INTERNATIONAL

International Fisheries Survey Off California Underway

Research vessels of BCF, the Scripps Institution of Oceanography (La Jolla, Calif.), and the Far Eastern Seas Fisheries Research Institute of the USSR are cooperating in an international fisheries survey off California. The survey began in February 1969 and will end this month.

Its purpose is to assess the populations of Pacific hake, a species heavily fished by Soviet fleets in recent years. The U.S. recognizes hake as a valuable raw material for fish protein concentrate (FPC). The information is required to provide the scientific basis for agreements to protect the resource.

The Vessels

Participating vessels are the 'Miller Freeman,' operated by the BCF Laboratory in Seattle, Wash., 'David Starr Jordan' of the BCF Fishery-Oceanography Center at La Jolla, the 'Alexander Agassiz' from Scripps, and 'Professor Deryugin,' based at the Soviet agency's Vladivostok Laboratory.

Dr. Alan R. Longhurst, Director of the BCF Laboratory at La Jolla, is U.S. coordinator. Dr. Y. U. Yermakov, a fishery biologist with wide experience in this area, is chief scientist aboard Professor Deryugin. The vessel was scheduled to arrive at the Port of Los Angeles early in March to take on scientific sampling gear and for discussions with U.S. scientists.

All 4 vessels are equipped with the latest scientific gear for fisheries research.

The Hake Resource

In early spring, most of the adult Pacific hake population from British Columbia to Mexico gather off southern California and Baja California to breed. Eggs and young float in the water and are easily captured in plankton and counted. This "census" provides the basis for an estimate of the abundance of adult fish.

In past years, research vessels from the Fishery-Oceanography Center and Scripps have used this method to gather preliminary data on Pacific hake. However, the 2 institutions were never able to cover an area large enough to obtain definitive results. With 4 ships, the scientists will be able to survey quickly a much larger area than ever before. They will obtain more accurate estimates of the total hake population. The information is necessary to conserve and manage the resource.

In recent years, representatives of the two countries have alternated visits. They have met about twice a year to exchange scientific data from survey and research work in the preceding year on species of mutual concern, such as hake and Pacific ocean perch. They also discussed the apparent effect of the year's fishery on these species. The information developed formed the basis of discussions in working out fishing agreements aimed at protecting these fishery resources.

At the most recent meeting, held in November 1968 in Moscow, the scientists recommended a joint attempt to determine the size of the Pacific hake population--and plans for the survey developed from that suggestion.

Japanese Exploratory Fishing Off Chile

The government research vessel 'Kaiyo Maru' (3,200 gross tons) left Japan Nov. 1, 1968, on a survey cruise to the west coast of South America. On Jan. 10, 1969, she was trawling around 25° S. latitude and 74° W. longitude off Chile, taking merluza (hake), mackerel, and sharks. She has not found any sizable concentration of bottomfish--primary objective of the expedition. ('Shin Suisan Shimbun Sokuho,' Jan. 14, 1969.)

Longliner Finds Big-Eyed Tuna

In May 1968, the longliner 'Azuma Maru No. 31' (340 gross tons) began exploring off Chile on a government-subsidized tuna survey. She now has concluded operations. Her primary objective was to develop new southern bluefin grounds, but results were disappointing--only 10 bluefin were taken. However, the survey did locate big-eyed tuna

schools of sufficient density to support commercial operations. Azuma Maru No. 31 caught 252 tons of fish--big-eyed, 145 tons; albacore, 41 tons; and other fish, including southern bluefin, 66 tons. ('Katsuo-maguro Tsushin,' Jan. 20, 1969.)

Japanese Seek More Joint Shrimp Ventures in Indonesia

Following Toho Suisan Fishing Co.'s establishment of a joint fishery enterprise in Indonesia in late 1968, several major Japanese fishing and trading firms are seeking similar fishing ventures. Among others, Toyo Menka, Nihon Kinkai Hogei, Taiyo, and Nihon Suisan are arranging to join Indonesian interests in large-scale fishing ventures. Most plans involve shrimp fishing and, if all the proposed enterprises materialize, some Japanese foresee the possibility of an oversupply in Japan.

Japanese Firms Already Licensed

Toyo Menka, a large trading firm, is exploring for Indonesian shrimp with the Kyokuyo Hogei Fishing Co. The 2 firms plan to establish the largest Japanese fishing enterprise there, employing 200 fishing vessels. Nihon Kinkai Hogei plans to join the Indonesian Eramina (phonetic) Distant-Water Fishing Co. to establish a US$1 million company to fish shrimp off northeast Kalimantan. The Indonesian government has already granted a license, and trial fishing should start soon. Taiyo and Nihon Suisan have applied for a license to fish shrimp off West Irian's southern coast.

UN/FAO Financial Backing

The U.S. Food and Agriculture Organization (FAO) is offering a US$1 million loan for joint development of Indonesian fisheries. It has invited fishing firms in Japan and other countries to participate. Several Japanese firms have submitted plans which FAO is studying.

Shrimp Fishery Ripe for Development

Indonesian waters, with numerous scattered islands and bays, are ideally suited to shrimp propagation. The environment promotes rapid growth of such species as tiger, banana, and white shrimp. Indonesia is said to consider promotion of shrimp and other fisheries vital to its economic development. It welcomes Japanese assistance to local fishermen. This is why so many Japanese firms are planning joint enterprises there. However, since the government has 'sliced' the surrounding waters into small areas in issuing fishing licenses, there is concern about the successful operation of new ventures. ('Nihon Keizai Shimbun,' Jan. 22, 1969.)

Canada to Host Fishery Products Inspection Conference

Consumer protection will be strengthened by an international technical conference on fish inspection and quality control to be held in Halifax, Nova Scotia, Canada, July 15-25, 1969. It is sponsored by the Food and Agriculture Organization (FAO) of the United Nations. It is open to all FAO members and associates. Cooperating U.S. agencies include the Departments of State; Health, Education, and Welfare; Defense; and Interior.

Main Objectives

The main objectives are to consider all aspects of fish inspection--including staff organization and training, quality control, new inspection techniques, and new approaches to quality assessment. Fish-inspection methods in various segments of the industry will be compared. Techniques and methods sufficiently accepted to have possible use internationally will be emphasized.

FAO has said that the growing international trade in fishery products and other foods points up need for international standards. Waste and quality degradation often may be avoided by advice from trained inspection personnel who can pinpoint problems and correct them.

A Technical Conference

The conference will be conducted in English, French, and Spanish, the official FAO languages. Simultaneous interpretation will

be provided. Scientific papers will be accepted in any official language and be reproduced in that language with abstracts in the other two.

Because it is a technical conference, governments have been invited to nominate experts. FAO has recommended that participants come from Federal and State fish-inspection agencies, public and private research institutions, and the fishing industry. Other specialists who want to attend as individuals must arrange it in their own countries.

U.S. residents who wish to attend should request registration forms and information from Joseph W. Slavin, Assistant Director for Utilization and Engineering, Bureau of Commercial Fisheries, U.S. Department of the Interior, Washington, D. C. 20240.

East Germany Delivers Stern Trawler to Cuba

On Jan. 10, 1969, East Germany turned over to Cuba the large stern freezer trawler 'Playa Giron.' The vessel was accepted from the Stralsund People's Shipyards by H. Rodriguez, the Cuban Ambassador to East Germany.

The Vessel

'Playa Giron,' 3,200 gross tons, is 82.2 meters (269.6 ft.) long; her engines generate 2,630 hp. and she can make 13.6 knots. Her maximum processing capacity is 80 metric tons of fish a day. She can freeze 50 metric tons of fish a day and transport 1,450 tons of finished products.

Playa Giron is the first Cuban fishing vessel of this size. Four more are on order in East Germany.

Cuban Fishing Vessel Seized by Venezuela

The Cuban longliner 'Alecrin' was shot up and seized on Nov. 20, 1968, by 2 Venezuelan warships off Los Testigos Islands, 50 miles north of Venezuela. Cuba bought the 575-gross-ton vessel and 19 other tuna vessels from Spain in 1966. The Alecrin was carrying a crew of 38, including a Japanese instructor who has been working with the Cuban fleet for 2 years.

