NTERNATIONAL

AF Holds 1968 al Meeting in London

e International Commission for the west Atlantic Fisheries (ICNAF), which s annual meeting in London, June 4-8, rted that the catch of traditional fish es in the Northwest Atlantic increased out 4 percent--to 3,331,000 metric --from 1966 to 1967. Increases were eable particularly in the Greenland, ador, and Newfoundland areas. There a decrease in catch of cod, haddock, and fish in the Gulf of St. Lawrence, Nova ia Banks, and Gulf of Maine areas.

nsity of Fishing

cientific assessments of the major ex- ted fish stocks indicate that in the Green- -area cod and Georges Bank-haddock eries, intensity of fishing has reached, and have exceeded, levels giving the largest ainable catches. The same, or higher, age catch could be achieved with less nsity at considerably less cost.

everal delegations consider that high- fishing for Atlantic salmon either should rohibited or stabilized at present level.

Proposal for Regulation

he Commission examined a proposal to economic and technical considerations to present scientific investigations--on which osals for new regulatory measures are d. Member governments have been in- d to consider the proposal for further dis- sion at the 1969 annual meeting.

A joint U. S.-USSR survey of the Georges k-Gulf of Maine area is providing impor- t information on research techniques and r to be used in studies of year-to-year ndance of haddock stocks.

er Trawl Gear Size

The minimum mesh size in otter-trawl r became an effective international regu- ory measure for major commercial spe- s throughout the Northwest Atlantic area Sept. 24.

The 1969 meeting will be held in Warsaw, June 2-7. The Commission accepted an invitation from Canada to hold its 1970 meeting in St. John's, Newfoundland.

Indo-Norwegian Project Spurs Investment in Fishing

The Indo-Norwegian Project (INP) begun in 1952 is a comprehensive program designed to develop deep-sea fishing in India. Its aims are to improve offshore fishing techniques, fish processing and curing techniques, construct ice plants and fish freezing and storage facilities, establish boatbuilding yards, and train fishermen.

Norway supplies machinery and equipment, including technical personnel, for local operation of project facilities and training, both in India and abroad.

India provides sites and utilities for projects, construction and building materials, labor, technical and administrative personnel, and pays rupee costs of Norwegian personnel. The project has been expanded to include exploratory and hydrographic surveys of fishing grounds.

Discover New Shrimp Resource

INP vessels have found major new shrimp grounds at 900 to 1,200 feet about 1,000 square miles off Quilon coast of Kerala. Fishing has yielded 1,760 lbs./hr. of large shrimp. The new grounds could revolutionize the local industry.

Plans for Indian-Built Trawlers

INP is offering local shipyards designs for the 70- to 90-foot-long steel-hulled vessels needed to trawl at 1,200 feet. The government insists that a third or more of all trawlers must be built in India, although cost of locally made hulls is about 50 percent higher than European-built vessels.

Giovanola Binny Ltd., Kerala, has decided tentatively to begin construction of large

steel-hulled trawlers. The firm expects to quote prices comparable to those of imported vessels. Binny estimates the demand for such trawlers will expand as local firms learn the advantages of exploiting sea resources with larger mechanized craft.

Other Activities

Preliminary INP surveys indicate that shrimp fishing off the eastern coast of India should be as good as off Kerala coast. In Madras State, INP is presently erecting a boat-building yard for small motorized craft, a 50-ton-a-day fish-meal plant, a 100-ton fish-freezing plant, and a training and servicing center for fishermen. INP also is scheduled to survey fishing prospects off Madras. (U. S. Consul, Madras, June 26.)

FPC Market Survey Set for Chile and S. Korea

The Agency for International Development (AID) has awarded its first contract for studies of the commercial marketing potential of fish protein concentrate (FPC). Under a $268,073 contract General Oceanology, Inc., of Cambridge, Mass., will conduct feasibility studies in Chile and South Korea over the next year.

AID Donations of FPC

Dr. H. Brooks James, AID assistant administrator for the War on Hunger, described the study as an important step toward introduction of relatively low-cost, high nutrition, foods in developing countries.

In April, AID contracted with Alpine Marine Protein Industries, Inc., of New Bedford, Mass., to produce FPC for use in AID-administered Food for Freedom donation programs in developing countries.

Survey Aims

General Oceanology will determine whether the market potential for FPC in Chile and South Korea justifies commercial development. These countries were selected because of their relatively advanced fisheries. The survey will analyze such factors as consumer and market characteristics, acceptability of FPC-fortified foods, and production costs relation to the market. Results are expec to provide a basis for planning the devel ment of FPC industries by private indus and Chile and S. Korea.

U. S. Helps Thailand Develop Fish Protein Supplements

The Agency for International Developm (AID) is readying a project to improve nut tion in rural areas of Thailand. The proj also will develop inexpensive high protein f supplements, especially for preschool ch dren in the northeastern regions. Cal "Protein Food Development," the project w run from 1969 to 1971. The U. S. has comm ted $225,000. Thailand will contribu $325,000: $175,000 in counterpart funds a $150,000 in cash.

Protein Deficiency in Northeast

Thailand is a major rice producer and ge erally has a favorable food supply. But lar areas, particularly the northeast, are prot deficient. Children 1 to 4 years are hard hit by this deficiency. Up to 50% of presch children in northeastern and northern ru areas suffer from protein and caloric mal trition.

Marine Fish Provide Protein

In developing the supplements from l protein foods, emphasis will be placed on m rine fish, one of the Thai foods best su for the purpose. From 1960 to 1967, Th land's annual marine fish catch increa from 250,000 metric tons to nearly 600, tons. Improved fishing methods could dou the catch.

Protein necessary to offset nutritional d icits for 1.6 million children could be suppl from only 265,000 tons of fresh marine fi or 16,000 tons of dried fish. This would less than 5% of the present annual catch considerably less than the tonnage increa each year. Poor marketing and distributi keep processed and fresh marine fish fr reaching protein-deficient provinces. O areas near the main railroad centers hav constant, reasonably priced, supply of mar products.

istribution A Problem

Supplying fresh-water fish is not a solution. The fresh-water catch is only about 000,000 tons per year and the wholesale price s more than twice that of marine fish. Although it is mainly a question of supply and demand, the result is that those in the North nd Northeast must pay twice as much for is protein as those living in the southern nd coastal areas. It is significant that the nce of protein malnutrition in the northern provinces correlates roughly with hee availability and cost of fishery products. The IDP project should help insure better distribution. (U. S. Embassy, Bangkok, July 24).

European-Caught Fish Transshipped from St. Pierre & Miquelon Islands

The French islands of St. Pierre and Miquelon, 12 miles off Newfoundland, have been major transshipments of European-caught fish. Transshipments are forbidden in Canadian ports.

Transshipment from St. Pierre nullifies many of Canada's advantage in being close to the rich Grand Banks fishing grounds. European deep-sea trawlers will be able to fish as fast as steadily as Canadian-based vessels. These European vessels no longer are forced to return across the Atlantic or head south for the big U. S. fish market once their holds are full. They can put into St. Pierre and transfer fish directly to waiting freighters or stockpile them for later pickup. After stocking up with food and fuel, the trawlers can return to fishing. Within the last 2 years, St. Pierre has become a nearly complete marine service station for big trawler fleets fishing the Grand Banks. Transshipment was practiced here before--but never on the present large scale.

Large Investment

This bolstering of the marine cornerstone of St. Pierre's economy, aided by France's Common Market partners, has involved much money.

Common market money also has helped to build a waterfront marine sciences laboratory to serve European fishing interests. It will employ 16 French scientists.

W. German & Spanish Fleets

West German and Spanish fishing fleets have set up complete operational bases. Such bases were common in St. John's until recently, but they are becoming rare sights in Newfoundland ports.

The Spaniards apparently plan no major transshipments from St. Pierre. They have established a fully equipped supply base to fill food and fuel needs of their Grand Banks fleet.

The West Germans transfer frozen fish blocks directly from trawlers to freighters in St. Pierre's harbor. In one month, over 40,000 barrels of West German-caught pickled herring were stockpiled on the waterfront to await transshipment home.

FAO Caribbean Project Issues First-Half 1968 Report

During Feb.-June 1968, the "Alcyon," one of the 3 vessels connected with the UNDP/FAO Caribbean Fisheries Development Project, completed wide-ranging exploration and experimental fishing of demersal fish in the northern part of the Project area. Two of the 4 cruises completed were designed to improve fishing techniques. The planners hoped these would provide catches which might increase West Indian use of the resources. The Alcyon fished independently and also acted as "mother-ship" or base for up to 3 small boats.

Earlier Cruises

Earlier cruises had explored waters southwest of Jamaica, northeast of Hispaniola, and east of Puerto Rico. During a February cruise, exploratory snapper fishing was carried out on the western edge of Pedro Bank, Rosalind Bank and along edge of the Continental Shelf east of Nicaragua. The primary aim was coverage and familiarization with the grounds. Over 10,000 pounds of fish were caught in operations divided between day and night fishing. Almost 60 percent of the catch was snapper (chiefly silk, blackfin, black, and yellowtail) and much of the remainder was jacks (Carangidae).

A March-April cruise extended exploratory fishing for snapper and related species along the northeast coast of Hispaniola and in waters adjacent to the Virgin and Northern Leeward Islands. Over 20,000 pounds of fish, mostly snapper, were taken. Fishing was excellent near Monti Cristi and Navidad Banks north of Dominican Republic, near Sombrero Cay, and on Anguilla and Barracuda Banks east of the Virgin Islands.

Southwest of Jamaica

In May and June, 2 cruises were made with auxiliary small craft operating from the mothership Alcyon. One cruise used one dory and one local-style (Jamaica) canoe. After 12 days fishing southwest of Jamaica, from Alice Shoal to edge of Central American Continental Shelf (about 14°30' N.) 23,398 pounds of fish were recorded aboard the Alcyon. Highest catch for a 24-hour period was 5,281 pounds. Over 60 percent of the catch was taken by fishing from Alcyon, the remainder by the small boats. Principal species were horse-eye jack and mutton snapper, averaging 10-14 pounds each.

On the other cruise, a second dory was added. Six days of hand-lining and incidental trolling produced 5,085 fish weighing 18,042 lbs. The Alcyon and one dory manned by crew members and a trainee caught 2,779 fish weighing 10,211 lbs. The other dory, manned by 2 Manchioneal (Jamaican) fishermen, caught 961 fish weighing 3,459 lbs.; the canoe with 2 Port Royal fishermen took 1,345 fish weighing 4,393 lbs. The boats manned by local fishermen were equipped with one hand-operated reel (Norwegian type) and conventional hand-line gear.

The Catch

The 4,927 fish (17,326 lbs.) caught by mechanical reels and handlines were, by weight, 89.1 percent jacks, 5.1 percent snapper, and 5.8 percent other fish, such as grunts, groupers, triggerfishes. Prominent species of jacks were green jack, 35.8 percent by weight, and horse-eye jack, 53.4 percent, with a trace of amber jack, almaco jack, and bluntnose jack.

Much fishing was done with mechanical hand reels, equipped with 160 fathoms of wire, and capable of fishing to 140-150 fathoms. Silk (yellow-eye) snapper were taken from greater depths (90-140 fathoms) than other snapper species; blackfin snapper ranged between silk and black snapper (about 40-80 fathoms). The heavy catches of jack were in 24-30 fathoms, using both reels and hand lines. Squid was the primary bait u (UNDP/FAO Caribbean Fishery Departm Project, July 19.)

