

Fish Protein Concentrate Data Published

A reference package providing easy access to 12 years of research which resulted in a high-quality, low-cost protein concentrate from fish has been published for public use by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. Fish Protein Concentrate (FPC) is produced by removing from fish essentially all of their fat and moisture. This yields a high-protein concentrate that possesses unique nutritional value as a food supplement.

From 1961 to 1973 the Commerce Department agency engaged in and sponsored research which developed information on the production and use of FPC. The FPC Information Package will provide the user, whether scientist, commercial investigator, or layman, with documentation of that research.

To simplify finding information in the package, it has been divided into four parts, the first three of which are in print, and the fourth on microfilm. The printed and microfilm portions of the package are available separately, or may be ordered together.

Part 1 provides a summary statement for each of six categories: General, Product Characteristics, Product Uses, Industrial/Economic Aspects, Laboratory Processes, and Production Processes. The summary statement for each category includes an overview of the data and information available in that category, the work pursued by NMFS, significant successes and failures, and, where appropriate, recommended future investigations and follow-up work.

Part 2 is the selected NMFS FPC Bibliography, listed by title, author, type of document, and call number. Included are published and unpublished articles and manuscripts; contractor final reports and, if significant, interim reports; internal NMFS reports and memoranda; and, miscellaneous titles from speeches, papers presented at various conferences, and other materials.

Part 3 of the report contains abstracts of selected documents considered to be of particular significance in the FPC Program. The microfilm portion of the FPC Information Package represents Part 4: Selected Documentation.

Documents determined to be of prime importance, particularly with regard to their detailed contents, have been microfilmed in their entirety.

The Fish Protein Concentrate Information Package may be ordered from the National Technical Information

Service, 5285 Port Royal Road, Springfield, VA 22161. The paper copy of Parts 1, 2, and 3, Order No. PB245-345, is \$8.75, with a foreign rate of \$11.25 (microfiche is \$2.25, foreign rate is \$3.75). The microfilm portion, Part 4, may be obtained on a 16mm plain reel for \$6.00 (Order No. PB245-346) or a cartridge for \$8.00 (Order No. PB245-347). Recordak, 3M, or Thread-easy should be specified.

Foreign Fishery Developments

Shrimp Gains Expected by Indonesia and Thailand After Early 1975 Catch Declines

The Indonesian shrimp catch reportedly declined in the first quarter of 1975, according to the U.S. Embassy, Jakarta, and Indonesian Government and shrimp industry sources believe that later shrimp catches were also below 1974 catch levels; precise statistics were not available. Indonesian Government data, however, understate the actual amount of shrimp caught in waters claimed by Indonesia because foreign trawlers operating there without Indonesian permission do not report their substantial catches.

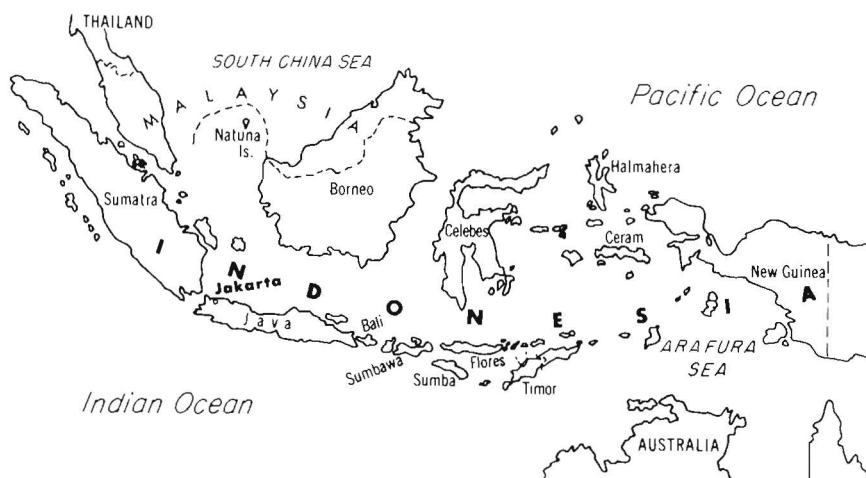
OVERFISHING CITED

According to government and industry sources, the 1975 catch decrease was caused by overfishing in the Arafura Sea (see map), Indonesia's major source of export shrimp. In the Arafura Sea, as many as 80 to 100 foreign shrimp trawlers, a large number for that area, have been fishing under an agreement with the Indonesian Government. Most

of these trawlers are Japanese owned. In addition, one industry source estimates there may be as many as 100 additional foreign shrimp trawlers, many of them from Taiwan and South Korea, operating without the Indonesian Government's permission¹. The average size of shrimp, as well as the total catch, has been smaller in 1975, reinforcing the overfishing theory. Another possible reason for reduced catch was the lower water temperature in the Arafura Sea last year, which may have limited shrimp reproduction.

Indonesia has only an estimated 1,500 metric tons of shrimp cold-storage capacity, and most companies transport shrimp from shore facilities promptly. A few companies still transfer shrimp

¹The Indonesian government regards these waters as Indonesian territory, in accordance with its claim to the Archipelago Concept of sovereignty over inter-island waters. The claim is not generally recognized by other states. The foreign companies which operate under agreement with the Indonesian Government acknowledge Indonesian rights.



from trawlers to refrigerated carriers for direct shipments abroad, although government policy requires that shrimp be landed to ensure an accurate check of the catch and proper assessment of the full tax levy (now US\$50 per metric ton plus income taxes). Indonesian inventories of frozen shrimp were therefore believed to be insignificant last summer.

Indonesian shrimp exports in the first quarter of 1975 declined to 5,800 metric tons from 8,800 metric tons during the same period in 1974, or by 35 percent. The estimated total 1975 shrimp exports thus was expected to be considerably less than the record 33,200 metric tons exported during 1974. Projections based on first quarter exports, however, may not be entirely accurate since in most past years, shrimp catches have increased sharply during September, October, and November.

Shrimp exports to the United States virtually ceased in January 1975 (3 metric tons) and February (6 metric tons) because several shipments destined for the United States in late 1974 were infested with salmonella and rejected for failure to meet U.S. Food and Drug Administration (FDA) standards. Exports to Japan during the same months were: January, 1,895 metric tons and February, 1,890 metric tons. The Directorate of Fisheries was concerned about FDA rejections and introduced compulsory training courses for shrimp processing personnel from all companies. Directorate sources claim that courses have helped to overcome cleanliness problems, and that normal exports to the United States had resumed. No figures were available for the total 1975 exports to the United States when this report was written. The FDA problem and the decline in exports, however, indicate that total exports to the United States in 1975 will be substantially lower than the 3,000 metric tons exported to the United States in 1974.

Notwithstanding the early 1975 decline in shrimp exports, Indonesian Government and shrimp industry sources predicted continued growth in shrimp exports in the future. Such exports increased 181 percent by quantity between 1968 and 1974, and the potential for further growth is believed to be great. Japan will probably continue to be the largest consumer of Indonesian shrimp (Tables 1 and 2) because of the

Table 1.—Indonesian shrimp exports by value (in millions of U.S. dollars), 1971-1974.

Year	To U.S.	To Japan	To other countries	Total
1971	NA ¹	NA	NA	14.7
1972	2.5	23.9	3.4	29.8
1973	3.3	50.7	3.6	57.6
1974	7.3	71.1	6.1	84.5

¹NA—not available

Table 2.—Indonesian shrimp exports by quantity (in 1,000 metric tons), 1971-1974.

Year	To U.S.	To Japan	To other countries	Total
1971	NA ¹	NA	NA	15.3
1972	1.6	17.9	3.9	23.4
1973	1.6	23.9	3.3	28.8
1974	3.0	25.4	4.8	33.2

¹NA—not available

dominant Japanese position in fisheries investment and because shipping costs to Japan are far lower than similar costs of transporting shrimp to U.S. markets.

According to the NMFS Office of International Fisheries, U.S. import data confirms that shrimp imports from Indonesia in the first four months of 1975 decreased drastically from the same period in 1974 (Table 3).

Table 3.—U.S. shrimp imports from Indonesia, January-April 1974 and January-April 1975¹.

Shrimp import	January-April 1975		January-April 1974	
	Quantity ²	Value ³	Quantity ²	Value ³
Frozen				
Shell-on	25	114	375	1,769
Peeled	145	344	754	1,613
Canned	0	0	25	66
Breaded	0	0	0	0
Total	170	458	1,154	3,448

¹Source: U.S. Department of Commerce, Bureau of the Census, *U.S. Imports for Consumption*, IM 146, April 1974 and April 1975.

²Data in metric tons.

³Data in US\$thousands.

THAI SHRIMP PICKS UP

Thai shrimp catches and landings were lower in early 1975 due to increased costs of diesel fuel and the decline in the market price of shrimp, according to the U.S. Embassy in Bangkok. After April 1975, the price of shrimp in foreign markets began increasing. This development provided the incentive for greater efforts in the shrimp fishery. In June, shrimp catches reached their former normal levels of more than 4,000 metric tons per month; they were expected to reach even higher levels during the peak months of September and October if prices in foreign markets remained firm.

