rnational

EAL

DUCTION AND EXPORTS FOR
ECTED COUNTRIES,
UARY-MARCH 1963-1964:

mber countries of the Fish Meal Exporters' Organiza-
FEO) account for about 90 percent of world exports of
eal. The FEO countries are Chile, Angola, Iceland,
y, Peru, and South Africa/South-West Africa. Produc-
nd exports of fish meal by FEO countries during Janu-
arch 1964 were up substantially from that same peri-
the previous year.

ble 1 - Exports of Fish Meal by Member Countries of the FEO, January-March 1963-1964

try	February		March		Jan.-Mar.	
	1964	1963	1964	1963	1964	1963
	(1,000 Metric Tons)					
	13.9	1/	17.2	1/	42.9	1/
a	2/	2.8	2/	1.8	2/	7.4
d	8.5	7.3	11.7	5.7	31.7	22.1
y	13.5	5.5	13.0	8.9	53.7	22.6
	100.7	104.1	186.1	103.9	388.7	355.3
rica (inc. Africa)	11.2	8.9	20.0	12.8	44.6	28.5
tal	147.8	128.6	248.0	133.1	561.6	435.9

le 2 - Production of Fish Meal by Member Countries of the FEO, January-March 1963-1964

ry	February		March		Jan.-Mar.	
	1964	1963	1964	1963	1964	1963
	(1,000 Metric Tons)					
	21.3	1/	4.3	1/	47.4	1/
a	2/	2.9	2/	1.6	2/	7.2
	6.5	6.6	8.8	5.4	21.0	21.5
	6.4	3.0	28.2	3.7	43.2	10.4
	125.2	45.8	175.2	122.0	495.9	313.5
ica (inc. Africa)	16.4	15.9	33.4	21.3	63.8	47.0
al	175.8	74.2	249.9	154.0	671.3	399.6

ot available. Chile became a member of FEO at the end of 1963.
ot reported.

ring the first quarter of 1964, Peru accounted for 69.2 t of total fish-meal exports reported by FEO coun- followed by Norway with 9.6 percent, South Africa with rcent, Chile with 7.6 percent, and Iceland with 5.7 per- (Regional Fisheries Attache for Europe, United States sy, Copenhagen, June 3, 1964.)

* * * * *

WORLD PRODUCTION:

March 1964: World fish meal production in March 1964 was substantially above that in the same month of the previous year, according to preliminary data from the International Association of Fish Meal Manufacturers. Compared with the previous month, production in March 1964 was up 38.8 percent due mainly to heavier output in Peru, Norway, and South Africa.

World Fish Meal Production by Countries, January-March 1963-1964

Country	March		Jan.-Mar.	
	1964	1963	1964	1963
	(Metric Tons)			
Canada	4,227	4,848	11,000	25,613
Denmark	3,810	5,499	15,017	18,611
France	1,100	1,100	3,300	3,300
German Federal Rep.	6,388	8,110	19,535	19,872
Netherlands	1/	100	1/	900
Spain	1/	3,400	1/	7,016
Sweden	527	324	2,012	1,207
United Kingdom	6,438	7,080	21,128	20,003
United States	2,723	2,420	6,053	7,075
Angola	1/	1,648	2/5,566	7,553
Iceland	8,771	5,441	21,028	21,470
Norway	28,221	3,664	43,238	10,370
Peru	175,170	122,030	495,937	313,537
So. Afr. (incl. S.W. Afr.)	34,188	21,459	65,437	48,089
Belgium	375	375	1,125	1,125
Chile	4,291	1/	47,409	1/
Morocco	1/	1/	1/	1/
Total	276,229	187,498	757,785	505,741

1/Data not available.
2/Data available only for January 1964.
Note: Japan does not report fish meal production to the International Association of Fish Meal Manufacturers at present.

World fish meal production in the first 3 months of 1964 was considerably above that in the same period of 1963. The increase was due largely to expanded production in Peru which accounted for about 65 percent of world output during January-March 1964. There was also a noticeable increase in Norwegian and South African production in January-March 1964. The gain was offset partly by a sharp drop in Canadian output.

Most of the principal countries producing fish meal submit data to the Association monthly (see table).

* * * * *

February 1964: World fish meal production in February 1964 was substantially above that in the same month of the previous year, according to preliminary data from the International Association of Fish Meal Manufacturers. Compared with the previous month, production in February 1964 was down 29 percent due mainly to lower output in Peru.

International (Contd.):

World Fish Meal Production by Countries, January-February 1963-1964

Country	February		Jan.-Feb.	
	1964	1963	1964	1963
	(Metric Tons)			
Canada	3,368	13,249	6,773	20,765
Denmark	2,408	6,994	11,207	13,112
France	1,100	1,100	2,200	2,200
German Federal Rep.	6,390	5,787	13,147	11,762
Netherlands	1/	500	1/	800
Spain	1/	1,531	1/	3,616
Sweden	415	439	1,485	883
United Kingdom	6,954	6,480	14,690	12,923
United States	1,663	2,583	3,330	4,655
Angola	1/	2,949	2/5,566	5,905
Iceland	6,521	6,553	12,257	16,029
Norway	6,410	3,047	15,017	6,706
Peru	125,216	45,848	320,767	191,507
So. Afr. (incl. S.W. Afr.)	16,947	16,108	31,249	26,630
Belgium	375	375	750	750
Chile	21,270	1/	43,118	1/
Morocco	1/	1/	1/	1/
Total	199,037	113,543	481,556	318,243

1/Data not available.
2/Data available only for January 1964.
Note: Japan does not report fish meal production to the International Association of Fish Meal Manufacturers at present.

World fish meal production in the first two months of 1964 was considerably above that in the same period of 1963. The increase was due largely to expanded production in Peru which accounted for about 66 percent of world output during January-February 1964. There was also a noticeable increase in Norwegian and South African production in January-February 1964. The gain was offset partly by lower output in Canada, Denmark, the United States, and Iceland.

Most of the principal countries producing fish meal submit data to the Association monthly (see table).

* * * * *

SUPPLY INDICATORS FOR PRINCIPAL EXPORTING AND IMPORTING COUNTRIES, 1963:

The Fish Meal Exporters Organization (FEO) has estimated world fish meal production in 1963 at 2,800,000 metric tons (excluding production data for Communist China and the Soviet Union which are unavailable). A large part of world production enters into foreign trade. The United States and the countries of Western Europe are the leading buy

Fish Meal Supply Indicators for Principal Exporting and Importing Countries, 1963

Principal Exporting Countries	Production	Exports	Domestic Consumption
	(Metric Tons)		
Peru	1,159,200	2/1,169,700	38,20
South Africa Republic	238,000	198,800	26,40
Norway	132,100	104,000	28,40
Chile	90,400	86,800	13,00
Iceland	87,190	99,000	4,10
Angola	31,400	30,000	60
Denmark	2/86,900	46,900	35,00
Canada	77,400	56,900	3/
Morocco	2/21,000	19,000	2,00
Total	1,923,590	1,811,100	147,70

Principal Importing Countries	Production	Imports	Total Production and Imports
	(Metric Tons)		
United States	219,200	347,200	566,40
Japan	350,000	90,000	440,00
West Germany	74,000	295,300	369,30
United Kingdom	75,100	281,500	356,60
Netherlands	7,000	175,600	182,60
Spain	25,000	81,000	106,00
France	13,000	76,500	89,50
Italy	1,500	61,200	62,70
Belgium	4,000	48,800	52,80
Sweden	6,600	29,900	36,50
Switzerland	-	21,100	21,10
Eastern European countries	3/	160,559	3/
Total	775,400	1,668,659	2,444,05

1/Estimated.
2/Revised.
3/Not available.
Note: There may be small discrepancies between data shown above and previously published fish meal production and foreign trade data for selected countries.
Source: Fish Meal Exporters Organization.

FOOD AND AGRICULTURE ORGANIZATION

INTERNATIONAL SYMPOSIUM ON HOW TO KEEP FISH FRESH:

How to get fish to the consumer in the best possible condition was studied by some 100 scientists from 17 countries during a symposium held in Husum, West Germany, May 25-30, 1964. The Husum meeting, which was sponsored by the Food and Agriculture Organization (FAO), was a "Symposium on the Significance of Fundamental Research in the Utilization of Fish." It surveyed the existing scientific information in that field and drew up a list of priorities for further study. The priorities will be passed on to fisheries research institutions around the world.

The Husum meeting marks the first time that those problems have been the subject

Irnational (Contd.):

aientific meeting on a worldwide basis. .At 45 papers and technical notes were ppented.

he Symposium's work began with a re- vw of the various factors affecting the qual- iLti fish and was divided into four major aas: (1) reducing the high protein losses vwh occur in fish and fishery products be- ttvn the fisherman's boat and the market; (2) rveying the quality tests for both fresh aa rozen fish developed and carried out in vw us countries; (3) improving processing nn ds and developing new ones; and (4) pp ding more fish for human consumption bb e development of new fishery products.

he Symposium was held under the auspic- ee the Government of the Federal Republic oo rmany and the Nutrition Advisory Com- nn e of the West German fisheries industry. ((and Agriculture Organization Press Re- ll e, Rome, May 15, 1964.)

INTERNATIONAL PACIFIC HALIBUT COMMISSION

HIBUT FISHING RRICTIONS PROPOSED:

but fishing in the catch-limit area of the Bering Sea is tee ely scheduled for closure in 1965, and further restric- tii re being considered on North Pacific halibut fishing off th ed States and Canadian coasts.

announcement was made by the International Pacific Hal- ii mmission (IPHC) at the close of a special meeting of the CC ssion at Seattle, Wash., on June 4, 1964. The purpose of th eting was to examine recent developments in the Pacific ha fishery, and particularly those in the Eastern Bering Se re there has been a serious decline in the fishery. The II presents the United States and Canadian Governments in ating halibut fishing in the North Pacific.

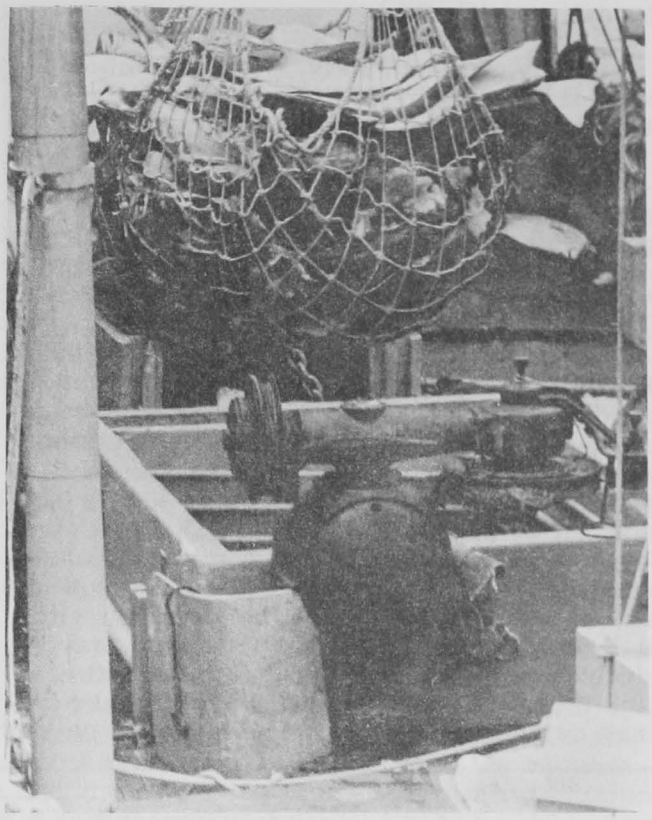
re of the Bering Sea to halibut fishing was predicted aa became apparent that the area there was fished out by th ined fishing fleets of the United States, Canada, and Ja

ued poor halibut fishing in Area 2, extending from W Bay to Cape Spencer in Alaska, was relatively unex- pp nd has caused more concern over the state of the North P halibut fishery.

egard to halibut fishing in the Bering Sea, the Com- m s Chairman, Harold E. Crowther, expressed deep con- cc d said, "Unless there is marked improvement in the ha stocks, it will be necessary to recommend closure of th ng catch-limit area in 1965.

Commission intends to keep the fishery in this area un- de ful review, and if conditions continue to deteriorate, no mediate action may be required.

iew of conditions prevailing in other sections of the Pa- ci ast, particularly in Area 2, close surveillance of the fi will be maintained in the event further restrictions in th reas are required." In 1963, the combined fleets of the th ations failed to land the expanded limit. This year the ha quota in the area in the Bering Sea designated as



Fresh halibut being unloaded with a cargo net from the hold of an halibut fishing vessel at Seattle, Wash.

Area 3B North Triangle was cut sharply, but fishermen found almost no halibut on those grounds.

In Area 2, the situation appears to be less desperate. Only the traditional United States and Canadian fleets have been allowed to fish in that area. However, fishermen failed to catch the full quota of 28 million pounds in Area 2 last year. This year, with the quota cut down to 25 million pounds, fishermen have continued to make a disappointing showing in that area which in the past has produced almost half the halibut harvest of the North Pacific.

At the June 4 special meeting, the Halibut Commission conferred with representatives of the fishermen, fishing vessel owners, and brokers and processors from Washington, British Columbia, and Alaska.

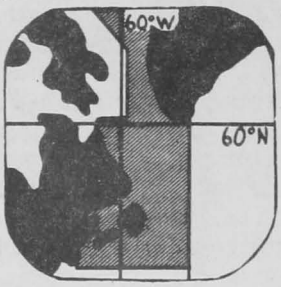
INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

14TH ANNUAL MEETING HELD AT HAMBURG:

The 14th Annual Meeting of the International Commission for the Northwest Atlantic Fisheries (ICNAF) was held at Hamburg, Germany, June 1-6, 1964. Member Countries attending the Annual Meeting were Canada, Denmark, France, Federal Republic

International (Contd.):

of Germany, Iceland, Italy, Norway, Poland, Portugal, Spain, Soviet Union, United Kingdom, and the United States.

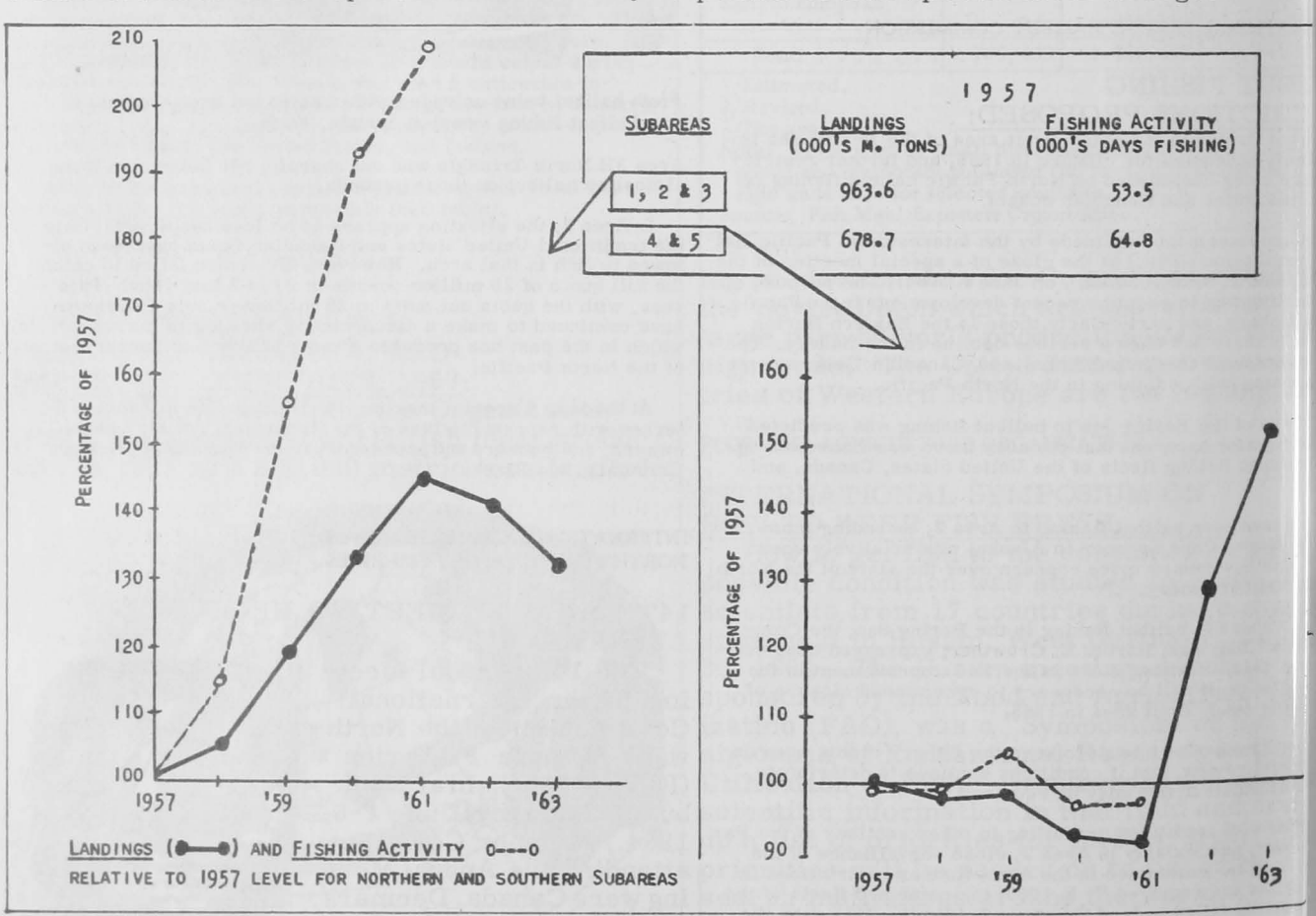


Various preliminary meetings were held starting on May 21. These were meetings of the (1) Ad Hoc Group on Pelagic Fishes; (2) Subcommittee on Fishery Assessment; (3) Standing Committee on Research and Statistics; and (4) Scientific Advisers to Panels on May 30, which was followed by the Annual Meeting on June 1.

At the 1964 Annual Meeting, a report was given on the present status of the fisheries in which it was concluded that the intensity with which many of the major stocks of cod and haddock are now being fished is near that at which they can provide their greatest sustained catches. That report included an analysis of recent trends and changes in the fish activity and catches of fish which show that the increased fishing over the past six year in the Northwest Atlantic has not been match especially in the northern part of the North west Atlantic, by corresponding increases i the amount of fish landed. The report furth showed that mesh-size regulations, while h ing to keep up the total catches, could not o set the expected decrease in the ratio of "c landed" to "fishing effort expended" if fishi continues to increase.

At the meeting, each of the 13 Member Countries reported its 1963 catch of fish fr the Convention Area which extends from Gr land to Rhode Island. The total landings a mounted to some 5.7 billion pounds, about t same as in 1962.

Although the 1963 catches of cod and oc perch declined somewhat, the total from th Convention Area was maintained by the Sov Union's large catch of whiting (silver hake) The U.S.S.R. reported taking 235 million pounds of that species from Georges Bank a



Trends and changes in Northwest Atlantic catches and fishing activity, 1957-63.