Soviets Seize 4 Norwegian Vessels

Two Norwegian vessels seining for her in the Barents Sea were seized by Soviet fis ery patrol vessels on July 16. Soviet autho ities reported to Norwegian Border Commi sioner A. Rygg the seizure of "Onny Hard of Baatsfjord inside Soviet territorial wat at 70°3'30" N., 31°47' E. "Egil" of Vad was seized the same day.

Fined and Released

The 2 vessels have been released. Fi were 110,000 kroner (US$15,416). The ve sels also had to surrender their nets. No wegian authorities say the vessels were Soviet territorial waters; "only the net say the owners.

Holding 2 Other Vessels

A third Norwegian fishing vessel seized early July was not released as of mid-Augu The fourth vessel was seized on August Soviet officials told the Border Commissio to maintain tighter control over the her fleet or face more severe action in the futu Rygg has asked the North Norway Naval Co mand to police Norwegian vessels fishing ou the Soviet 12-mile limit. The Navy repl that it "does not intend to station any . . . ve sels permanently in those waters." ("Arb derbladet," Aug. 8; U. S. Embassy, Os Aug. 15.)

USSR Seizes Japanese Vessels

Two Japanese herring vessels carrying crewmen were seized by Soviet patrols May 16 for violating Soviet territorial wate Thirty-four crewmen were released; the captains were still being detained at the of July. The released crewmen were not lowed to return to Japan until August 3.

ive vessels with 33 men were seized off the oviet Pacific coast on June 1. Tried on Ju 1 and fined 1.04 million yen (US$2,888), th were still being held incommunicado abo rd their vessels in Nakhodka on August 4.

1.8 essels Seized

cording to the Nemuro Maritime Safety Co e, the Soviets seized 18 vessels and 131 fi rmen between January 1 and July 18. Co 5 vessels and 94 fishermen had been re- le d by July 26. In previous years, even mo e vessels and men had been detained. Th nty-eight of those fishermen and an un- kn n number of vessels were still in Soviet cu ody.

n July 27, a 2-man Hokkaido-based fish- in oat was seized off Etorofu (Iturup), the so hernmost Kuril Island, for alleged viola- ti of Soviet territorial waters.

eizures are likely to continue because no pe e treaty has been signed and Japan rec- o zes neither Soviet sovereignty nor 12- m fishing limits in the southern Kurils. (K isan Keizai," July 26.)

h-Seas Salmon Fishing Norway Is Good

bout 20 Danish and 7 Swedish long-line s els fished for Atlantic salmon off the west t of Norway during May. Catches were , though crews had to work nearly round lock. The flesh color of the salmon was llent, but the fish were lean and of much r quality than Baltic salmon.

nsportation Difficulties

Danish and Swedish fishermen are not mitted to land catch in Norway for trans- pment. They must either make the long p home or pay others to transport their ch. Skippers have found they must allow eeks for the round trip. Sailing time is y 2 weeks, but the crew insists on a week home. Therefore, skippers prefer to re- in on the fishing grounds and ship catches other vessels. Freight costs amount to ut one-third the price paid for the catch ome ports. This makes fishing less prof- ble.

Norwegian Opposition

Norway opposes high-seas salmon fishing and was planning to discuss with Denmark and Sweden an end to the fishery. (Asst. Regional Fisheries Attaché, U. S. Embassy, Copenhagen, July 5.)

Seminar on Marine Radioecology in December

A seminar on Marine Radioecology sponsored by the European Nuclear Energy Agency and the French Commissariat a l'Energie Atomique will be held Dec. 3-6, 1968, at Cherbourg, France. Particular attention will be given to practical aspects of research in marine radioecology relevant to waste disposal operations. (USOECD, Paris, July 9.)

Spain Delivers Vessel to Cuba

The first of 6 fishing vessels built for Cuba by Empresa Naval Espanola Santander was delivered on September 15. The 6 vessels, first of 14 to be built by this shipyard, are part of the 90 Cuba has ordered from Spain.

Japanese Seek Consulate in Alaska

The Japan Fisheries Society has asked the Government to establish a consular office in Kodiak, Alaska, because of the rapidly growing trade between Japan and Alaska. In the 9 years of Alaska's statehood, trade with Japan in fishery products, lumber, and petroleum has increased to over US$115 million a year. The Society wants consular services to improve and expand trade relations, and to handle problems arising from Japanese vessel operations off Alaska. ("Suisan Nippo," Aug. 22.)

Gill netter on Johnstone Strait, British Columbia. Vancouver Island in background. (Photo: F. Bruce Sanford)

FOREIGN

CANADA

SSISTS INDIAN FISHERMEN

The Canadian government has established C$4.5 million Indian Fishermen's Assistce Program in British Columbia. The 5-ar program will be administered by 5-man ndian Fishermen's Development Board." nds will be provided by the Department of dian Affairs, but the Federal Department Fisheries will administer the program.

ewer Equipment & Training Courses

Loans and grants will be provided to acire newer, more efficient, vessels and shing gear and to reconstruct or convert old essels. Construction of marine railways, essel repair centers, gear sheds, and dryoat storage facilities at selected villages ill help the Indians improve the repair and aintenance of vessels and gear. Training ourses will be offered to increase efficiency n fishing enterprises.

raining Courses Underway

Fisheries training courses under this rogram already have begun. In the 1967/68 nter season, Indian Affairs Branch sponored 28 courses. Special instruction in navgation, electronics, engine repair, fishing ear, vessel design, and maintenance was rovided for about 400 Indians at 14 villages.

Two marine railways were slated to be onstructed during the summer at the vilages of Cape Mudge and Kitkatla. These installations, costing about $84,000, will initiate the improvement of Indian fishermen's shore facilities. (Canadian Dept. of Indian Affairs and Northern Development, July 9.)

* * *

AGREEMENT REACHED ON FLOOR-PRICE PLAN

The Canadian government will support groundfish prices in the Atlantic provinces. Payment will be made to processors who will pay higher prices to fishermen. Neither fishermen nor processors like the plan. They agreed to this method of payment primarily because it reduces the danger of countervailing duties by the U. S. to more obvious government assistance. (U. S. Consul, St. John's, June 13-14.)

* * *

GRANTS FISHERIES DEVELOPMENT LOAN TO TRINIDAD AND TOBAGO

The Secretary of State for External Affairs announced June 14 that Canada will extend C$3,000,000 in External Aid development loan funds for 5 projects in Trinidad and Tobago. C$250,000 has been allocated for a fisheries development project. The loan will pay for an advisor on biological fisheries research, Canadian training for research and biological station officials, a trawler, two refrigerated trucks, and technical assistance, including a skipper and an engineer to train a crew for the trawler. All equipment and goods are to be purchased in Canada. The 30-year, 3% interest loans carry a 7-year grace period.

* * *

QUEBEC PLANS SPECIAL SUBSIDY

Quebec is planning a special subsidy for 500 lobster fishermen of the Isles-de-la-Madeleine to encourage them to fish for other species after the lobster season closes. Ordinarily these people, having no alternative to fishing for their livelihood, draw welfare money most of the year. The subsidy will be limited to inshore fishermen who catch between 10,000 and 50,000 lbs. of cod, plaice, and halibut per year in boats less than 50 ft. long. Maximum subsidy would be $1,500 per boat.

The Isles-de-la-Madeleine have a perennial welfare problem. The plan, which would cost no more than $360,000, could save the province $300,000 in welfare payments. (U. S. Consul, Quebec, Aug. 16 & 22.)

Dean of the Helsinki (Finland) fish market. This 87-year-old woman has been selling fish and shellfish for 65 years in the open-air market. She is counting her stock of crabs. (Photo: Edelsberg)

UROPE

S.S.

...E PURSE SEINES SLATED ...MURMANSK FLEET

...e Murmansk Fishing Gear Factory has ...factured a purse-seine net over 720 ...s (2,362 feet) long and weighing 18 met... It was delivered to the Murmansk ...er fleet; 10 more will be delivered by ...d of 1968. Seiners will be capable of ...ing below 200 meters (656 feet). ("Vodnyi ...sport," May 23.)

...s of Preparation

...s early as Sept. 1965, ATLANTNIRO ...ntic Scientific Research Institute for ...ries and Oceanography) was testing off ...nd purse seines 650 meters (2,132 feet) ...and 170 meters (558 feet) high. In au... 1966, vessels of the Northern Fisheries ...inistration were purse seining in the ...h Atlantic. Results were mixed, mostly ...to the inexperience of Soviet fishermen ...the method.

...he latest tests with large purse seines--...meters (2,296 feet) long, 160 meters (525 ... high--manufactured by the Murmansk ...ing Gear Factory were made off Norway ...arch 1968. Apparently, they were suc...ful. The serial manufacture of the nets ...wed.

* * *

...MANSK FISHERIES ...ET BY PROBLEMS

...lans to introduce changes at the Soviet ...thern Fisheries Administration in Mur...sk are in full swing, but the fisheries still ...rate under the old system. Improved ...nning, revised price indices, catch charts, ... will not help unless effective measures ... taken to improve port, fleet, and fish...cessing operations.

...rmansk Port

In the fishing port, unloading vessels takes ...ce as long as in the commercial port, al...ugh both ports have identical equipment. ...rther delays are caused by frequent rail...d-car shortages. The delays reduce the number of fishing vessels at sea. Losses to the industry run into thousands of rubles. Operations at the fish-processing combine are predominantly manual, which make it impossible to increase productivity and profits.

Herring Fishery in Trouble

The herring fishery also is in trouble. Both fleet and fish-processing combine lack facilities for processing large catches. It is unprofitable to expand processing because of high wages authorized in Arctic regions. Elsewhere in the Soviet Union, fish-processing plants are willing to purchase frozen herring at prices considerably below cost. Current herring prices are so low the Murmansk fisheries have lost interest in catching herring.

Only 3 Herring Products Available

Only 3 herring products--fresh-frozen, smoked, and heavy-salted--are readily available despite the fact that 150 have been tested and 20 introduced for mass production. The assortment is determined not by demand but by processing technology; if processing is simple, the product is manufactured. ("Ekonomicheskaia Gazeta," June.)

* * *

KALININGRAD-BASED FLEETS ARE IN THE ATLANTIC

In early July, several Kaliningrad-based fishing fleets fished in the Atlantic from Newfoundland to the tropics. One fleet fished for cod, haddock, flounder, and halibut off Newfoundland. Daily catch averaged 200 metric tons of high-quality fish suitable for quick-freezing. One large and 80 medium trawlers took herring and groundfish on Georges Bank. Daily catch exceeded 1,650 tons; part was frozen and part salted. Daily catch was around 450 tons in the southeast Atlantic. The mothership "Larkii Luch" and her fleet fished for tuna in the tropical Atlantic.

Accent Quality

Soviet fishermen are concentrating more on quality of catch. Landings of fish for which domestic demand is low have dropped, while catches of halibut, hake, flounder, mackerel, and cod have been increasing steadily. ("Vodnyi Transport," July 4.)

* * *

USSR (Contd.):

TO STUDY PACIFIC FUR SEALS

Soviet scientists aboard the research vessel "Krylatka" this summer studied the migratory routes of fur seals--their movements, numbers, and length of stay at each rookery. They tagged over 1,000 individual seals in the North Pacific. ("Vodnyi Transport," May 21; "Pravda," June 4.)

