed Korfo-Karagin area (North Kamchatka) and Sea of Okhotsk to their herring fleets because of depleted herring resource. Since a further decrease in herring was recorded, they blamed Japanese, who rejected the accusation on grounds that: (1) there is not sufficient scientific evidence for Soviet claim of depleted herring stocks, and (2) Japanese herring fishery was conducted under terms of 1969 agreement. (Japanese press, U.S. Embassy, Tokyo, Apr. 8; TASS, Apr. 30.)



## POLAND BUILDS TRAWLER FOR HIGH-SEAS RESEARCH PROJECT

Poland is building a computerized research trawler in the Gdansk shipyard for an FAO-aided fishery development project. The 300-ton vessel, scheduled for launching in October, is the major Polish contribution to the \$13,395,000 project. FAO is providing the computer and other sophisticated navigational and fish-finding aids at a cost of US\$1.2 million. The project involves the exploitation and conservation of high-seas fishery resources in the tropical mid-Atlantic, and fishery training for developing countries.

#### The Vessel

The 294-foot, 2400-HP diesel-electric single-screw vessel will have computer and laboratory facilities, and accommodations for 45 crew members, 29 scientists, and 11 trainees. She will be able to use 5 types of trawls, including standard cod trawl, high-opening bottom trawl, deep-water and midwater trawls. She will carry two 36-foot workboats for purse seining, bottom set gillnetting, shrimp trawling, and for general use.

Fish-finding equipment will include survey sonar, search-light sonar, three scientific sounders, precision depth recorder, and echo integrators.

#### Computer and Lab

The computer will be interfaced with sophisticated navigational aids. It will be used for fishery research, making improved fishing charts, and for research on trawl gear and quick answers to problems of midwater trawling. Also, it will be used eventually for rapid processing of catch data from commercial vessels, and to develop understanding of problems in tactical control of high-seas fishing fleets.

The extensive laboratory facilities will include a hydro-acoustic cabin, located on bridge; hydrographic, benthic, and plankton working stations and laboratories; facilities for fishing-gear analysis and advanced fish studies, and for fish processing. A large fish-meal plant, 35-ton daily capacity of whole fish is being installed.



# CANADA

## TO STUDY SOVIET & JAPANESE SALMON & HERRING CATCHES OFF B.C.

Canada's federal fisheries department plans to outfit a research vessel with special gear to study catches of Soviet and Japanese fleets off British Columbia. The C\$1.8 million 'G. B. Reed' of Victoria will be equipped with gear for bottom fishing similar to Soviet gear. Her crew will try to establish whether the Soviets and Japanese are depleting salmon stocks.

## Disagreement Over Fishing

The foreign fleets maintain they are only after bottomfish (hake and ocean perch); but the 33,000-member Pacific Trollers' Association says they also are landing salmon and herring, upon which salmon feed.

Despite department assurances, the Trollers' Association is far from convinced that the foreign dragger fleets are only catching salmon and herring incidentally.

## Worst Year Since 1960

The fisheries director said the G. B. Reed's mission is to determine the size of this incidental catch in "another one of our steps to give the Canadian industry the best protection possible."

The Trollers' Association blames the foreign fleets at least in part for last year's poor salmon run. The total catch was 78,900,000 pounds worth C\$27.6 million, only 45% of 1968 catch and the worst year since 1960.



## NEW RAW-FISH SUPPLIES FOR MEAL SOUGHT OFF NEWFOUNDLAND

The need of Canada's Atlantic coast fish meal industry for large quantities of alternatives to herring has resulted in a widespread search for capelin and sand lance. The federal Department of Fisheries and Forestry is exploring inshore and offshore waters south and east of Newfoundland for those species.

The growing importance of herring for human consumption necessitates finding large supplies of suitable substitutes as mainstays of Atlantic coast fish-meal industry.

## Chartered Vessel

From early June through September, the chartered 100-foot midwater trawler 'Lady Anna,' out of Saulnierville, N.S., will survey the Burgeo, St. Pierre, and Grand Banks before moving north to Trinity, Bonavista, Notre Dame, Green and White Bays.

A midwater trawl will be used because it is more versatile and less vulnerable to damage over unknown grounds than conventional purse seine.

## Herring Information Too

Although large stocks of capelin and sand lance are main objects, the survey also is expected to provide fishermen with information about size and location of herring stocks (Canadian Dept. of Fisheries and Forestry, June 9.)



# EUROPE

## NORWAY

### SAITHE SALES TO EAST EUROPE WILL SET RECORD

Norway's sales of deep-frozen saithe fillets to COMECON will total a record 20,000 metric tons in 1970. COMECON is the "Common Market" of Communist East Europe.

The Soviet Union is back as a big buyer. Her purchases had declined in the last few years. She will purchase 10,000 tons in 1970; the remaining 10,000 tons will go to other COMECON countries.

### Norway's Saithe Sales

The large Soviet purchase is not affecting her purchases from other areas, mainly Iceland and Britain. Norway's increased sales to the Soviet Union are not expected to affect adversely sales to more stable markets, such as Czechoslovakia and Hungary. Deliveries to the U.S., Western Europe, and other markets are based on cod, haddock, and other white fish--not on saithe. The Norwegians would like to change this. ('Export Council of Norway')

### Soviet Saithe Catches Drop

Soviet catches of saithe decreased from 33,800 metric tons in 1966 to 11,900 tons in 1968; this is most likely reason for increased purchases abroad.

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### SALMON CATCH DECLINED IN 1969

The 1969 salmon catch in Norwegian rivers and within the 12-mile fishing limit was 1,468 metric tons: 1,248 tons within the 12-mile limit and 220 tons in rivers. This compares with the 1968 catch of 1,593 tons: 1,318 tons in the sea and 275 tons in rivers. The river catch was down 55 tons from 1968.

### Catch Tripled in Int'l Waters

Norway's Statistical Bureau estimates that Norwegian fishermen caught 440 tons of salmon in international water off the coast--more than triple the 1968 catch of 130 tons.

## Off Greenland

Norwegian fishermen took an estimated 250 tons of salmon off Greenland in 1969 (135 tons in 1968). The estimated expressed catch value within 12-mile limit and in international waters was more than US\$3 million; this excludes rivers. In 1968, it was about \$2.95 million. River rental and fishing permits in 1969 totaled \$53,000.

### Sea Trout & Sea Char Included

The catch data may change somewhat--but not significantly. It is Norwegian practice to include with salmon catch data on sea trout and sea char. Weight is given in round fish, heads on and not gutted. (U.S. Embassy, Oslo, May 16.)



## ICELAND

### STRIKE SETTLEMENT RAISES FISH -PROCESSING COSTS

The strike by unskilled workers in Iceland was settled on June 18. The settlement provides for a general 15% base wage increase, and an 18.3% base wage increase for fish-processing workers.

Other union demands also were met. Estimates are that the settlement will cost most industries about 20% in increased expenses, but somewhat more in the fish-processing industry.

The new contract is scheduled to run 17 months, or until Oct. 1, 1971. (U.S. Embassy, Reykjavik, June 19.)