Thailand exports 25-33 percent of its shrimp catch. The Marine Products Association of Thailand estimated that late summer frozen shrimp inventories were below 100 metric tons. This low inventory level was due both to recent large exports caused by higher prices and to the state of export contracts, which were booked through September. The Association expected Thailand's shrimp exports to the U.S. to equal or exceed 1974 levels (Table 4) despite

Table 4.—Preliminary Thai customs figures for total shrimp, prawn, and lobster exports to the U.S. January-June 1975¹.

Month	Total Exports		Exports to U.S.	
	Quantity ²	Value ³	Quantity ²	Value ³
Jan	899	2.42	130	0.40
Feb	1,027	2.86	125	0.40
Mar	984	2.32	120	0.40
Apr	1,058	6.67	137	0.44
May	977	2.42	80	0.30
June	1,007	2.77	114	0.40
Total	5,952	19.46	706	2.34

¹Source: U.S. Embassy, Bangkok. Shrimp comprise the vast bulk of the total export figures.

²Data in metric tons.

³Data in US\$millions.

strict American import standards. Exports to Japan were expected to grow because of strong market demand there for shrimp.

ICELAND REPORTS FISH STOCK STATUS

The Office of International Fisheries, NMFS, has received a summary of the status of fishery stocks in Iceland prepared by the Marine Research Institute (MRI) of Iceland. The report recommends that all foreign fishing on Iceland's fishing grounds be halted, and that the catch of bottomfish species be eventually increased from its current annual average of 0.7 million metric tons to 0.85 million metric tons, through proper fisheries management.

The report was prepared just after Iceland extended its fisheries jurisdiction to 200 miles on 15 October 1975. The MRI believes that under the new regime, the Icelanders will gain full control over utilization of fishery stocks on the fishing grounds around the island. Iceland's concern is understandable: its fishery exports represent 75 percent of Icelandic foreign exchange and imports are equal to almost 50 percent of Iceland's Gross National Product.

It is agreed in Iceland that the MRI report will greatly influence Iceland's position in the forthcoming negotiations with nations who wish to continue traditional fisheries within the newly established 200-mile zone. The following countries fish off Iceland: United Kingdom (U.K.), USSR, Norway, Spain, France, Federal Republic of Germany (FRG), Poland, and the Faeroe Islands, but only U.K. and FRG harvest significant amounts. The recommendations of the Marine Research Institute for individual species are given below.

Cod. The annual cod catch from Icelandic waters for the past 20 years has been 0.4 million metric tons, and this can eventually be raised to 0.5 million metric tons. However, the catch in 1974 was 375,000 metric tons, and MRI recommends 1) reducing cod fishing by 50 percent, 2) no fishing for 3 year-old or younger cod, and 3) substantially reduced fishing for 4-year-old cod. MRI predicts that if catches of 340,000 to 360,000 metric tons are harvested for the next 2-3 years, the stock will decline drastically, and recommends a limit of 230,000 metric tons of cod in 1976 and a minimum size of 50 centimeters (cm). The report notes that 37 percent of Icelandic cod was taken by foreign fishers.

Haddock. The maximum sustainable yield (MSY) is estimated to be 70-75,000 metric tons for Icelandic waters, but the haddock stocks are depleted. A catch of 38,000 metric tons and a minimum size of 45 cm is recommended for 1976.

Pollock. Although pollock stocks are known to migrate between shores and stocks are difficult to determine, their MSY is estimated to be around 100,000 metric tons. MRI recommends a 1976 catch of 75,000 metric tons and a minimum size of 50 cm. Icelanders caught 50 percent of the pollock landed from their waters in 1971-73.

Perch. A catch of 50-60,000 metric tons is recommended, although catches for the last 3 years have averaged 70,000 metric tons. Since foreign vessels take 62-65 percent of the total catch, the report suggests the stocks could soon yield catches of 80,000 metric tons if foreign vessels are banned from this fishery.

Greenland halibut. Catches declined

from 34,700 metric tons in 1970 to 20,100 metric tons in 1973 and this species is currently considered to be overfished. MRI recommends a catch of 15,000 metric tons for 1976, predicting a stable catch of 20,000 metric tons when the stock has recovered. It is also suggested that a ban on fishing in the spawning area between Iceland and Greenland, from April to June, would help the stocks. Icelandic fishers landed only 2,100 metric tons of Greenland halibut in 1973 compared to 7,300 metric tons in 1970.

Herring. A total prohibition against herring fishing, except with gill nets, was in effect from the end of 1971 until September 1975. The summer spawning stock has apparently recovered, but no recovery can be seen in the spring spawning herring stock. A total catch of 15,000 metric tons and a minimum size of 27 cm was recommended for 1976. Fishing for this species is allowed only from 15 September to 15 December,

Japan Lists 1974 Fish Product Value

Japan's gross fisheries product value in 1974 recorded an all-time high of 1,738,616 million yen (US\$5,975 million at 291:1) up 17 percent from the 1973 figure of 1,490,344 million yen, according to the annual statistics released by the Ministry of Agriculture and Forestry. The 1974 growth rate over the pre-

Value of 1974 Japanese fishery products.

Type of fishery	Value of catch		Comparison (%) 1974 over 1973
	Million yen	Million US\$ ¹	
High Seas	462,979	1,591	107
Offshore	516,856	1,776	137
Coastal	394,823	1,357	114
Freshwater	34,843	120	117
Shallow-water culture	232,403	799	103
Freshwater culture	63,991	220	121
Whaling	32,721	112	125
Total	1,738,616	5,975	117

¹Based on 291 yen equals US\$1.

ceding year of 17 percent in fisheries product value was ahead of the 1971 rate of 12 percent and the 1972 rate of 7 percent, but was behind the 1973 rate of 22 percent.

Comparing between fisheries types, the highest growth in 1974 occurred in

and use of mid-water trawls is not allowed.

Capelin. MRI estimates that only 10 percent of the capelin spawning stock is caught each year, and thus placed no restrictions on catches. The report describes the growth of capelin, and estimates that 2- and 3-year-old fish reach their optimum development (10 percent body fat) each August.

The report also has brief descriptions of Norwegian pout, catfish, plaice, shrimp, lobster, and scallops. There is also a section dealing with recommendations on fishing operations which lists restrictions on areas, seasons, and gear. A copy of the entire 12-page report may be obtained by sending two pre-addressed mailing labels, or a self-addressed stamped envelope to: R. V. Arnaudo, Office of International Fisheries (F41), NMFS, NOAA, Commerce, Washington, DC 20235. (Sources: *Morgunbladid* and *News from Iceland*.)

the offshore fishery (37 percent), which has now replaced the high-seas fishery as the nation's dominant fishery in terms of product value. The 1974 tuna landings, worth 302.7 billion yen and up 18 percent from the 1973 value, recorded the highest value of all the fishes caught. (Source: *Suisan Tsushin* and *Suisan Shinbun*.)

Canada Reopens Ports to Soviet Fishing Vessels

Canadian officials have announced that Soviet fishing vessels were again free to use Canada's Atlantic coast ports effective 29 September 1975. They were closed on 28 July 1975, in a successful attempt to attract high-level Soviet attention to fisheries problems. As a result, delegations from both countries met in Ottawa in August and a memorandum of understanding was signed on 27 August 1975. On 26 September, External Affairs Minister MacEachen met with Soviet Foreign Minister Gromyko, and after the meeting, the following Canada-USSR joint communique was issued: "The Minister of State for Fisheries of Canada, the Honorable Romeo LeBlanc, and the First Vice-Minister of Fisheries for Union of Soviet Socialist Republics,

Mr. V. M. Kamentsev, announced today that officials of the Canadian and Soviet Governments have elaborated a bilateral ad referendum agreement on fisheries matters."

The agreement will now be referred to the two governments for their consideration and approval. It provides for the establishment of a Canada/USSR "Joint Fisheries Consultative Commission" and the appointment of a Soviet fisheries official in Halifax. These arrangements are intended to strengthen bilateral fisheries cooperation in the northwest Atlantic between the two countries.

Kamentsev expressed satisfaction with these developments. He stated that the USSR supports the principle of rational, scientifically-based utilization of fishery resources and shares Canada's concern regarding the urgent conservation needs of the fish stock of the northwest Atlantic, and indicated that the Soviet delegation supports Canada's proposals for a reduction in fishing effort and lower total allowable catches for certain stocks of ground fish in critical condition, as well as appropriate allocations of allowable catches among countries. These proposals are being considered by the International Commission for the Northwest Atlantic Fisheries (ICNAF).

