

INTERNATIONAL

Japan Opens Talks With Mexico on 12-Mile Limit

Japan was scheduled to open negotiations with Mexico in late November 1967 in order to continue fishing in Mexico's waters following the latter's establishment of a 12-mile exclusive fishing zone. The Japanese Government was studying the position to take in view of Mexico's desire to prohibit Japanese fishing within the extended zone. Mexico claims this is necessary to protect the coastal marlin resource for her sport fishing industry.

Marlin Catch A Problem

While Mexico did not seem particularly concerned about Japanese fishing for yellowfin and other tuna species, her insistence on prohibiting marlin fishing was expected to complicate negotiations because it would be virtually impossible for Japanese long-liners to avoid taking marlins.

The quantity of fish caught by Japanese vessels off Mexico's Pacific coast is said to be around 5,000-6,000 metric tons annually. The catch consists mostly of tuna, swordfish, and marlin. ("Suisancho Nippo," Oct. 21, 1967.)



Japan Claims Indonesia Fired on Vessel

The Japanese Maritime Safety Agency has reported that on October 16, 1967, the tuna long-liner "Katusra Maru No. 15" was fired on by an Indonesian Navy patrol boat while fishing off northern Celebes Island. The 48-ton Japanese vessel abandoned its long-line gear and fled. None of its crew was harmed.

Indonesia's Version

According to a news dispatch from Jakarta, the Indonesian Navy claimed the long-liner was fishing inside the 3-mile territorial sea. When warning shots were fired and she was ordered to halt, the long-liner turned off its lights, fired at the Indonesian patrol boat at 20 meters (66 feet), and fled into the darkness. ("Rafu Shimpo," Oct. 23, 1967, and other sources.)



Soviets Protest Japanese Herring Fishing

The Japanese Fishery Agency revealed on September 29 that the Soviet Government had lodged a protest with the Japanese Government. The Soviets cited indiscriminate herring fishing by Japanese fishermen in waters adjoining the Kamchatka coast and demanded restraint. The strongly worded note charged that Japanese vessels in the northern part of the Okhotsk Sea and in Karaginski Bay off northeast Kamchatka had taken egg-bearing herring during the spawning season (April-May). This threatened the resource as well as the livelihood of local Soviet fishermen. The note claimed unregulated fishing has nullified conservation efforts practiced by Soviet fishermen, whose activity is restricted severely during the spawning season.

Expects More USSR Attention to Herring

The Japanese believe the herring resource is influenced primarily by natural environment, that it is not necessarily affected adversely by man-made conditions, as claimed by the Soviets. However, the Japanese Government viewed the note as indicating the Soviets intend to focus greater attention on the herring problem at the next Japan-USSR annual meeting, scheduled for 1968. Japan is formulating plans to cope with this development. ("Suisan Keizai Shimbun," Oct. 2, 1967.)



Canada Joins Inter-American Tropical Tuna Commission

By a note of adherence deposited October 3, 1967, with the United States, the depositary government, Canada joined the Inter-American Tropical Tuna Commission. Her membership becomes effective April 1, 1968.

Other parties are Costa Rica, Panama, Mexico, and the U. S. Ecuador, though technically a party, renounced its membership in August 1967 and will cease to be a member one year after her date of notification. ("The Department of State Bulletin," Oct. 23, 1967.)



EEC Fisheries Policy Bars Discrimination

Although the European Economic Community (EEC), the Common Market, has no common fisheries policy at present, it has established firmly that there will be no discrimination among its members, Sicco Mansholt, Vice President of the EEC Commission, told the Bergen (Norway) Chamber of Commerce on Oct. 11, 1967. He was commenting on problems of expanding the Common Market.

If Norway became a member of EEC, Mansholt said, Norwegians would be able to fish within the territorial waters of other members and they in turn would be able to fish in Norwegian waters. The EEC will not approve any discrimination in fish landings. Norway would have great possibilities in EEC as a fishing nation. The decisive factors would be: Who is nearest the fishing grounds? Who are the best fishermen? (U. S. Embassy, Oslo, Oct. 17, 1967.)



Obstacles to Joining EEC Face Scandinavia

The European Economic Community (EEC) Commission report on admitting new members troubles Scandinavia. This is especially true for Denmark and Sweden; Norway's request for membership appears relatively unencumbered. The greatest problem is their solidarity. As a trade area, Scandinavia probably is integrated more closely than EEC.

Obstacle to Danish Farm Exports

Denmark's problem is the provision in the EEC report that her agricultural products not be given free access to EEC markets until Britain's agriculture has fully adjusted to EEC membership--and the British market is open to farm products from all present EEC members. This could take several years. It could negate the big advantage the Danes had expected to gain for their products.

Sweden could only become a member by accepting unconditionally EEC's political philosophy and giving up her neutrality. No political party in Sweden considers this possible.

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Denmark Acts on Traditional Fishing Claims of Belgium and Norway

After considering the traditional fishing claims of Belgium and Norway within her 12-mile fisheries limits, in accordance with the London Fisheries Convention of 1964, Denmark has decided:

1) The Belgians will be permitted to fish for flatfish in the area between (a) Lyngvig on west coast of Jutland on the north, and (b) the Danish-German sea boundary on the south. One-year transitional rights in the area between 3 and 6 miles from the coastwise baselines began on July 1, 1967. Traditional Belgian rights between 6 and 12 miles from the baselines began on the same date and will continue indefinitely.

Agreement with Norway

2) The agreement with Norway concerns her traditional fishery for sprat (brisling) within the new Danish limits. Early in 1967, Denmark, Sweden, and Norway agreed provisionally on a mutual 4-mile limit for their fishermen in the fisheries of the Skagerrak and the northern part of the Kattegat.

The new agreement between Denmark and Norway concerns a very small additional part of the Kattegat lying to east of the coast between Skagen and Frederikshavn, Denmark. It supplements the area specified in the earlier tripartite agreement to include the grounds of the Norwegian sprat fishery. That fishery is in progress during October, November, and December. It will be subject to Danish fishery regulations and jurisdiction within her fishery limits. However, Denmark will consult Norway before establishing sprat-fishing regulations in the areas and months designated.

The new agreement will remain in force from July 1, 1967, for as long as the tripartite agreement is maintained in force by the three countries. ("Dansk Fiskeritidende," Sept. 15 and 29, 1967, Regional Fisheries Attaché, U. S. Embassy, Copenhagen, Oct. 20, 1967.)



Poland Will Aid India

Poland will assist the fishing industry of India by providing technical assistance to a Bombay firm preparing a feasibility report for the Kerala State Government. This report, to be submitted in 6 months, concerns the development of 6 fishing harbors in the state.

Kerala accounts for 50 percent of India's marine fish landings and 80 percent of her total fish exports. (U. S. Embassy, New Delhi, Oct. 11-24, 1967, Review.)



55th ICES Meeting

The International Council for the Exploration of the Sea (ICES) held its 55th meeting in Hamburg, Germany, October 9-18. It was the first operating under a new committee structure and rules of procedure. The application for membership by accession of the U. S. and Canada marked an important extension of the Council's activities, which had been confined to the eastern North Atlantic.

The Agenda

Among the many agenda items discussed were: (1) the Convention on the Continental Shelf and the influence it may have on traditional freedom of scientific research in non-territorial waters of Shelf areas; (2) preparations for entry into force on July 22, 1968, of the new 1964 Convention for the Council; it has been signed by 16 governments and ratified by 15 (Italy has not); and (3) final preparations for a symposium on the African Atlantic Continental Shelf and their fisheries between the Strait of Gibraltar and Cape Verde; this will be held in March 1968 at Santa Cruz de Tenerife. (ICES Press Release, Oct. 1967.)



Fish Meal Exports from FEO Countries Jan.-Sept. 1966-67

A 28-percent increase in fish meal exports has been reported by members of the Fishmeal Exporters Organization (FEO) through September 1967, as compared with a year ago. FEO members account annually for 90 percent of world exports of fish meal. FEO countries shipped 1.8 million metric

tons this year; in 1966, 1.5 million tons (excluding Angola, for which comparable monthly data are not available).

Compared with Jan.-Sept. 1966, Chilean exports for the 1967 period declined 46 percent, and from Iceland 7-8 percent; exports increased 91 percent from Norway, 70 percent from South Africa/South-West Africa, and 10 percent from Peru. The Chileans may not produce as much fish meal this year as they did in 1965 or 1966.

	Sept.		Jan.-Sept.	
	1967	1966	1967	1966
	(1,000 Metric Tons)			
Chile	9.7	17.5	81.5	150.4
Angola	1/	4.0	1/	37.0
Iceland	12.1	16.7	106.4	115.4
Norway 2/	47.0	21.0	337.0	176.8
Peru	111.1	79.7	1,123.6	1,025.0
So. Africa (including S.-W. Africa)	22.5	17.2	203.6	119.5
Total	3/202.4	156.1	3/1,852.1	1,624.1

1/Not available (23,800 tons through July 1967).
2/1967 data estimated from other sources.
3/Excluding Angola.

Bumper Catches in Several Countries

Bumper catches in Norway, South Africa/South-West Africa, and Peru, along with strong world demand and competitive prices for fish meal, likely will cause exports to continue at levels higher than a year ago. In recent weeks, the price level stabilized after fluctuating for several weeks. Price forecasts for soybean meal, chief competitor of fish meal, are expected to be lower this crop year than last.

Exports of fish meal from Angola through July were down 15 percent from a year ago (23,800 tons in 1967, 27,900 tons in 1966).



Research Cruises in Eastern Mediterranean

Fishery research in the eastern Mediterranean Sea (as far west as 25° E.) has begun under the auspices of the Sea Fisheries Research Station at Haifa, Israel. This research program will include 4 or 5 cruises a year for the next five years: Feb. 15-Mar. 7, May 15-June 7, Aug. 15-Sept. 7, and Nov. 15-Dec. 7.

Scientists everywhere are invited to join the cruises. Travel expenses are not provided but living expenses onboard are. The ports of Rhodes and Famagusta will be visited.

Scientists interested in getting more information should write to: O. H. Oren, Director, Sea Fisheries Research Station, P. O. Box 699, Haifa, Israel, for additional information. ("Hydrobiology Newsletter," Sept. 15, 1967.)



New Book on Modern Deep-Sea Trawling Gear

A new book, "Modern Deep-Sea Trawling Gear," by John Garner, international fisheries expert, sets out the fundamental and practical details of the design and operation of deep-sea trawls. The comprehensive book is particularly notable for its detailed designs of trawls.

The figures cover the evolution of trawl gear to its present stages of design for equipping stern trawling vessels from 2,000 to 3,000 gross tons. Seven chapters detail the empirical development of trawl gear, the design and operation of side-trawl gear, and the design and operation of stern-trawl gear. Side-trawl gear is compared with stern-trawl gear. Materials, mesh size, and the theory of netting are considered. The final chapters deal with trawling specifications and the latest methods of improving existing trawl gear designs.

The book is sold by Fishing News Books Ltd., 110 Fleet Street, London, E. C. 4, England. Price is £2 2s.



1966 World Fish Catch

The 1966 world catch of fish and shellfish was a record 56.0 million metric tons, 6 percent above the 1965 catch of 52.6 million tons. The 1966 catch is more than 10 percent greater than the 1957-58 average.

Three factors contributed to the increased catch: (1) South American fisheries for the raw material that goes into fish meal recovered from a poor year in 1965. (2) Major Scandinavian producers of fish meal also caught record quantities of raw material. (3) The USSR and Communist countries continued to expand their fisheries.