## UNITED KINGDOM

### SCOTLAND TO DELIVER 6 TRAWLERS TO S. AFRICA

An Aberdeen (Scotland) shipyard has delivered the M/S 'Protea' to Irvin & Johnson in Cape Town, S. Africa. The vessel is a prototype of 6 freezer trawlers: 3 will be built in Aberdeen, the others in Africa.

## UNITED KINGDOM (Contd.):

### Advanced Design

The vessel's advanced design includes a "bunker" to receive freshly caught fish to be cooled by salt water, and 12 conveyer belts to carry the fish to sorting stations and directly to the packing stations.

The vessel is 61 meters l.o.a. long, 12 meters wide, and speed  $14\frac{1}{2}$  knots. The fish "bunker" is 18,000 cubic feet. (Reg. Fish Att., U.S. Embassy, Copenhagen, May 20.)



## PORTUGAL

### CANNED-FISH INDUSTRY OUTLOOK IS GLOOMY

Portugal's 1969 fish-canning season was unfavorable: there was a drop in fish landings at much higher exvessel prices than in 1968, an unfavorable year. The outlook this season is gloomy.

The mainstay is sardines. In 1967, landings along coast were 113,000 metric tons; in 1968, they dropped to about 78,000 tons; in 1969, to a little over 61,000 tons. Deliveries to canneries, always competing with demand for fresh sardines, decreased at same rate; prices rose. In 1969, landings were almost 17,000 tons below 1968.

### Adverse Factors

These factors adversely affected the industry: decline of nearly 8,000 tons in pack, shift to packs other than canned sardines to make up for shortage of sardine packs, drop of about 13,000 tons in exports, loss or decline of some traditional export markets.

### This Season's Prospects

The year began with temporary lifting of closed fishing season and duty-free import of fish and other seafood for canning. This season's fishing began April 1. Its effect on canned fish pack appears more promising. In Feb. and March, trawlers took advantage of suspension of closed season and caught reasonable quantities of sardine. In last days of March, sardine abundance was reported. If this prevails through 1970, the canned fish

industry might face a better future. It would be able to resume contracts cancelled last year because of fish shortage. The early season was definitely encouraging, but the future, even short term, is unknown. ('Conservas de Peixe', Apr. 1970.)



## USSR

### FIRST AUTOMATED FISH HATCHERY SLATED FOR 1971

The Soviets are building an automated fish hatchery at Konakovskaia regional electric power station (Moscow region) that will be operational in early 1971. It will produce 400 metric tons of fish a year. This was reported by 'Izvestiia'.

Carp and trout will be fed by warm water from the power station. All operations will be automated, including catching fish of the right size and weight with special automatic device.

### Small Staff

"Few" people will staff the hatchery, though staff size has not been specified.

This will be the first automated fish hatchery in the USSR.

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## SOVIET-NORTH KOREAN FISHERY RELATIONS

The "Protocol of the First Session of the joint Soviet-North Korean Fisheries Commission" was signed in Pyongyang on March 10, 1970, reported TASS, the Soviet news agency, on that day. Soviet-North Korean cooperation in 1970-71 was discussed and "regulations" adopted.

Prepared in 1969

The groundwork for the Joint Commission was laid in Moscow in June 1969. Scientific and technical cooperation, including fisheries was discussed. Apparently, the Soviets have had an agreement with North Korea since 1967. In 1967, the Soviet Minister of Fisheries went to Pyongyang for fishery negotiations after Communist China abrogated the



USSR (Contd.):

Northwest Pacific Fisheries Commission in 1964.

50 N. Korean Trainees

About 50 North Korean fishery trainees were in Vladivostok in 1968, and possibly in 1969; some, accompanied by Soviet instructors, went to the North Pacific aboard Soviet large stern factory trawlers.

Oceanographic Cooperation Rejected

In March-April 1970, the Soviet research vessel 'Vitiuz' cruised the Sea of Japan to study seabed sediments, detect manganese nodules, iron, and other metals, perform seismic investigations, and test new oceanographic instruments.

On March 11, 'Pravda' had announced a cruise as a joint effort of Soviet, Japanese, and North Korean scientists. However, at the last minute, the North Koreans refused to go along. They said their research group "had not been consulted" on oceanographic research with Japanese scholars. They added: "Inclusion of the Japanese is contrary to the terms of the Soviet-North Korean Technical and Scientific Cooperation Agreement."

A group of North Korean oceanographers who were in the USSR at the time may have accepted the invitation to join--but the government vetoed it.



## ROMANIA

### ORGANIZES MARINE RESEARCH INSTITUTE

Romania has organized a Marine Research Institute in Constanta on the Black Sea--her first. It will include hydrography, physical and chemical oceanography, marine fisheries, pisciculture, marine and coastal biology, marine geology, and marine pollution. The Institute will cooperate with other marine-research agencies to assess research results and plan exploitation of the seas.

The Institute probably will coordinate all fishery research, including that for ICNAF.

Institute's Predecessor Agency

The new Institute may have developed from the Marine Fishery Research and Planning Station at Constanta, administered since 1961 by the Joint Scientific Council for the Coordination of Romanian Research in the Black Sea. The Council studies marine fish, culture of commercial species, plankton, and physics of the Black Sea.

The Station's Activities

In 1961, the Station had a small research vessel--the 'Marea Neagra,' displacement 100 tons, crew of 7. She was equipped with echo-sounder, bottom drag, bottom corer, bathometer, and fishing gear (seines, trawls, etc.).

The Station investigated phytoplankton distribution in cooperation with the Romanian Navy's Hydrographic Office, studied the ecology of Romania's rocky shores with Agigea Marine Station, and was involved in fishery forecasting with other Romanian fishery laboratories. It also used divers to study quantitative changes in benthos.



# LATIN AMERICA

## PERU

### STATE COMPANY FOR MARKETING FISH MEAL & OIL IS OPERATIONAL

On May 25, Peru's State company, EPCHAP, undertook the marketing of all Peruvian fish meal and oil. EPCHAP is Empresa Pública de Comercialización de Harina de Pescado. According to its executive director, General R.D. Chumbianca, the objective is to eliminate speculation and middlemen, and to establish a stable price for fish meal. He hopes EPCHAP will cause a minimum of changes in the marketing system.

#### Current Situation

Gen. Dianderas emphasized that all contracts made by private companies (390,000 metric tons) will be filled. When EPCHAP took control of selling fish meal, stocks were 640,000 tons.

Despite current closed anchovy fishing season, these limited stocks will increase slightly for 2 reasons: some small plants that had not fulfilled their quotas during season have been allowed an additional 300,000 tons during closed season; also, the ports of Ilo and Mollendo are excluded from seasonal prohibition on fishing.

#### Speculation & Stable Prices

Gen. Dianderas said that, historically, extreme price changes in fish-meal market have been caused largely by speculation. He hopes to maintain a more stable price that will reflect "normal" supply and demand. Because demand for fish meal is growing steadily, while supply is static, there will be pressure to raise price.

He said, however, that fish meal was only a small part of protein market; attempts to maintain high price artificially through stockpiling would only drive meal users to substitutes.

Price will be kept at present level (US\$200/metric ton c. & f. Europe) for time being--but no guide to price changes has been set.

