

INTERNATIONAL

U. S. and Soviet Vessels Conduct Joint Fishery Research in Atlantic

Two vessels named "Albatross"--the U.S. "Albatross IV" of BCF's Biological Laboratory in Woods Hole, Massachusetts, and the Soviet "Albatros"--are cruising the mid-Atlantic between Woods Hole and Cape Hatteras, North Carolina, in a joint fishery project that will acquire important information about the resources of that area. The project was arranged during bilateral meetings held in Boston last June. This joint cruise continues the international cooperative work started when the Soviet Albatros arrived in Woods Hole on September 11.

years. Eventually, it will involve the participation of vessels from member countries in an intensive plankton survey of the Georges Bank area. The purpose of the recent joint cruise was to standardize collecting equipment, methods of collection, and analysis of samples so that results of future surveys by the two countries will be directly comparable.

Groundfish Surveys

The second phase of this joint work consists of groundfish surveys between Cape Cod, Massachusetts, and Cape Hatteras, North Carolina. The work was planned during last June's Boston meetings. The Soviet fleet is fishing this area intensively. The



Fig. 1 - The Albatross IV, research vessel of BCF. (Photo: Robert K. Brigham.)

The vessels have been engaged in two different ventures:

The first concerns a study of the survival of the early stages (eggs and larvae) of important commercial species of fish in the Georges Bank area. The International Commission for the Northwest Atlantic Fisheries (ICNAF) has been planning such a study for

two countries decided that assessment of the effect of their fishing on the stocks of silver hake, red hake, scup, and fluke required more scientific information. They agreed on a cooperative program to obtain the information.

The Cruises

The Soviet vessel arrived at Woods Hole on September 11. After a week of scientific

discussions, the two vessels departed on a one-week plankton cruise. All goals were achieved. The two vessels then exchanged trawl nets and left on September 28 for a two-day shakedown cruise. Then, following an exchange of several scientists, the two set out on the first of their two 10-day cruises. Biologists from a number of Atlantic States also were aboard.

future work conducted by their research vessels."

The Two Vessels

The Albatross IV is a 187-foot, single-screw, stern trawler that carries a crew of 19 and 6-8 scientists. It serves as an all-season base for fisheries and physical

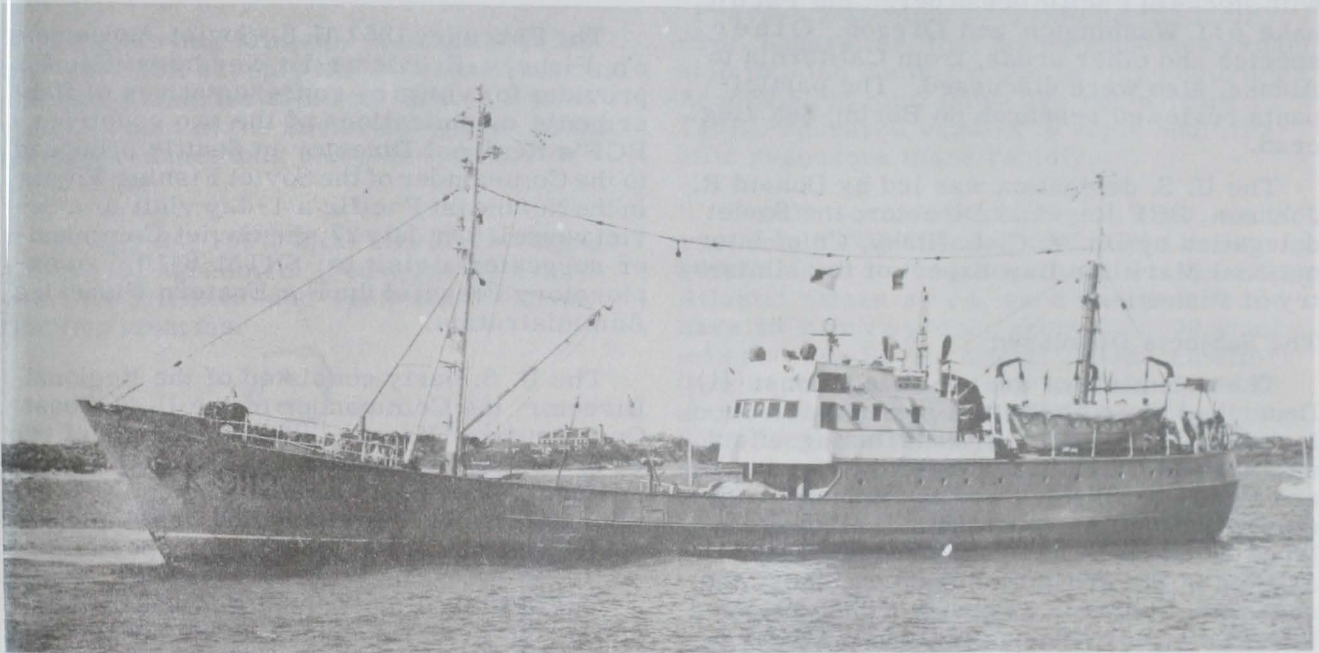


Fig. 2 - The Soviet Albatros.

(Photo: Robert K. Brigham.)

Importance of Project

Dr. Herbert W. Graham, Laboratory Director, BCF's Biological Laboratory, Woods Hole, said: "The fishery resources of the Georges Bank area are being fished more intensively each year by more and more countries. Last year the Soviet Union harvested more tonnage from the area than any other country. The wise management of this resource requires a thorough knowledge of the biology of the fishes concerned and the effects of fishing on the populations. Through ICNAF the member countries have been submitting statistics and biological information on their catches and carrying out scientific surveys. However, this is the first time two countries have worked so closely together to get an absolute comparison of the methods used; this will be extremely valuable in all

oceanographic research in the Northwest Atlantic.

The Soviet Albatross is a 165-foot, gray-hulled, converted side trawler. She reminds old Woods Hole hands of the U. S. "Albatross III". The Albatross is a scouting vessel that works with a fishing fleet. She carries 31 persons, including 8 scientists.

Chief Soviet scientist is Arkady Noskov. He and Dr. Robert L. Edwards, Assistant Director of BCF Woods Hole, met during past international fishing negotiations in Moscow.



U. S. and USSR Hold Fishery Talks

Fisheries experts of the U. S. and the Soviet Union met in Seattle, July 19-28, to discuss the exchange of statistics and scientific data and to plan cooperative research on species of common interest in the Northeastern Pacific Ocean.

The conference was concerned primarily with stocks of Pacific ocean perch and Pacific hake off Washington and Oregon. Other species and other areas, from California to Alaska, also were discussed. The participants reviewed research on Bering Sea king crab.

The U. S. delegation was led by Donald R. Johnson, BCF Regional Director; the Soviet delegation by Dr. V. G. Lafitsky, Chief International Maritime Law expert of the Ministry of Fisheries.

The Subjects Discussed

The scientists of the two delegations: (1) Described their statistical systems for collecting and recording catch and fishing-effort data for the trawl fisheries of the Northeastern Pacific. (2) Reviewed the principal species of groundfish caught, the fishing areas, types of vessels and gear used, biological aspects of the groundfish species taken, and research studies in progress. (3) Exchanged information on methods used to estimate size and maximum sustainable yield of stocks of Pacific ocean perch and Pacific hake off Washington and Oregon, and of king crab in the Bering Sea.

Agree on Recommendations

Based on the discussions, the experts agreed on recommendations concerning exchange of fishery statistics and biological data and coordinated research. The recommendations will be submitted to the appropriate agencies of the U. S. and USSR for review and approval.

The recommendations define proposed areas for reporting fishery statistics; species to be reported; time periods; categories of vessel and gear combinations; depth intervals to be used; sampling procedures; and biological measurements.

Also proposed are coordinated research on size of hake stocks; spawning behavior of hake; methods of determining age of ocean

perch and hake; relative fishing power of each vessel-gear combination in trawl fisheries of the 2 countries; abundance of juvenile king crab; and exchange of scientists between research vessels.



U. S. and USSR Exchange Vessel Visits

The February 1967 U. S.-Soviet Agreement on Fishery Problems in Northeast Pacific provides for visits by representatives of fishermen's organizations of the two countries. BCF's Regional Director in Seattle proposed to the Commander of the Soviet Fishing Fleets in the Northeast Pacific a 1-day visit to a Soviet vessel. On July 27, the Soviet Commander suggested a visit to "SRTM-8410," an exploratory vessel of the Far Eastern Fisheries Administration.

The U. S. party consisted of the Regional Director, the Commander of the U. S. Coast Guard cutter "Yocona," the presidents of two U. S. fishery associations, and a BCF interpreter. Soviet hosts were Commander E. I. Andriushchenko, his deputy, the captain of the Soviet vessel, and a fishing gear specialist.

One of the subjects discussed was the complaints of U. S. fishermen about dangerous navigational procedures of Soviet fishing captains. The Soviet Commander replied that part of the problem may be that "Soviet fishermen are curious to see how U. S. fishermen fish." He said "he would appreciate it if in the future notices of violations committed by Soviet vessels would be passed on to him rather than to the Soviet Government."

On August 3, the Soviets visited the U. S. commercial fishing vessel "Western."



Soviet-Japanese Talks Held in Moscow

Japanese Foreign Minister Takeo Miki discussed the "fisheries question" several times during his visit to Moscow in late July. Miki and Kuznetsov, Acting Soviet Minister of Foreign Affairs, took up "fishery problems" in addition to "China and Vietnam." No details are available.

On July 22, during a ceremonial visit to the Kremlin, Miki renewed an earlier Japanese proposal for a bipartite meeting in October 1967 to discuss: (1) safety of Japanese fishermen operating north of Japan--where the Soviets, over the years, have arrested dozens of them; (2) renegotiation of the USSR-Japan Northwest Pacific Fisheries Treaty; and (3) joint fisheries research in the Sea of Okhotsk.

Soviet Prime Minister Kosygin replied that the USSR accepts the Japanese proposal and that Fisheries Minister Ishkov will be the chairman of the Soviet delegation to the meeting. Exact date and place will be decided later.

On July 24, 1967, Miki and Ishkov signed a bilateral agreement (renegotiated every year) on Scientific and Technical Cooperation in Fisheries.



Japan Supervises Her Nationals' Fishing off New Zealand

The Japanese Fisheries Agency's research vessel "Hakuho Maru" left Tokyo August 10 to guide and supervise Japanese vessel operations within New Zealand's 6-12 mile fishing zone. This is to ensure smooth administration of the recently concluded Japan-New Zealand fishery agreement, which provides for continued Japanese fishing within this zone. ("Minato Shimbun," August 4.)



Norway and Denmark Ratify Agreement on Fishing off Greenland

Denmark and Norway have ratified the agreement (negotiated April 20) on fishing off Greenland. The agreement, now in force, gives Norwegian citizens the same fishing rights as Danish citizens in the fisheries off Greenland's east coast.

These rights will be maintained for the next 5 years. They will be continued for 5 more years if there is no demonstrable damage to fisheries of the native Greenlanders. (U. S. Embassy, Copenhagen.)



New Zealand and Australia Concerned over Soviet Southwest Pacific Fishing

Australia and New Zealand are concerned over the implications of extensive Soviet fisheries research off their coasts. The research is being conducted by the Pacific Research Institute for Fisheries and Oceanography (TINRO).

New Zealand newspapers have quoted a "Pravda" statement by TINRO's Director, Prof. Kizevetter, that Soviet fisheries expansion into the South Pacific is only beginning. According to him, there are not enough TINRO research vessels to study South Pacific resources more rapidly.

For the entire Pacific Ocean area, each available TINRO vessel would have to survey 800,000 square miles; to cover the entire Atlantic Ocean area, each vessel would have to survey only about 200,000 square miles. The Soviet Atlantic research effort (judging by the number of vessels alone) is about 4 times that in the Pacific. Since the Soviet Atlantic fisheries produce only about 40 percent more than the Pacific, the imbalance is obvious.

The Soviet Position

New Zealand journalists contacted the Soviet Legation in Wellington to obtain more information. The Soviet reply was that "we exploit marine resources in all of the oceans because we need them." However, the First Secretary of the Embassy added that Soviet captains have received strict orders to respect New Zealand's new 12-mile fishery limits.

In Australia, J. C. Wharton, Deputy Director of the Victoria Fisheries and Wildlife Department, told newsmen that after TINRO's extensive research off Australia "the Soviet Union knows more about Australian fishing grounds than does Australia."

Since the summer of 1966, at least 3 research vessels (the "Akademik Berg," "Seskar," and "Iskona") accompanied by up to 10 exploratory research vessels have continuously conducted fishery investigations off Australia.

Soviet Landings

Soviet landings of fishery products from the Pacific and Indian Oceans (including Ant-

arctic whaling) were 2.05 million metric tons in 1966. By 1970, those landings are expected to increase to 3.1 million tons--over 50 per cent greater.



EFTA May Liberalize Fish Trade

Depending on the findings of a working party, the European Free Trade Association (EFTA) may liberalize trade in fish and other marine products among its member nations. Ministers of EFTA agreed to review the situation during their 1966 meeting in Lisbon. The working party met for the first time in May 1967 and agreed to discuss at its next meeting the ideas for liberalizing trade suggested by its members. The group must make its recommendations to the Ministers before the end of 1967. ("Seventh Annual Report on the European Free Trade Association," Sept. 1967.)

EFTA Landings Almost 10% of World Catch

EFTA members include Austria, Denmark, Finland, Norway, Portugal, Sweden, Switzerland, the United Kingdom; Finland is an associate. Their fishery landings represent almost 10 percent of world fish production and more than 50 percent of catches in Western European countries. EFTA's share of world catches has been declining in recent years. Norway is EFTA's biggest producer, followed by the United Kingdom, Denmark, Portugal, and Sweden.



Antarctic Whale Oil Output Declines in 1966/67 Season

Production of baleen whale oil in the 1966/67 Antarctic pelagic season--December 12, 1966-April 7, 1967--is provisionally estimated at 71,155 short tons. It was 83,955 in 1965/66 and 158,244 tons in 1964/65.

Production data for sperm whale oil are not yet complete, but output by Japan and Norway declined 16 percent. Total production will likely be markedly below the 59,232 tons produced in 1964/65.

Production of Whale Oil in the Antarctic Pelagic Season ^{1/}				
	Baleen Oil		Sperm Oil ^{2/}	
	^{3/} 1966/67	1965/66	^{3/} 1966/67	1965/66
 (Short Tons)			
Japan	34,222	44,589	2,203	2,849
Soviet Union	^{4/} 22,035	21,317	^{5/}	34,676
Norway	14,898	18,049	4,966	5,707
Total	71,155	83,955	^{5/}	43,232

^{1/}Converted from original unit at rate of 170 kilograms, or 374,7820 pounds of oil, per barrel.
^{2/}Including catch of sperm whales north of latitude 40° S. on voyage to and from Antarctic.
^{3/}Preliminary.
^{4/}Estimate based on catch of 1,069 blue whale units, with assumed outturn of 110 barrels of oil per blue whale unit.
^{5/}Not available.
 Source: "Norwegian Whale Gazette," Oslo.

