

Gambia Studies Spiny Lobster Decline

The Gambian lobster catch during the 1973-74 season amounted to 65 metric tons (t) worth US\$283,000, a significant decline from the record 1965 season when 120 t of lobster were caught. The fishery has recently been

the subject of study by the Fisheries Division of the Gambian Ministry of Agriculture and Natural Resource which has become concerned about possible overfishing.

BIOLOGICAL DATA

The spiny lobsters caught by the Senegalese and Gambian fishermen in Gambian waters include: *Panulirus rissoni*, *P. regius*, *Palinurus charlestoni*, and *P. mauritanicus*. Their food consists of fish, other lobsters, shellfish, and dead marine animals. They are bottom dwelling, usually preferring rocky bottoms and coral reefs. *Palinurus mauritanicus*, however, is often found in deep waters where the bottom is sandy or muddy. Spiny lobsters grow fairly slowly, taking about 7 or 8 years to reach maturity but may live 50 years or more.

Table 1.—Senegalese lobster canoes operating in Gambia, by fishing centers.

Centers	Year			
	1974	1972	1966	1962
Brufut	17	NA	22	NA
Batu Kunku	4	NA	2	NA
Sanyang	9	NA	0	NA
Gunjur	9	NA	5	NA
Kartung	26	NA	8	NA
Total	66	66	37	6

¹Includes four Gambian canoes.

Source: W. J. Scheffers and N. Hellevang. 1975. Aspects of the Lobster Fishery in The Gambia. Fisheries Publication No. 1. Ministry of Agriculture and Natural Resources, Fisheries Division, Banjul, May 1975, p. 4.

Table 2.—Gambian lobster fishing data for selected years.

Season ¹	No. of canoes	Total catch (t)	Catch (kg) canoe per night	Price (dalasis/kg)	Total value (dalasis)	Total value (US\$)
1961-62	6	50	40	2.50	125,000	70,000
1964-65	37	120	15	2.46	295,000	165,200
1971-72	66	80	5	7.50	600,000	300,000
1973-74	66	65	6.5	7.50	487,500	282,750

¹The lobster season is from October to June.

²Based on the exchange rate effective on 31 December of each season.

Source: Scheffers and Hellevang (Footnote 1, Table 1).

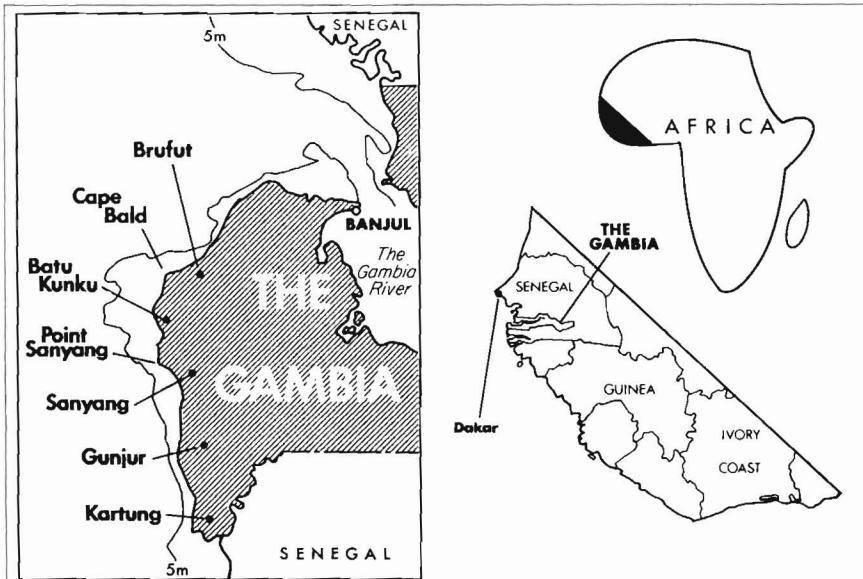


Figure 1.—Gambian lobster fishing centers.