#### Averaging Prices

Fish meal plant will hold products until shipment, and be paid for meal when sold.

EPCHAP will withhold a still-to-be-determined percentage to (1) pay marketing costs and (2) allow room for averaging prices a year end. In December, all prices will be averaged and firms paid net amount owed them by EPCHAP.

To guard against speculations, Gen. Dianderas said Peru's Commercial Attachés will check those who have received fish meal to see whether they actually use it (end users).

Large marketing firms already have agreed to supply EPCHAP with list of customers. He believes Socialist countries will steadily demand more fish meal in proportion to their growing consumption of poultry--but there will be no dramatic rise in consumption.

#### Wait-and-See Attitude

Local producers, Peruvian and U.S., have a "wait-and-see" attitude toward EPCHAP. Luis Banchemo Rossi, president of National Fisheries Society and leading industry figure favors government control. He said: "It will benefit the country if it is efficient."

Industry is interested most in the operation's efficiency. (U.S. Embassy, Lima June 10.)

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### RECORD FISH-MEAL OUTPUT & HIGHER EXPORTS IN 1ST QUARTER 1970

In Jan.-Mar. 1970, Peru produced a record quarterly fish-meal output of 755,000 metric tons; this compared with only 583,000 tons for same quarter 1969. It exceeds 734,000-ton record of Oct.-Dec. 1967 and is 39% over previous quarter. The increase occurred despite a 4-week closed season in second-half February and first-half March.

#### Exports Up

Fish-meal exports in 3 months ending Mar 31, 1970, were 611,600 tons, compared with 514,400 tons for same period 1969--and only 385,600 tons in Oct.-Dec. 1968.

Of total exports, 71% went to Europe, 18% to Western Hemisphere, and 11% to Asia. Exports to non-Western Hemisphere countries are about 82% of total, as in 1969. This is considerably above 67% of 1968, when U.S.

## PERU (Contd.):

was the major single market. The chief factor in reduction of U.S. imports is relatively high price ratio of fish meal to soybean meal.

## New Fishery Ministry

Peru established a Ministry of Fisheries on Feb. 1, 1970. Objectives are to regulate exports, study marine resources, and develop framework for edible fish industry--ports, ships, and refrigeration.

Prices continue relatively high despite improved catch. This may reflect uncertainty surrounding forward sales for export beyond government's arbitrary cutoff date of Sept. 30. On March 31, stocks of 440,000 tons, nearly equal to 450,000 tons of previous year, were substantially below large stocks of 1967 and 1968.

## Anchovy Fishing Season Ends

Fishing since March 31 has been good. The anchovy fishing season was closed in mid-May; stocks probably exceeded 1969's reduced volume. At present rate of market uptake, supplies will dwindle sharply before beginning of 1970/71 fishing season in September.

Note: Earthquake damage early in June destroyed some stocks on hand and damaged plants. Amount of damage has not yet been reported.



## URUGUAY

FISHING CONTRACT  
AWARDED TO SPANISH FIRM

Uruguay's fledgling fishing industry took an important step with award of contracts on May 8 for building and equipping a US\$2.6-million fishing terminal. Action was taken by state-owned SOYP, which will operate terminal. Late 1971 is target date for completion of work.

## Contract Won

Spain's Camer International's bid of US\$1,448,000 won the machinery and installation contract. This beat rival offer of a

Pennsylvania firm by about \$400,000. In addition to refrigeration and related machinery, the Spanish firm will furnish 8 refrigerator trucks and 50 delivery vehicles at \$480,000 more.

The Uruguayan company Tieger & Braselli received contract for civil works with bid of \$680,000.

## Sought Since 1914

Need for an adequate receiving and storage terminal for fish, sought since 1914, has become more pressing as a result of new regulations. These facilitate transfer of fish in Port of Montevideo from foreign fleets to foreign transport vessels, an arrangement that American, Chinese, and others now use.

Urgency for the new center also arises from recent legislation offering broad incentives to foreigners investing in fishing and fish processing within Uruguayan territory.

Local meat-packing plants are now serving as temporary storage until terminal is completed. (U.S. Embassy, Madrid, May 21.)



## FRENCH GUIANA

FINES U.S. SHRIMP TRAWLERS  
FOR CUSTOMS VIOLATIONS

On June 5, the French customs office in Korou, French Guiana, took six U.S. flag shrimp trawlers into custody for violating French customs regulations. The vessels, owned by a firm in Georgetown, Guyana, and one in Cocoma, St. Laurent, French Guiana, were fined \$800 (whether collectively or individually is not clear). The vessels apparently were bartering or otherwise trading supplies while in port. This is prohibited under French law without prior approval.

## Advice to U.S. Trawlers

U.S. trawler owners should warn their captains against these practices inside 3 miles of French Guiana's territorial waters. (U.S. Consulate, Martinique, June 5.)



# ASIA

## JAPAN

### FISHERY PRODUCTION DROP IN 1969 WAS FIRST IN 5 YEARS

Japan's 1969 fishery output was 8,610,000 metric tons, a slight drop from 8,670,000 tons, reports the Fisheries Agency.

It was the first drop since 1964 (including fish culture) from the preceding year.

#### Coastal Fishing Fell

Conspicuous in 1969 were declines in in-shore (coastal) hauls and fish-culture yields to a 10-year low of 1,700,000 tons. The poor showing is expected to arouse demands for greater efforts to develop coastal fishing and pisciculture, these had rallied from 1,780,000 tons in 1964 to more than 2 million tons by 1968. Oyster production was among the notable losers.

#### Pelagic Fishing Much Responsible

Pelagic fishing hauls of 3,150,000 tons were much responsible for the decline because their annual gain was slowed to only 11% above 1968. They had been rising over 20% a year.

#### Deep-Sea Catches

All deep-sea fishery catches leveled off, except North Pacific trawling. The latter produced 369,000 tons--a 91% increase over 1968, chiefly in Alaska pollock. But fishery experts are not optimistic about prospects of Alaska pollock fishing because there are growing foreign conservationist moves to restrict catches.

#### Notable Offshore Declines

Among offshore catches, notable drops were in species in strong demand: saury pike (Pacific saury) 60% drop to 50,000 tons, cuttlefish 28% to 465,000, and tuna 7% to 383,000 tons. ('Japanese Economic Journal,' May 19.)

\* \* \*

### FISHERIES AGENCY PLANS LARGE DEVELOPMENT OF SKIPJACK TUNA

The Japanese Fisheries Agency plans to develop the skipjack tuna resource in line with its ocean development program. More marine fish are being used for animal protein--

particularly medium- and high-priced fish. These are being subjected to heavy fishing pressure with indications of overfishing.

So the agency is turning its attention to the widely distributed, underexploited and underutilized skipjack resource. The agency has formed a group of industry members and government researchers to study production, distribution, sales, and even bait problems of skipjack fishing.

#### Group's First Meeting

The group's first meeting was held May 14 to study the plan worked out mainly by the agency. The agency hopes Japan's skipjack production can be doubled or tripled above present 200,000 metric tons a year.

#### Gear & Areas

The pole-and-line gear is considered more suitable than purse seine. The region off New Guinea and West Irian is believed suitable for development. A combination of poling and seining reportedly has been suggested whereby skipjack chummed by a bait boat would be surrounded by a purse seiner.