Venezuela reported to the United Nations that the Alecrin was 8 miles northeast of Los Testigos Islands, inside 12-mile territorial waters, when spotted by the 2 warships. Ordered to stop and identify herself, the vessel attempted to escape. Warning shots fired across her bow were ignored. The warships opened fire and forced Alecrin to stop. The Cuban vessel was boarded and taken to Carupano for inspection. The vessel was damaged, but no one was hurt.

Since Cuba has been committing illegal acts of direct intervention and subversion against Venezuela for years, Venezuela is vigilantly patrolling her territorial waters.

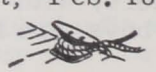
Cuba's Strong Reaction

Cuba reacted angrily. She placed the Alecrin considerably north of Los Testigos, in international waters. Cuba claims there were 5 other Cuban tuna boats in the area, that Alecrin had been fishing there 51 days and was carrying 90 tons of fish in her refrigerated holds. Cuba protested strongly to the Swiss representative, who cares for Venezuelan interests in Havana, and with UN. The seizure was called piracy.

No Sabotage Mission

Venezuelan investigation failed to produce evidence that Alecrin was engaged in a sabotage mission. On Dec. 13, 1968, the President of Venezuela personally ordered the vessel released. She sailed for Cuba on Dec. 20, one month after her seizure. Two of her crew requested asylum in Venezuela.

As an aftermath of the Alecrin incident, the Cuban government charged Venezuela's government-owned airline $31,500 for the return of a DC-9 jetliner hijacked to Cuba on Feb. 11, 1969. The charge is considered a reprisal for the Alecrin seizure. ("The Washington Post," Feb. 18, 1969.)



FOREIGN

CANADA

LOBSTER VESSELS WILL BE LICENSED

In a move to raise lobster fishermen's earnings, an upper limit has been placed on the number of boats licensed to fish lobsters in the Maritime Provinces in 1969 and future years. Licenses will be issued only for boats registered with the Federal Department of Fisheries to fish lobsters in Maritime waters in 1968. The only additional lobster boats that may enter the fishery this year are those that were under construction, or under contract for construction, prior to Jan. 20, 1969. The lobster license stays with the boat. When an owner sells his boat to another fisherman, he withdraws from the fishery and the buyer will be able to enter it.

Trap Limits

The lobster fishery is based on a resource that is fully exploited already and whose future growth is limited by biological factors. With such a limited quantity available, the number of fishermen is excessive and their capital and operating costs are extremely high. The result is generally low incomes. In the past several years, several measures have been introduced to reduce fishermen's capital and operating costs and to limit entry into the Maritimes lobster fishery. First came limitations on number of traps that could be fished by an individual. There will be no increase in lobster trap limits for the 1969 season.

In 1967, in a number of districts, licenses were issued only to those fishermen who had held licenses in these districts in 1966. In 1968 this was extended to all the Maritimes. This new system of issuing licenses in 1969 only to those registered in 1968 is an effort to improve the economy of the lobster fishery. In the future, licenses will be issued to new boats only if they replace old boats whose licenses will be canceled.

The effectiveness of placing an upper limit on the size of the fleet harvesting the lobster crop will continue to be studied to determine if further measures are required, for example, reducing the number of boats. This could be done by having the Federal government buy licensed lobster boats when they are offered for sale.

Registration Fees

Registration fees for lobster fishing boats are being increased from C$3 to $5. Each boat operator must have a $2 personal lobster fishing license; helpers on the boat will neither require a license nor pay any fee. There are about 10,000 lobster fishing vessels and 23,000 lobster fishermen in the Maritime Provinces. The annual landed value of lobsters in the region is about C$25,000,000. (Canadian Dept. of Fisheries, Jan. 20, 1969.)

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TO ESTABLISH FRESHWATER FISH MARKETING CORPORATION

Canada soon should have a new Freshwater Fish Marketing Corporation to market fish, to increase returns to fishermen, and to promote international markets. Final passage of a Bill creating such an agency was expected early in 1969. Canada's freshwater catch is about 120 million pounds; about half is exported, almost entirely to the U.S.

Corporation's Powers

The Corporation will have the power to enforce minimum prices and other conditions of sale on exports, and to set minimum quality standards. The Bill empowers the Corporation to: (1) buy fish and prepare it for market, (2) buy, manufacture, or produce fish products or byproducts for market, (3) store, ship, insure, import, export, market, or otherwise dispose of all fishery products in its possession, (4) purchase, lease, or otherwise acquire real property, (5) establish branches throughout Canada, (6) invest in securities issued or guaranteed by the Canadian Government, (7) borrow money from any bank upon credit of Corporation, and (8) make loans of working capital, on a seasonal basis, to persons fishing for commercial purposes in a participating province. A participating province is one which has entered into an agreement with the Federal government to share

Canada (Contd.):

in the expenses of establishing the Corporation and to assist in its operation. The new agency will be headquartered in Winnipeg. (U.S. Embassy, Ottawa, Jan. 7, 1969, and Bill C-148.)

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NO. 2 SEAFOOD FIRM ISSUES 1968 ANNUAL REPORT

The 1968 annual report of National Sea Products Ltd., headquarters in Halifax, shows considerable improvement over 1967. The firm is generally considered Canada's second largest seafood producer, after British Columbia Packers.

Operating profit in 1968 was C$968,656, compared to a loss of C$73,413 in 1967 and a profit of C$2,158,152 in 1966. Nevertheless, the report notes, "The year's results, while better than 1967, cannot be considered satisfactory." Expenses showed a climb of 10 percent over 1967.

"United States market prices for groundfish fillets and blocks, particularly cod and perch, were below the cost of production during the year and there are few signs of these prices strengthening in the immediate future."

Shellfish Marketed Aggressively

"Our improved results over last year largely came about by more aggressive marketing of shellfish, specialty items, and by-products. We shall continue to put increased emphasis on these lines as well as the development of new products, both in Canada and the United States."

Trawlers Built

In 1968, the program to add new trawlers was completed. Slightly over C$3 million was spent for this purpose during 1968. There are no plans for more vessel building. The company is facing a shortage of experienced trawler captains and fishing crews.

Company experience suggests that Atlantic queen crab production is more efficient with smaller boats than with converted trawlers. (U.S. Consul, Halifax, Jan. 6, 1969.)

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BRITISH COLUMBIA FISHERMEN LAND RECORD SALMON CATCH

Commercial salmon fishermen in British Columbia landed a record 180 million pounds in 1968, about C$44.5 million ex-vessel--C$6 million more than in 1966, the previous high. The total value of all fish landed in British Columbia in 1968 was C$56 million--nearly C$7 million more than 1967, but 9% less than 1966.

Value by Types of Vessels

All salmon fishermen enjoyed good catches. Returns to the gill-net fleet were particularly high. Landings by salmon gill-netters were valued at C$20 million, 40% higher than the previous record in 1958. The value of salmon reported by salmon seiners, nearly C$13 million, was C$3½ million higher than in 1967, but second to C$15.6 million received in 1958. Landings by trollers were valued at about C$12 million, slightly above 1967 but down from the 1966 record of C$13.9 million.

Salmon Species

Sockeye salmon were the most important in value in 1968--41 million pounds worth C$15½ million ex-vessel. Coho landings of 29 million pounds were worth C$10½ million. Pink--54 million pounds--had a landed value of C$6.8 million. Spring salmon landings were more than 13 million pounds, worth close to C$7 million. Chum salmon increased to 36 million pounds, the highest since 1958, worth nearly C$5 million.

Halibut and Herring

Halibut landings--28 million pounds valued at C$7.1 million--were up about 10% from 1967. Ex-vessel prices averaged around 25 cents a pound, unchanged from 1967. Due to the low level of herring stocks, the reduction fishery was closed in 1968. Production, limited to bait and experimental fishing, had a value of only C$160,000. Normally landings are worth between C$4 and 6½ million. Landings of grey and ling cod, sole, and other groundfish, valued at C$1.8 million, were up 10% over 1967. Landings of most species of shellfish were down from 1967, although the shrimp catch rose slightly. Wholesale value of 1968's catch was expected to exceed C$110 million. ("Fisheries News," Canadian Dept. of Fisheries, Dec. 30, 1968.)