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million pounds from the Sable Island area 963.

he total United States landings from the vention Area dropped from 1.1 billion ds in 1962 to 933 million pounds in 1963.

nada traditionally has been the largest cer in the area and still is. Her catch nted to 1.5 billion pounds in 1963 com- with 1.6 billion pounds in 1962.

e U.S.S.R., which started fishing in the ention Area in 1958, rose from third in 1962 to second place in 1963 in terms ntity of fish taken from the Area.

pan, which is not a member of the Com- ion, sent observers to the 14th Annual ing and reported that she now has four ers engaged in experimental fishing op- ons in the area. Other observers pres- ere from the Food and Agriculture Or- ation (FAO), the Fisheries Laboratory, deen, Scotland, and from a private Unit- ates foundation.

reviewing the report of its scientific mittee on research and statistics, the mission noted that the amount of fishing area has increased markedly during ast few years but that the total amount of aken is leveling off. The scientists re- d that it is unlikely that further in- es in fishing effort will result in great- reased returns. For this reason the ission asked its scientific committee e a study of the feasibility of regulating in the area by means other than mesh tions.

Commission already has under regu- the size of meshes used in trawl nets ne species of fish, but no action has aken to regulate the amount of fishing area. The present regulations estab- the minimum size of mesh to be used shing net were drafted for use in the ission years ago when manila was the pal fiber used for making trawl nets. 1964 meeting, the regulations were d and brought up-to date to meet the g and widespread use of synthetic fi- In this matter the Commission took vice of its scientists who had compiled alyzed experimental evidence on the at meshes of different sizes and ma- terials select the different sizes of commercial fish available.

Progress was made in the matter of the international enforcement of Commission regulations. At present each country polices its own fishing fleet, but it has been considered desirable for some years now that some kind of international system be set up to assist in the enforcement of regulations. Although no such system was recommended at this meeting, the Commission encouraged countries to exchange management personnel on an invitation basis during the coming year so that countries could become familiar, first hand, with the kinds of problems faced by management personnel of other countries. Countries were requested to file with the Commission by January 1, 1965, reports on the enforcement systems used by their respective governments.

The increasing number of fishing boats active on both sides of the Atlantic is creating navigational hazards which are accentuated by the fact that the practices of different fleets are not the same. The Commission recommended that all countries accept an invitation to a conference which will likely be held soon to draft an agreement embodying a modern code for the conduct of fishing operations in the North Atlantic.

At the meeting, all Member Countries of ICNAF indicated their intention to take the necessary final step to enable the Commission to include in its functions matters on the conservation of the harp and hood seals.

United States Commissioners at the meeting included Frank P. Briggs, Assistant Secretary of the Interior for Fish and Wildlife, and a delegation of 11 advisers. Secretary Briggs was reelected as Vice Chairman of the Commission for the coming year. Ronald W. Green of Augusta, Me., was elected Chairman of the Committee on Finance and Administration.

The 15th Annual Meeting of ICNAF will be held in Halifax, Nova Scotia, Canada, on June 7, 1965.

Note: See Commercial Fisheries Review, July 1964 p. 42; August 1963 p. 75.

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA

NEW DRAFT CONVENTION TO BE CONSIDERED AT ANNUAL MEETING:

A new draft convention for the International Council for the Exploration of the Sea (ICES)

International (Contd.):

will be considered at a meeting of representatives of Member Governments of that organization on September 7, 1964. The meeting is expected to be convened by Denmark's Foreign Ministry, with expectations that the new Convention would be signed by authorized Government representatives by the time the meeting ended. No non-member observers will be invited to the meeting.

The new Convention would clarify the international status of the ICES and its personnel, and make possible more adequate arrangements for suitable quarters than in Charlottenlund, located north of Copenhagen. Final ratification of the new Convention would be hoped for by that organization's October 1965 annual meeting.

Neither the ICES nor its personnel have had the usual international status of an organization of its type. With the acceptance of the new convention those problems would be corrected. It was conjectured that Denmark might provide new quarters or that the Member Governments of ICES might contribute jointly to a building. (United States Embassy, Copenhagen, April 29, 1964.)

INTERNATIONAL INDIAN OCEAN EXPEDITION

INDIA'S OCEANOGRAPHIC RESEARCH PROGRAM:

A meteorological vessel (NOMAD), which will function as an automatic weather station, was launched in the Bay of Bengal during April 1964. The vessel was made available to India's Meteorological Department by the National Science Foundation to provide meteorological data for the Indian program of the International Indian Ocean Expedition (IIOE).

India proposes to undertake intensive oceanographic investigations on the Continental Shelf and superjacent waters along her coasts including northern parts of the Arabian Sea, northern Indian Ocean and parts of the Bay of Bengal with the help of her four research vessels. Two of the research vessels, the INS Kistna and R.V. Varuna, have already made extensive physical oceanographic observations with special reference to temperature, salinity, and oxygen in those areas.

Other programs envisaged during the IIOE include: (1) direct observational study of the properties of oceans; (2) exploration of areas of potential fisheries; (3) detailed study of t atmospheric circulation of the monsoon region; and (4) studies of the bottom topograp and temperature structure of the ocean. Th various programs of study will help in expl tation of the ocean's productivity, improvement of weather forecasting services, and better understanding of the monsoon cycle.

India's IIOE program of marine biology an fisheries will be mainly directed to explor areas of high productivity and potential fis eries which could be developed and exploit Apart from plankton collections and measu ment of primary productivity, experimenta fishing using different types of gear will al be undertaken. Some of the problems suggested for Indian work are: (1) studies of phyto- and zooplankton and benthos; (2) the distribution of dissolved oxygen and its rela tion to biological productivity of waters; (3) critical studies of the euphotic zone in relation to variations; and (4) special biological physiological and life history studies on selected groups including various oceanic animals and birds. (United States Embassy, N Delhi, May 18, 1964.)

Note: See Commercial Fisheries Review, March 1964 p. 23; J uary 1964 p. 26.

INTERNATIONAL WHALING COMMISSION

16TH ANNUAL MEETING HELD:

The 16th annual meeting of the Internati Whaling Commission was held in Sandefjor Norway, June 15-26, 1964. At the meeting, Commission's Scientific Committee was to cuss implementation of the agreement to s tion international observers in the Antarct during the annual whaling season.

NORTHEAST ATLANTIC FISHERIES COMMISSION

SECOND MEETING HELD AT THE HAGUE

The Northeast Atlantic Fisheries Comm sion (NEAFC) held its second meeting at th Hague, May 12-15, 1964, with delegations pr ent from all member countries which includ Belgium, Denmark, Federal Republic of Ge many, France, Iceland, Ireland, The Nethe lands, Norway, Poland, Portugal, Spain, Sw den, the United Kingdom, and the Soviet Un Observers were present from the United St the International Council for the Exploratio the Sea (ICES), and the International Comm sion for the Northwest Atlantic Fisherie (ICNAF).

At the meeting in The Hague, the Northe Commission agreed on the following:

national (Contd.):

) A codification of the conservation
sures inherited from the Permanent Com-
ion under Article 16 of the 1959 Conven-
of the Northeast Atlantic Fisheries was
ved.

) Minimum mesh sizes of nets applicable
northern part of the 1946 (predecessor)
ntion area should apply to the 1959 Con-
n area between 42° and 44° W. and be-
32° and 51° E. For the present, no min-
sizes of mesh of nets were specified for
59 Convention area south of 48° north.

) The United Kingdom replaced the Fed-
epublic of Germany on Regional Com-
3, in accordance with their wishes.

) Permission to use top-side chafers
xtended to January 1966. The ICES was
sted to arrange for a detailed assess-
of the various types of chafers in use in
nvention area and their effect on selec-
Member Governments were asked to
the Commission with additional infor-
on types of chafers in use in their fish-
dustries and the effect on selectivity of
In particular, they were asked to ex-
any objections they may have to the
de chafer specified by the Commission
e top-side chafer of the multiple-flap

) The ICES was requested to renew the
of the Arctic Fisheries Working
for a further study and reassessment
tic stocks.

) The ICES was requested to review the
ation available on the state of the stocks
spiny dogfish and to advise the Commis-
the effects of possible conservation
es.

) The ICES was requested to continue its
the state of herring stocks in the Con-
area.

) The provisions of Article 16 of the 1959
tion which permit small fishing craft
rily Danish) to fish for whiting in the
rak and Kattegat Seas with small-mesh
re extended until January 1, 1970.

) A Special Committee was established
the practical problems involved in the
hment of international measures of control on the high seas for the purpose of ensuring application of the Convention and the measures in force thereunder, as provided for in Article 13. Member Countries were asked to supply the Commission with a current account of their methods of national control. The Special Committee should be convened, if convenient, at the time and place of the Technical Conference on Policing to be called by the United Kingdom, possibly in the fall of 1964.

(10) The provisional budget for the year ending June 30, 1965 should be £3,730 ($10,444).

(11) The next NEAFC meeting will be held in Moscow on May 11, 1965. (United States Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, May 20, 1964.)

ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT

JAPAN JOINS OECD:

On April 28, 1964, Japan became the 21st member of the Organization for Economic Cooperation and Development (OECD). Japan deposited ratification documents for the treaty between Japan and the OECD with the French Government, the custodian of such documents for OECD members. The action followed the Japanese House of Councillor's approval of the OECD codes and resolutions, and the treaty admitting Japan.

The Japanese Foreign Minister said that Japan should be able to solve its pending economic problems effectively through bilateral negotiations and through multilateral organizations such as the OECD, the General Agreement on Tariffs and Trade (GATT), the United Nations, and the International Monetary Fund (IMF).

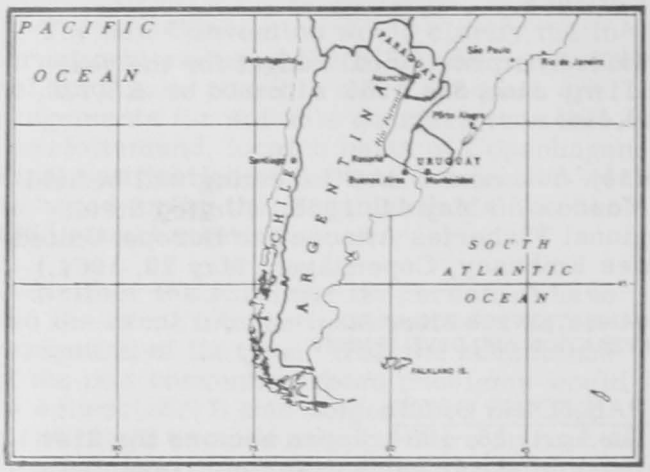
The Japanese Minister of International Trade and Industry stated that he intends to make efforts to eliminate trade discriminations against Japan by taking advantage of Japan's official entry into the OECD, and that his ministry would strive to strengthen the nation's industrial foundation so that Japan may withdraw various reservations it has made in connection with its trade liberalization duties. (Japan Report, May 15, 1964.)

Note: See Commercial Fisheries Review, October 1963 p. 43.

Argentina

FISH MEAL AND OIL PRODUCTION AND EXPORTS, 1962-1963:

Production of fish meal from salt-water fish has expanded rapidly in Argentina during the last 2 years and the industry now has an annual capacity of about 12,000 tons of fish meal. Fish oil production in Argentina also increased in 1963.



Argentina's Production and Exports of Fish Meal and Oil, 1962-1963

	1/ 1963	1962
	. . . (Metric Tons) . . .	
Production:		
Fish meal:		
Salt-water	6,636.4	3,248.0
Fresh-water	1,418.9	1,273.0
Fish oil:		
Fish-body oil	1,135.9	718.5
Shark-liver oil	63.1	0.7
Exports:		
Fish oil	472.1	383.3
Fish meal	3,211.1	1,584.4

1/Preliminary.

Exports of industrial products expanded along with production in 1963, with West Germany being the principal market for Argentine fish meal and most of the fish oil going to the Netherlands. (United States Embassy, Buenos Aires, May 14, 1964.)

Note: See Commercial Fisheries Review, Dec. 1963 p. 54.

Australia

MODIFIED TUNA LONG-LINING IN SHORE WATERS:

Encouraged by the record bluefin tuna season on the southern New South Wales fishing grounds, a number of Australian fishermen are turning to modified inshore long-lining to catch yellowfin tuna which normally are available after the bait-and-pole fishing season for bluefin tuna ends in January. The modified long-line method has been used successfully to catch yellowfin tuna in eastern Australian inshore waters for the past two seasons. It differs from the Japanese method of long-lining for bluefin tuna in the Tasman Sea in that the long line is used in much shallower water, the branch lines are at closer intervals, and the main line is shorter. Buoys generally are spaced every three hooks. Branch lines are 2 or 3 fathoms long. Various types of wire trace are used. A few fishermen are using synthetic main lines but those are costly and most continue to use sisal and manila main lines. Synthetic fibers are often used in the branch lines.

Winching gear has been improved considerably since 1963 and most vessels are equipped with efficient horizontal disc-type haulers. The Japanese-type vertical hauler has not yet been introduced in the Australian inshore long-line fishery.

The yellowfin tuna season off New South Wales began in late January 1964. By early March 1964, a total of 200,000 pounds of yellowfin had been taken off southern New South Wales between Ulladulla and Bermagui by vessels operating troll and modified long-line gear. One fisherman operating out of the port of Ulladulla took 4,000 pounds of tuna in 1 day with a long line baited with 200 hooks. Fishermen operating in the Bermagui area with trolling and long-line gear were taking tuna ranging in size from 50 to 80 pounds. The heavier tuna were usually taken on long line. The yellowfin tuna season off New South Wales

tralia (Contd.):

lly lasts until June. (Australian Fisher-
Newsletter, April 1964.)

See Commercial Fisheries Review, June 1964 p. 36, April p. 50.

sh Guiana

MP INDUSTRY TRENDS, AND OUTLOOK FOR 1964:

British Guiana, the shrimp catch in 1963 stimated at about 5 million pounds, a- he same as in 1962 and considerably the 4 million pounds caught in 1961. of the shrimp catch is exported frozen e United States.

early 1964, shrimp vessels operating f Georgetown, British Guiana, totaled 84 mpared to about 60 in 1962.

United States firm which operates a num- f shrimp vessels in British Guiana plans pand its freezing capacity during 1964. rvers expect a considerable expansion e British Guiana shrimp industry, as it ported to have attracted the interest of ber of United States firms.

cept for shrimp, fishing in British Gui- emains a small enterprise serving the market. (United States Consul, George- May 31, 1964.)

da

TUNA CANNERY PLANNED NOVA SCOTIA:

ew tuna cannery at a cost of $1.25 mil- to be built in Nova Scotia by a British bia fishing firm within the next two . The plant will process both the Pacif- Atlantic tuna catches of a new tuna , the Golden Scarab, which will cost illion to build.

e Golden Scarab (168 feet long) is now built at Luaza, Province of Quebec, and ected to be completed by November A second tuna vessel (with 800-ton ca-) will be built and when both vessels are eted, their combined tuna catch will be handled by the proposed cannery in Nova Scotia. The actual site of the plant has not yet been decided but Dartmouth, Yarmouth, or Liverpool were being considered.

Both of the new tuna seiners will have a long-range capability and will be able to stay out at sea for as long as 100 days. It is planned that they will make a minimum of 4 trips a year, 2 trips to the traditional Pacific tuna fishing grounds off Peru and 2 trips to the warmer waters of the Atlantic Ocean. (National Fisherman, June 1964.)

* * * * *

CHINOOK AND SILVER SALMON TAGGING PROGRAM IN BRITISH COLUMBIA:

A third tagging program designed by the Canadian Department of Fisheries to study the movements and exploitation of British Columbia chinook and silver salmon stocks in the Strait of Georgia area began in late May 1964. A tagging program in the same area conducted during May and June 1963 emphasized the tagging of silver salmon during the "blueback" stage. The results were very successful due in large part to the excellent cooperation of sport and commercial fishermen in returning tags. A second program conducted during December 1963 and January 1964 emphasized the tagging of mature silver salmon, and although tag returns are not yet complete, early indications show promise of an equally successful program.

Chinook salmon are the main objective of the third tagging program and the success of the program will again depend upon the cooperation of fishermen in returning tags with information on the date, method, and location of recovery. A nominal reward of C$0.50 is offered by the Canadian Department of Fisheries for the return of each tag. (Canadian Department of Fisheries, Vancouver, May 25, 1964.)

* * * * *

SALMON TAGGING ON ATLANTIC COAST:

An extensive program involving the tagging and release of 150,000 Atlantic salmon smolts annually over the next few years was announced in June 1964 by the Canadian Fisheries Minister. The salmon will be reared at fish culture stations of the federal Department of Fisheries in New Brunswick until they are two years old when, as smolts, they will be tagged and released at various points in the Saint John and Miramichi River systems.

Canada (Contd.):

The purpose of the experiment in fish culture is: (1) to determine more accurately the fate of hatchery-reared salmon after they are released; (2) to find out whether early-run salmon spawn early-run progeny and late-run salmon, late-run progeny; and (3) to provide information on the usefulness of grilse salmon in spawning and propagation. The project will be carried out jointly by the Federal Fish Culture Development Branch and the Fisheries Research Board of Canada.

The Fish Culture Development Branch will carry out its share of the joint program on the Saint John River system. It will involve the rearing, tagging, and release of 50,000 two-year-old smolts from two-sea-year or older early-run salmon.

The Research Board's program on the Miramichi System involves both early-run and late-run salmon. Hatcheries will produce 25,000 early-run and 25,000 late-run two-year-old salmon smolts from maiden two-sea-year parents, and 25,000 early-run and 25,000 late-run two-year-old salmon smolts from grilse parents. The early-run parent salmon are to be taken prior to July 31, and the late-run fish after September 15. (Canadian Department of Fisheries, Ottawa, June 9, 1964.)

* * * * *

MARINE OIL PRODUCTION, UTILIZATION, AND FOREIGN TRADE, 1961-1963:

Production: Canadian production of marine oil showed a substantial gain in 1963 due mainly to greater herring oil output in British Columbia which accounted for 82.2 percent of total production.

Table 1 - Canadian Production of Marine Oils, 1961-1963 and 1956-1960 Average

	1/ 1963	2/ 1962	1961	5-Year Avg. 1956-1960
	(1,000 Pounds)			
Atlantic production 3/	11,494	10,792	10,650	13,146
British Columbia production (herring oil) 4/	53,171	41,031	42,863	29,552
Total	64,665	51,823	53,513	42,698

1/Preliminary.
2/Revised.
3/Consists mainly of fish oil and fish-liver oil from groundfish species and seal oil.
4/Consists entirely of herring oil.
Note: Production data converted to pounds using the factor 9.3073 pounds equal 1 imperial gallon.

Use in Margarine and Shortening: The domestic margarine industry has become a important user of marine oils. In 1963, marine oil replaced soybean oil as the leading constituent in Canadian margarine. In July and August 1963, marine oils accounted for over 50 percent of the total oils and fats (v

Table 2 - Canada's Use of Marine Oils 1/ in Margarine and Shortening Production, 1961-1963 and 1956-1960 Average

Item	Unit	2/1963	3/1962	1961	5- A
Marine Oils Used in Margarine Production:					
Quantity of marine oils used	1,000 lbs.	64.6	48.3	31.6	1
Percentage of total oils used	Percentage	46.7	31.7	21.3	1
Marine Oils Used in Shortening Production:					
Quantity of marine oils used	1,000 lbs.	22.9	21.6	16.9	1
Percentage of total oils used	Percentage	12.4	11.9	10.1	9

1/Refined-oil basis.
2/Preliminary.
3/Revised.