#### No Full-Scale Operations

Several exploratory skipjack cruises have been made to the southwestern Pacific, but none resulted in full-scale commercial operations. The joint Japanese-Australian Kyo-kuyo-Gollin Fishing Co. is skipjack fishing off West Irian with good results; it is averaging five tons of catch per day of operation ('Shin Suisan Shumbun Sokuho,' May 15, 'Suisan Keizai Shimbun,' Apr. 29.)

\* \* \*

### BRISTOL BAY CRAB OPERATIONS REPORTED GOOD

The 1970 Japanese Bristol Bay crab fishing operations are producing good catches. Fishing was begun in February by the factoryship fleets led by 'Koyo Maru' and 'Keiko Maru'.

As of May 15, tanner crab catches by the two fleets were: 1,314 metric tons by Koyo Maru, and 1,815 tons by Keiko Maru, total of 3,129 tons. King crab production totaled 8,567 cases by Koyo Maru, and 5,785 cases by Keiko Maru.

## JAPAN (Contd.):

## Crab Resources Good

Favorable crab resources promise good season, particularly for tanner crabs. These are reported generally larger and more abundant than in 1969.

The factoryships are paying more attention to improving appearance and quality of frozen tanner crabs. There is a steady market for these in Japan to supplement king-crab production. Japan has been facing yearly king-crab cuts in negotiations with the U.S. and the U.S.S.R.

## Prices Up

As of mid-May, Japanese domestic prices for frozen tanner crabs were US\$889-916 a metric ton, compared with \$694-833 in 1969. Prices are likely to continue steady because Japanese tanner crab quotas in western Bering Sea and Sakhalin Island were reduced in this year's meeting with the U.S.S.R.

Export prices for canned crabs have not yet been set. However, due to rising production costs, fishing restrictions and production cuts, Japanese packers will have to raise prices substantially above 1969.

## Planned Exports

In 1970, the Japanese plan to export 150,000 cases of canned tanner crabs (180,000 cases in 1969), and an estimated 100,000 cases of canned king crabs (140,000 in 1969), although production outlook remains uncertain.

Sales to the U.S. and France are 60-70% of exports. ('Suisan Keizai Shimbun,' May 22.)

\* \* \*

INDIAN OCEAN TUNA FISHERY  
UNDER WAY

In early April, about 30 South Korean, 20 Taiwanese, and 5-10 Japanese and Okinawan tuna longliners were fishing in the Indian Ocean off eastern Africa year round under contract to Japanese trading firm Toshoku.

Primarily, they were catching albacore off Madagascar, Cape Town, and Durban, where the season runs until about August, and yellowfin off Mombasa and Colombo, Ceylon.

Albacore catches were averaging 2-3 tons a day per vessel.

## Daiei Reizo Venture

Toshoku, with Daiei Reizo Cold Storage Co., operates five to six 7,800-8,000 gross-ton refrigerated carriers in that region. In recent years, the firm has been handling an average of 2,000 tons of Indian Ocean-caught tuna a year; this year, it anticipates a 25,000-ton catch.

## April Prices

About 70% of tuna caught off east coast of Africa and Malagasy are exported to the U.S. and Italy through Toshoku. In early April, albacore were being exported to the U.S. at \$680 a short ton, presumably c. and f. U.S. west coast price; yellowfin were bringing \$640 a metric ton (presumably c.i.f. price) in Italy. ('Minato Shimbun,' Apr. 7.)

\* \* \*

SALMON MOTHERSHIP FLEETS DEPART  
FOR NORTH PACIFIC

On May 15, 11 Japanese salmon motherships accompanied by 369 catcher vessels left Hokkaido for the North Pacific. The fleets headed straight for eastern sector of Area A (north of 45° N. latitude). They are seeking red salmon near Attu, Aleutian Islands. They began fishing around May 23.

Based on earlier sightings of Bristol Bay reds south of Aleutians by Fishery Agency's survey vessel, the fleets hope to meet a good run.

## Good Fishing Forecast

The Kushiro Fishery Experimental Station in Hokkaido forecasts good fishing for reds and chums this year, particularly reds. The reds have been found distributed abundantly (4 fish to a "tan") in cold-water zone between 168° E.-170° E. longitudes.

The outlook for Asian pinks is not promising because 1970 is a poor cycle year. Oceanographic conditions indicate that the 1970 high-seas salmon fishery will be centered east of 160° E. longitude. ('Nihon Suisan Shimbun', May 18, 'Minato Shimbun', May 16.)

\* \* \*

## JAPAN (Contd.):

## NORTH PACIFIC WHALING FLEETS SAIL

Three Japanese whaling fleets were scheduled to depart in early May for the 1970 North Pacific whaling season. They have been assigned a catch quota of 798.16 blue-whale units (BWUs) and 2,700 sperm whales, a 10% reduction from previous season. Planned production of processed products totals 75,000 metric tons of oil, frozen or salted meat, meal, and other products. ('Minato Shimbun,' Apr. 21.)

Name of Mothership	No. Catcher Vessels	Quotas		Scheduled Departure and Return
		Baleen No. Whales	Sperm (BWUs)	
'Nisshin Maru No. 3'	9	257	900	May 10-Aug. 27, 1970
'Tonan Maru No. 2'	9	257	900	May 8-Sept. 2
'Kyokuyo Maru No. 2'	8	284.16	900	May 2-Aug. 17

\* \* \*

## VESSELS DEPART FOR EASTERN PACIFIC TO EXPLORE SAURY

On April 22, Japan National Association of Saury Fishery decided to send two vessels on an exploratory cruise to eastern Pacific.

Names of vessels and departure dates are: 'Akebono Maru No. 17' (499-gross-ton trawler, 36 crew) June 16, and 'Habomai Maru No. 21' (299 gross-ton tuna vessel, 29 crew) June 30.

## Time &amp; Place

Areas of operation and period of survey are: (1) undeveloped areas near 165° E. long.--two months; and (2) east of 175° E. long. south of Aleutian Islands, Gulf of Alaska, and off west coast of North America--four months. Vessels may also survey northwestern Pacific.

## 50% Government Subsidized

The survey is subsidized 50% by government. Two government biologists, one assigned to each vessel, are accompanying the expedition.

## Interest in Eastern Pacific

Many fishery firms are interested in sending vessels to eastern Pacific; in 1969, several Japanese trawlers made good saury catches off U.S. west coast. The Fisheries Agency has received inquiries from firms wishing to send around 40 vessels to eastern Pacific. About 20 vessels will be licensed this year.

## Licensing Conditions

Licensing conditions established for 1970 are: (1) Area of operation--North Pacific Ocean east of 165° E. long., (2) Minimum

number of licensed vessels necessary to carry out high-seas saury exploration plan. (Effect operations have on market price for saury taken by coastal fishery will be considered); (3) Catches will not be sold until three days after coastal saury fishing season opens for vessels over 40 gross tons. ('Nihon Suisan Shimbun,' Apr. 29; 'Minato Shimbun,' Apr. 28.)