GROUNDS

Lobster is particularly abundant in the areas off Cape Bald and Point Sanyang. In this region there are three important lobster fishing centers: Brufut, Batu Kunku, and Sanyang. Other important villages to the south are Gunjur and Kartung (Fig. 1). It appears that these villages are situated inland, along a highway, rather than directly on the coast.

FLEET FISHING METHODS

Almost all of Gambia's lobsters are harvested by Senegalese fishermen who operate more than 60 canoes, some motorized, from five fishing centers in Gambia (Table 1). Gill nets are used to harvest the lobster in shallow waters up to 5 meters deep. Because the lobsters are more active at night, fishing operations take place mainly after dark. Each canoe carries between six and eight men and sets as many as 100 nets per trip. After the lobsters are landed, they are kept alive in floating wooden crates near the shore until they can be sold. The lobster season begins in October with the arrival of the Senegalese fishermen and extends until the end of June when the rainy season begins.

CATCH

The Gambian lobster catch has declined since 1965 when an estimated 120 t of lobsters were harvested (Table 2). An elevenfold increase in the number of canoes in the lobster fishery between 1962 and 1974 has been accompanied by a decline in the catch per canoe from 40 kg per night to only 6.5 kg (Table 2). The increase in lobster prices, however, has resulted in an increase in the value of the Gambian lobster catch even though the quantity caught and yield per vessel have declined. Gambian officials report, however, that reliable data is difficult to obtain from the Gambian and Senegalese traders who market lobster. Therefore the data in Table 2 must be treated with some caution.

MARKETING

Most of the lobster caught by the artisanal fishermen is collected by a vessel operating from Dakar, Senegal, which makes weekly runs supplying the Senegalese fishermen with food, gasoline, and netting materials.

Another part of the catch is bought from the Senegalese fishermen by Gambian traders who sell the lobster to either a Gambian company, Gambia Fisheries Ltd., or directly to Senegalese exporting companies in Dakar. In addition, a small portion is caught by Gambian fishermen, either intentionally, or incidentally with their primary catches of white fish and is sold locally to hotels during the tourist season.

COMPANIES

Domestic and foreign companies have been involved in the catching and marketing of Gambian lobster. In 1966, the Atlantic Marine Company, based in Banjul (Fig. 1) began to exploit the lobster resources. The company's attempt to employ Gambian fishermen failed due to their lack of experience in lobster fishing. Atlantic Marine was forced to recruit 80 Senegalese fishermen who began lobstering with 15 motorized canoes. At first Atlantic Marine exported over half of its products by air to France (via Dakar) as the exports of France's former colonies are exempted from a 25 percent duty levied by the Common Market on lobster imported from non-member countries. By 1968, most of the company's exports were being shipped to Las Palmas in the Canary Islands. In 1971, the company terminated its lobster operations after undisclosed problems developed with the Gambian Government.

A Senegalese company, Bafa-Adri Peche, was established in Banjul to market shrimp and lobster in 1972. The company ceased its Gambian operations abruptly in 1973 for unknown reasons. At present, Gambia Fisheries Ltd., local Gambian traders, and the operators of weekly boats, from Dakar are the main marketing outlets for Gambian lobster.

In the past, Gambian lobster has been exported to France, Senegal, and the Canary Islands. United States import statistics indicate that the United States does not import any Gambian lobster, either directly or via Senegal.

GOVERNMENT PLANS

Declining catches and the increasing number of canoes engaged in the lobster fishery have motivated the

Gambian Government to take greater interest in the rational management of the resource. The Gambian Fisheries Division has suggested several steps to remedy the lack of accurate catch and export data, and to assess stock conditions. First, it recommends that all fishermen involved in the exploitation of Gambian lobster, no matter what their nationality, be required to register with the Gambian government and supply catch and export figures to the Fisheries Division. The collected data could be used to assess the condition of the lobster stocks and provide the basis for the imposition of any necessary regulations to prevent overfishing.