Table 3 - Canadian Imports of Marine Oils by Country of Origin, 1961-1963

Commodity and Country of Origin	1/ 1963	2/ 1962	2/ 1
	(1,000 Pounds)		
Cod-Liver Oil:			
United Kingdom	526	757	
Norway	37	30	
South Africa Republic	297	-	
Japan	168	84	
United States	4	22	
Other countries	7	-	
Total cod-liver oil	1,039	893	
Other Fish Oils:			
Iceland	11,864	30,060	12
Bahama Islands	-	-	
United States	12,183	11,868	17
Other countries	118	196	
Total other fish oils	24,165	42,124	3
Whale and Sperm Oil:			
United Kingdom	88	172	
Norway	210	133	
United States	350	582	
Total whale and sperm oil	648	887	1
Fish Oil, Concentrated:			
United States	7	14	
Other countries	-	-	
Total fish oil, concentrated	7	14	
Fish Oil for Fortifying:			
South Africa Republic	83	-	
Japan	83	250	
United States	3	22	
Other countries	-	1	
Total fish oil for fortifying	169	273	
Total marine oil imports	26,028	44,191	33

1/Preliminary.
2/Revised.

da (Contd.):

le, marine, and animal) used in Canadian rgarine. But the use of marine oil in Can margarine declined to 38 percent of tal in December 1963 as rising prices ced the advantage of herring oil over table oil. The prices of British Columrring oil delivered at Toronto, Canada, 3 were (in Canadian cents per pound): ary 8.2; April 8.5; June 9.4; August October 10.6; and December 10.7.

reign Trade: Canadian imports of mails were down sharply in 1963 due y to smaller shipments of fish oil from nd, which in recent years has joined the States as a leading supplier of marine Canada. Shipments of fish oil from ited States in 1963 were up slightly the previous year, but down 31.0 perrom those in 1961.

nadian exports of marine oils in 1963 more than double those in the previous although the major foreign markets for ng oil have not been recovered. (Can herring oil exports dropped from over illion pounds in 1960 to less than 1 milounds in 1961.) The gain in exports in was due mainly to larger shipments of

ble 4 - Canadian Exports of Marine Oils by Country of Destination, 1961-1963

odity and Country of Destination	1/ 1963	2/ 1962	2/ 1961
	. . . (1,000 Pounds)		
r Oil:			
Kingdom	1,330	1,288	1,338
States	9,136	4,900	5,883
ountries	-	-	3
cod-liver oil . . .	10,466	6,188	7,224
n-Liver Oils:			
l countries	12	34	12
il:			
Kingdom	911	-	515
States	36	88	444
herring oil	947	88	959
l:			
Kingdom	1,726	593	-
. . . . .	2,228	-	-
nds	896	-	-
dor	-	661	-
States	60	-	128
ountries	8	5	-
whale oil	4,918	1,260	128
rine Oils:			
States	1,302	126	519
ountries	-	20	5
other marine oils .	1,302	146	524
marine oil exports .	17,645	7,716	8,847

inary.
d.

cod-liver oil to the United States, and greater exports of whale oil to the United Kingdom, Italy, and the Netherlands. Exports of herring oil to the United Kingdom were also up in 1963. (United States Embassy, Ottawa, April 16, 1964.)

Note: See Commercial Fisheries Review, June 1963 p. 65, January 1963 p. 80.

* * * * *

CHANGES ANNOUNCED IN FISHING VESSEL ASSISTANCE REGULATIONS:

Changes in the Fishing Vessel Assistance Regulations, which were announced on June 5, 1964, by Canada's Fisheries Minister, give greater encouragement to fishermen in the five Atlantic Seaboard Provinces to acquire more modern and efficient fishing craft. This, the Minister said, is a further step in the development program discussed at the Federal-Provincial conference on fisheries this past January.

The minimum size of vessels eligible for assistance has been lowered to 35 feet overall length, from the previous minimum of 45 feet. The maximum size of 99.9 gross tons is unchanged. Formerly, the rate of assistance was C$250 a gross ton. That rate has been replaced by two new rates: (a) 25 percent of the cost, approved by the Fisheries Minister, of vessels 35 to 54.9 feet in length overall and, (b) 30 percent of the cost (also approved) of vessels from 55 feet in length overall up to the maximum of 99.9 gross tons. The approved cost will be based on the total cost of each vessel equipped and ready for fishing.

During the first few years of operations under the new regulations, assistance to vessels under 45 feet in length will be limited to approved experimental designs. The Fishermen's Loan Boards in the Provinces of New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and the Minister of Industry and Commerce in the Province of Quebec will continue the direct administration of the new regulations. Close control over the design and specifications of craft eligible for assistance will be maintained by Federal-Provincial cooperation. This will include consideration of the number of craft to be built each year, their location, and the coordination of their construction with training projects designed to provide skilled manpower for a modern Atlantic fleet.

The new assistance rates apply to all applications filed by fishermen with Provincial

Canada (Contd.):

Loan Boards, and in Quebec with the Minister of Industry and Commerce, after June 30, 1964. (Canadian Department of Fisheries, Ottawa, June 5, 1964.)

* * * * *

NEW RESEARCH STATION ON LAKE HURON:

The Great Lakes Institute of the University of Toronto is establishing a permanent research station on the shore of Lake Huron about 10 miles south of Port Elgin, Ontario. The site is near the nuclear power plant being built at Douglas Point, and two major projects of the new research station are related to the new power facility. All types of fauna in Lake Huron are being examined and rated for natural radioactivity so that comparative tests can be made after the power plant is in operation in 1965 to determine if the natural radioactive level has been altered.

Other studies concern water and wind movements in Lake Huron, including surface and internal wave action and dispersal.

Four instrumented observation towers are being installed at the research station to permit the study of lake conditions to depths exceeding 60 feet. The Great Lakes Institute research vessel Porte Dauphine will carry on offshore studies in the area for part of the summer. (Great Lakes News Letter, Great Lakes Commission, March-April 1964.)

* * * * *

NEW OCEANOGRAPHIC RESEARCH VESSEL COMMISSIONED:

Canada's new $7 million oceanographic research vessel, the Hudson, was commissioned in February 1964 at Halifax, Nova Scotia. She will be attached to the fleet of the Department of Mines and Technical Surveys at the Bedford Institute of Oceanography at Dartmouth, N.S. Oceanographers on the staff of the Fisheries Research Board of Canada, which has carried out a program of oceanography for many years, will take part in some of the investigations made possible by the addition of this vessel to Canada's scientific research fleet.

One of the most modern oceanographic research vessels afloat, the 294-foot Hudson, of 4,800 tons displacement, has been under construction since early in 1961, and was overdue for more than a year. Much of the delay was caused by the problems involved in building a ship of such complexity. The vessel was built by a shipyard at Saint John, New Brunswick, in Canada.

The Hudson has a cruising range of 15,0 nautical miles and a speed of over 17 knots. The vessel is considered a complete floati laboratory and is capable of hydrographic oceanographic work anywhere in the world but will serve mainly in the Arctic and Atl tic Oceans. Her schedule is already fully booked for 1964, the main tour of duty bei a full-scale geophysical investigation of H son Bay during July, August, and Septemb Before heading north in July, she was sch uled to work off the "tail" of the Grand Ban southeast of Nova Scotia during March and April of this year to obtain information fo the production of charts useful to fisherme (Trade News, February 1964.)

* * * * *

TEN SCHOLARSHIP AWARDS IN FISHERIES FIELDS:

Ten scholarships, valued at $2,400 each have been awarded for the 1964/65 academ year by the Fisheries Research Board of C ada. The scholarships were awarded thro competition based on scholastic ability to graduate students carrying out research i fields pertinent to fisheries, including biol zoology, and oceanography. Eight of the t awards for 1964/65 are renewals, to stude who won similar awards last year.

The graduate students will work on the research at four Canadian centers: the U versity of British Columbia, Vancouver; D housie University, Halifax; the University Western Ontario, London; and Carleton U versity, Ottawa. (Fisheries Council of C da Bulletin, May 1964.)

Chile

TUNA INDUSTRY EXPANDING:

The Chilean tuna fishing industry is undergoing a revi after a period of relative inactivity. In the spring of 1964 least 4 vessels based in Chile were known to be fishing f tuna. One of the 3 companies now active in the Chilean tu fishery has placed orders which should expand its tuna fl to 10 vessels. In addition, many other vessels in the anch veta fishery off Chile could be converted to tuna fishing.

The tuna industry of Chile is located at the port of Iqu in the Province of Tarapaca. In the mid-1950's, the indu

(Contd.):

with an annual catch of 1,000 to 1,500 metric tons of
d 2,000 to 8,000 tons of bonito. That period
onds to the years in which 5 purse-seine vessels of a
States tuna company were working with a Chilean com-
Although the 5 purse seiners were left behind when the
States company withdrew from Chile in 1958, tuna fish-
Chile dropped off sharply in the late 1950's when
fish reduction industry shifted to the north.

new interest of the northern fishing industry was an-
e. During the period 1959-1962, few vessels went out
because lucrative anchoveta catches were possible
day's fishing no more than 5 miles off the shoreline.

art of its program for development of the fisheries of
rn Chile, the Corporacion de Fomento de Produccion
) organized a new company to establish and operate at
an integrated fisheries enterprise with a cannery,
and cold-storage facilities, and a fish meal plant.
alled for the new company's fish meal plant to open
1964, and freezing and canning facilities should be in
on by the latter part of 1964. The new company ac-
he Santa Rosa as the first vessel of its tuna fleet
1962.

Small local boats also fish tuna. Fishermen's children
o surf at Quintay and help beach boats with catches of

Santa Rosa, a 170-ton purse-seine vessel equipped
ine tank, started fishing in January 1963. Its catch
essed (predominantly for export as whole frozen
the company which had formerly worked with the
ates tuna vessels. Yellowfin and possibly some al-
na were shipped to California, skipjack and bonito
Rico, and bonito to Europe.

an tuna landings in 1964 should be substantially above
1963. In addition to the Santa Rosa, the new com-
nized by CORFO has purchased 2 new 380-ton ves-
ginally built in England for Ghana), which ar-
rived in Chile and began in fishing for tuna in June 1964. The new Chilean company is also having 7 tuna vessels built in a German shipyard.

Two other fishing companies in Chile have also shown an interest in the tuna fishery. One of those companies has re-equipped for tuna fishing at least one of the purse-seiners left in Chile by the U. S. tuna company which withdrew in 1958. The other company (jointly owned by South African and Chilean interests) has diverted a new 170-ton purse seiner to tuna fishing.

Fig. 2 - Fishermen bring their catch of tuna ashore from small boats at Quintay.

The expansion of tuna fishing off northern Chile will vary with the availability of anchoveta to the northern fishing fleet. Another prolonged absence of anchoveta off the northern coast, as occurred in 1963 and again in early 1964, will send many of the 170-ton anchoveta purse-seine vessels out for tuna. It might also lead to the installation of freezing and canning facilities by a number of fishing companies now operating fish meal plants in the area. Some of those compa-

Table 1 - Chilean Landings of Tuna, Bonito, and Swordfish, 1950-1963

Year	Species			
	Atun	Cachurreta	Bonito	Pez-Espada
	(Metric Tons)			
1963	70	57	2,553	94
1962	202	26	2,228	297
1961	21	99	3,586	394
1960	68	-	2,313	456
1959	22	-	2,566	555
1958	172	-	3,823	392
1957	487	39	2,144	357
1956	1,045	240	4,136	386
1955	929	401	7,500	237
1954	831	-	4,405	334
1953	1,116	-	1,974	416
1952	774	-	4,886	570
1951	570	-	3,973	870
1950	412	-	2,927	786

Note: "Atun" generally refers to yellowfin and albacore tuna. "Cachurreta" is skipjack. "Pez-Espada" is the swordfish which is more generally known by the name "albacore." As both albacore tuna and swordfish are captured off Valparaiso, there may have been some confusion in the landing reports on which the statistical data are based.

Chile (Contd.):

Table 2 - Chilean Landings of Tuna, Bonito, and Skipjack by Months, 1963

Months	Atun[1/] (Yellowfin-Albacore)	Bonito	Cachurreta (Skipjack)
	(Metric Tons)		
January . .	1.6	164.3	-
February .	23.8	181.0	19.0
March . . .	37.6	19.5	36.6
April	-	131.2	-
May	4.7	136.8	-
June	0.8	138.8	-
July	0.5	116.9	-
August . .	0.2	99.9	-
September	-	437.9	-
October . .	0.3	491.4	0.7
November	0.5	408.7	0.4
December	-	226.7	0.7
Totals . .	70.0	2,553.1	57.4

1/Mostly of not all yellowfin.

nies have substantial foreign capital backing. In the past, only one company in northern Chile had freezing and canning facilities capable of handling tuna for export. But by the end of 1964, the new company organized by CORFO will have a modern automatic tuna canning line and blast-and brine-freezing equipment in operation. Those facilities will create a market for tuna that has not existed in north Chile since the withdrawal of the United States tuna firm in 1958.

Yellowfin tuna is taken from 5 to 35 miles off the northern coast of Chile. February through April is the best yellowfin tuna season, according to the captain of the Santa Rosa. Official statistical data indicate that 86 percent of the 1963 Chilean catch of yellowfin tuna was taken in February and March. The bonito catch was spread more evenly over the year in 1963. More intensive fishing might change the picture. For the present and near future, the northern fleet is expected to give preference to anchoveta fishing and turn to tuna in the slack season (normally mid-June to October).

The current vessel preference of anchoveta fishermen in Chile is the 170- to 180-ton purse seiner. Such vessels are capable of fishing for tuna, particularly yellowfin. (United States Embassy, Santiago, May 18, 1964.)

Costa Rica

FISH AND SHELLFISH LANDINGS, 1963/64 SEASON:

Landings of fish and shellfish in Costa Rica during the 1963/64 season amounted to 2,288 metric tons--down 5 percent from the previous year. Leading species were shrimp (all varieties) which accounted for 48 percent of the total landings, followed by tuna, and unclassified finfish.

Landings of all species of shrimp were up 17 percent from the previous season and were larger than those for each season since 1959/60 when they were only about one-half the 1963/64 landings. Landings of large white shrimp, however, have declined steadily each season while those for small shrimp increased. The 1963/64 landings of small white shrim were at a five-year high and well above th yearly average for the five years under stu Although landings of pink shrimp were 16 p cent lower than the previous season, they w well above the yearly average for the five-year period.

Tuna landings during the 1963/64 seas were down 23 percent from the previous y Most of the tuna landed in Costa Rica is p chased by the tuna cannery there from Un States fishing vessels.

Costa Rica Landings of Fish and Shellfish, 1963/64 Fishing Season with Comparisons

Species	1963/64	1962/63	1961/62	1960/61	195
	(Metric Tons)				
Fish (Unclass.)	543	659	685	697	6
Shrimp:					
Large white	305	274	385	459	5
Small white	618	557	549	511	1
Pink	170	202	64	107	-
Tuna	519	675	554	426	5
Turtle, green	45	23	33	12	
Spiny lobster	88	27	94	1,420	1
Total . . .	2,288	2,417	2,364	3,632	2,

Source: Ministry of Agriculture and Livestock, Fish and Wi life Section.

Finfish (unclassified) landings were lo in 1963/64, due in part to the low prices o fered by the Consejo Nacional de Producc (National Production Council) which caus fishermen to lose interest in that fishery.

The quantity of spiny lobsters landed i 1963/64 was very small although it was th times greater than the 27 metric tons of t previous season, but down substantially a compared with the 1,420 tons of the 1960 season. An issue during the 1963/64 sea was the matter of bait for lobster traps. ster fishermen on the Atlantic Coast wer handicapped because they had to buy subs tial quantities of bait from suppliers in P arenas on the Pacific Coast at an averag price of CR$0.75 (11 U.S. cents) a pound. of the bait purchased there consisted of t fish which Pacific Coast shrimp fisherm generally discard. Lobster fishermen o Atlantic Coast of Costa Rica continue to p the Government for suitable regulations w will protect their interests. (United State Embassy, San Jose, May 15, 1964.)

nmark

THORITY SOUGHT FOR RATIFICATION WESTERN EUROPEAN FISHERIES NVENTION AND NEW FISHING LIMITS:

On May 20, 1964, Denmark's Foreign Min- r requested ratification by the Danish liament of the Fisheries Convention ap- ved March 9, 1964, at the Western Euro- Fisheries Conference in London. The eign Minister's proposal pointed out that mark will be able to extend its fishing ts in the Kattegat, Skagerrak, and North without affecting the present 12-mile s in Greenland and the Faroe Islands. s considered that if Greenland and the e Islands had been included in the Con- on area--and for Norway and Iceland to accepted the Convention--would have a backward step from their 12-mile ts.

n the same date, the Fisheries Minister submitted brief legislation relating to sh fishing limits. The first of that legis- n authorizes the Fisheries Minister to blish regulations governing Danish fish- s limits in accordance with the provisions e London Fisheries Convention of March 964. The second paragraph states that legislation does not apply to the Faroe Is- s or to Greenland.

uthority to extend Denmark's fishing lim- as being sought, according to the Fisher- Minister, because it is in the interest of ishing industry and the public to do so at arliest possible time rather than delay the next session of the Parliament. The rity granted will not be exercised until discussions with the Parliament and the g industry. Also, there are transitional ds before the fully extended limits be- effective.

e Fisheries Minister foresees better g for Danish inshore fishermen when mits are extended and better conserva- f the fishery resources within the es- hed limits. Since Ireland and the United dom have mentioned a transitional period years for countries with historic fishing s before extending the limits from 3 to 6 s--and $2\frac{1}{2}$ years where baselines are n across bays--Denmark may be re- d to do the same. West Germany, the erlands, and possibly Belgium and France d wish to negotiate with Denmark in re- to their historic fishing off Danish coasts.

Article 10 of the Fisheries Convention provides that nothing in the Convention shall prevent establishment of a special regime in matters of fisheries in a number of instances, including "(c) as between Denmark, Norway, and Sweden," and "(f) in the Skagerrak and Kattegat." Thus, Denmark, Norway, and Sweden may conclude special arrangements in those waters. The Convention of December 31, 1932, between Denmark and Sweden covers some but not all of the boundary waters. There is no similar agreement with Norway. Although Norway is concerned with Skagerrak waters it has not einforced its 12-mile limit in that area. Representatives of Denmark, Norway, and Sweden have held preliminary discussions about fishing limits in the waters between their coasts and may be expected to become more serious about them in the future. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, May 27, 1964.)

Note: See Commercial Fisheries Review, May 1964 p. 49; April 1964 p. 41; February 1964 p. 59; January 1964 p. 35.

* * * * *

WATER PURIFICATION AND PROTEIN EXTRACTION PROCESS MAY BE APPLIED TO FISH REDUCTION INDUSTRY:

A purification and protein extraction process from waste water, which was invented in Denmark, has been used in a potato flour factory in Jutland, Denmark, and is now to be used in the Danish fish meal, dairy, and meat slaughtering industries.

Although earlier experiments were not successful, a small pilot plant at the Jutland potato factory, which has been using the process since November 1963, has so far confirmed blueprint calculations, according to a spokesman of the Chemistry Department, Copenhagen Technological Institute, which assisted the inventor in development of the new process.

The Danish inventor of the process stated that the reason the potato flour factory was chosen for the experiments was because in that type of production large quantities of waste water with relatively little protein content is turned out. Should the process prove effective under those conditions, then it would be even more effective under more favorable conditions in other industries such as those for fish meal and dairy products. Experiments in the starch industry are therefore considered completed and the inventor has turned to experiments in other industries.