Total Catch (Live Weight) of Fish, Crustaceans, and Mollusks in Selected Countries

	1/1966	1965	1964	1963
 (1,000 Metric Tons).....			
World total ..	56,000.0	52,600.0	52,000.0	47,600.0
Peru	8,800.1	7,461.9	9,116.5	6,899.0
Japan	7,070.0	6,907.7	6,350.7	6,698.5
China				
(Mainland) 2/	5,800.0	5,800.0	5,800.0	5,800.0
U.S.S.R.	5,348.8	5,099.9	4,475.8	3,977.2
United States	2,514.6	2,724.3	2,647.1	2,777.0
Norway	2,849.4	2,307.3	1,608.1	1,387.9
South Africa & S.-W. Africa	3/1,400.0	1,342.4	1,254.5	1,170.8
Chile	1,383.5	708.5	1,160.9	761.9
Spain	1,357.4	1,338.5	1,203.5	1,125.3
India	3/1,367.4	1,331.3	1,320.0	1,046.3
Canada	1,348.0	1,262.1	1,211.0	1,197.6
Iceland	1,238.4	1,199.0	972.7	784.5
United Kingdom	1,067.9	1,046.8	974.3	960.9
Total Other ..	14,454.5	14,070.3	13,904.9	13,013.1

1/Preliminary.

2/Estimated.

3/Estimated by Bureau of Commercial Fisheries.

Source: "The State of Food and Agriculture 1967" Food and Agriculture Organization, Rome, Italy.

There was little change in production by Japan and the U. S., while Norway and Iceland landed more than ever before.

Among developing countries, Peru and Chile made the most notable progress in 1966.



U. S.-Mexico Fisheries Agreement in Effect

U. S. Secretary of State Rusk and Mexico's Secretary for Foreign Relations Flores exchanged notes in Washington on October 27, 1967, giving effect to a new agreement. It provides reciprocal fishing rights for U. S. and Mexican fishermen off each other's coasts for 5 years beginning January 1, 1968. The agreement was worked out during discussions at Washington in May and at Mexico City in September 1967.

It is based on laws the 2 nations passed in 1966 extending their fisheries jurisdiction to 12 miles. Neither these laws nor the agreement change the positions of the countries on the breadth of the territorial sea: Mexico 9 miles, the U. S. 3 miles. The agreement applies only to waters between 9 and 12 miles.

Traditional Rights

It lists the species each country claims its fishermen traditionally have fished off

the other country. The species most involved are shrimp in the Gulf of Mexico, tuna off the Pacific coast, and finfish on both coasts. For 5 years beginning January 1, 1968, the total catch in each of these fisheries--by fishermen of each country in the fishery zone of the other--is not to exceed the total catch during the preceding five years. The agreement also provides for unlimited continuation of sport fishing off Mexico by Americans.

It provides for exchange of data on areas where traditional fishing has been carried on; the volume of catch over the past five years; the number and types of vessels and gear used; and the names of vessels that will operate under the agreement. Annual meetings will be held to review the agreement's operation. Annual reports will be exchanged on volumes of catch and areas fished. Each country will be responsible for enforcing the agreement within its own fishery zone.

Research and Conservation

Under the agreement, the Governments will cooperate in research and conservation of the stocks of common concern off Mexico. This is in line with the Convention on Fishing and Conservation of Living Resources of the High Seas.

After it has been in effect for one year, the agreement may be ended by either party upon six months' notice. (U. S. Dept. of State, Nov. 3, 1967.)



International North Pacific Fisheries Commission Meets

The International North Pacific Fisheries Commission (INPFC) ended its 14th Annual Meeting in Tokyo on November 10, 1967, after three weeks of study and discussion of international cooperation to conserve high-seas fisheries resources.

Scientists from Canada, Japan, and the U. S. reviewed the results of research carried out by the three countries in 1967 on salmon, halibut, king crab, and groundfish resources. The scientists summarized their findings for the Commission's guidance and exchanged information on high seas fishing operations during 1967.

The INPFC

The Commission operates under terms of the International Convention for the High Seas Fisheries of the North Pacific Ocean, signed at Tokyo in 1952. The Convention provides for action to ensure the maximum sustained productivity of fishery resources. When exploited by two or more member countries, the Commission studies the need for conservation measures indicated by research results. When necessary, it recommends specific actions to the member governments. They, in turn, include these measures in domestic fishing regulations. For certain resources the Convention characterizes as already fully exploited and under an effective program of research and management for conservation, the Convention provides that member countries that previously had not participated in the fishery for such resources will refrain.

Under this provision, Canada does not fish for salmon in the eastern Bering Sea. Japan abstains from this fishery in the eastern North Pacific and Bering Sea east of 175° W. longitude. Japan also avoids fishing halibut in the northeastern Pacific south of the Aleutian Islands and the Alaska Peninsula, and herring off most of the British Columbia coast.

The Commission recommended no changes in the abstentions. It recommended that its members consider fully the conservation needs of salmon stocks in areas of intermingling when preparing regulations.

Halibut Regulations

One principal task on the agenda was to develop halibut regulations for the eastern Bering Sea in 1968. The Commission has done this since 1963, when line fishing for halibut there first opened to all 3 nations. The Commission recommended continuation of 1967 regulations in 1968. It recommended closing a large area in the southeastern Bering Sea, which is a nursery ground for young halibut. Canada and U. S. stated their intentions to require their fishermen to release all halibut taken by trawl nets in the Bering Sea. Japan stated that, within a part of this area, she would prohibit trawl fishing by her nationals. Also, she would apply a minimum limit of 66 centimeters (26 inches) for halibut to her operations there.

Gulf of Alaska

In the Gulf of Alaska, Commission focused on the effects on halibut stocks of expanded trawling for other species. Groundfish catch statistics were exchanged and studied. The Commission recommended further research.

The Commission agreed to conduct joint study and research on groundfish resources, other than halibut, in the northeast Pacific to determine need for conservation.

It recommended that research on king crab in the eastern Bering Sea be continued and strengthened.

Kenjiro Nishimura, Vice-President, Nippon Reizo Kabushiki Kaisha, was Chairman of the Commission. New officers elected for 1968 were: Edward W. Allen, U. S., Chairman; S. V. Ozere, Canada, Vice-Chairman; and Kenjiro Nishimura, Japan, Secretary. Other members are: James C. Cameron, Carl E. Giske, and Donovan F. Miller, Canada; Yoshio Ohkawara, Shinji Miyoshi, and Kenkichi Nakabe, Japan; Clarence F. Pautzke, Roger Kent, and Fred P. McGinnis, U. S.

The Commission agreed that its next annual meeting would begin in Seattle, Wash., November 4, 1968. (INPFC, Nov. 10, 1967.)



New FAO Director General Elected

A. H. Boerma of Holland was elected Director General of FAO at the organization's 14th Conference in Rome in November. He replaces Dr. B. R. Sen of India.

Boerma currently is Director of the World Food Program. Before that, he served a term with FAO as Assistant Director General.



FAO Fish-Freezing Conference Emphasizes Quality

Two hundred participants at the FAO Technical Conference on the Freezing and Irradiation of Fish, in Madrid, Sept. 4-8, 1967, heard one of the first speakers say: "The key word for this conference is quality."

Nearly 80 papers covered the subject of fish preservation--from type of raw material to send into a freezer to methods of holding and transporting the product. This section of the fishing industry has grown faster in past 10 years than all others except reduction of pelagic (open sea) fish to meal and oil.

FAO figures show that the amount of the global catch used for freezing increased from 2 million metric tons in 1955 to 5.7 million tons in 1965. FAO's R. W. Harrison said that in 1955 six tons of fish were marketed fresh for every ton frozen. In 1965, the ratio had been cut to 3 tons for every ton frozen.

Freezing Aboard Ships At Sea

The most important development since the middle 1950s has been the great growth of freezing at sea. The conference reviewed the progress of this operation and the problems it created.

The mobile whole fish freezer, filleter, and factory mothership have added a new aspect to fishing. However, their speedy growth in recent years threatens some of the world's most valuable grounds. In the past year, their booming production created a glut of frozen fish in most of its markets.

The Economics Difficult to Evaluate

Dr. Erik Heen of Norway said the economics of freezing at sea are still too difficult to evaluate. Freezer operators are short of cost data. There are widely different opinions on the merits of ship types and processing methods. It is even possible that the techniques of plate or blast freezing may be challenged. (Adapted from "Fishing News International," Oct. 1967.)



FOREIGN

CANADA

NEW BASELINES ESTABLISHED FOR FISHING LIMITS

Canada has extended her claims over fishing zones by establishing new straight baselines along the coasts of Labrador and the eastern and southern coasts of Newfoundland. The U. S. has rejected this action as inconsistent with some established principles of the law of the sea.

Canada proposes to set up straight baselines from which she will determine the extent of her territorial sea and contiguous fishing zone. New baselines would be from headland to headland and cut off large areas of water to foreign fishermen. U. S. fishermen are excepted.

Canada bases her claim on the 1958 Geneva Convention on the Territorial Sea, and says the claim accords with the Anglo-Norwegian Fishing Case in the International Court at The Hague in 1951.

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VALUE OF ONTARIO CATCH UP IN FIRST-HALF 1967

Preliminary estimates show that Ontario's commercial fishermen landed 19.8 million pounds of fish worth C\$2.3 million during the first six months of 1967. This catch is nearly 5 million pounds lower than first-half 1966, but its value is 4 percent higher.

Declines in smelt and white bass catches in Lake Erie account for a major part of the reduced catch. Smelt production fell by 41 percent to 4.6 million pounds, due in part to reduced fishing early in the season. White bass landings, influenced partly by reduced gill-netting operations in April, dropped 71 percent to 186,000 pounds.

Walleye Catch Up

These losses were offset by an increase in yellow pike (or walleye) production in Lake Erie from 89,000 to 202,000 pounds, and by higher yellow perch prices. Perch landings declined slightly (4.7 percent) to 8.2 million pounds, but value was 65 percent higher than

1966. So overall for Lake Erie, the value of fish produced increased.

In Lake Ontario, the catch of yellow perch nearly doubled--from 71,000 to 138,000 pounds--and this contributed to a slight increase in value of total catch.

The decline in the yellow pike catch from 213,000 to 154,000 pounds is the only notable change in Lake St. Clair.

Commercial fish production in Lake Huron was down 11 percent in quantity and 6 percent in value.

Landings in Lake Superior of 544,000 pounds were nearly identical in amount and composition with the same period in 1966.

Same Inland Catch in North

Inland, there was practically no change in quantities of fish taken in the north, although value decreased slightly. However, in the south, landings increased 39 percent and value 30 percent. A major change was the addition of 17,000 pounds of whitefish to the catch following establishment of limited fisheries. (Ontario Dept. of Lands & Forests, October 10, 1967.)

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BRITISH COLUMBIA HERRING FISHERY FOR REDUCTION CLOSED

All herring fishing in coastal waters of British Columbia for reduction purposes by purse seines and trawl nets was prohibited October 29, 1967. Some of these herring subdistricts will reopen on January 7, 1968: the Queen Charlotte Islands, Northern, Central, and Upper West Coast of Vancouver Island.

To Protect Stocks

These regulations are designed to protect early-season herring stocks which have not shown sufficiently to permit a commercial harvest for reduction purposes--and to permit a commercial fishery on late-season stocks in northern waters if they return in harvestable quantities.

Canada (Contd.):

The late-season fishery will be reviewed continuously. If further conservation measures prove necessary, they will be adopted. (Dept. of Fisheries, Canada, Oct. 25, 1967.)

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SCIENTISTS ASSESS SHRIMP POTENTIAL OFF BRITISH COLUMBIA

In October, Canadian Government scientists completed an assessment of the commercial shrimp potential in three areas along the Continental Shelf off British Columbia. The scientists, from the Fisheries Research Board of Canada's Biological Station at Nanaimo, cooperated with the Industrial Development Service of the Canadian Department of Fisheries.

For 68 days ending September 9, the motor vessel "Ocean Traveller" surveyed grounds in southern Hecate Strait, Queen Charlotte Sound, and the east coast of Vancouver Island.

Queen Charlotte Sound Promising

Using a 70-foot, heavy duty semiballoon Gulf of Mexico shrimp trawl with plastic roller ground line, the Ocean Traveller made 145 tows averaging 30 minutes. The most promising area was in Queen Charlotte Sound off Pearl Rocks. Working in 70 to 105 fathoms, the catches averaged 300 pounds of mixed shrimp, 95 percent smooth pink, averaging 134 to the pound heads on.