\* \* \*

## SAURY VESSELS PLAN TO FISH NORTHEASTERN PACIFIC

Eight major Japanese fishery firms plan to operate about 20 saury vessels off west coast of North America in 1970. Three already have filed license applications with Fishery Agency.

The gear are "boke-ami" (stick-held dip nets), drift nets, and drag nets.

## New Gear

One firm, Nihon Suisan, plans to use a new method (patent-pending) with a net described as a floating drag net. Details of its construction are unknown, but the gear is designed to fish even in stormy weather. ('Suisan Tsushin,' May 19.)

\* \* \*

## JAPAN (Contd.):

BOTTOMFISH CATCHES IN BERING SEA  
& GULF OF ALASKA ROSE IN 1969

The Japanese Fisheries Agency has reported that bottomfish catches by 12 mother-ship fleets in the Bering Sea and Gulf of Alaska during 1969 were 854,641.3 metric tons; 35 independent trawlers caught 360,506.4 metric tons. ('Suisan Tsushin,' March 28 & 29.)

\* \* \*

RAISES 1970 HERRING IMPORT QUOTA  
FROM U.S. & CANADA

The Japanese Fisheries Agency has increased the 1970 herring import quota for the U.S. and Canada from 1,000 to 3,000 short tons. This is the first year Canada is included with the U.S. Alaska herring is preferred.

The quota from the U.S.S.R. remains 7,000 metric tons. (U.S. Embassy, Tokyo, May 28.)

\* \* \*

## WILL BUY MORE CUBAN SHRIMP

The Japanese Taiyo Fishing Co., in its second year of buying shrimp from Cuba, plans to increase purchases to 3,000 metric tons in 1970. In 1969, Taiyo contracted to import around 2,000 tons of shrimp and other species from Cuba.

The small Cuban shrimp consist of about 80% taken off the Guianas, and 20% in Gulf of Mexico.

## Understanding With Cuba

Taiyo's purchases are based on agreement that the Japanese would provide materials and equipment worth US\$8 million to help promote Cuba's fishing industry. Taiyo has drawn up a large equipment export plan. It also is considering building a cold-storage plant in Cuba. ('Minato Shimbun,' May 20.)

\* \* \*

## CANNED TUNA EXPORTS ROSE IN 1969

Japanese canned tuna exports during business year 1969 (April 1969-March 1970) were about 6.68 million standard cases (7-oz. cans). This was an increase almost 25% over

1968 exports, reports the Japan Tuna Packers Association. The increase was attributed primarily to the sharp gain in exports of canned tuna packed in oil. ('Suisan Tsushin,' May 21.)

\* \* \*

MECHANICAL SKIPJACK TUNA  
POLE-AND-LINE GEAR TESTED

In mid-March 1970, Japanese mechanical pole-and-line skipjack tuna fishing gear, developed by Suzuki Tekkosho, was tested in southwest Pacific with impressive results.

The gear, aboard skipjack vessel 'Yusho Maru' (194 gross tons), accomplished three times the work of fishermen. It caught 160-200 skipjack per day of fishing. It worked particularly well in catching large (13-18 pound) fish.

## Full Automation Sought

A specially designed, ship-rolling-control device prevented hooks from rising above the water and line from becoming entangled. The manufacturer hopes eventually to achieve a fully automated fishing operation by mechanizing bait chumming. The gear will be tested again off Japan during summer and winter skipjack and albacore seasons. ('Katsuo-maguro Tsushin,' Apr. 22.)

\* \* \*

LARGE STERN TRAWLER TO BE BUILT  
FOR NORTHWEST ATLANTIC FISHERY

In 1971, the Japanese fishery firm Nihon Suisan plans to build a 4,000-gross-ton stern trawler to fish in the northwest Atlantic Ocean. The vessel, to cost about US\$4.17 million, will be equipped to process high-priced fish. It will not process "surimi" (minced meat used as ingredient for edible fish cakes).

## Optimum Vessel Size

Use of such a large vessel in the northwest Atlantic, where smaller trawlers diverted from eastern Atlantic during off-season in west African trawl fishery have been operating, is certain to raise question in fishery circles as to optimum vessel size for that region. ('Shin Suisan Shimbun Sokuho,' May 2.)

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## JAPAN (Contd.):

FISHERIES AGENCY HAS  
NEW RESEARCH VESSEL

A 494-gross-ton research vessel has been completed for Japanese Fisheries Agency assigned to the Tokai Regional Fisheries Research Laboratory. The vessel, 'So-o Maru,' will conduct resource surveys primarily in the North Atlantic.

Geared for trawling and other fishing, she also is equipped to conduct oceanographic observations.

## Main Specifications

Main specifications are: length 46 meters (150.9 feet), width 9.3 meters (30.5 feet), depth 4.5 meters (14.8 feet), maximum speed 14.3 knots, main propulsion two 800-hp. diesel engines. ('Nihon Suisan Shimbun,' Apr. 24.)

\* \* \*

GUYANA-BASED SHRIMP FLEET  
TO BE DOUBLED

The 35-vessel Japanese shrimp-trawler fleet based at Georgetown, Guyana, will be increased to 80. The vessels are operated by the Japanese South America Northern Coast Trawl Fishery Development Co. The firm is scheduled to participate in a joint processing venture with British-owned Guyana Industry Holdings (G.I.H.) of Georgetown.

Other G.I.H.-contracted vessels reportedly planned to be increased in number are (figures in parens are present fleet size): U.S.-registered 45 (32), British-registered 14 (16), local Guyana-registered 20 (5).

## Building Plans

Plant construction for joint venture was scheduled originally to start in June this year. However, construction was delayed several months due to proposed increase in capital investment. This was set originally at US\$3 million; the Japanese were to put up \$1 million.

Earlier reports indicated that a 1,000-ton cold storage with a 100-ton freezing capacity, and an ice plant with output of 34,500 tons a year, would be completed within one year.

However, G.I.H. may build a 3,000-ton cold storage.

## 71 Trawlers in June

In early June, the Japanese shrimp fleet off the Guianas was 71 trawlers: 10 licenses for regular commercial fishing, and 61 for fish experimentally (1-year permit). ('Suisan Keizai Shimbun,' June 2.)

\* \* \*

POLLOCK FISHING IN  
EASTERN BERING SEA IS POOR

Japanese trawler fishing in early June for Alaska pollock in eastern Bering Sea north of Unimak Island was poor. Six trawler fleets were fishing, led by factoryships 'Mineshima Maru' (21,000 gross tons), 'Gyokuei Maru' (10,357), 'Shikishima Maru' (10,144), 'Nisshin Maru No. 2' (27,035), 'Soyu Maru' (11,192) and 'Hoyo Maru' (14,111) plus 9 large independent stern trawlers.

## Pollock Catches Halved

Since mid-May, their pollock catches have declined to half those of March-April. Also the spawned-out fish are running smaller. They average 0.81-0.84 pound each, compared with 1.1-1.2 pounds in Feb.-April.

The fleets are encountering the same slackening of fishery they experienced last year about this time. It seems this condition is becoming a regular occurrence.

Some independent trawlers had moved temporarily to southern side of Aleutians in search of better fishing. They could make no catch, so they returned to eastern Bering Sea ('Suisan Tsushin,' June 2.)