EUROPE

Denmark

CONCERN OVER EUROPEAN COMMON FISHERIES POLICY EASED

A Danish delegation met with representatives of the European Communities' Commission (EC), the new name of the European Economic Community (EEC), during mid-Dec. 1968 to seek reconsideration of the proposed Common Fisheries Policy. This provides for licensing of fresh fish imports and requires surety deposits. More than three-fourths of Danish annual exports to the European Communities (US$46.7 million) is fresh fish.

Danish Fear

Denmark feared the proposed requirement that importers post a surety bond to obtain import licenses would obstruct free trade. The Danes hoped to obtain clarification of the import provisions. The EC representatives promised that those provisions would be significantly eased in the final proposal; also; in practice, the provisions would be flexibly enforced to avoid hampering trade with nonmember countries. Indications were given that "import certificates" would continue to be required for fresh fish--but the surety bond provision would be liberalized.

Export Price System

The "reference price" import-control system was also discussed. The EC representatives commented favorably on the new Danish minimum export price system on herring. They called it a "good adjustment" to the Common Market system.

Denmark is the major nonmember supplier of fish to the Common Market countries. As a group, the six countries constitute Denmark's best customer for fish and fish products. So Denmark has a major interest in the proposals for the EC Common Fisheries Policy. (U.S. Embassy, Copenhagen, Dec. 30, 1968.)

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FAROESE EXPORTS OF FISHERY PRODUCTS DECLINED IN 1968

In 1968, Faroese fishery products exports totaled $12.1 million, compared with $14.1 million in 1967. Salt fish exports to Spain and Italy, primary Faroese salt fish markets, declined. The declines were caused by overproduction in a number of salt fish producing countries. The Faroese exported only 8,200 tons of salt fish to Italy in 1968, compared with 13,500 tons in 1967. Salt-fish exports to Spain amounted to 7,200 tons in 1968, 8,400 tons in 1967. However, Greece took 3,000 tons in 1968--2,000 tons more than in 1967. Faroese salt-fish production was 27,000 tons in 1968, and 30,000 tons in 1967.

Poor Fishing in 1967-68

In 1968, lower prices on world markets for major Faroese fishery products also contributed to the lower total value. A large part of the fishing fleet is in financial difficulty, because of increasing costs of operation and poor fishing during the last 2 years. (U.S. Embassy, Copenhagen, Jan. 21, 1969.)

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FAROESE FISHERMEN MAY STRIKE

Conflict between fishermen and vessel owners on the Faroe Islands has idled 80% of the fleet. Negotiations, broken off in December 1968, were resumed on January 17, 1969. A strike has not been formally declared but is considered imminent. A total strike would include North Sea herring vessels and freezer vessels now docked in British harbors, as yet not involved. The conflict concerns fishermen's demands for higher minimum wages, price supports, and a greater share of the catch.

Legislature Seeking Solution

The Faroese legislature, called into session on Jan. 8 to consider the case, has not yet solved it, probably because the two controlling political parties have not agreed on a solution. However, informed sources say that settlement may be expected shortly. (U.S. Embassy, Copenhagen, Jan. 21, 1969.)

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Denmark (Contd.):

ADVERTISES FOR
NORWEGIAN FISHERMEN

The fishermen's association of Esbjerg, Denmark, has sent bulletins to a number of places in north Norway urging qualified unemployed fishermen to come to Denmark for work on Danish cutters fishing the North Sea. Esbjerg alone needs 100 crewmen and would welcome them. The Norwegians would have the same social rights and privileges as Danish citizens.

N. Norway Fishing Poor

Fishing has been extremely poor in northern Norway during the past year. Many residents there are having severe economic problems. The Esbjerg association has received the first inquiry and more are expected. (U.S. Embassy, Copenhagen, Jan. 21, 1969.)

USSR

RESEARCH CONDUCTED ON
PACIFIC OCEAN PERCH

During the past few years, scientists of the Soviet Pacific Scientific Research Institute for Fisheries and Oceanography (TINRO) have conducted extensive and systematic studies of fishery stocks of the Pacific Northwest and California. In November 1968, some preliminary results of studies on northeast Pacific ocean perch were published in "Rybnoe Khoziaistvo," the Soviet Ministry of Fisheries periodical.

The author, TINRO scientist V.A. Snytko, reports that Pacific ocean perch (Sebastodes alutus) occurs between 48° and 51° N., off Vancouver Island, and between 43° and 46° N. In the Vancouver-Oregon area, the densest concentrations occur in summer and autumn, between 150 and 300 meters. With decreasing water temperature, the fish migrate to greater depths, wintering in small dense schools in canyons and troughs, where they are less accessible to fishing.

Fish Sizes

Pacific perch caught in the area are from 15 to 54 cm. long, weigh from 55 grams to 2 kg., and are 3 to 26 or more years old. Catches are mostly fish from 31 to 43 cm. long and from 10 to 14 years old. The perch in the Eastern Pacific are larger than in the Bering Sea or the Gulf of Alaska.

Perch Stocks Biology

In the Vancouver-Oregon area, the biology of perch stocks is similar in many respects to their biology in other areas. Growth is fast during the first 2-3 years of life, then slows. After the 13th year, annual growth rate is less than 1 cm. Mass hatching of larvae in the Vancouver-Oregon area occurs in February-March at 250-400 meters, with water temperatures of 6-8° C. In the Bering Sea and the Gulf of Alaska, the hatching occurs in March-April and April-May, respectively.

Migration

Feeding migration in the Vancouver-Oregon area lasts from spring to late autumn, when daily vertical migrations are clearly marked, except on cloudy days and during new moon. Perch migrate an average of 30-40 miles, depending on the steepness of the continental slope.

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RESEARCH VESSEL BEGINS 44th CRUISE

In late Nov. 1968, the 'Vitiaz,' oceanographic research vessel of the Soviet Academy of Sciences, left Vladivostok on her 44th scientific cruise. She was scheduled to spend $3\frac{1}{2}$ months in the tropical Pacific, visiting the Coral Sea, the Solomon Islands, the Gilbert Islands, New Caledonia, and New Hebrides. Her first scientific station was at Tarawa Atoll in the Gilberts. In early January 1969, the Vitiaz called at Noumea, New Caledonia, after conducting research on the biological productivity of the ocean. From there, she was to go to Malekula Island in the New Hebrides, to the Coral Sea, and then to Australia's Great Barrier Reef.

Purpose of Voyage

The principal purpose is to find methods to increase productivity of the oceans. Soviet scientists believe the world's annual maximum sustainable yield for marine fisheries can reach 100 million metric tons. Total world marine catch was 50.6 million tons in 1966 and 53.9 million in 1967.

USSR (Contd.):

The Soviet scientists will perform biological research and gather data necessary to design a mathematical model for the fishery resources in the Pacific's upper layers.

Scientific Personnel

The expedition is headed by M. E. Vinogradov, Deputy Director of the Oceanology Institute of the Soviet Academy of Sciences. Sixty scientists from Soviet marine research institutes are participating.

In mid-May 1968, Vitiaz returned from a 4-month scientific cruise, her 43rd, covering most of the Central Pacific.

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AIRLIFT FUR SEALS FROM SAKHALIN TO BATUMI

In August 1967, 6 Kamchatka fur seals, caught on Tyulenii Island, off Sakhalin, were transported by tug, truck, and aircraft to an aquarium at Batumi on the Black Sea. The seals, both male and female, were 2 years old or less.

Methods of Transport

They were carried in 110x65x65 cm. wooden cages weighing 41 kilograms (kg.) including the 10-kg. drip pan. From Tyulenii, the seals were brought by tug to Sakhalin Island, and washed in sea water with about 200 kg. of ice packed around the cages. The seals were trucked to Yuzhno-Sakhalinsk airport, loaded on an IL-18 aircraft and flown to Adler on the Black Sea. In Adler, they were transferred to another aircraft for the flight to Batumi.