A small area off Kains Island near the entrance to Quatsino Sound again produced good results, as it did in 1954 and 1964. In 1967, the tows averaged 335 pounds shrimp--87 percent smooth pink at 77 shrimp to the pound, and 13 percent side-striped at 32 shrimp to the pound. (Canadian Department of Fisheries, Vancouver, B.C., Oct. 18.)

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DISCLOSE EXPENDITURES FOR SCIENTIFIC FISHERY ACTIVITIES

Canadian expenditures for scientific fishery activities are expected to be about C\$15.1 million for fiscal year 1966/67, up from \$8.3 million in 1963/64. Of the 1966/67 expenditures, most or \$14.7 million, was for research and development programs. The n

followed grants in aid for research, scientific information and scholarships and fellowships. The bulk of expenditures was by the Federal Government with the remainder parceled out to educational and private research institutions.

The Fisheries Research Board will account for about \$10 million of total expenditures on scientific activities. Although the amounts in recent years are greater than before, the use of funds in the various budget categories has not changed significantly. (Dominion Bureau of Statistics, "Daily Bulletin Supplement - 4," 1967.)

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NEW METHOD OF SHIPPING FRESH FISH TESTED

The first commercial shipment of fish that had been kept sea-fresh during transportation under a new method of refrigeration left Lunenburg, Nova Scotia, for U. S. markets October 25. It contained about 15,000 pounds of cod and haddock fillets kept at a constant 29° F. in specially built Canadian National Railway (CNR) refrigerator cars. The fish were distributed on October 30 to retail outlets from Detroit, Mich., south to Louisville, Ky.

The advantage to retailer and distributor is longer "shelf-life"--a longer period to sell the fish. For the railway, the new process eliminated the problem of ice melting in cars and the necessity of resupplying cars with ice along the route. Chilling to 29° F. does not result in "frozen" fish. When the temperature is raised quickly to 32° F., the fish retain the quality and characteristics of fresh fish. (Canadian Press, Oct. 25, 1967.)

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COMMENTS ON KENNEDY ROUND ARE FAVORABLE

The second in a series of Kennedy Round seminars for the business community was held in Halifax on September 22 at St. Mary's University. It was sponsored by Canada's Federal Department of Trade and Commerce and the Provincial Departments of Trade and Industry, in cooperation with business groups.

Comments generally were favorable. "The Kennedy Round will certainly benefit

Canada (Contd.):

Canadian fisheries, exports of which are now 70 percent of production by value," said Ronald Smith, President of National Sea Products, Ltd. Smith stated that benefits will apply to both European and U. S. markets.

F. A. J. Laws, Manager, Newfoundland Associated Fish Exporters, stated that the Kennedy Round would benefit all Canada. Canadian Minister of Trade and Commerce Robert Winters said that, as a result of the proposed 50-percent reduction in existing tariffs, Atlantic Province fish producers will be provided their first real opening into the American market for cooked fish sticks.

C. A. Annis, Director of Tariffs, Federal Dept. of Finance, focusing on fish, emphasized: "We attempted to go the limit and generally succeeded. We wanted a great deal, especially from the U. S., and we were generally successful." He called attention to the provision for free entry on a wide range of fish imported into the U. S. (U. S. Consulate, Halifax, Sept. 26.)

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FISHERIES TRENDS

Canadian sea-fisheries landings (including Newfoundland) during January-July 1967 were 1.3 billion pounds with an exvessel value of C\$83.5 million (excludes seaweeds)--compared with 1.3 billion pounds worth \$90 million in the same period of 1966. These figures appear in the July 1967 "Monthly Review of Canadian Fisheries Statistics."

	January-July			
	1967		1966	
	Landings .. (1,000 Lbs.) ..		Value .. (1,000 C\$) ..	
Atlantic Coast:				
Cod	321,766	364,229	14,061	16,071
Haddock	70,224	73,992	4,751	5,292
Pollock	19,371	22,616	759	901
Flounder & sole	132,990	118,575	4,472	3,991
Herring	345,997	212,677	3,810	2,396
Ocean perch	55,746	73,302	1,437	1,986
Swordfish	1,691	2,406	915	1,226
Lobsters	26,589	27,095	16,919	15,542
Scallops	7,573	10,588	4,153	4,079
Pacific Coast:				
Halibut	16,010	23,724	4,004	8,315
Herring	100,420	163,419	1,672	2,727
Salmon	50,586	69,623	17,202	18,203
Cod	6,821	17,612	482	1,219

Cold-Storage Holdings,
Sept. 30, 1966-67

Cold-storage holdings of fishery products on September 30, 1967, were 111.1 million pounds--9 percent below a year earlier. Stocks were about the same except for a significant decline in blocks and slabs. Only

	September 30	
	1967	1966
	.. (In 1,000 Lbs.) ..	
Halibut, Pacific:		
Dressed	2/	11,468
Fillets	374	341
Steaks	2/	22
Salmon, Pacific	12,506	13,473
Fillets:		
Atlantic cod	3,448	5,073
Haddock	2/	2,674
Ocean perch	7,831	7,059
Soles	7,641	4,524
Blocks and slabs	19,283	32,019
Fish sticks	443	500
Portions	934	697
Scallops	2/	1,928
Other frozen fish & shellfish	39,293	22,453
Total frozen fresh	91,753	102,231
Total smoked	1,657	1,960
Total bait and animal feed	17,793	18,393
Grand total	111,203	122,584
1/Includes all small flatfish.		
2/Confidential data, included with "Other."		

19.2 million pounds were available on September 30, 1967, compared with 32 million pounds on September 30, 1966. (Dominion Bureau of Statistics "Daily Bulletin," Oct. 25.)

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TWO TRAWLER-SEINERS BUILT

Canadian Vickers Shipyards, Ltd., has completed its part of a C\$20-million fishing vessel construction program for Atlantic Sugar Refineries, Ltd: It christened two 200-ft. trawlers, M/V "Atlantic-J. A. G." and M/V "Atlantic-Paton," each worth \$2½ million, on September 16.

Though built as tuna seiners, these vessels have applied for the 50-percent trawler subsidy. Ottawa was sympathetic because tuna seining still is a gamble. Nevertheless, the government insists on expensive modifications before higher subsidies will be paid.

The trawlers, 2 of 13 fishing vessels commissioned by Atlantic Sugar, were the last of 3 built by the shipyard affiliate in Montreal.

Canada (Contd.):

Four others have been delivered by another shipyard affiliate. Two are scheduled by still another affiliate for delivery June 1968.

Operated by Ocean Maid

The two trawlers will be operated by Ocean Maid Foods, Ltd. (formerly Canadian Tuna Company (1965) Ltd.), a subsidiary of Atlantic Sugar. They will join the latter's fleet, which supplies fish-processing plants at Marystown, Newfoundland, and St. Andrews, New Brunswick. The trawlers are part of a \$37-million company program to develop through subsidiaries Canada's first horizontally and vertically integrated fish-catching, processing, and marketing operation.

Features of New Trawlers

The main power unit is a marine diesel type 2-stroke cycle, directly reversible. It is capable of a continuous service output of 2,400 b.h.p. at 250 r.p.m. It can be controlled from either engine room or wheelhouse. It drives a solid bronze 5-bladed propeller.

The new trawlers have automated conveyor systems to load, freeze, store, and unload the catch; a wheelhouse top that can be cleared of equipment to provide a helicopter landing site; fully air-conditioned living quarters for captain and 18-man crew; and a bow thruster that protrudes below the hull to assist maneuvering during fishing, catch loading, and docking operations. The thruster can provide a water-jet thrust of 4,000 lbs. in any direction. When not in use, it is withdrawn flush with the hull.

The Atlantic-J. A. G. is equipped with sonar, which protrudes below the hull. Using the radar principle, it scans horizontally under water to detect fish. Sonar equipment is used by some Norwegian and U. S.-owned fishing vessels. The Atlantic-J. A. G. is believed to be the first Canadian vessel to have it.

Both trawlers will catch tuna in the South Atlantic off Brazil and West Africa, and in the Pacific off Peru and Ecuador. ("Canadian Fisherman," Nov. 1967.)

* * *

FIRM GETS FIRST OF 4 STERN TRAWLERS

North Eastern Fish Industries, Ltd., of Harbour Grace, has christened the first of what eventually will be a fleet of over 25 large stern trawlers. It became the first Newfoundland firm to form a joint venture with one of the world's great fishing companies when it merged with the Bird's Eye group 2 years ago.

The 169-foot "Newfoundland Eagle," built at Halifax Shipyards for C\$1.4 million, was commissioned in mid-August.

The vessel is a radically new stern trawler with a 35-foot beam giving extra stability. She has several features to lessen the risk of icing up: Her main power unit is a 4-stroke, turbo-charged, 1,470 b.hp. engine at 520 r.p.m. On trials, she achieved a speed of 14 knots. She is equipped with a variable pitch propeller of nickel chromium steel working at 200 r.p.m. A 495-hp. standby engine is capable of driving the main propeller shaft. She will be able to stay at sea longer than most stern trawlers and range farther, permitting her to bring in heavier catches during winter operations. So far as is known, her fish-carrying capacity of nearly 500,000 pounds is the biggest anywhere on the eastern seaboard.

Protection Against Icing

The builders say the elimination of all but minimum requirements of deck rigging and the flared bow should eliminate most icing dangers. Two other de-icing features are hot steam from the boiler exhaust circulating up through the foremast as far as the crow's nest, and special outlets on deck for pneumatic drills.

One of her most unusual features is the Kort Swinging Nozzle Rudder, which deflects the slipstream and so does away with the need for a conventional rudder. This is expected to provide much greater maneuverability and add to the vessel's thrust.

Life saving equipment includes a fiberglass lifeboat, 2 inflatable liferafts each capable of carrying 20 men.

Modern Electronic Equipment

The "Newfoundland Eagle's" navigational and electronic fish-finding equipment includes

Canada (Contd.):

a Decca Navigator and plotter, a Loran navigator, a fishscope, two echo-sounders, 2 radar installations, 2 radiotelephones, and an automatic pilot.

The vessel will be followed within the next few weeks by 3 other Halifax-built vessels--the "Newfoundland Falcon," "Newfoundland Hawk," and "Newfoundland Kestrel." ("Canadian Fisherman," Nov. 1967.)

* * *

EXPLORATORY FISHING FOR PINK SHRIMP GIVES PROMISING RESULTS

The exploratory fishing for pink shrimp in the Gulf of St. Lawrence and in the Bay of Fundy conducted by the New Brunswick Department of Fisheries during the last year has given promising results. As of October 1967, standard groundfish draggers caught over 800,000 pounds of shrimp in 1967. During the last three weeks of October, three 60-foot draggers operating in 150 fathoms in the Laurentian Channel landed 92,000 pounds worth over C\$16,500.

While shrimp caught in the deep waters of the Gulf of St. Lawrence generally are larger, up to 5 inches long, the Bay of Fundy fishery conducted solely in winter months has given better results. Seven small draggers, operating off Grand Manan from December 1966 to May 1967, landed over 650,000 pounds.

Arrange to Market Catch

The Department of Fisheries is arranging with local fish processors and European buyers to facilitate marketing the catch. There is great interest among fishermen, processors, and traders in shrimp. Ernest Richard, Minister of Fisheries, foresees tremendous development involving new plants, more vessels, and more employment. (U. S. Embassy, Ottawa, Nov. 2.)

* * *

PACIFIC COAST FISHERIES PROBLEMS DISCUSSED

Topics important to Canada's Pacific coast fisheries were discussed in Ottawa in October by the Federal-Provincial British Columbia Fisheries Committee. The conference was attended by representatives of the Department of Fisheries, British Columbia Department of Recreation and Conservation, and the Fisheries Research Board of Canada.

The committee reviewed revisions in Federal Fish Inspection Regulations and drafted complementary provincial regulations.

Variety of Subjects Covered

The need to improve methods for the economic evaluation of the tidal sport fishery in British Columbia was emphasized, and several alternative systems were examined. Proposed amendments to regulations governing the canning of sport-caught fish also were discussed.

The participants considered a number of special projects proposed for the Pacific coast under the Federal Fisheries Development Act. These included oyster cleansing, offshore herring exploration, and trawl-gear experiments.