Study Results

Tagging has made it possible to compile a chart of seal migrations in the Pacific. According to the latest Soviet estimates, fur seal herds on the Commander Islands are growing rapidly. In the past 10 years, they increased fivefold: to 2,500. Soviet scientists claim this is due primarily to the 1957 Convention prohibiting pelagic sealing signed by the U. S., the USSR, Japan, and Canada.

Since early July, U. S. scientists have been visiting the Commander Islands rookeries.

The Vessel

The Krylatka belongs to the research fleet of the Pacific Scientific Research Institute for Fisheries and Oceanography (TINRO). From November 1965 to February 1966, she conducted biological studies on Pacific fur seals in the Sea of Okhotsk and the Sea of Japan. Herds of up to 200 seals were sighted frequently.

* * *

ORDERS 12 REFRIGERATED FISH TRANSPORTS FROM FRANCE

French shipyards will build 12 refrigerated fish carriers for the Soviet Union. The agreement was signed in Moscow in early May 1968. It is the largest order ever placed by the Soviets in France. Spread among 5 shipyards, it amounts to about 460 million French francs (US$93 million).

These vessels establish 2 new classes and will be "the largest ever designed." They will supply food, fresh water, and fuel to Soviet deep-sea fishing fleets, serve as passenger carriers to exchange fishing crews at sea, and carry home salted or frozen fishery products.

The 12 Vessels

The Soviet order involves:

(1) Ten vessels, 8,600-10,000 deadwe tons each. Length overall 164 m ters or 537.9 feet, speed 17.5 k 2 engines 5,580 hp. each.

(2) Two vessels, 12,500-15,000 deadwe tons each. Length overall 18 meters (610.7 feet), speed knots, 2 engines 7,400 hp. each.

The vessels are scheduled to be delive to the Soviets between April 1970 and 1971. ("La Peche Maritime," May 20.)

* * *

CASPIAN HAS CONSERVATION PROBLE

The Ministry of Fisheries was critici in March by the Central Committee of Communist party for mismanagement of fish conservation program in the Volga-C pian Basin. Water pollution, gradual de tion of spawning salmon stocks, and ot conservation problems followed erection giant hydroelectric power plant on the Vo at Volgograd. The plant reduced the Vol flow and accelerated contraction of Cas waters.

Plans for 1971-1975 include constru of channels to bring water from the nort rivers to replenish Caspian water.

Remedies Proposed

The State Planning Commission has proved recommendations of the Minist Fisheries to improve the situation. T prohibit use in seismic prospecting o plosives and other substances harmful to and seek to prevent water pollution fr petroleum products, chemicals, and ot toxic substances.

The State Supervisory Committee is vestigating why a water divider (probably artificial spawning channel) in the Volga D has not been completed. The Ministry of Fi eries has been blamed for holding up comp tion of the divider by failing to finance exca tion of ponds and to develop the Aleksand spawning and breeding grounds. ("Ekono cheskaia Gazeta," March and June 1968.)

* * *

USR (Contd.):

SURVEY SPINY DOGFISH OFF OREGON

In 1967, Soviet researchers surveyed the area off Oregon and Vancouver Island for spiny dogfish (Squalus acanthias). The liver is valued for its high vitamin A content. Schools of commercial importance were found at depths from 246 to 1,476 feet. The largest concentrations were spotted with hydroacoustic devices between 328 and 1,148 feet, where up to 30 metric tons were caught in exploratory 6-minute trawls. Temperatures at the bottom ranged from 6.9° C. to 8° C. (44.4°-46.6° F.). In the 30-ton catch area, water temperature was 7.5° C. (45.9° F.

Lengths and Heights

Lengths varied from $27\frac{1}{2}$ to $33\frac{1}{2}$ inches, with the average $30\frac{1}{3}$ inches; average weights were 7 lbs. Stomachs of half the catch were filled with smaller fish and squid. Inadequate knowledge of spiny dogfish biology has kept the Soviets from developing a commercial operation in the area. ("Rybnoe Khoziaistvo," July.)

* * *

SCIENTIST SAYS FISHERY STATISTICS ARE POOR

Discussing prospects for marine farming, B. E. Bykhovskii of the Soviet Academy of Sciences said much more must be known about Soviet catches in order to plan for this new field. This is impossible now, he stated, because fishery statistics are very poorly kept in our nation. These statistics should give precise information about the catch of various species, fishing areas, seasons, and quantitative indices. At present these data are not available." ("Trud," May 9.)

* * *

STARTS 'MAN IN THE SEA' PROGRAM

The Soviet underwater research laboratory "Chernomor" was lowered 16 feet into the Black Sea on June 29. Chernomor is a 15-metric-ton steel cylinder, 10 feet in diameter and 26 feet long, and carries a crew of 4. Air comes from high-pressure cylinders. It is equipped with scientific instruments, air purifiers, moisture absorbers, and a hot-water shower.

Its Mission

The crew is to carry out complex oceanologic investigations, observe marine fauna, study the dynamics of bottom-sediment displacements, and test physiologic response of man to an underwater environment.

When the tests at 16 feet are completed, the Chernomor will be lowered 39 to 49 feet for further research. Eight 4-man crews have been trained for the program. ("Sovetskaia Rossiia," June 28 and 30; "Vodnyi Transport," July 13.)

In late July, a storm in the Black Sea made it necessary to raise the underwater laboratory with its crew. The oceanographic research vessels "Akademik Vavilov" and "Akademik Obruchev" stood by. ("Izvestia," July 25.)

* * *

STUDIES EFFECTS OF HOT WATER DISCHARGES ON INLAND WATERS

The Scientific and Technical Council of COMECON, the USSR and East European Common Market, is studying the effects produced by heated water discharged from thermoelectric power stations into inland waters. Discharge of heated water causes substantial changes in the thermal, physico-chemical, and biological conditions of natural reservoirs.

The Council has worked out a research program to: (1) determine thermal changes; (2) study physico-chemical phenomena; (3) determine changes in the biology of natural reservoirs.

Results should be available in early 1969. ("Rybnoe Khoziaistvo," June 1968.)

* * *

DISCOVERS 'ECHO-SOUNDER' IN STURGEONS

Soviet biologists have found the sturgeon (Huso huso) can emit low-frequency signals and receive their reflections. The scientists believe the fish has an unknown organ that does this. This 'echo-sounder' enables the sturgeon to navigate in the dark.

Discovery of this organ and how it works could open new vistas to radar science. ("Rybnoe Khoziaistvo," May.)

* * *

USSR (Contd.):

'AIR CUSHION' DEVISED TO CONTROL ICE THICKNESS ON LAKES

Shallow lakes may freeze almost to the bottom and kill fish. To prevent this, a Soviet engineer has suggested pumping air through small holes drilled in the ice after it is 5 to 8 inches thick. If the holes are quickly sealed with clay or wet snow, an air cushion will form under the ice. This would prevent its downward spread and save the fish. If this method works on a large scale, catch yields per hectare may increase considerably. ("Rybnoe Khoziaistvo," May.)

Denmark

GUARANTEES MINIMUM PRICE FOR PLAICE

The Danish Government has appropriated 2 million kroner (US$267,000) for a pool-fund to assure fishermen a minimum of about 6.1 U. S. cents a pound for the lowest-grade plaice. So long as prices remain above the minimum, fishermen will contribute to the fund about 0.2 cent per pound of plaice landed.

Fishermen's Proposals

Fishermen originally had proposed a minimum price of 1.30 krone per kilogram, and a provision for rationing catches of plaice "in order that supplies could better be adjusted to demand." The government's Monopoly Board refused these proposals. Fishermen say that if the proposals are not accepted they will have to seek government subsidy to survive.

Minimum Prices For Other Species

Government and fishermen representatives have formed a special committee to discuss establishment of minimum prices on other species. (Asst. Regional Fisheries Attaché, U. S. Embassy, Copenhagen, July 5.)

* * *

DANES BUILD LARGE FISHING PORT

A new port at Hanstholm in northern Denmark is being built at a cost of US$21.6 million. Seventy of an expected 500 vessels already are operating out of the nearly co pleted harbor. Shore-based facilities will developed next.

Fishing and commercial docks, ice pl shrimp-processing plant, 2 cod-liver oil tories, and an auction hall already have completed. A fish meal plant and 2 auction halls to handle the anticipated l volume of landings are planned for future struction. ("Fishing News Internation June 1968.)

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CEASES IRRADIATION RESEARCH

The Danish Ministry of Fisheries has te minated research on irradiation preservati Its reasons: (1) undesirable changes in fla of irradiated fish products and (2) import irradiated fisheries commodities is pr hibited by most countries. The researc yielded much information that will be valua if work is resumed.

Studies on fresh rainbow trout were ca ried out at the Risø atomic research stati Normally, the fish can be held in fresh co dition for 14 days; irradiation and storage temperatures just above the freezing po extend this to 21 days. During the last 7 da however, enzymatic action sometimes cau undesirable flavor changes and lowers ove quality. Net gain for the product from ir diation was considered minimal. (Asst. R Fisheries Attaché, U. S. Embassy, Cop hagen, July 5.)

* * *

'LIQUIDITY' LOAN TO FISHERMEN IS EXTENDED

Danish fishermen are in trouble beca of a long period of declining prices for cat es and ever-increasing operating expens More than 60 firms supplying fishermen the north Jutland ports of Skagen, Hirtsha and Hanstholm have been forced to stop cre because they are extended as far as possib

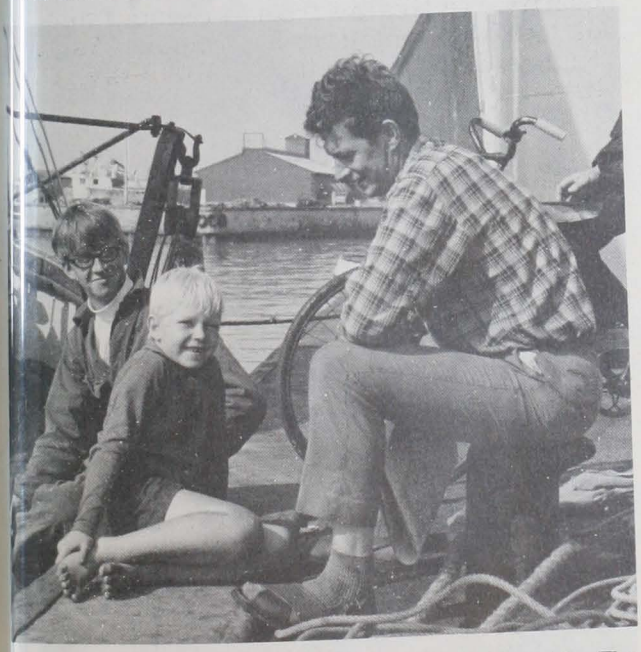
New Loans

To ease the situation, the Royal Dani Fisheries Bank is issuing a series of 1 year obligations to help carry fisherm through the difficult period. The progra has a limit of US$3.3 million. (Asst. R gional Fisheries Attaché, U. S. Embass Copenhagen, July 5.)

* * *

enmark (Contd.):

1 - Fishing port of Hirtshals on Northern Coast of Denmark's Jutland Peninsula. About 300 boats, mostly small (19 tons), fish waters Skagerak, to the east, and North Sea, to the west. Their catches are mostly haddock, herring, plaice, sild, catfish, and shrimp. is sold to Britain as industrial fish. (Photos: Edelsberg)



g. 2 - Hirtshals. 2 of 3-man crew and son of owner (r). They fish for herring. Father does not want son to be fisherman--job is hard and income uncertain, he says. Each man averages about US$4,000 a year.