The Gambian Fisheries Division is considering three plans to reorganize the lobster industry. First, Gambia might allow the Senegalese to continue to harvest the lobster, but would impose an export duty on all lobster leaving the country. Second, a Gambian company might be set up to collect the lobster from both Gambian and Senegalese fishermen. A third possibility under consideration would be to train Gambian fishermen to harvest lobster and to supply them with the necessary equipment so that they could gradually take over lobster fishing from the Senegalese.

GIFA Signed by U.S. and Poland

Representatives of the governments of Poland and the United States signed on 2 August 1976 in Warsaw a new agreement relating to Polish fishing off the coasts of the United States. The new agreement will come into force following a review by the appropriate authorities of the two countries. Negotiations on this "governing international fisheries agreement" (GIFA) began in Montreal, Canada, in June 1976 during the Annual Meeting of the International Commission for the Northwest Atlantic Fisheries and were successfully completed on 31 July. The GIFA establishes the arrangements which will govern Polish fishing within 200 miles of the U.S. coast after 1 March 1977.

The U.S.-Poland GIFA was the first bilateral fisheries agreement to be negotiated with a country fishing off

the coast of the U.S. since the enactment by U.S. Congress of the Fishery Conservation and Management Act of 1976 (FCMA). (Source: U.S. Embassy, Warsaw.)

Japan Lists 1976 North Pacific, Eastern Bering Sea, Fishing Vessels

The Japanese Fisheries Agency licensed a total of 1,208 fishing vessels to fish in North Pacific and eastern Bering Sea grounds in 1976, according to the NMFS Office of International Fisheries. The largest number of licenses was issued for the North Pacific salmon mothership fleets. Many licenses were also issued to the land-based salmon vessels operating south of lat. 48°N and west of long. 175°W, reflecting the importance of Japan's salmon catch.

A large number of licenses was also issued for the Bering Sea surimi vessels which fish for Alaska pollock. The following table gives a detailed look at Japan's North Pacific effort in 1976, according to statistics on licenses issued by the Japanese government.

Table 1.—Japanese vessels licensed for North Pacific and Bering Sea Fisheries, 1976.

Fishery	Mother-ships	Other vessels	Total
North Pacific independent trawlers	0	42	42
Bering Sea surimi vessels	11	198	209
North Pacific long-line gillnet vessels ¹	0	22	22
Hokutensen (North-turned vessels) ²	0	182	182
Eastern Bering Sea crab vessels ³	2	12	14
North Pacific salmon mothership fleets ⁴	10	332	342
North Pacific pelagic whaling fleet	1	9	10
Small fishing vessels	0	19	19
Land-based gillnet fishing vessels ⁵ , operating south of 48°N	0	285	285
Land-based gillnet fishing vessels ⁵ , operating south of 45°N	0	83	83
Total	24	1,184	1,208

¹These gillnet vessels do not fish for salmon; they longline for sablefish which is their most important catch.

²Of the 182 Hokutensen, 154 vessels are licensed full-time and the remaining 28 vessels are licensed on a seasonal basis.

³In addition to the eastern Bering Sea crab fleets, Japan licenses 31 vessels to fish for tanner crab in the western Bering Sea off the coast of the Soviet Union.

⁴In addition to the North Pacific salmon mothership fleets, Japanese effort for salmon also includes coastal vessels.

Source: American Embassy, Tokyo, 18 March, 18 May, and 10 June 1976.

Faeroe Islands, Guatemala Adopt 200-Mile Limits

Guatemala extended its jurisdiction to 200-nautical miles on 1 July 1976 by creating an Exclusive Economic Zone (EEZ) of 188 nautical miles beyond its 12-mile territorial sea. The EEZ was established by Law 20-76 which was passed by the Guatemalan Congress on 9 June and signed by President Langerud on 18 June 1976. The law became effective upon publication in the Guatemalan official gazette. The major provisions of the new laws are listed below.