Antarctic Catch 3,503 BWUs

The total Antarctic catch this season amounted to 3,503 blue whale units (BWU). Based on official figures, baleen whale oil output by Japan declined. Norway's output also declined as a result of reduced oil yield per BWU caught. Soviet output is estimated to have increased; however, actual production has not yet been reported officially.

During the 1966/67 Antarctic pelagic season, 9 factoryships and 120 catcher boats were in operation--1 less factoryship and 8 fewer catcher boats than in the previous season. ("Foreign Agriculture," May 29, U. S. Dept. of Agriculture.)



Symposium on African Continental Shelf Fisheries Is Rescheduled

The Symposium on the Living Resources of the African Atlantic Continental Shelf, scheduled originally for June 1967 in Madrid, was rescheduled for Santa Cruz de Tenerife, Canary Islands, March 25-28, 1968. The symposium will be held under the auspices of the International Council for the Exploration of the Sea (ICES), with FAO support. Its purpose will be to establish the state of trawlable fish stocks and their fisheries (including fishing effort) between Gibraltar and Dakar, Senegal.

Papers on all aspects of fishing in the area--in French or English--are being sought.

Symposium will include sessions on (1) general faunistics of the area; (2) physical oceanography; (3) plankton; (4) crustacea and mollusca; (5) fishes; (6) stock assessment and statistics; and (7) fishing and utilization of the catch. (U. S. Embassy, Copenhagen, Aug. 2.)

Note: Titles of contributions should be submitted to the Convenor of the Symposium by November 1, 1967. For more information, write the Convenor: R. Letaconoux, 59 Avenue Raymond-Poincare, Paris 16eme, France.



FAO Council Recommends New Indian Ocean Commission

At its 48th Session in June, the FAO Council recommended establishment of a new "Indian Ocean Fishery Commission" to develop and use the area's fishery resources. The Council also recommended that regional fisheries commissions be defined in relation to sea areas, rather than by land areas, as they are now. This change would allow all nations interested in a fishery area to join the regional "sea-area" commission. At its meeting in April 1967, most members of the FAO Committee on Fisheries recognized the need for this change to facilitate conservation. Final approval of these proposals rests with the 114-nation FAO Conference, which meets in November.



Undersea Telephone Cables Buried

In "Operation Sea Plow," the American Telephone and Telegraph Company is burying the shore-end sections of transatlantic undersea cables beneath the ocean floor to prevent their damage by fishing vessels. Occasionally ocean cables have been broken or damaged by fishing gear, undersea slides, icebergs, currents, and rough ocean bottom conditions. Despite the fishing industry's cooperation, almost 90 percent of all cable breaks along the Continental Shelf were caused by commercial fishing vessels.

When breaks in the high-capacity cable to Great Britain occurred off New Jersey, AT&T decided to bury the cables with a "sea plow." The plow weighs 27,000 pounds and is towed by a ship at 0.5 to 1.5 knots on 4 runners. The cost was about \$2 million, but AT&T expects the program to produce substan-

tial future savings by reducing costs in cable patrol and repair work. (AT&T, July 20.)

Tried Education Campaign

AT&T several years ago began a program of educating fishermen on how to protect the undersea cables. It mass-distributed to U. S. fishermen maps of the Atlantic and Pacific Oceans indicating the precise locations of the cables. In 1966, maps in Russian also were printed and distributed via AT&T barges and patrol vessels to any Soviet fishing vessel encountered in the Atlantic. Apparently, this was not totally successful, and the company decided to bury the cables.



Ecuador Will Withdraw from Tuna Commission

Ecuador has notified the U. S., the depository government, of its intention to withdraw from the Inter-American Tropical Tuna Commission. Its note, dated August 18, 1967, indicated that in accordance with the provisions of the Tuna Convention the withdrawal will be effective 1 year from the date it is received.



BCF-Operated Irradiator Becomes International Training Facility

The BCF-operated Marine Products Development Irradiator in Gloucester, Massachusetts, has been selected by the International Atomic Energy Agency (Vienna, Austria) as an approved training facility for workers in the food irradiation field.



Food and Agriculture Organization

SEMINAR HELD
ABOARD SOVIET VESSEL

On June 15, the 3,730-gross-ton "Akademik Knipovich," the largest Soviet fisheries research vessel, left Odessa with 20 fisheries experts from developing countries for an FAO-sponsored high-seas seminar in advanced methods of fisheries research. Aboard were bio-

logists, gear specialists, and technologists from Kenya, Dahomey, Tunisia, Pakistan, India, and other countries. The vessel operated mostly in the Mediterranean Sea. She stopped in Varna, Bulgaria, and Istanbul, Turkey, where fish-processing enterprises and marine laboratories were visited. Leader of the seminar was Professor P. A. Moiseev, Deputy Director for Biological Research of VNIRO.



FEO Fish Meal Output Up Slightly

Fishmeal production of member countries of the Fish Meal Exporters' Organization (FEO), which supplies about 90 percent of world exports, was up slightly in first-half 1967 over the 1966 period.

Country	June		Jan. -June	
	1967	1966	1967	1966
	(Metric Tons)			
Chile	1/	19.7	3/50.5	135.5
Angola	1/	3.0	2/14.6	23.5
Iceland	11.7	19.1	44.8	60.6
Norway	60.7	56.7	282.3	232.1
Peru	1/	.5	3/998.5	968.9
So. Africa (including S. -W. Africa)	33.9	47.0	215.4	176.8
Total	326.7	146.0	1,606.1	1,597.4

1/Not available.
2/Data for Jan. -Apr. 1967 only.
3/Data for Jan. -May 1967 only.

The current fishing season for anchovy in Peru ended June 15; it was likely that the 1966/67 anchovy catch would reach 8.5 million metric tons. The new fishing season was expected to open Sept. 1, or soon after.

Exports of FEO countries were:

Country	Mar.		Apr.		May		June		Jan. -June	
	1967	1966	1967	1966	1967	1966	1967	1966	1967	1966
	(1,000 Metric Tons)									
Chile	12.8	23.9	19.8	16.1	7.3	12.5	4.4	11.9	54.6	91.2
Angola	1.4	3.4	6.7	3.2	1/	5.3	1/	2.5	2/16.1	22.7
Iceland	12.0	7.7	11.3	13.7	13.2	8.4	5.3	9.2	72.1	65.2
Norway	3/ 30.4	24.2	31.2	15.4	83.8	14.0	53.7	21.4	4/222.1	112.3
Peru	117.3	137.7	118.4	118.6	158.7	107.5	1/	120.6	884.0	747.4
S. Africa	16.7	12.0	18.4	14.5	52.7	17.6	28.2	19.2	123.4	73.9

1/Not available.
2/Data only for Jan. -Apr. 1967.
3/Herring meal only.
4/Total to July 15, 1967, was 245.8 tons.
5/Data for Jan. -July 1967.

World Fish Meal Production Rises

World fish meal production from January through May 1967 was higher than in the 1966 period. Higher production in Norway, Peru, South Africa, and Denmark offset lower output in Chile, United Kingdom, Iceland, and Angola.



World Fish Meal Trade Increased in 1966

World fish meal exports, including the meal equivalent of fish solubles, increased to 2.6 million short tons in 1966--164,600 tons higher than 1965 and 43 percent above the 1960-64 average. The increase chiefly reflected record Chilean exports. Recovery from the reduced 1965 Peruvian exports, plus increases in exports from Norway and Iceland, accented this increase. Exports from South Africa declined substantially for the second consecutive year.

A sharp rise in production in the major producing countries (Peru, Chile, Norway, and Iceland) resulted in larger supplies in world markets. Prices fell sharply as stocks increased. To correct the situation, fishing in Norway was stopped in November and December 1966. In Peru, an industry-wide strike took place November 1-December 14. In February 1967, the Peruvian Government prohibited anchovy fishing during February 15-March 14, and on Saturdays and Sundays throughout the season. Despite these restrictions, stocks in the major producing countries continued to rise.

U. S. Becomes World's No. 1 Importer

Imports into specified countries in 1966 increased by 65,300 tons from 1965 and were only slightly less than 1964's record high. The U. S. displaced West Germany as the world's major fish meal importer. U. S. imports, chiefly anchovy meal from Peru and Chile, increased by two-thirds and were about one-fifth of the total. Imports by EEC countries were 9 percent below 1965 and 1964. Imports by other European countries, chiefly the United Kingdom, declined while movements to East European countries continued upward. Japan's imports, up in recent years, declined by 15 percent in 1966. Mexican imports increased by more than one-half from 1965 and were at a new high in 1966.

Abundant supplies at price levels one-fourth below a year ago have stimulated the uptake by the major importing countries. In 1967, through April, U. S. imports of fish meal, including the meal equivalent of solubles, amounted to 211,809 tons--markedly above the 115,114 tons of the 1966 period. West Germany's imports in January-April rose to about 164,250 tons, compared with 127,600 tons in the 1966 period.

Based on current prospects of ample supplies from the major exporting countries, there is little likelihood of a significant price advance this season. Fish meal prices in European markets on a crude protein basis have been competitive with soybean meal prices since June 1966. ("World Agricultural Production and Trade," Statistical Report, July 1967, U. S. Department of Agriculture.)



Fish Oil Output and Export in 1966 Set Record

World fish oil production set a record in 1966--16 percent above 1965 and 46 percent above the 1960-64 average. The increase was influenced chiefly by record outputs in Norway and Iceland and by some recovery from the reduced 1965 production in Peru and Chile. Other producing areas accounted for about 22 percent of the total, compared with 28 percent in 1965.

The 1966 fish oil output resulted in record exports of 13 percent above 1965 and 39 per-

cent above the 1960-64 average. Most of this increase reflected record shipments of herring and mackerel oil from Norway and Iceland. Exports of anchovy oil from Peru approximated 1965's. Exports of menhaden oil from the U. S., and pilchard oil from South Africa, declined.

- U. S. supplies and exports (largely menhaden oil) declined as catch declined. The industry, which conducts its operations off mid-Atlantic coast, is concerned over the continuing decline.

- Peru's 1966 production recovered partially from the 1965 low. Despite the increase, supplies were significantly below 1965 and 1964. Exports, virtually all anchovy oil, increased slightly from 1965. Based on estimated build-up in stocks, and prospects of some increase in production this year, Peru's 1967 fish oil supply is expected to increase, perhaps to 220,000 tons.

Because of increased supplies, exports should expand. During January-April, Peru's fish oil exports were 118,052 short tons compared with only 25,398 tons in the 1966 period.

- Chile's production and exports of anchovy oil rose to new highs in 1966, following sharp decline in 1965. Apparently, the increase reflected a marked improvement in fishing.

- Iceland's production and exports in 1966 rose sharply above 1965 and more than doubled 1960-64 average. The increase reflected a marked increase in herring catch due to increased use of modern boats and fish-locating equipment. Exports of herring oil during January-April 1967 were 34,137 tons, compared with 40,560 tons in the 1966 period.

- Norway's fish oil production and exports set records. Exports were 5 times the 1960-64 average. This increase was due to increased fishing pressure by new vessels with purse-seining equipment. Because the sharp increase in supplies in 1966 resulted in lower oil prices, fishing was suspended in November and December. To reduce 1967 catch and raise oil prices, herring processors reduced their buying prices one-third from 1966. Herring oil production through April 1967 was 65,000 tons, compared with 36,300 tons in the 1966 period.

- South Africa (including South-West Africa) fish oil production and exports declined

again. Favorable fishing conditions for pilchard during early 1967 resulted in a catch substantially above the same 1966 period. Existing conservation measures offer little likelihood of sizable expansion in the near future.

Because of increased world supplies, fish oil prices since March 1966 declined significantly. They reached a low in April 1967 and have increased slightly since then. Unusually low prices for fish oil relative to competing oils increased consumption.

Much of the increased supplies of fish oil available in world markets is being absorbed in the United Kingdom, West Germany, the Netherlands, and France. Because of higher lard prices and a scarcity of whale oil, fish oil is being used more in margarine production in the United Kingdom. ("World Agricultural Production and Trade," Statistical Report, July 1967, U. S. Department of Agriculture.)



Japanese-Peruvian Joint Whaling Venture Negotiated

The Japanese Nippon Kinkai Hogeï and Peruvian interests signed a provisional contract early in September on a joint whaling venture in Peru. According to the plan, the Japanese firm will conduct whaling operations from the base at Paita, deliver its hauls to the Peruvian processors, and buy back the meat for shipment to Japan.

Upon approval of the venture by the Japanese Fisheries Agency and the Peruvian Government, the Japanese firm plans to send a 3,000-ton refrigerated vessel and 3 catcher boats "Tokachi Maru Nos. 7, 8, & 10," to Peru. The fleet will conduct exploratory operations until March 1968. ("Suisancho Nippo," Sept. 2.)



Joint Japanese-U. S. Crab Venture in Alaska Slated

The Japanese fishing firm Nichiro Gyogyo and the trading firm Mitsubishi Shoji have concluded an agreement with a U. S. company to establish a joint crab-packing venture at Sand Point, Shumagin Island, Alaska. The new company, tentatively named Sand Point Packing Co., has capital of US\$400,000; the U. S. company contributed 50 percent, Nichiro 30 percent, and Mitsubishi Shoji 20 percent.

The joint operation will use a 614-ton processing vessel, to be provided by the U. S. partners, to pack crabs purchased under contract from local fishermen. The new company is scheduled to begin operation in September.

This is the second joint venture of the three firms. The first was salmon packing operation at Orca, Alaska, set up in summer 1965. ("Suisan Tsushin," July 4.)



SHARK STILL A VILLAIN

One of the first records of a shark attack on man is recorded on a vase painted about 725 B.C. It shows a sharklike fish devouring a sailor. But it was not until the 16th century, when an English sea captain placed one of these fearsome fishes on display in London, that they came to be known as sharks. English sailors adopted the name from the German word "schurke," meaning villain. (From *Sea Frontiers*, copyright 1966 by The International Oceanographic Foundation, Miami, Florida.)

FOREIGN

Canada

HOLDS CONFERENCE ON FISH PROTEIN CONCENTRATE

Canada is holding a conference on fish protein concentrate (FPC) Oct. 24-25 to deal with various aspects of production. Sponsored by the Federal-Provincial Atlantic Fisheries Committee (Federal and Atlantic provincial fisheries officials), the meeting is chaired by Deputy Minister of Fisheries Needler.

It is divided into 5 sessions: World Protein Situation, Canadian Raw Material Resources, Processing Technology, Standards of FPC, and Status of FPC Development. Scientists and specialists from the U. S., Canada, and FAO are participating in largest numbers, although other interested persons are attending.

The Industrial Development Service of the Department of Fisheries arranged the conference. (Canada's Dept. of Fisheries, Aug. 15.)