The project has not yet been developed beyond the pilot-plant stage, but the inventor of the process claims that he is negotiating with some 80 industries all over the world, which have expressed interest in the process. Also, he has been negotiating with three different United States companies concerning representation on the American market. He stated that the purification plant will eventually be constructed by a large internationally known firm. Newspaper reports previously indicated that components for the plant would be supplied by firms in Denmark, Sweden, Norway, and the Netherlands.

According to the inventor, the process consists of a consecutive precipitation with subsequent purification and drying. The precipitation is brought about by the addition to the waste water of sulphuric acid and a special chemical made by the inventor, which at the first stage removes 50 percent of the nitrogen (protein), all starches and all pulps, if any exist. Dur-

Denmark (Contd.):

ing the second stage of the process, all sugar and 99 percent of the remaining nitrogen are removed. As a result, the BOD (biological oxygen demand) of the waste water is reduced to 1/2 percent of the original and the potassium permanganate content to less than 100 mg./1. The process is automated and requires little manual attention.

While the pilot plant has worked only with the processing of about five metric tons of waste water per hour, the inventor estimates that a regular industrial plant designed for a small potato flour factory should process about 70 tons of water per hour. Such a plant would cost about US$58,000 to construct. It would turn out about 158 kilograms (348 pounds) of dry matter per hour at a cost of about 6-1/2 cents per kilogram (2.2 pounds). The inventor maintains that the product (according to laboratory tests), if used for fodder purposes, would realize about $13.00 per 100 kilograms because of its high content of essential amino-acid vitamins. Application of the product in the chemical industry might eventually, he envisions, bring higher yields. The inventor reportedly holds patent rights to the process. (United States Embassy, Copenhagen, May 13, 1964.)

German Federal Republic

FISH MEAL AND MARINE OIL INDUSTRY TRENDS, 1963:

Fish Meal: In 1963, there was a decline in the use of fish meal for animal feed in West Germany and a corresponding drop in imports. Peruvian shipments of fish meal to West Germany in 1963 were down 19 percent from the previous year, although Peru was still the dominant supplier. The decline was partly offset by larger shipments from Norway, Iceland, and the South Africa Republic.

Table 1 - West Germany Supply and Distribution of Fish Meal[1/], 1962-1963 and 1964 Forecast

Items	1964	1963	1962
	(1,000 Metric Tons)		
Supply:			
Opening stocks, January 1	10	8	11
Production	85	85	86
Imports	320	302	338
Total supply	415	395	435
Disposition:			
Exports	5	6	4
Domestic disappearance:			
Animal feed	400	381	423
Ending stocks, December 31	10	8	8

1/Includes small amounts of meat meal.

A moderate increase in the consumption of fish meal is expected in 1964 as a result of an anticipated increase in the demand for feed for laying hens and pigs. Any increase in demand will probably result in higher imports, since domestic production is expected to continue at the level of recent years.

Table 2 - West Germany Imports of Fish Meal, 1962-1963

Country of Origin	1963	1962
	(Metric Tons)	
Denmark	6,815	7,617
Iceland	19,007	16,312
Netherlands	2,300	3,833
Norway	10,461	4,585
Portugal	6,340	5,835
Angola	3,693	8,797
Morocco	4,898	3,852
South Africa Republic	23,375	16,865
Chile	3,876	3,672
Peru	207,580	255,222
Pakistan	2,282	2,138
Other countries	4,701	3,131
Total	295,328	331,859

Note: Total imports reported above are less than those shown in table 1.

Marine Oil Foreign Trade: West German imports of whale oil in 1963 were up 12 percent from those in 1962 due mainly to larger shipments from Japan, because whale oil imports from most other producing countries were down.

Table 3 - West German Foreign Trade in Marine Oil, 1962-1963

Commodity & Country of Origin or Destination	1963	1962
	(Metric Tons)	
Imports:		
Whale Oil:		
United Kingdom	2,187	5,578
Netherlands	5,943	6,990
Norway	11,515	13,223
Portugal	1,013	329
Peru	1,061	758
Japan	42,249	29,493
Australia	158	455
Other countries	2,062	2,219
Total whale oil	66,188	59,045
Fish Body Oils:		
Denmark	1,696	3,489
Iceland	1,410	7,298
Netherlands	2,691	1,539
Norway	3,880	3,803
Portugal	4,072	2,846
Angola	3,009	1,989
United States	11,371	7,635
Chile	2,522	5,531
Peru	31,627	29,618
Other countries	2,827	1,068
Total fish body oils	65,105	64,816
Exports:		
Whale oil	441	2,588
Fish body oil	17,992	20,754

There was a substantial gain in imports of menhaden oil from the United States in 1963 and imports of fish oil were also up from Peru, Angola, Portugal, and the Netherlands. But the gain was about offset by a decline in fish oil shipments from Denmark, Iceland, and Chile. Total imports of fish oil in 1963 were almost the same as in 1962.

man Federal Republic (Contd.):

est German exports of marine oil in consisted mainly of fish body oil. (United States Embassy, Bonn, April 10, 1964.)

See Commercial Fisheries Review, June 1963 p. 69.

* * * * *

OCEANOGRAPHIC
ARCH VESSEL LAUNCHED:

rmany's newest and largest oceanic research vessel, the Meteor, was hed in Bremenhaven on February 8, The 2,740-ton research vessel is beade ready for participation in the Internal Indian Ocean Expedition in October (National Oceanographic Data Center, letter, March 31, 1964.)

other new research vessel, the Meteor s launched in Germany during August under the joint ownership of the German graphic Institute of Hamburg and the an Research Association of Bad Godes-

ee Commercial Fisheries Review, February 1964 p. 68.

* * * * *

MAN FIBERGLASS
ARINE DEVELOPED:

ne-man submarine made of reinforced lass has been developed by a West Germrm. The craft consists of a pressure- cabin and two flooding tanks attached cabin. It is driven by two 500-watt c motors which are powered by a bat- 100 amperes per hour. A battery of peres per hour can also be used.

er diving and surfacing at any angle sible with the electric motors. The ine can also submerge simply by fill- flooding tanks. Compressed air is carried in two 7-liter bottles to drain the flooding tanks for surfacing. The submarine has a diving range of 50 meters (164 feet). Surface speed is approximately 9 kilometers (5.6 miles) per hour and submerged speed about 6 kilometers (3.7 miles) per hour. With the use of full motor power, the standard battery will last for $2\frac{1}{2}$ hours of operation and the special battery will last for 7 hours. Sufficient oxygen is carried in a 1-liter bottle to remain submerged for 4 hours.

The length of the fiberglass submarine is 3.1 meters (10.2 feet), the largest diameter is 0.7 meter (2.3 feet), the largest width is 1.6 meters (5.2 feet), and the largest height is 1.4 meters (4.6 feet).

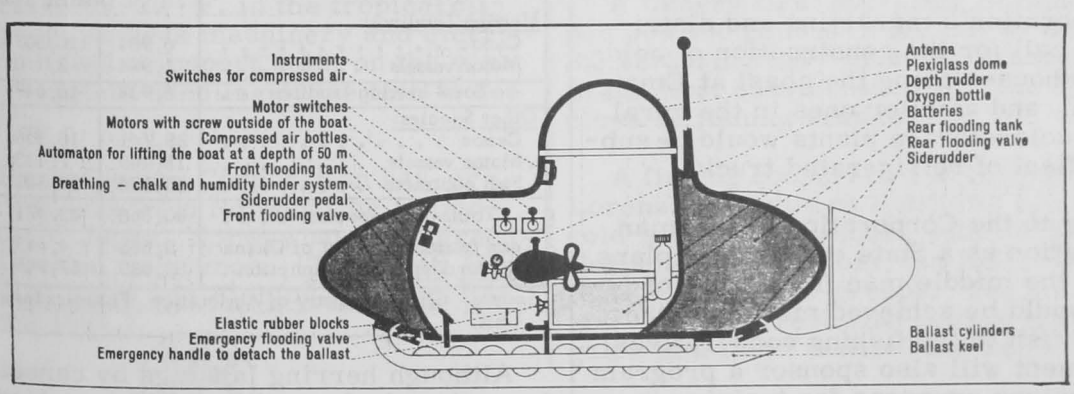
Searchlights can be mounted inside or outside the submarine and special instruments can be provided for research purposes.

Ghana

OUTLOOK AND PLANS FOR
FISHING INDUSTRY EXPANSION:

The production goal of the Ghana Fishing Corporation over a 7-year development period is 150,000 metric tons, according to an interview given by an official of that organization in May 1964, as reported in Ghana newspapers. In order to achieve that goal, international waters will be fished and carrier vessels will be used to collect fish stored by the Corporation's trawlers at sea which will be able to stay out fishing for longer periods than at present. By the end of the 7-year period, the Corporation plans that its staff would be increased from the present 600 to 2,000 workers.

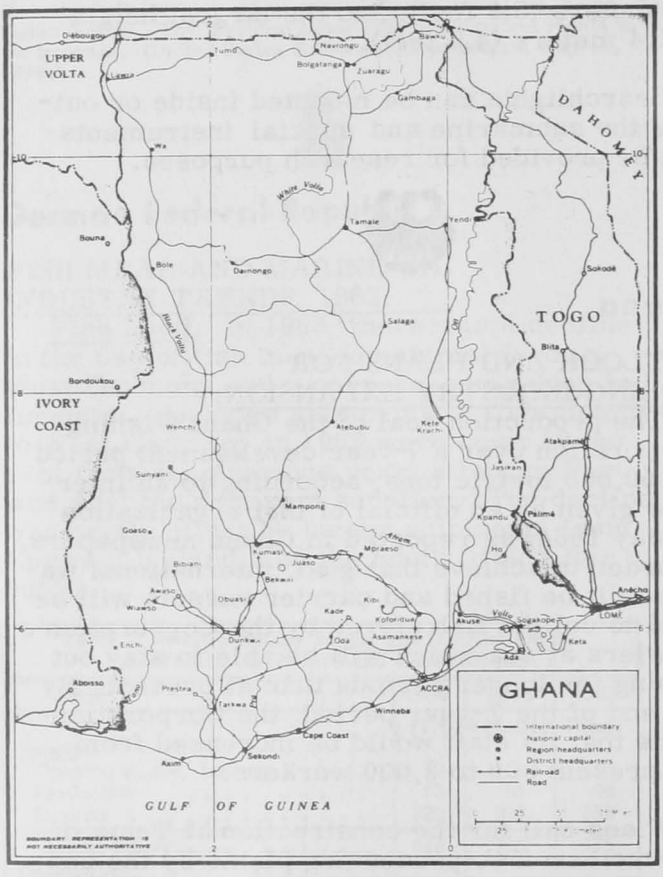
Plans call for the construction at Tema of two modern fish-processing plants by the end



Artist's sketch of one-man fiberglass submarine.

Ghana (Contd.):

of 1966 capable of turning out canned, smoked, and salted fish. The daily capacity of the canning plant will be 60,000 cans of sardines. The complex of fish-processing plants at Tema, designed by Soviet experts, is expected to process close to 12,500 tons of fish a year, chiefly sardines, and produce up to 30 million cans of fish, almost 1,300 tons of smoked fish, and up to 900 tons of fish meal and oil. The various plants will also serve as a center for training Ghanaian fishing specialists.



The Corporation's marketing and distribution plans call for the construction of cold-storage warehouses along the coast at Ema and Takoradi, and smaller ones in the rural areas. The cold-storage plants would be supported by a fleet of refrigerated trucks.

According to the Corporation spokesman, that organization as a State enterprise, plans to eliminate the middle man in the sale of fish. This would be achieved mostly by the daily sale of fish to the fishing cooperatives. The Government will also sponsor a program to send Ghanaians overseas for training in scientific fishing, vessel engineering and mechanics, and other specialized training. (Fishery Attache, Abidjan, May 22, 1964, and Ghana Newspaper Reports.)

* * * * *

FISHERY LANDINGS UP SHARPLY IN 196

Ghana's marine fishery landings in 196 amounted to 89,304 metric tons, an increase of 42.7 percent from the previous year's landings and nearly three times greater than the 1961 landings. A good part of the gain in was due to increased landings by foreign vessels (mostly Japanese and Soviet) on charter to the government-controlled Ghana Fishing Corporation.

Table 1 - Ghana's Marine Fishery Landings By Types of Vessel, 1963 with Comparisons

Type of Fishery	1963	1962	19
	(Metric Tons)		
Canoe Fisheries:			
Herring	6,964	16,507	15,
Line	2,401	2,005	
Other	26,340	14,303	11,
Total canoe landings	35,705	32,815	27,
Motor Fishing Vessels:			
Trawl	9,431	1,084	1,
Line	477	546	
Herring	1,974	2,110	1,
Tuna	6,868	5,108	3,
Other	1,494	406	
Total motor fishing vessel landings	20,244	9,254	6,
Fishery Contracts:			
From Japanese Vessels	-	167	
From U.S.S.R. Vessels	-	20,352	
Ghana Fishing Corporation	14,094	-	
Foreign Corporations	16,847	-	
Local Corporations	2,412	-	
Total	33,355	20,519	
Grand total	89,304	62,588	3

Source: Ghana Ministry of Agriculture, Fisheries Inspectora Unit.

Table 2 - Catch Composition of Ghana's Fishery Landi By Species and Type Vessel, 1963 with Comparisons

Species by Type of Vessel	1963	1962	
	(Metric Tons)		
Herring Landings:			
Canoe	6,964	16,507	1
Motor vessels	1,974	2,110	
Total herring landings	8,938	18,617	1
Other Species:			
Canoe	28,741	16,308	1
Motor vessels	18,269	7,143	
Fish contracts	33,356	20,520	
Total other species	80,366	43.971	17
Tuna transshipped out of Ghana	5,665	4,643	
Used for domestic consumption	83,639	57,945	3

Source: Ghana Ministry of Agriculture, Fisheries Inspecto Unit.

Although herring landings by canoes w down sharply from the 16,500 tons landed

na (Contd.):

, there were substantial increases in ings of other species. As a result, total ings by canoes were up 8.8 percent from r earlier and those by motorized ves- increased 119 percent from 1962. The tuna landings of nearly 7,000 tons were percent from the previous year, of 5,665 tons were transshipped out of a.

ith the recent introduction of underwater fishing for herring at night, prospects od for a considerably better 1964 her- eason. Also, with additional deliveries total of 44 trawlers and purse-seiners der from four countries (Japan, U.S.S.R., ay, and the United Kingdom) scheduled 64, the prospects for an overall in- e in Ghana fisheries production in 1964 right. (Fishery Attache, United States assy, Abidjan, May 22, 1964.)

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T NORWEGIAN-BUILT STERN VLER LAUNCHED:

e trawler Shama, the first of 7 trawlers built in Norway for the government- olled Ghana Fishing Corporation in , was launched in April 1964. The Nor- n shipyard is to build all 7 of the trawl- nd will also send Norwegian experts to with the vessels. The experts will be mmand of the vessels for 18 months.

e 7 vessels will all be stern trawlers n overall length of 231 feet 7 inches, ll be powered by Diesel engines gen- g 1,960 b.hp., coupled to reversible llers.

h will be stored in two insulated cargo on the main deck of the vessels and frozen to -20° F. in the tropical cli- Hydraulic deck machinery and elec- y operated transport belts on the ves- ill facilitate handling of the fish at sea port.

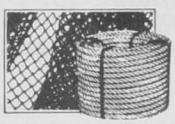
e Ghana Fishing Corporation has or- 40 trawlers from Norway, the United m, and Japan. Norway has also agreed n Ghanian fishermen. (The South Afri- ipping News and Fishing Industry Re- April 1964.)

Greece

FREEZER-TRAWLER LANDINGS, JANUARY-MARCH 1964:

The Greek fleet of refrigerated trawlers and carrier vessels operating in the Atlantic landed 1,180 metric tons of frozen fish in Greek ports in March 1964, down 19 percent from landings of 1,458 tons in the same month of the previous year.

Greek frozen fish landings during January-March 1964 amounted to 4,422 tons, compared with landings of 4,392 tons in the same period of 1963 and 3,760 tons in the first quarter of 1962. (Alieia, April 1964.)



Honduras

FISHERIES TRENDS, FIRST QUARTER 1964:

A fishery firm operating in Honduras shipped 500,000 pounds of shrimp to the United States during the 7-months' season that ended in the first quarter of 1964. The firm employs 14 fishing vessels.

A fishing cooperative at the port of San Lorenzo in southern Honduras has built a cold-storage warehouse with the aid of the Corporation for American Relief Everywhere (CARE) and other groups. The cooperative now delivers fresh fish regularly to Tegucigalpa in a truck donated through CARE by the

Honduras (Contd.):

employees of a United States insurance firm. (United States Embassy, Tegucigalpa, May 20, 1964.)

Iran

FISHERY TRENDS AND DEVELOPMENTS:

A $15 million construction loan by the United States to Iran for the development of the Port of Bandar Abbas (in the southeast part of the Persian Gulf) is expected to give impetus to Iran's commercial fishing industry in the south, which presently is very limited.

There is little commercial fishing now being done by Iran in the Persian Gulf despite a reported abundance of fish and shrimp. There is a fish cannery in Bandar Abbas operated by the Iranian National Fishing Company (Shilat), but it produced only about 300,000 cans (4-ounce) of fish in each of the past few years as against its potential capacity of several million cans a year. At times the plant is completely shut down because of a lack of fish for processing. There are now two foreign commercial fishing firms operating in the Persian Gulf--one from Kuwait and the other from Pakistan. Each of those firms has a well-equipped refrigerated mothership and a fleet of smaller catcher vessels.

The local Governor of the Bandar Abbas area said he was confident that the limited and intermittent commercial fishing done by a fishing company in the southern part of Ira would be resumed full time in the near futur and that although that company was owned b the Iranian Government, it would be indepen ent of Shilat.

Officers of the United States Consulate a Isfahan reported that two persons with whom they spoke in Bandar Abbas expressed inte est in either a joint venture with a United States fishing firm, or in acting as export agents for Iranian Persian Gulf fishery pro ucts for export to the United States. Seve such fishery joint ventures have for variou reasons not been very successful in the pa (United States Consulate, Isfahan, March 3 1964.)

Note: See Commercial Fisheries Review, January 1964 p. 53; October 1963 p. 52, July 1963 p. 79.

Ireland

SCALLOP GROUNDS DISCOVERED:

Scallops have been found in commercial quantities off the southeast coast of Ireland in St. George's Channel. The Irish Govern ment sponsored the scallop investigation fo lowing reports that scallops had been take

Ireland (Contd.):

...awls about 11 miles from Dunmore East, ... is the center of a herring fishery. The ... of a 50-foot commercial fishing vessel ...een instructed in the dredging method ...ing scallops and those involved in the ...t are confident that a commercial scal... ...hery will develop. (Fish Trades Gazette, April 25, 1964.)

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UNITED STATES TEAM ... IRISH FISHERIES SURVEY:

...ur specialists from the United States ...u of Commercial Fisheries arrived in ...d in late April 1964 to implement the ... States-Irish cooperative fishery re... ...h project. A representative of the Unit... ...tes team said the group would study the ...opment plans of the Irish Sea Fisheries ..., and assist in the establishment of a ...rch-development organization.

...e Irish fishing industry is generally ...d to inshore operations. After a 2-... survey of Irish operations, the United ... team may be able to offer suggestions ...ning fishing, processing, and market... ...nce the species exploited by the Irish ...ry are similar to some of those caught ...ted States fishermen. (Fish Trades Gazette, April 25, 1964.)