GUATEMALAN PROVISIONS

Article 1 "reiterates" Guatemala's claimed sovereignty over a territorial sea of 12 miles "measured from the respective base lines." No attempt is made to define or locate the base lines.

Article 2 confirms the rights of innocent passage of foreign ships through the territorial sea "in conformity with international law."

Article 3 asserts Guatemalan jurisdiction over "an Exclusive Economic Zone (EEZ) that will extend out to 200 nautical miles measured from the base line" used as a basis for the territorial sea. Guatemalan jurisdiction includes: "rights of sovereignty for the exploration, exploitation, conservation, and administration of renewable and non-renewable resources; exclusive rights and jurisdiction with respect to the establishment and utilization of artificial islands and analogous installations and structures"; exclusive jurisdiction with respect to other activities aimed at exploration and economic exploitation of the zone, "such as production of energy derived from the water, the currents and the winds, and with respect to scientific research"; environmental jurisdiction, including control and elimination of pollution; and "other rights and obligations that may be derived from jurisdiction over the zone."

Article 4 recognizes within the EEZ the right of all other states to "free navigation and overflight, placement of cables and pipelines—provided always that a representative of the Guatemalan Government participates, and internationally recognized uses of the sea related to navigation and communications."

Article 5 authorizes appropriate Guatemalan agencies to issue "regulations regarding fishing, conservation of the sea, and other pertinent activities, in the territorial sea, the EEZ, the continental shelf (seabed and underground), and in the deep sea (fondos marinos)." Until regulations are issued with regard to the EEZ, laws and regulations now in effect for the territorial sea will be applicable to the EEZ in so far as possible. The Government will negotiate pertinent agreements with neighboring states and will issue permits for fishing "or for any other activity of exploration or exploitation of the territorial sea or EEZ."

Article 7 was amended by the Guatemalan Congress. The original Article 7 requested the executive branch of the Government to seek arrangements with the other Central American countries for the common exercise of the right to fish within the 200-mile zone and to establish limitations on overfishing. Deletion of this language was not discussed in the Guatemalan press and no explanation has been made publicly. The executive branch could still, of course, negotiate fishing agreements with other countries, within or without Central America, and submit them to the Guatemalan Congress as treaties. The amended Article 7 provides that "a qualified officer of the Navy will be included in Guatemalan delegations to (international) conferences that discuss maritime affairs." This has been a long-standing objective of the Navy, which has bitterly complained over its exclusion from formulation of LOS policy.

Article 8 charges the Guatemalan Armed Forces with ensuring respect for "the right of the Republic over its territorial sea and its EEZ."

LIKE MEXICO'S EEZ

The Congressional committee which prepared a report on this measure specifically rejected the Chile-Peru-Ecuador thesis of a 200-mile territorial sea, "as it would be unrealistic and practically impossible to exercise full sovereign rights in so extensive an area." The Guatemalan law is similar to Mexico's Constitutional Amendment

establishing a 200 mile EEZ. The committee's report placed great emphasis on the rich fishing reserves within 200 miles of the Guatemalan coast, from which Guatemala receives limited benefit and which are "exploited by countries such as Japan, the United States, Canada, the Soviet Union, etc." In addition, the committee report mentions tuna, which suggests that the new law may be applied to highly migratory species.

The law entered into force on 1 July 1976 when it was published in Guatemala's official gazette. (Source: U. S. Embassy, Guatemala City.)

FAEROE ISLANDS

The Faeroe Islands Parliament, the Lagting, unanimously adopted a proposal on 6 August that the Government extend their fisheries jurisdiction to 200 miles, no later than 1 January 1977, according to a report in the Danish newspaper *Land og Folk*. The Lagting also urged the Government to begin talks with the Danish Government to abrogate the 1974 fisheries agreement which allows foreign nations to fish off the Faeroese coast. The agreement can be cancelled after a 6-months notice. The contracting states to the agreement are the United Kingdom, Denmark, the Federal Republic of Germany, France, Norway, Belgium, and Poland, and a 6-month notice is necessary for a state to withdraw.