Washed Again

Stopovers were made in Khabarovsk on the shore of the Sea of Okhotsk and Novosibirsk. In Khabarovsk they were washed again, this time with fresh water. Then 200 kg. of ice again were packed around the cages, but only along the sides because the seals appeared to be cold when ice also covered the tops. Air temperature was kept at 10-24° C. during the flight. The seals slept the entire time, both aloft and on the ground during stopovers.

Life at Batumi

At Batumi the animals were placed in 70-cubic-meter capacity oval tanks filled with water from the Black Sea. The seals, now permanent house guests at the aquarium, are very popular with visitors. ('Rybnoe Khoziaistvo,' Nov. 1968.)

* * *

PRODUCES FULL-LENGTH FILM ON OCEANS

A Soviet documentary and scientific film studio has begun shooting a full-length color film titled 'Planet Ocean' ('Planeta Okean'). It will be a combination fiction-documentary depicting problems met in studying and exploiting deep-sea resources. Filming began in summer 1968 in the Black Sea off Sevastopol and will continue in the Far East off Kamchatka and the Kurils. ('Sovetskaia Rossiia,' Dec. 28, 1968.)

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DEVELOPS NEW FISH-PROCESSING EQUIPMENT FOR USE AT SEA

The Soviet fishing industry has developed 4 new fish-processing plants to be used aboard BMRT-class large factory stern trawlers. The plants include head-cutting, scaling, filleting, and fillet-pressing machines. Three of the plants were tested successfully aboard the BMRTs 'Sapfir' and 'Kol'tsov,' in the central and southwestern Atlantic. With the new plants, up to 15 men per vessel can be shifted to other duties, saving about 38,000 rubles (US$42,180) in operation costs per vessel annually.

Fillet-Pressing Machine

The fourth plant is a fillet-pressing machine. It removes air and moisture from fish fillets, compressing them into small compact blocks. As a result, 15% more blocks can be stored in stern factory trawler holds, freezing time of smaller fillet blocks can be reduced by 20%, and consumption of packaging materials by 10%.

Fish-Meal Grinding Plant

The Far Eastern Fisheries Administration has tested a mechanized fish-meal grinding

USSR (Contd.):

plant that grinds coarse fish meal into a finished product. The first operational tests successfully produced 85 tons of finely ground fish meal. The equipment now will be installed aboard Far Eastern BMRTs. ('Rybnoe Khoziaistvo,' No. 9, 1968.)

East Germany

SHIPYARDS CAN BUILD 5,000 TONS OF FISHING VESSELS A MONTH

Total capacity of East German shipyards for fishing vessel construction is in excess of 5,000 gross tons a month. Three East German shipyards built 14 fishing vessels totaling 15,650 gross tons during Jan.-Mar. 1968. Most of them went to the Soviet Union, including 5 'Atlantik' class vessels, 2,650 gross tons each. Only 1 trawler, 1,000 gross tons, was delivered to the East German fishing industry. Six small cutters, about 200 gross tons each, were built for Denmark and Sweden.

* * *

TO TEST FIRST UNDERWATER LAB

East Germany's first undersea 'laboratory' is being readied for submersion in the freshwater reservoir near Dippoldiswalde. Designed and built by amateurs, it is a steel cylinder 4.2 meters (13.8 feet) long, 1.8 meters (5.9 feet) in diameter, and weighs 14 metric tons. Two divers will be lowered to 10 meters (32.8 feet) for 2 days in the first experiment. Air and oxygen will be supplied from shore.

Poles Experiment Too

The announcement of this modest experiment follows by only a few weeks a similar, more advanced, experiment in Poland. The Polish news media gave it wide coverage. In the Polish experiment, 3 aquanauts spent 7 days at 24 meters (78.7 feet) in the Baltic.

Iceland

PERMITS TRAWLING WITHIN FISHERY LIMITS

The Icelandic Parliament passed a law on Dec. 19, 1968, permitting Icelandic fishing boats up to 200 GRT to trawl in certain areas north and south of Iceland during Jan. 1-April 30, 1969. This action was taken while awaiting recommendations of a parliamentary appointed committee for more permanent legislation expected in late January or early February 1969.

Besides temporary exceptions provided by Icelandic-U.K. agreement 10 years ago, this is the first trawling to be permitted since establishment of the fishery limits in 1958. Icthyologists believe such operations are possible without any serious damage to sea resources. Nevertheless, relaxation of the prohibition against trawling within the limits has been long in coming because of strong public emotions.

Government's Case

The Government is aware of international sensitivity about fishery limits. It claims that the new law is a direct continuation of one of Iceland's main arguments for extending the limits--that Iceland wishes to use the fishing grounds within the limits for its optimum economic advantage, and that the fisheries will be restricted and conducted under scientific control.

There has been widespread approval of the law. However, small hand-line fishermen have registered some apprehension that their fishing grounds might be destroyed. The owners of larger trawlers than 200 GRT have expressed a desire to be allowed also to operate within the limits. (U.S. Embassy, Reykjavik, Jan. 2, 1969.)

Sweden

RADIOTELEPHONE FISHING ANNOUNCEMENTS MAY BE CODED

Fishermen of Sweden's Baltic coast are considering either coding their radiotelephone announcements about good fishing or stopping them completely. Nearly every time

weden (Contd.):

ey locate good fishing and radio their col-agues, vessels from Poland, East Germany, d the USSR soon appear and virtually fish t the schools in the area. The Swedes sus-ct that the other countries maintain a re-iver especially for these transmissions. e trawler skipper said that announcements good fishing at certain locations quickly oduce a "forest of masts on the horizon." .S. Embassy, Copenhagen, Jan. 21, 1969.)

pain

TTEMPTS TO CONCENTRATE ISH-PACKING INDUSTRY

Spain is trying to spur concentration of e fish-packing industry. An official decree Dec. 1968 offers preference in obtaining fficial credit to build new consolidated fish-acking plants meeting specified technical tandards. The decree includes the benefits e government already has offered for gen-al industrial consolidation. The govern-ent was to accept construction applications nder the decree for 3 months.

Concentration of enterprises in this in-stry may generate an increased demand for rger and more modern packing machinery. the decree should interest U.S. food-pack-g equipment exporters.

ncentration to Help Exports

The present fish-packing industry is about 0 small firms. This lack of centralized ganization, as in other parts of the food-acking industry, often results in poor quality ntrol and a lack of standardization, weaken-g export marketing efforts. Despite these eaknesses, Spain exported about US$10 mil-on worth of canned fish in the first eight onths of 1968. The Ministry of Industry xpects that a concentration of firms will in-rease this already-high export volume. .S. Embassy, Madrid, Jan. 21, 1969.)

France

NEW TUNA SEINER MAY FISH YELLOWFIN IN EASTERN PACIFIC

France may join the nations fishing yellowfin tuna in the eastern tropical Pacific when the 176-foot seiner 'Biscaya,' launched in fall 1968, is commissioned in Bayonne, France.

U.S. tuna fishermen may know her sisterships: the 'City of Tacoma,' the 'Blue Pacific,' and 'Jeanette C.'

When completed, the French vessel, manned by French Basques, probably will fish in the Atlantic and Pacific. She will deliver her catches to the cold-storage plant and canneries in Saint Jean de Luz.

Experienced Owners

The Biscaya's owners are experienced in the tuna fishing industry of France. Their firm, Luz Armement, also owns 2 other tuna purse seiners, both built on French designs.

Skippers of the Biscaya and the other 2 vessels spent time on U.S. tuna purse seiners learning fishing methods.

Biscaya has an 800-ton capacity and should be as efficient as her sisterships from Tacoma, Wash.

France Not IATTC Member

France is not a member of the Inter-American Tropical Tuna Commission and will not be bound by the yellowfin quota in the Eastern Tropical Pacific. Yugoslavia, Japan, and possibly Cuba are other non-IATTC members fishing in that area. ('National Fishermen,' Jan. 1969, and other sources.)