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EXTENDS PERIOD OF YELLOW PERCH PRICE STABILIZATION

On Aug. 10, the period was extended to March 31, 1968, for the stabilization price of 10 cents a pound for yellow perch caught by Canadian fishermen in Ontario waters. The original program, effective August 1966, ran until August 1967. During that period, the Fisheries Prices Support Board underwrote a price of 10 cents a pound for yellow perch, 8 inches long, or longer, of No. 1 quality. To maintain this price to Canadian fishermen, the Board purchased frozen round perch and perch fillets from Canadian processors at designated cold-storage locations.

The commercial marketing of these products from the 1967 production would normally be completed before the 1968 spring fishing begins. The extension will stabilize the price to fishermen for yellow perch during the fall fishing season of 1967. It will allow the Board to clear its holdings during the normal commercial marketing season.

NEW INSURANCE PLAN IS AVAILABLE TO ONTARIO FISHING VESSEL OWNERS

Canadian commercial fishermen in Ontario may now buy insurance under the Province's Fishermen's Indemnity Plan.

Low-cost insurance is provided for vessels and equipment engaged in commercial fishing. Similar protection has been available to marine fishermen for a number of years. Coverage is provided for fishing vessels, shore installations such as net sheds and fishing gear stored in them, and for certain types of fixed fishing gear while in the water.

What Plan Provides

To be eligible, the appraised value of the vessel or shore installation and equipment may not exceed C\$15,000. Premiums are one percent per annum of the appraised value of the asset. In the event of complete loss, benefits are 60 percent of the asset's value. In partial loss, there is a 30-percent deductible clause; then the Plan will pay up to 60 percent of the appraised value towards additional repairs.

The Plan provides insurance against collision, foundering, storm, stranding, fire, or any other recognized peril. Officers of the Department of Lands and Forests will act as agents and adjustors for the Plan. (Ontario Dept. of Lands & Forests, July 31.)

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PUSHES NEWFOUNDLAND FISHERIES RESETTLEMENT PROGRAM

If they volunteer to move from isolated communities to fisheries growth centers, Newfoundland families will be able to get Government grants of up to \$6,200 under Federal-Provincial regulations approved June 20. The new regulations liberalize benefits under a program in effect since the early 1950s. Already, it has helped resettle about 11,500 people. (U. S. Consul, St. John's, Newfoundland.)



LATIN AMERICA

Peru

1967/68 ANCHOVY SEASON BESET BY PROBLEMS

The 1967/68 anchovy fishing season began September 1. The Peruvian Government issued a decree on August 30 granting tax relief requested earlier by the industry. As late as August 21, several processors said they would keep their vessels in port until tax and other relief measures, including a cut in fishermen's wages, were granted to reduce production costs. The August 30 decree, in addition to reducing taxes for the next 12 months, authorized the Navy to limit purse seiner crews using a formula based on vessel size, efficiency, and other factors.

Fishermen are upset over the expected reduction in crew size, and processors claim the reliefs granted are insufficient. In at least one instance, fishermen have seized a plant and tried to operate it themselves. It is not clear which plants will operate this year, or which have commenced operation.

Stocks of fish meal on hand in late August were almost twice those held in August 1966, but reduced production in early September might reduce them to levels well below those of late September 1966. (U. S. Embassy, Lima, Aug. 23, 30, 31; Peruvian broadcasts.)



Mexico

DEMAND GOOD FOR OCTOPUS

Mexico plans to export 6,000 metric tons of Gulf of Mexico octopus this year. This production was sparked by the demand from markets created by sample shipments to the U. S. and other countries. This development has been a boon to Mexican fishermen and to the new port of Alvarado.

The octopus, previously little in demand, is caught off Yucatan and Campeche, trucked to Alvarado, cut up, and quick-frozen for export. The port directors are worried about the capability of the existing fleet to satisfy the new demand. They claim a bigger fleet

is needed. More demand is anticipated from sample shipments sent to Europe. ("Mexico City News," Aug. 2.)

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BUILDS 15 SHRIMP TRAWLERS FOR ALVARADO

A Veracruz shipyard is building 15 new shrimp trawlers for the pilot fisheries complex at Alvarado at a total cost of US\$2 million. The first will be launched in November, followed by another each 20 days. They will be incorporated immediately into the 6,528-vessel Mexican fishing fleet.

The port of Alvarado lacks fishing vessels. These new trawlers should help materially in utilizing fully the port's facilities. ("El Sol," Aug. 6.)

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SHRIMP FLEET IS AGING

Mexico's shrimp fishing fleet is old, say sources close to the fishing industry. All but 400 of the 2,000 vessels are 50 years old and less than 19 meters (62 feet) long. Fewer than 200 are fully adequate. The aged vessels contribute to industry's inefficiency. Two-thirds as many new vessels could take the shrimp now taken by all old vessels. Mexican shipyards could easily produce the vessels needed to modernize the industry.

A plan is being considered to replace all old vessels with new ones in 10 years, including vessels for other species such as tuna. The method of financing this project has not been decided.

Shrimp is Mexico's fifth largest export, representing an annual income of US\$17.2 million. ("Mexico City News," Aug. 1.)



Cuba

ACHIEVES PLANNED 1967 CATCH IN MID-JULY

The planned 1967 catch of the Cuban fishing fleet (15,235 metric tons) was achieved in

tuba (Contd.):

mid-July; 15,268 tons of fish had been caught and processed. High-quality food fish made up 81 percent of catch. Fleet operated both in the Atlantic (Gulf of Mexico, Caribbean, Mid-Atlantic, Newfoundland grounds, South Atlantic off Argentina, and Brazil) and the Pacific.

This fleet, "Flota Cubana," is only part of the total fleet of fishing vessels. It is distinguished from the others in that it operates in the high seas. In 1965, it landed only about 1,400 metric tons of fish. The early achievement of the 1967 goal was made possible by the purchase from Spain in 1966 of tuna long-liners and bottomfish trawlers.

* * *

FISHES FOR TUNA IN EASTERN PACIFIC

The long-liner "Bonito," manned by Cubans, left Havana January 25, 1967, to fish tuna in the eastern Pacific. The vessel returned to Havana in early April with 155 metric tons of tuna and billfish taken in 41 days of fishing time; the rate was 3.8 tons per actual fishing day. Principal species caught were yellowfin tuna, big-eyed tuna, and American sailfish. The area fished extended from Baja California to Ecuador.

Two scientists of the Cuban Fisheries Center accompanied the vessel. Scientific studies included stomach analyses, catch sampling, water temperature, etc.

The Bonito

The "Bonito" is a 655-gross-ton long-liner built in Spain. It has a crew of 38. In 1966, 19 such vessels were delivered to Cuba. The vessels are 55.25 meters (181 feet) long, 9 meters (29.5 feet) wide, and 4.25 meters (14 feet) deep. Each has a 1,300-hp. diesel engine with a speed of 11.25 knots; an air-blast freezer of 22-tons-per-day capacity, with a refrigerated hold capacity of 580 cubic meters.

The vessels were constructed in five shipyards in northern Spain. Ten are 655 tons, 7 are 569 tons, and 2 are 642 tons. The Cubans also have five 387-ton Japanese long-liners purchased in 1962, with a freezing capacity of 220 tons each.

The rate of catch of 3.8 tons a day compares favorably with Japanese catch rates. The fleet apparently is ready to begin fishing on a large scale, possibly in the eastern Pacific.

Cuba is not a member of the Inter-American Tropical Tuna Commission, and so is not bound by its yellowfin tuna quota and recommended regulations. ("Mar y Pesca," May 1967.)



Chile

ANCHOVY CATCH, MEAL AND OIL OUTPUT DROP

Chile's total fish meal production during January-July was 99,452 tons.

In the area between Mejillones and Talcahuano, fish meal production for January-July 1967 was 20,465 tons, compared to 18,401 tons for the 1966 period.

	1967	1966	1965
 (Metric Tons)		
Anchovy Catch:			
July	68,197	92,918	12,115
Jan.-July	432,752	850,397	281,259
Meal Production:			
January	15,983	33,504	12,836
February	20,294	27,113	11,371
March	7,794	13,536	10,278
April	1,651	14,067	3,587
May	3,447	26,754	4,090
June	16,487	18,783	2,989
July	13,331	17,865	2,188
Jan.-July	78,987	151,622	47,339
Oil Production:			
July	770	1,693	1/
Jan.-July	6,468	16,246	5,838

1/Not available.

For first-half 1967, production of fish meal from fish other than anchovy amounted to 17,306 tons--compared to 16,398 tons in first-half 1966 and 13,737 tons in the 1965 period.

* * *

EXPORTS OF FROZEN SHRIMP AND LANGOSTINOS INCREASE

The export of Chilean shrimp and langostinos continues to increase. In 1966, exports were 2,612.4 metric tons--3.7 times the 1961 figure. Top 1966 customers were the United Kingdom, the U. S., Sweden, and West Germany.

Chile (Contd.):

In 1966, for the first time, the U. S. was not the leading buyer.

Exports of Frozen Shrimp and Langostinos						
	1966	1965	1964	1/1963	1962	1961
	(Metric Tons)					
Argentina	1	18	32	2	5	1
Belgium	42	15	14	4	-	5
Canada	-	5	16	10	3	2
Denmark	68	25	45	58	13	-
France	-	10	7	4	3	1
Italy	-	-	-	4	-	-
Netherlands	84	120	66	28	13	-
Norway	-	-	-	1	-	-
Peru	-	-	6	-	-	-
Spain	4	-	-	-	-	-
Sweden	246	106	40	36	-	4
Switzerland	5	-	-	3	3	-
United Kingdom	1,136	538	483	329	301	128
United States	821	963	807	700	548	538
W. Germany	206	158	162	125	26	30
Total	2,613	1,958	1,678	1/1,304	915	709

1/Includes an estimated 260 tons of canned shrimp and langostinos.
Source: Instituto de Formento Pesquero, Seccion Economia.

The 1966 Chilean declared export value per metric ton was US\$1,777 (80¢ a lb.) for shrimp and US\$1,567 (71¢ a lb.) for langostinos.



Brazil

U. S. COMPANIES PLAN SHRIMP BASES

W. R. Grace is setting up a shrimp fishing and processing base in Belem, northern Brazil, through its Brazilian subsidiary PRIMAR. The operation is scheduled to begin in October. Eventually, it will have 20 modern trawlers.

It has been reported that the Borden Company in the U. S. intends to make a move in this direction--probably late this year or early 1968. (U. S. Consulate, Belem, Aug. 3.)



Ecuador

FISHING INDUSTRY CONTINUES TO DEVELOP

The Ecuadorean fishing industry continued to develop in the second quarter of 1967 as it attracted foreign investment. Tuna fishing was good. Frozen tuna exports from Manta were 8,000,000 sucres (US\$440,000) in January-May; there had been none in the 1965 period. Manta's canned tuna exports rose

from 4,250,000 sucres (US\$233,516) in the first five months of 1966 to 6,720,000 sucres (US\$369,231) in January-May 1967. INEPACA's Manta fish meal plant reopened, and the fishing center's tuna packers imposed quotas as the local fleet brought in a record catch.

Industry Developments

New fish-related companies are located at Guayaquil or the Santa Elena Peninsula. At Guayaquil, Far Camp opened a plant to process tuna and sardines. It plans to can fruit juice at a later date. Pesquera Industrial del Pacifica (CAPINPAC) was organized to build a 1,000,000-sucro (US\$55,000) plant to freeze and can fish and shellfish, and to extract fish oil and refine fish meal, for export and domestic use. Americana de Conservas S. A., capitalized at 1,000,000 sucres by German, Portuguese, and local interests, will can "pinchagua" (sardines) in tomato paste and oil. Sirio Cia. Ltda. will can tuna and make fish meal.

On the coast, the million-sucro Frigorificos Lemar S. A. plant at Santa Elena will freeze tuna and white fish, and extract fish oil. At nearby Santa Rosa, Pesquera Industrial Sol S. A. (PISSA) will can and freeze fish and shellfish.

Government and International Aid

Government efforts to promote even more development in the fishing industry included establishment of a Fisheries Institute at the Technical University of Manabi, and approval of a Decree Law authorizing fishermen to import necessary equipment free of duty.

FAO and Pan American Union fisheries experts visited the coast during March-June. They discussed creation of a Fisheries Institute in Manta to teach practical skills. Also a Mexican-Ecuadorean organization (DIECA) announced plans to produce alfalfa meal and mix it with molasses and fish meal to provide a quality livestock food. It is expected that at least part of the firm's production will be exported to Mexico. (U. S. Embassy, Quito, Aug. 18.)

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RAISES FISHING FEES AND EXPORT DUTIES

Ecuador has raised substantially the fees it charges foreign vessels to fish in her 200-

Ecuador (Contd.):

mile territorial sea. A law passed June 8, and published in the "Official Register" July 17, amends the Maritime Hunting and Fishing Law. It provides: annual registration (Matricula) fee, valid until Dec. 31 of each year, US\$350 for vessels fishing tuna and swordfish and \$200 for vessels fishing other species. It provides also for a license fee per net vessel registered ton per voyage of \$35 for tuna and swordfish, and \$18 for other species.

Previous matricula fees for tuna and swordfish were \$200, plus a license fee per net vessel registered ton per voyage of \$20 for swordfish and \$12 for tuna. Fees will be paid to Ecuadorean consulates abroad or to the General Directorate of Fisheries in Quito. They must be in U. S. dollars or their equivalent in freely exchangeable currencies.

New Export Duties

The new law provides also for new export duties in sucres per net kilo (U. S. cents per lb.): tuna (filleted) and swordfish, 0.04 (0.09¢ lb.); whole frozen tuna, 0.08 (0.18¢ lb.); codfish, 0.06 (0.14¢ lb.); filleted codfish, 0.03 (0.07¢ lb.); liver, oil, fins, or skins of sharks, 0.05 (0.11¢ lb.); frozen shrimp or crayfish, 0.03 (0.07¢ lb.); and others 0.02 (0.05¢ lb.).

Note: 20.33 sucres equal US\$1.



Colombia

JAPANESE FIRM TO EXPLORE
FOR SHRIMP OFF COLOMBIA

Colombia has licensed the Japanese fishing firm Nichiro to conduct exploratory shrimp fishing off her coast. The firm's trawler "Nisshin Maru No. 50" (260 gross tons) was scheduled to depart Japan on July 18 to operate out of the fishing base at Buenaventura.

Nichiro also plans to conduct mothership-type shrimp fishing near the mouth of the Amazon River this fall. It has selected the "Kuroshio Maru No. 22" (499 gross tons) to serve as mothership for 5 trawlers. (Suisancho Nippo, July 11.)



El Salvador

ISSUES LICENSES AND
OPENS DATA CENTER

A June 6 decree provides for issuance of 18 licenses (including 8 previously granted) for catching fish to be processed into fish meal. The licenses are valid for 5 years. Purse seines, long lines, and gill nets are authorized gear, but trawls are prohibited. The licenses apparently are not limited to individual vessels because the first license was issued to a group with 4 vessels. Of 10 new licenses available, 7 are reserved for vessels attached to the shrimp fleet and used to collect incidental fish taken by shrimp vessels; the 7 also may fish for industrial fish.