In 1974, the total Faeroese catch was 247,000 metric tons, of which only 26,000 metric tons was landed within 200 miles of the Faeroes. The remainder of the Faeroese catch was caught in the North Sea, and off Iceland, Norway, and Canada. Foreign nations caught 101,000 metric tons of fish within 200 miles of the Faeroes.

Greenland, another Danish territory, has also requested an extension of its fisheries jurisdiction. In November 1975, the Executive Committee of the Greenland Council demanded a fisheries limit of 100 miles. The Danes themselves stand to gain little from a 200-mile fisheries limit, as they would have to divide the resources of the Skaggerak and Kattegat Straits with Norway and Sweden, and those of the North Sea with other Common Market members. (Source: U.S. Embassy, Copenhagen.)

Sri Lanka Plans Fishing Fleet Expansion

Sri Lanka's Ministry of Fisheries plans to acquire an additional ten small (38 to 60 GRT) trawlers during 1976. The Asian Development Bank (ADB) will finance the project, which is part of a large-scale fisheries development plan.

Currently, 230 GRP (glass reinforced plastic) fishing vessels are being built with ADB financial assistance at three shipyards in Sri Lanka and one shipyard in India. Sri Lankan yards are constructing 200 of the 230 vessels, and these 200 will be 3.5 GRT 28-foot boats for use in the coastal fisheries of the island nation. The Indian shipyard is building 30 larger vessels for the use of fishery cooperatives on Sri Lanka's west coast intending to fish in waters further offshore.

Sri Lanka's fisheries development plan aims at increasing deepwater catches, providing additional employment in boatbuilding and fishing industries, and at raising the level of efficiency of the fishing fleet. The young graduates of fishery training schools at

Negombo, Tangalle, Jaffna, and Batticaloa will be employed on the new vessels to demonstrate the merits of modern fishing methods. (Source: *Fishing News International*.)

Sri Lanka's 1973 landings totalled 99,116 metric tons, more than 90 percent of which was taken by coastal fishermen (Table 1), according to the NMFS Office of International Fisheries.

To promote fisheries development, the Government reorganized fishery cooperatives in 1970. By December 1973, 44 of the planned 45 primary fishery co-ops were functioning. The 3.5-ton GRP fishing vessels were sold to fishery co-ops by the Fisheries Department for half of their construction cost. The co-ops pay the Fisheries Department in installments by delivering 25 percent of their daily catches.

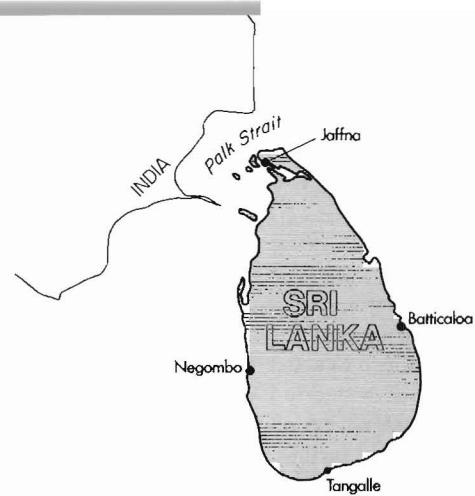
Sri Lanka's mechanized fishing fleet at the end of 1973 numbered about 6,300 registered vessels. Of these, 52 percent had a capacity of 3.5 GRT and were either owned by fishery cooperatives or by private individuals (Table 2).

Sri Lanka has received fisheries aid from various international organizations including the United Nations Development Program (UNDP) and the ADB. In addition, bilateral fisheries aid from Japan consisting of fishermen's training and exploratory fishing has contributed to the development of Sri Lanka's fisheries.

In 1962, Sri Lanka initiated a fisheries training center at Negombo. The Government of Japan provided equipment and experts to teach courses in fishing and mechanics. This initial program at Negombo became the nucleus for three additional training centers located in Tangalle, Jaffna, and Batticaloa.