Japan

CANNED TUNA IN BRINE ... TO UNITED STATES:

... Japanese tuna packers and exporters (... were negotiating export prices) have ... on a promotional allowance of US$1 a ... (8 7-oz. cans) for the 200,000 cases of ...eat tuna in brine for export to the ... States which were to be offered for ... May 19, 1964. The exporters had ...o offer for sale 170,000 cases of white-... tuna in brine and 100,000 cases of light ... tuna in brine for export to the United ..., but their request was rejected by the ...s. However, the packers granted the ...omotional allowance requested by the ...ers, which brought the price of the ...hite pack down to $12.60 a case f.o.b. ...

Negotiations were still in progress over the the matter of promotional allowances for the solid light meat tuna in brine pack and lower grade packs. (Suisancho Nippo, May 16 & 18, 1964.)

* * * * *

EXPORTS OF CANNED TUNA IN BRINE TO U. S. BY DESTINATION:

New York City and Boston again led all other United States cities as the chief markets for Japanese canned tuna in brine, according to a survey conducted by the Japan Canned Foods Exporters Association. (Suisan Tsushin, May 18, 1964.)

Japanese Exports of Canned Tuna in Brine to U. S. by Destination Points, 1962-1963

Destination	1963		1962	
	No. Cases	Percent of Total	No. Cases	Percent of Total
Total	2,234,434	100	2,110,137	100
New York	612,571	27.42	564,523	26.75
Boston	524,834	23.49	492,920	23.36
Baltimore	188,618	8.44	142,959	6.77
Chicago	175,735	7.86	174,785	8.28
Philadelphia	120,631	5.40	129,785	6.15
Los Angeles	96,250	4.31	85,716	4.06
San Francisco	96,192	4.30	87,611	4.15
New Orleans	58,822	2.63	44,877	2.13
Seattle	54,138	2.42	41,413	1.96
Houston	35,902	1.61	32,238	1.53
Detroit	31,176	1.40	33,307	1.58
Others	239,565	10.72	280,003	13.28

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STANDARD PRICES ESTABLISHED FOR CANNED WHITEMEAT TUNA IN BRINE:

Standard prices for Japanese canned whitemeat tuna in brine packed for export to the United States have been established by the Japan Canned Tuna Packers Association at a general meeting in mid-May 1964. (Suisancho Nippo, May 21, 1964.)

Japanese Canned Whitemeat Tuna in Brine Prices[1/], 1964

Pack	Can and Case Size	Price Per Case			
		Yokohama		Shimizu	
		Yen	US$	Yen	US$
Fancy A	13-oz. 24's	2,977	8.27	2,984	8.29
" B	" "	2,907	8.07	2,914	8.09
" A	7-oz. 48's	3,202	8.89	3,211	8.92
" B	" "	3,132	8.70	3,141	8.72
" A	3.5-oz. 48's	1,863	5.17	1,870	5.19
" B	" "	1,823	5.06	1,830	5.08
" A	66-oz. 6's	3,427	9.52	3,434	9.54
" B	" "	3,357	9.32	3,364	9.34
" A Flake	6.5-oz. 48's	2,332	6.48	2,341	6.50

1/Prices shown represent packers' prices to the Japan Canned Tuna Sales Company.

* * * * *

Japan (Contd.):

EXPORTS OF CANNED TUNA SPECIALTY ITEMS, 1963:

Japanese exports of specialty canned tuna products (other than those packed in brine and in oil) totaled 455,986 cases in fiscal year 1963 (April 1963-March 1964), according to data compiled by the Japan Canned Tuna Packers Association. West Germany was the biggest market, accounting for 66 percent of exports (301,201 cases), followed by the Netherlands with 15 percent (66,594 cases), Belgium 8 percent (35,188 cases), Canada 4 percent (20,025 cases), and Great Britain 2 percent (10,250 cases). Twenty-six other countries accounted for the remaining 5 percent (22,728 cases). (Suisancho Nippo, May 25, 1964.)

Note: The press report gave the exports as 438,896 cases. Tabulation of data by countries of destination showed exports totaled 455,986 cases.

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CANNED TUNA MARKET TRENDS:

The Japan Tuna Packers Association, at a directors meeting held on June 3, 1964, at Tokyo, decided to reduce by 300,000 cases the quantity of canned tuna in brine that the Association had planned to consign to the Canned Tuna Sales Company (for export to the United States) for the third quarter (January 1-March 31, 1965), from 500,000 cases to 200,000 cases. At the same time, the Association adopted the following measures:

1. Change the consignment ratio of lightmeat to whitemeat. Henceforth, consignment to the Sales Company of lightmeat tuna will be held below the 50-percent level, and of whitemeat above the 50-percent level. Previously, light meat was limited to over 20 percent but under 50 percent of the total consignment.

2. Consignments to the Sales Company to consist of the following ratio of can sizes: 13-oz. pack--20 percent (same as before); 7-oz. pack--35 percent (previously 45 percent); 66-oz. pack--45 percent (previously 35 percent). However, packers may be exempted from this ruling by permission of the Association's Director.

3. Establish a committee (8 members) to develop sales policy to overcome stagnant sales.

The quantity to be consigned to the Canned Tuna Sales Company for the third quarter of 1965 was reduced as a result of declining sales of Japanese canned tuna in brine in the United States. For the business year beginning December 1963, a total of 880,000 cases has been offered for sale by the Sales Company. However, as of May 31, only 450,000 cases of that amount have been shipped to the United States. (Suisan Tsushin, June 4; Nihon Suisan Shimbun, May 22, 1964.)

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JAPAN TUNA PACKERS ASSOCIATION MEMBERS PACK BULK OF CANNED TUNA

Data compiled by the Japan Tuna Packers Association indicate that in fiscal year 1963 (April 1963-March 1964) its 78 member firms packed a total of 3,811,597 cases of canned tuna in oil and brine for export, and that 21 nonmember firms packed a total of 100,689 cases of tuna in brine for export to the United States.

Production of the ten largest packers totaled 1,527,274 cases, equal to 40 percent of the total year's pack produced by the firms affiliated with the Association. Of the remaining 68 firms, 6 companies packed from 75,000-100,000 cases (average 84,367 cases), 11 companies packed from 50,000-75,000 cases (average 64,908 cases), 17 companies from 25,000-50,000 cases (average 36,500 cases), and 34 companies less than 25,000 cases (average 12,552 cases).

The 21 non-Association members packed an average of 4,795 cases during the fiscal year. (Suisancho Nippo, May 22-25, 1964.)

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EXPORT TARGETS FOR FISHERY AND AQUATIC PRODUCTS, FISCAL YEAR 1964

The total value of Japan's proposed export target for fishery and aquatic products is US$284.9 million. Canned fishery products account for 44.0 percent of the total value, frozen and fresh products 35.5 percent, cultured pearls 18 percent, salted and dried products 2.0 percent, and agar-agar 0.4 percent. The 1964 export target value represents an increase of 12.3 percent over the actual exports in 1963 and 9.8 above the value of exports in 1962.

The proposed export target of canned fishery products in 1964 of 11.2 million cases, valued at $125.4 million, is an increase in quantity of 2.8 percent and a decrease in value of 0.1 percent as compared with exports of similar products in 1963. Comparing proposed exports in 1964 with those of 1963 on an item to item basis, the following changes in quantity and value are noted: tuna up 8.0 percent in quantity and 8.9 percent in value; saury up 8.1 percent in quantity and 11.5 percent in value; horse-mackerel up 39.5 percent in quantity and 31.5 percent in value; salmon down 6.2 percent in quantity and 6.5 percent in value; crab meat down 7.0 percent in quantity and 7.1 percent in value; other fish and shellfish down 4.2 percent in quantity and 4.3 percent in value.

an (Contd.):

Japanese Export Targets for Fishery and Aquatic Products, Fiscal Year 1964 With Comparisons

uct	FY 1964 Export Target Qty.	FY 1964 Export Target Value1/	FY 1963 Export Target Qty.	FY 1963 Export Target Value1/	FY 1963 Actual Exports Qty.	FY 1963 Actual Exports Value1/
	1,000 Cases	US$ 1,000	1,000 Cases	US$ 1,000	1,000 Cases	US$ 1,000
Fish:						
	4,450	37,513	4,250	34,012	4,119	34,456
	1,395	43,962	1,710	51,124	1,487	47,003
heat	438	11,004	440	11,077	471	11,841
es	100	780	500	3,625	180	1,363
	1,650	10,680	1,370	7,773	1,527	9,582
mackerel	600	3,948	560	3,398	430	3,003
ish and shellfish	2,590	17,521	1,855	14,527	2,702	18,301
canned	11,223	125,408	10,685	126,436	10,916	125,549
	Metric Tons		Metric Tons		Metric Tons	
ish & Shellfish:	177,804	61,627	174,400	57,184	136,972	50,277
sh	6,800	4,320	7,700	5,700	5,927	4,257
n	1,500	1,940	2,000	2,000	975	1,260
w trout	1,500	1,415	1,200	1,080	1,373	1,295
p	1,500	2,174	2,000	3,200	1,164	1,687
	55,000	13,530	45,000	14,250	34,551	8,507
frozen	244,104	85,006	232,300	83,414	180,962	67,283
ishery products	55,500	16,095	2/	10,000	20,157	5,856
roducts:						
and dried	4,200	5,800	5,440	6,000	4,301	5,795
gar	350 Kans3/	1,260	610 Kans3/	1,900	335 Kans3/	1,200
(cultured)	19,000	51,300	15,500	41,200	18,040	47,938
value of products		284,869		268,950		253,621

1/ f.o.b. prices in Japan.
2/ n.a.
3/ One Kan equals 8.267 pounds.
Export approval statistics and customs clearances.

proposed exports of frozen fishery products for 1964 t 44,104 metric tons valued at $85 million. Compared w e 1963 exports, they are higher by 34.9 percent in q y and 26.3 percent in value. Notable in the proposed e s of frozen fishery products for 1964 is the sharp in- c for tuna--greater by 29.8 percent in quantity and 2 rcent in value than the previous year's exports.

er the proposed export target for 1964, shipments of c d pearls and agar-agar will be maintained at about t level. The proposed exports of fresh fishery prod- u 1964 show the sharpest percentage increase over the p s year's exports--75.3 percent more in quantity and 1 rcent more in value. (Fisheries Attache, United S mbassy, Tokyo, May 11, 1964.)

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S ER ALBACORE FISHERY A EXPORT TRENDS:

ne 5,000 metric tons of albacore tuna w reported to have been landed as of early J 1964 in Japan since the beginning of the s er albacore fishery. Of that amount, 1 tons were estimated to have been bought b panese traders engaged in the frozen t xport trade.

of early June, the Japanese traders are r ted to have signed contracts with United S tuna packing firms amounting to 2,000 t 00 tons of albacore. Those traders will n o purchase an additional 500-1,000 tons o acore to meet their United States commitments, but are expected to be able to do so readily due to the large quantity of albacore landed during June (ranging from 300-500 tons a day) and also due to slow buying on the part of Japanese tuna packers.

The export price of frozen albacore has declined steadily since the beginning of the summer fishery. From a high of US$400 a short ton, the c.i.f. price has dropped to $360 a ton, and offers of $350 a ton are now being made. (Suisan Tsushin, June 9, 1964.)

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TUNA BASES AT PENANG OPERATE AT A LOSS:

The Japanese fisheries company which operates the tuna bases at Penang, Malaysia, and Port Luis, Mauritius Island, and the tuna cannery at Penang, held its sixth annual stockholders meeting at Tokyo on May 30, 1964. For the business year April 1963-March 1964, that firm is reported to have lost 70.2 million yen (US$195,000). That sum is in addition to the losses carried over from the previous business year, which totaled 34.7 million yen (US$96,389).

The operational deficit of that firm was attributed to the difficulty it faced in attracting sufficient tuna vessels to operate out of its bases, thereby preventing the economic utilization of its bases and plant facilities. (Suisan Tsushin, June 1, 1964.)

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TUNA FISHING TRENDS IN SOUTH PACIFIC:

Japanese tuna fishing about 200 miles north of the New Hebrides Islands, South Pacific, improved greatly toward the end of May 1964. The six Japanese tuna vessels operating out of the tuna base at Espiritu Santo, New Hebrides Islands, had concentrated in that area and were averaging 3 metric tons of tuna per vessel per day as compared to 1.8 tons per day prior to May 20.

The tuna mothership Yuyo Maru (5,040 gross tons), accompanied by 55 catcher vessels, departed Tokyo on May 27 for the South Pacific tuna fishing grounds off the Fiji Islands. Catch target of the mothership, which was scheduled to remain on the fishing grounds until August 25, was 5,400 metric tons of tuna, spearfish, and shark.

The Yuyo Maru, which commenced fishing operations on June 6, was reported to be catch-

Japan (Contd.):

ing an average of about 4 metric tons of tuna a day per catcher vessel. The highest catch registered by a catcher vessel of that fleet is 9 tons a day.

The Nojima Maru (8,800 gross tons) tuna mothership fleet, which started fishing operations on May 26 in the vicinity of Tahiti, was reported to be averaging close to 3 tons of tuna a day.

The firm operating the Nojima Maru plans to transship to the United States about 3,900 metric tons of tuna caught by that mothership. That firm has not as yet selected a port of transshipment. The port of Papeete, Tahiti, reportedly is not suitable and an island near Tahiti is expected to be selected as the transshipment port. The carrier vessels Tsukishima Maru and Hokko Maru will transport the tuna to the United States. The Tsukishima Maru was to have left Kobe on June 3. The Hokko Maru was scheduled to leave Japan on July 7. (Suisancho Nippo, May 27 and 29, 1964.)

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TUNA FISHING TRENDS IN ATLANTIC OCEAN:

Some 150 Japanese tuna vessels operating in the Atlantic Ocean are reported to be catching large quantities of bluefin and big-eyed tuna. The majority of the bluefin is said to range in size from 400 to 800 pounds. The preponderance of those two species in the tuna catch is said to have created a marketing problem for the Japanese trading firms. This is because tuna importing countries such as Italy prefer yellowfin and are willing to accept mixed species of tuna provided the shipments consist mainly of yellowfin. The Atlantic tuna catches are said to be presently running 30 percent yellowfin to 70 percent bluefin and big-eyed. (Suisan Tsushin, June 6, 1964.)

* * * * *

FIRM TO OPERATE PURSE-SEINE FLEET IN ATLANTIC:

A Japanese fishing firm's application to engage in purse-seine fishing off the coast of West Africa, using Ghana as a base, has been approved by the Fisheries Agency. The firm plans to conduct a mothership-type operation, employing one mothership and two 90-ton purse-seine vessels. Assignment to that fleet of 5 pole-and-line vessels operating out of Ghana is also being contemplated.

Fishing operations (primarily for tuna and mackerel) are expected to begin in August. The Japanese firm is planning on employing the 1,700-ton freezership Chichibu Maru No. 2 as the mothership. (Suisancho Nippo, May 15 & 18, 1964.)

* * * * *

HALIBUT MOTHERSHIP RETURNS:

The Japanese 700-ton mothership Fuji Maru No. 3, specially chartered to fish for halibut in Area 3B North Triangle (Eastern Bering Sea), was scheduled to arrive in Tokyo on May 23, 1964. Reportedly, that mothership caught a total of 350 metric tons of fish, consisting of 100 tons of halibut and black cod, and the remainder mainly rockfish. (Suisan Tsushin, May 22, 1964.)

* * * * *

CANNED PINK SALMON EXPORT PRICES:

The Japan Land Salmon Packers Association, at a directors' meeting held in Hokkaido in early June, according to Minato Shimbun, June 5, 1964, has established the following standard export (f.o.b.) prices for canned pink salmon.

Product	Price Per Case
	US$
Canned Pink Salmon:	
Fancy 48 cans/cs. (8-oz.)	10.60
" 96 cans/cs. (8-oz.)	12.65
Standard 48 cans/cs. (8-oz.)	9.60
" 96 cans/cs. (4-oz.)	11.65

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JAPANESE NORTH PACIFIC MOTHERSHIP SALMON PRICES:

The Japan Federation of Salmon Fishermen's Associations (NIKKEIREN) and the salmon mothership companies have reached agreement on the following ex-vessel prices for fresh whole salmon delivered by the catcher vessels to the motherships:

Species	1964 Price		1963 Price	
	Yen/kg.	U.S. Cents/lb.	Yen/kg.	U.S. Cents/lb.
Red	213	26.8	203	25.6
Chum	115.5	14.6	110	13.9
Pink	93	11.7	88.5	11.2
Silver	126	15.9	120	15.2
King	126	15.9	120	15.2

The 1964 salmon prices represent a flat 5 percent increase over 1963. The price negotiations were concluded on May 15, 1964, the day that the 11 salmon motherships ar

an (Contd.):

catcher vessels were scheduled to depart for the fishgrounds, following the issuance of a directive issued e Fisheries Agency (on the afternoon of May 15) calln the NIKKEIREN and the mothership companies to e every effort to reach a settlement in good faith so the fleet could depart as scheduled; otherwise, any deir the fleet departure may well affect the departure of the fleet in 1965.

e NIKKEIREN had called a mass meeting on the morn- the 15th of the 2,000-odd vessel owners and fisher- nd threatened to stop the departure of the salmon . The fleet departed shortly after the price settlement eached, but about 10 hours later than scheduled. (Sui- o Nippo, May 16; Suisan Tsushin, May 18, 1964.)

itor's note: We have had several inquiries concerne seemingly high prices for salmon paid to the Japafishermen. We have checked our sources carefully elieve the published prices are reliable. Despite the ost of the raw product to the Japanese packers, we e they are able to maintain their competitive position world canned salmon market for the following rea-

. Labor cost: The labor cost is very low. For example, nderstanding is that the workers on the Japanese erships receive an average salary of about $145 a n. At shore-based plants in Hokkaido, the cannery ers, mostly women, are provided, in addition to room oard, a monthly salary ranging from $20-30 a month.

. Meat recovery: Recovery of meat per pound of fish lieved to be higher in Japan than in the United States. example, meat attached to the head section is recovmanually by the Japanese and canned as "tid-bits."

. Utilization of byproducts: Japanese packers pack n caviar incidentally to their canning operations. value of this product, which has a special market in , is reported to be substantial. For example, in 1963 ssed pink salmon roe (caviar) is said to have sold 4.00 a pound on the wholesale market. First grade f other species sold for about $20-25 a pound. The hat Japan has arranged to obtain salmon roe from United canneries further attests to the economic value of that ct. Another byproduct is salmon carcasses. For ex- , on the motherships, scraps remaining from the g operations are processed for later conversion into zer.

Other products: Large quantities of pink and chum n are salted. The return to the packer on the salted t compares favorably to that for the canned product. d salmon is becoming a popular item in Japan. d red salmon has a ready market in West Germany e United Kingdom. The return to the producer on ecialty item is reported good.

* * * * *

MON CATCH BY THERSHIP FLEETS:

The salmon catch for the first ten days of Japanese mothership fleets operating in northern waters was reported to be run- 65 percent reds, 32-33 percent chums, 2-3 percent pinks. (Suisan Tsushin, June 964.)