The number of licenses will be restricted until more is known about the effects of the industrial fishery on coastal resources. Shortly after the decree was issued, a license was granted to one firm to purse seine with two 65-foot vessels (each has capacity of 50 metric tons) and five 35-foot auxiliary boats.

Inspection Office and Data Center Opens

A fishery inspection office and data center was opened in El Trifuno. In addition to inspection, it will collect statistical data on the shrimp fishery. It is also the operational base for the Central American Regional Fisheries Project.

Firm Promotes Fish Consumption

Atarraya, S. A., a large shrimp fishing firm, has intensified efforts to promote local consumption of seafood. The company has divided San Salvador into 6 zones. Each zone is visited weekly by a small truck carrying fresh fish. The truck does not stop in the wealthy sections, where fresh fish is available in good markets. (U. S. Embassy, San Salvador, Aug. 17.)



Honduras

LEADING SHRIMP PLANT OPERATION CUT

The leading shrimp-packing plant in Honduras' north coast was operating at half capacity in early August. This was due to the absence of many U. S. vessels, which normally trawl and land their catch there. They had moved on to fish off Texas because shrimp were more abundant there. (U. S. Embassy, Tegucigalpa, Aug. 9.)

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EUROPE

USSR

RESEARCH VESSELS STUDY SOUTH AMERICAN FISHERY RESOURCES

Two research vessels, "SRTM-8453" and the "SRTM-8459," of the Pacific Research Institute for Fisheries and Oceanography (TINRO), have been studying fishery resources off Latin America's west coast since early 1967. The area includes large expanses of water off Ecuador, Peru, and Chile. In May, both vessels came into Puerto Mott (southern Chile) for water, fuel, and food.

Both vessels concentrated on fisheries and oceanographic research off southwestern Latin America (particularly the Humboldt Current area) and throughout the South Pacific. Researchers determined the biological characteristics of Pacific pike-mackerel spawning habits. On their way home, Soviet scientists visited the fisheries laboratory at Papette, capital of French Tahiti.

Meager Research in Southeastern Pacific

Southeastern Pacific fishery oceanography research has been meager and Soviet scientists are pioneering in the area. TINRO has sent research vessels there several times in the last few years. They discovered significant fishery stocks and interesting oceanographic data. The Soviets claim, for example, that cold Humboldt Current not only swings westward but also sinks as it goes north. Plankton penetrates to great depths and serves as food for the Peruvian anchovy which, in turn, is forage for giant squid found in enormous concentrations in the Humboldt Current (especially south of Galapagos Islands) by previous Soviet expeditions. Squid weighed from 10-40 kilograms (22-48 lbs.) each.

The scientists found abundant stocks of South Pacific saury or mackerel-pike (*Scomberesox forsteri*) from Southern Peru to Southern Chile. This species is related to North Pacific saury and is also responsive to light--but, unlike its northern relative, only from January to April (the northern saury from July through November). This peculiarity might make it possible for the Soviet Far Eastern fishermen to develop a year-round fishery for Pacific sauries.

Other fish stocks found by TINRO scientists in southeastern Pacific include tuna, yellowtail (found near Sebastian Vizcaino Bay off Baja California, Mexico), and whales.

TINRO'S Large 1966 Operation

In 1966, TINRO organized a research fleet of 15-20 vessels to study fisheries and ocean conditions of the eastern and southern Pacific. These vessels were sighted passing the U. S. coast. There is considerable information on their activities off Mexico, Australia, New Zealand, and in the Indian Ocean--but none on the research off the west coast of Latin America.

WILL EXPAND FISHING OFF NORTHERN CANADA AND GREENLAND

Exploratory research by the Murmansk Fisheries Administration in first-half 1967 around the southern tip of Greenland, in the Labrador Sea, and in the Davis Strait indicates the Soviet Northern Fleet can expand its fisheries. The area's fish stocks include many species presently in great demand by Soviet consumers but not fished intensively.

One reason for switching part of the fleet northward is that Soviet fleets experienced poor fishing off Nova Scotia this past summer.

PATROLS SALMON FISHERY IN NORTHWEST PACIFIC

Three Soviet medium side trawlers were assigned fishery patrol duty in the area where under the USSR-Japan Pacific Northwest Fisheries Agreement, salmon fishing by Japanese firms is allowed. The 3 trawlers (the "Diana," "Neva," and "Nelma,") belong to the Sakhalin RYBVOD, a fisheries protection and enforcement organization administered by the Ministry of Fisheries.

The surveillance of Japanese fishing began in early July and continued until mid-August.

USSR (Contd.):

ACTS TO PROTECT KURIL ISLAND SEALS

The Fishery Management Section (RYBVOD) of the Sakhalin Fisheries Administration recently acted effectively to control fully all seal and sea otter hunting in the Kuril Island Chain. Preliminary estimates show that the islands are rich in fur seals (15,000-20,000 heads), sea lions (about 20,000), sea otters (about 4,000), and ringed seals.

In spring 1967, the Sakhalin RYBVOD prohibited any seal or otter hunting. Two inspection teams were organized in May 1967 to enforce the regulations; one worked from Urup Island, the other from Paramushir Island. At the same time, RYBVOD fisheries management vessel "Diana" left her home port of Korsakov to conduct a census of Kuril Island sea otters.

* * *

STUDIES ARTIFICIAL REPRODUCTION OF PACIFIC SCALLOPS

In late June, scientists of the Pacific Institute for Fisheries and Oceanography (TINRO) began studying the possibility of raising scallops by artificial propagation in a natural marine environment. Their study area is Aniva Bay, south of the City of Korsakov on Sakhalin Island.

The scientists are using an underwater research vehicle. Aqualung divers catch the female specimens on the ocean bottom and transport them to a preselected lagoon. There, special underwater containers have been installed to aid in the undisturbed development of young scallops.

Scallop Fishery Not Successful

Soviet Far Eastern fishermen began catching scallops in 1966. They had little success. Instead of the planned 3,000 metric tons, only 1,000 tons were landed by year end. Most were exported to Japan.

In 1964, the USSR attempted to establish a scallop export market in the U. S. It did not succeed because the Pacific scallops were coarse and had dark meats.

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ORDERS FISHERY VESSELS FROM THE NETHERLANDS

The Royal Shipyards "De Schelde" at Flushing, the Netherlands, has received an order from the Soviet import firm "Sudoimport" for 4 fully automated fish-processing refrigerated transports. The 2,600-gross-ton vessels each will have a crew of over 100, an endurance of 60 days, and be able to process 50 metric tons of fresh fish each day.

Six similar vessels were ordered from the Dutch shipyard in July 1964 for delivery in 1965-67 and were assigned to the Soviet Atlantic fishing fleets. (U. S. Embassy, Hague)

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EXHIBITS FISHERY PRODUCTS IN MONTREAL

Soviet fishery products and activities are prominently displayed at EXPO-67 in Montreal. A large and highly visible section of the Soviet Pavilion features a tank with large, live sturgeon and a fisheries bathyscaphe.

A Soviet-made hydrofoil (capacity 100 passengers) takes visitors to a large Soviet stern factory trawler anchored in Montreal's commercial harbor.

Fishery Products Are Promoted

Soviet fishery exports are promoted. Attractive advertising pamphlets praise the quality of various Soviet fishery products. These include traditional caviar and sturgeon ("Royal Sturgeon" trade mark) and products the Soviets have just begun to manufacture: canned saury in oil, canned shrimp in natural oil, canned mussels in natural juice, and canned tuna in oil.

The pamphlets carry the name of PRO-DINTORG, the official export trade firm. Attractively designed, they are printed on excellent paper.



Denmark

FISHERMEN ARE RETURNING TO NORTH NORWAY FOR SALMON FISHING

Fishermen from the Danish port of Esbjerg made excellent salmon catches last year along the North Norwegian coast, but they were not permitted to land catches in Norway for transshipment to Denmark. The cutters had to sail home with their catches, losing much fishing time and greatly increasing expenses.

Several Esbjerg fishermen plan to return to salmon fishing off Norway. This year, however, they intend to be accompanied by a mothership that will transport the catch. Negotiations have begun with the owner of a large steel cutter that could be converted for this purpose. Salmon fishing in the area begins in September. ("Fiskaren," Aug. 16; U. S. Embassy, Copenhagen, Aug. 25.)

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LARGEST DANISH STEEL SIDE-TRAWLER BEING BUILT

A Danish shipyard is building a steel trawler using new production principles that involve mathematical methods to reduce building time and to increase production economics. The trawler will be the largest steel vessel ever built in Denmark for Danish owners. It will be used for midwater and bottom trawling.

The vessel's main dimensions are: overall length, 35 meters (115 feet); width, 7.30 meters (24 feet); and height, 3.65 meters (12 feet). A diesel engine of 990 hp. will be installed.

Midwater and Bottom Trawls

The fishing gear has been developed by Danish netmakers. It consists of one 30- to 40-fathom midwater nylon trawl, and 3 "tailed" bottom terylene trawls. This gear is expected to increase the profitability of midwater and bottom trawling. It is used on the Greenland fishing grounds. It is considered especially well suited for combined midwater and bottom

trawling when the vessel is sufficiently powerful--about 1,000 hp.

The vessel's design includes provision for later conversion to power block purse-seining and long-line fishing. ("Sofart," July 1967; U. S. Embassy, Copenhagen, Aug. 25.)



Greenland

WEST GREENLAND PELAGIC SALMON FISHERY GROWS

Three Danish and 4 Faroese gill-netters will fish salmon off Greenland this year. The Danish catches will be landed at Faeringhavn, Greenland. They are already committed. An excellent market is expected in Denmark for the Faroese-caught salmon.

The addition of these vessels to the fishery represents a large increase in effort from 1966. Then, one Norwegian and one Faroese vessel caught, respectively, 18 and 70 metric tons (eviscerated, heads on). The captain of the Faroese vessel said only bad weather kept his catch below 100 tons. (U. S. Embassy, Copenhagen, Aug. 25.)



Norway

FISH MEAL AND OIL PRODUCTION SETS RECORDS

During first-half 1967, Norway's production of fish meal and oil increased more than 50 percent over first half 1966--to records of 285,000 metric tons, and 115,000 metric tons, respectively. According to Norsildmel, the central sales organization of the fish reduction industry, all but 60,000 tons of the fish meal were shipped to customers at home and abroad; the entire production of fish oil was sold for summer and fall delivery.

Exports of fish meal totaled 222,062 tons in January-June--nearly twice the first-half 1966 figure. Fish oil exports increased from

Norway (Contd.):

22,800 tons in January-June 1966 to 36,000 tons during the 1967 period. Export prices are not published. According to official foreign trade statistics, however, the average export price for fish meal was reduced 15 percent--to 1,180 kroner (US\$165) per metric ton--in January-May, compared with 1966 period; fish oil price dropped 24 percent to 1,065 kroner (\$150) a metric ton.

Prospects for exports of fish meal and oil for the rest of the year are less favorable due to increased world supplies.

Fish Supplies Are High

In January-June 1967, supplies of fish (mainly herring, mackerel, and capelin) reached a record 13.4 million hectoliters (about 1.25 million metric tons). So far this year, 4 major fish-marketing organizations have imposed fishing stops a total of 33 times for certain periods and fishing areas--due to large discrepancies between catching and processing capacities. The lack of processing capacity has been especially pronounced in the middle and northern parts of Norway. Fish stops idled the fleets in those areas 12 times for a total of 2½ months during January-June. This curbed particularly capelin fishing activities in Finnmark.

According to an industry source, fish reduction capacity would have to be increased about 50 percent, at a cost of US\$20-30 million, to equalize the capacity of the fleet fishing for reduction purposes (600 power-block purse-seiners account for about 90 percent of the catch). The industry is not thinking seriously of so large an expansion because of the capital needed, the capriciousness of shoal fish, and the current instability of the meal and oil markets.

A medium-sized reduction plant (daily capacity 2,000 tons of fish) was recently put into operation in Baatsfjord, Finnmark. Other increases in capacity, planned or underway, are relatively insignificant. (U. S. Embassy, Oslo, Aug. 11.)

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FISHERMEN PROTEST IMPORTS OF SOVIET SALTED FISH

Norwegian fishermen complain that when they return from long trips (4-5 months) to West Greenland they have to go to Danish ports to obtain acceptable prices for their fish--while the Soviets land salted fish in the Norwegian port of Aalesund.

Soviet salted fish has been imported by Norway for over one year. The factory stern trawler "Pluton," from Murmansk, brought the last shipment. The vessel was delivered from Gdansk, Poland, on June 14, 1967. Then it sailed to Murmansk, where the rest of the crew came aboard, the outfitting was completed, and the cargo loaded.

Pluton departed recently for the South American coast. It is equipped with purse seines and fish pumps. It will serve as an experimental base for Soviet attempts to introduce a link between large processing ships and stern trawlers. ("Fiskaren" and other sources, July 12.)



Sweden

FIRM MAY TEST-MARKET FPC IN MEXICO

A Swedish firm intends to test-market fish protein concentrate (FPC) in Mexico beginning this fall, according to a Swedish newspaper report. A hospital in Mexico City reportedly will cooperate in the test. The price proposed by the Swedish firm for its FPC is about 32 cents a pound. (U. S. Embassy, Stockholm.)

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LIFTS TARIFFS ON CERTAIN IMPORTS

Sweden announced the removal of all tariffs on certain fats and oils, effective September 1, 1967. These include crude sperm oil; crude seal oil; fish oils and oils derived from the blubber of marine animals for medicinal and veterinary uses; cod-liver oils and industrial liver oils.

In 1966, the U. S. exported over 6.6 million pounds of fish and fish-liver oils to Sweden, a tremendous decline from the 45 million pounds in 1965 and 73.5 million in 1963.

Sweden (Contd.):

Total U. S. exports of fish and fish-liver oils also declined over the same period-- from 262 million pounds in 1963 to only 77 million pounds in 1966. (U. S. Embassy, Stockholm, Sept. 8.)



West Germany

COMBINATION TRAWLER-SEINER IS BEING BUILT

A shipyard in Bremerhaven, West Germany, is building a combination trawler-purse seiner, the "Seefahrt," for a shipowner. The vessel is 64 meters (210 feet) long; 10.8 meters (35 feet) wide; and height to top deck is 7.48 meters (24.5 feet).

Two diesel engines have been installed. Each supplies 1,320 hp. at 500 r.p.m., gear coupled to a single propeller, which gives a speed of 15.5 knots at 200 r.p.m.

The purse seine is carried on a platform aft near a mast equipped with derrick and power block. Two fish pumps are used to haul the catch aboard. To increase maneuverability, 250 hp. steering propellers are installed fore and aft. The vessel is equipped with sonar and two echo-sounders. ("Fiskets Gang," July 20; U. S. Embassy, Copenhagen, Aug. 25.)