\* \* \*

10,000-TON HERRING IMPORT QUOTA  
SET FOR 1970

On May 11, 1970, the Japanese Ministry of International Trade and Industry disclosed a 10,000-ton herring import quota for fiscal 1970 (April 1970-March 1971). This is a 25% increase over 1969's 8,000 tons.

In 1969, 6,787 tons were purchased from the Soviet Union, and 1,046 tons from Alaska



## JAPAN (Contd.):

The quota was increased because Canada has been added to supplying countries in 1970. The import allocation will be given to the Hokkaido Federation of Fisheries Cooperative Associations.

## Prices Negotiated

Price negotiations for purchase of Soviet herring were concluded on May 7. The Japanese agreed to pay for 1970 deliveries at sea per metric ton: fresh US\$143, salted \$154, f.a.s. (free alongside ship) Okhotsk Sea; frozen \$262, c. and f. Otaru or Wakkanai, Hokkaido.

Compared with 1969, prices are 14% higher for fresh fish, and about 20% for frozen fish. No salted herring was imported from the Soviet Union in 1969. ('Suisancho Nippo,' May 1 & 12.)

\* \* \*

NEGOTIATES WITH S. KOREA  
TO IMPORT CANNED MACKEREL

A Japanese trading firm is negotiating to import canned mackerel from the South Korean Fisheries Public Corp. The Korean corporation reportedly is asking \$7 a case (1-lb. talls, 48's). If a deal materializes, Korean packers can be expected to increase production of canned mackerel for export to Japan, which would become an important market.

Several years ago, S. Korea exported \$12,000 worth of canned mackerel to New Guinea, but the unprofitable trade was discontinued.

In Japan, imports of fresh, frozen, live, smoked, or dried mackerel are under quota restrictions--but canned is unrestricted. (Nihon Suisan Shimbun,' May 29.)

\* \* \*

BRISTOL BAY RED SALMON CATCH IN  
NORTH PACIFIC REPORTED GOOD

Eleven Japanese salmon mothership fleets fishing in the North Pacific reported good red salmon catches from around May 24-25 because the run of Bristol Bay reds was heavy, as predicted. In early June, they were fishing near the eastern boundary of Area A (north of 45° N. lat.), south of the Aleutian Islands.

The salmon were about 80% reds and 20% chums. Contrary to expectations, red salmon are small, about 3.9 pounds a fish. These compared with 4.6-4.8 pounds during previous good run of Bristol Bay reds in 1965. The chums, on the other hand, are averaging 4.8 pounds a fish.

## Heavy Red-Salmon Run

Fishing in area south of Aleutians continues good until around June. The schools then begin migrating northward. The fleets either start moving toward north side of Aleutians, or proceed westward. The 1970 Bristol Bay red salmon run is the heaviest in recent years. And, as predicted, the reds are likely to make up a high percentage of Japanese high-seas salmon catch this year.

## Situation in May

In Area B (south of 45° N. lat.), the fishing situation in late May was described by Kushiro Fisheries Experimental Station in Hokkaido: Most gill-net vessels that concentrated on reds east of 170° E. long. until mid-May returned home; in late May, no vessels were fishing in that area. In late May, concentrations of reds in Area B were becoming lighter; catch per "tan" was 1-2 fish. However, northward migration of reds is slower than usual this year. Pinks are distributed widely. Considering that 1970 is a poor cycle year for pinks, they are present in fairly heavy quantities. ('Suisan Tsushin,' June 1 & 9.)



## PHILIPPINES

### FISH FARMING AIDED

For 7 months of the year, the Candaba area of the Philippines is flooded by seasonal rains that turn it into a huge marshland. It yields only one crop during the dry season: melons.

During their sweep along the lowlands, the floods, which reach 20 feet in places, carry millions of fish. These are trapped by farmers before waters recede. But the introduction of modern fish-culture and fingerling-rearing methods could greatly increase harvests and incomes.

Two FAO fishery biologists have carried out a pilot project to harness the flood waters to produce fish.

#### Work of FAO Biologists

The biologists have used fingerlings of various carp species imported from Taiwan in combination with local species. They have shown that marshlands can be farmed scientifically to produce unprecedented amounts of fish. They designed and built new ponds and supporting facilities in the Candaba area, including hatcheries to produce fingerlings for stocking the ponds. They trained extension workers and pond managers.

#### Government Plans

The Government plans, with FAO assistance, to develop almost 3,000 hectares of lowland in Candaba area into fish ponds at 17 sites to produce Chinese carp and suitable local species. The two-year project seeks development of a 60-hectare hatchery to produce stock fingerlings on continuing basis.

The pilot demonstration project is part of a general floodland fish-farming expansion program. It was approved by Philippines National Food and Agriculture Council in Feb. 1969 as a priority food-production project. It has been supported by UN Development Program and Australian Freedom from Hunger Campaign. (FAO, May 29.)



## HONG KONG

### FISHERIES ARE DECLINING

In 1969, Hong Kong's fishing fleet totaled 6,188 vessels, a decline of 626 vessels from 1968, and 3,292 from 1967, according to the 1970 Hong Kong yearbook. All categories of fishing craft decreased.

The 1969 fishing population of 45,000 was down over 30,000 from the previous two years.

#### More Shore Jobs

The downward trend is attributed to increasing shore jobs to which young fishermen are attracted. This is particularly true since the wages of land-based jobs have increased sharply in recent years.

The livelihood of fishermen is improving however, due to active support and technical assistance by the Agriculture and Fisheries Office. ('Shin Suisan Shimbum Sokuho', May 15.)



## SOUTH KOREA

### 1970 DEEP-SEA FISHING PLANS OUTLINED

In 1970, S. Korea plans to earn US\$26 million in foreign currencies by catching (and exporting) 90,000 metric tons of fish with 22 deep-sea vessels. By the end of 1969, her 22 vessels had caught 80,000 tons with export value of \$24,070,000.

Deep-sea fisheries account for 34% of annual exports of fishery products.

#### Rapid Growth

The rapid growth of S. Korea's deep-sea fisheries is due to: (1) Government support to private industry to purchase vessels; (2) Government assistance with medium-term loans to expand fishing; and (3) training experts.

The planned 1970 catch increase is 12.5% and for exports 4.2%. The greater part of 1969 catch came from Pacific, but highest export earnings were from Atlantic fisheries.

## S. KOREA (Contd.):

## Catch Targets

The Office of Fisheries raised catch targets for all high-seas areas except the Atlantic, which were cut two-thirds. Decline is due to: shortage of shore bases for S. Korean fishing fleets and logistics problems, general decline of fishery stocks, and declining fish prices at African bases.

To meet 1970 targets, Office of Fisheries plans to add six 2,000-ton vessels and 12 other vessels (size not specified) to high-seas fleet. Tuna bait will be provided domestically.

Government-owned Korea Marine Development Corp. (KMIDC) is S. Korea's largest high-seas fishing firm: 31,800-ton catch in 1969 and \$10 million worth of fishery-product exports. This is about 41% of 1969 high-seas catch and exports.