* * * * *

HOKKAIDO PACKERS BEGIN PACKING PINK SALMON:

Japanese salmon packers in Hokkaido are reported to have started packing pink salmon quarters, paying about 220 yen a kilogram (US$0.277 a lb.) for the fresh fish. Reportedly, at that price they are barely able to show a profit. The high cost of the raw product is attributed to the earliness of the fishing season and scarcity of fish.

The pink salmon fishery off eastern Hokkaido was expected to peak toward mid-June at which time the Hokkaido packers planned to start putting up pink halves. Reportedly, to be able to pack that style at a profit the ex-vessel pink salmon price will have to come down to the 180-190 yen a kilogram (US$0.206-0.217 a lb.) level. (Suisan Tsushin, June 2, 1964.)

Editor's note: Salmon caught by the Japan-based fishing vessels operating in the North Pacific east of the Kurile Islands and Hokkaido are usually sold by auction on the open market. They command higher prices than those prevailing in the salmon mothership fishery.

In the case of the mothership fishery, prices are negotiated between the fishermen and mothership companies for the entire salmon season. The 1964 pink price to the fishermen engaged in the mothership fishery is $0.117 per pound.

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SALMON FISHERMEN REQUEST TUNA FISHING LICENSES:

Japanese salmon fishermen engaged in the mothership-type salmon fishery have begun a concerted national effort to seek six-months tuna fishing licenses for 114 of their salmon vessels (80- to 90-ton), claiming that they need the licenses to ensure their livelihood, which they claim is now wholly dependent on the income derived from one fishery. They are being supported in their demands by the Northern Water Mothership Council (composed of the large companies operating motherships in the northern waters), prefectural Diet representatives, and the Governors of the 13 prefectures in northern Japan, and are taking their case directly to the Minister of Agriculture and Forestry and to the Diet.

The National Federation of Tuna Fishermen's Cooperative Association (NIKKEIREN),

Japan (Contd.):

pointing to recent trends in the tuna fishery, claims that the salmon fishermen's demand violates the recently enacted Revised Fisheries Law. The NIKKEIREN plans a strong opposition to the demand of the salmon fishermen and intends to carry on their fight on a political level also. (Minato Shimbun, June 6; Shin Suisan Shimbun, June 8, 1964.)

* * * * *

ATLANTIC TRAWL LANDINGS, 1963:

The 34 Japanese trawlers operating in the Atlantic Ocean off the coast of Africa landed a total of 91,984 metric tons of fish in 1963, according to preliminary data released by Japan's Fisheries Statistics Section, Ministry of Agriculture and Forestry. This is an increase of 44,000 tons over the 1962 catch made by 32 trawlers.

The 1963 catch consisted of 39,105 tons of sea bream, 20,298 tons of squid, 6,999 tons of octopus, 6,504 tons of mackerel, 6,631 tons of cod, and 12,447 tons of miscellaneous species, with a total value of 11.2 billion yen (US$31.1 million). Of the total catch, nearly half (close to 45,000 tons) was exported to Europe, Africa, and the Middle Eastern and Near Eastern countries. The exports, consisting mainly of lower-priced fish, were valued at 2,640 million yen (US$7.3 million).

Reportedly, the Japanese Atlantic trawl fleet in 1965 is expected to total 52 trawlers. In 1960 there were 5 trawlers engaged in the fishery off West Africa, in 1961 there were 15 trawlers, and in 1962 the number was 32 trawlers. (Suisancho Nippo, June 5, 1964.)

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JOINT JAPANESE-CANADIAN FISHING ENTERPRISE IN CANADA PROPOSED:

One of Japan's largest fishing companies has submitted an application to the Ministry of International Trade and Industry to export three 300-ton trawlers to Canada as part of its investment in the company that the firm plans to establish in Newfoundland jointly with a Canadian fisheries company. Should the application be approved, the Japanese firm plans to transfer to Canada the two 300-ton trawlers (Eiyo Maru and Chuyo Maru No. 16) presently fishing in the North Atlantic with the 3,700-ton stern trawler Tenyo Maru No. 3.

The Canadian firm is reported to own processing and freezing facilities capable of handling the catch of ten 300-ton trawlers. The company employs 500 people. (Suisanch Nippo, May 25, 1964.)

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KING CRAB FISHING IN BRISTOL BAY IMPROVES

The two Japanese king crab factoryships (Tokei Maru, 5,835 gross tons; and Dainich Maru, 5,859 gross tons) operating in the Eas ern Bering Sea are reported to be doing wel after a relatively slow start. They were ave aging about 11 crabs a shackle. (Suisan Tsu shin, May 18, 1964.)

* * * * *

KING CRAB CANNED PACK AND EXPORTS, FISCAL YEAR 1963:

Japan's pack of canned king crab meat in fiscal year 1963 (March 1963-February 1964 from distant water areas--Bristol Bay, Okhotsk Sea (West Kamchatka), and the Olyutor Sea (off Siberian Coast)--totaled a record of 509,200 cases (48 ½-pound cans) due to the increase in pack from the Olyutor area. The pack in Bristol Bay and the Okhotsk Sea in 1963 was the same as in the previous year.

During the period 1956-1963, the Japanes king crab meat pack from Bristol Bay has shown almost a fourfold increase while the Okhotsk Sea pack has gradually declined. Th Okhotsk Sea pack is subject to quota regulat by the International Northwest Pacific Fish ies Commission (Japan-Soviet Union).

Japanese exports of canned king crab du ing March 1, 1963-February 29, 1964, total

Table 1 - Japanese Exports of Canned King Crab Meat by Destination, March 1, 1963-February 29, 1964

Month	United States	United Kingdom	Continental European Countries	Other Countries	Tot
	(Standard Cases[1])				
March . .	14,585	325	2,797	756	18,
April . . .	12,498	-	2,558	523	15,
May . . .	4,469	1,450	2,231	360	8,
June . . .	18,015	1,350	3,772	586	23,
July . . .	23,002	4,862	2,786	275	30,
August . .	23,149	7,450	4,915	1,002	36,
September	19,423	10,580	9,353	1,268	40,
October .	21,115	1,625	6,303	1,705	30,
November	9,173	10,050	9,070	1,286	29,
December	14,256	8,438	4,650	823	28,
January .	10,996	13,575	4,115	906	29,
February .	15,774	16,765	4,452	1,500	38,
Total .	186,455	76,470	57,002	10,990	330,

1/Standard cases of 48 ½-pound cans.

...n (Contd.):

Table 2 - Japanese Pack of Canned King Crab Meat by Factoryship and Area, 1956-1963

...and Factoryship	1963	1962	1961	1960	1959	1958	1957	1956
	(Standard Cases[2])							
...Bay (Spring Season)[1]:								
...i Maru	120,000	60,000	80,000	80,000	70,000	59,850	59,850	59,850
...o Maru	-	-	[3]22,000	[3]18,100	-	-	-	-
...chi Maru	115,000	[3]100,000	-	-	-	-	-	-
...Bay (Fall Season) [1]:								
...i Maru	-	-	[3]20,000	-	-	-	-	-
...bu Maru No. 2	-	-	[3]30,000	-	-	-	-	-
... Maru No. 31	-	-	[3]20,000	-	-	-	-	-
...na Maru	-	[4]75,000	-	-	-	-	-	-
... Maru	-		-	-	-	-	-	-
...al Bristol Bay pack	235,000	235,000	172,000	98,100	70,000	59,850	59,850	59,850
... Sea:								
...Maru	63,000	63,000	65,000	65,000	69,800	80,000	92,500	92,500
... Maru	63,000	63,000	65,000	65,000	69,800	80,000	84,000	73,500
...o Maru	63,000	63,000	65,000	65,000	69,800	80,000	84,000	73,500
...esan Maru	-	-	65,000	65,000	70,600	80,000	84,000	73,500
... Maru	63,000	63,000	-	-	-	-	-	-
...tal Okhotsk Sea pack	252,000	252,000	260,000	260,000	280,000	320,000	344,500	313,000
... Sea (off Siberian Coast):								
...hisa Maru	-	-	-	-	-	-	-	54,500
...Maru	-	-	-	-	-	[3]1,228	-	-
... Maru	-	-	-	-	[3]3,722	-	-	-
...ima Maru	-	-	-	[3]14,744	-	-	-	-
...hima Maru	-	[3]1,700	[3]4,445	-	-	-	-	-
...Maru	22,200	-	-	-	-	-	-	-
...tal Olyutor Sea pack	22,200	1,700	4,445	14,744	3,722	1,228	-	54,500
...tal king crab pack	509,200	488,700	436,445	372,844	353,722	381,078	404,350	427,350

[1] ...to 1961, Japanese king crab fishing in Bristol Bay was authorized only during the "spring season" (April-August). In 1961, the ...nese Fisheries Agency licensed king crab operations in Bristol Bay during the fall months as well as during the spring season. ...963, the Bristol Bay spring and fall fisheries were combined into a single season.

[2] ...ard cases of 48 ½-pound cans.

[3] ...les frozen king crab converted, for statistical purposes, to equivalent canned pack with the factor: 1 metric ton frozen crab ...t per 100 standard cases of canned crab.

[4] ...bined production of Ishiyama Maru and Shinyo Maru.

...17 cases, of which 56 percent was ex-...d to the United States, 23 percent to the ...Kingdom, 17 percent to countries in ...ental Europe, and about 4 percent to ...countries. (Fisheries Attache, United ... Embassy, Tokyo, June 4, 1964.)

* * * * *

...TION TO NEW U. S. LAW ...SHING IN TERRITORIAL WATERS:

...sident Johnson's statement on May 20, ...when he signed P. L. 88-308 (an act to ...t fishing in territorial waters of the ... States and in certain other areas by ...s other than vessels of the United States ... persons other than United States na... or inhabitants), that the United States ...ve full consideration to Japan's long ...shed king crab fishery in Bristol Bay, ...spelled the fear held among the Japa...overnment and fisheries circles that ...w law might shut out Japan from the ... Sea crab fishery, according to Japan's national economic trade journal Nihon Keizai Shimbun, May 21 and 22, 1964.

The periodical states that the new law has given rise to views within the Japanese Government that Japan should restudy her present policy of rigidly adhering to the principle of freedom of the high seas. It points out that great changes are occurring in the international fisheries, with fishing countries generally trending toward adopting the 12-mile territoral sea limit. The periodical adds that Japan's rigid adherence to the principle of freedom of the high seas, in the face of those developments, could lead toward isolating her in international fisheries. To prevent such an adverse situation, opinion is gaining ground within the Japanese Government that Japan should revise her basic policy on fishing on the high seas and should participate actively in international treaties, and thereby seek greater recognition of her vested fishing rights.

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Japan (Contd.):

SHRIMP IMPORT TRENDS:

Japan annually imports about 12,000-13,000 metric tons of frozen shrimp. Of that amount, approximately 40 percent is supplied by Mexico.

Japanese shrimp importers are disturbed over the occurrence of false labeling of frozen shrimp imported from Mexico. Unless the situation is remedied, they are said to be contemplating placing a voluntary ban on the purchase of Mexican frozen shrimp handled by certain United States trading firms. According to the Japanese firms, the deliveries of frozen shrimp often did not conform to their order specifications, although the labeling on the packages seemingly indicated that they did. For example, the contents of packages marked as white shrimp were, in fact, brown and sizes were smaller than those indicated on the packages. (Minato Shimbun, May 23, 1964.)

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1964 FROZEN OYSTER PACK FOR EXPORT TO UNITED STATES:

A total of 180 metric tons of frozen oysters for export to the United States was packed in the first quarter of this year by a leading Japanese fishery firm. In 1963, a total of 350 tons of Japanese frozen oysters was exported to the United States, 250 tons of which are reported sold.

The composition of this year's Japanese frozen oyster pack by type of pack is: 40 tons tray-packed; 120 tons individually quick-frozen (bulk) packed; 20 tons block-packed.

The sale of frozen oysters in Japan has increased as a result of the Japanese firm's accelerated home sales campaign. (Shellfish Soundings, May 14, 1964.)

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FISH MEAL PRICES:

The Japanese firms operating fish meal factoryships in the Eastern Bering Sea are hopeful of receiving 62,000 yen (US$172) a metric ton for their 1964 production of fish meal on the domestic market. Fish meal consumer organizations in Japan are countering with a price offer of 57,000 yen (US$158) a ton.

Five Japanese factoryships are engaged the production of fish meal in the Eastern Bering Sea this year. Their total productio target amounts to slightly over 40,000 tons. (Suisan Keizai Shimbun, May 17, 1964.)

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MARINE OIL SUPPLY AND DISPOSITION, 1962-1963 AND 1964 FORECAST:

Edible Marine Oil: Japanese productio of edible marine oils in calendar year 196 was down about 10 percent from that in the previous year due mainly to lower product of fish oil. Edible whale oil production in 1963 was down only 3 percent, but Japanes production of whale oil was expected to sh a considerable decline in 1964 and exports of edible marine oil are also expected to d cline in 1964.

Table 1 - Japanese Supply and Disposition of Edible Marine Oi 1962-1963 and 1964 Forecast

Item	Calendar Years		
	Forecast 1964	1963	196
	. . . (Metric Tons) . . .		
Supply:			
Opening stocks:			
Fish oil and fish liver oil	9,854	18,475	10, 3
Whale oil	5,923	5,114	6, 2
Total opening stocks, January 1	15,777	23,589	16, 5
Production:			
Whale oil	99,000	127,000	130, 4
Fish oil	32,200	24,700	39, 7
Cod-liver oil	7,800	7,300	7, 7
Shark-liver oil	1,800	1,500	1, 2
Other fish-liver oil	800	600	7
Total production	141,600	161,100	179, 9
Imports	1,000	500	1,
Total supply	158,377	185,189	197,
Disposition:			
Exports	103,700	119,257	94,
Domestic disappearance	1/	1/	

1/Data not available. (The Japanese Ministry of Agriculture Forestry estimated that domestic food uses of marine oils fiscal year 1964 amounted to 52,500 tons--17,400 tons w oil and 35,100 tons fish oil--all of which was consumed the manufacture of margarine and shortening. In additio 5,500 tons of fish oil was consumed for nonfood uses.)

Inedible Marine Oil: Japanese product of inedible marine oil (sperm oil) in 1963 up 12 percent from the previous year. Pr duction and exports of sperm oil are expec to increase in 1964.

Foreign Trade in Edible and Inedible M rine Oil: IMPORTS: Japanese imports of rine oil are small and consist mainly of ed fish oil and shark-liver oil. Total imports edible and inedible marine oils in 1963 we

an (Contd.):

ble 2 - Japanese Supply and Disposition of Inedible Marine Oil (Sperm Oil)[1/], 1962-1963 and 1964 Forecast

em	Calendar Years		
	Forecast 1964	1963	1962
	. . . (Metric Tons) . . .		
ly:			
ning stocks, January 1[2/] . . .	7,332	6,509	6,785
duction	42,100	37,800	33,870
orts	-	7	-
Total supply	49,432	44,316	40,655
sition:			
orts[3/]	20,100	12,500	13,700
estic disappearance	4/	4/	4/

e Japanese supply of inedible marine oil consists of sperm l.

ks held by oil processors.

mated by the Japanese Ministry of Agriculture and Forestry. The estimated exports of sperm oil are less than those own in table 4. The exports of sperm oil shown in table 4 ppear to include direct exports by fishing fleets.

a not available. (The Japanese Ministry of Agriculture and orestry estimated that domestic nonfood uses of sperm oil in scal year 1964 amounted to 22,000 tons.)

Table 3 - Japanese Imports of Marine Oils by Country of Origin, 1962 and 1963

mmodity and Country of Origin	1963	1962
	. . (Metric Tons) . .	
e Marine Oil:		
d-liver oil:		
epublic of Korea	-	83
her countries	7	-
Total cod-liver oil	7	83
k-liver oil:		
epublic of Korea	-	56
epublic of China	76	110
rway	49	65
ited States	-	19
her Countries	24	17
Total shark-liver oil	149	267
-liver oil:		
public of Korea	-	18
mmunist China	9	13
public of China	32	9
g Kong	21	28
ted States	0	10
er Countries	-	9
tal fish-liver oil	62	87
il:		
. . . . .	271	30
gola	-	640
th Africa	1	-
tal fish oil	272	670
e oil:		
kyu Islands	-	60
ited States	10	-
tal whale oil	10	60
tal edible marine oils	500	1,167
le Marine Oil:		
n oil:		
ited States	7	0
tal edible and inedible marine oils	507	1,167

e: Japanese Customs Bureau, Ministry of Finance.

Table 4 - Japanese Exports of Marine Oils, by Country of Destination, 1962 and 1963

Commodity and Country	1963	1962
	. . (Metric Tons). .	
Edible Marine Oils:		
Whale oil:		
Republic of Korea	-	544
North Korea	226	-
Communist China	-	1,016
Philippines	-	6
Sweden	-	3,302
United Kingdom	27,880	24,872
Netherlands	54,690	44,644
Belgium	5,080	-
France	13,564	-
West Germany	15,685	16,325
United States	-	730
Australia	301	-
Total whale oil	117,426	91,439
Cod-liver oil:		
Malaysia	134	40
Philippines	13	20
Canada	113	139
United States	748	744
Other countries	54	20
Total fish oil	1,062	963
Shark-liver oil:		
United States	5	47
Other countries	12	63
Total shark-liver oil	17	110
Other fish-liver oil:		
Norway	33	52
Sweden	27	126
United Kingdom	38	124
Netherlands	59	120
Belgium	39	40
France	26	106
Canada	27	76
United States	293	334
Australia	5	77
Other countries	60	81
Total other fish-liver oils	607	1,136
Fish oil:		
Republic of Korea	90	30
Republic of China	-	94
Malaysia	-	20
United States	-	518
Other countries	24	8
Total fish oil	114	670
Unclassified marine oil:		
All countries	31	37
Total edible marine oils	119,257	94,355
Inedible Marine Oil:		
Sperm oil:		
Republic of Korea	-	37
Republic of China	17	19
United Kingdom	3,853	9,779
Netherlands	39,550	4,573
Belgium	-	3,302
West Germany	2,302	8,407
United States	7,532	14,381
Australia	304	-
Other countries	2	-
Total sperm oil	1/53,560	1/40,498
Total edible and inedible marine oils	172,817	134,853

1/Totals exceed estimated total exports of sperm oil shown in table 2.

Source: Japanese Customs Bureau, Ministry of Finance.

Japan (Contd.):

down 57 percent from those in 1962 due mainly to smaller shipments from Angola and the Republic of Korea.

EXPORTS: Japanese exports of edible marine oils in 1963 were up 26 percent from those in the previous year due to larger shipments of whale oil which accounts for the bulk of Japanese edible marine oil exports. The leading buyers are the Netherlands, United Kingdom, France, and West Germany.

Exports of inedible sperm oil (as reported by the Japanese Customs Bureau) were also up in 1963 due mainly to larger shipments to the Netherlands.

Note: See Commercial Fisheries Review, July 1963 p. 83.

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JAPANESE MAY PURCHASE DUTCH WHALING FACTORYSHIP:

The three large Japanese fishing companies engaged in whaling in the Antarctic Ocean will likely sign an agreement to purchase the Netherlands Whaling Company's whaling factoryship Willem Barendsz (26,830 gross tons), including that factoryship's six-percent international whale-catch quota. The purchase was to be made after the June 1964 International Whaling Conference, according to informed industry sources. In January 1964 the President of the Netherlands Whaling Company had offered to sell its factoryship to Japan. However, the Japanese firms, after meeting with the Fisheries Agency, decided at that time not to commit themselve on the offer until after the June conference. (Suisan Keizai Shimbun, May 14, 1964.)