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CUTS BACK CONSTRUCTION OF FACTORY TRAWLERS

West Germany deemphasized the building of factory trawlers in 1966 when only 2 of the 5 trawlers built were freezer trawlers. The other 3 were built to land fresh fish.

West Germany caught fewer fish in distant waters in 1966 than in 1965; its catch off Greenland was down 25 percent. This decline was offset only partly by an increase in the catch off Canada. Some trawlers were diverted from the distant-water fishery to nearby waters to midwater trawling for herring. (U. S. Consul, Bremen, May 29.)



Ireland

GETS US\$14 MILLION FRENCH CREDIT TO EXPAND FISHING FLEET

The Irish Sea Fishing Board has obtained credit of US\$14 million from French financiers associated with shipbuilders to expand Ireland's fishing industry. The funds will be used to add 100 new trawlers (mostly 90-foot and under) to the fleet over the next 5 years, and to provide educational and technical assistance to the industry.

Prospective vessel owners will pay a minimum of 5 percent down, supplemented by a 25-percent grant from the Board. They will pay the remaining 70 percent in installments over 5 years at 5.2 percent interest, or 9 years at 6.3 percent. For vessels under 90 feet, interest will be 4 percent. Loans will be guaranteed by the Board, a semigovernment body.

Foreign Credit Was Necessary

The Board sought foreign credit after plans for fisheries improvement failed to raise needed funds within Ireland. Board members talked with Norwegian, British, Polish, and French financiers. The French group was chosen because it offered better terms and it was associated with shipbuilders that quoted lowest trawler construction prices. With the additional vessels, the Irish fleet should number around 400.

Overall landings have been increasing 15-20 percent a year. Annual landings of 35,000 tons have been worth US\$5.9 million. The two-year-old fishermen's training program has proved itself. In recent years, exports have increased 13 percent per annum. Expansion plans have been stymied until now, however, because new vessels were lacking. The Irish plan to enter the Common Market and are promoting fishing as a major industry. (U. S. Embassy, Dublin, Aug. 3.)



Italy

LIBERALIZES FISHERY IMPORTS FROM USSR AND EAST EUROPE

The Italian Government has included fresh and frozen fishery products among products

Italy (Contd.):

that may be imported free of duty from the Soviet Union and East European countries. The latter are Poland, Hungary, Bulgaria, Czechoslovakia, and Albania.

The Italian Federation of Fishery Enterprises led the opposition to this step in the Italian Parliament. It pointed out that other Common Market countries have not fully liberalized duties on imports of fishery products. ("La Peche Maritime," July.)

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FIRM OPENS TOKYO TUNA BUYING OFFICE

An Italian tuna-importing firm jointly established by 4 packers in Sicily and Venice has opened a purchasing office in Tokyo. The firm's president went to Tokyo recently to arrange tuna purchases from Japanese firms.

The Italian firm plans to purchase annually 10,000 metric tons of tuna (around 75 percent yellowfin and 25 percent big-eyed). It also plans to buy tuna from South Korea and Formosa. ("Suisancho Nippo," July 22.)



United Kingdom

FURTHER RESTRICTS FOREIGN COD LANDINGS

The ban on foreign cod landings, instituted July 27 by the British Trawlers' Federation (BTF), spread August 7 from Grimsby to other ports in England and Wales. The BTF now provides facilities to unload cod only in amounts equal to one-half the weight of other species aboard a foreign vessel.

The action was taken to stem increased imports and reduce prices. Its proponents said that Britain, unlike most other countries, had not restrict landings by foreign vessels,

and that low tariffs did not deter foreign landings. They said also that "disturbances" in market conditions in other countries meant that cheap fish always ended up in England. The BTF action was taken in the absence of government action. The restrictions do not apply to Faroese vessels because of a previous industry-level agreement. ("Fishing News," Aug. 11.)



France

REQUIRES DATE MARKING OF FROZEN FOODS

A French Government Order published earlier this year requires date marking of all frozen foods in institutional or retail packs. The regulation does not cover frozen foods in bulk packs that are to be broken down for sale as unfrozen products through retail outlets.

Date marking may be either in clear figures or in code, provided the code is given to the French Service for the Repression of Frauds. (U. S. Embassy.)

* * *

IMPORTS MORE FISHERY PRODUCTS

Total French imports of fish and crustaceans from all countries in first-half 1967, were valued at over \$45 million. First-half 1966 imports were worth \$38 million.

Imports of U. S.-produced fish and crustaceans were US\$1.5 million (3.4 percent of total) in first-half 1967; in the 1966 period, US\$1.1 million (2.8 percent of total).

Frozen salmon is the primary U. S. export to France. (U. S. Embassy, Paris, September 15.)



ASIA

Japan

RATIFIES ATLANTIC TUNA CONVENTION

The International Convention for the Conservation of Atlantic Tunas was ratified by the Japanese Government on July 25. The ratification document was deposited with the UN's Food and Agriculture Organization (FAO). Japan is the second nation to ratify the Convention, following the U. S. The Convention will enter into force after 7 ratifications. ("Katsuo-maguro Tsushin," Aug. 4.)

CUTS TARIFFS ON FISHERY PRODUCTS

Among the tariff cuts Japan made during recently completed negotiations for imports are those on fresh and frozen tuna and salmon. Naturally, the cuts will increase imports.

Product	Former	New
	Tariff Rate	Tariff Rate
 (Percent)	
Whale oil	Free	Free
Salmon (fresh & frozen)	10	5
Tuna (fresh & frozen)	10	5
Salmon roe	15	7.5
Shellfish	Free	Free
Canned fish and preparations	20	15
Crustacea and mollusc preparations	20	15

There is speculation about the effect the cuts will have on salmon imports from the USSR and Alaska. Attracting most attention, however, because of the import trend in marine products, is the tariff cut on "saki-ika," dried and stripped squid. (Fishery Attaché, U. S. Embassy, Tokyo, Aug. 9.)

EXPORTS OF FRESH AND FROZEN PRODUCTS DROPPED

Finance Ministry data show that Japanese exports of fresh and frozen tuna during Jan-

Product	Quantity		Value	
	1967	1966	1967	1966
	(Metric Tons)		(US\$1,000)	
Tuna	48,939	90,619	21,349	41,453
Swordfish	2,700	3,530	2,067	3,096
Sea bream	4,794	11,718	723	1,686
Saury	4,988	4,154	1,899	910
Rainbow trouts	1,484	1,073	1,492	870
Oysters	737	77	406	79
Whale meat	5,241	3,571	1,613	1,682
Others	25,865	28,166	9,464	10,351
Total	94,748	142,908	39,013	60,127

uary-June 1967 totaled 48,939 metric tons, almost 50 percent less than the 1966 period total of 90,619 tons. Oyster exports gained sharply over 1966. ("Suisan Tsushin," Aug. 19)

FISH LANDINGS AT YAIZU DECLINE SHARPLY

Landings at the fishing port of Yaizu in July totaled 10,979 metric tons worth about 1.6 billion yen (US\$4.33 million), according

Species	Quantity			Average Prices		
	1967	1966	1966	1967	1966	1966
 (Metric Tons) (US\$/Short Ton)		
Tuna:						
Bluefin ^{1/}	3,454	4,943	4,900	573	450	397
Albacore	697	8,882	1,497	455	397	443
Skipjack	6,154	3,531	8,561	237	231	169
Mackerel	143	1,201	329	129	74	72
Others	531	631	616			
Total	10,979	19,188	15,903			

^{1/}Includes yellowfin and big-eyed tuna.

to the Yaizu Fishery Cooperative Association. Due to the poor albacore tuna catch, landings were sharply below the 19,188 tons of June 1967. ("Kanzume Nippo," Aug. 4.)

EXPORT TUNA PRICES RISE

The price of Japanese albacore tuna for direct export to the U. S. rose to c.i.f. US\$530 a short ton, according to a mid-July 1967 re-

Month	Direct Exports to United States & Canada ^{1/}		American Samoa ^{2/}	
	Albacore	Yellowfin	Albacore	Yellowfin
 (f.o.b. US\$/Short Ton)			
January	495	439	390	350
February	479	409	370	330
March	446	401	355	315
April	404	336	345	305
May	404	339	340	295
June	424	351	350	295
July	-	-	370	300

^{1/}Prices represent averages for the month.
^{2/}Prices are for ship-frozen tuna.

port. The price strengthened in late July. In Japan, domestic processors were paying ex-vessel 190-195 yen a kilogram (\$479-492 a short ton). The highest export price attained in recent years for direct shipments to the U. S. was \$575 a short ton c.i.f. in February 1966. A decline in exports depressed prices to a low of \$420 a ton c.i.f. in March 1967.

Japan (Contd.):

Japanese yellowfin prices for direct shipment to the U. S. west coast continued at around \$400 per short ton c.i.f., but a sale of about 1,900 tons to a Puerto Rican packer was made at \$440 a short ton c.i.f. ("Suisan Tsushin" and "Suisan Keizai Shimbun," July 20.)

* * *

ALBACORE EXPORTS ARE SLOW
BUT FISHING GOOD

Japanese albacore tuna exports to the U. S., which began declining in late July, continued sluggish in mid-August. U. S. packers showed very little buying interest. However, Japanese exporters expected sales to improve from around mid-September when the U. S. albacore season begins closing.

In negotiating prices with Japan, U. S. buyers are expected to be very cautious to avoid boosting prices, as occurred last year. The Japanese suppliers also realize that holding out for excessively high prices could create an adverse reaction. So the albacore export market is considered likely to continue strong without any sharp price upswing.

Fishing Good

Albacore fishing in the Indian Ocean was good in Madagascar waters. The catches will begin arriving in Japan in September and will build up in cold storage.

The albacore fishery in the Atlantic Ocean also continued good. Landings were accumulating in cold storage. However, in view of continued good sales of canned white-meat tuna in the U. S., and its underproduction in Japan, supply and demand of albacore is expected to be kept in balance. ("Suisan Tsushin," Aug. 22.)

* * *

SUMMER ALBACORE FISHING ENDS

The 1967 summer pole-and-line albacore fishery off the Japanese islands has ended. The season's total landings at the fishing ports of Yaizu and Shimizu reached 28,500 metric tons in early July. Fish size averaged 13-14 kilograms (28.6-30.8 pounds); about 3,000 tons of the catch were under 10 kilograms (22 pounds).

The total quantity of summer albacore landings purchased by the Japan National Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN), under its tuna price stabilization program, came to 181 tons. The tuna will be canned in oil for domestic sale. ("Suisancho Nippo," July 10.)

* * *

ALBACORE FISHING
GOOD IN INDIAN OCEAN

Japanese albacore tuna boats in the Indian Ocean make excellent catches in June and July. This was particularly true off South Africa between latitudes 20° and 30° S. to southern Madagascar Island.

About 60 Japanese vessels were concentrated in those waters, an unusually high number for an Indian Ocean area.

* * *

CANNED TUNA IN OIL EXPORT
VALIDATIONS, APRIL-JULY 1967

Japanese canned tuna in oil validated for export during April 1-July 31, 1967, totaled 871,159 cases, according to the Export Canned Tuna Packers Association, West Germany

	Quantity Exported, April-July 1967
	No. Cases
West Germany	228,355
Canada	146,737
Aden	95,996
Great Britain	80,481
Netherlands	53,382
Lebanon	36,807
Okinawa	35,997
Belgium	31,131
Saudi Arabia	23,210
Switzerland	22,656
Romania	17,400
Libya	15,500
Malta	14,010
Others	69,497
Total	871,159

was the leading purchaser, taking 228,355 cases of total exports during the 4-month period. ("Kanzume Nippo," Aug. 22.)

* * *

FROZEN TUNA EXPORTS DECLINE

Fresh and frozen tuna validated for export during April-July 1967 totaled 35,287 metric tons, down 42 percent from the 1966 period's

Japan (Contd.):

60,998 metric tons, according to the Japan Frozen Foods Exporters Association. Yellowfin tuna exports declined sharply because of the U. S. fleet's abundant catches in the eastern tropical Pacific.

Exports to Europe also declined. This was due primarily to the depressed canned tuna sales in Italy and to the blockade of the Suez Canal during the mid-East conflict. ("Suisan Tsushin," Aug. 22.)

* * *

TUNA PURSE SEINING
CONTINUES OFF AFRICA

The Japanese Atlantic tuna purse-seine fleet, now in its third year of experimental operation off West Africa, still has difficulty operating profitably on a year-round basis. The mothership "Chichibu Maru No. 2" (1,697 gross tons) and 3 purse seiners, now off Annobon Island, Gulf of Guinea, find fishing good from July-February. They catch up to 100 metric tons a day. But from late February until the end of June, fishing becomes spotty and landings decline sharply. The fleet is now searching for new grounds to fish during the slow season--to operate steadily year-round.

Target Is 12,000 Tons

The fleet's 1967 production target is 12,000 metric tons of tuna. This would make operations profitable. From January to mid-August 1967, catches totaled 6,000 tons (75 percent yellowfin and 25 percent skipjack). Fishing picked up thereafter and the fleet is believed likely to attain its goal by December. ("Suisan Tsushin," Aug. 19.)

* * *

REPORT ON ATLANTIC TUNA FISHERY

Forty-two Japanese tuna vessels were operating in the Atlantic Ocean in July, reported the Japan Export Frozen Tuna Producers Association. In April, there had been 43; in May, 44; and in June, 44. During the remainder of 1967, 38 vessels were expected to operate in August, 35 in September, 31 in October, 30 in November, and 33 in December--a combined carrying capacity of 23,600 metric tons.

The Association estimated that from July to December 15,180 metric tons of the total Japanese Atlantic landings, or close to 65 percent of the fleet's carrying capacity, would be exported. This is about half the 29,920 tons of Atlantic-caught tuna exported during the 1966 period.

Exports to U. S. and Italy

Exports of Atlantic tuna during April-June 1967 were 8,153 metric tons; of these, 3,338 metric tons were transshipped to the U. S., 4,049 tons to Italy, and 766 tons to other European and African countries. Comparable 1966 exports were 14,775 metric tons. ("Suisancho Nippo," July 19.)

* * *

SKIPJACK TUNA FISHERY OFF
PALAU ISLAND WILL BE DEVELOPED

To help depressed independent skipjack tuna fishery operators, the Japan Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN), is exploring the possibility of developing a skipjack fishery based at Palau Island in the western Pacific Ocean. The surrounding waters can be developed into a productive fishing ground because skipjack tuna and bait sardines are abundant there. However, the lack of adequate fueling facilities prevents vessel operations on a commercial scale. Therefore, NIKKATSUREN is studying the feasibility of constructing a fuel tank on the island, or conducting at-sea refueling operations. ("Suisancho Nippo," July 24.)

* * *

MACHINE-PACKING OF
TUNA IN BRINE IS UNDER STUDY

To improve production efficiency and offset the rising cost of labor, Japanese tuna packers are considering adoption of the machine-packing method to process canned tuna in brine for export. Some Japanese packers already are machine-packing tuna in oil to overcome the high cost of hand-packing.