In accordance with agreed record of understanding issued after the Canada/USSR fisheries talks of 25-27 August 1975, LeBlanc and Kamentsev reaffirmed the readiness of the two governments to have their officials meet at an early opportunity in order to consider the elaboration of a further bilateral agreement on fisheries cooperation.

The NMFS Office of International Fisheries reports that Canada's External Affairs Minister MacEachen was quoted as calling the agreement "the most important single development in the fisheries field that we have been working on yet." The Canadians obviously feel that the Soviets have negotiated in good faith, since they have reopened their ports without waiting for the Soviets to implement their pledges.

During late summer, the Canadians conducted successful bilateral fisheries discussions with Spain, Portugal, Norway, and Poland (see related article, right) over matters of resource conservation and fisheries jurisdiction. Brief reports on the results of these discus-

sions are available through the NMFS Office of International Fisheries, NOAA, Commerce Department, Washington, DC 20235.

EEC IMPORT, EXPORT LEAFLETS AVAILABLE

The Intervention Board for Agricultural Produce in the United Kingdom has published a series of "Explanatory Leaflets to the Trade" on the European Economic Community (EEC) system of import and export licensing, import levies, and export refunds. Those leaflets that may be of interest to the fishing industry include: The General System, LR1; Pre-financing of Export Refunds, LR2; Fish, LR16.

People interested in obtaining any of these publications should write to the Intervention Board for Agricultural Produce, P. O. Box 69, Fountain House, 2 West Mall, Reading RG1 7QW, Berkshire, United Kingdom.

Canada Talks Fisheries with Poland and Norway

Canada continued to hold bilateral fishery discussions with nations that fish off its coasts last year, as L. H. Legault, Director General of International Fisheries and Marine Directorate, Fisheries and Marine Service met with Norwegian officials in Oslo on 15-16 September and Polish officials in Ottawa on 19 September. Canada and Poland discussed the drafting of a bilateral fisheries agreement concerning Polish fishing off Canadian coasts, referring to possible "anticipated legal and jurisdictional changes in the regime of fisheries management in such waters. . . ." In addition, short-term arrangements regarding Polish fishing off the Pacific Coast were discussed, and further talks were scheduled for the September ICNAF (International Convention for the Northwest Atlantic Fisheries) meeting.

Legault had met with Norwegian officials earlier in the week of 15-16 September to discuss fishery matters of mutual concern, including "the welfare of their coastal communities and the rational management, conservation, and utilization of the living resources of their coastal waters." The two sides also agreed to enter into formal bilateral

negotiations at an early date on the subject of Norwegian fishing off Canada. Finally, both sides recognized that "urgent and effective action" is needed to preserve fisheries, and that both Norway and Canada, as coastal states, have "special rights and obligations in respect of the conservation and management of the living resources in areas beyond and adjacent to waters now under their fisheries jurisdiction, in accordance with the consensus now emerging from the United Nations Law of the Sea Conference." Norway emphasized that a substantial reduction in the fishing effort is needed in both the ICNAF and NEAFC (Northeast Atlantic Fisheries Commission) areas. (Source: U.S. Embassy, Ottawa.)

PRC Fishery Delegation Sees Canadian Facilities

An eight-man fisheries delegation from the People's Republic of China arrived in Canada 5 September as part of an exchange program between the two countries, Environment Canada reports. The delegation visited Ottawa and other regions of Canada during its 18-day stay. A Canadian Government fisheries and marine delegation visited China in November-December 1974.

The PRC delegation was headed by Hsiao Feng, Director, Aquatic Products Bureau, Ministry of Agriculture and Forestry. He is one of the highest ranking Chinese officials to come to Canada under the series of exchanges initiated during the Prime Minister's visit to China in 1973.

During their stay in Canada the delegation visited Halifax, Ottawa, Burlington (Ontario), Winnipeg, and Vancouver, with various stops along the way to tour Federal Fisheries and Marine Service institutions and other Canadian facilities and programs of interest.

Other members of the delegation included: Yang Tso-sheng, Ministry of Agriculture and Forestry; Wang Chan-li, Ministry of Agriculture and Forestry; Ting Jen-fu, Shanghai Aquatic Products Institute; Yu Chin-tang, Aquatics Research Institute; Su Kuang-chien, Chan Chiang Cement Boat Factory; Sung Chih-wen, Ministry of Agriculture and Forestry; and Chang Chin-fei, Ministry of Agriculture and Forestry.

Nigeria Releases Fishery Expansion Details

The Federal Military Government has released details of Nigeria's Third National Development Plan (1975-1980). The entire plan provides for a total investment of US\$54.4 billion¹ for all public sector projects, of which US\$168.1 million will be invested in fisheries². The projects envisioned under the Plan represent a number of opportunities for U.S. firms in the areas of aquaculture, artisanal and marine fisheries, processing, marketing, training, and research, according to the NMFS Office of International Fisheries.

Several factors have hindered rapid development of Nigeria's fisheries. Capital for the purchase of fishing vessels, modern gear, and cold-storage facilities have traditionally been unobtainable by Nigerian fishers due to lack of credit. In addition, Nigeria has inadequate port and shipyard facilities and a poor transportation network in both coastal and inland fishing areas, which seriously affects the marketing of fish. Finally, development of Nigeria's fisheries has been impeded by a shortage of trained manpower and the lack of effective organization among artisanal fishers.

To improve these conditions, the new National Development Plan sets the following goals: 1) Increase domestic fish production to meet local demand, 2) Earn foreign exchange through increased shrimp exports, 3) Encourage the local production of fish meal and dried fish to conserve foreign exchange and provide employment, 4) Increase the catch and income of artisanal fishers.

Nigeria is attempting to increase domestic fisheries catch by almost 1.2 million metric tons by 1980 (Fig. 1, Table 1). This represents an increase of 44 percent over the 1973 catch, the last year for which statistics on the actual catch are available.

The Nigerian Government believes that it is possible to obtain this large increase because Nigeria is rich in marine and freshwater fisheries resources, having over 800 kilometers of

coastline, extensive brackish water lagoons and creeks, rivers, and lakes including Lake Chad (see map), and man-made lakes such as Lake Kainji.

The domestic demand for fish is currently estimated at over one million metric tons. By 1980, the demand for fish is expected to exceed 1½ million metric tons. Even if projected catch increases (Table 1) are realized, the Development Plan indicates that by 1980 Nigeria will still need to import an annual total of 450,000 metric tons of fish (Fig. 2), principally dried cod³.

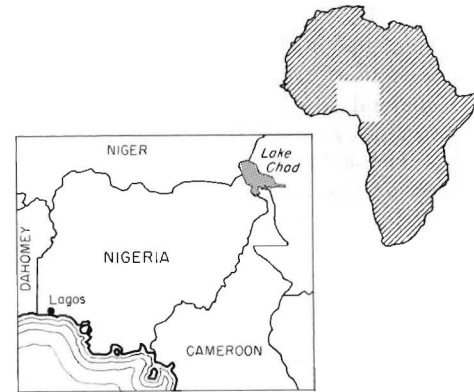


Table 1.—Actual and projected Nigerian fisheries catch and imports. Data for 1970-1973 (actual) is from the FAO Yearbook of Fishery Statistics; data for 1974-1980 (projected) is from the Nigerian Third National Development Plan.

Year	Catch ¹	Imports ¹		
		Dried Cod	Other	Total
1970	543	—	—	—
1971	593	—	—	—
1972	646	—	—	—
1973	666	—	—	—
1974	700	105	95	200
1975	740	250	100	350
1976	818	260	110	370
1977	895	270	120	390
1978	985	280	130	410
1979	1,085	290	140	430
1980	1,190	300	150	450

¹Data in thousands of metric tons.

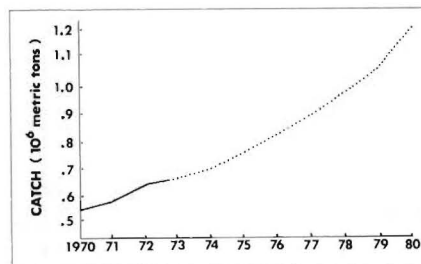


Figure 1.—Nigerian fisheries catch: 1970-1973 data from FAO Yearbook of Fishery Statistics; 1974-1980 data projected in Nigerian Third National Development Plan.

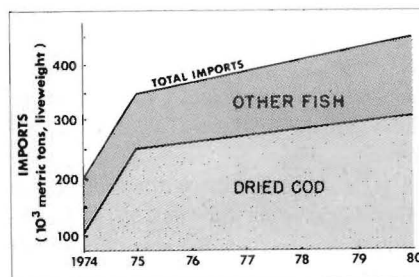


Figure 2.—Nigeria's projected fishery imports under Nigerian Third National Development Plan.

¹All U.S. dollar figures are based on a currency conversion ratio of 0.6062 Naira to the dollar.

²Not included in the fisheries section of the Plan are industrial projects related to fish and shrimp trawling and distribution and fish canning which total an additional US\$49 million.

³Dried cod is commonly referred to in Nigeria as "stockfish."