* * *

CRISES IN COD FISHERIES

Trawler fleet fishermen are threatening a partial production strike unless the government aids them. The fleet, operating on the banks off Newfoundland, has an annual cod production of 56,000 tons; 20,000 tons of that are exported. Production, salted or frozen, is valued at US$30 million.

France (Contd.):

Skippers now are threatening to make only one trip to the banks this year instead of the customary three. Each trip lasts 3 months. The skippers say they can no longer compete with Spanish, Icelandic, and British operations because those countries devalued their currencies. As a result, cod prices have dropped from about $0.13 to $0.12 a pound for salted cod, and from $0.19 to $0.17 for frozen cod.

Need Modern Vessels

The real difficulty is that only 9 of the fleet's 31 trawlers are capable of freezing fish on the grounds. Vessel owners hope for government help through next season. This would give them time to negotiate with the Common Market's Agricultural Fund. They hope the fund will partially finance the purchase of 9 new trawlers if they agree not to demand a certain share of sales within the Common Market. The skippers claim to have an agreement in principal for support of this type so they can obtain new equipment before 1974. ('Vestkysten,' Dec. 4, 1968.)

OECD Issues Review of 1967 Fisheries

Various fishery developments in the North Atlantic, North Pacific, and Mediterranean are examined in a "Review of Fisheries in OECD Member Countries in 1967," published in early Dec. 1968. The Review was asked by the organization's Committee for Fisheries, whose members represent countries producing about half the world's fish supply and handling around 70% of the international trade in fish and fish products.

Although overall fish catch in northern waters was heavier in 1967 than in 1966, supplies for direct human consumption were lower. The more plentiful species were those used mainly in fish meal and oil manufacture. Cod catch in North Atlantic areas, the mainstay of a number of major fisheries in bordering nations, was smaller.

Mixed Picture

This supply situation and a widespread marketing recession for bulk fish resulted in lower returns to most fishing fleets. Coastal fisheries, producing a greater variety of high-quality fish for sale fresh in nearby markets, enjoyed reasonably good yields and fared better, on the whole.

The Review gives special attention to international outlets for products from the reduction industry (meal and oil) and cod fisheries (frozen and cured). In those markets OECD countries are among the leading producers--Scandinavian countries, Canada, Japan--and consumers--U.S. and U.K.

Reduction Industry

As production of raw material for the reduction industry was at an all-time high, sales could only be effected at greatly reduced prices. This caused generally lower returns to fishermen and vessel owners; in a number of cases, operational stoppages. Certain fisheries with poor yields, such as Iceland's herring fisheries and the U.S. menhaden fisheries, were hit particularly hard.

Prices also were depressed in the North-East and North-West cod fisheries. These are important, not only to countries near the fishing grounds--Canada, Greenland, Iceland, Faroes, Norway--but also to all European distant-water fleets. The decline might have started with overstocking of blocks of frozen fillets for the U.S. fish stick and portion industry, subsequently spreading to other markets across the Atlantic. Thr frozen-fish market is being examined by the Committee.

More Government Aid

The fisheries of many nations suffered setbacks, often with serious consequences. This was true especially for Iceland, whose economy depends so heavily on fish exports. The adverse conditions stimulated national authorities to increase financial aid to their fishing industries. The Review concludes that "this could have adverse effects by distorting the normal conditions of the increasing competition between fishing countries."

Countries covered in the Review are: Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Turkey, the U.K., and the U.S. The publication is available from: OECD Publications Center, Suite 1305, 1750 Pennsylvania Ave. NW., Washington, D.C. 20006, at $2.30. (OECD Press Release, Dec. 2, 1968.)

ATIN AMERICA

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68 WAS BANNER YEAR FOR
SH MEAL PRODUCTION AND EXPORTS

The year 1968 set a record for Peruvian sh meal production and exports. (The sea- n lasts from fall to spring, so any summary a calendar year overlaps parts of two sea- ns.)

From Jan.-Dec. 1968, production totaled 21,900 metric tons; in 1967 it was 1,815,983.

Exports during 1968 reached 2,083,205 etric tons; in 1967, 1,560,900.

Partly due to lack of fish, fish meal pro- uction dropped significantly in November. ecember production was lowest in 1968, ex- ept during closed season. Fishing during the rst two weeks of December was concentrated round Chimbote, although fishing farther outh picked up during the third week.

losed Season Set

On Jan. 9, 1969, the Government announced closed season (veda) during Feb. 1-Mar. , and a provisional limit on the 1968-69 an- oveta catch of 8.2 million metric tons. ishing during the veda may continue out of in southern Peru. (Sociedad Nacional de squeria.)

* * *

68 FISH MEAL EXPORTS

Peru exported 2,083,205 metric tons of fish eal in calendar year 1968; more than half nt to only 3 countries: The U.S. was the rgest single buyer with 550,413 tons. West ermany was second with 396,853 tons, fol- wed by the Netherlands with 201,482.

Countries Took More Than
,000 Tons Each

Spain imported 110,979 tons and Italy 2,420. Japan ranked sixth with 97,578 tons, exico took 84,909, and East Germany placed h with 81,005. Poland imported 68,866 tons, ugoslavia 52,965, and Czechoslovakia ,680.

Countries Importing Less Than 35,000 Tons

Venezuela, the U.K., and Belgium each imported more than 30,000 but less than 35,000 tons. Hungary, France, and the Philippines each took a little over 20,000 tons. Sweden and Singapore each imported over 15,000 tons, while Ireland, Taiwan, Finland, and South Korea took slightly more than 10,000 each.

Countries Importing Less Than 10,000 Tons

Argentina, Bulgaria, Brazil, Colombia, Israel, and Greece each imported less than 10,000 but more than 5,000 tons; El Salvador trailed with 2,408. All other importing countries combined took only 5,504 tons.

Brazil

FISHING INDUSTRY OUTLOOK

Brazil, potentially an important supplier of shrimp to the U.S., is offering very attractive incentives for fishing industry investments through 1972. Export industries provide the best opportunities for immediate returns.

Large untagged shrimp resources in both the north and south only now are beginning to be exploited by firms financed by U.S. and other foreign capital. Two new U.S.-financed firms, operating from Belem at the mouth of the Amazon, together plan to export to the U.S. over 4 million pounds of shrimp annually, or more than 3.5 times the total U.S. imports of Brazilian shrimp in 1968. Brazil's shrimp exports to the U.S. increased sharply in 1968, to a level almost 7 times that of 1967.

The Brazilian Government is expected to examine new investment projects with a more critical eye than previously. Projects generating export earnings should be favorably received.

Although vast improvements are needed to improve fish distribution in Brazil, investments, plus U.S. technology and management, might overcome some of the problems. Opportunities also exist for the sale of U.S. equipment that can solve or circumvent problems in the production-marketing chain.

Brazil (Contd.):

Legal Problem for American Firms

American firms with fisheries investments in Brazil, involved in a legal problem concerning interpretation of regulations on vessel registration, reportedly have not encountered unusual bureaucratic hurdles in other operations.

Catches of shrimp and catfish for export are increasing; the spiny lobster catch, almost all exported to the U.S., is levelling off after several years of sharp decline.

Brazilian Laws

The new Brazilian fishery development law is having an important impact. The Fisheries Ministry had approved projects totaling US$40 million through August 1968.

Brazilian law provides a tax rebate of US$0.10 a gallon on diesel fuel (current cost US$0.25 per gallon) used to produce goods for export. An agency to administer the program is expected to be established soon.

Areas of Development

- Several Brazilian organizations are planning to produce FPC.

- At least four institutions are training personnel for the fishing and fish processing industries, assuring a supply of trained labor.

Marketing Problems

- While the bulk of approved investment programs have concerned fish catching, marketing needs the greatest improvement. Currently, all fish has to be transported by truck, distribution facilities are antiquated, and fish sold in normal food channels costs more than meat.