The Standards Committee of the Tuna Packers Association is now studying the machine-packed product from the standpoint of quality and output. If all remaining problems can be resolved, packers may be able to begin machine-packing tuna in brine for export in the

Japan (Contd.):

next fiscal year (April 1968). ("Kanzume Nippo," Aug. 31.)

* * *

"TUNA STEAK" MARKET DEVELOPED

A Japanese cold-storage company, which introduced in June its new tuna product "Daien Steak" on a trial basis in the Tokyo-Nagoya districts, achieved great success. It planned to start selling it nationally in September.

The steak consists of loins of yellowfin or big-eyed tuna. It is processed aboard the firm's tuna vessels in the Pacific and Indian Oceans. The vessels were specially equipped to package and freeze it in airtight 10-kilogram (22-lb.) cartons. The 10-kilogram package retails at 5,000 yen, US\$13.88--said to be 20-30 percent below tuna prices in the Japanese fresh fish markets.

Claims Advantages

The company claims these advantages for its tuna steak: (1) freshness, since fish is dressed and packaged immediately after catch; (2) uniform size and quality; (3) convenience in serving either raw or cooked; and (4) savings in freezing cost and storage space aboard vessels, since fish heads, tails, and entrails are discarded at sea.

Two other firms are marketing marlin steaks in Japan through their own sales outlets, but the Daien product is reported the first packaged tuna steaks for sale nationally. ("Minato Shimbun," Aug. 25.)

* * *

REPORT ON N. PACIFIC MOTHERSHIP SALMON OPERATIONS

Near the end of June, the 11 Japanese salmon mothership fleets were operating in the area of 163°-170° E. longitudes and 51°-54° N. latitudes in the North Pacific. They were gradually moving northeast toward the Aleutian Islands as they pursued Asian red salmon. Total fleet catch on June 30 was about 29,845 metric tons, 70 percent of the target of 42,635 metric tons.

The percentages of the catch by species (1966 figures in parentheses) were: reds--

50 percent (40.3 percent); chums--32 percent (47 percent); pinks--11 percent (8.4 percent); silver and kings--7 percent (4.3 percent).

The mothership fleets began operations on May 20 and encountered good fishing for about one month. From around June 20, catches began falling off. ("Suisan Keizai Shimbun," July 6, "Suisan Tsushin," June 30.)

* * *

NORTH PACIFIC WHALING SEASON ENDS

Japanese whaling in the North Pacific ended August 20. All 3 fleets attained their assigned catch targets (see table).

Fleet	Species	Catch	Period of Operation
"Kyokuyo Maru No. 2"	Fin back	629 whales	May 17-Aug. 20 (96 days)
	Sei	2,517 whales 734 BWU	
"Tonan Maru"	Fin back	215 whales	May 21-Aug. 19 (91 days)
	Sei	957 whales 267 BWU	
	Sperm	1,000 whales	
"Nisshin Maru"	Sperm	2,000 whales	May 17-Aug. 15 (91 days)

Note: BWU equal blue-whale units.

This year, the southern boundary of the whaling area east of 170° E. longitude was extended southward by 5 degrees, from 45° N. to 40° N. latitude. Hauls by "Kyokuyo Maru No. 2" attained a record 3,146 whales. ("Shin Suisan Shimbun," Sept. 4.)

* * *

PURCHASES OF MEXICAN SHRIMP INCREASED

Two major shrimp importers, Marubeni Iida and Mitsubishi Shoji, contracted in early August to purchase about 500 metric tons of Gulf of Mexico shrimp--despite heavy losses suffered by Japanese trading firms in mid-July when shrimp import prices declined sharply. The importers based their action on the belief that shrimp prices would not decline any further. ("Suisan Keizai Shimbun," Aug. 8.)

* * *

FROZEN SHRIMP IMPORTS ROSE

Japanese imports of frozen shrimp during January-June 1967 totaled 22,739 metric tons worth US\$35 million, up 17.4 percent in quantity

Japan (Contd.):

and 20.1 percent in value over the 1966 period. Then, imports were 19,367 tons worth \$29.2 million. The imports for first-half 1967 correspond to 63 percent of total 1966 purchases of 36,156 tons.

Shipments from the Soviet Union this year already have exceeded the total 1966 quantity, while imports from Communist China are running less than 50 percent of 1966 receipts. Shrimp purchases from Mexico and Thailand also are ahead of the 1966 period. ("Suisan Keizai Shimbun," July 24.)

* * *

GOOD SHRIMP FISHING OFF ALASKA

The Japanese "Chichibu-Maru" fleet (mothership and 10 catcher boats) discovered, in early June, concentrations of North Pacific red shrimp off Alaska and caught about 1,500 metric tons. This new area is southeast of Unalaska Island in the Aleutian chain. The fleet is engaged in year-round operations in the Bering Sea.

For the past 2 or 3 years, the shrimp fishery in the eastern Bering Sea has been declining--so the shrimp were named "phantom shrimp." The sudden appearance of dense schools of red shrimp is a surprise.

Plankton Abundant

Although the North Pacific red shrimp are found over a wide range, concentrations are so rare that a fishery was considered very difficult. The recent discovery of shrimp concentration is attributed to a dense production of plankton, due perhaps to oceanographic conditions.

The vessel's operators say that since the shrimp are called "phantom shrimp," they may again disappear suddenly. However, if present conditions continue, it will be possible to catch about 3,000 tons. (Fishery Attaché, U. S. Embassy, Tokyo, Aug. 9.)

* * *

VESSELS ADVISED TO AVOID CLOSED AREAS OFF U. S. PACIFIC NORTHWEST

The Japanese Fisheries Agency has advised the governors of prefects to instruct

vessel owners to avoid fishing in the 6 restricted areas off the U. S. North Pacific Coast specified in the U. S.-USSR Fishery Agreement. The advice was given along with the Agency's licensing of exploratory trawl operations in the eastern Pacific east of 135° W. longitude, between 50° N.-10° N. latitudes (Vancouver to Costa Rica), during September 1, 1967-August 31, 1968.

Vessel owners were informed that while they were not subject to operational restriction outside the U. S. 12-mile fishery limit under the Japan-U. S. Fishery Agreement, their involvement in a dispute in the closed areas might adversely affect future negotiations between Japan and the U. S. ("Shin Suisan Shimbun Sokuho," Aug. 29.)

* * *

CANNED MACKEREL AND SARDINES
CONSIGNED TO SALES COMPANY
FOR EXPORT

Data of the Japan Export Canned Mackerel and Sardine Packers Association show that canned mackerel and sardines consigned to the Sales Company during April 1-June 30 of business year 1967 (April 1967-March 1968) totaled 139,856 cases. They consisted of 167,276 cases of canned mackerel and 72,580 cases of canned sardines.

Business Year ^{1/}	Quantity Consigned	
	Mackerel	Sardine
 (Cases)	
1966	463,218	139,328
1965	775,273	80,240
1964	866,464	40,669
1963	568,550	34,542
1962	549,306.5	109,994
1961	756,476	472,183.5

^{1/}Begins April 1 and ends March 31 of following year.

Export has been reported normal, but trading firms are concerned over recent reports of deteriorating foreign currency situation in the Philippines. ("Suisancho Nippo," July 5; "Kanzume Nippo," July 6.)

* * *

CANNED PINK SALMON PRICES
ARE UNCHANGED

The mothership committee of the Salmon and Crab Cannery Association decided on June 30 not to change the export prices of canned pink salmon. They are US\$14 a case of 48 No. 2 flat (half-pound) and \$7.65 a case

Japan (Contd.):

for No. 3 flat (quarter-pound). The land-based canners committee made the same decision on June 26. In 1965, the price per case of No. 2 flats was \$12.25; in 1966, it was increased to \$14.

Because of international market conditions for No. 2 flat canned pink salmon, it was first believed the 1967 price would be cut 50 cents a case. However, because of the unexpected low production of canned pink salmon by shore canneries, and the drastic price increase for raw fish compared with last year, the Association decided against a price change.

About Half-Million No. 3s

Many believed there should be little difference in price between No. 2 and No. 3 cans--but because of the large production of No. 3s, it was considered inadvisable to change the price. Depending upon future sales, there was some chance that the price would increase later in the year. It would also depend on the size of pack in the U. S. and Canada.

The production of No. 3 flat cans from shore canneries will probably be about 500,000 cases. The pack of No. 2 flats is expected to be about 200,000 to 250,000 cases. Consignment of canned pink salmon to the Joint Sales Company was about 200,000 cases of all kinds.

The number of cases packed by the motherships for consignment to the Joint Sales Company was not known. It was assumed, however, that since the catch of pink salmon was quite good, a larger number would be consigned than last year. (Fishery Attaché, U. S. Embassy, Tokyo, Aug. 9.)

* * *

ARCTIC SALMON FISHING IS FAIR

The Japanese firm Hoko Suisan's "Dairin Maru No. 10" (300 gross tons), which operated in the Bering Sea and the Arctic Ocean for about 3½ months, returned to Japan with 30 metric tons of herring and 86 tons of salmon. The herring catch, off Nome, fell far below the 100-ton target because of the late start of operations.

The salmon catch, 87 percent chums and the rest kings, also failed to attain the 100-ton target. Catch rate for salmon was less

than two fish per "tan" (unit of gear), or about one-half that normally obtained in mothership-type operations.

Both the quantity of salmon catch, and area of fishing (166° W.-169° W. longitudes and 66°30' N.-67° N. latitudes), were about the same as the 1966 operation by the firm's smaller vessel, "Dairin Maru No. 8" (215 gross tons). Despite the discouraging results, the company hopes to conduct further test operations to gain better knowledge of the resources' potential. ("Shin Suisan Shim-bun," Sept. 4.)

* * *

BOTTOMFISH CATCH IN
BERING SEA IS GOOD

Japanese mothership-type bottom trawl fleets in the Bering Sea were harvesting an abundance of bottomfish. Data prepared by the Northern Waters Bottomfish Council showed landings by 14 motherships and over 170 accompanying trawlers reached 463,000 metric tons on July 26. This exceeds by far the comparable 1966 landings of 265,000 tons.

	Catches through July 26	
	1967	1966
	. . . (Metric Tons) . . .	
Flatfish	47,000	25,000
Cod	22,000	14,000
Alaska pollock	339,000	174,000
Sablefish	5,000	4,000
Pacific ocean perch	22,000	24,000
Herring	23,000	19,000
Shrimp	3,000	2,000
Others	2,000	3,000
Total	463,000	265,000

Total production for 1967 was expected to surpass the 1961 record of 623,000 tons. Alaska pollock and flatfish catches were almost double last year's landings. The high production this year was attributed to greater concentration of effort on Alaska pollock for processing into minced meat (ingredient for fish sausage). ("Suisan Keizai Shim-bun," Aug. 4.)

* * *

TRAWLER FLEET WILL FISH
NORTHEAST PACIFIC OCEAN

The Japanese fishing firm Hokuyo Suisan was scheduled to send its factoryship "Koyo Maru No. 2" (3,432 gross tons) and two 300-ton trawlers to the northeast Pacific Ocean in September. The fleet was to conduct

Japan (Contd.):

experimental trawl fishing off Washington and Oregon until November 10. The fleet was assigned a catch target of 1,500 metric tons of bottomfish. It was to fish for hake, cod, Alaska pollock, and Pacific ocean perch. The fish will be processed aboard the factoryship into fish meal and minced meat. Hokuyo Suisan sent the "Koyo Maru No. 2" fleet instead of its originally planned "Kazushima Maru" (3,757 gross tons) mothership and 6 trawlers.

3 Firms Licensed

The firm is one of 3 licensed by the Fisheries Agency to conduct experimental trawl operations in the eastern Pacific east of 135° W. longitude, between 10° N.-50° N. latitudes (off North and Central U. S. coasts). Of the other two, Nihon Suisan planned to send the 7,163-ton mothership "Kashima Maru" on October 1. The vessel was being equipped with meal and minced meat plants. Fleet departure plans for the third firm, Taiyo, have not yet been reported. ("Shin Suisan Shimibun Sokuho," Aug. 30; "Suisan Tsushin," Aug. 23.)

* * *

FISHERY MISSION RETURNS FROM MAURITANIA AND SPAIN

The Japanese private fishery mission sent to Mauritania and Spain on a one-month fact-finding tour of the exclusive fishery zones established by those countries returned to Japan August 1. Its purpose was to sound out Mauritanian and Spanish government and industry leaders about bilateral fishery agreements with Japan to permit the latter's fishing within their claimed waters.

What Mauritania Wants

Discussions with Mauritanian officials revealed that they would agree to Japanese fishing inside the restricted zone without assessing entry fees if Japan would extend the following technical aid: (1) train Mauritanian vessel crews; (2) help repair vessels and fishing gear; (3) help build and operate cold storages and market fishery products; and (4) send fishery consultants. The number of Japanese fishing vessels to be licensed by Mauritania would depend on the extent of

fishery cooperation. The Japanese industry is reported studying this proposal.

Talks With Spain Unsuccessful

Talks with Spanish officials concerning recognition of Japan's past fishing in Spain's claimed waters were unsuccessful despite Japanese offers of technical and economic cooperation. ("Suisancho Nippo," & "Suisan Tsushin," Aug. 3.)

* * *

SCHEDULE COASTAL FISHERY RESOURCE SURVEY OFF PERU

At Peru's request, the Japan Fisheries Society was preparing to send a vessel to explore the fishery resources off the former's coast. The request followed a Japanese fishery team's survey in March. The team's purpose was to determine the feasibility of harvesting Peru's unutilized fishery resource and developing a seafood processing industry.

By establishing such an industry, Peru hopes to enrich the nation's diet with protein. At the same time, the industry would provide off-season fishing for the anchovy fishermen.

The Japan Fisheries Society planned to send a 550-gross-ton trawler to be jointly operated by 4 Japanese firms. Peruvian researchers will participate in the survey scheduled to begin in late 1967 and continue for about 6 months. ("Shin Suisan Shimibun," Aug. 21.)

* * *

SETS UP DISTANT-WATER FISHERIES RESEARCH LABORATORY

The Japanese Fisheries Agency announced that a Distant-Water Fisheries Research Laboratory has been set up at Shimizu. It is headed by Dr. Hiroshi Yabe, former director of Nankai Regional Fisheries Research Laboratory.

The new laboratory will undertake research on tuna, salmon, trawl, and other distant-water fisheries.

The Nankai Laboratory, which formerly conducted tuna research, was merged with the Naikai (Inland Sea) Regional Fisheries Laboratory. It was renamed Nansei (Southwest) Regional Fisheries Research Laboratory.

Japan (Contd.):

It will be headed by Dr. Takashi Ino, former director of the Inland Sea Laboratory. ("Suisancho Nippo," Aug. 2.)