日本

Mexico

SHRIMP VESSELS BUILT FOR KUWAIT:

Mexico is becoming an important factor in supplying foreign fisheries with shrimp vessels. A shrimp vessel built in Mexico has been operating successfully off Pakistan, and a shipyard on the Pacific coast of Mexico has received orders for the construction of twelve 67-foot steel shrimp vessels for Kuwait. Orders have also been received from Brazil and Chile.

Four of the shrimp vessels for Kuwait were completed in May 1964 and the other 8 are

Fig. 1 - Steel shrimp trawler (67 feet) under construction at a shipyard in Mazatlan, Mexico, for export to Kuwait.

nearing completion. The vessels are being delivered ready to fish and are fully equipp with nets, radio, direction finder, echo-sou er, brine refrigeration equipment, and fibe glass skiffs. The machinery and most of th electronics equipment installed were manufactured in the United States, although Japa nese echo-sounders have been used. The v sels are equipped with special machines to sort shrimp by size.

Fig. 2 - Several of the 12 steel shrimp vessels built for Kuwa Four were ready to ship in 10 days.

Designed for operation in the tropics, t vessels have been built to identical specifi tions to facilitate maintenance in remote a They are designed to carry a crew of 25, a twice the size of Mexican crews on compar ble vessels.

The new vessels will be delivered to Ku wait by freighter. They will be accompani by experienced 3-man Mexican crews--ca tain, engineer, and seamen--who will rema with the vessels under 18-months contrac

Mexico (Contd.):

Fig. 1 - Steel shrimp vessels ready to leave for Kuwait, fully equipped and ready to fish. Mexican captain, engineers, and 1 crewman for each vessel are provided on an 18-months contract.

to train Kuwait fishermen. (United States Embassy, Mexico, D.F., June 1, 1964.)

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SECONDARY FISHERIES OF SINALOA:

The Mexican state of Sinaloa and its principal fishing port Mazatlan on the Gulf of California are known throughout the fishing world for their shrimp industry. However, some of the lesser known fisheries in the area are also of interest. Those include, among others, the sport fishery, a canoe fishery, sea turtle fishery, and a shark fishery.

Fig. 2 - Part of the 270-vessel shrimp fleet fishing out of Sinaloa's principal fishing port of Mazatlan.

Mazatlan Sport Fishery: Excellent fishing for marlin and sailfish is the lure that brings many tourists to Mazatlan. A fleet of about 40 sport fishing charter vessels operates out of Mazatlan for large game fish. Daily charter rates range from US$50 to $65 during the season from November through May and about $40 during the remainder of the year. Rates include tackle and bait as well as the services of the skipper and a deckhand for 2 to 3 sport fishermen. The rate for longer trips to offshore islands is about $120 per day. Part-day trips for numerous smaller game fish are $6 per hour.

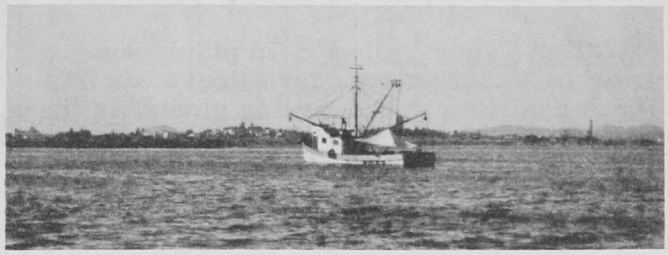

Fig. 2 - Mazatlan as seen by a returning shrimp vessel.

The season for striped marlin, which is the principal game fish, is from January into May. Sailfish are available from early May to November. The large black marlin are taken in May, June, and July. At times, all three varieties are caught in a single day.

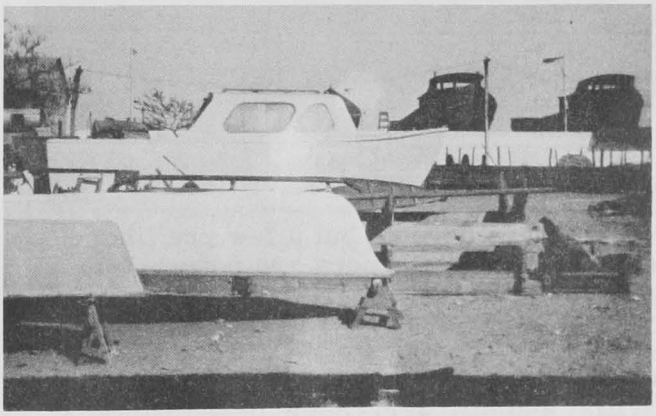

Fig. 3 - Fiberglass charter sport fishing boat being built in a shipyard in Mazatlan. Steel shrimp vessels can be seen in background.

When all 40 charter sport vessels are fishing, which is a frequent occurrence, the total gross daily income for charters runs from $1,600 to $2,400. In addition, other craft fishing for the smaller game fish also bring in a sizable income. The Mazatlan sport fishery provides a livelihood for some 80 to 100 crewmen and 40 employees of the landing wharfs for the sport fleet. It also helps support the fishermen who catch mullet for bait, and brings additional income to boatyards and suppliers.

Mexico (Contd.):

The total Mazatlan sports catch of marlin and sailfish amounts to over 5,000 fish a year. Virtually all of those are given by the anglers to the crew for sale at extremely low prices for the manufacture of fish meal. Realizing that marlin taken in the Japanese tuna fishery are used for fish sausages, the Mexican Department of Fisheries is seeking ways to use the sport-caught fish in its program to increase the consumption of fishery products.

Mazatlan Canoe Fishery: In picturesque contrast to Mazatlan's modern fleet of shrimp trawlers and shrimp processing plants, is the fleet of dugout canoes that calls the beach in front of luxurious resort hotels its home port. The canoe fleet consists of about 100 craft.

Fig. 4 - Hand-line canoes on the beach at Mazatlan--fish for sierra, snapper, corvina, cabrilla, etc.

Nearly all are dugouts but a few are fiberglass. Most of the canoes are powered by small inboard engines. The canoes, manned by 1 or 2 fishermen, usually fish within sight of the beach. Their catches are made with hook and line, and include sierra, corvina, cabrilla, and snapper. Some of the catch is purchased by local buyers for retail markets and hotels, but much of the catch is shipped by truck to Mexico City and Guadalajara.

Sea Turtle Fishery: One of the cooperatives in Sinaloa maintains a sea turtle fishery. During April 1964, a sea turtle catch of over 30 tons was taken by the cooperative. The sea turtles, known as caguama or cahuama, provide both leather and meat. The leather is used for luxury products. The meat is consumed locally to a large extent. The flipper meat is used in a soup that is a favorite dish of Mazatlan.

The director of the Mazatlan Biological Station of the Mexican Department of Fisheries has stated that the sea turtle resource is rather limited and under constant threat from unauthorized egg gathering on the beaches. (Sea turtles go ashore to deposit their eggs.) Nevertheless, if supervised carefully, the fishery could probably be expanded somewhat.

Shark Fishery at Teacapan: The village of Teacapan at the Southern tip of Sinaloa is known for its shrimp and oysters. From mid-September to early December the town is bustling with activity as close to 1,000 local canoes are busy producing shrimp for the canning and freezing plant in nearby Escuinapa. During other seasons, the fishermen are employed in the oyster fishery, the tourist sport fishery, and the shark fishery. The Teacapan shark fishery does not compare with the modern large-scale shark fisheries operating at Mazatlan, Islas Tres Marias, and Zihuatanejo. But the Teacapan operation is typical of the small shark fisheries at dozens of remote villages all along the coast.

Fig. 5 - Right of center is a shark fishing boat, Teacapan, Sinaloa.

A few small power boats operate in the ocean waters near the Teacapan lagoon, landing shark catches on the sandy beach at the village.

Fig. 6 - Butchering 4 large sharks on the beach at Teacapan.

lexico (Contd.):

arks are dressed on the beach and the fil-ts are washed in the lagoon. The meat is lted and sun-dried on racks. The result-g product is said to be similar to dry-salted

7 - After the shark fillets are washed, they are put on rocks iry. The product is sold as "bacalao de tiburon." In left eground, shark fins are on the racks to dry.

. In fact, it is called "bacalao de tiburon" codfish-style shark. The product is ship-d to the cities for sale by the National mpany of Popular Subsistance (CONASUPO) limited-income groups. It is also sold in markets. CONASUPO has prepared a phlet of recipes that features "bacalao tiburon." The shark fins are similarly d for use in soup. Mexican exports of d shark fins (mainly to the United States) unt to about 70,000 pounds annually, ed at $28,000. (Fisheries Attache, Unit-States Embassy, Mexico, D.F., June 1, 4.)

herlands

H MEAL PRICES, 1962-1963:

During January-September 1963, fish meal es in the Netherlands averaged lower than e in the same period of 1962; but in the quarter of 1963 an upward trend carried h fish meal prices above those in the last

Average Monthly Prices[1/] of Fish Meal in the Netherlands, 1962-1963

Month	1963		1962	
	Guilders/ Metric Ton	US$/ Short Ton	Guilders/ Metric Ton	US$/ Short Ton
January	547	137.6	578	145.4
February	546	137.4	560	140.9
March	529	133.1	542	136.3
April	522	131.3	540	135.8
May	513	129.1	543	136.6
June	513	129.1	528	132.8
July	508	127.8	520	130.8
August	502	126.3	508	127.8
September	505	127.0	517	130.1
October	535	134.6	518	130.3
November	542	136.3	539	135.6
December	579	145.7	552	138.9

1/Brokers' prices to users for 61.4 percent protein meal.
Source: Netherlands Central Bureau of Statistics.

quarter of 1962. (United States Embassy, The Hague, April 24, 1964.)

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MARINE OIL SUPPLY AND DISPOSITION, 1963 WITH COMPARISONS:

Supply and Disposition: In 1963, there was an increase of about 56 percent in domestic production of marine oils in the Netherlands, although imports continued to provide the bulk of the total supply. Domestic use absorbed 73 percent of that supply, 8 percent was exported, and 19 percent was carried over on December 31, 1963.

Table 1 - Netherlands Supply and Disposition of Marine Oils, 1963

Item	1953 Metric Tons
Supply:	
Opening stocks, January 1	18,306
Imports	1/95,500
Production[2/]:	
Whale oil	8,130
Other marine oils	3,654
Total production	11,784
Total supply	125,590
Disposition:	
Exports:	
As oils[3/]	5,967
As oil in products	4,600
Total exports	10,567
Domestic disappearance:	
Food use	82,466
Other use	8,868
Total domestic disappearance	91,334
Closing stocks, December 31	23,689

1/Does not completely agree with data reported in table 2.
2/Production entirely from Dutch raw material.
3/Does not include fish-liver oil.
Source: Estimates based on preliminary data issued by the Netherlands Product Board for Margarine, Fats, and Oils.

Netherlands (Contd.):

Table 2 - Netherlands Imports of Fish and Marine-Animal Oils, 1962-1963

Commodity and Origin	1963			1962		
	Quantity	Value		Quantity	Value	
	Metric Tons	1,000 Guilders	US$1,000	Metric Tons	1,000 Guilders	US$1
Fish-Liver Oil:						
European Economic Community	337	205	57	379	190	
Iceland	29	19	5	150	62	
Norway	311	352	98	303	298	
Portugal	554	359	99	25	16	
Japan	59	389	108	123	732	
Other countries	59	67	19	48	50	
Total fish-liver oil	1,349	1,391	386	1,028	1,348	
Fish Oil:						
European Economic Community	2,171	884	245	2,265	841	
Iceland	1,235	681	189	429	144	
United States	17,398	10,040	2,784	14,999	5,531	1,
Peru	33,706	12,796	3,548	18,560	6,536	1,
Chile	7,501	3,300	915	5,632	1,884	
Other countries	1,067	581	161	965	372	
Total fish oil	63,078	28,282	7,842	42,850	15,308	4,
Whale Oil:						
Iceland	-	-	-	1,016	713	
Norway	9,481	5,048	1,400	1,480	809	
Japan	12,381	6,567	1,821	10,177	5,612	1,
Other countries	770	349	97	1	1	
Sea deliveries 2/	3,824	2,458	682	21,453	10,089	2,
Total whale oil	26,456	14,422	4,000	34,127	17,224	4,
Other Fats from Marine Products:						
Norway	114	98	27	105	108	
Portugal	488	392	109	265	216	
United States	1,241	779	216	934	601	
Peru	-	-	-	644	487	
Japan	66	59	16	178	140	
Other countries	37	40	11	47	56	
Total other marine fats	1,946	1,368	379	2,173	1,608	
Total imports of marine oils	92,829	45,463	12,607	80,178	35,488	9,

1/Less than $500.
2/From whale oil production vessels other than those in Dutch fleets.
Source: Netherlands Central Bureau of Statistics.

Table 3 - Netherlands Exports of Fish and Marine-Animal Oils, 1962-1963

Commodity and Destination	1963			1962		
	Quantity	Value		Quantity	Value	
	Metric Tons	1,000 Guilders	US$1,000	Metric Tons	1,000 Guilders	US$1
Fish-Liver Oil:						
European Economic Community	112	89	25	279	139	
Other countries	17	18	5	30	30	
Total fish-liver oil	129	107	30	307	169	
Fish Oil:						
European Economic Community	2,236	1,135	315	1,881	772	
Sweden	-	-	-	98	49	
Other countries	142	60	16	76	43	
Total fish oil	2,378	1,195	331	2,055	864	
Whale Oil:						
European Economic Community	301	174	48	5,144	3,919	1,
Norway	266	107	30	-	-	
Other countries	8	1	1/	15	9	
Total whale oil	575	282	78	5,159	3,928	1,
Other Fats from Marine Products:						
European Economic Community	58	46	13	1,157	927	
United States	2,951	2,361	655	305	244	
Other countries	5	5	1	15	18	
Total other marine fats	3,014	2,412	669	1,477	1,189	
Total exports of marine oils	6,096	3,996	1,108	8,998	6,150	1,

1/Less than US$500.
Source: Netherlands Central Bureau of Statistics.

therlands (Contd.):

Imports: Total imports of marine oils by Netherlands in 1963 were up 16 percent quantity and 28 percent in value from those the previous year due mainly to larger shipnts of fish oil from Peru, the United States, Chile. The gain was partly offset by a de- in total whale oil imports which were ced by a drop in direct deliveries by for- fishing fleets. (Imports of whale oil from way were substantially higher in 1963.) a decline in world production of whale n 1963, whale oil prices at Rotterdam ed a substantial gain (table 4).

Table 4 - Wholesale Price of Whale Oil, c.i.f. Rotterdam, at Selected Intervals, 1962-1963

th 1/	1963		1962	
	Guilders/ 100 Kilos	U.S. Cents/ Pound	Guilders/ 100 Kilos	U.S. Cents/ Pound
h . .	64.5	8.1	51.1	6.4
. . .	74.3	9.3	48.7	6.1
mber	79.5	10.0	45.7	5.7
mber	81.8	10.3	42.0	5.3

d-month prices.
e: Netherlands Ministry of Agriculture.

Exports: Total exports of marine oils from Netherlands in 1963 were down 32 percent antity and 35 percent in value from those 62 due to a sharp drop in shipments of e oil. The European Economic Commun- EEC) was the leading buyer of all types tch marine oil in 1962. In 1963, the EEC nued to be the leading market for Dutch il, but the United States replaced the as the main market for processed fats marine oils. (United States Embassy, ague, April 24, 1964.)

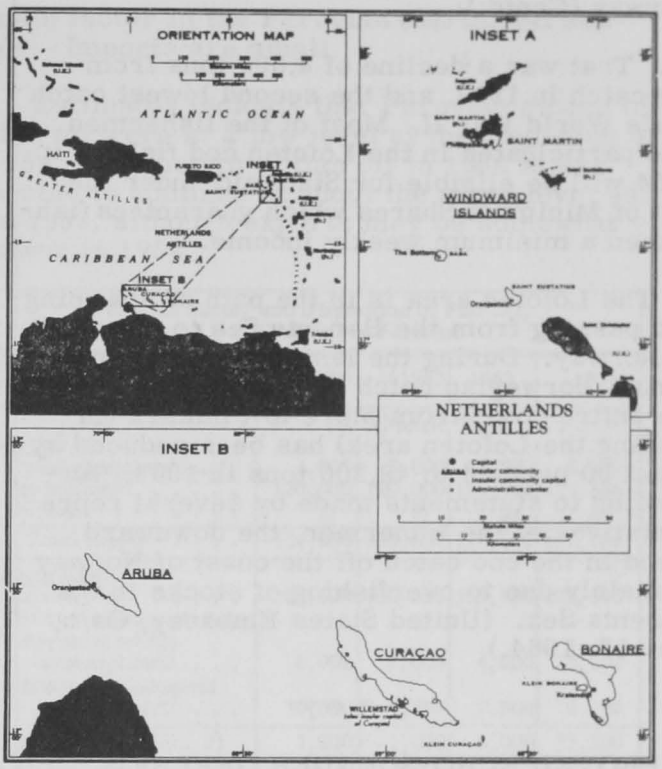
(1) Netherlands guilder 3.606 equals US$1.00.
(2) See Commercial Fisheries Review, July 1964 p. 69, Dec. 1963 p. 74, Jan. 1963 p. 106.

erlands West Indies

UNA ICE VESSELS ASSIGNED TO ERLANDS WEST INDIES BASE:

e of the larger Japanese fishing firms acted for six tuna ice vessels (ranging e from 99 to 190 gross tons) to fish out base at Saint Martin, Netherlands West s. The Saint Martin base has a 2,000- esh tuna export quota.

hat firm had about 35 tuna vessels fish- r it in the Atlantic Ocean in 1963, and ed about 20,000 metric tons of Atlantic



Ocean-caught tuna. Of that amount, 90 percent was exported. (Suisancho Nippo, June 4, and May 30, 1964.)

Norway

LOFOTEN COD FISHERY DISAPPOINTING IN 1964:

Total landings from the 1964 Norwegian Lofoten cod fishery amounted to only 23,700 metric tons at the close of the season April

Shows a Norwegian line-fishing boat boating cod.

Norway (Contd.):

20. That was a decline of 4,600 tons from the catch in 1963, and the second lowest catch since World War II. Most of the fishermen who participated in the Lofoten cod fishery in 1964 will be eligible for State aid under the Act of Minimum Shares which guarantees fishermen a minimum weekly income.

The Lofoten area is in the path of spawning cod passing from the Barents Sea to the coast of Norway. During the last 8 years, the total annual Norwegian catch of spawning cod along the entire coast from Møre to Finmark (including the Lofoten area) has been reduced by about 50 percent to 49,200 tons in 1964. According to statements made by several representatives of the fishermen, the downward trend in the cod catch off the coast of Norway is mainly due to overfishing of stocks in the Barents Sea. (United States Embassy, Oslo, May 17, 1964.)