Fig. 3 - The third man checks new 84-meter-long terylene net.

Denmark (Contd.):

Fig. 4 - Hirtshals. 3-man crew of 33-ton fishing vessel catches herring, haddock, whiting, and shrimp. Each man averages US$4,000-$5,000 a year.

Fig. 5 - Dragør, near Copenhagen, Denmark. Fisherman (1) is extricating groundfish from tangle net. Ten nets, each 80 meters long, are set at night and pulled in morning.

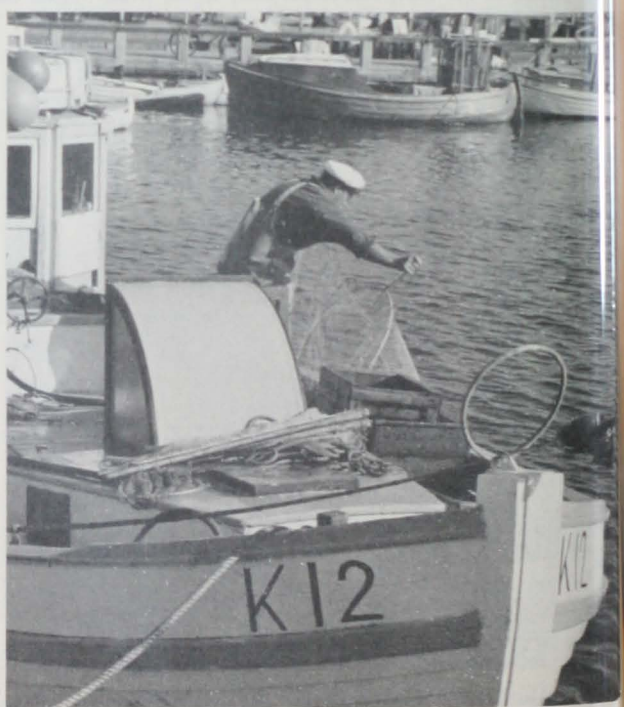


Fig. 6 - Fisherman lowers net in which to keep fish alive. P catch is sold off boat, remainder is trucked to Copenhagen.

emark (Contd.):

RAWLER IS EQUIPPED WITH
RAWL BLOCK AND FISH PUMP

"Karsten Wernerfelt" from Hirtshals will be the world's first trawler fitted with a new trawl block and hydraulically driven fish pump. The two pieces of equipment, produced by the Norwegian firm A/S Hydema and Co., cost about US$8,000. The cost can be installed on trawlers of more than 80 gross registered tons.

Operation

The trawl is emptied by bringing it alongside the vessel and attaching a suction hose to the cod end. The other end is lifted with the trawl block, pressing the catch into the intake hose. The 1,400 r.p.m. pump is capable of handling 150 metric tons of fish per hour. A full cod end containing 30 tons can be emptied in 10 to 12 minutes, regardless of weather and sea conditions. Emptying a catch of this size usually requires 4 to 7 hours in bad weather.

Lighten Work

The new equipment will replace one crewman and ease the work of the rest. The captain of the Karsten Wernerfelt is enthusiastic about the new equipment; a vessel cannot "afford not for weather" if fishing is to be profitable, he said. (Asst. Reg. Fisheries Attaché, U.S. Embassy, Copenhagen, July 5.)

Norway

INCREASES SUBSIDIES

The Storting (Parliament) approved unanimously a government proposal to support Norwegian fisheries from June 1, 1968, through May 31, 1969. Total government subsidies are estimated to increase 18% from a year earlier to about US$32 million for the year ending May 31, 1969.

The exact subsidy amount can only be estimated because first-hand price support payments are based on volume of catches of eligible fish species; also, supports to reduce the cost of tackle, gear, and bait depend on amounts of such items actually bought.

Aid to Vessel Owners

The Storting also has approved a US$2 million loan arrangement for owners of fishing vessels hurt by this year's failure of the winter herring fishery.

State Supports Continue

The current year, which ends May 31, 1969, completes the 5-year period in which the Norwegian Fishermen's Union and the government pledged to make the fisheries independent of State price support. (This is the General Fisheries Agreement of 1965.)

The agreement's main objective has not been reached. On the contrary, state price support has been rising since 1954/55. This took place despite the fact that deliveries of herring, mackerel, and other fish for reduction purposes have been excluded from price support since 1966.

To Reevaluate Fisheries Soon

Einar Moxnes, Minister of Fisheries, indicated during the Storting debate on the current fisheries subsidy agreement that Norwegian fisheries and, particularly its sales and marketing aspects, would be reevaluated soon. (U. S. Embassy, Oslo, June 25.)

Iceland

HERRING FISHERY STRIKE SETTLED

The herring fishery strike was settled the first week of July when the State Herring Board set the price for raw herring paid by processing plants slightly higher than last year's. Herring-boat owners agreed to some increased wage benefits, and the government agreed to provide financial assistance to vessel owners and processing plants.

The new price, based on the low price for herring oil, promised to benefit neither vessel owners nor processing plants.

Gains for Fishermen

Following the price decision, owners agreed to grant fishermen: (1) increase in life and disability insurance from US$35,000 to US$70,000; (2) US$19 a month for clothing;

Iceland (Contd.):

(3) increased wages of US$11 a month for engineers, cooks, and net-repairers; and (4) 24 hours' leave after 3 weeks at sea. Also, vessel owners agreed to pay fishermen a fixed amount per barrel of herring salted at sea.

Government Plans Help

At the same time, Eggert G. Thorsteinsson, Minister for Fisheries, announced that the government would help herring boat owners and processing plants by easing interest and installments on capital loans. The government would propose in the Althing this fall compensation up to US$526,000 for the herring industry.

France

FISH INSPECTION

Several agencies share responsibility for fish inspection in France: (1) Institut Scientifique et Technique des Peches Maritimes, Ministere de la Marine Marchande--responsible for sanitary controls at point of manufacture; (2) Service Veterinaire, Ministere de l'Agriculture--in charge of sanitary control of landed fresh fish; (3) Service de la Repression des Fraudes et Controle de la Qualite, Ministere de l''Agriculture--responsible for sanitary control once fish reach the trade; (4) The Ministere des Travaux Publics and the Ministere de la Sante Publique assist the above agencies.

Methods

Fish inspection in France, and her overseas possessions, is mandatory for all products. It applies also to foreign and domestic trade. Laboratory tests are performed periodically at ports of debarkation, canneries, wholesale and retail levels. Most inspectors are agents of the Institut Scientifique et Technique des Peches Maritimes and of the Service Veterinaire. (U.S. Embassy, Paris, July 24.)

Italy

MOTHERSHIPS BUILT

The M/S "Doroty Seconda," a free fishing vessel built for the Sicilian OCEANFRIGO by an Italian shipyard, launched on June 24. Her twin, "Do Prima," was launched 3 months earlier.

Specifications are: length between pendiculars 274 feet; breadth, 40 feet; d weight tonnage, 1,550 tons; 2,400-hp. en capable of 15.7 knots. The vessels equipped with all the latest instruments gear. They are supplied with long-line fish equipment and carry crews of 40. Each 4 refrigerated holds with varying tempe tures and a total capacity of 1,200 tons. C is about US$2.4 million each.

To Be Motherships

The vessels will serve as motherships a fleet of 4 smaller trawlers, either ne built or used, which OCEANFRIGO is terested in obtaining from foreign sourc including the U. S.

Doroty Prima sailed on her maiden voy in July. Although equipped to handle all s of finfish, she will concentrate on tuna fis off the African west coast. (U. S. Con Palermo, July 10.)

United Kingdom

NEW VESSEL BUILT IN POLAND

The flag was raised on the "Boston Yo in the Gdynia Shipyard on June 28. The v sel is the second in the series of B427 trawlers built there for the owners: Bos Deep Sea Fisheries, Hull, England.

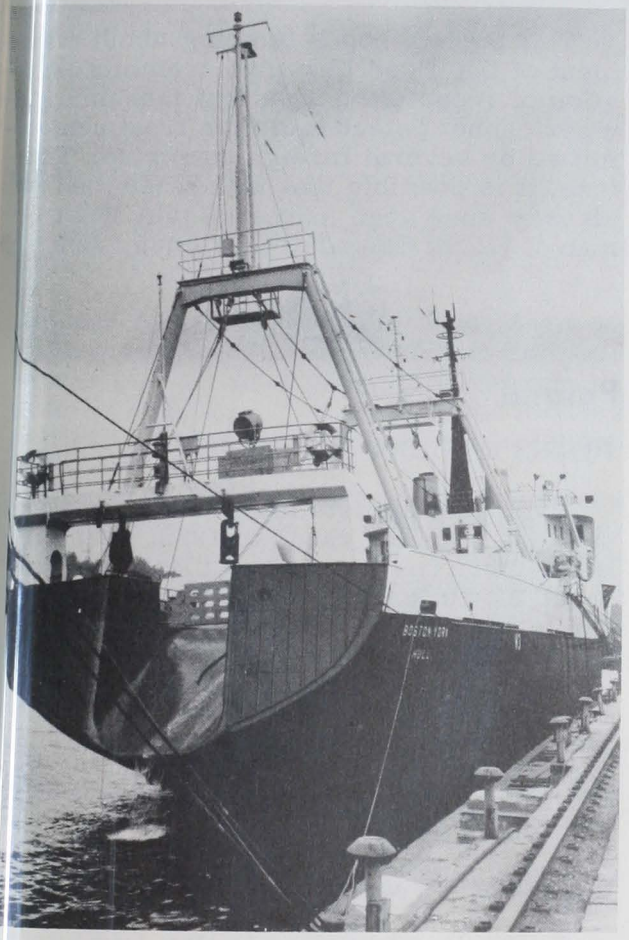
The "Boston Concord" was handed over 1965. The "Boston Lincoln," prototype B427/A series trawler, was delivered in Ap 1968. The Boston York is the third tra er constructed by the Gdynia Shipyard for Hull company.

Fishing Stern Trawlers

The B427/A type units are fishing st trawlers designed for North Sea and No

Wited Kingdom (Contd.):

Antic grounds. Length overall is 64.40 meters (211 ft.); breadth 12 meters (39.4 ft.); draught 5.00 meters (16.4 ft.); deadweight 5 tons; speed 14.5 knots; hold capacity about 6 cu. meters (21,189 cu. ft.); crew 26.



A main engine developing 2,500 hp. drives an adjustable pitch propeller through a transmission gear. The latter drives 2 BC generators: one of 315 kw. drives the trawl winch motor, the other of 350 kw. feeds the mains. Insulated holds can store fish on ice, or in a temperature as low as -29° C. (-20.2° F.).

Other Construction

Besides the Boston Lincoln and Boston York, Gdynia Shipyard is constructing 2 modernized trawlers--the B427/B version--for another British owner, Boyd Line Ltd., Hull. ("Polish Maritime News," July 16.)

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WHITE FISH AUTHORITY LOWERS INTEREST RATES

The British White Fish Authority lowered its interest rates on fishery loans effective Aug. 10. The action resulted from a change in interest rates by the Treasury.