The National Development Plan's fisheries subsector is organized into a number of basic areas: aquaculture, artisanal and marine fisheries, infrastructure (processing and marketing), port facilities, training, and research.

The Plan envisions utilizing the vast area of water which will be created by the proposed irrigation dams and canals for aquaculture. The reservoirs will be stocked by five new breeding centers/hatcheries, each with an area of 99 acres. A number of state governments will also establish fish ponds to supply fish fry and fingerlings for stocking purposes.

Marine fisheries are another important aspect of the Development Plan. Both state and federal agencies will take an active role in the shrimp industry. Shrimp fishing has boomed in recent years, after the discovery of abundant stocks of red deep-water shrimps in resource surveys and experimental fishing ventures carried out by joint Japanese-Nigerian companies. The Nigerian Government proposes to increase shrimp exports 400 percent by 1980. The 1973 export of over 1,350 metric tons is expected to increase by 1980 to about 5,500 metric tons per year, the estimated maximum sustainable yield from the Nigerian shrimping grounds. A government study estimates that at recent average wholesale shrimp prices, Nigeria could earn US\$25.6 million annually from shrimp exports by 1980.

As a result of the Nigerian indigenization policy⁴, licenses for chartering foreign-owned trawlers⁵, which at pres-

⁴The Nigerian Government has taken measures to encourage the development of Nigerian-owned businesses, place Nigerians in all levels of employment and administration, and limit foreign activity to certain fields.

⁵About 100 such vessels, ranging between 1,000 and 6,000 gross tons, are currently licensed.

ent dominate Nigerian distant water fishing, will be reduced or phased out. Federal and state-owned companies, as well as Nigerian private industry aided by government financing, will take over deep-sea fishing. Orders for some deep-sea trawlers have already been placed.

Joint state-federal projects will stimulate development of an intermediate stage between primitive canoe fisheries and advanced deep-sea fisheries by introducing 50 medium-sized fishing vessels for coastal fishing⁶, at a cost of US\$9.9 million. The development of a shallow-water fishing craft capable of beach landing in remote areas is also projected.

The artisanal fisheries program will provide modern fishing nets and gear, seaworthy boats with outboard motors⁷, and facilities for servicing engines. This program will also introduce and promote better methods of processing and marketing fish. Fishers will be encouraged to organize into cooperatives through credit assistance. The Federal government alone plans to spend over US\$18.1 million to assist artisanal fishers.

In a program to correct processing and marketing deficiencies which result in high spoilage rates⁸, Federal and state agencies will provide almost US\$10 million in assistance through fishing cooperatives. These funds will be used for the construction of cold storage facilities, smoking kilns for use in remote areas, fish drying plants, dry storage and marketing sheds, and for the purchase of refrigerated trucks and barges.

Significant expansion of fisheries port facilities is envisioned in the Plan, at a cost of US\$16.7 million. The construction of a distant-water fishing terminal on Tin-Can Island near Lagos has been given high priority. When it is finished, all other fishing terminals in the Lagos Port area will be closed. Additionally, the Plan envisions feasibility studies and construction projects for fishing ports in other areas of the country.

⁶Apart from shrimp trawlers, the Nigerian coastal fleet is at present composed of 30 vessels, ranging from 20 to 265 gross tons. The catch consists of 10 principal species of fish, of which croaker is the most important.

⁷Replacing 2,000 canoes.

⁸Significant quantities of fish spoil due to the crude smoking processes used by artisanal fishers, inadequate transportation, unsanitary storage, improper handling and refreezing of thawed fish. The Nigerian Government believes that spoilage currently exceeds 50 percent in remote areas.

The Plan also provides for manpower training and research projects. The Federal government plans to expand the existing fisheries school and establish a new freshwater fisheries school. A new research vessel will be purchased at a cost of US\$990,000. The new vessel will provide for longer range investigations in deeper water and more distant areas than is possible with the government's existing vessel. Other research projects include pollution monitoring, development of an economical means of converting unsaleable fish into protein concentrate, conversion of fish and shrimp wastes to livestock feeds, aquaculture, and marketing studies.

U.S. firms interested in investigating business opportunities in Nigeria should contact the Economic/Commercial Section, U.S. Embassy, Lagos, c/o U.S. Department of State, Washington, DC 20520. Copies of the fisheries section of the Development Plan may be requested from the Country Marketing Manager, Central Western Africa, OIM/BIC, U.S. Department of Commerce, Washington, DC 20230.

Iceland, UK Argue Fishing Zone Rights

Iceland extended her fisheries zone from 50 to 200 miles on 15 October 1975, becoming the first European nation to declare such a zone. Iceland first extended her fishing limits from 3 to 4 miles in 1952, then to 12 miles in 1958, and finally to 50 miles in 1972. In the spring of 1975, the Reykjavik Government announced that fish stocks continued to be overfished (Fig. 1), and that as a result Iceland would extend her fisheries zone to 200 miles.

Iceland receives approximately 75 percent of its foreign exchange from fisheries trade, and since imports are

equal to about one-half of its GNP, the fishing industry is vital to the well-being of the economy. The Icelandic Government feels that the best way to protect the country's fish stocks, a prime natural source, is to extend the fisheries zone.

The United Kingdom, which fishes heavily in the waters which Iceland now claims, and has repeatedly had difficulties with fishing rights in the waters claimed by Iceland, has recently angered the Icelandic Government over the issue of 200 miles. In a 4 October speech on British fishing rights, the U.K. Secretary of State for the Environment, Anthony Crosland said British fishers would continue to fish in Icelandic waters even without a new U.K.-Iceland fisheries agreement. The old agreement expired on 13 November. Reaction by Iceland's leadership was swift and negative.

Prime Minister Geir Hallgrímsson said "obviously we maintain that the British have no right to fish inside 200 miles after the 15 October extension in absence of agreement with us. We expect to negotiate with the British and determine how much they want an agreement. If they don't want one any more than Crosland's remarks indicate, then it is unlikely that one will be reached." Fishery talks between Iceland and the U.K broke up on 17 November without agreement. The UK is asking for an annual catch of 110,000 metric tons in Icelandic waters and Iceland has been offering 65,000 metric tons.

West Germany, on the other hand, has recently taken steps to ease its ongoing dispute with the Iceland Government. The two countries have had several rounds of talks and the Bonn Government has agreed to lift the ban on Icelandic landings of fish in German ports which has been in effect since the spring of 1975. Additionally, the Germans have promised to discuss the issue of implementing the EEC tariff reductions, which were agreed upon in 1972 but have yet to be put into effect. German Minister of State Wischniewski held talks with Iceland's Foreign Minister Agustsson in Reykjavik last fall and the two nations reached a settlement, which was ratified by the Icelandic Parliament on 28 November 1975. (Sources: U.S. Embassy, Reykjavik; Radio Hamburg; Radio Cologne.)

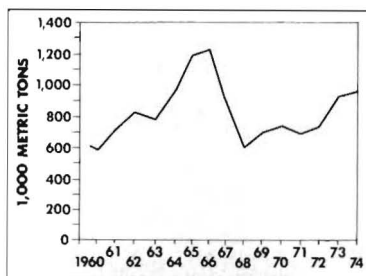


Figure 1.—Iceland's fisheries catch, 1960-74. Data for 1960-73 is from *FAO Yearbook of Fishery Statistics*; 1974 data is from the *Statistical Bureau of Iceland*.

European Community Fishery Data Listed

Fishery-related items published in the *Official Journal of the European Communities*, January-July 1975, included carp reference prices, hake guide prices, fixing export refunds, determining entry prices, aid for private storage, withdrawal prices, protective measures on importing tuna, loans for modernization, extension of territorial waters establishing fishing zones, common fisheries pol-

icy, and others. The *Journal* is the official register of EC regulations and policies.

Copies of these regulations, listed below in detail, and any additional information on them, are available from:

Fred Olson, Office of International Fisheries (F4) U.S. Department of Commerce, NOAA, NMFS, Washington, DC 20235.