Note: More details are available in Foreign Fisheries Leaflet 173, "Fishing Industry Outlook--Brazil," available on request from Joseph Pileggi, Chief, Branch of Foreign Fisheries, Department of the Interior, Room 8015, Washington, D. C. 20240.

Mexico

TO BUILD SALINA CRUZ FISHERY COMPLEX

A $12 million fisheries complex is to be built at Salina Cruz, Oxaca, far south of Mexico's Pacific coast. Complete details are not available, but the installation is to handle 20,000 metric tons of tuna and bonito annually and can approximately 6,600 tons. Twenty-five percent is to be marketed domestically, the rest exported.

French Financing

The project will be financed from a US$35 million loan made subsequent to the French-Mexican protocol of 1967. French interests will pay 95%, Mexicans the rest. (U.S. Embassy, Mexico, Jan. 18, 1969.)

Trinidad and Tobago

PLANS FISHING COMPLEX

A multimillion-dollar fishing industry complex, including Caribbean Free Trade Association (CARIFTA) territories, is planned in Trinidad and Tobago's next Five-Year Development Program (1969-1974). The proposal is based, in principle, on recent OAS fishery development survey.

CARIFTA members are Antigua, Barbados, Guyana, Trinidad and Tobago, Dominica, Grenada, St. Kitts-Nevis-Anguilla, St. Lucia, St. Vincent, Jamaica, and Monserrat. British Honduras has applied for membership.

WHAT IS PLANNED

The US$7.1 million fisheries scheme calls for the purchase, installation, and operation of the entire project by a single company. The company would be responsible for:

1) A fleet of seiners and trawlers;

2) Support vessels to transfer catch and furnish ice, fuel, food, and all other requirements from fishing port to fishing grounds;

3) A special fishing harbor with cold-storages and facilities for manufacturing ice and dry ice;

rinidad & Tobago (Contd.):

4) A maintenance shop for engines and shing gear and a small shipyard for the fishg fleet;

5) A small factory to make and repair shing nets;

6) A store for spare parts and fuel oil nkers for local and visiting ships;

7) Processing facilities for canning, filleting, smoking, salting, and dehydrating fish; d for producing fish meal and fish protein ncentrate;

8) Distribution centers in Trinidad and obago, and in other CARIFTA area territries, to market fresh, chilled, and frozen sh, emphasizing safe and sanitary distribuon.

N Help

United Nations Special Fund has set aside S$1.5 million to provide technical assistance r implementation of the project, and supersion during the first operational period.

Plans to build a modern fishing port are cluded. Sea Lots, Point Lisas, and Chaguamas are possible sites. A fisheries trainig school is to be established at the Univerty of the West Indies to provide technological aining.

It is not clear whether the government will run the proposed scheme entirely on its own initiative or invite local entrepreneurs to participate. Nevertheless, it is clear that Trinidad & Tobago has finally realized the importance of implementing and developing one of the country's richest and most viable economic assets. (U.S. Embassy, Port of Spain, Trinidad, Dec. 17, 1968.)

Guyana

FIRE RAZES OFFICES, DOCKS OF GEORGETOWN SEAFOODS

In Georgetown, Guyana, the downtown offices and docks of the U.S. shrimp trawler firm Georgetown Seafoods were razed by fire Jan. 1, 1969. The 15 trawlers berthed at the docks were removed to safety. Major installations of the company, several miles upriver from Georgetown, were not involved. (U.S. Embassy, Georgetown, Jan. 2, 1969.)

HOW MANY SPECIES OF FISHES ARE THERE?

Although fishes are the most numerous of the recent vertebrates, there is little agreement among scientists on the number of species. Estimates range from 15,000 to 40,000 species; however, 25,000 appears to be the most often quoted figure. This discrepancy exists because fish species are sometimes named more than once due to inadequate descriptions and variation due to environment or geographical distribution. In some fish species, the male has been described as belonging to one species and the female to another because of a difference in body form or color pattern. This phenomenon is called sexual dimorphism. Other fishes have been named more than once because the young look different than the adults. In addition, most scientists agree that not all fishes have yet been named; the estimate of 25,000 allows for this unknown. The species of fishes with bony skeletons are more numerous than those with skeletons of cartilage (sharks and rays). Bony fish number around 20,000 while the cartilaginous fish number only about 600. ("Questions About The Oceans," U.S. Naval Oceanographic Office.)

ASIA

Japan

FISHERIES BUDGET INCREASES IN FY 1969

The Japanese cabinet adopted the fiscal year 1969 (April 1969-March 1970) budget estimates for submission to the Diet (parliament). Estimates for the Fisheries Agency total about US$94.14 million, an increase of 16% over FY 1968 budget of $78.97 million.

The FY 1969 budget carries large increases for guidance and patrol in the coastal and high-seas fisheries, vessel construction, biological research for international fisheries, fishing industry disaster compensation, overseas fishery development, and fishing-port improvement projects. Funds newly authorized include $83,000 subsidization of private fishery surveys to promote the distant-water fisheries, and $53,000 for saury resource surveys off Japan. ('Nihon Suisan Shimbun,' Jan. 15, 1969.)

* * *

LONG-TERM OUTLOOK FOR MARINE PRODUCTS

The Japanese Fisheries Agency has released an interim report on the long-term outlook for demand and supply of marine products in Japan. The report, using 1966 as the base year, predicts Japan's demand for fishery products in 1977 will exceed 11.5 million metric tons, compared with 8.07 tons available in 1966. Domestic production is expected to increase to around 8.9 million tons in 1977, from 7.32 million tons (including whales) in 1966. Therefore, there is likely to be a supply shortage of over 2.6 million tons by 1977.

Increases in Imports and Production

Opinions among Japanese scientists and businessmen vary as to whether this deficiency can be met through imports or through increases in domestic production. The question concerning imports is whether the developing fish-exporting countries will be able to supply the deficiency--because, even in those countries, fish consumption is likely to increase with a rise in income. There also is a growing shortage of animal protein in many countries. As for increasing fish production in Japan, the problem is to solve the supply shortage, particularly of higher-valued fish and shellfish. The demand for these will continue to increase as income rises and diet improves.

Other Solutions Proposed

Some proposed solutions are: (1) promotion of fish breeding and cultivation, (2) development of coastal fisheries, (3) utilization of untapped bottomfish and other fishery resources, and (4) improvement of fishing and processing techniques. However, even implementing these proposals probably would not increase production by more than 1-2 million tons. Therefore, the demands created by rising income and population growth still can be expected to outstrip supply. ('Minato Shimbun' and 'Suisan Tsushin,' Dec. 1968.)

* * *

ALLOCATES NORTH PACIFIC WHALE QUOTA

On Dec. 26, 1968, the Japanese Fisheries Agency announced domestic allocation of the North Pacific baleen whale catch quota allotted to Japan for the 1969 season--886.5 blue-whale units (BWU). The quota was divided among 3 participating whaling firms: Taiyo and Nihon Suisan, 285.5 BWUs each; Kyokuyo Hogei, 315.5 BWUs.

Japan's Quota Cut

Catch limit on North Pacific baleen whales, set by the International Whaling Commission in June 1968, cut Japan's 1969 share by 114.5 BWUs from the 1,001 units authorized during the preceding 4 years. ('Suisan Tsushin,' Dec. 28, 1968.)

* * *

INVESTMENTS IN OVERSEAS FISHERIES

In Oct. 1968, there were Japanese capital investments in 38 overseas joint fisheries ventures. Thirty were active, 6 were temporarily inactive, and 2 had discontinued operations. Only 10 were making profits; the rest were losing money. The 10 distributing profits to shareholders in 1968 were:

apan (Contd.):

	Date Established	Total Capital	Japanese Co.	Japan's Share	Business
		US$		%	
tralia (Papua)	June 1967	111,110	Kinkai Hogei	49	Shrimp trawling
nada	July 1967	92,500	Taiyo Gyogyo	49.5	Whaling
Islands	Aug. 1964	756,670	Nichiryo Banno Tsusho	90	Cold storage
ng Kong	May 1955	522,810	Nihon Suisan	3.3	Cold storage
dia	April 1956	266,670	Taiyo Gyogyo	49	Cold storage
laysia (Malaya)	Aug. 1959	163,330	Overseas Fishery Co.	49	Cold storage, tuna fishing & packing
laysia (Sabah)	May 1964	194,250	North Borneo Fishery Co.	48	Shrimp trawling
uritius Island	Feb. 1967	47,920	Overseas Fishery Co.	36	Bottom trawling
therlands Antilles	May 1963	284,400	Nippon Reizo	100	Cold storage
hailand	July 1966	35,420	Kyokuyo Hogei & Nomura Boeki	66.6	Cold storage

ource: 'Suisan Tsushin,' Jan. 11, 1969.