The new rates are:

Fishing vessels, new engines, nets and gear:

On loans not over 5 years, $8\frac{1}{4}\%$--decrease $\frac{1}{4}\%$.

On loans over 5 years but not over 10 years, $8\frac{1}{4}\%$--down $\frac{1}{8}\%$.

On loans over 10 years but not over 15 years, $8\frac{1}{8}\%$--down $\frac{1}{8}\%$.

On loans over 15 years but not over 20 years, $8\frac{1}{8}\%$--down $\frac{1}{8}\%$.

Processing Plants

On loans not over 5 years, 9%--down $\frac{1}{4}\%$.

On loans over 5 years but not over 20 years, $8\frac{3}{4}\%$--down $\frac{1}{8}\%$.

The rates on loans made before Aug. 10 were unchanged. ("Fish Trades Gazette," Aug. 24.)

East Germany

FISHERY TRENDS

East Germany has converted about 10 trawlers for purse seining and is using them to fish herring in the northeast Atlantic between Iceland and Spitsbergen. Total daily catches average about 200 metric tons. Since purse seining is new to East German fishermen, Soviet gear specialists are training them. Twenty regular East German trawlers are processing the catch, and 2 chartered Soviet refrigerated fish carriers are hauling it to Rostock.

Changes in fishing technique and area were caused by reduced catches in East Germany's traditional fishing grounds in the North Sea. ("Berliner Zietung," June 9; "Neues Deutschland," June 16.)

East Germany (Contd.):

Distant Water Fishing

The Soviets also will deliver a 3,000-gross-ton refrigerated fish transport to the Rostock Fisheries Combine to help East German vessels fishing off East Africa.

Rostock-based vessels were expected to fish Georges Bank during the summer. ("Neues Deutschland," June 16.)

To Use Computers

Under the new economic system, "profits" are more important than production. East Germans plan to equip their high-seas fishing fleets with automated data-processing machinery. Vessels will teletype daily reports on catches, weather, currents, and other data to the mothership. A small computer will process and relay these to home port. There, a larger computer will guide the fleet to the best fishing grounds. The first data processing system is to operate at the Rostock Fisheries Combine. ("Der Morgen," July 11.)

West Germany

INDUSTRY CONSIDERING ON-BOARD IRRADIATION

The president of the Society to Promote the Irradiation of Foodstuffs has outlined the possibilities of improving the efficiency of the W. German deep-sea fishing fleet through irradiation equipment. Irradiation lengthens the storage life of fish. So the time at sea of trawlers operating out of German ports and landing fresh iced fish could be extended from the present 12 to 18 days.

Isotope irradiation equipment for use aboard a trawler would cost about US$150,000-200,000. The quality of fish treated with radiation would be improved. Such fish would bring higher prices. Equipment capable of processing one ton of fish per hour might be amortized within 18 months, with an additional charge of US$10 a metric ton.

Government Aid Sought

Relatively small amounts of radiation energy would be used. This would exclude possibility of harmful radioactive contamination. The Society has requested the government to fund installation of irradiation equipment for testing purposes aboard the government-owned fishery research vessel "Walther Herwig." The Federal Fishery Research Board at Hamburg supports the Society's request.

The Society hopes to bring about amendment of the Food Law that prohibits irradiation of foodstuffs. Existing measuring devices cannot detect radiation treatment permitted by several foreign countries. Therefore, it is possible that irradiated foodstuffs already have been imported into West Germany. (U. S. Consulate, Bremen, June 14.)

Poland

PLANS FISHERY EXPANSION

Polish economists and fishery administrators are planning ahead to 1985. Planning is based on future consumption estimates of about 18-20 kg. (39.6-44 lbs.) per year per capita. However, critics point out that because of many variable factors, such as future income per capita, quality and price of fishery products, etc., it is difficult to predict future demand exactly. Some estimate per capita consumption as high as 25 kg. (55 lbs.) others believe it will not even reach 18 kg (39.6 lbs.).

Estimated Production

Preliminary studies by the Institute for Marine Fisheries at Gdynia indicate that the 1965 output of fishery products--133,500 metric tons--will almost double by 1970 to about 240,000 tons, and triple by 1980 to over 400,000 tons. On the basis of these estimates, plans are being made for increases in catch and for new fishing-vessel construction.

Estimated Catch

According to "Polish Maritime News," the 1967 catch amounted to 321,000 metric tons, including small fresh-water catches of 18,000-20,000 metric tons. Planners expect marine fishery catch to increase to 470,000 metric tons in 1970, 880,000 tons in 1980, and 1 million tons in 1985.

Poland (Contd.):

The greatest production increase will be in fish fillets: in 1970, 140,000 tons of the catch will be used for fillets; in 1985 almost half a million tons. Cod, ocean perch, and haddock will be the principal species used in fillet production. In 1965, Poland produced 100 tons of marketable fillets; by 1970, production will increase to about 42,000 tons.

Czechoslovakia

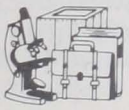
ACCLIMATIZATION OF FISH IN FISH CULTURE STUDIED

In late November 1967, a Conference on Acclimatization of Fishes related to fish culture was held at the Fisheries Research Institute in Vodnany. The conference focused on culture and diseases of herbivorous fishes.

Over 20 participants discussed how to use the findings of scientists in practical, everyday fish culture. This would increase fish supply in land-locked Czechoslovakia. In 1966, the catch was only 11,500 metric tons; in 1950, it was only 3,500 tons.

Long Imported Fish

For many years, the areas that constitute Czechoslovakia today imported at least 16 fish species for acclimatization. Most came from the U. S. and from the Soviet Union. Overall success was not good. Fish culturists did not know enough about the biology of various species to select the most suitable species and culture areas. ("Bulletin" of Vodnany Fisheries Research Institute, No. 2, 1968.)



Romania

BUYS TRAWLERS FROM POLAND

A state-owned fisheries company has ordered 2 large freezer trawlers from Polish shipyards. The vessels will be used in the Atlantic north of the 20th parallel. They will be delivered in late 1968 and early 1969. (U. S. Embassy, Bucharest, July 12.)

The first two freezer trawlers for Romanian high-seas fisheries were bought in Japan in 1964. Since then, Romania has joined the Tripartite (USSR, Poland, and East Germany) Agreement on Development of High Seas Fisheries. Poland has developed a fishing-vessel building industry among the best in the world. She even exports fishing vessels to Western Europe.

Romanians have fished in ICNAF subarea 5 sporadically in past years. Lately, they have fished mostly off northern Africa.

Greece

FISHING INDUSTRY HAS PROBLEMS

The fishing industry is complaining that lack of progressive government policies and rising costs of production have cut deeply into profits. Among measures proposed to solve the problems are lowering interest rates on fishery loans, removing restrictions on sales prices, and regularizing loans.

Greece has begun a 5-year development program that may improve conditions. ("Alieia," June.)

LATIN AMERICA

Venezuela

CLAIMS 3-12-MILE TERRITORIAL SEA OFF GUYANA

Venezuela has claimed the waters 3 to 12 miles off a 150-mile stretch of the Guyana coast as Venezuelan territorial sea. She says navigation will not be affected in the area, but foreign fishing will not be allowed. Guyana is the former British colony of British Guiana.

Historical Boundary Dispute

A boundary dispute arose during the last century when both Venezuela and Great Britain claimed the area between the Esequibo River and the current boundary of Venezuela. In 1899, an arbitral commission decided in favor of Britain. Venezuela accepted the decision but later called it unfair. The issue has flared into heated controversy. Venezuela says that until the dispute is settled she will exercise sovereignty in the waters 3-12 miles out of the area--because she, unlike Guyana, claims a 12-mile territorial sea. The claim will have no effect on Guyana's 3-mile territorial sea.

No Effect on U. S. Trawlers

About 200 foreign shrimp trawlers, mainly U. S., operate near the area; most are based in Georgetown, Guyana. Industry sources see no immediate problems because most trawling takes place beyond 12 miles. (U. S. Embassy, Caracas.)

Colombia

NEW FIRM PLANS TO FISH SHRIMP

A new Colombian company, "Fishing Consortium S. A.," plans to start shrimp fishing out of Santa Marta and Buenaventura in late 1969. It will use 15 vessels now being built in Colombian shipyards. Company president Ernesto Restrepo Osario said that almost the entire catch will be exported to the U. S. and would roughly double Colombia's shrimp exports to the U. S. during 1970-1975.

Financing and Management

Authorized and subscribed capital of t new company are US$2.4 million and $1 million. Equity capital will be about 80 pe cent private and 20 percent public. In add tion, the firm has obtained close to $1.9 mi lion loan capital.

Foreign Firms Interested

The company has received numerous of fers of financial participation or assistanc from European countries. Thus far, the op eration has been kept strictly Colombian Management comes primarily from ex-em ployes of the Financial Corporation of Co lombia, a principal stockholder. (U. S. Em bassy, Bogota, July 12.)

Ecuador

U. S.-OWNED TUNA FREEZING PLANT OPENS

Del Monte del Ecuador, C.A., formall inaugurated on June 22 its new US$800,00 tuna-freezing plant in Manta, northwest Guayaquil on the Pacific Coast, Del Monte wholly owned by California Packing Co., Sa Francisco. The U. S.-equipped plant, locate on 10 acres of ocean-front land, consists of freezing tanks, each capable of freezing 1 tons of fish in 5 hours, and a 250-ton-capaci storage freezer (-20° F.)

The frozen tuna are trucked 2 miles fro the plant to Manta's dock. Then they ar transported by refrigerator ship to De Monte's packing plant in Puerto Rico. The Ecuadorean plant employs 50 persons and, indirectly, 300 persons on fishing boats.

Seasonal Fishing

Since tuna fishing is seasonal (the poores months are January, February, and March Del Monte's plant is designed to handle either peak or minimum loads. Banks of 2, 4, 6, or all 8 freezing tanks can be operated, depending on the catch. Del Monte owns or has contracts with 20 boats. Operations started May

Ecuador (Contd.):

8. The company plans to freeze 8,000 metric tons of tuna this year and 12,000 tons in 1969.

Seiners to Come

The firm owns 1 purse seiner. It plans to bring down as many as 6 from the U. S. if market conditions are favorable. Each will cost about $250,000. Del Monte also may install a dock to accommodate the refrigerator vessels. This may not be practicable without constructing a breakwater. The sea is often too rough for loading operations.

Del Monte apparently has no plans to establish a tuna-packing plant in Ecuador. It intends to ship all its catch to Puerto Rico for canning. (U. S. Embassy, Quito, June 26.)

* * *

RULING CREATES FAVORABLE MARKET FOR FISH OIL

An August 9 ruling by the Monetary Board of the Central Bank of Ecuador reduced from 100 percent to 50 percent the advance deposit required for imports of various oils and greases, including fish and marine-animal oils. The action apparently was taken in response to greatly increased imports of fish oils, mainly from Peru. For example, fish-oil imports for first-half 1968 totaled 1,552.6 metric tons, compared with 110 tons during the 1967 period and 788.7 tons during all of 1967.

Will Stimulate Market

The reduced advance deposit for items to be imported is expected to stimulate the market even further. Substantial increases in marine-oil imports are expected over the next several years. (Agricultural Attaché, U. S. Embassy, Quito, Aug. 23.)

Peru

ANCHOVY FISHING SEASON OPENS

The anchovy fishing season opened September 1 and most vessels were reported fishing. First reports indicate fishing poor, although that was not unusual for early September.