Fishery Products		Official no	Journal page
1. Carp fixing reference prices for 1975/76 marketing year	R (EEC) 1750/75	L 178	17
2. Certain fats and oils of fish and marine mammals imports into Denmark, Ireland and United Kingdom from other Member States temporary suspension of customs duty authorizing	R (EEC) 1919/75	L 195	22
3. Common fisheries policy in the North Sea 369/74 by Mr. Brewis to the Commission of the EEC	(Written questions with answers)	C 3	11
4. Common organization of the market supplementing R (EEC) 2142/70	R (EEC) 1182/75	L 118	1
5. Determination of wholesale markets and representative ports amending Annex to R (EEC) 1109/71	R (EEC) 1244/75	L 125	20
6. Entry price detailed rules for determining supplementing R (EEC) 1109/71 amending R (EEC) 1109/71	R (EEC) 1196/75 R (EEC) 1052/75	L 118 L 104	28 14
7. Fishery products a. aid for private storage laying down detailed rules for the granting setting up a temporary system	R (EEC) 1647/75 R (EEC) 1629/75 Opinion EP	L 165 L 165 C 157	56 14 11
b. export refunds fixing	R (EEC) 804/75 R (EEC) 1575/75	L 78 L 161	71 12
8. Guide price hake fixing for 1975 fishing year supplementing R (EEC) 3559/73	R (EEC) 1183/75 R (EEC) 1242/75	L 118 L 125	2 17
9. Hake guide price—R (EEC) 1242/75	Corrigendum	L 177	24
10. Importation into the Community of certain fishery products originating in Tunisia .. in Morocco	R (EEC) 346/75 R (EEC) 347/75 Opinion EP	L 40 L 40 C 32	1 3 33-34
11. Protective measures in respect of the importation of certain fishery products amending R (EEC) 460/75 extending the period of validity tunny for industrial manufacture extending the period of validity of R (EEC) 460/75	Corrigendum to R (EEC) 460/75 R (EEC) 700/75 R (EEC) 974/75	L 51 L 69 L 94	15 15 18
12. Reference prices - 1975 fishing year amending R (EEC) 3326/74 fixing for 1975 fishing year amending R (EEC) 3326/74	R (EEC) 1245/75 R (EEC) 1051/75 R (EEC) 1195/75	L 125 L 104 L 118	21 13 26
13. Standard values fishery products withdrawn from market altering	R (EEC) 887/75	L 85	25
14. Tunny for industrial manufacture protective measures - imports extending the period of validity amending R (EEC) 460/75	R (EEC) 1682/75	L 168	75
15. Withdrawal price and reference prices hake—Annexes I (A) and IV (B) to R (EEC) 2142/70 fixing for 1975 fishing year	R (EEC) 1243/75	L 125	19
Fishing			
1. Loan from European Investment Bank for modernization of French sea fishing fleet	WQ 735/75	C 122	17
2. Norwegian territorial waters proposed extension, question 13 to the Commission of the EC by Mr. Brewis	(Questions to the EC Council)	C 80	28
Fishing zones			
1. Establishment of fishing zones by Norway exchange of letters	Prop. Opinion EP	C 99 C 128	5 37

Malagasy Republic Lists 1974 Fish Product Sales

The Malagasy Ministry of Rural Development has issued a publication entitled "Commercialisation contrôlée des produits marins et capture des différentes sociétés" (A Marketing Analysis of Marine Fishery Products and the Catch of Different Companies). Data on fisheries exports in 1974, broken down by port of embarkation is included. A summary of this export data, detailing the quantity of Malagasy fishery product exports by type of product, is presented in tabular form below.

Malagasy exports of fishery products, 1974.

Product	Metric tons
Fish	
Fresh	10,071.4
Salted and dried	173.3
Crustaceans	
Shrimp	
Fresh and frozen	4,579.5
Boiled	0.7
Dried	20.5
Meal	0.7
Crab	
Live	6.5
Frozen	10.9
Spiny lobster	
Live, whole and frozen	87.2
Frozen tails	10.0
Cooked, whole and frozen	11.8
Mollusks	
Oyster	0.1
Octopus and cuttlefish	negl.
Shells ¹	16.4
Other	
Turtles	0.6
Sea cucumbers	29.5
Shark fins and meat	12.3
Seaweeds	338.3
Total	15,369.7

¹Ornamental and mother of pearl.

The rest of the booklet is comprised of tables on fish marketed for immediate local consumption, fishery products shipped outside of the administrative district in which they were caught, and catches of the different fishing companies. Requests for this publication should be directed to: La Direction de l'Élevage et de la Pêche Maritime, Ministère du Développement Rural, Tananarive, Malagasy Republic.

New Polish Fishery Company Established

A new fisheries production and service organization, Transocean, has been established in Szczecin, Poland, according to the NMFS Office of International Fisheries. It was formed

by fusing the enterprise "Centralia Handlowa Zbytu" (Commercial Center for Marketing) and the auxiliary fleet of the Gryf Fishing Enterprise. The primary task of the new enterprise is to receive the catch from the fleet, process it, ship it to Poland, and then transport it by land to the wholesalers. Transocean also provides supplies to the fleet. Its director is Albert Gruzecki.

The Transocean company's fleet consists of two B-67 fishing bases, three B-433 refrigerated ships, and a new vessel named the *Zulawy* which can transport 6,000 metric tons of fish at a time. The latter has just returned to Szczecin from its maiden voyage with 5,000 metric tons of frozen fish and 1,500 metric tons of fish meal. The *Zulawy* also transferred to foreign vessels on charter approximately 10,000 metric tons of fish meal.

Two more vessels of the *Zulawy* class, the *Harmatan* and the *Piast*, are operational. Later in the year, Transocean will receive another vessel of this class called the *Wineta*. Three additional *Zulawy*-class vessels will be built during the next 5 years for a total of 7 vessels of this type.

On land, the new enterprise presently has more than 250 refrigerated trucks of the Volvo make. The number of such vehicles will increase, and special transport bases will be built within the next 5 years. The Polish fishing industry is planning to catch 1,000,000 tons of fish by 1980. Approximately 700,000 tons will be caught in 1975.

USSR REPORTS CATCH OFF U.S. PACIFIC COAST

The Soviet Ministry of Fisheries has begun to provide the National Marine Fisheries Service with preliminary monthly catch statistics for fishing areas off the U.S. Pacific Northwest and Alaska as stipulated in the U.S.-USSR Agreement on North Pacific Fisheries.

Soviet fishers reported a total catch of 422,579 metric tons for the first eight months of 1975. The hake fishery off Northern California and Oregon provided the largest catch: 154,322 metric tons, or 37 percent of the total. The Alaska pollock fishery in the Eastern Bering Sea and off Alaska was also significant, with a recorded catch of 143,169 metric tons, or 34 percent of the total.

Soviet preliminary fisheries catch off the U.S. Pacific Coast January-August 1975.

Species	Fishing area	Quantity (Metric tons)
Pacific Ocean perch	Aleutians Alaska	7,779
		6,721
		14,500
Pacific hake	Vancouver, Oregon	29,637
	North California	124,685
		154,322
Alaska pollock	Eastern Bering Sea Alaska	117,613
		25,556
		143,169
Pacific herring	Eastern Bering Sea	18,351
Other, n.o.s.	Eastern Bering Sea Aleutians	81,856
		10,381
		92,237
Grand total		422,579

Pacific ocean perch, herring, and incidental catches of other unspecified fish accounted for the remaining 29 percent. The Soviet fleet has been fishing pollock off Alaska since the beginning of the year; the hake fishery off California began in March 1975. Over 92,000 metric tons of fish were not identified.

According to the NMFS Office of International Fisheries, the Soviet Fleet Commander for the U.S. Pacific coast, Vladimir Filonev, mentioned in a 25 August interview with an NMFS enforcement agent that the Soviets had not taken all of their 150,000-metric tons hake quota this year. Filonev's estimate of the hake catch was slightly below the preliminary 154,322-metric ton total.

USSR Baltic Vessels Irk Swedish, Finnish Fishers

Fishers from the Finnish island of Aaland in the Baltic demonstrated in Helsinki on 3 November to protest destruction of their nets by Soviet trawlers.

The Soviets had been using mid-water trawls to catch sprats which are then taken to fishery kolkhozes in Estonia to

be smoked or processed. Aaland fishers complain that due to Soviet trawling they have lost nets worth tens of thousands of kronor, and that salmon stocks have been disturbed off Bogskaer and Langskaer Islets.

Complaints have also been voiced that the Soviets are violating the new 12-mile Swedish fishing limits off the coast north of Stockholm. However, the new Swedish limit in the Baltic will not apply to the Soviet fishing fleet until 1976. Source: *Dagens Nyheter* (Stockholm).

The NMFS Office of International Fisheries reports that similar gear-damage problems with the Soviet fishing fleet are resolved in Canada, the United States, and Norway through bilateral fisheries claims boards. In Norway, for example, a bilateral claims board was established in January 1960. This board over the last 15 years has considered about 30 cases involving minor damage to fishing gear, all of which have been settled. Payments to Norwegian fishers have totaled approximately US\$20,000. The Soviet-Norwegian Claims Board normally meets once a year to consider between two and seven cases; however, under special circumstances it meets more often. Norwegian authorities have apparently been satisfied with the results obtained through the Board.

TAIWANESE VESSEL SEIZED AND FINED

The U.S. Coast Guard seized the Republic of China longliner *Tong Hong No. 3* off Cape Edgumbe (near Sitka, Alaska) on 9 September for a suspected violation of the U.S. Contiguous Fishing Zone. While the 488-gross ton longliner remained moored at Mt. Edgumbe, Alaska, under Coast Guard security, legal proceedings began in Anchorage.