The Committee also received progress reports on aquatic plant industries on Pacific and Atlantic coasts and reviewed and discussed the operations of fishermen's loan boards. (Canada's Department of Fisheries, Oct. 4, 1967.)



LATIN AMERICA

Mexico

JAPANESE WILL BUY 35 SHRIMP VESSELS

Japanese firms have arranged for the construction in Mexico of 35 shrimp vessels through Astilleros Unidos del Pacifico, S. A. Sales will total 36.8 million pesos (US\$2.94 million). Five of the vessels will go to Toyo Shrimp Company, 10 to a Toyo affiliate, and the remaining 20 to a Japanese consortium for use by Japanese-Brazilian cooperatives. All vessels apparently will be used by Japanese-financed fishing companies in Latin America.

There is a good market for Mexican shrimp vessels throughout Latin America, but a Mexican requirement that a bank in a purchaser's country guarantee payment has restricted sales. ("The News," Mexico City, Oct. 21, 1967.)

* * *

HURRICANE BEULAH DID NOT DAMAGE SHRIMP INDUSTRY

While Hurricane Beulah was streaking toward the U. S. in September 1967, winds and rain halted Mexican fishing, but no plants nor shrimp vessels were harmed. Fisheries other than shrimp off Yucatan were damaged, and a carrier boat with frozen fish was sunk. The storm by-passed all Mexican shrimp ports on its way to the Brownsville-Port Isabel (Texas) area, where it wreaked considerable damage. (U. S. Regional Fisheries Attaché, U. S. Embassy, Mexico, Oct. 17, 1967.)



Ecuador

FISHERY DEVELOPMENT LAW PROPOSED

A draft fishery-development law was submitted to the President of Ecuador by the Minister of Industries and Commerce. It had been approved by the National Fishery Institute and National Planning and Coordination Board.

The full text was not revealed, but the press reported these details: registered fishing companies may import duty free for 5 years engines, sonar, nets, etc.; local fishing-vessel builders may import metal products for construction, foreign vessels (for construction models) duty free for 10 years; fishing companies may rent two foreign-flag fishing vessels each for two years, provided the crew is part Ecuadorean and vessels are returned or registered in Ecuador after 2 years; fines and penalties of 50-1,000 soles (US\$2.80-56.00), 4-30 days imprisonment, are provided for violations by Ecuadoreans, residents of Ecuador, or Ecuadorean flag vessels. (There is no mention of foreign flag vessels, for which penalties presumably will be same as decreed earlier.)

The Fishing Department, Customs, and the Navy are charged with enforcement. The Navy is instructed to capture vessels fishing without authorization within 200 miles of shore. (U. S. Embassy, Quito, Oct. 27, 1967.)



Peru

NEW FISHERY DEVELOPMENT LAW EFFECTIVE IN 1968

A new Peruvian fishery-development law was signed October 6 and published October 7, 1967. The lengthy law (No. 16694) provides: Beginning April 1, 1968, and continuing for 5 years, various export and stamp taxes on meal and oil will be replaced by a 1-percent "ad valorem" (f.o.b. Peru) tax for meal, a tax of 2 percent of the price per metric ton for crude oil, and 1 percent per ton semirefined. (These percentages will be applicable when the price is below US\$160 a ton crude and \$170 a ton semirefined; above those prices, the taxes increase to 2 and 4 percent, respectively.) Refined and hydrogenated oils and whale oils are not affected.

Taxes Considered Partly Profit Taxes

The taxes are considered as payment in part of taxes on profits. If payments exceed profit tax, the difference will be returned in 5-year certificates good only to pay export

Peru (Contd.):

taxes. (Previous export taxes totaled about 10-15 percent of the cost per ton of meal.) Also, meal and oil producers are relieved for 2 years of paying consolidation taxes.

Various other taxes are reduced or deferred. For 5 years, companies may reinvest 60 percent of their earnings, free of taxes, to increase catching and processing efficiency. No licenses will be issued to establish new fish meal plants, nor can present licenses be transferred to new plants. Measures are required to detect and eradicate salmonella in fish meal.

The Executive was scheduled to propose to Congress within 90 days changes in customs duties beneficial to the industry. (U. S. Embassy, Lima, Oct. 11, 1967.)

* * *

REPORT ON FISH MEAL INDUSTRY

Peruvian industry sources have provided the following data through September 30, 1967:

Fish Meal Production by Months:

	Metric Tons
January	287,466
February	109,644
March	163,512
April	226,047
May	211,937
June ^{1/}	30,693
July ^{2/}	467
August ^{2/4/}	699
September ^{3/}	51,673
Total	1,082,138

1/Season closed June 15.
 2/Closed season.
 3/Fishing season opened Sept. 1, but fishing did not begin until Sept. 25.
 4/Produced in part from fish other than anchovy and from a few plants in the South.

Fish Meal Shipments:

	Metric Tons
January	100,281
February	115,673
March	117,282
April	118,458
May	158,656
June	140,313
July	132,735
August	129,099
September (1st half)	111,108
Total	1,123,605

Stocks of fish meal at the end of September 1967 were 313,330 metric tons. Local sales in 1967 amounted to 20,368 metric tons through September.

Export of Fish Meal

For January through September 15, 1967, Peruvian exports were:

Zone:	Metric Tons	Percentage of Total
1 - U. S. and Canada	317,370	28.2
2 - Latin America	64,139	5.7
3 - Far East	33,486	3.0
4 - Eastern Europe	190,892	17.0
5 - Western Europe	310,208	26.6
6 - West Germany	207,510	18.5

Fish Oil

1967 exports through September 30:

	Metric Tons
<u>Semirefined:</u>	
January-June	91,871
July-September	14,044
Total	105,915
<u>Crude Oil:</u>	
January-June	48,488
July-September	2,080
Total	50,568

The fishing season began officially on Sept. 1, 1967, but the plants would not begin operations until assured that the Government would act favorably on industry's plea for assistance.

On Sept. 30, 1967, 88 plants were listed as in production, compared with 104 for the same period of 1966. (U. S. Embassy, Lima, Nov. 8, 1967.)



Chile

REPORT ON INDUSTRY TRENDS IN FIRST 8 MONTHS IN 1967

The north Chile (Arica Mejillones) anchovy catch from January-August 1967 was 462,227 tons, compared with 943,854 tons in 1966 and 300,804 tons in 1965.

In the zone between Mejillones and Talcahuano, total fish meal production through August 1967 was 23,268 tons, compared with 20,130 tons in 1966.

Chile (Contd.):

	1967	1966	1965
 (Metric Tons)		
Anchovy Meal Production:			
Jan.	15,983	33,504	12,836
Feb.	20,294	27,113	11,371
Mar.	7,794	13,536	10,278
Apr.	1,651	14,067	3,587
May	3,447	26,754	4,090
June	16,487	18,783	2,989
July	13,331	17,865	2,188
Aug.	6,054	17,978	3,651
Total	85,041	169,600	50,990
Anchovy Oil Production:			
Aug.	287	477	1/
Jan.-Aug.	6,755	16,723	1/
Anchovy Catch:			
Aug.	29,475	93,457	19,545
Jan.-Aug.	462,227	943,854	300,804
1/Not available.			

Salary Rise in Arica

In Arica, fishing vessel crews received a salary increase of 19.5 percent, plus an increase of 20.5 percent in the bonus. (Instituto de Fomento Pesquero, Informe Mensual No. 8, Aug. 1967.)



Argentina

ISSUES FISHING LAW

Argentina issued a fishing law in October 1967 carrying into effect a January decree establishing her claim to jurisdiction over the sea to 200 miles from straight baselines that enclose large bays.

The law divides the sea area of Argentina into two zones--below and above the Colorado River (about 39° S.). It declares the resources of Argentine waters the property of the national Government, which will grant concessions for development. (The nature of these concessions is not clear.)

Exploitation within 12 miles is reserved for Argentine vessels. It is not clear whether 12 miles is measured from shore or from straight baselines--or if exclusion applies only to distant-water vessels, rather than to foreign vessels licensed to fish from Argentine ports.

For 4 years, investors can import, duty free, equipment and machinery for the fishing industry--provided the Argentine industry does not produce similar machinery at the same prices, quality, terms of delivery, etc. This applies to vessel equipment, sonar, processing facilities, and equipment and supplies for scientific study. Fishing vessels can obtain tax-free fuel.

Law Provides Special Benefits

The law contains special benefits. North of Colorado River, they are: (a) for 5 years, duty-free import of two new vessels for each one constructed in Argentina with similar features; (b) for 4 years, stamp tax exemption; (c) deferred payment of capital tax for period between government approval of project and closing of fiscal year for initiation of operation; (d) graduated reduction over 10 years of income and capital tax for applications filed before January 1970.

South of Colorado River: (a) for 8 years, free import of three new vessels for each one made in Argentina with similar features; (b) for 8 years, a sales tax exemption; (c) other benefits listed above.

Investors may choose an alternate tax-deduction scheme of 70 percent of sums invested in lieu of other tax benefits. Construction of vessels in Argentina must be ordered at same time as imported units begin operating. The Argentine shipping industry must deliver within 12 months. ("Argentine Business Structure," Oct. 31, 1967.)



EUROPE

United Kingdom

IMPORTS FROZEN FISH FROM SOUTH AFRICA

Good quality, low-priced frozen hake from South Africa has been finding a growing market in the United Kingdom, according to data of the British Ministry of Agriculture, Fisheries and Food. In 1964, 1965, and 1966, frozen fish exports from South Africa to Britain increased from 5.4 million pounds in 1964 to 14.1 million pounds in 1966; value rose from £361,000 (US\$1 million) to £876,000 (\$2.4 million).

S. Africa's Share of Market Grows

In the category "frozen boneless" fish, which would include imports of South African hake fillets and fish stick blocks, the value of British imports was £10,022,000 (\$27.9 million) in 1965 but, in 1966, dropped to £7,876,000 (\$21.9 million). South Africa's share, however, rose from £365,000 (\$1 million) in 1965 to £549,000 (\$1.5 million) in 1966. South African food fish products are taking a growing share of the British food fish market. ("The South African Shipping News and Fishing Industry Review," Sept. 1967.)

* * *

SCOTLAND SUSPENDS DISCRIMINATORY UNLOADING REGULATION

Port authorities in Aberdeen, Scotland, have suspended an unloading regulation that discriminated against foreign fishermen. The regulation required foreign fishermen to anchor outside the harbor until all Scottish fishermen had delivered their cargoes. The 20-year-old regulation meant a delay of 2 days or more. Sometimes dock workers would be idle until the last Scottish cutter was unloaded--while several foreign cutters waited outside the harbor. (Børsen, Sept. 29, 1967; Regional Fisheries Attaché, U. S. Embassy, Copenhagen, Oct. 20, 1967.)



France

TUNA LANDINGS ARE GOOD

Tuna landings in the French port of Concarneau in August 1967 were 700 metric tons worth US\$512,000. These compared with 526 tons worth US\$360,000 a year earlier. Concarneau, the third largest port in France, is one of the nation's two leading tuna ports; the other is St. Jean de Luz.

The Interprofessional Committee on Tuna has developed a plan to assist French tuna vessels in distress. It used the vessel "Ludovic-Pierre," for this purpose from July 15 to Aug. 31. During July 15-Aug. 13, the vessel answered 177 emergency calls.

An unusual event for Concarneau occurred with the unloading by a Finnish refrigerator ship of fish caught off the African coast. The catch included an albacore tuna with a tag reading: "Fisheries Research Board, St. Andrews, Canada." ("La Peche Maritime," Sept. 1967.)

* * *

TUNA INDUSTRY

France's tuna industry has been developing steadily. In 1966, it caught 44,000 metric tons, an increase of 6 percent over 1965. The 1966 catch was valued at 100 million francs (US\$20 million). Four species of tuna dominate the catch--albacore, yellowfin, bluefin, and skipjack. Small amounts of other types also are caught.

France's Catch of Tuna in 1966		
	Quantity	Value
	Metric Tons	US\$1,000
European fishing:		
White tuna	12,520	8,892
Red tuna	2,613	2,306
Total	15,133	11,198
African fishing:		
Frozen fish	20,915	6,914
Fresh fish	7,985	2,332
Total	28,900	9,246
Grand total	44,033	20,444

The tuna fishery is divided into two distinct sectors--the European season and the African season.