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IMPROVED ECHO-SOUNDER OFFERED BY NORWEGIAN FIRM:

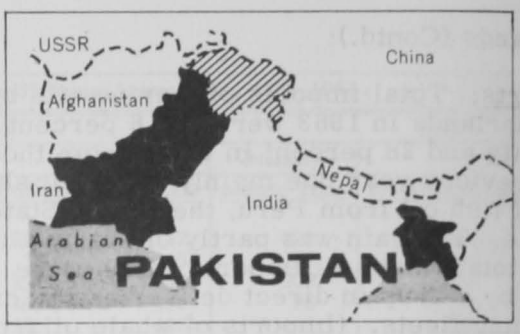
A sonar device with a range of 6,500 feet in any direction (twice the range of conventional sonars) has been introduced by an electronics firm in Norway. The company claims the new instrument can determine the location and direction of fish schools with accuracy. It was designed specifically to meet the needs of Norwegian herring fishermen, but can be used in other fisheries. It can be operated automatically or by push-button control, and can be installed in vessels as small as 70 feet. (News of Norway, May 28, 1964.)

Pakistan

SHRIMP PROCESSING CAPACITY OF PLANTS IN KARACHI:

A total of 14 shrimp freezing and processing plants (2 more than in 1962) are located in Karachi, Pakistan, each with an average daily capacity of 10 metric tons. When operating six days a week, their combined annual capacity has a potential of about 42,000 tons. In 1963, however, only 18,400 tons of shrimp were landed for the use of those plants.

A new shrimp freezing plant on the Mekran coast at Gwadar which was to have opened

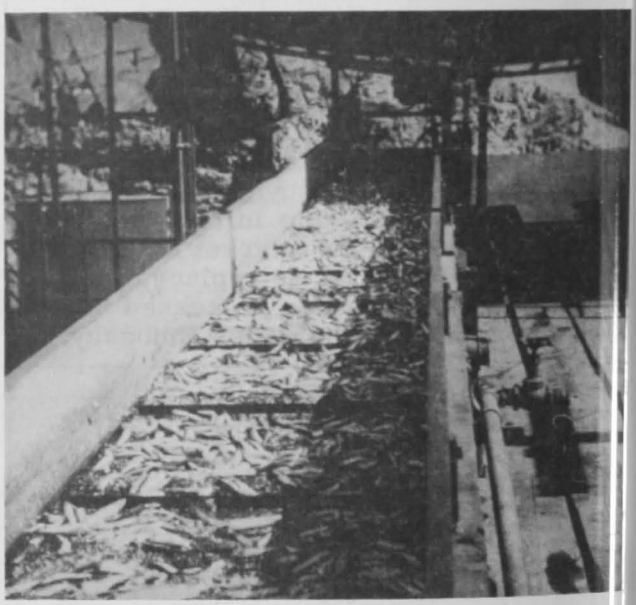


in 1963 was not yet in operation, according to latest reports. (United States Embassy, Karachi, May 15, 1964.)

Peru

FISH MEAL PRODUCTION AND EXPORTS, JANUARY-APRIL 1964:

Peruvian fish meal production in January-April 1964 was reported to be 655,000 metric tons, or 48 percent more than the 443,300 tons produced during the same period of 1963.



Anchovetas going to plant--Chimbote. Conveyor at Star Kist plant in operation.

Peruvian fish meal exports during the first 4 months of 1964 amounted to 531,000 tons, an increase of 18 percent from the 451,000 tons exported during the same period of 1963. (Unpublished sources.)

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(Contd.):

MEAL EXPORT FORECAST 1964:

thoritative industry sources predict to- eruvian fish meal exports in 1964 will 1.2 million metric tons, a considerable se over the 1.04 million tons exported 3. Based on available data for the first r, prospects for record output and ex- look favorable. In the first 3 months of production totaled almost 500,000 tons, re than 50 percent from the correspond- eriod a year ago when output was cut by r dispute. Exports for the first quarter 4 (amounting to 389,000 tons) reflect an se of approximately 10 percent over ry-March 1963, despite a port strike in ary 1964 which held export volume Inventories at the end of March 1964 higher than a year earlier so, on the of continued good demand, last year's record should be surpassed.

ditor's note: In late May 1964, Peruvian eal prices were reported as US$123- er ton (65 percent protein meal) f.o.b. States East Coast and Gulf ports as st comparable prices of $117-119 per late May 1963.)

id expansion of the Peruvian fish meal ry during the past two years coupled potty fishing in some ports has brought nancial crisis. But production continues n spite of the closing of some 30 plants of those marginal) over the past 4 s. Heavy production is expected to con- unless there is a disappearance of fish eak in the market price. The Peruvian ment is expected to offer some form relief in the near future that will en- ficient operators to survive. (United Embassy, Lima, May 12, 1964.)

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E OIL SUPPLY AND DISPOSITION, 963 AND 1964 FORECAST:

Oil: Peruvian production and exports oil declined in 1963 after a sharp in- during the 1960-1962 period, accord- estimates by the Peruvian industry. y improved extraction processes help- st Peruvian fish oil production to a level in 1962. The anchoveta catch is instay of the Peruvian reduction indus- domestic production of fish oil is the main factor in the Peruvian marine oil supply. Imports are small.

Estimates indicate that Peruvian stocks of fish oil were at a low level at the beginning of 1964. Production of fish oil in 1964 is expected to continue at about the same level as in 1963, although exports may be somewhat lower in 1964.

Peruvian Supply and Disposition of Fish Oil, 1961-1963 and 1964 Forecast

	Forecast 1964	1/ 1963	1962	1961
	(Metric Tons)			
Supply:				
Opening stocks, Jan. 1	1,000	5,000	12,500	6,000
Production 2/	120,000	120,000	155,000	118,886
Imports	3/	3/	3/	3/
Total supply	121,000	125,000	167,500	124,886
Disposition:				
Exports 4/	103,500	110,035	150,596	102,306
Domestic disappearance:				
Apparent edible consumption 5/	6,000	5,000	4,000	3,300
Estimated industrial consumption 5/	10,000	8,965	7,904	6,780
Closing stocks, Dec. 31	1,500	1,000	5,000	12,500

1/ Preliminary.
2/ Reported by Peruvian National Fisheries Society.
3/ Complete data not available on Peruvian imports; however, imports are relatively insignificant. (The Callao Customs-house reported Peruvian imports of inedible fish oil in 1963 as 363 tons of hydrogenated fats and oils and 79 tons of cod-liver oil.)
4/ Estimates by Peruvian industry. Data include fish oil for both edible and inedible purposes. Data may not agree with export data reported by other sources.
5/ Estimates from unpublished sources.
Note: The table does not include data on the supply and disposition of whale and sperm oil.

Whale and Sperm Oil: Peruvian exports of sperm oil amounted to 9,079 metric tons valued at S34.6 million (US$1.3 million) in 1963 as compared with 9,336 tons valued at S34.5 million (US$1.3 million) in 1962, according to data from the Peruvian Customs Office. Exports of refined whale oil amounted to 400 tons valued at S901,000 (US$33,600) in 1963. There were no registered exports of whale oil in 1962. (United States Embassy, Lima, April 28, 1964.)

Note: See Commercial Fisheries Review, Feb. 1964 p. 79, and June 1963 p. 86.

Philippines

GOVERNMENT OPENED ANOTHER BID ON IMPORTED CANNED SARDINES:

The Philippine National Marketing Corporation (NAMARCO) opened another bid on June 2,

Philippines (Contd.):

1964, for 499,800 cases of canned sardines. The bid carried the provision that 245,000 cases be already packed and ready for delivery, and the remainder of 254,800 cases subject to pack. Two of the bidders represented United States suppliers, one a British supplier, and 7 bidders represented South African suppliers.

The bid offered by the United States Supplier was for 50,000 cases of 1-pound ovals at US$9.22 a case (48 cans per case) and 6,000 cases of 1-pound talls at $6.48 a case (48 cans per case). South African case (48 cans) prices on the same quantity were $8.00 for ovals and $6.15 for talls. The British offer was for 60,000 cases (95 cans) of "jitneys" (5-ounce) at $7.45 and the South African bid for the same was $7.15 a case. NAMARCO indicated that it probably would reject the United States and British bids in favor of the lower-priced South African product because the Government justified imports from South Africa on the basis of cheaper food for the consumer.

Bids on the 254,800 cases subject to pack were all from South African suppliers. NAMARCO indicated that if it could obtain firm offers of sardines already packed it might reject the South African bids on that quantity. (United States Embassy, Manila, June 11, 1964.)

South Africa Republic

FISHING VESSEL MAKES REMARKABLY GOOD ANCHOVY CATCHES:

Large catches of anchovy were made in April 1964 by the 67-foot pilchard vessel Silver Bonito which fishes out of St. Helena Bay in South Africa.

On April 9, the Silver Bonito caught 70 short tons of anchovy in one set of the net; on April 10 she returned at 8 p.m., after having left the dock at 9 a.m. the same day with 140 tons which were caught in two sets; on the morning of April 13, after being out for the night, she returned with 120 tons and the same evening caught a further 70 tons.

The catches were made about two hours' sailing time from the fishing company's factory. At the factory, the anchovies were processed for fish meal in the same way as the pilchard catches. The fish meal was of the same quality as that obtained from pilchards but slightly darker. The oil yield was good.

The Silver Bonito is equipped with one of the six $\frac{1}{2}$-inch mesh anchovy nets in use in that industry for experimental purposes. The net had been remodeled, after previous use, to the specifications of the fishing company. (The South African Shipping News and Fish Industry Review, April 1964.)

South-West Africa

PILCHARD SEASON AT WALVIS BAY GETS UNDER WAY:

The 1964 pilchard fishing season at Walvis Bay in South-West Africa started on February 16, 1964 when two factories sent their vessels out for the first time. The pilchards were being found in reasonable quantities about an hour's sailing from Pelican Point. The condition of the fish was described as "good for the time of the year" and the early oil yield has been about 10 gallons a ton.

The other four factories in Walvis Bay were to start during the second half of February.

This year the factories will be concentrating on the production of fish meal and fish body oil for which there are ready markets. The canning program will again, as in 1963, be cut back. Each factory is limited to a ceiling catch of 90,000 tons, but this could be increased by the South-West Africa Administration if the markets for the finished product and the availability of fish warrant it.

By the last week of February, all six of the pilchard-processing factories at Walvis Bay were in operation. The seve

uth-West Africa (Contd.):

ory (which was being built) was expected to start operating y in June.

The first fish meal shipment of the 1964 season's output expected to have been shipped early in April. All re- ing fish meal on hand from last year has been shipped

lthough the fish were rather far out (5 to 8 hours' ng) they were reported to be in excellent condition. By econd week of March the oil yield had risen to nearly allons per ton of fish.

hree of the factories started canning on a small scale g the second week of March, but the fish were found to ittle soft for full-scale operations. Other factories expected to start during that month.

e latest market prospects for this season's Walvis Bay ard production are:

ish Meal: Practically the entire Walvis Bay production is year has been sold at what is described as a good e.

ish Body Oil: As of April the market appeared good. as the case last year, purchases were being made in Shipments will go forward according to purchases dur- e year.

anned Fish: There is little change in the marketing of product and production will be low compared with previ- ears. As the Marine Products Group has now placed in the hands of Federal Fish Packers, which has been stituted as Federal Marine Ltd., all canned fish packed lvis Bay will now be marketed through that organiza- (The South African Shipping News and Fishing Industry ew, March and April 1964.)

ain

HERY TRENDS AT VIGO, UARY-MARCH 1964:

andings and Prices: Fishery landings at ort of Vigo, Spain, in January-March totaled 15,672 metric tons valued at million pesetas (US$3.8 million), a de- of 23.9 percent in quantity and 14.5 per- in value from the fourth quarter 1963 ngs but only slightly more than landings nuary-March 1963. The value of the quarter 1964 landings, however, was 16 percent below that in the corresponding period of 1963.

Landings of frozen fish at Vigo (part of which is imported fish) were not included in the quarterly landings data in the past but are included for 1964. There is an increasing trend toward freezer vessels, which were first put in operation in 1961 by a local fishery firm. That firm has plans for a fleet of 21 vessels, including two transports and a factoryship. The firm's fishing fleet, which consisted of about 8 vessels in the first quarter of 1964, has been fishing off South and West Africa (to a lesser extent off South America). Those vessels are expected to land about 20,000 metric tons of frozen fish at Vigo in 1964. Other local fishing companies are following the same example on a more modest basis. Frozen fish landings at Vigo during January-March 1964 totaled 3,686 tons--mostly hake and small hake.

Canned Fish Industry: Canned fish production was light during January-March 1964, with industry continuing to feel the effects of marketing difficulties which carried over from 1963 due, in part, to the decline in canned fish exports. Most canneries reported higher stocks than normal for this time of the year and anticipated increased difficulties with the beginning of the sardine fishing season in April and the albacore season in June.

Cannery production costs were reported considerably higher in 1963 as a result of salary increases (a collective agreement late in 1962 and a further increase with the minimum wage law in January 1963) and the high price of oil, fish, and other raw materials.

There is considerable concern regarding competition in the export market and the domestic demand for canned fish is not strong enough to absorb a significant portion of the production. One remedy which was believed would improve the situation was the export of canned fish packed in peanut oil. This is

Table 1 - Landings and Average Ex-Vessel Prices of Selected Species at Vigo, January-March 1964 with Comparisons

ies	1964			1963					
	January-March			October-December			January-March		
	Quantity	Avg. Price		Quantity	Avg. Price		Quantity	Avg. Price	
	Metric Tons	Pesetas/Kilo	U.S.¢/Lb.	Metric Tons	Pesetas/Kilo	U.S.¢/Lb.	Metric Tons	Pesetas/Kilo	U.S.¢/Lb.
hake . .	4,503	26.47	20.0	4,675	25.50	19.3	3,992	27.82	21.0
mackerel	1,934	4.69	3.5	3,034	4.14	3.1	1,388	8.32	6.3
s	906	7.09	5.4	357	7.41	5.6	2,109	6.81	5.2
. . . .	538	18.64	14.1	-	-	-	770	13.18	10.0
. . . .	232	50.57	38.3	135	56.09	42.4	311	48.24	36.5

Spain (Contd.):

Table 2 - Distribution of the Fishery Landings at Vigo, January-March 1964 with Comparisons

Period	Shipped Fresh to Domestic Markets	Canned	Other Distribution (Smoking, Drying, Fish Meal, etc.) and Local Consumption
	(Metric Tons)		
1st Quarter 1964	11,139	890	3,643
4th Quarter 1963	12,020	5,364	3,215
1st Quarter 1963	9,338	1,573	4,721

now discounted because of the excellent olive crop and the expected drop in the price of olive oil. It was reported that the difference between the price of peanut oil and olive oil would not exceed one peseta (1.6 U. S. cents) a liter, and that it would hardly be reflected in the price of the canned product. (United States Consulate, Vigo, April 14, 1964.)

Note: See Commercial Fisheries Review, March 1964, p. 68.

Thailand

FISHERIES SURVEY PLANNED

The Fisheries Department of Thailand has announced plans for a survey of fishing grounds off Thailand. The survey vessel Dhanarajata is scheduled to arrive in Bangkok in mid-1964 to begin explorations in the Gulf of Thailand. After a few months work in the Gulf, during which the crew will become familiar with the vessel's equipment, the Dhanarajata is expected to transfer operations to the potentially more important Andaman Sea. Thailand has not previously engaged in intensive fishing operations in that area. The survey is designed to indicate the quantity and quality of available fish stocks, including tuna stocks. (United States Embassy, Bangkok, May 11, 1964.)

U. S. S. R.

FISHING FLEETS CLAIMED SEEKING FISH RATHER THAN PROFITS:

Soviet fishing fleets are working to supply their country with food; fishing operations need not be justified on an economic basis. That was indicated by a representative of the Soviet Embassy in London during a talk in Grimsby, England, March 31, 1964. The Soviet representative's remark was made in reply to a question as to whether Soviet fisheries were self-sustaining from a profit standpoint. (Fish Trades Gazette, April 4 1964.)

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SOVIETS CLAIM MARINE GROUPS CAN B IDENTIFIED BY SOUND WAVES:

A classification of marine specimens ac cording to ability to reflect accoustic wave has been reported by Soviet scientists. Th state that probing of the Atlantic with sound waves has revealed four types of marine li which can be identified in schools by differ degrees of scattering of sound.

The first group is composed of marine l 10 to 150 millimeters (0.39-5.91 inches) in diameter and lacking a solid skeleton or ri shell (jellyfish and similar specimens) whi are called semireflectors of sound.

A second group includes octopus which denser and have a thin skeletal foundation. still greater obstacle to sound is presented by the group of higher shellfish (crustacea covered with a hard dense shell. Finally, t Soviets report that a substantial effect o sound scattering is produced by fish. A pa ticularly noticeable sound dispersal, in th range of several kilocycles at least, is sa to be produced by fish possessing swimmi bladders.

Soviet scientists state that the use of so waves to locate schools of fish will make possible to determine the size and in som cases even the species of fish. (The Fish News, April 3, 1964.)

United Kingdom

FISH MARKETING INFORMATION SERVI INTRODUCED BY WHITE FISH AUTHORI

The inauguration of a Fish Information Service was announced by the chairman of British White Fish Authority in early May

ed Kingdom (Contd.):

. The new service will make available to idual fish retailers the professional serv- of a shop design and improvement group. ill also provide advice on retailing meth- and undertake promotional campaigns.

roducing the new service, the chairman White Fish Authority pointed out that in t years there have been drastic changes most every aspect of retailing, and a lution in the housewife's method of shop- The advent of the supermarket has had at influence on shopping habits. The in- ual shopkeeper is, therefore, faced with eed for the highest degree of efficiency, he modernization of his premises if he maintain his place in the market. Mod- nowledge and ideas are being applied to atching of fish; it is essential that atten- should also be given to the manner in the product is presented to the consum- Furthermore, it should be stressed to the wife that fish can be as important as in the daily diet. The aims of the Fish mation Service were described as, "The entation of fish as a dish which is fashion- satisfying, and convenient, from shops embody the latest developments in re- esign."

achieve its purpose, the new Fish Infor- n Service will perform three basic func- First, it will provide a clearing house formation on the fish industry as a whole. d, it will offer the industry a shop im- ment service which will be aimed at g the retailer to sell fish as the main meal. And third, it will carry out an ional campaign to present to cookery ts, catering establishments, restau- and the general public the message h is as suitable for the main dish as

chairman of the White Fish Authority in short, the service forms part of the overall campaign to present fish as 'the big dish.' Everyone knows the phrase 'Chips with everything.' Let us hope that before long there will be an equally well-known phrase--'Fish with everything'." (Fish Trades Gazette, May 2, 1946.)

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VESSEL AND GEAR RESEARCH:

A representative of the British White Fish Authority in April 1964 described the work undertaken by the Authority's Industrial Development Unit at the port of Hull during the first year of the new unit's existence. He pointed out that the members of the unit had spent considerable time aboard trawlers at sea. If the design of the vessels is to be improved, performance under working conditions must be studied.

The unit made comprehensive measurements of the motions of trawlers in a seaway. The information obtained will help guide the design of improved echo-sounders and new refrigerating machinery, and the layout of galleys and accommodations in new stern-trawlers.

A study was made of the use and performance of the trawl winch aboard the freezer-trawler Junella. That led to recommendations which could significantly increase the earnings and reduce the costs of such vessels.

Other development projects being conducted include a wireless telemetry link from trawl to ship, to provide skippers with information about water temperature and the behavior of the trawl; a meter to inform the skipper about the tension in the trawl warps, in order to expedite shooting and hauling the net; new methods of fish stowage to avoid handling on discharge; washing and gutting machines; pneumatic transport of crushed ice; high-pressure hydrostatic power transmissions; and a stabilized narrow-beam echo-sounder. (Fish Trades Gazette, April 18, 1964.)