Witnesses and documentation for the prosecution of the case arrived in Anchorage on 14 September and were presented to the U.S. Attorney. The owners of the vessel reached an out of court settlement for \$205,000, which included a \$200,000 civil penalty and a \$5,000 criminal fine. The *Tong Hong No. 3* departed U.S. waters on 23 October.

The NMFS Office of International Fisheries reports that the *Tong Hong No. 3* had 7 metric tons of black cod



aboard at the time of seizure. Her home port is Kaohsiung, Taiwan, and the vessel is owned by the Tong Hong Company. The fishing master aboard the vessel at the time of seizure was a Japanese national who carried a business card of the Japanese fishing company, Taiyo Gyogyo Co., Ltd.

An 11 September Associated Press report of the seizure was printed by the *China News*, an English-language newspaper of Taiwan. The *China News* added a statement from a spokesman for the Taiwan Fisheries Bureau who stated that the captain and owners of the vessel would be punished in accordance with the Chinese government's policy to discourage intentional intrusion by Taiwanese vessels into foreign waters. Under Taiwanese law, punishment could include revoking the government-issued fishing license of the vessel for up to one year.

Japanese Stern Trawler Apprehended and Fined

A joint aerial surveillance patrol of the National Marine Fisheries Service (NMFS) and the U.S. Coast Guard (USCG) observed the Japanese medium stern trawler *Eikyū Maru No. 35* within the Contiguous Fishing Zone (CFZ) off Amlia Island, Alaska, on 3 November 1975. The USCG cutter *Jarvis* was alerted and intercepted the *Eikyū Maru No. 35* on 4 November near position 55°9'N, 172°19'W. The Japanese vessel was seized for violating the law establishing the CFZ of the United States.

The *Eikyū Maru No. 35* was escorted to Kodiak where the 167-foot trawler

was placed under custody of the U.S. Marshall pending the outcome of the case in District Court at Anchorage, Alaska. The owner entered a plea of guilty to the charge and the Court assessed the captain a \$25,000 criminal penalty and the owner of the vessel, the Konno Suisan Kabushiki Kaisha (Konno Marine Products Company, Ltd.) of Ishinomaki, Japan a \$575,000 civil penalty. The owner agreed to pay the \$600,000 fine and the *Eikyū Maru No. 35* departed U.S. waters November 20, 1975. (Source: NMFS Law Enforcement and Surveillance Division.)

According to the NMFS Office of International Fisheries, the *Eikyū Maru No. 35* was built in 1972, is 50.89 meters long and has an estimated value of over \$3 million. The 349-gross-ton fishing vessel is equipped with two Loran sets, 2 radars, an Omega system and a navigational computer.

The vessel departed Japan on 27 October 1975, and began bottom trawling off Amlia Island upon its arrival in the Aleutians. Only three hauls were made prior to seizure. NMFS enforcement agents estimated the catch at 10 metric tons of flounders and turbot and 0.5 metric tons of red rockfish and sablefish.

When the aerial patrol ordered the Japanese vessel to stop, its captain disregarded the request, hauled the gear, and got underway. Aerial contact was maintained until the *Jarvis* took over the "hot pursuit." The vessel halted upon reaching the Japanese fishing enforcement vessel *Kona Maru* which advised it to halt. A Japanese law enforcement agent was on board the *Eikyū Maru No.*

35 when the U.S. boarding party arrived.

The U.S. Contiguous Fishing Zone Law (16 USC 1091) provides for criminal charges against the master of a foreign vessel fishing within 12 nautical miles of the U.S. coast and also provides for civil charges against the vessel's owner. The fine of \$600,000 is the highest on record for a CFZ violation.

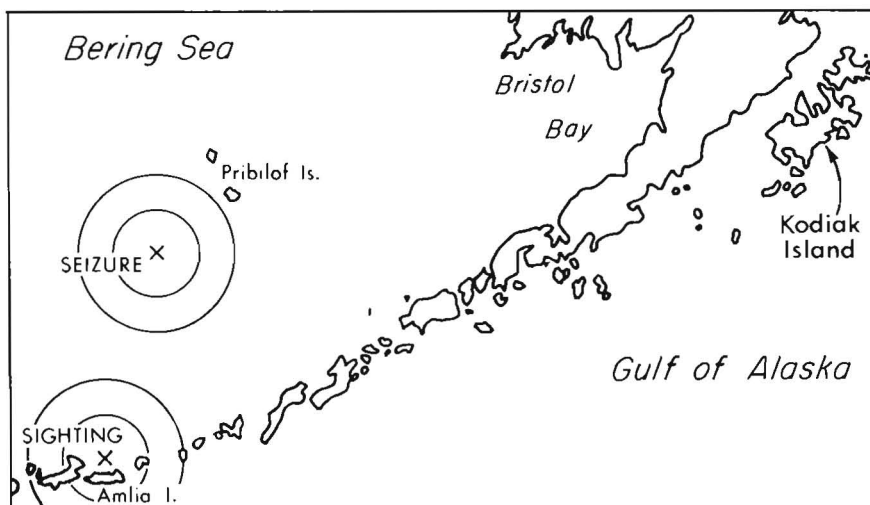
Norwegians Propose Coast Guard Unit

An interagency group of the Norwegian Government, headed by the Undersecretary of Commerce T. Stoltenberg, evaluated the national services needed on Norway's Continental Shelf, and on 27 June 1975, recommended the formation of a Coast Guard. The report noted that the ever-increasing offshore responsibilities are distributed among a number of government agencies, and, that as these responsibilities expand in areas such as Continental Shelf exploitation, fishing, navigation, etc., the need for better coordination will grow.

The Stoltenberg Committee studied Coast Guard services in other countries—the United States, the United Kingdom, France, Federal Republic of Germany, Sweden, Denmark, Iceland, and Canada—and decided to transform the present Naval Fisheries Surveillance Service in the Norwegian Ministry of Defense into a Coast Guard. The new agency will be under the authority of the Minister of Defense and will perform an executive and coordinating role for the various services required on the Continental Shelf.

Specifically, the Norwegian Coast Guard will be responsible for: 1) Fisheries surveillance and gear protection, 2) monitoring Continental Shelf activities, and 3) plotting and monitoring drifting objects. It will also help other agencies with rescue services, environmental protection, and police duties. Finally, it will assist other agencies and institutions when there is a need for vessels, aircraft, and helicopters.

The proposed Coast Guard will have a US\$21 million budget, to be appropriated separately under the Ministry of Defense. It will employ an estimated



685 persons, and have the following resources: 10 surveillance vessels, one special 200-ton deep-diving support vessel, one submarine, 6 helicopters, and 3 surveillance aircraft. A surveillance ship base will be constructed in north Norway, and an underwater research institute will be established.

The planning phase for procurement is estimated at one year, with the first vessels to be ready by 1979, and all ships to be operational by 1982-83. The Parliament will consider the Government's proposal in late 1975 or early 1976, and the outlook for passage appears good. (Source: US Embassy, Oslo.)

According to the NMFS Office of International Fisheries, the proposed establishment of a Coast Guard comes in anticipation of the eventual extension of Norway's fisheries limits to 200 miles. Recent statements from Oslo indicate that while the Government is hoping for the Law of the Sea Conference in 1976 to negotiate a settlement to the issue of extended jurisdiction, it is prepared to extend unilaterally to 200 miles if necessary. Whether the Norwegians take this action by themselves or in accordance with the LOS Conference, the proposed Coast Guard will have the responsibility for surveillance of Norway's expanded fisheries zone.

Italy, Tunisia Reach Fishery Agreement

Italy and Tunisia agreed on 20 October 1975 on the licensing of Italian fishers to operate in Tunisian waters and on financial cooperation between the two countries. According to press reports, about 90 licenses will be issued to allow Italian fishing vessels to operate in Tunisian waters after payment of US\$4 million. The Tunisians had originally demanded US\$12 million. Agreement was also reached on a US\$64 million loan to Tunisia for the purchase of Italian goods.

The previous bilateral fisheries agreement, which expired 31 December

1974, was reinstated until 31 December 1975. Negotiations had stalled earlier after the two countries failed to reach agreement on a Tunisian demand that Italy purchase 20,000 tons of olive oil. Tunisia has reportedly used the presence of Italian fishers in Tunisian waters¹ to force Italian concessions on the olive oil issue.

Another long-standing dispute between the two countries concerns Continental Shelf rights in the area between Sicily and Tunisia in which the Italians are fishing. An agreement resolving this issue was signed in December 1974.

Italian fishers have traditionally fished in the waters between Sicily and Tunisia, but Tunisian authorities seized several vessels fishing off Lampedusa, an Italian island located halfway between Sicily and Tunisia (see map). A total of 10 Italian fishing vessels have been seized in the past year. On 4 October 1975, a 19-year-old Italian fisher was killed by shots fired from a Tunisian patrol boat, and the Italian Government lodged a formal protest with Tunisia.