In 1973 the UNDP Skipjack Survey Project was managed by T. Ochi of Japan. In addition to a survey vessel constructed in Sri Lanka, a Japanese pole and line skipjack fishing vessel was chartered for survey work. Nichiro, a major Japanese fishing company, independently carried on experimental skipjack fishing in nearby waters and provided data to the UNDP Skipjack Survey Project.

Recently India and Sri Lanka signed



a maritime boundary agreement which established fishing rights in the Palk Straits. (Sources: U. S. Embassy, Colombo; *Administration Report of the Director of Fisheries for the year 1973*, Sri Lanka, 1976; *Fishing News International*.)

New Zealand Details Fisheries Programs

The New Zealand National Party Government, elected in 1975, plans to develop the nation's fisheries and to protect its marine resources, according to a party election manifesto. The programs and plans drawn up concentrate on creating incentives for export development, protecting fishery resources, improving fish harvesting and farming, instituting vessel licensing, and encouraging commercial and biological marine research.

To stimulate production in the fishing industry, the New Zealand Government will extend loans for the construction or purchase of vessels, will make certain categories of gear and equipment tax deductible, and will review the present refunding of the sales tax. The Government is also considering granting investment allowances for vessel replacement and special depreciation allowances for equipment. The use of export incentives for various species of fish is also being considered.

In anticipation of the 200-mile economic zone and 12-mile territorial sea laws, the Government is encouraging the development of fisheries for export, and is trying to enlarge its present export markets. In addition, the Government will provide facilities for the storage of fish for off-season sale. There will also be increased

Table 1.—Sri Lankan fishery landings, 1972 and 1973, in metric tons.

Landings	1972	1973
Landings by Ceylon Fisheries Corporation trawlers, 11-ton boats, tuna boats, and private deep-sea vessels	2,517	2,347
Landings by 3.5-ton mechanized coastal vessels	38,642	43,292
Landings by nonmechanized coastal vessels	50,646	46,582
Landings of freshwater fish	8,305	6,895
Total	100,110	99,116

Source: *Administration Report of the Director of Fisheries for the year 1973*, Sri Lanka, March 1976.

Table 2.—Sri Lanka's registered fishing vessels, 1973.

Type of vessel	No.	No.
Mechanized	6,293	
3.5-ton privately owned	1,137	
3.5-ton, hire-purchase vessels (used by fishery co-ops)	2,106	
Nonmechanized	69,339	
Total	75,632	

¹The U.S. Embassy, Colombo, estimates that there are about 17,000 nonmechanized vessels in Sri Lanka. The number given in Table 2 is that of the Department of Fisheries and probably overstates the number now actually operating.

Source: *Administration Report of the Director of Fisheries for the year 1973*, Sri Lanka, 1976.

cooperation of defense forces and fishery enforcement patrols in order to prevent foreign fishing in New Zealand waters, and to protect marine resources in waters where such fishing will be allowed. The Government further plans to examine the possibility of initiating licensing of fishing vessels as a means of protecting certain species against overfishing. Financial aid will be provided to local authorities for the construction of wharves, berths, and slipway facilities.

Biological and commercial research aimed at increasing efficiency in the fishing industry will be stressed. The Government will provide the Fishing Industry Board with an annual grant to promote industrial training and the application of research to commercial operations.

The Government will also continue to encourage the development of fish farming, and the use of warm water wastes from power stations. Oyster, mussel, mollusk, and crustacean farming will be promoted. (Source: *Fishing Industry Board Bulletin*, March 1976.)