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WESTERN BERING SEA TANNER CRAB FISHING IS GOOD

Taiyo Fishing Company's factoryship "Banshu Maru No. 5" (3,567 gross tons) and 2 catcher vessels conducted exploratory tanner crab fishing in the western Bering Sea off Cape Olyutorski, Kamchatka Peninsula. They caught close to 200 metric tons during two months of operation beginning in June. The test fishing has revealed the possibility of full-scale commercial operations. The catch is processed aboard the factoryship. Leg meat in the shell is packaged and frozen for shipment back to Japan for sale there. Taiyo plans to can the meat and market the product experimentally.

Another Firm Fishing

A second Japanese fishing firm, Kokusai Gyogyo, is also doing experimental tanner crab fishing with its factoryship "Seifu Maru" (8,269 gross tons) and two other catcher vessels. Its production as of early August was around 200 tons. ("Suisan Tsushin," Aug. 2.)



Southeast Asian Fisheries Center Planned

Thirty delegates from 7 Southeast Asian countries met for a week in Singapore in August to talk about the development of a fisheries center to be established in Singapore.

Singapore's Minister for National Development told the delegates that rapid development in Southeast Asia could best be achieved through close cooperation and mutual understanding. The minister expressed appreciation for the Japanese Government's initiative concerning the proposed center, for which Singapore offered the site and research facilities. Although the region possesses abundant natural resources, he said, full use has not been made of them.

Japanese Leader Elected Chairman

The leader of the 9-man Japanese team was elected chairman of the meeting. Other delegates came from Thailand, Singapore, Indonesia, Malaysia, Philippines, South Vietnam, and one observer from the Food and Agriculture Organization.

Although Burma, Cambodia, and Laos accepted invitations, no delegates attended. ("The Yomiuri," Aug. 2.)



India

U. S. OFFERS OCEANOGRAPHIC RESEARCH VESSEL

The U. S. Department of State and the National Science Foundation (NSF) announced on June 8 that President Johnson has approved a proposal to transfer the "Anton Bruun," an oceanographic research vessel owned and operated by NSF, to India. Indian representatives will survey the ship and conduct technical discussions with NSF about the proposed transfer later this year.

Formerly Presidential Yacht

The Anton Bruun, formerly the Presidential yacht "Williamsburg," was built in 1930. In recent years, it has been operated as a biological oceanographic research ship. During 1963-1964, it participated in the International Indian Ocean Expedition. Thirteen nations, including the U. S. and India, cooperated in this first comprehensive study of the Indian Ocean. The vessel will be used by the Indian Government for oceanographic research. (U. S. Department of State "Bulletin," July 3.)



South Korea

REPORT ON FISHERY TRENDS

Two major events have occurred in Korean fisheries during the past 2 years: the Normalization Treaty with Japan, and establishment of an Office of Fisheries, a semi-autonomous agency responsible to the Ministry of Agriculture. The new office is the consoli-

South Korea (Contd.):

dation of 5 offices dealing with fishery matters. It will provide institutional facilities to carry out the Second 5-Year Plan. Under the plan, US\$53.4 million--mainly Japanese reparations grants but including credits and commercial loans--have been earmarked for fisheries development.

Aquiculture, stimulated by the U. S. Agency for International Development (AID), is increasing rapidly. Production of seaweeds and laver (mainly for export) has increased greatly. Shrimp production also has expanded through the increase in number of rearing ponds on the west coast; this was achieved principally with private capital. A seed oyster industry is well underway, but technical problems make U. S. aid necessary. First shipments for export were made in 1966, but the results were disappointing.

In coastal fisheries, additions to the fleet (rather small vessels of 15 to 20 tons) were not followed by an expansion of processing facilities.

Most Activity in High-Seas Fisheries

Most activity and most problems have occurred in the high-seas fisheries. The fleet has increased rapidly with additions of 90 Government-owned and 75 privately owned vessels, mostly tuna long-liners. However, Korea does not have a support vessel to service these fleets operating now in the Pacific, Indian, and Atlantic Oceans. So she has had to use hard currencies to buy bait and supplies abroad.

Government-owned vessels were not operated efficiently, and a Korean-U. S. survey team recommended that these vessels be transferred to private ownership. The Government has announced that half the 90 vessels will be transferred to private owners during the second half of 1967.

To expand shrimping operations, Koreans are planning a joint venture with Malaysians (on Penang and Sarawak) and Indonesia.

A major recent feature of U. S. aid is the Tuna and Mackerel Project. A feasibility study of this project is expected to be finished in early 1968. Under the project, a large processing complex (including a cannery, cold-storage, and fish meal plant) will be

built on Cheju Island. A U. S. company will participate in the joint venture that was designed to enable Korea to utilize a large quantity of mackerel from "joint Japan-Korea fishing zone" in the Sea of Japan, and to begin a pole-and-line skipjack and yellowfin tuna fishery with tuna clippers in the South Pacific.

Another major feature of U. S. aid is the provision of technical teams to advise on specific problems. One team has already completed its survey. It established that there are good possibilities for developing salmon runs in Korean rivers and expanding trout production. Other surveys in the near future will include oyster production, pollution control, and management of fishery resources. (U. S. AID, Seoul, Aug. 16.)

* * *

FIRST JAPANESE PRIVATE FISHERY LOANS TO SOUTH KOREA ARE APPROVED

The Japanese Ministry of International Trade and Industry (MITI) has decided to approve the export of fishing vessels through a loan applied for by Kanematsu-Gosho and Matsuoka Shoten, Moji. MITI has been examining the individual private loans to be granted South Korea for plants and fishing vessels under the agreement for Economic Cooperation. This export of fishing vessels will be the first under the private fisheries cooperation fund of US\$90 million of a total \$300 million for private loans to Korea.

The two fishing vessel loans approved are for 4 tuna vessels (300-ton class) valued at \$992,000 exported from Kanematsu-Gosho to Saito Industries--and for 10 trawlers (120-ton class) valued at \$1,790,000 exported from Matsuoka Shoten to Shinko Freezing Co. (Shin-hung Refrigeration Co. Ltd., in Korea).

Japan Pledged Long-Term, Low-Interest Loans

During the Japan-S. Korea negotiations for a fisheries agreement, in December 1964, the Japanese Government pledged that the private loans to improve the efficiency of Korean fisheries would be long term at a low interest rate. Later, the 2 countries agreed that down payment would be 10 percent, the interest rate 5.75 percent per year, and repayment deferred for 8 years. The terms for the MITI-approved loans follow this agreement.

South Korea (Contd.):

After diplomatic relations between the 2 nations became normal, the Japanese Government approved the export to S. Korea, by private loan, of 31 heavy industry plants to manufacture textiles, cement, and fertilizer worth around \$160 million. The loans are nearing the original limit for grants on \$180 million. But there has been much delay in approving private fisheries loans under the \$90 million--and shipping loans under the \$30 million--allocations.

Some points in the agreement need to be adjusted. The 2 governments will discuss ways of administering similar grants in the future. (Fishery Attaché, U. S. Embassy, Tokyo, August.)

* * *

STUDIES CLAIM TO CONTINENTAL SHELF

South Korea is considering claiming sovereign rights over her Continental Shelf, according to the Japanese Fisheries Agency. South Korea's president recently ordered a study of the problems involved.

The Convention on the Continental Shelf, effective June 10, 1964, provides that coastal states shall exercise jurisdiction over the Shelf resources. These include mineral and other nonliving resources of the seabed and subsoil, and living organisms belonging to the sedentary species. Principal signatories are the U. S., USSR, Great Britain, Denmark, and Australia.

Japan, which is not a signator, fears that if South Korea claims the Continental Shelf and shellfish and bottomfish resources, it would seriously jeopardize Japanese trawl fishing in the Korea Strait and the Yellow Sea. ("Suisan Keizai Shimbun," July 24, and other sources.)

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SHRIMP CULTURE SUPPLEMENTS CATCH

The Shinhung Company, largest processor of Penaeid and Pandalid shrimp in S. Korea, does 90 percent of its business in shrimp, mostly frozen for export. To supplement the catch, the company began to culture Penaeid shrimp in 1966 near Keya Island, Cholla Nam-do, on the west coast.

Ponds covering 35,000 pyong (1,260,000 sq. ft.) were constructed. The culture methods follow the techniques of Dr. Fujinaga in Japan. The gravid females are caught near the farm and transferred to a pond. In 7 to 10 days, the shrimp spawn and the adults are removed. Nutrients are added to the water to produce plankton to feed young larvae. Crabs are collected from nearby beaches and chopped to feed the young.

3 Million Shrimp Reared

In 1966, the company reared 3,000,000 young shrimp and sold two-thirds of them (about 1 inch long) to fishery cooperatives for 1 won (0.4 U. S. cent) each. The remainder was reared to market size (about 10/pound heads on) in about 6 months from spawning. The first year's operation was not economically successful. The 1967 plans specify rearing 3,000,000 shrimp to market size. Because of the larger number, the cost per shrimp should be low enough to assure a profit. (U. S. Embassy, Tokyo, Aug. 1.)

Note: 267 Korean won equal US\$1.

NOTE

In the August-September 1967 issue, p. 54, Commercial Fisheries Review said of a North Pacific shrimp operation contemplated by a South Korean company: "Negotiations are underway to make the venture, scheduled to begin in November 1967, a joint enterprise with Bumble Bee Seafood of Astoria, Wash."

CFR has been informed that Bumble Bee is not associated with this venture.



Thailand

REPORT ON THAI FISHERIES

The Thai Department of Fisheries budget increased from 8 million baht (US\$400,000) in 1962 to 75 million baht (US\$3,750,000) in 1967. The increase was stimulated by increased marine fisheries. These fisheries demand more research and larger investments than fresh-water fisheries, where Thailand already has done much research.

Marine landings more than doubled in the 1960s--from 273,000 metric tons in 1962 to over 533,000 in 1965 (most recent data available). Despite the large increase, the value of marine landings increased only by about 20 percent--from \$45.9 million to \$56 million.

Thailand (Contd.):

Thai demand for traditional, highly valued fresh-water species (carps, air-breathers, etc.) is strong. Although the production of these species (66,300 metric tons in 1962 and 81,700 tons in 1965) is much smaller than marine fish, their value is relatively high--\$24 million in 1962 and \$32.3 million in 1965.

Joint Survey With Malaysia

The Thai Fisheries Department recently carried out a cooperative trawling survey with Malaysia off the latter's coasts. The results are available to both countries, but it appears that Thai trawlers may be fishing in the explored area before Malaysian. The joint survey was completed as part of the UN-sponsored cooperative study of the Kur-oshio Current (CSK).

Thailand is conducting research with 2 larger vessels--"Fisheries Research No. 1" and "Fisheries Research No. 2," constructed in Japan with reparations funds--and 5 smaller, wooden research vessels built in Thailand. These 7 vessels were constructed between 1963 and 1967. Most research is in the Gulf of Thailand for both pelagic and demersal species. (John C. Marr, BCF Hawaii Area Director.)



Taiwan

1966 FISHERY LANDINGS SET RECORD

Taiwan's fishery landings (including marine, fresh water, and fish culture) in 1966 reached a record 425,000 metric tons--43,000 tons above 1965's. This increase of 11.4 percent is one of the world's highest. Since the early 1950s when her fishing fleet was rehabilitated, modernized, and expanded, Taiwan has increased her fishery catches steadily.

As the high-seas and outer coastal fisheries expanded in the last 15 years, the relative importance of the different fisheries changed greatly (table 1).

Under her 5-Year Plan (1962-1967), the Chinese Government set the 1966 goal at 400,000 metric tons. It was surpassed easily by 25,000 tons, or 6 percent, despite below-

Table 1 - Taiwan's Landings by Type of Fishery for 1951, 1961, and 1966

Type of Fishery	1966		1961		1951	
	Metric Tons	%	Metric Tons	%	Metric Tons	%
High-seas	169,260	39.8	106,147	34.0	16,330	15.6
Outer-coastal	172,267	30.5	117,405	37.6	27,595	26.5
Inner-coastal	25,239	5.9	31,533	10.1	35,288	33.9
Fish culture	58,511	13.8	57,354	18.3	24,965	24.0

quota catches in inner-coastal fisheries. But increases well above the goals in high-seas and outer-coastal fisheries offset these below-quota catches.

Outer-Coastal Fisheries Largest

The outer-coastal fisheries still supply the largest portion of total landings, but the rapid growth rate in high-seas fisheries (about 300 percent since 1956) threatens that fishery's position. In 1966, high-seas fishing contributed almost 170,000 metric tons, or 39.8 percent, to the total catch.

The inner-coastal fisheries (conducted within 5 nautical miles of shore with small nonmotorized sampans and bamboo rafts) are declining. In 1956, that fishery contributed almost one-fourth of all landings; in 1966, only 5.9 percent. The reason for this decline is two-fold: the primitive fishing methods (beach seining, torch-light fishing, angling, gill-netting, etc.) cannot compete with modernized outer-coastal fisheries that attract fishermen because of higher earnings. Second, the resources near the coast are not as abundant as they used to be.

Culture of Fish and Shellfish Declines

Culture of fish and shellfish has declined in relative importance during the last decade because of the rapid expansion of marine fisheries. Still, its progress, though modest, has been steady. Production from fish culture doubled from 1951 to 1960, and by 1966 increased another 20 percent. Many new species are being cultivated (including rainbow trout, jamato carp, and bullfrogs), but the principal species remain milkfish, tilapia, and oysters. Fish is cultured throughout the island, but especially on the western coast. It is not unusual to harvest 2 or 3 crops a year since fish grow rapidly in Taiwan.

Importance of Various Species Changes

The relative proportion of various species in the total catch also has changed significantly.

Taiwan (Contd.):

Herring and allied species, commercially known as sardines, used to provide the largest tonnage in marine landings. In 1966, tuna became No. 1. Tuna landings in 1966 were double 1965's and were surpassed only by the traditionally large crop of milkfish.

Purchases of new long-liners will help to expand tuna fisheries this year. Tuna are highly valued domestic food and the principal fishery export item.

Lizardfishes, the leading species landed by trawlers (mostly bull or pair-fishing) are caught year-round. The peak season is November through April. Catches increased rapidly since 1953 and tripled during last decade.

Cuttlefish became significant only recently. In 1960, only 4,500 tons were landed, compared to over 18,600 tons in 1966. Both cuttlefish and squid are commercially important in Taiwan's fisheries; both are widely distributed in coastal and offshore waters. Many of these mollusks are taken incidental to trawling for fish.

Shark landings were the second major marine species landed as late as 1960. They have lost their relative significance, although the catch increased from 14,300 tons in 1960 to 18,100 tons in 1966. Much of the increase probably is due to expanded tuna long-lining and good demand for dried shark fins, a delicacy much used in Chinese cooking.

Fleet Changed Considerably

Taiwan's fishing fleet has changed considerably during the last two decades. Damage to fishing vessels during World War II was extensive, especially to motorized ocean-going vessels. During 1950-60, the fleet increased from over 21,000 vessels to over 28,000. During the 1960's, however, the impetus was in building larger vessels; the fleet size decreased to about 25,000 in 1966 (see table 2).