France (Contd.):

European Season

Main species are bluefin and yellowfin. They are caught in the Atlantic by vessels operating out of nearly every important French port between Cameret and Saint Jean de Luz. The latter and Concarneau are the two leading ports. About 572 vessels are equipped for tuna fishing, an increase of 54 over 1965. The 1966 yellowfin catch was 12,520 metric tons, lower than in 1965, but bluefin catches increased to 2,613 tons. Prices improved for both species showing that the market is far from saturated. There are difficulties, however, particularly on the Basque coast. There, canneries are working below capacity because catch increases have been modest and competition from the fresh fish market increasingly active.

African Season

Two separate fleets are involved in the African fishery. One consists of tuna boats and boats with refrigerated holds based at Dakar. They are active in winter and spring. The second fleet consists of tuna freezer boats operating year-round in the Gulf of Guinea.

The catch of the refrigerated tuna boats was 7,985 tons in 1966, including 5,878 tons of albacore and 2,107 tons of skipjack. The 34-vessel freezer fleet (7,230 GRT) caught 20,866 tons--about 14,000 tons of albacore and the rest skipjack. Total production for African fishing was 28,900 tons. ("La Pêche Maritime," Aug. 20, 1967.)



Poland

EXPANDS GEORGES BANK FISHERIES

An article in the "Polish Maritime News," August 1967, on the development and prospects of Poland's herring fisheries gives special attention to the Georges Bank fishery. Poles found Georges Bank herring most abundant during July-September, when trawl fishing by large stern factory trawlers yielded an average 55 metric tons per vessel.

The Poles began fishing for herring on Georges Bank in 1962 but caught only 277 tons. In 1963 and 1964, they fished abundant

herring stocks in the North Sea where operational costs were lower. In 1965, they caught only 1,447 tons of Georges Bank herring. In 1966, Polish shipyards built far-ranging motherships for the domestic fleet and made possible expansion of the herring fisheries southward.

Herring Catch Soared in 1966

In 1966; the Georges Bank herring catch rose tenfold--to 14,662 tons. Most of it was caught during herring spawning in August and September. In 1967, because of poor cod fishing off Newfoundland, herring fishing on Georges Bank began early, in April, when 202 tons were caught. In May 1967, 1,445 tons were caught.

Polish scientists calculate that the 1967 North Sea herring catch will be 25 percent below last year's--and expect Georges Bank herring fishery to substitute for lower North Sea catch. Fishery research indicates Georges Bank herring stocks are in good shape and can withstand present rate of exploitation, perhaps higher.

Expansion Continues

Expansion of the herring fishing on Georges Bank in 1967 continues. In June, many Polish vessels remained there through the season. On October 24, a foreign-vessel surveillance report listed 28 Polish vessels on Georges Bank--5 large stern freezer trawlers, 22 side trawlers, and 1 floating factoryship. This was the highest number, especially when considering tonnage, ever observed there.

East Germany Also Expands

East Germany also expanded into Georges Bank herring fishing this past summer. Two to nine fishing and support vessels have been sighted since early July. Most East German vessels are large freezer trawlers. The reasons for East German expansion probably are similar to Poland's. It is likely that cooperative fisheries research of both countries with the USSR, under the East European Agreement on Fisheries Cooperation, facilitated the East German "push to the South."

* * *

NEW FISHING BASE

One of the fastest growing Polish cities is Swinoujscie, until a few years ago a rundown,

Poland (Contd.):

small, Baltic port the Nazis used as a rocket research base.

Swinoujscie sits on two islands astride the narrow opening to the sea from Szczecin Bay. It has a large, well-protected, deep-water harbor, white sand beaches, and the warmest climate on the Baltic.

The Poles were slow to develop it. In part, this was traceable to the psychological insecurity that prevailed in former German territories, but also because projects elsewhere had higher priorities.

Its population in 1956 was 10,000. In the late 1950s, the "Odra," the state fishing enterprise, began to move into high gear. In 1960, Swinoujscie was officially designated a resort area. In 1964, a ferry-boat service connected it with Sweden; an influx of foreign tourists began.

Its deep-water port's potential was developed as Poland turned increasingly towards the sea. The government began to develop the long post-World War II Baltic Sea coast.

Fishing, tourism, and port services are sparking a rapid population growth in Swinoujscie. The population now is 25,000 and, by 1980, is expected to be 80,000.

Port Facilities

Swinoujscie can handle any size vessel now afloat. Another port, Szczecin, lies 60 kilometers inland, and the channel leading to it can be navigated only by ships up to 16,000 tons. As bulk cargo ships become larger, Swinoujscie's role as a major port is expected to grow rapidly. It now handles 500,000 tons of cargo annually. By 1970, this is expected to reach 3 million tons.

Fisheries

According to official statistics, 85 percent of the inhabitants of Swinoujscie and its environs live off the sea. The largest single employer is the Odra fishing enterprise. Starting from scratch in the early 1950's, Odra has progressed to where it will process an estimated catch of 80,000 metric tons in 1967.

Its future projection is for a catch of 110,000 tons. Odra's director said that his enterprise has its own modern fishing fleet, which fishes mostly in the Atlantic Ocean. Between the fleet and the processing plant on the Wolin side of Swinoujscie, Odra employs about 8,000 persons. The director said that about 25,000 tons of the 1967 catch will be exported. Odra also produces fish meal in a plant about one kilometer from the main fish-processing plant. Odra is the largest Polish fishing enterprise and its projected growth should keep it in first place. (U. S. Consulate, Poznan, Oct. 5, 1967.)



Spain

NEW TUNA VESSEL BEGINS FISHING

Spain's newest tuna seiner, the "Sarasua," has begun fishing in African waters and is experiencing some difficulties. Reputed the world's largest tuna purse seiner, she is 67 meters (220 feet) long and 14 meters (46 feet) wide.

A revolutionary suction tunnel is built into her stern to take the catch on board. This eliminates brailing operations. Two pumps suck water and fish into the vessel. The water is discharged and the fish fall to a conveyor leading to the fish-freezing tanks. Total storage capacity is about 1,000 metric tons.

Experiences Difficulties

On her first trip in April-May, the "Sarasua" ran into twin difficulties--commercial quantities of tuna were not found, and gear readjustments were necessary. On her second trip, west of Dakar and in Gulf of Spanish Guinea, tuna (yellowfin and other species) were found. However, the fishing gear proved difficult to operate, notably the seine net and the transfer of fish aboard. Adjustments were made on return to the Canary Islands. In early November, the vessel was fishing in West African waters. Information on the success of her operations is not readily available, despite widespread interest in the fishing community. (U. S. Consul, Bilbao, Nov. 2, 1967, and other sources.)



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Norway

FISHERY LANDINGS INCREASE IN FIRST HALF

"Fiskets Gang," Sept. 14, 1967, reports these figures on fishery landings for first-half 1967 and 1966:

Species	Jan. - June 1967		Jan. - June 1966	
	Quantity	Value	Quantity	Value
	1,000	US\$	1,000	US\$
	Metric Tons	Million	Metric Tons	Million
Herring (all types)	713.2	21.0	683.6	31.7
Mackerel	360.8	9.6	146.2	7.1
Capelin	402.8	5.9	379.6	9.5
Cod	140.2	25.1	137.7	24.3
Haddock	15.3	2.4	28.2	4.4
Other fish	121.2	19.3	125.9	18.2
Total	1,753.5	83.3	1,501.2	95.2

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VALUE OF FISHERIES EXPORTS UP 14% IN FIRST HALF

The value of Norwegian exports of fishery products was 14 percent higher through July 1967 than in the 1966 period. Exports were US\$125 million, up \$15 million. A similar increase for all of 1967 is not to be expected. Total fish exports in 1966 were \$214 million. ("The Export Council of Norway Press Service," Oct. 1967.)

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VERSATILE WOODEN VESSELS ARE MASS PRODUCED

A series of 25 standardized 54-foot wooden coastal vessels named "Glunt" is being constructed in Norway. These vessels are designed for long-lining, drift-netting, trawling or purse seining. Power blocks may be installed. Presently the only market for the vessels is Norway, but foreign markets may be promoted. Future vessels in this series may be built with fiberglass-reinforced polyester to reduce maintenance costs. The vessels are powered with a 150-hp. high-speed diesel with variable pitch propeller. (The Export Council of Norway, Nov. 1967.)

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GOVERNMENT PLANS TO AID FISHING INDUSTRY

The Norwegian Government will aid the fishing industry if proposals made by King Olav V are carried out. The marketing prob-

lems in the fishing industry and the necessity for more effective production and sales will be considered. The question of welfare service for fishermen will be put before parliament (the Storting). Greater effort will be made to improve education in the fishermen's schools and research in fisheries. Plans for a fishermen's school at Laksevåg will be presented. (U. S. Embassy, Oslo, Oct. 12, 1967.)

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EXPORT TRENDS FOR JANUARY-JUNE 1967

[The November 1967 issue of Commercial Fisheries Review carried incorrect information on Norwegian export trends for first-half 1967. Below is the corrected report. --Ed.]

Frozen Fillets: Norwegian exports of frozen fillets in first-half 1967 declined about 11 percent from the 1966 period. Shipments of all major products were down.

Canned Fish: Exports of canned brisling were running somewhat behind the exceptionally high shipments of 1966. Exports of small sild sardines were up about 16 percent. The main canning season for brisling and sild sardines begins in spring.

Product	Jan. - June	
	1967	1966
 (Metric Tons)	
Frozen fillets:		
Haddock	3,734	5,311
Cod	12,363	16,308
Coalfish	10,418	7,769
Herring	5,463	6,236
Other	2,249	2,995
Total frozen fillets	34,227	38,619
Frozen herring	7,397	9,434
Canned fishery products:		
Brisling	3,304	3,849
Small sild sardines	6,703	5,782
Kippers	1,677	1,643
Shellfish	305	477
Other	2,397	2,418
Total canned fish	14,386	14,169
Fish meal	226,759	118,662
Herring oil, crude	36,014	22,831

Industrial Fish: Exports of fish meal in Jan.-June 1967 were up 90 percent from the 1966 period. The large stocks on hand at the start of 1967 contributed to the gain. Landings of fish for industrial purposes continued at a high level in early 1967. Fish meal output was running slightly ahead of first-half 1966. The gain was due to larger landings of capelin and mackerel. ("Fiskets Gang," July 28, 1966 and July 27, 1967.)



Iceland

POOR CATCHES CONTRIBUTE TO ECONOMIC PROBLEMS

Iceland's herring season this year has been so poor that production was used almost exclusively for fish meal and oil. Only limited amounts have been salted. The cod catch last winter was the poorest in 50 years. The resultant decline in exports of fishery products, which are about 90 percent of all exports, has hurt Iceland's economy. Besides low landings, Iceland's fish products face declining prices and other difficulties on world markets.

Commerce Minister Concerned

The Minister of Commerce has expressed concern about the economy. He rejected both the idea of joining EEC and currency devaluation as possible solutions. He suggested affiliation with European Free Trade Association (EFTA) as a possibility.

The Althing (Parliament) convened October 10. One of the first items discussed was a one-year extension of the price-fixing law previously due to expire in November. (Bór-sen, Sept. 15 and 30; Regional Fishery Attaché, U. S. Embassy, Copenhagen, Oct. 20, 1967.)

* * *

GOVERNMENT ACTS TO ASSIST FISHING INDUSTRY

The Icelandic Government will stress renovation of the cod fishing fleet and reorganization of the fish-processing industry to achieve more efficiency. The Government's new bill on economic measures, submitted to the Althing on October 13, proposes extension through 1968 of current subsidies to the fishing industry.

Authorization for government payments has been requested in these categories:

1. 100 million kronur (US\$2.3 million) in price subsidies toward minimum price on fresh fish other than herring and capelin.

2. 20 million kronur (US\$466,000) in subsidies for fish caught on long line and hand line; payments would be divided between

seamen and vessel owners according to agreed shares of catch.