## Problems

Deep-sea fisheries are faced with following problems: (1) obtaining fishing rights off coasts where fleets fish (especially, off U.S., Canada, and Japan); (2) getting management of KMIDC out of red; (3) obtaining funds to build new vessels replacing old ones; and (4) devising appropriate measures against growing competition from Republic of China (Taiwan), which "may eat away fishing grounds and markets unless proper steps are taken." ('Taehan Ilbo').



## THAILAND

## DEMERSAL FISH STOCKS IN GULF OF THAILAND FALL 50%

Demersal fish stocks in Gulf of Thailand decreased more than 50% during 1961-1967. Decline will continue due to expansion of otter trawling (encouraged by Department of Fisheries since 1961) and increase in trawlers. The demersal fish catch is a large percentage of total marine fisheries catch.

Catch rates of demersal fish have decreased over 50% from 1961-1967, according to Department of Fisheries. Research vessel data show decline from about 300 kg. per hour of trawling in 1961 to 115 kg. in 1967. Catch rate of commercial vessels declined from about 17 crates (weight unknown) per hour of trawling in 1962 to 8 crates in 1966.

## Over Maximum Sustainable Yield?

The maximum sustainable yield (MSY) of demersal fish is estimated at about 500,000 metric tons (about 6 tons per square kilometer). Catches increased from about 123,000 tons in 1961 to about 450,000 tons in 1966, when they came close to MSY. In 1967, Thailand's demersal fish catch in Gulf of Thailand (525,000 tons) exceeded estimated MSY.

## Limit Vessels

The Government must now protect demersal fish stocks. The Demersal Fish Conservation Unit recommended limiting trawlers of specific sizes rather than total of all trawlers. ('Thai Fisheries Gazette')



## SOUTH PACIFIC

### AUSTRALIA

#### ECONOMIC STUDY OF NORTHERN SHRIMP FISHERIES ANNOUNCED

Australia's Department of Primary Industry will undertake during 1970 an economic investigation of the shrimp fisheries of northern Queensland and the Northern Territory.

The officers will interview members of fishing and shrimp-processing companies, industries servicing shrimp operations, and owners and skippers of trawlers and their accountants.

Joint ventures and Australian-owned operation will be considered.

#### Data for Economic Analysis

Information collected will serve government and the fishing industry. As results of research into northern shrimp become available, more detailed economic analysis will be possible.

This will help formulate policy for this important industry, including rational exploitation of the shrimp resourced. ('Australian Fisheries', Mar. 1970.)



### AMERICAN SAMOA

#### TUNA PRICES ROSE IN JUNE 1970

Japanese tuna suppliers and U.S. packers in American Samoa increased prices US\$20 a ton for albacore and \$10 a ton for yellowfin deliveries in June 1970.

The new prices per short ton: frozen round albacore \$530, frozen gilled-and-gutted yellowfin \$420.

The Japanese had asked a \$20-a-ton increase for albacore and yellowfin. ('Katsuo-maguro Tsushin,' June 9.)



## AFRICA

### SOUTH AFRICA

#### SPINY-LOBSTER-TAIL EXPORTS TO U.S. ARE LOWEST IN DECADE

In 1969, there was a dramatic drop of 34% in shipment of cold-water spiny lobster tails to U.S. by South Africa. For first 10 months of 1969, shipments sagged to lowest level since trade was first reported in separate statistics by U.S. 10 years ago.

#### Shipments Down

The South African fall-off forms the most significant component in a general decline in shipments of cold-water spiny lobster to the U.S. Total imports from Australia, New Zealand, and South Africa fell 20% over the same period.

South Africa's share of U.S. market tumbled from 32% in 1968 to 22% in 1969. Australia's share, with a contribution down 15% in quantity, fell from 32 to 27%.

#### Brazil Large Supplier

Brazil's warm-water spiny lobster has been a major factor in supplying U.S. gourmet consumers. Imports by U.S. soared in 1969 to 173% above 1968. Brazil now ranks third, 4.5 million pounds behind Australia's 8.2 million pounds and South Africa's 6.5 million pounds, among main suppliers.

In 1969, warm-water tails were 37% of all lobster tails reaching U.S., compared with 23% in 1968. Total shipments in 1969 reached 30 million pounds; in 1968, these were 30.4 million pounds.

#### Higher Prices Main Reason

Substantially higher prices probably have been main reason for sales drop of spiny lobster tails to 27 to 28 million pounds in first 10 months of 1969; this compared with 30.2 million pounds in same period of 1968.

With sales dropping and inventories mounting, wholesale prices inevitably slumped by mid-1969. In New York City, the drop was from US\$3.75 for 6-8-oz. cold water tails in June to \$2.70 in Oct. Warm-water tails dropped from \$2.68 to \$2.13. ('South African Shipping News and Fishing Industry Review', Feb. 1970.)