Norway Sets Time For Fishery Limit Action

A year at the maximum is the deadline set by Norway in November for reaching a negotiated settlement on a fisheries limits extension, the Norwegian Information Service reports. This was made clear during the first round of substantive talks on this issue currently taking place with a number of European countries. The talks were "useful," the Minister in charge of the fisheries limits question, Jens Evensen, told the Storting. By the end of the year, Evensen's team met with representatives for the Nordic countries, the United Kingdom, France, East and West Germany, Belgium, the EEC Commission, Poland, and the Soviet Union.

Norway made it clear during this first round that she is primarily seeking an economic zone extending up to 200 nautical miles from her coast, Evensen said. The possibility of certain transitional or mutual rights was also indicated. No detailed text of an agreement had been presented, however.

The Norwegian Government, in

During September 1975, when the dispute reached crisis proportions, the Italian Fishing Federation (Federpesca) exercised strong pressure on the Italian Ministry of Merchant Marine and the Ministry of Foreign Affairs to come to an agreement with the Tunisians which would allow the Sicilian fishers to continue fishing off Tunisia. The matter was finally discussed in the Italian Council of Ministers, while the Italian Embassy in Tunis maintained daily contacts with Tunisian authorities.

Such pressures came at a bad time for Italian fishers, as other African nations have been challenging Italian efforts to fish off their coasts. The NMFS Division of International Fisheries Analysis (F41), Washington, DC 20235, has prepared an article on this subject, entitled "Italian Fishery Negotiations with African Countries" (3 June 1975, #92), which is available upon request.

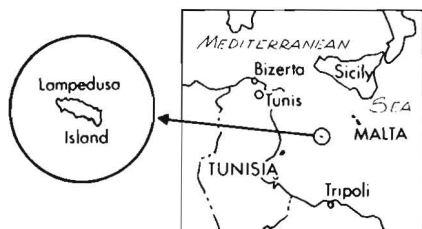
(Sources: Various Italian and Tunisian news media; *La Pesca Italiana*.)

November, was preparing legislation giving it authority to implement any solution which might be reached, Evensen revealed. Although establishing the 200-mile economic zone as the principle objective, this legislation would not exclude the possibility of more restricted alternatives. Adequate guarantees for the free passage of international shipping would also be provided. Evensen also stressed that Norway has not renounced the possibility of unilateral action if all else fails.

ROYAL NAVY SEIZES SOVIET TRAWLER

A Soviet trawler, the *D. Furmanov*, was seized off the southwest coast of England during the week of October 13 by the Royal Navy minesweeper *Shavington*, the NMFS Office of International Fisheries reports. The *Furmanov* was spotted inside the 12-mile fisheries limit with her gear improperly stowed and was escorted into Plymouth harbor. No charges were brought, however, and the trawler was released with a warning.

British fishermen had been complaining in recent weeks that East European



¹In 1962, Tunisia claimed an exclusive fishing zone of 12 nautical miles.

fishing fleets were allegedly hampering their mackerel-fishing operations. Patrols by fishery protection vessels were

intensified along the coast of Cornwall according to W. H. Williams, Inspector of Fisheries for the Southwest District.

Mexican Congress Considers 200-Mile EEZ

President Luis Echeverría sent two messages to the Mexican Congress on 5 November 1975 aimed at bringing into law the 200-mile Exclusive Economic Zone (EEZ)¹. The Presidential messages requested the amendment of Article 27 of the Mexican Constitution² and the approval of specific Federal regulations to implement the amendment.

The proposed Constitutional Amendment establishes Mexican "rights of sovereignty" and jurisdiction over an EEZ extending 200 nautical miles from the coastal baselines now used to measure territorial waters, except that, off the Yucatan Peninsula, the borders of the EEZ will be determined by agreements with interested states such as Honduras and Cuba.

After Congressional approval and ratification by a majority of Mexico's state legislatures, the amendment will take effect 120 days following its publication in the *Diario Oficial de la Federación* (Federal Register).

The proposed enabling regulations repeat the terms of the Constitutional Amendment and then stipulate the following: 1) Islands which are part of Mexico, except those which are uninhabited or cannot sustain economic activity, will have their own 200-mile EEZ; 2) Within this 200-mile EEZ, Mexico will have a) sovereign rights to exploit, conserve, and administer both, renewable and non-renewable resources in the subsoil and adjacent waters, b) exclusive rights and jurisdiction over the establishment of artificial islands, installations, and other structures, c) exclusive jurisdiction with respect to other activities related to exploration and economic exploitation of the EEZ, d) jurisdiction over the preservation of the marine environment (including control and elimination of pollution) and scientific research; 3) Foreign states will enjoy rights of navigation, overflight, the laying of submarine cables and pipelines as well as other inter-

nationally lawful uses of the sea related to navigation and communication; 4) The Mexican Government will establish catch limits to ensure that living resources are not over-exploited; 5) The Mexican Government will promote the optimum use of living resources within the EEZ. If the total permissible catch of a species exceeds the capacity of the national fishing fleet, the Mexican Government will permit foreign fleets to harvest the difference; 6) These regulations do not modify Mexico's present Continental Shelf regime; 7) Current Mexican Federal laws will apply to all the above areas of jurisdiction until specific new laws are issued. The regulations will take effect 120 days following publication in the *Diario Oficial de la Federación*.

At a joint press conference following the signing of the Presidential message to Congress, the Secretaries of Foreign Affairs, Industry and Commerce, the Navy, and the Acting Secretary of National Patrimony discussed the implications of the 200-mile EEZ in their particular fields. Foreign Secretary Emilio Rabasa called it one of the most important acts in Mexico's diplomatic history, noting that it was "in a sense a revindication by Mexico for the territorial dismemberment which it had unfortunately and unjustly suffered in the past." Rabasa added that "we will now have a Mexico twice as large as today's." The Foreign Secretary stressed that the measure was in accordance with the Law of the Sea agreements already reached at Geneva and Caracas³, and expressed hope that many other countries would take similar steps.

The Secretary of Industry and Commerce⁴, José Campillo Sainz, said that by conservative estimates, Mexico's fishery landings, which now

³Some passages in the proposed enabling legislation are either quoted or quite similar to Part II of the Informal Single Negotiating Text presented to the Third U. N. Conference on the Law of the Sea (LOS); however, it should be pointed out that the text is a working document which has not been approved by the countries involved in LOS negotiations.

⁴The Mexican Fisheries Administration is a sub-secretariat in the Secretariat of Industry and Commerce.

amount to "about a half-million tons" per year⁵, should at least triple under the 200-mile regime.

Acting Patrimony Secretary Rafoull said that in addition to petroleum, Mexico would be able to exploit such other minerals in the seabed and subsoil of the EEZ as phosphoric rock, titanium, nickel, and sulfur.

The NMFS Office of International Fisheries reports that there is nothing new in the Presidential messages and legislative proposals, nor is there any significant departure from President Echeverría's August 1975 decision. The language in Article 27 makes it clear that Mexico expects to negotiate differences on overlapping 200-mile jurisdictions, once its neighbors make similar maritime claims. While obviously reserving first claim on fisheries to Mexican nationals, the proposed regulations make it clear that Mexico intends to exploit its marine resources fully and will afford foreign fishermen the opportunity to catch the amount of fish which Mexicans do not presently have the capability to harvest. It should also be noted that nothing in the procedures chosen by President Echeverría implies sudden, arbitrary action, since the legislative process and ratification will take at least some weeks and the laws will not take effect for another four months after that process is completed. (Source: U.S. Embassy, Mexico City, 6 November 1975.)

Fishery Notes

Alaska Expects Best Salmon Haul Since 1971

The Alaska Department of Fish and Game is predicting a statewide commercial salmon harvest of 37.8 million fish in 1976. If realized, the catch would be an increase of about 12 million over last year and the highest since 1971. Steve Pennoyer, senior research biologist for the department, told the Board of Fisheries' December meeting in Juneau that while the fisheries are still suffering from the effects of the severe winters of 1970-1971 and 1971-1972,

⁵Mexico reported total fishery landings of 390,000 metric tons in 1974. Considering the large number of new vessels now under construction, landings may increase significantly in the next few years.

¹The 200-mile EEZ was first announced 5 August 1975 in Alexandria, Egypt by the Mexican Foreign Secretary.

²Article 27 vests ultimate ownership of Mexico's lands and waters in the State and asserts its control over their use.

improvements in a number of areas are possible this coming season.

Pennoyer cited the pink salmon fishery at Kodiak and the pink and chum salmon runs in Prince William Sound as examples of fisheries showing strong recovery because of adequate escapement and good streambed survival. The Prince William Sound forecast, for example, projects an allowable harvest of 5.2 million pink salmon and a chum harvest of 2.8 million. Even if the 1976 chum run is in the lower part of the forecast range, it will still be the largest on record for the Prince William Sound area. The Department of Fish and Game is also predicting a harvest of about 10.1 million pink salmon in the

Kodiak area out of a run that could total about 12.9 million fish. Fishers harvested about 2.9 million pinks at Kodiak in 1975.