* * *

ROZEN TUNA EXPORTS OSE IN 1968

Frozen tuna exports to the United States excluding American Samoa) and Canada during Jan.-Dec. 1968 totaled 75,959 short tons alued at US$29,222,115--10,237 tons and $1.1 illion over 1967. Exports to Europe and ther countries in 1968 totaled 30,693 metric ons worth US$12,138,335, down 4,832 tons nd $3.3 million from 1967. ('Suisancho ippo,' Jan. 20, 1969.)

	Jan.-Dec. 1968		Jan.-Dec. 1967	
	Quantity	Value	Quantity	Value
	Short Tons	US$	Short Tons	US$
orts to:				
nited States & Canada1/:				
Direct exports from Japan	46,738	20,815,685	2/40,638	19,171,022
Atlantic and Indian Ocean Transshipments	29,221	8,406,430	25,084	8,921,644
Total	75,959	29,222,115	65,722	28,092,666
	Metric Tons		Metric Tons	
urope and Other Countries:				
Italy	24,655	10,671,399	30,256	13,696,511
France	440	207,775	280	145,865
Spain	3,066	706,624	664	155,948
Ghana	1,766	250,610	831	107,799
Others	766	301,927	3,494	1,414,484
Total	30,693	12,138,335	35,525	15,520,607

/Excludes deliveries to American Samoa.
/Exports to Canada totaled 1,593 short tons in 1967.

* * *

SAURY CATCH HIT RECORD LOW IN 1968

The 1968 saury catch was 127,000 metric tons--over 80,000 tons less than the 215,000 tons in 1967. The sharp decline raised the season's average price to US$129 a short ton ($106 a ton in 1967) and resulted in an unprecedented bait shortage for tuna fishermen. Until 1963, Japanese saury landings averaged 400,000 tons a year, but during the following 4 years catches dropped to between 200,000 and 300,000 tons.

In view of the declining catch off Japan, the saury industry may seek new grounds in distant waters. ('Suisan Shuho,' Jan. 5, 1969.)

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5 SEINERS LICENSED FOR EASTERN PACIFIC TUNA FISHERY

On Jan. 13, 1969, the Japanese Fisheries Agency announced it would license 5 purse seiners to operate in the Eastern Pacific in 1969:

Japan (Contd.):

Name of Vessel	Size	Owner
	Gross Tons	
'Hakuryu Maru No. 55'	499.57	Kawajiri Gyogyo Fishing Co.
'Gempuku Maru No. 82'	499.66	Toyo Gyogyo Fishing Co.
'Hayabusa Maru No. 3'	275.34	Taiyo Fishing Co.
'Nissho Maru'	252.93	Kinkai Hogei Fishing Co.
'Taikei Maru No. 23'	210.20	Ogata Gyogyo Fishing Co.

Agency's Position

The Agency indicated that for some time the issuance of licenses will be limited to 5 vessels because unrestricted licensing would raise strong opposition from longline operators, and antagonize foreign countries. The Agency also intends to take steps for Japan's admission into the Inter-American Tropical Tuna Commission in 1970, since purse-seine fishing naturally will increase Japan's yellowfin landings in the regulatory area. Japanese longline catches in the area have been around 3,000 tons annually.

Fishing Plans

The 5 seiners were expected to depart Japan in late January 1969. After closure of the yellowfin fishery in the regulatory area, 'Hakuryu Maru' and 'Gempuku Maru' are scheduled to move to the eastern Atlantic. The other 3 seiners either will fish in the southwest Pacific, or enter the seine fishery off Japan. ('Suisan Tsushin,' Jan. 16. 1969.)

* * *

FISHING FIRMS EXPLORE OFF U.S. EAST COAST

In 1967, Japanese fishing firms began investigating bottomfish resources in the western Atlantic to find alternate fishing grounds for the slow season off west Africa.

In Jan. 1969, the stern trawler 'Sekishu Maru' (997 gross tons), owned by a Nichiro-affiliated firm, fished off Florida. She took over 20 tons per operation, mostly butterfish. Another stern trawler, 'Kaimon Maru' (2,500 gross tons), owned by Nihon Suisan, was scheduled to begin fishing in late January.

Off Nova Scotia

The 2,500-ton stern trawler 'Shirane Maru' is off Nova Scotia on a government-subsidized resource survey cruise. Catches are averaging 10 tons of processed fish a day--60% deep-sea smelt and 40% rockfish, dressed and frozen aboard the vessel. 'Shirane Maru' is scheduled to continue operations until March 1969, then return to her base at Las Palmas, Canary Islands. ('Minato Shimbun,' Jan. 7 & 12, 1969.)

日本

Singapore

NEW FISHERIES LAW TAKES EFFECT

Singapore's Fisheries Act, first introduced in 1966, became effective Jan. 1, 1969. It provides for control of inshore and inland fisheries, fishing harbors, and licensing of fishermen and allied workers. It also regulates fishing methods and gear, fish-processing industries, and provides for fish conservation and culture. The Act does not cover either coastal or deep-sea fishing.

Base for Foreign Fishing Vessels

Singapore's importance as a base for foreign fishing vessels has been growing steadily. Soviet fleets fishing in the Indian Ocean and whaling in Antarctic waters take on fuel, water, and other supplies at the port.

Building New Fishing Harbor

Construction of the large fishery complex at Jurong is lagging, but work is continuing and plans for the new fishing harbor should be made public soon. Singapore also plans to establish an FAO southeast Asia fisheries training center, and to reopen the former British fishery research station at Changi. (U.S. Embassy, Singapore, Jan. 10, 1969; Oct. 11, 1968.)

Taiwan

'KURUMA' SHRIMP IS CULTIVATED SUCCESSFULLY

The government's fisheries research station at Taiwan has succeeded in artificially breeding 'kuruma' shrimp. About 50,000 larvae were raised in the hatchery for about 20 days, then transferred to the nursery, and released in the ponds. This experiment was the first of its kind in Taiwan.

Because it was successful, the government intended to build a shrimp hatchery in Pingtung Province by the end of 1968, and planned to rear artificially about 50,000 larvae per female shrimp in 3 months. ('Shin Suisan Shimbun Sokuho,' Nov. 9, 1968.)

Malaysia

SABAH'S FISHING INDUSTRY GROWING

The Government of Sabah is transforming fisheries into a thriving and competitive industry. In 1968, M$2.9 million (US$960,000) were provided under a development plan for fisheries research and expansion. The government also allocated M$95,000 (US$31,000) for a pilot project for oyster and cockle culture to increase food production and improve the protein balance. If the project is successful, oyster and cockle culture will be introduced on a commercial scale and become an additional source of income for local fishermen.

Completed Projects

A Grant to Fish Cooperatives Scheme provides subsidies for local fishermen, including the outright grant of an outboard motor for every new fishing boat as well as modern fishing gear. During the first six months of 1968, Sabah fishermen received 72 outboard motors. The Fisheries Ministry has built 4 modern trawlers for gear experts to demonstrate modern trawling techniques to local fishermen.

Construction Underway

A training center for young fishermen, now being built on Labuan Island in eastern Sabah, should be completed by 1970 and a small fish waste factory for fish meal production is being built in Lahad Datu.

Future Plans

Plans have been made to improve fishing ports and to expand and modernize freezing and storage facilities. The Government also plans to build a fish cannery, and would welcome foreign participation in the project. The lack of canning facilities forced Sabah to import about M$4 million (US$1.3 million) worth of canned fish in 1967.