3. Continue Share Guarantee Fund payments to trawlers for 1967 season commensurate with days of operation during 1967.

4. Continue to subsidize by Price Equalization Fund (established March 1967) frozen fish products (excluding herring and capelin) processed in 1967 and 1968. Price decreases in 1967 and 1968 over 5 percent are to be compensated by 2 percent for every 1 percent decrease over 5 percent. Subsidies are not to exceed 75 percent of total price decreases.

5. Contribution by Treasury of up to 50 million kronur (US\$1.2 million) to increase productivity and other improvements in production of frozen fishery products.

6. Authorize Treasury to pay 10 million kronur (US\$230,000) in subsidies on exported stockfish or other fish products, as need arises, other than herring and capelin.

Study of Freezing Plants

The Government, which authorized a study of freezing plants in March 1967, has requested that it be completed and that proposals be submitted for more effective use of plant capacity. The study is expected to recommend that freezing plants in the same area consider allocating work, or consolidating production, by closing one or more plants.

The Cabinet would use its influence to ensure that special aid is provided for those communities or freezing plants that decide to merge. (U. S. Embassy, Reykjavik, Oct. 19, 1967.)



Sweden

MACHINE FEEDS HERRING TO FILLETING MACHINE

A machine called CIR that automatically feeds herring to a gutting and filleting machine has been put out by the Swedish firm Arenco. The prototype machine feeds herring onto a conveyor belt with all heads oriented in the same direction. The machine's capacity depends on fish size, but it can

Sweden (Contd.):

handle 165 to 280 a minute. One person can work both the feeding and gutting/filleting machines.

The machine has an electric motor of 0.75 hp. with the conveyor belts driven by a separate motor of 0.25 hp. Dimensions of machine: height, 6 ft. 7 in.; width overall, 11 ft. 6 in.; depth, 4 ft. 9 in.



Denmark

ISSUES FISHERIES RESEARCH ANNUAL REPORT, 1966

Biological research by the Danish Ministry of Fisheries and the Ministry for Greenland is reported in illustrated annual reports entitled "Fiskeri-Undersøgelser."

Of particular interest is the cruise of the research vessel "Dana" to the Sargasso Sea. This had two objectives: (1) biological study of the spawning, eggs and larval phases of the European eel; (2) physical oceanographic investigations, particularly of the optical characteristics of Sargasso Sea water, and of the penetration of sunlight into these waters. Several new instruments were used, including a laser light source. Hydrographic investigations were undertaken at a series of stations on both outgoing and return legs of the cruise.

A significant result of these observations is the determination that the deepest water layers of the transect covered are chiefly of Antarctic, rather than Arctic, origin.

Study Salmon Fishery off W. Greenland

Another section summarizes cooperative research efforts to clarify the impact of the salmon fishery off West Greenland. The "Dana" and the British "Ernest Holt" participated. Biologists from England, Scotland, Canada, and Denmark conducted the investigations. These included tagging 728 salmon, and collection of materials for blood tests, scale analysis, and parasite studies.

It appears now that Canadian streams contribute most to the Greenland stocks, although England, Ireland, and Scotland also contribute significantly.

The summary states that the large annual fluctuations in size of salmon stocks necessitate long-term studies. Only then could it be shown conclusively whether declines in salmon stocks elsewhere are caused by the fishery off Greenland. (Regional Fisheries Attaché, U. S. Embassy, Copenhagen, Aug. 30, 1967.)



SEALS AND SEA LIONS SEE PREY IN DARK WATERS

Seals and sea lions, which feed at night, are able to capture some of their meals because their prey glow in the dark or because their victims are lighted up by nearby organisms (plankton that glow when disturbed), according to a professor at the University of California.

The eyes of the seals and sea lions are sensitive to very low light intensities and are suited for use at night and in deep water. Since their hearing is also well developed, and those sea animals are quite vocal, it has been suggested that certain sea lions are able to capture prey in darkness by using an echo-ranging sense. Subsequent work, however, has not supported this theory. (Reprinted, with permission from Science News, weekly summary of current science, c 1966 by Science Service, Inc.)



Fisherman in refrigerated hold of tuna vessel prepares to unload catch at Yaizu, Japan's major tuna port.
(Photo: Edelsberg)

ASIA

Japan

TRADING FIRMS AGAIN MAY BUY U. S. -CANNED TUNA

Export trade circles in Japan foresee the possibility of firms again buying canned tuna from U. S. packers, as they did a few years ago. Three possible reasons are mentioned: (1) the sharp price increase for canned tuna in 7-oz. 48's (\$1 per case for whitemeat tuna, and 50 cents per case for lightmeat) recently announced by the Japan Canned Tuna Sales Co.; (2) although prices have been raised, production lags, and canned tuna in brine in 7-oz. 48's continue in short supply; and (3) the export quota adjustment system prevents further allocations to certain firms for remainder of business year.

The sharp price increase in the 7-oz. 48's was unavoidable because the packers are paying up to ex-vessel US\$479 a short ton for albacore and \$252 a short ton for skipjack. They were not making a profit on the 7-oz. 48's and so most of them were not packing that size.

U. S. Packers Streamline Operations

In contrast, U. S. packers are reported to have thoroughly streamlined their operations for mass production. This is particularly true for the 7-oz. 48's, the leading seller, which they can offer at a lower price than the Japanese can. Japanese firms would not be able to compete in the U. S. market unless they handle the U. S. product. It would be difficult to export 7-oz. cans to the U. S. in large quantity, so Japan would have to depend solely on the larger size packs.

Costs Must Be Reduced

Trading firms believe Japanese canned tuna can compete with U. S. products if Japanese packers drastically improve management efficiency. They point out that shipping costs in Japan between canneries and ports of shipment are too high compared with those in U. S. Mechanized handling has reduced freight costs between Puerto Rico and U. S. east coast ports near consumer centers to only 35 cents a case. They believe it is time for Japanese packers to thoroughly examine areas where, despite high prices for the raw

material, other costs can be reduced to improve their international competitive position. ("Suisan Tsushin," Oct. 11, 1967.)

* * *

REPORT ON ATLANTIC AND S. PACIFIC TUNA FISHERIES

Only 47 Japanese tuna long-liners were fishing in the Atlantic Ocean in October 1967, compared with over 144 in 1964 during peak periods. The decline is attributed to the transfer in recent years of tuna vessels from the Atlantic to the Indian and South Pacific Oceans because of good prices in Japan for southern bluefin and other tuna.

About 250 long-liners are fishing in the South Pacific off Australia, in the high-latitude region south of 30° S. latitude. The large fleet is said to be frequently causing gear conflict among the fishing vessels. At times this results in vessels cutting up one another's lines. Also, fishing is not good. It averages less than 2 tons per vessel per day due to rough seas year round.

For these reasons, more of those vessels are considering returning to the Atlantic, where operations are more stabilized. Tuna fishing in the Atlantic may increase beyond the present level. ("Suisan Keizai Shimbun," Oct. 26, 1967.)

* * *

TUNA PRICE STABILIZATION PROGRAM TO CONTINUE IN 1968

The Japan Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN) has reported on progress of the albacore price stabilization program carried out in 1967. In summer 1967, the organization purchased about 181 metric tons of albacore at an average price of US\$403 a short ton. It had them packed into about 10,150 cases of canned tuna in oil for sale domestically. Sales were reported fairly good. NIKKATSUREN plans to continue this program in 1968.

Government Helps

To assist NIKKATSUREN's domestic promotion of canned tuna in oil, the government

Japan (Contd.):

provides a promotional subsidy of 33 cents a case. However, primary financing comes from assessing vessel owners \$2.02 a short ton for frozen tuna and \$1.75 a short ton for iced fish landed in Japan. Since the program began in 1965, \$111,111 has been collected, although not all vessel owners have paid their assessments. ("Suisancho Nippo," Oct. 18, 1967.)

* * *

ALBACORE TUNA FISHERMEN
SEEK TAX BENEFITS

The Japan Fisheries Society is seeking revision of the tax system in 1968 to exempt assessments on tuna fishery operators to finance their albacore price stabilization program begun in 1967. This program adjusts albacore supply by storing some landings in cold storage during the summer pole-and-line fishing season when oversupply often occurs and depresses market price.

The Society proposes that the levy be treated as a tax-deductible expense since its purpose is to compensate fishermen for financial losses they may incur when prices fall. It points out that albacore price depression disrupts the domestic and U. S. albacore market--and also affects adversely the export market for other tunas. ("Katsuo-maguro Tsushin," Oct. 16, 1967.)

* * *

FROZEN TUNA EXPORTS
TO U. S. PICK UP

Japanese frozen albacore exports to the U.S., sluggish for many months because fishing off U. S. west coast was good, are rising gradually as U. S. albacore landings decline. Prices of frozen round albacore for direct export to the U. S., which long had held at around US\$450-460 per short ton f.o.b., began advancing somewhat in early October. An offer at \$475 per ton f.o.b. (free on board) was reported received by one trading firm.

In the Atlantic, an albacore shipment to the U. S. in early October was contracted at \$450 a short ton f.a.s. (free alongside ship) Sao Vicente, Cape Verde Islands. Atlantic-caught Japanese yellowfin (gilled & gutted)

exports to Europe are currently bringing \$475-500 a metric ton c.i.f. (cost, insurance, freight). ("Suisancho Nippo," Oct. 12, 1967.)

* * *

FROZEN TUNA EXPORTS DECLINE
SHARPLY IN APRIL-SEPTEMBER 1967

Japanese fresh and frozen tuna validated for export in September 1967 totaled 10,220 metric tons, down 5,248 tons from the 15,468 tons exported in September 1966. Exports from April through September 1967 were 59,733 tons, a decrease of almost 32,000 tons, or 35 percent, from the 1966 period.

Fresh and Frozen Tuna Export Validations, September 1967 and Exports for April-September 1966 and 1967

	Country of Destination			
	U. S.	Overseas Base	Other Countries	Total
	.. (Short Tons ^{2/}) (Metric Tons) ..	
Tuna:				
Albacore ^{1/} . . .	1,859	3,017	-	4,424
Yellowfin ^{2/} . . .	2,816	512	1,341	4,360
Big-eyed ^{2/} . . .	67	332	290	652
Skipjack ^{1/} . . .	39	-	610	645
Loins	153	-	-	139
Total	4,934	3,861	2,241	10,220
Apr.-Sept. 1967 .	36,903	7,055	19,854	59,733
Apr.-Sept. 1966 .	57,486	11,924	28,486	91,455

1/Round fish.

2/Gilled and gutted, dressed and filleted.

3/To convert short ton to metric ton, multiply by 0.9072.

The sharp decline in exports was due to reduction of the Atlantic tuna fleet in 1967, tuna price increase on the domestic market, and increase in tuna exports by other countries. ("Suisancho Nippo," Oct. 26, 1967.)

* * *

PRICES OF FRESH TUNA

The Japanese Ministry of Agriculture and Forestry recently released data on prices of fishery products marketed in major cities

Fish Product	City	Prefecture Landed	Average Price		
			Wholesale	Broker	Retail
			(Round, US\$/Short Ton)		Sashimi, US\$/Lb.
Tuna:					
Bluefin	Sapporo	Shizuoka	948	983	1.55
Big-eyed "	Sendai	Kanagawa	693	2,268	1.64
" "	Tokyo	Tokyo	922	1,153	1.97
Yellowfin	"	"	580	600	1.26
" "	Yokohama	Shizuoka	653	1/	1.51
" "	Osaka	"	693	743	1.42
Blue marlin	Nagoya	Kanagawa	859	950	1.26

1/Not available.

Japan (Contd.):

during mid-September 1967. The table shows selected market prices for fresh tuna and blue marlin from wholesale level down to fresh fish markets, where they are sold as "sashimi" (sliced fish served raw). ("Katsuo-maguro Tsushin," Oct. 23, 1967.)