There were no labor problems because of a 30-day suspension of constitutional guarantees affecting all unions following a transportation workers' strike.

1968 Shipments Ahead of 1967

Fish meal stocks on hand July 31 were 361,977 metric tons; a large percentage was sold in advance. Shipments were 199,111 tons in June and 167,373 tons in July. This brought total 1968 shipments to 1,255,190 tons--about 30 percent ahead of the 883,398 tons shipped during 1967 period.

* * *

TIDAL WAVE DAMAGES FISHING FLEET

The strong tidal wave that recently hit Peru caused damage of over US$2.5 million to the fishing industry. Thirty-six 100-ton-capacity vessels were hurled onto the beach, driven aground, or otherwise damaged. It was the worst disaster in the fishing industry since 1952. (National Fisheries Society, Aug. 12.)

* * *

FISHERY DEVELOPMENTS

The Fishermen's Union Federation has presented the Boat Owners Association with a long list of demands. These include:

(1) a 56% increase in the per-ton fishermen's share price paid for anchovy; (2) a base salary of US$5 a day for captains and $3 for crewmen when fish are not available; (3) profit sharing, and a bonus salary each May 1 (Peru's Labor Day); and (4) a 50-percent increase in pay for trips exceeding 18 hours.

In April, the price paid for anchovy as the fishermen's share was $2.60 a metric ton.

Plant Bought

Frigorificos Paita, S. A. (FRIPSA) will be purchased by Star-Kist Foods, California, a division of H. J. Heinz. FRIPSA, which has cold-storage facilities, will be used to store frozen yellowfin and skipjack tuna for export.

Giant Anchovy Seines

Rayon Celanese Peruana (RAY CEL) has sold the first 2 of its giant anchovy seines. Each seine is 440 fathoms long by 45 fathoms

Peru (Contd.):

deep and has 3 bunts. Made of knotted webbing, the individual panels of the nets weigh 18,500 pounds each. The seines will be fished from 350-ton wooden vessels. ("Pesca," April.)

Chile

REPORT ON ANCHOVY CATCH, FISH MEAL AND OIL PRODUCTION

During May, 1,480 tons of fish meal and 120 tons of fish oil were exported from Arica, and 1,960 tons of fish oil from Iquique. The oil, worth US$249,700, was shipped to the U. S., U. K., West Germany, and the Netherlands.

During January-May, 62,900 tons of fish meal worth $5,980,000, and 8,400 tons of fish oil worth $472,700, were exported. Principal fish meal importers were the U. S. (40%) and West Germany (30%). The Netherlands received 96% of the fish oil.

The 147,400-ton June anchovy catch set a record. Despite a sharp reduction in the size of the fishing fleet and in the number of operating plants, 49% more fish meal was produced than in first half of 1967. A marked improvement in raw material yield--20.4% in 1968; 18.6% in 1967--contributed to this increased production. The price per metric ton of fish meal in June varied between $1 149. Consolidation of the fish meal indu in the north, aided by the record June ca has had a favorable effect.

North Chile's Anchovy Catch, Fish Meal and Oil Production, Jan.-June 1966-68[1/]

	1968	1967	1966
	(Metric Tons)		
Anchovy catch:			
June	147,400	91,100	101,100
Jan.-June	523,100	379,000	769,200
Fish meal production:			
June	30,069	16,948	19,031
Jan.-June	101,547	68,018	135,749
Fish meal production from other than anchovy, south of Antofagasta:			
June	3,950	2,500	1,400
Jan.-June	18,800	15,050	14,400
Fish oil production:			
June	6,012	1,319	3,253
Jan.-June	14,275	5,914	14,863

1/Statistics listed as received. Even numbers apparently are rounded.
Sources: Instituto de Fomento Pesquero, Informe Mensual No. 6, July 29; U. S. Embassy, Santiago, Aug. 5.

Mexico

FRANCE GIVES TECHNICAL ASSISTAN

Experimental fishing by French traw has produced mixed results. Two vesse one based at Progreso, Yucatan, the othe Mazatlan, Sinaloa, began operations l winter.

The Progreso project started with c siderable fanfare. French fishermen a rived full of enthusiasm, ready to fish large quantities of low-priced fish on ext sive banks. They soon found that local fi ermen, interested only in traditional hi priced shrimp and red snapper fisheri could see no point in searching for low-pri species which, they believe, probably are very abundant anyway. After several cruis the trawler ran onto a coral reef. Emerge repairs were made and the vessel retur to France.

Success in Mazatlan

The Mazatlan project was so succes that the Mexican government financed an tension. Some Mexican fishermen had pected to explore for shrimp in depths be the usual fishing grounds. The French other fishermen had planned to explore finfish. Few shrimp and numerous fish v caught, causing mixed emotions. The Ma tlan operation proved that there are enc fish to support large-scale trawling. Cat of mixed species averaged 6 tons daily. A half the species would be acceptable on Mexican market, the rest could be sold Europe.

Other Operations

During September, the trawler coopera in the Gulf of California resource surv fishing in deeper waters than the smal Mexican trawlers. Later it will move Ensenada to explore the trawling possibi ties along Baja California's west coast. (R Fisheries Attaché, U. S. Embassy, Mexi Sept. 12.)

Japan

CUTBACK IN FROZEN FISH PRODUCTION PROPOSED

Trawl operators are having a harder time because of the shortage of bottomfish in both northern and southern waters and low prices. Yukinosuke Yamazaki, board chairman of Hokusai Gyogyo, told the heads of such major fishing companies as Taiyo Gyogyo, Nichiro Gyogyo, and Nihon Suisan that "excessive production of frozen fish at the present time calls for some restriction on production and imports." On June 27, the companies discussed the matter with Fishery Agency Director Morimoto.

Financial Losses

According to Yamazaki, the fishing industry suffered a deficit of 5,270 million yen last year due to low prices for frozen fish and increased interest charges on loans and storage. In addition, the industry had 830,000 tons of frozen fish on hand at the end of the year. The recession trend in the market remains unchanged. If it continues, the industry will accumulate a deficit of more than 50,000 million yen.

Controls Requested

Yamazaki considers overproduction of frozen fish the fundamental cause. He has proposed:

Control over production and imports:

(1) Limit imports to 130,000-150,000 tons.

(2) Refrain from shipping into Japan fish valued at less than 60,000 yen per ton (small-sized merlusa, red fish, etc.). This is not to apply to Japanese fishing vessels transporting their own catches.

(3) Refrain from purchasing and transporting by Japanese vessels fish selling for less than 75,000 yen per ton.

(4) Japanese trawlers based at foreign ports should not ship to Japan fish valued at less than 50,000 yen per ton.

(5) Require all Japanese trawlers to observe mesh restrictions that prevent taking small fish: small merlusa and red fish from Africa, silver cod from Alaska, and flounder from northern waters.

(6) Make every effort to export merlusa fillets. The demand for these is increasing in foreign markets. To do it, attention must be given to a vessel's processing facilities and export promotion measures adopted.

(7) Raise money through a 3,000-yen-per-ton tax to set up a compensation fund of about 500 million yen for losses caused by fishing suspensions.

Industry Cooperation

In addition to Yamazaki's proposals, the companies suggested a dumping prohibition and joint shipments of fish from distant waters. The major companies now recognize the need for joint industry action to conserve resources and maintain fish prices. ("Suisan Tsushin," July 6.)

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FROZEN TUNA EXPORTS UP, PRICES DOWN

Frozen tuna exports, which were slow in business year (BY) 1967 ending March 1968, increased sharply in April and May: 18,642 metric tons compared with 12,916 tons during the same period in 1967. The increase was due to good yellowfin catches in the Indian and Atlantic Oceans in April, and to good albacore fishing in the Atlantic from May.

Export prices, however, were sharply below those of 1967. Yellowfin shipments direct from Japan were $410 a short ton c.i.f., California delivery, compared with $460 c.i.f. in early 1967. Atlantic albacore transshipments to the U. S., which brought around $500 per ton c.i.f. in 1967, were about $450 per ton c.i.f. for large fish, and $420 per ton for fish under 20 pounds. ("Suisan Tsushin," June 7.)

* * *

Japan (Contd.):

EXPORTS OF CANNED TUNA IN BRINE TO U. S. SLOW

Exports of canned tuna in brine to the U. S. were very sluggish during April and May, the first 2 months of business year (BY) 1968. Sales contracted by Tokyo Sales Co. totaled about 300,000 cases (48 7-oz. cans), or 10% of the 3-million-case export target for BY 1968. Normally, sales are brisk during April and May when U. S. retailers stock up for summer selling.

Price Reductions Urged

Japanese trading firms attributed the drop to the high price of the Japanese product. They urged substantial price reductions and a vigorous sales-promotion campaign to overcome the slowdown. The Tokyo Sales Co. established export price of US$11.20 per case f.o.b. for canned solid white meat tuna in brine is around $14.80 a case on the U. S. wholesale market. This was about $1.30 higher than the U. S. packer's price for private labels. Price quotations for the institutional pack were $1-$1.50 higher than the U. S. packer's price. Therefore, Japanese firms were believed to be contracting sales with U. S. buyers at prices well below the Sales Co.'s quotations.

Packers Disagree

Japanese packers were in a difficult situation. They could not readily agree to a price cut since the raw material was costing them as much as $467-479 a short ton. This was $50 a ton too high, even for the established export price level for brine-packed canned tuna. ("Suisan Tsushin," June 6.)

* * *

EXPORTS EXTRA-LARGE CAN OF BRINE-PACKED TUNA

The Japan Export Tuna Packers Association is encouraging the packing of tuna in brine in an extra-large can to improve sales in the U. S. institutional market--hotels, restaurants, schools, and hospitals. The can, "Special No. 1," holds 2,500 grams (5.5 pounds) drained weight, and 3,000 grams (6.6 pounds) net weight.

The Can's Advantages

Successful marketing of U. S. machi
packed tuna in brine in recent years
created intense competition for the Japan
product in the U. S. market. Japanese pack
believe the extra-large can would avoid dir
competition with the U. S. pack and mi
overcome the slowdown of exports to the U.
The extra-large can reduces packing co
for processors and brings greater profit
users because of lower buying cost and
duced handling time.

Sales Prospects Seem Good

Packers planned to export 1,200 cases
the new pack before September and hoped
export another 2,500 by May 1969. Sa
prospects are good because U. S. institutio
buyers already have expressed interest in
extra-large can. ("Nihon Suisan Shimbu
July 17; "Suisan Tsushin," July 29.)

* * *

CANNED TUNA PET FOOD EXPORTS DECLINE

Exports of canned tuna pet food to the U.
which increased steadily in recent years,
declining. U. S. firms are not buying beca
the quality of the Japanese product is
compared to the U. S. pack.

In 1967, Japan exported 1.4 million c
of canned tuna pet food to the U. S. Los
the U. S. market is likely to be hard on
packers. ("Katsuo-maguro Tsushin," Jun

* * *

FROZEN SHRIMP IMPORTS DECLINE

Frozen shrimp imports in June tot
2,324 metric tons valued at about US$5.4 m
lion, the lowest since January. The decl
was ascribed to reduced buying by trad
firms to "cool off" the oversupplied shri
market. Imports from Mexico continue
decline sharply. Jan.-June imports of 19,
tons were down more than 3,000 tons fr
22,714 tons imported during the 1967 per
("Suisan Tsushin," July 24, and "Suisan
Nippo," July 22.)