The forecasts predict harvestable returns of sockeye salmon in all Bristol Bay systems except the Snake River. A harvest of about 5.1 million fish should be possible out of the projected sockeye run of 12 million. Nushagak district pink salmon harvests are expected to total about 2.2 million fish. A small pink salmon harvest is expected in southern Cook Inlet and the Chignik fishery probably will be limited. Extremely low pink salmon runs are expected in Southeastern Alaska with virtually no harvests expected.

A total run of 5.6 million pinks is predicted for Southeastern Alaska and unless the returns are stronger than expected, all or most of the fish will be needed for escapement, Pennoyer said. Returns of chum, chinook, sockeye and coho salmon are expected to be about average in Southeastern Alaska. "But if the factors which weakened the 1975 runs of chum, sockeye and coho influence the 1976 return, runs of these species could also be less than anticipated," Pennoyer added. The extremely cold winters of 1970-1971 and 1971-1972 are believed to be the major factor causing the currently depressed salmon runs throughout much of Alaska.

Publications

Nicaragua and Brazil List Fishery Books

The Division of International Fisheries Analysis (F41), Office of International Fisheries, NMFS has obtained a 3-page bibliography of the publications issued by the Fisheries Division of the Nicaraguan Development Institute (Instituto de Fomento Nacional, or INFONAC). INFONAC's publications cover the following subjects: Official Nicaraguan fisheries statistics, artisanal fisheries, processing, exports, exploratory fishing, bibliographical data, fleet, gear and methods, and various aspects of the shrimp and lobster industry.

In Brazil, the UNDP/FAO Fisheries Research and Development Program has published a bibliography of its 1973-75 publications (in Portuguese). The 2-page bibliography includes technical documents on fishing methods, fisheries resources and fish processing, as well as studies dealing with various species, such as shrimp, corvina, sardine, lobster, and braise. Copies of

either listing may be obtained from Dennis M. Weidner, Office of International Fisheries, F41, NMFS, NOAA, Commerce Department, Washington, DC 20235, and enclose a self-addressed mailing label to facilitate mailing.

Clam Potential Eyed in Alaskan Report

The economic potential of the Alaska clam industry is the subject of a new 148-page report published by the University of Alaska Sea Grant Program in cooperation with the university's Institute of Marine Science. Entitled **The Alaska Clam Fishery: A Survey and Analysis of Economic Potential**, the new report concludes there will be "significant growth" of the Alaskan clam industry if certain events occur.

These events are: 1) Alaska's obtaining and maintaining membership in the National Shellfish Sanitation Program; 2) introduction of environmentally safe

clam dredges; and 3) devotion of more resources to clam source beach certification and monitoring; and transferring of harvesting efforts for bait razor clams (used in dungeness crab fishing) to non-certified beaches.

"Given the probable occurrence of these events, it is not unrealistic to expect annual harvests of around five million pounds shell weight within the next decade," says the report. "The value to the fishers of such a harvest will likely be in excess of \$2 million."

The report—containing sections on history, regulation, harvesting, processing and marketing—was written by Franklin L. Orth, associate professor of economics; Howard M. Feder, professor of marine science; and John Williams, assistant professor of seafood science. All are with the University of Alaska. Another coauthor, Charles Smelcer, is with the U.S. Army. Copies of the report can be obtained by writing the Alaska Sea Grant Program, University of Alaska, Fairbanks, Alaska 99701.

Marine Geophysical Data Catalog—1975 Available

NOAA Environmental Data Service's National Geophysical and Solar-Terrestrial Data Center has released **Marine Geophysical Data Catalog—1975, Key to Geophysical Records Documentation No. 4**, which includes all bathymetric, magnetic, gravimetric, seismic profile, and navigation infor-

mation available from the Center. It also indicates types of data formats, identifies specific cruises or surveys, depicts geographical distribution of the data by area index charts, and includes a trackline sketch for each cruise or survey.

The 1975 catalog updates and supersedes "Key to Geophysical Records Documentation No. 1" (published in June 1972), and includes 58 marine geophysical data sets that have become

available since 1972. It also gives availability of complementary data, including map plots, charts, etc. A pocket insert map, "Multitrackline Plots," includes bathymetric, magnetic, gravimetric, and seismic reflection data collected worldwide along 2¼ million nautical miles of tracklines.

Further information about the catalog and available data may be obtained from: Solid Earth Data Services Division (D62), National Geophysical and

Solar-Terrestrial Data Center, Environmental Data Service, National Oceanic and Atmospheric Adminis-

tration, Boulder, CO 80302. The catalog may be purchased from: Superintendent of Documents, U.S.

Government Printing Office, Washington, DC 20402 for \$5.25 (Stock No. 003-017-00292).

In Brief

Fishery Development, Catches, and Values

. . . **The International Oceanographic Foundation's 1975 Gold Medal Award** has been presented to Melville Bell Grosvenor "for his personal endeavors and support of the advancement of the scientific study of the oceans . . ." Grosvenor, Editor in Chief of *National Geographic* and Chairman of the Board of the National Geographic Society

. . . **Alfred M. Beeton, associate dean for research administration** at the Graduate School, University of Wisconsin—Milwaukee, will become director of the Great Lakes and Marine Waters Center at the University of Michigan on 1 July 1976, the University of Michigan reports. Before joining the UW faculty, Beeton was chief of the Environmental Research Program at the Ann Arbor Biological Laboratory of the U.S. Fish and Wildlife Service

. . . **The Solomon Islands has begun to develop its fisheries industry** to make it self-sufficient in fish by 1978 and then build an export market, *Australian Fisheries* reports. The Solomon Islands now has a live-bait skipjack tuna fishery which produced 11,000 tons of fish in 1974. Under study are projects on rock lobster stocks, offshore resources, fish smoking and preservation techniques, fish meal production, squid, etc. . . .

. . . **The value of Australia's fish, crustacean, and mollusk production** in 1973-74 was more than A\$100 million for the first time, according to an Australian Bureau of Statistics report in

Australian Fisheries. The rock lobster fishery remained most valuable at a value of over \$30 million, closely followed by the prawn fishery at \$29 million. The wet fish catch was valued at \$26 million, up \$3 million from 1972-73. Tuna was the top fish in both weight, 9,700 metric tons, and in value, \$3.6 million. Western Australia, with fish production valued at \$25 million, was the leading fishing state, followed by New South Wales, \$21 million, South Australia, \$17 million, Queensland, \$14 million, Victoria, \$11 million, and Tasmania, \$8 million. . . .

. . . **Norman Doelling has been named manager of the Massachusetts Institute of Technology Sea Grant Program's Marine Industry Advisory Service**, a new link to exchange ideas and information on marine business opportunities with industry. A main component, the Marine Industry Collegium, will keep participating businesses abreast of the latest opportunities in utilization of chitin and chitosan, farming and use of kelp as an energy source, conversion of waste water and sewage sludge into a resource, and others. . . .

. . . **Hatchery-reared trout and salmon released in the Great Lakes** and lower courses of tributary streams in 1975 totalled about 22.2 million, according to a report in *The Great Lakes Newsletter*. Total 1974 plantings were over 24 million fish. Principal species planted last year were chinook (7 million), coho

salmon (4.7 million), and lake trout (6.5 million)—18.2 million altogether versus 18.4 million in 1974. Since the start of the lake trout restoration program in 1958, over 66 million young fish have been released in the Great Lakes. About 2.1 million steelhead trout, and 1.1 million brown trout were planted, as were lesser numbers of splake, brook trout, and Atlantic salmon. . . .

. . . **A remote, underwater fish-tracking system** to test the reaction of migrating fish to pollutants from known point sources is being jointly developed by the Langley Research Center of the National Aeronautics and Space Administration (NASA) and the Virginia Institute of Marine Science (VIMS), according to a VIMS news release. Underwater listening stations pick up sonic signals from tiny fish-tag sized transmitters attached to the fish. Data is transmitted to a base station and relayed to a computer which sorts the information and plots the fish's position as it migrates through the study area. Any change in migratory behavior as the fish enters the polluted area—such as slowing, swimming around it, or turning back—will be detected. . . .

. . . **Ownership of the R/V *Hernan Cortez* has been officially placed** with the Marine Research Laboratory of Florida's Department of Natural Resources, according to the *Florida Conservation News*. Built in 1964 by Desco Marine¹, the vessel was loaned by that company to the DNR for fisheries research work. One of its major efforts was Project Hourglass, a 28-month systematic biological sampling program on the west coast of Florida. More recently, it has been involved in a search for commercial clam beds on the west coast of Florida, a 2½-year study of rock shrimp off Cape Canaveral, and other cruises. It is now being used in the Gulf of Mexico in an effort to detect red tides from satellites. . . .

¹Mention of trade or commercial names does not imply endorsement by the National Marine Fisheries Service, NOAA.