	1966	1965	1960	1955
Motorized vessels:				
Number	8,842	8,167	5,541	2,758
Gross tonnage	141,980	117,883	78,343	41,417
Horsepower	379,067	308,692	178,272	81,506
Non-motorized sampans:				
Number	4,923	4,871	5,917	8,083
Gross tonnage	6,529	7,011	9,121	12,583
Non-motorized rafts:				
Number	11,105	11,570	16,587	13,528

On the other hand, total gross tonnage increased from 32,500 gross tons in 1950 to over 148,000 gross tons in 1966. The increase was in motorized vessels; the tonnage in nonmotorized vessels decreased by 50 percent as more units were retired or equipped with motors. Nonmotorized vessels--sampans and bamboo rafts--are used exclusively in the inner-coastal fishery.

* * *

WORLD BANK TO FINANCE TAIWAN'S PURCHASE OF TUNA VESSELS

The World Bank will provide foreign exchange to Taiwan needed to add 20 tuna long-liners and 4 stern trawlers to her deep-sea fishing fleet. It was made possible by a US\$14.4 million loan at 6 percent annual interest for 15 years. The remaining \$3.3 million of the estimated cost of \$17.7 million will be provided by Taiwanese fishing companies.

Taiwan will relend the World Bank money through the Land Bank of Taiwan. The companies will begin repayment on the loan in August 1970. ("The Wall Street Journal," June 15.)

* * *

TUNA EXPORTS TRIPLED IN 1966

In 1966, the Republic of China exported 23,230 metric tons (worth about US\$2.1 million) of her tuna landings. Both the exported quantity (mostly frozen) and value were over 300 percent greater than in 1965. ("Taiwan Industrial Panorama," April.)



Hong Kong

HONG KONG IMPORTS 2/3 OF FISHERY PRODUCTS FROM COMMUNIST CHINA

In 1966, over 64 percent of all Hong Kong fishery imports came from Mainland China. They were worth US\$21.1 million. Communist China has exported fishery products to Hong Kong since the early 1950's. There was a large increase in 1964, when Chinese exports reached \$18.7 million--68 percent higher than 1963.

Hong Kong (Contd.):

Since then, the yearly increases in value were more modest: about 13 percent from 1964-1966.

It is believed that Hong Kong fish traders re-export some fishery products. (U. S. Consulate General, Hong Kong.)



Singapore

DEVELOPS HER FISHERIES

The first part of a multimillion-dollar complex, aimed at making Singapore self-sufficient in fisheries products, has been completed on the Jurong River's west bank. The 39-acre Jurong fishing port will have docks 700 feet long and be capable of accommodating the largest fishing vessels. The docks will be connected with a covered auction market, capable of handling 150 metric tons of fish daily, and an icemaking plant.

The Singapore Government expects that domestic as well as foreign vessels will use the new port.

Singapore is one of the Asian ports used extensively for bunkering by Soviet fishing and whaling vessels. ("Asahi Evening News," July 10.)



Malaysia

SABAH STATE'S SHRIMP LANDINGS AND EXPORTS RISE

Landings of shrimp by the East Malaysian State of Sabah increased almost 50 percent from 1965 to 1966: from 1,659 metric tons to 2,407. This year's plan calls for a catch increase of about 600 tons; it is estimated that 3,000 tons of shrimp will be landed. During 1967-1970, annual increases of about 660 tons are expected to produce 1970 landings of 5,000 tons.

Total Exports Up

While the shrimp catch increased by about one-half from 1965 to 1966, Sabah's total

fishery exports increased by over 70 percent--from 3.5 million to 6.1 million Malaysian dollars. This indicates an increased export price for shrimp, or a greater proportion of exports of other fishery products.

Exports of fish and shrimp for the first 4 months of 1967 were M\$2.4 million. If the increased rate for the rest of the year remains proportionately the same, total exports of fish and shrimp will be M\$7.2 million, about 1 million above 1966's. The projected 1967 increase in the value of exports will be only about 15 percent, much below the 1966 rate of increase.

Note: \$3,048 Malaysian dollars equal US\$1.



Pakistan

EXPORTS TO U. S. INCREASED 25%

Exports of shrimp from Pakistan to the U. S. increased more than 25 percent from 1965 to 1966. In 1966, they reached about 8.5 million pounds, mostly frozen shrimp.

Shrimp Exports to U. S., 1966		
Item	Quantity 1,000 Lbs.	Value Million US\$
Frozen fish & shrimp (mostly shrimp)	7,965	6.6
Dried	650	0.4
Canned	140	0.1
Total	8,755	7.1

Pakistan exported almost 9 million pounds of frozen fish and shrimp (mostly shrimp) in 1966; almost 90 percent went to the U. S.; Japan and Afghanistan were the other principal markets.

Dried shrimp exports totaled 1.3 million pounds, half for the U. S.; most of the remainder went to Hong Kong or Kuwait.

Canned shrimp is the only product for which the U. S. is not the major market; only 14 percent of the 975,000 pounds exported went to the U. S. The United Kingdom purchased almost six times as much. (Marine Fisheries Department, Pakistan.)



AFRICA

South Africa & South-West Africa

FISH MEAL AND OIL PRICES DROP

The 1967 South African fishing season was good through May, according to the annual report of a major processor. Mackerel contributed most to the increased catches. This species is not entirely suitable for canning, so the greater part of the catch was converted to fish meal.

Because Peru's production in early 1967 was exceptionally high, fish meal prices for this year are expected to be about US\$112 a short ton, compared to \$133 in 1966.

The indicated 1967 price for fish body oils is between \$133 and \$137 a long ton; it was \$181 in 1966. Judging by first-quarter 1967 production reports, however, the oil yield from available fish supplies is likely to increase during the year. A yield of 8 gallons a ton of fish was recorded in 1966. This need only rise to 11 gallons a ton to offset the price difference.

Most 1967 Production Sold Lower

The chairman of another company reported that most 1967 fish meal production had been sold forward at reduced prices. This year's prices are unlikely to exceed \$115 a ton, f.o.b. Walvis Bay. He noted an encouraging increase in the percentage of fish meal put into balanced feeds on world markets. This resulted from the present more favorable cost of fish meal against vegetable proteins and synthetics.

The 1967 production of fish body oil was sold forward at 20 percent lower prices than last year. Increased sales of canned fish were expected at higher prices because of increasing demand in local and export markets. ("Barclays' Trade Review," July.)



South Africa

SHOAL FISH CATCH IS UP

The Cape west coast shoal fish catch in the first 5 months of 1967 was 71,118 short tons of pilchards, 8,940 tons maasbanker, 153,095

tons mackerel, 134,243 tons anchovy, and 13,966 tons red-eye herring. Total catch was 371,363 tons.

In the 1966 period, total catch was 234,481 tons: 108,765 tons pilchards, 13,457 tons maasbanker, 61,233 tons mackerel, 46,123 tons anchovy, and 4,903 tons red-eye herring.

In 1965, the total catch was 313,874 tons: 206,720 tons pilchards, 30,575 tons maasbanker, 43,967 tons mackerel, 32,612 tons anchovy, and 100 tons red-eye herring. ("The South African Shipping News and Fishing Industry Review," July.)

AUSTRALIA IS GOOD MARKET FOR SOUTH AFRICAN SHRIMP

South Africa has high hopes of developing a market in Australia for shrimp caught on newly discovered grounds off Durban. Shrimp from this new source also could go a long way toward filling the gap left by Australian exports of her largest shrimp to the U. S. and Japan.

The managing director of an Australian company said the new product was a small variety of shrimp and was peeled. It would be sold in both consumer and catering packs under the "Ocean Fresh" label. He said there was a very healthy demand in Australia for the small or cocktail shrimp meat.

For many years, South Africa has been a very good customer of Australia for large shrimp. (Australian "Fish Trades Review," June).



South-West Africa

SOUTH-WEST AFRICA FISHERIES DEVELOPMENTS

The executive committee of the South-West African Administration has approved some suggestions by the Committee of Inquiry into the Fishing Industry. These in-

South-West Africa (Contd.):

clude the proposal to build a new fishing harbor at Walvis Bay. Committee approval means the suggestions will be carried out.

The Prime Minister announced recently that South Africa was negotiating with several countries to convene a conference to consider fishing in the South Atlantic. The executive committee then decided that if foreign fishing in South-West African waters were not curbed by international agreement, the committee would consider using South-West Africa's total resources to exploit these waters as quickly as possible.

Committee Approves Recommendations

The committee approved recommendations to supervise fishing activities more closely; ban export of frozen sardines for canning; restrict number of fishing vessels licensed, with allowance for larger vessels than at present; ban export of live spiny lobster. The committee recommended additional research and the construction of a white fish processing factory.

Newspapers have reported that 3 major South African fishing companies have been excluded from the new 48,000-ton fishing quotas issued by the South-West African Administration. The reason apparently is that they operate 2 factoryships off South-West Africa in competition with the fish factories at Walvis Bay. The factoryships handle mainly pilchards and operate outside the 12-mile limit. (U. S. Embassy, Pretoria, Aug. 10.)



Tunisia

NEW FISHING PORT OPENS

On August 11, the President of Tunisia inaugurated a new fishing port built at Mahdia with the aid of West German capital. The West German Secretary of State in the Ministry of Economic Cooperation, visiting Tunisia at the government's invitation, attended the ceremony. West German assistance for this project began in 1963 with a long-term loan of about US\$2 million. This aid was increased in 1966 by \$250,000.

The port's facilities include refrigeration equipment and a slipway for fishing vessels. (U. S. Embassy, Tunis, Aug. 28.)



Ivory Coast

FISHERY SURVEY BEGINS

An agreement for the "Survey and Development of Pelagic Fishery Resources," signed on August 18 by representatives of the Ivory Coast and the United Nations Development Program/Special Fund (UNDP/SF), is being put into effect. Its purposes are to help develop coastal pelagic fishery resources through surveys, research, experimental fishing, and personnel training to study the biology of pelagic fish, evaluate stocks, fluctuations, and migration; and to compare catches by different gear.

The 4-year program will be financed by a UNDP/SF allotment of US\$1,273,000 and an Ivory Coast counterpart contribution of US\$906,931. The UN Food and Agriculture Organization (FAO) will carry out the program. A Scotch fishery expert is project director. The research vessel "John F. Kennedy" probably will participate.

Project Is Part of Larger Program

This project is part of an overall UNDP/SF program, the "Sardinella Program," to study the distribution and abundance of "Sardinella" and other pelagic species off the West African coast. The methods suitable to exploit these species will also be studied. The project had been recommended by a special UN Fishery Mission sent in response to a request from governments in the region.

The "Sardinella Program" includes and closely coordinates national SF-supported projects in the Ivory Coast, Senegal, Sierra Leone, and Congo (B). It includes too the SF regional project to survey the pelagic fishes in waters along the West African coast from Senegal to the Congo River, and special SF-fishery projects in Ghana and Nigeria. Experts, directors, and co-directors of each project will collaborate with one another and with the manager of the SF Regional Fishery Survey. This should facilitate exchange of ideas and findings and standardization of equipment and methods so that the overall program can be evaluated properly.

The Assistant Director General of FAO (Fisheries) said at the recent FAO Technical Conference on the Fisheries of West African Countries in Dakar that agreements had been signed, or were about to be signed, on all projects in the "Sardinella Program," (Regional Fisheries Attaché, U. S. Embassy Abidjan, Sept. 1.)



Senegal

1966/67 TUNA SEASON DISAPPOINTING

Senegal's tuna catch totaled only 6,500 metric tons when the season ended on May 15--2,200 tons less than in 1965/66. Bad weather was blamed. Most of the 60 Basque and Breton tuna vessels returned to France, but 4 French vessels and Senegal's 5 refrigerated tuna vessels belonging to SOSAP (Société Senegalaise d'Armenement à la Pêche) continued to fish the West African coast as far south as Pointe-Noire off the Congo.

Between May and August, SOSAP vessels made record catches of up to 300 metric tons a month per vessel. SOSAP anticipated a total catch of as much as 2,000 tons by the end of August. The tuna were frozen and stocked at SOFRIGAL in Dakar. They were to be turned over to one of Dakar's 3 canneries, scheduled to reopen in September, to process the fish for export to France. Senegal's canning season normally runs from mid-November through mid-May.

Industry's Future Discussed

The future of the tuna industry is still a matter of discussion and speculation. There appears to be general agreement that construction of the 15,000-20,000-ton capacity Soviet tuna complex has been postponed indefinitely. It is expected that SOSAP will acquire 14 new freezer tuna vessels (10 from the Soviet Union and 4 from France) by 1970, bringing its fleet up to 19. Nevertheless, there are numerous unresolved financing problems.

Besides 14 vessels on order, there is considerable discussion about the prospect of more vessels. Government sources have indicated that SOSAP will have 39 modern freezer tuna vessels by 1974, or an additional 20. The Government hopes to use the credits extended by the Soviet Union for a tuna cannery (about \$3.2 million) to purchase instead 13 more freezer tuna vessels. At the same time, SOSAP would buy 7 more vessels from France--and have a modern fleet of 39 tuna vessels and a landing capacity of 20,000 tons a year.

Private industry sources discount some of these plans. They say the Government will have great difficulty finding money for even the 14 vessels on order. Moreover, they believe there is little likelihood that the tuna canneries could sell any tuna outside their protected French

quota (11,000 tons in 1966/67) at a profit. (U. S. Embassy, Dakar, June 27 and Aug. 21.)



Togo

REPORT ON 1966 FISHERIES

Despite its coastal location and closeness to good fishing grounds, Togo in Northwest Africa is able to satisfy its food fish needs only through imports. The 1966 trend in fish imports, as in previous years, was up. Significant imports:

Fish	1966		1965	
	Quantity	Value	Quantity	Value
	Metric Tons	US\$ 1,000	Metric Tons	US\$ 1,000
Fresh fish	262	37	694	109
Frozen or chilled fish . .	3,997	590	4,096	628
Dry, smoked, or salted . .	2,024	863	1,002	353
Total	6,283	1,490	5,792	1,090

Soviet Vessels Provide Imports

In 1966, virtually all fresh and frozen or chilled fish imported into Togo came from Soviet fishing vessels and factoryships that appear frequently off the Lome wharf. Nearly three-quarters of the imported dry, smoked, or salted fish came from Ghana in 1966. Fish exported from Togo in 1966 amounted to only 8.8 tons, worth about \$4,300.

Fishing Developments

In other fishing developments, West Germany continued her aid to Togo's Service de Pêche throughout 1966. A fishing trawler was presented as part of this program early in the year. The boat has not performed satisfactorily. It will be replaced this year with a vessel more suited to Togo's conditions.

With the 1967 opening of Lome's new port, fishing vessels will be protected from the open sea while at anchor, increasing Lome's attractiveness as a potential commercial fishing port.

The Peace Corps inland fisheries project begun in 1965 is proving to be a success. More volunteers were added toward the end of 1966. (U. S. Embassy, Lome, June 30.)