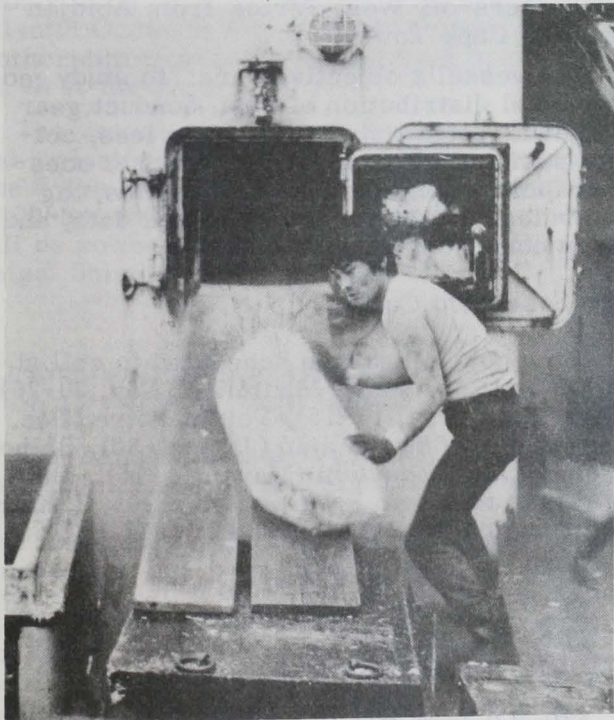
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TUNA LANDINGS AT YAIZU DECLINE

September 1967 landings at the major tuna port of Yaizu, Japan, totaled 8,699 metric tons worth 1,569.8 million yen (US\$4.36 million). Compared with September 1966, landings were down 3,653 tons, due primarily to

Product	Quantity			Average Exvessel Prices		
	1967		1966	1967		
	Sept.	Aug.	Sept.	Sept.	Aug.	Sept.
	. . . (Metric Tons) (US\$/Short Tons) . . .		
Tuna:						
Bluefin ^{1/} . .	3,674	3,787	3,750	720	625	553
Albacore . .	691	670	566	464	461	436
Skipjack . .	2,534	2,810	6,410	275	247	174
Mackerel . .	989	451	917	83	108	93
Others	811	808	699	-	-	-
Total . .	8,699	8,526	12,342	-	-	-

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



Unloading tuna at Yaizu.

(Photos: Edelsberg)

Japan (Contd.):

poor skipjack fishing off the Marianas. However, value was up because of \$267,000 in higher prices received for the landings. ("Kanzume Nippo," Oct. 7, 1967.)

* * *

1967 BERING SEA BOTTOMFISH
CATCH SETS RECORD

The 1967 bottomfish operations in the Bering Sea by the 14 Japanese mothership fleets ended October 26. The fleets caught a record 766,000 metric tons of bottomfish, according to the Japan Northern Waters Bottomfish Mothership Association.

	Quantity	
	1967	1966
 (Metric Tons)	
Alaska pollock	562,000	264,000
Flatfish	73,000	56,000
Pacific ocean perch	33,000	39,000
Cod	32,000	18,000
Herring	31,000	25,000
Oil flounder	22,000	12,000
Sablefish	7,000	5,000
Shrimp	3,000	3,000
Others	3,000	4,000
Total	766,000	426,000

The 1967 production almost doubled the 1966 catch of 446,000 tons. It is noteworthy that 75 percent of the 1967 catch consisted of Alaska pollock, basic fish for meal and minced meat. ("Suisan Tsushin," Oct. 31, 1967.)

* * *

WEATHER CURTAILS
HAKE FISHING IN PACIFIC

The Japanese mothership "Koyo Maru" (3,500 gross tons) and 3 accompanying trawlers, which began fishing for hake in the Pacific northwest in mid-September 1967, ended operations on October 25 due to rough weather. The fleet was scheduled originally to fish until around November 10, but frequent bad weather resulted in poor fishing and forced the early withdrawal.

The second Japanese hake fleet--the mothership "Kashima Maru" (7,163 gross tons) and 8 trawlers--began operations off Washington on October 19. It too was reported

encountering rough weather. ("Shin Suisan Shimbu Sokuho," Oct. 28, 1967.)

* * *

TRAWLERS OFF NEW ZEALAND

The Japanese stern trawler "Asama Maru" (1,090 gross tons) departed October 24, 1967, for the trawl fishing grounds off New Zealand and eastern Australia. It will fish primarily for the relatively abundant sea bream and Spanish mackerel.

At present, two large stern trawlers "Amagi Maru," 2,500 gross tons, and "Taiyo Maru," 1,497 gross tons, are fishing for those species off the northwestern and southeastern coasts of New Zealand. ("Minato Shimbu," Oct. 28, 1967.)

* * *

RESEARCH VESSEL TO SURVEY
EASTERN ATLANTIC

The Japanese Fisheries Agency's research vessel "Shoyo Maru" (602 gross tons) departed October 21, 1967, on a 5-month research expedition to the eastern Atlantic Ocean. The Shoyo Maru is scheduled to survey waters off West Africa from Abidjan south to Cape Town.

The vessel's objectives are: to study geographical distribution of tuna, conduct gear tests with latest labor-saving devices, collect samples of juvenile fish, conduct oceanographic and meteorological studies, tag and release fish, collect biological data, and study conditions at ports of call.

Her Scheduled Calls

The Shoyo Maru was scheduled to call at Colombo (Nov. 9-13), Mauritius (Nov. 20-26), Cape Town (Dec. 11-15), Pointe Noire (Dec. 31-Jan. 6, 1968), Abidjan (Jan. 24-30), Balboa (Feb. 17-21), Honolulu (March 11-15). Date of return to Tokyo is March 31, 1968. ("Katsuo-maguro Tsushin," Oct. 23, 1967.)

* * *

STERN TRAWLERS ARE
UNDER CONSTRUCTION

Nihon Suisan, the second largest fishing firm in Japan, is having two 4,000-gross-ton

Japan (Contd.):

stern trawlers built ("Niitaka Maru" and "Fuji Maru") for about US\$2.78 million each. Scheduled to be completed in January 1968, they will be assigned to the Bering Sea bottom fishery. The firm also decided recently to build two more similar-sized trawlers in 1968.

In addition, the firm was having its 3,800-ton refrigerated carrier "Kazushima Maru" remodeled for about \$3 million. The modification involved extending the length 10.5 meters (34.4 feet) and increasing the freezer and refrigerated storage capacities. Completion was scheduled for early November 1967, and the carrier was to participate in the 1967/68 Antarctic whaling expedition. ("Suisan Tsushin," Oct. 30, 1967.)

* * *

ONE-BOAT SEINER TO FISH OFF WEST AFRICA

The 500-gross-ton purse seiner "Hakuryu Maru No. 55," under construction at the Usuki Shipyard, is scheduled to be delivered shortly to its owners, Kawajiri Fishing Co. Upon completion, the largest one-boat purse seiner to be built in Japan will be sent to the Atlantic Ocean to join Nichiro Fishing Co.'s mothership-type purse-seine fleet operating off West Africa.

The vessel will carry 1 nonpowered boat and 3 plastic craft of 2-5 displacement tons. The 5-ton plastic boat will be equipped with a 100-hp. diesel engine, and the 2-ton craft will be powered with 25-hp. engines. ("Suisan Keizai Shimbun," Oct. 18, 1967.)

* * *

TO INCREASE FACTORYSHIP MINCED-MEAT PRODUCTION

The 3 major Japanese fishing firms, Taiyo, Nihon Suisan, and Hokuyo Suisan, are planning to increase their factoryship minced fish meat production from 34,000 metric tons planned for 1967 to 50,000 in 1968. In the latter part of 1967, they were producing fish meal and minced fish meat in the Bering Sea and North Pacific Ocean. The depressed fish meal market since 1966 has driven down the factoryship meal price by about US\$36, to \$176 a metric ton, so factoryship operators are placing greater production emphasis on

the more profitable minced fish. Its price has risen since last year by \$56 to a price of \$389 a ton.

Growing Use of Minced Fish

A few years ago, minced fish began to be substituted as an ingredient in fish sausage and "kamaboko" (fish cake) to compensate for the shortage of other raw material, such as whale meat and East China Sea-caught croaker and sharp-toothed eels. Minced fish is becoming an increasingly valuable product for the processing industry.

In the Bering Sea operations, this product is produced primarily from Alaska pollock. But it has been found that the hake off the U. S. Pacific Northwest is a more suitable fish because of its white meat and better texture. However, greater distance to the grounds and consequent higher production costs so far have prevented profitable operations in the hake fishery. If the problem of economics can be solved, the Japanese firms consider it possible to develop a full-scale hake fishery in the eastern Pacific.

It is reported that 100 tons of raw fish yield about 25 tons of minced meat, compared with a yield of 16 tons of fish meal. ("Suisan Keizai Shimbun, Sept. 27.)

* * *

NEW CANNED SALMON EXPORT PRICES EFFECTIVE THROUGH SEPTEMBER 1968

The Japan Canned Salmon and Crab Sales Company announced on October 9, 1967, the new 1967 export prices for fancy-grade, canned red and silver salmon. [These prices

Can & Case Size	Condition of Fish Canned	Export Price by Area of Destination		
		Area		
		B ^{1/}	C ^{2/}	D ^{3/}
. (US\$)				
Red salmon:				
1/2-lb. 48's	Fresh	20.69	-	-
1/2-lb. 48's	Frozen	20.34	19.25	19.72
1/4-lb. 48's	Fresh	13.34	-	-
1/4-lb. 48's	Frozen	-	12.30	12.57
Silver salmon:				
1/2-lb. 48's	Fresh	17.83	-	-
1/2-lb. 48's	Frozen	17.83	16.80	17.31
1/4-lb. 48's	Fresh	10.28	-	-
1/United Kingdom. Price is c.i.f. plus broker's commission.				
2/Europe and Africa. Price is f.o.b. Japan.				
3/Australia and New Zealand. Price is c. & f.				

Japan (Contd.):

will be effective through September 1968, unless shortages force them up.--Ed.] New prices for the standard grade packs have not yet been set. ("Suisan Tsushin," Oct. 12, 1967.)

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CANNED JACK MACKEREL EXPORTS
ROSE JANUARY-AUGUST 1967

Japanese canned jack mackerel exports during January-August 1967 totaled about 2.82 million cases on a customs-clearance basis. This was an increase of 900,000 cases over the same period in 1966 and close to 2 million cases above 1965 exports. About two-thirds of the 1967 exports, or 554,881 cases, went to the Philippines, almost equaling total sales to that country in 1966.

Principal Areas of Destination	Type of Pack		
	Natural ^{1/}	Others ^{2/}	Total
 (No. of Cases)		
Philippines	554,881	1,281,681	1,836,562
United States	116,754	10,083	126,837
Pacific Islands	57,563	36,141	93,704
New Guinea	43,200	12,977	56,177
Okinawa	31,515	14,997	46,512
West Africa	3,566	47,778	51,344
Malaysia	369	157,731	158,100
Singapore	-	150,784	150,784
Others	96,525	208,719	305,244
Total	904,373	1,920,891	2,825,264
Jan.-Aug. 1966	744,695	1,199,970	1,944,665
Jan.-Aug. 1965	465,531	534,493	996,024
^{1/} Converted to 1-lb. tall 48's.			
^{2/} Converted to 1/2-lb. 48's.			

Exports to the U. S. through August 1967 of 126,837 cases exceeded by far the 40,000 cases shipped during the same period in 1966; however, total exports in 1967 were considered unlikely to attain the 470,000 cases sold to the U. S. last year. ("Suisan Tsushin," Oct. 26, 1967.)

* * *

HERRING ROE PRODUCTION UP,
PRICE DOWN

Kazunoko (herring roe), called yellow diamonds last year because its price was very high, is cheaper this year. The wholesale price at the Central Market in Tokyo is about US\$2.50 a pound, or half last year's price.

Around New Year's Day, when the delicacy is in great demand, the price might rise--but not to more than US\$2.75 a pound.

Increased Hauls Depress Price

The reason behind the drop in price is increased hauls of herring off Hokkaido, Japan's northernmost main island. According to the Federation of Fishery Associations in Hokkaido, the harvest off Atsukeshi coast, where fine herring roe is obtained, has so far been 20,000 metric tons--four times last year's haul.