* * *

Japan (Contd.):

TANNER CRAB PRODUCTION TO REACH 7,000 TONS

The 1968 tanner crab production by fleets in the Bering Sea and North Pacific is expected to reach about 7,000 metric tons (legs only with shell). Bristol Bay king crab fleets should produce about 2,500 tons; Olyutorski fleets off Siberia 3,000 tons; and land-based vessels operating out of Wakkanai, Hokkaido, 1,500 tons.

In Bristol Bay, tanner crabs are taken incidentally by gill nets and crab pots fished by factoryship fleets led by "Keiko Maru" (7,537 gross tons) and "Dainichi Maru" (5,859 gross tons). Tanner crab production by the end of July was about 1,000 tons by the Keiko Maru fleet and 600 tons by the Dainichi Maru fleet.

The 2 factoryships are scheduled to continue operations until October. Nine crab fleets are taking large quantities of tanner crabs off Cape Olyutorski. While catch as of early August was unknown, it is estimated that the season's total production will not fall below 3,000 tons. ("Suisan Tsushin," August 3.)

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BRISTOL BAY KING-CRAB FLEETS REPORT MANY TANNER CRAB

Japanese king-crab motherships "Keiko Maru" and "Tainichi Maru" (5,859 gross tons), fishing in Bristol Bay, reported early in June heavy incidental catch of tanner crabs. These crabs severely damaged crab pots and hurt king-crab production, which was running more than 30 percent behind 1967.

Concentration on King Crabs

The abundance of tanner crabs was believed due to concentration of fishing effort in recent years on king crabs. Some Japanese feel it may be necessary to thin out tanner crabs to increase the yield of king crabs. ("Shin Suisan Shimbun Sokuho," June 11, & "Suisan Tsushin," June 8.)

* * *

SALMON MOTHERSHIPS RETURN WITH LOW CATCH OF REDS

The 11 salmon mothership fleets assigned to Area A, north of 45° N. latitude, in the North Pacific high-seas fishery returned to Hokkaido, the northernmost island, in late July after about 2 months. This year's fishery was generally poor because of unusually rough seas and a higher than usual water temperature. Fleet commanders reported that red salmon catches were very low, only about 10-15 percent of the total catch. Catches of less profitable pinks were relatively high.

From the very beginning, the fleets encountered unusually stormy weather. Bad weather, particularly in the central grounds, caused wide movement of the fleet and even forced suspension of fishing for 10-13 days. Water temperature to mid-season was between 1-1.5° C. higher than average, advancing the season about a week ahead of normal years.

Fish Runs Poor

On the whole, fish runs were poor. Large quantities of small-sized reds taken in July indicate that a good red salmon run might develop next year. Chums taken in northern grounds were larger in size, about 2.4 kg. (5.3 lbs.), and clearly distinguishable from those averaging about 1.8 kg. (about 4 lbs.), taken in southern grounds. ("Minato Shimbun," Aug. 1.)

* * *

FISHING POOR OFF U. S. EAST COAST

The stern trawler "Shirane Maru" (2,528 gross tons), commissioned by the Japanese government to conduct exploratory surveys in the northwest Atlantic, was catching cod and ocean perch off Labrador in mid-July. The vessel began fishing near 40° N. latitude off New York in early June. It caught mostly butterfish. From there she moved progressively northward toward Labrador, refueling at Saint Pierre off Newfoundland. Later, she crossed the Davis Strait and fished off the west coast of Greenland, but heavy ice drift forced her back to the North American coast.

Shirane Maru is not having much success. Catches to mid-July were about 200 tons of bottomfish. According to the owners, prospects of developing commercial fishing grounds in the northwest Atlantic remain uncertain.

Other Trawlers

The commercial trawler "Akebono Maru No. 51" (1,454 gross tons), fishing off New York since mid-June, found too many small-size butterfish and departed for Las Palmas

Japan (Contd.):

in late June. Two other trawlers, "Hidehiko Maru" (2,524 gross tons), and "Kaimon Maru" (2,518 gross tons), had more success fishing off the U. S. east coast in early July. However, they were scheduled to end fishing in late July for repairs. ("Minato Shimbun," July 18; "Shin Suisan Shimbun," July 8.)

* * *

SHRIMP FISHING OFF GUIANAS

On June 22, 51 Japanese shrimp vessels were fishing off the Guianas. Another 21 vessels were scheduled to join the fleet by the end of August. The 72 vessels will include 35 licensed for land-based operations out of Georgetown, Guyana; 22 based at Port of Spain, Trinidad, licensed for mothership operations, and 15 based at Paramaribo, Surinam.

Ten more Japanese firms also were interested in entering the fishery. The high market price for shrimp taken off the Guianas, low investment cost of small vessels, and relative stability of the resource are encouraging fishing firms to enter the fishery. However, the Japanese Fisheries Agency is not likely to permit further fleet expansion.

Prices and Production

Fleet production reports showed the Japanese were catching and processing 350-400 pounds of shrimp, heads off, per vessel per day. Most catches were pinks and browns of fairly large size (under 25 count heads off to the pound). Delivery prices in the latter part of June averaged around US$1.39 a pound ex-vessel and provided sufficient profit.

Lack of Repair Facilities

One problem facing the land-based operators is the lack of minor repair facilities on land for vessels and gear. The Japanese Association for Trawl Fisheries off the North Coast of South America is investigating the possibility of setting up small repair shops at Georgetown to service the shrimp fleet. ("Shin Suisan Shimbun Sokuho," July 10.)

* * *

SURVEYS SHRIMP IN SOUTHEAST ASIA

The Marine Products Importers Association is sending an 8-man shrimp survey team to southeast Asia on October 28. The team will travel to Thailand, Malaysia, Singapore, Borneo, Sarawak, and the Philippines to study the possibility of buying shrimp for shipment to Japan.

In 1967, the Association sent a similar mission to Pakistan and India. Seventy-five percent of the trip expenses will be financed by the Government's 64.2-million-yen (US$178,333) subsidy program. The program promotes imports of unprocessed products, such as minerals, lumber, and agriculture-fishery products from underdeveloped countries. ("Suisancho Nippo," July 30.)

* * *

NEW TRAWL USED IN BERING SEA

A new all-purpose trawl that can be set for towing at all depths has been developed by Taito Seimo Fish Net Manufacturing Co. and Taiyo Fishing Co. The gear has shield-type otter boards specially designed to provide maximum net-spreading with minimum resistance.

The Net

The net, about 100 meters (328 feet) long, permits wide opening of the mouth. It is equipped with a kite for buoyancy and has 5[illegible] 600-millimeter (about 2 feet) steel bobbins for dragging rough bottoms. When a school is located, the net can be set for towing at the desired depth by adjusting the otters, kite, warp, and other connections. The new gear will be placed aboard Taiyo's stern trawler "Zuiyo Maru No. 3" (3,858 gross tons).

The Zuiyo Maru No. 3

This trawler, one of the largest and most modern in Japan, has minced-meat and fish meal plants. It is equipped with the latest sonar gear for trawling at 5 meters (16.4 feet) to 600 meters (1,968 feet). The vessel was scheduled to depart Hokkaido for the eastern Bering Sea in early August. ("Minato Shimbun," July 25 & 31.)

* * *

Jan (Contd.):

LONG-LINERS REPORT
GEAR THEFTS OFF MEXICO

Tuna long-liners fishing off Mexico have reported thefts of fishing gear. One long-liner claimed her banners, radio buoys, lines, and 20 baskets of mainline were stolen on July 12 while she was fishing near 23° 17' N. latitude and 108°13' W. longitude off Mazatlan. One basket equals 650-1,300 feet of long line.

In the same area, on July 10, another long-liner encountered 2 foreign purse seiners and later discovered that 28 baskets of her long line had been cut off by a sharp instrument and removed. ("Katsuo-maguro Tsushin," July 23.)

* * *

TRAWLERS LICENSED
FOR NORTHWEST ATLANTIC

The Japanese Fisheries Agency licensed for one year 3 commercial trawlers for experimental operations in the Northwest Atlantic, north of 40° N. latitude, off New York. The trawlers are: "Taiyo Maru No. 65," 1,829 gross tons; "Akebono Maru No. 51," 1,454 gross tons; and "Suzuka Maru," 2,529 gross tons.

Observe ICNAF Rules

The vessels will be required to observe mesh-size regulations of the International Convention for the Northwest Atlantic Fisheries. ("Nihon Suisan Shimbun," June 12.)

* * *

SIGNS FISHING AGREEMENT
WITH INDONESIA

The Japan-Indonesia fishery negotiations to ensure safe operations for Japanese vessels inside Indonesia's 12-mile limit were finally concluded on July 20. They began Dec. 1967. The 1-year pact may be extended after consultation.

Japanese vessels will be permitted to fish within designated zones in the Banda and Serum Seas. Okinawan vessels were accorded similar privileges in a separate agreement. ("Suisan Tsushin," July 22.)

* * *

TO SEND TUNA MISSION TO ITALY

The Ministry of International Trade and Industry (MITI) planned to send a mission to Italy in September to help develop a stable frozen tuna export market. The group would confer with Italian importers and packers on problems involving Japanese tuna, study frozen-tuna market conditions in Italy, and assess effects of the entry of other tuna-producing countries into the Italian market. ("Suisancho Nippo," July 30.)

日本

Malaysia

EXPANDED TRAWLING BOOSTS CATCH

Trawling has expanded greatly in Malaysia. Prompted by Taiwan's and Thailand's great successes in trawling, the government determined that vessels of less than 75 tons can trawl economically in Malaysian waters. Licenses are issued to vessels fishing for cooperatives. One hundred and thirty vessels over 50 tons trawl legally; several hundred smaller ones trawl without license.

A dispute has erupted between offshore fishermen who operate the trawlers and inshore fishermen who claim that resources are being depleted by illegal trawling. The government has been compelled to intercede on several occasions. It has promised to stop illegal trawling in inshore waters.

Increase Catch

Fish production in Malaya State has increased over 50% in the last 2 years: from 198,000 metric tons in 1965 to 236,000 tons in 1966, and to 301,000 tons in 1967. Of the 65,000-ton increase between 1966 and 1967, 58,000 tons were estimated to have come from trawling.

Mechanize Vessels

Encouraged by the high profits of trawling, inshore fishermen are mechanizing their vessels and moving out to sea. In 1957, there were 1,700 nonpowered fishing vessels in Malaysia; now there are only 700. Vessels with inboard engines increased to over 10,000 from 1,500 in 1957; many trawl in inshore waters. ("Fishing News International," June.)

South Korea

BERING SEA OPERATIONS

Samyang Fisheries Co.'s refrigerated carrier "Sam Su No. 201" returned to Pusan July 14 with 400 metric tons of Alaska pollock caught in the Bering Sea. Another refrigerated carrier, "Sam Su No. 301," and 6 catcher vessels continued fishing off the western Aleutians until July 20.

Catch and Prices

Samyang's total catch was 796 metric tons, mostly Alaska pollock with some flounder and cod. The company invested 112 million won (about US$407,000) in the venture. It probably will lose money because the catch was lower than expected and market value was less than anticipated. Originally, Samyang planned to catch more than 1,000 metric tons of Pacific herring, which sells at 100,000 won per ton, about US$365, on Korean markets. Estimated sales value of the actual catch was only 30,000 won, about $109 per metric ton, but Samyang was hoping for a sales contract at 35,000 won per ton.