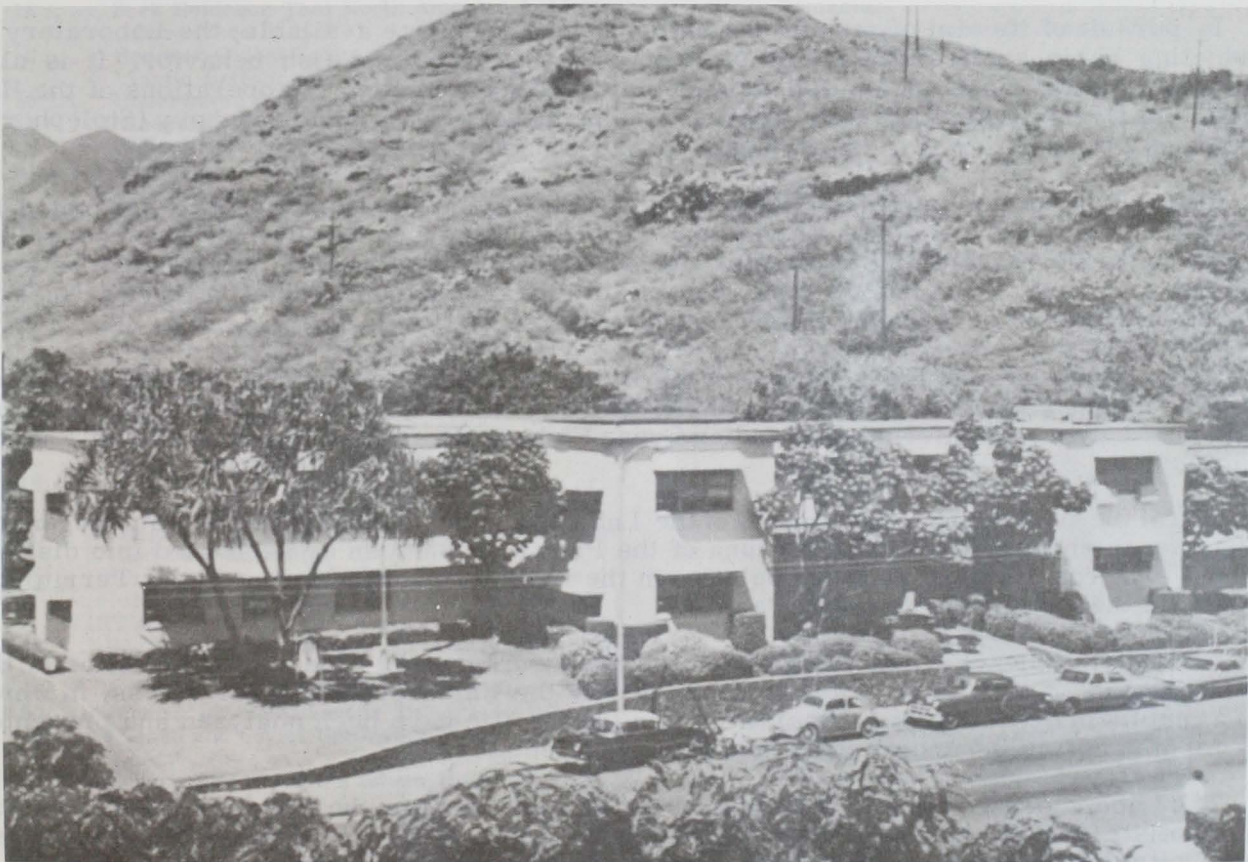


# BCF'S BIOLOGICAL LABORATORY, HONOLULU, HAWAII

The Bureau of Commercial Fisheries Biological Laboratory, Honolulu (P.O. Box 3830, telephone 946-2181) is located adjacent to the University of Hawaii in Honolulu's historic Manoa Valley. Established by Act of Congress in 1947, and known as the Pacific Oceanic Fishery Investigations in its early years, it has a staff of about 90 persons, of whom about 18 are professional scientists. It operates two research vessels. The larger is the 'Townsend Cromwell', 158 feet long, named after the late oceanographer who, while on the Laboratory staff, discovered the easterly flowing equatorial current that bears his name. The other vessel is the 'Charles H. Gilbert', 123 feet long, named after a renowned fishery expert of the early 20th century. Among the facilities of the Laboratory is a special library in oceanography and fisheries that is one of the best in the Pacific.

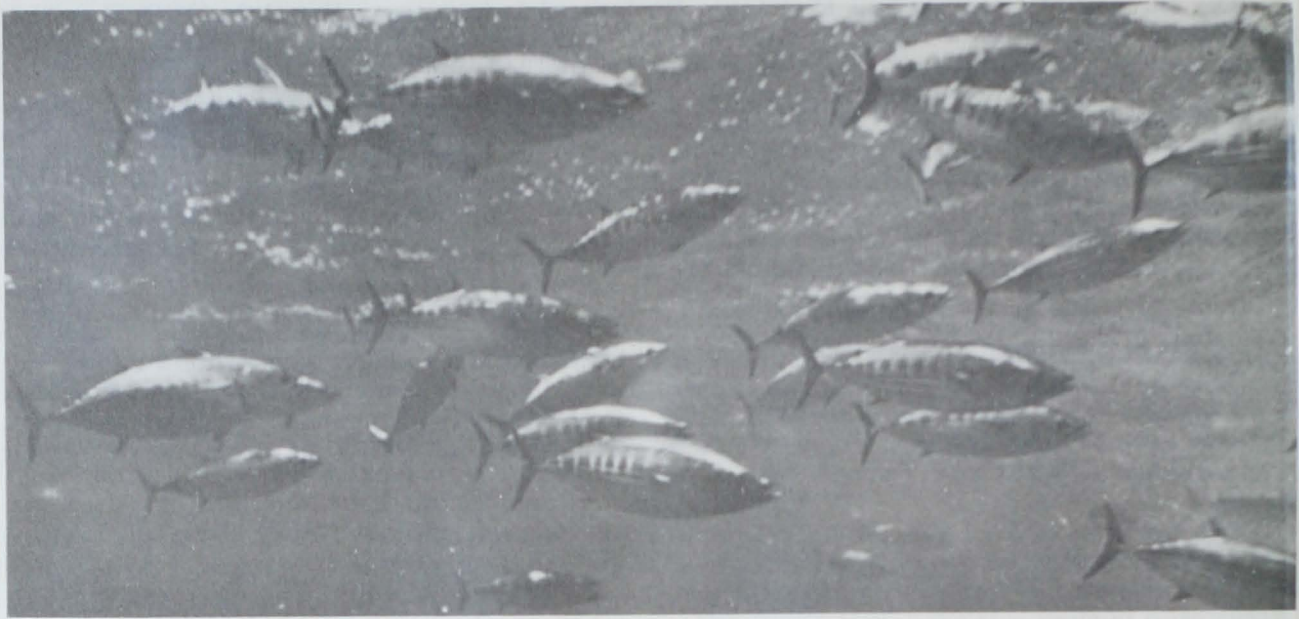
A scientific facility unique to the Laboratory is a group of fish-holding tanks located at Kewalo Basin, Honolulu, where the research vessels dock, in which living tunas can be held for experiments on their behavior and physiology. A series of pioneering studies on tuna behavior has been made there, and the facility attracts visiting investigators from the mainland and abroad whose research specialties require, or could benefit from experiments with living tunas.

The energies of the Laboratory in Honolulu are now focused on the harvesting by Americans of the now relatively unutilized skipjack tuna of the central Pacific Ocean. The skipjack tuna (*Katsuwonus pelamis*) is the mainstay of the small Hawaiian live bait tuna industry. As a first step toward a larger central Pacific harvest, the Laboratory is attempting to assist the Hawaiian industry to increase its present catch.



Bureau of Commercial Fisheries Biological Laboratory, Honolulu, Hawaii.

(Continued next page.)



Skipjack tuna photographed from the 'Charles H. Gilbert.' During their feeding frenzy, a barred pattern appears on their flanks.

In pursuit of its aim of making the skipjack tuna resource available, the Laboratory is conducting basic studies in fishery biology, oceanography, and fish behavior. It is also pursuing investigations in applied science, attempting to better the operations of the Hawaiian tuna fleet by freeing it from its present dependence upon a small anchovy (*Stolephorus purpureus*), or nehu, as it is known locally, that is used for bait.

The Laboratory maintains cordial relations with the University of Hawaii--several of its scientists are members of the University's Affiliate Graduate Faculty. It also cooperates closely with the University's East-West Center, facilitating scientific interchange between America and Asia. It maintains ties with other research organizations in Hawaii, such as the Hawaii Division of Fish and Game and the Oceanic Institute.

Laboratory staff members represent the United States at meetings of such international bodies as the Indo-Pacific Fisheries Council, UNESCO's Cooperative Study of Kuroshio and Adjacent Regions, the International Indian Ocean Fishery Commission, and the South Pacific Commission.

One of the significant achievements of the Laboratory has been the use of immunogenetic techniques to show that the skipjack tuna of the Pacific Ocean can be separated into distinct groups. The results show one subpopulation in the western Pacific (Japan, Trust Territory), another in the eastern and central Pacific.

Another major achievement has been the preparation of an 'Oceanographic Atlas of the Pacific Ocean', a definitive volume, published by the University of Hawaii Press, in which half a century of oceanographic observations in the Pacific have been analyzed and presented in a form useful to oceanographers and fishery scientists.

The Laboratory welcomes visiting investigators and has been the site of original research by scientists from the mainland, Europe, and Asia. Space is limited, however, and arrangements with the Director must be made well in advance. (BCF Circular 306)