The harvest of herring also has been good in Okhotsk waters. ("The Japan Times," Oct. 31, 1967.)



ABALONE AND THEIR KIN

The marine snails of the genus *Haliotis*, known as "abalones" or "sea ears," are chiefly Indo-Pacific in distribution. Many species inhabit the tropical and temperate parts of the Indian and Pacific Oceans, but the largest are found along the west coast of the Americas. Abalones are also found in both Atlantic and Mediterranean waters. *Haliotis pourtalesii* is a rare, deep-water species that lives off the Florida Keys; its shell is only about 1-inch long. The most common species in the eastern Atlantic is *Haliotis tuberculata*, which ranges from the Channel Islands to the Canaries and throughout the Mediterranean. Special varieties of *tuberculata*, sometimes treated as species, also occur in the Mediterranean. They do not regularly appear in the markets, perhaps because they are not sufficiently abundant to be commercially exploited. ("Sea Secrets")

SOUTH PACIFIC

Caroline Islands

GOOD SKIPJACK FISHING DISCOVERED

A good skipjack fishing ground has been discovered off the Caroline Islands in the equatorial Pacific by the Japanese research vessel "Tokai Daigaku Maru" (190 gross tons). The vessel is assigned to Tokai University's Oceanographic Research Institute.

During the vessel's exploratory operations in the central and south Pacific in 1966-67, sizable skipjack concentrations were found off Palau Island from December to April, the slow season for Japanese pole-and-line skipjack fishery in Bonin and Mariana Islands north of the Carolines. Development of the newly found fishing ground in the Carolines could provide year-round fishing for the Japanese South Seas bait-boat operators.

The skipjack in the Caroline area are reported to be large. They average 5-7 kilograms (11-15 pounds), or about twice size of those taken off Japan, but have less fat. Therefore, they are not suitable for the fresh market but could be used for canning. ("Minato Shimbun," Oct. 17, 1967.)



American Samoa

NEW PRICING FORMULA FOR TUNA

Japanese tuna suppliers to American Samoa have agreed on a new price-setting formula for tuna deliveries and have presented it to the U. S. packers. The proposal bases Samoa prices on export prices of frozen tuna delivered to Puerto Rico. For several years, they had been based on those for direct shipment from Japan to the U. S.

The reason for proposing the change is that Japanese firms negotiating monthly delivery prices with U. S. packers in Samoa recently have been encountering problems due to depressed prices for direct exports from Japan.

The New Formula

Under the new formula, the average albacore c.i.f. (cost, insurance, and freight) prices contracted with Puerto Rico packers during the recent 30-day period will be used as a base. Then the following adjustments will be made in setting frozen tuna delivery prices for Samoa (per short ton): deduct \$100 for albacore (40 pounders), an additional \$50 for yellowfin, and another \$110 for big-eyed.

Even if the Puerto Rico albacore prices fluctuate later more than \$20 per ton, the upward or downward price change for the new price in Samoa will not be over \$20 a ton. Prices for iced fish are to be \$15 a ton less than those for ship-frozen catches. ("Suisan Tsushin," Oct. 23 & 24, 1967.)



YOUNG & OLD ALIKE...

...BENEFIT FROM FISH

AFRICA

Cameroon

EXTENDS TERRITORIAL WATERS TO 18 MILES

The Federal National Assembly voted on October 21, 1967, to extend Cameroon's territorial waters to 18 nautical miles from the present 6-mile limit. This modification of the Merchant Marine Code will not go into effect until the President promulgates the law. Behind the move is a desire "to safeguard the economic interests of the Federal Republic in the fields of fishing and undersea resources, notably oil, and to best assure the defense of the territorial waters."

Concern About Ore Deposits

The pending change is being taken to insure the country's claims to any oil deposits discovered in waters off West Cameroon, and between there and the Spanish island of Fernando Poo. (U. S. Embassy, Yaounde, Oct. 26, 1967.)



Ivory Coast

EXTENDS TERRITORIAL WATERS AND FISHING ZONE

On August 1, 1967, the Government of the Ivory Coast (GOIC) issued Decree No. 67-334 extending territorial waters to 6 miles from the point of ebb tide. The decree also established a fishing zone another 6 miles in width from the seaward limit of the claimed territorial sea. Within this, GOIC reserves the right to control fishing.

GOIC further reserves for itself all rights concerning the exploitation of the Continental Shelf's subsoil, defined as the zone measured from ebb tide to the 200-meter isobath. (Regional Fishery Attaché, U. S. Embassy, Abidjan, Sept. 29.)



Equatorial Guinea

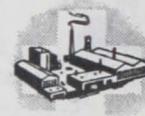
NEW COLD-STORAGE PLANT BUILT

A fish cold-storage plant built near Santa Isabel, Fernando Poo, by Afripesca, S. A., was inaugurated in June 1967. The plant is equipped to freeze fish at -40° F. and to hold it at -4° F. It covers 4,000 square meters of land, has 1,400 cubic meters of storage space, and can freeze 10 metric tons a day.

This plant, and one being opened at Bata, Rio Muni, by the same firm, gives Equatorial Guinea a much greater freezing capacity than neighboring Gabon and the same as Cameroon.

Chain of Refrigerated Facilities

Present at the ceremony was the President of Afripesca, who is also vice president of the parent firm Pescanova (based in Spain). He is associated with FAO. He stressed that the frozen fish would be distributed through a chain of refrigeration facilities throughout Fernando Poo and Rio Muni. This would help the inhabitants overcome the lack of protein in their diet. (U. S. Embassy, Yaounde, Oct. 25, 1967.)



South-West Africa

PILCHARD QUOTAS RAISED

At the end of July 1967, the South-West Africa Administration granted 5 of the 8 pilchard processing factories at Walvis Bay an additional quota of 9,600 short tons of pilchards each for the current season. The Acting Administrator of South-West Africa said that 3 factories did not get the extra quota because they were connected with the South African-registered factoryships off the South-West African coast.

This decision accorded with his "get tough" policy towards the companies sponsoring the two factoryships. He maintained they were exploiting an asset that belonged rightfully to South-West Africa--and should pay taxes to the Territory. The factoryships also are free

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from the quota control imposed on the land-based factories at Walvis Bay. He considered the vessels a threat to the Territory's fishing resource.

Special Tax on Extra Quota

The extra quota is subject to a special US\$7 levy a ton, which will be used to intensify research into the pilchard resource. The Commission of Inquiry into the Fishing Industry of South-West Africa had recommended that each of the 8 factories be granted immediately an additional 6,000 tons in its quota and that a special levy for research costs be imposed.

The fishing factories have been instructed to pay the full \$7 per ton themselves, and that it may not be deducted proportionately from the boat owners and fishermen.

Pilchard Fishing Variable

Pilchard fishing off Walvis Bay was variable throughout July and August 1967, following abnormal weather conditions. The absence of a strong southwest wind throughout the greater part of the year and the late easterly winds were believed to have slowed the Benguela Current considerably. This caused warmer water to move in from the north.

As a result, the pilchards moved north and were more widespread than usual. Therefore, the fish brought to the factories were not always suitable for canning and could be used only for fish meal. Part of the canning program still had to be completed, so the factories at Walvis Bay did not work at full capacity.

Most factories were expected to complete their quotas of either 90,000 or 99,600 tons by mid-September or early October 1967.

During August 1967, the oil yield from pilchards averaged between 11 and 15 gallons per ton of fish. ("The South African Shipping News and Fishing Industry Review," Sept. 1967.)



South Africa

SHOAL FISH CATCH CONTINUES UP

The Cape west coast shoal fish catch in the first 7 months of 1967 was 78,474 short tons pilchards, 8,941 tons maasbanker, 153,008 tons mackerel, 215,790 tons anchovy, and 13,973 tons red-eye herring. The total catch was 470,186 tons.

In the same period of 1966, the total catch was 338,898 tons: 120,020 tons pilchards, 22,432 tons maasbanker, 61,285 tons mackerel, 130,181 tons anchovy, and 4,980 tons of red-eye herring.

In 1965, the catch was 441,097 tons: 222,920 tons pilchards, 44,753 tons maasbanker, 43,967 tons mackerel, and 129,457 tons of anchovy. ("The South African Shipping News and Fishing Industry Review," Sept. 1967.)



South and South-West Africa

1967 SHOAL CATCH WILL BREAK RECORD

The 1967 shoal catch of the South and South-West Africa fishing industry will set a record well over 1½ million short tons. Much of this bumper harvest has gone towards the nation's vital export drive. The harvest was landed mainly by the shoal fishery, where several factors helped set a new high.

First, chronologically, was the fantastic shoal of mackerel that came close inshore in March. By month's end, when the mackerel swung out to sea, 111,000 tons of raw fish had been processed into fish meal, oil, and canned products.

As the mackerel faded during April, west coast shoal fishing continued at average tempo until the anchovy volume swelled to 50,000 tons in May, 56,000 tons in July, and 55,000 tons in August. These held catch totals firm despite thin pilchard fishing. Pilchard accounted for only 80,000 tons in first eight months.

World's 2 Biggest Flotillas

The shore-based west coast catch reached 527,000 tons by the end of August. Although

South and South-West Africa (Contd.):

no final figures are yet available, it is clear that in 1967 the world's two biggest flotillas will add at least 170,000 tons to the shoal catch. It was only in July 1967 that the "Suiderkruis" joined the "Willem Barendsz" off South-West Africa. In 1968, their joint catch should be considerably higher, possibly above 250,000 tons.

An estimated 50,000 tons for the west coast in September brings land-and-sea-based South African pelagic catch to an estimated 750,000 tons in 1967. In South-West Africa, 5 of the 8 pilchard factories were allocated an extra 9,600 tons of raw fish each in midseason. There landings reached a record 768,000 tons by the end of September. Thus, the South and South-West African total will exceed $1\frac{1}{2}$ million tons of shoal fish alone.

White Fish Industry Improves

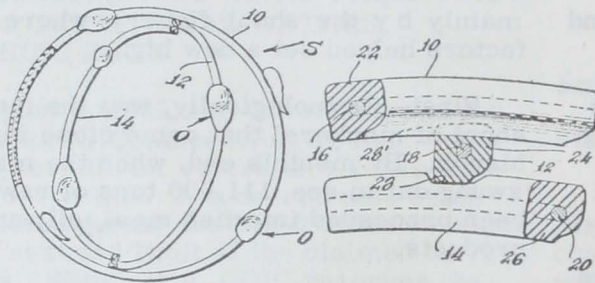
The white fish industry in South-West Africa still is in its fledgling stage. But recent developments in Walvis Bay should boost catch well above 1,000-ton-a-year mark to which it had declined in the past few years. Licensees now are being encouraged to put their projects on a sound economic footing. This should stabilize and expand future production from the only land factories to exploit the grounds at close range.

In South Africa, the trawl catch fell from a peak of 140,000 tons in 1960 to 115,000 tons in 1965. The impact of new vessels has given new impetus. In 1967, the catch again could pass the 130,000-ton mark. With the shellfish and line landings, the total could easily exceed 1.7 million tons. ("The South African Shipping News and Fishing Industry Review," Oct. 1967.)



OYSTERS GROW ON TIRE RIMS

World oyster population has been taking a beating in the last decade or two, while the population of old tires has boomed.



Combining these two facts, an invention uses the rubber-encased metal rim or bead of used tires to support young oysters until they grow to table size.

Oyster spat need a hard surface to set and grow on; if they set on mud or sand they die. Oyster beds have been prepared by strewing them with clam and oyster shells, but this surface isn't best for growing.

By meshing several tire hoops together, a spherical lattice is formed to keep the spat above the bottom.

Tire beads have a number of advantages as oyster supports, according to inventor Gerald Golub: (1) they are otherwise discarded in tire de-beading operations; (2) they resist corrosion, being rubber-covered metal; (3) they work well, keeping the spat off the bottom; (4) they are easy to stack in boats carrying them to oyster beds and easily picked up in harvesting; (5) underdeveloped oysters can later be returned to the water to grow to full size. (Reprinted, with permission from "Science News," weekly summary of current science, copyright 1966, by Science Service, Inc.).