State-Owned Trawlers

The state-owned Korea Marine Industry Development Corporation (KMIDC) factory sterntrawler, "Kang Hwa No. 602," ended her month-long exploratory fishing cruise in the eastern Bering Sea on July 15 and returned to Pusan. KMIDC operations were separate from Samyang operations. Kang Hwa No. 602 carried about 400 tons of Alaska pollock and some herring. (U. S. Embassy, Seoul, July 23; "Oop Shinbo," July 22.)

* * *

BUYS FISHING VESSELS FROM JAPAN

Japan will build 54 fishing vessels for South Korea under the joint Economic Development Program for March 1967-December 1968. The cost will be US$13.4 million.

S. Korea has ordered 35 otter trawlers for fishing off Indonesia and in the East China Sea, 10 tuna long-liners for the South Pacific, 3 sterntrawlers for African waters, and 6 refrigerated carriers and support vessels to service coastal fishing fleets. (U. S. Embassy, Tokyo, July 15.)

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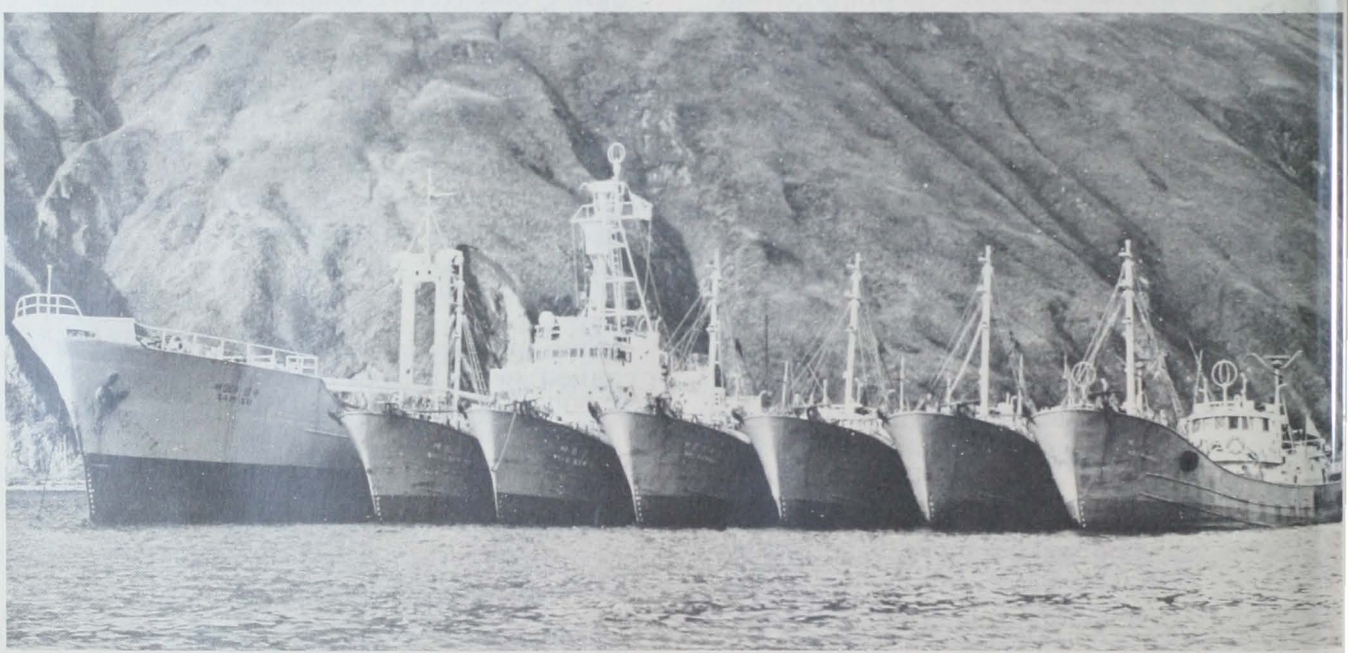

South Korean fleet consisting of a 1,000-ton mothership and six 90-foot pair trawlers anchored in Dutch Harbor, Unalaska Island, in 1967. This was the first commercial venture of the South Koreans into the eastern Bering Sea following a preliminary survey by a ship in 1966. (Photo: Zahn)

Communist China

RACTS TO JAPANESE
FISHING VIOLATIONS

In June, the Mainland China Fisheries Association protested Japanese fishing in prohibited areas of the China-Japan Private Agreement on Fishing in the East China Sea. Violations occurred in May and June in the vicinity of the mouth of the Yangtze River. The protest was directed to the West Japan Trawl Fishing Association, the Japanese Signatory of the Private Agreement.

7-Day Fishing Halt

Such violations have occurred each year but have brought only mild warnings by the Chinese and apologies by the Japanese. This year, however, the Chinese demanded and obtained more drastic punishment. About 80 Japanese boats that had violated the agreement voluntarily stopped fishing for 15 days in July. ("Japan Times," July 13.)

Pakistan

FIRM BUYS 6
DANISH-BUILT TRAWLERS

Fishery Products, Ltd., is buying 6 trawlers from Danish shipyards to use in the coastal shrimp fishery. They will be about 70 feet long, displace about 80 gross tons, and carry Danish-built 240 hp. diesel motors.

All 6 vessels will sail to Pakistan in a group probably with at least one Danish skipper or fisherman aboard each. The Danes would remain with the fleet in Pakistan while Pakistani crews were being trained. (Asst. Atty. Gen. Fisheries Attaché, U. S. Embassy, Copenhagen, July 5.)

India

EXPORTS SHRIMP TO U. S.

Madras is fostering interest in the export of frozen shrimp to the U. S. and other overseas markets. Shrimp catch, 9% of Madras marine landings, has increased since 500 mechanized boats began trawling off Madras. About 10 to 15 tons of shrimp are collected daily from various coastal centers and shipped to Cochin for processing and export.

The Madras Government has opened its first freezing plant, which is capable of handling 3 tons of shrimp a day. Operated by the Indo Marine Agencies (Tamil Nad) Ltd., the plant can freeze 10,000 pounds of shrimp in 10 days. The first shipment of the frozen shrimp was exported to the U. S. on July 6.

Madras landings no longer have to be sent to the west coast, risking spoilage and incurring transportation charges. More freezing plants are to be established at Tuticorin and Mandapam. Private enterprise is being encouraged to start its own. Indo Marine Agencies alone expects to handle more than 150 tons of processed shrimp a year. (Madras Govt., July 6.)

WHAT CAUSES "TIDAL WAVES"?

"Tidal waves" are not caused by the tides, but by movement of the ocean floor. Their proper name is tsunami, a word of Japanese origin. They are also commonly called seismic sea waves.

Submarine earthquakes, landslides, or volcanic eruptions create tsunamis; a submarine disturbance may produce three or four waves with a wave length (crest to crest) greater than 3 miles, although their height over the open ocean may be only 1 foot. Speed of advance can exceed 500 miles an hour. As the waves approach shore, they are slowed and the water behind piles up to tremendously destructive heights. ("Questions About The Oceans," U. S. Naval Oceanographic Office.)

SOUTH PACIFIC

New Zealand

INCREASES FINANCIAL AID
TO FISHING INDUSTRY

The New Zealand government plans to increase financial assistance to the fishing industry. The plan includes assistance for used fishing vessels, new engines for replacement, and for fishing gear and equipment. Increases in mortgage guarantees and loan limits to fishermen--and refinancing of existing loans on vessels--are included. Financial assistance to buy new and used vessels will be provided, both for individual fishermen and for wholly New Zealand-owned partnerships and corporate bodies.

Financial assistance for used vessels would be for those of 40-foot minimum length and maximum age of 15 years, with a current survey certificate, and suitable for the fishing project proposed.

For Engines and Gear

Assistance in buying new engines for replacement will be based on $66\frac{2}{3}\%$ of the cost including installation, or $10,000, whichever is less. Financial assistance also is provided to buy fishing gear and equipment where a change of method of fishing is involved and cost is significant. Such loans will be for a maximum of three years and up to two-thirds the cost of equipment, or $10,000, whichever is less.

Mortgage guarantee assistance for new or used vessels will increase from 20% or NZ$10,000 to 40%, or $40,000, whichever is less; the applicant will contribute $33\frac{1}{2}\%$ instead of the former 40%. State loan limits will increase from 50%, or $30,000, to $66\frac{2}{3}\%$ or $60,000, whichever is less; the applicant contribution will be $33\frac{1}{3}\%$ instead of the former 40%.

Interest rate for all loans will be 6%.

Refinancing Included

Refinancing for new or second-hand vessels will be provided if venture prospects are sound, assets are adequate, and the Minister of Finance approves.

These increases in financial aid, which should further industry expansion, conform with government's desire for full development of the industry at the earliest date. ("The Australian Fish Trades Digest," April.)

Note: NZ$1.00 = US$1.13.

American Samoa

TUNA LANDINGS LEVELING OFF

The Japan External Trade Organization (JETRO) reports that total tuna landings at Samoa between January and April this year were 10,435 tons, or about 20% below the 12,772 tons for the 1967 period.

Landings by Japanese vessels totaled 1,71[illegible] tons, 16.5% of the total; landings for the 196[illegible] period were 2,756 tons. The Japanese share for Jan.-Dec. 1967 was 24.4 percent.

South Korea and Taiwan

South Korean landings also declined: 3,67[illegible] tons for Jan.-Apr., against 5,112 tons for the 1967 period. However, South Korea's share was 35.2%--an increase over the average 34.6% for Jan.-Dec. 1967.

Landings by Taiwan, which have increased every year, leveled off at 4,480 tons in the period; in the 1967 period, 4,304 tons were landed. Taiwan's share has increased markedly--to 42.9% from the average 36.[illegible] for all of 1967.

Fishing Improves

Fishing grounds around Samoa were extremely poor in February and March, but the catch recovered later to 1.5 tons per vessel per day. ("Suisan Tsushin," July 3.)

Australia

TASMANIA ABALONE CULTURE

Tasmania's abalone fishery has grown so much in the past few years that it now ranks second as a money earner to the long-established spiny lobster fishery.

stralian (Contd.):

The Fisheries Division is cooperating with sh-processing firms in carrying out pre- nary tests to determine the feasibility of one culture. The tests should help deter- e whether the culture of abalone is fea- e--or whether juvenile abalone could be sed in farms or hatcheries to "seed" areas eady fished. The program also should n other lines of research to help conserve valuable industry.

w Abalone Are Kept

Abalone are kept in tanks so their growth d behavior can be studied in detail. At the nalley Factory of Planet Fisheries Pty. d., sea water for the captive abalone is first awn into a 110-gallon polyethylene header nk by an electrically driven centrifugal mp. The water level is controlled by a float switch acting on the pump and by a foot valve on the intake pipe.

To provide the abalone with home sites other than the walls of the tanks, empty abalone shells and well-washed concrete masonry blocks were placed in the water. Within a short period, all the animals took positions away from the light. A few moved under the empty abalone shells, but the most popular locations were the shaded surfaces of the concrete blocks.

Fed on Algae

The abalone are fed on algae collected from shells in commercial abalone catches. After observation, 2 species of algae will be selected and tested as the first step in determining the most suitable food. ("The Australian Fish Trades Digest," April.)

Tahitian fishermen unloading small yellowfin and hanging them on a shoulder-pole for transportation to the market.