Freshwater Ponds

By the end of 1967, 1,135 freshwater ponds covering 143.5 acres had been built with government grants. During the first six months in 1968, another 60 ponds covering 22 acres were constructed.

Fishery Exports Rise

As a result of the Government's fisheries modernization and expansion, Sabah exported 2,300 metric tons of fishery products worth M$7.5 million (US$2.5 million) in 1967, including some to the U.S. In 1967, fishery products were Sabah's third largest export after rubber and timber. In 1968, fishery exports may have been overtaken by palm oil, which has an extremely fast export growth rate. However, 1968 fishery export data, not yet known, may exceed those of 1967.

Manpower Problems

One of the major problems facing Sabah's fast growing fishing industry is manpower. In the past few years the industry has had trouble in recruiting, because young Malaysians prefer the easier life in the cities to the hard and tedious life at sea. The number of Sabah's fishermen, estimated at 8,000, has not increased substantially in recent years. (U.S. Consulate, Kuching, Jan. 3, 1969; 'Sabah Times,' Dec. 28, 1968; 'Japan Times,' Dec. 9, 1968.)

India

TO DEVELOP SHRIMP RESOURCES

Surveys of the shrimp resources off the coasts of India are continuing because there is considerable interest in further development. India's shrimp catch in 1967 was 98,000 metric tons.

Present Fishing Area

The total sea area between the Indian coast and 100 fathoms is approximately 108,000 sq. mi.; only a small fraction is presently exploited. The Continental Shelf is from 25-62 miles wide, but Indian shrimp fishing is confined to a narrow belt of about 9 miles.

Survey Results

Current surveys indicate that the largest shrimp are available at depths of 25 to 45 fathoms. Although many surveys have been made in adjacent waters by Indo-Norwegian Project, survey findings are available to Indian collaborators or Indian companies only.

Government Assistance

To assist in developing the shrimp industry, the Government intends to import 30-40 trawlers; 40-60 small trawlers are being built locally. Several American companies have considered investing in this fisheries development but have withdrawn from active participation for several reasons; however, some

India (Contd.):

American companies are still interested in investing in Indian fisheries. (U.S. Embassy, New Delhi, Jan. 10, 1969.)

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SPINY LOBSTER FOUND OFF KERALA COAST

India's spiny lobster fishery and exports are very small compared to other seafoods like shrimp. In 1967, India exported 128 metric tons of lobster, valued at US$310,000. In 1966, she exported 81 tons worth US$194,000. Six species of spiny lobster, Genus Panulirus, are found in India. The most important commercially is Panulirus homarus (Linn.) or Panulirus dasypus (Later.). Lobster occurs in almost all rocky coasts, but the Kanyakumari District of Madras State is the principal area. A few places north of Calicut also support the fishery to some extent. A larger lobster catch could form the basis of a valuable export trade. The fishery seems to be dwindling because of indiscriminate fishing. It may be necessary to impose size restrictions and prohibit catching of berried females.

The Indo-Norwegian Project (INP) has located a spiny lobster source in the deep-water regions off the Kerala coast. INP trawlers have caught mostly Parapandalus and other varieties of shrimp, but a fairly sizable quantity of the spiny lobster Puerulus sewelli has been found in the catches.

Puvar to Cochin Distribution

During 1958-63, the Kerala University Oceanographic Department, with R/V 'Conch,' surveyed the deeper waters beyond the 100 fathom line from Puvar (south of Trivandrum) to Calicut. Although the intensity and depths of the lobster population vary from place to place and year to year, the lobster bed is almost continuous at a depth beyond 100 fathoms, from Puvar in the south to Cochin in the north. The investigation was not carried out south of Puvar. Judging from the hydrographic conditions and nature of the substratum, it is likely that the species distribution also extends towards the south.

The length of the specimens collected by INP varied from 107 to 195 mm. (4.2-7.8 in.). Females were fewer in number, but most caught during January to April were berried. In live specimens the body was light orange with a slight reddish tint. Though other species of lobster, like Palinustus mossambica, Thenus orientalis, and Scyllaras sp. also were observed in the offshore regions in various types of substrata, they are not obtainable in sizable quantities and hence are not of economic importance.

INP success in obtaining good catches of both deep-water shrimp and lobster shows the urgent need for more detailed investigation of the new resources, and opens better scope for offshore fishing with large trawlers. ('Seafood Trade Journal.')

SOUTH PACIFIC

American Samoa

GOOD ALBACORE FISHING IN JANUARY

Albacore fishing was good off American Samoa in January 1969. Longliners were landing an average 1.2-1.3 tons and taking as much as 2 tons per set. The favorable fishing conditions and prices have raised fishermen's hopes. Frozen round albacore deliveries were bringing a new high of US$415 a short ton.

About 14 Japanese, 20 South Korean, and 40-50 Taiwanese vessels were operating out of American Samoa. The growth of the Taiwanese fleet was attributed to the fact that the tuna fishing industry in Taiwan is government-backed. ('Katsuomaguro Tsushin,' Jan. 10, 1969.)

AFRICA

South Africa

ISHING INDUSTRY EXHIBITION LATED FOR OCT. 1969

'South African Shipping News and Fishing dustry Review' is sponsoring a fishing in-stries exhibition to be held in Cape Town, uth Africa, Oct. 20-25, 1969. The exhibition l focus on the display and testing of new shing equipment, gear, and scientific aids. ace has been reserved for foreign govern-nts desiring to mount a national display.

xport Possibilities

The exhibition should offer excellent ex-rt-promotion opportunities for U.S. com-rcial fishing equipment manufacturers terested in the South African market. The ea of greatest interest will be electronic sh-finding gear. Other attractive export ssibilities are processing-plant equipment d preserving machinery for pilchards to be nned on shore. Interested U.S. firms should ite to: South Africa Exhibition Organizers ty.) Ltd., P. O. Box 2900, Johannesburg, uth Africa. (U.S. Consul, Cape Town, Oct. , 1968.)

South & South-West Africa

SHOAL FISH CATCH, JAN.-SEPT. 1968

The 1968 fishing season ended on Sept. 15; in 1967, it ran until Sept. 30.

South Africa's Sept. 1968 catch yielded 5,715 tons of fish meal and 65,436 imperial gallons of fish body oil. In South-West Africa, September production was 21,399 tons of fish meal and 4,440 long tons of fish body oil.

Shoal Fish Catch, January-September 1968

Species	1968		1967	
	Jan.-Sept.	Sept.	Jan.-Sept.	Sept.
	(Short Tons)			
South Africa:				
Pilchards	103,728	1,572	80,963	1,049
Maasbanker	1,507	-	9,427	-
Mackerel	99,325	-	153,071	-
Anchovy	187,165	23,272	304,060	33,530
Red-eye herring	14,908	-	13,973	-
Total	406,633	24,844	561,494	34,579
South-West Africa:				
Pilchards	730,828	64,310	724,710	65,650
Maasbanker	54	-	100	-
Anchovy	124,761	20,202	7,503	741
Total	855,643	84,512	732,313	66,391

In addition, the 2 South African factoryships operating off South-West Africa took 614,634 tons of pilchards; 47,942 tons were taken in September. ('The South African Shipping News and Fishing Industry Review,' Nov. 1968.)

WHY DOES THE SEA FOAM?

Foam is made up of air bubbles separated from each other by a film of liquid. Bubbles coming together in fresh water coalesce, but bubbles coming together in salt water bounce off each other.

Most bubbles in the ocean are caused by wind waves, but they may also be produced by rain and even snow. The bubbles that form along the seashore are very small, mostly less than $\frac{1}{2}$ millimeter in diameter.

When bubbles rise to the surface, they burst and release salt spray into the air, a fact well known to any wearer of glasses who has been on shipboard or at the seashore. Each bursting bubble causes a jet of several drops to rise to heights up to 1,000 times the bubble diameter. It is believed that most of the airborne salt nuclei come from bursting bubbles. ("Questions About The Oceans," U.S. Naval Oceanographic Office.)