Germans Fish Hake Off Southern Africa

The largest West German trawler company, Nordsee Deutsche Hochseefischerei of Bremerhaven, sent two factory trawlers, (2,557 GRT each) to waters off southwestern Africa in late 1975 to catch and process cape hake (*Merluccius capensis* and *M. paradoxus*). The venture was precipitated by the reduction of Germany's catch quotas by the International Commission for the Northwest Atlantic Fisheries (ICNAF) and the recent prohibition on the use of factory trawlers within Iceland's 200-mile fishing zone. Nordsee expected to catch about 12,000 metric tons¹ of hake in 1976. This would represent a sizeable catch increase as the total German hake catch in 1974 was only 233 metric tons (Table 1).

The two stern trawlers were modernized at a cost of about \$2.2 million each. The modernization included the installation of twin-net trawling gear, closed-circuit television to monitor fishing operations, and filleting and

freezing machinery. According to Marx-Henning Rehder, president of Nordsee, the quality of the frozen hake produced aboard his company's trawlers has been markedly better than that of frozen hake produced by onshore plants. Per-pound returns from the trawler-processed frozen hake have been significantly higher than from hake processed by onshore plants. The frozen hake is transshipped in Walvis Bay from the factory trawlers to freezer carriers and transported back to German ports.

The operation as a whole has not been profitable even though yields per pound have been high. Apart from the high costs of provisioning and servicing ships in such distant waters, the deficit has been due principally to lower-than-anticipated catches during the first 6 months of the operation (late 1975 to mid-1976). Nordsee has learned that the hake catches of other nations' trawlers have also fallen short of expectations, but company officials maintain that the lower-than-anticipat-

ed yields are not an indication of overfishing. In Rehder's judgment there is simply not enough scientific data about hake off southern Africa to warrant such a conclusion. It should be noted that hake catches off southern Africa have declined significantly since 1972, however, not below 1970-71 levels (Table 2).

Despite the financial losses incurred thus far, Nordsee has no intention of ceasing operations. Rehder stated that continuous operations of at least 1 year would be required to determine definitively the economics of hake fishing off southwestern Africa. On the other hand, even if the venture becomes profitable, Rehder does not see any likelihood of a significantly expanded effort. Influencing his judgment are: 1) the possibility that hake stocks are more limited than expected; 2) the comparatively high costs and risks of a distant water operation; and 3) the relatively low current level of demand for frozen hake. In addition, there is the uncertainty of fishing within 200 miles of the coast as a possibility that South Africa may establish a 200-mile economic zone and restrict foreign fishing operations cannot be ruled out. Rehder hopes that in such an event his firm would receive quota allocations which would enable Nordsee to continue its present operation. (Source: U. S. Consulate General, Bremen.)

According to the NMFS Office of International Fisheries, the Nordsee operations will substantially increase the Federal Republic of Germany (FRG) hake catch. The FRG reported a record catch of 4,100 metric tons in 1972 when 3,900 metric tons of Patagonian hake was caught off the Atlantic

Table 1.—German (FRG) hake catch, 1970-75.

Year	Catch ¹ by species ²			Total catch
	Europ- ean	Cape	Patago- nian	
1970	200	400	—	600
1971	100	—	—	100
1972	200	—	3,900	4,100
1973	100	1,400	—	1,500
1974	233	—	—	233
1975	NA	NA	NA	NA

¹Catch is given in metric tons round weight.

²Does not include German whiting (*Merlangius merlangus*) or white hake (*Urophycis tenuis*).

Source: FAO Yearbook of Fishery Statistics, 1974, and U.S. Department of Commerce, Bureau of the Census.

Table 2.—Cape hake catch in metric tons off southern Africa, by country, 1970-75.

Country	1975	1974	1973	1972	1971	1970
Bulgaria	NA	10,800	17,400	19,300	20,400	27,400
Cuba	NA	20,500	24,300	48,000	38,300	14,300
Germany (FRG)	NA	—	1,400	—	—	400
Ghana	NA	11,163	4,900	1,100	—	—
Israel	NA	5,575	6,300	9,100	8,500	5,800
Japan	NA	61,567	66,500	54,700	62,900	57,100
Poland	NA	32,341	36,900	3,100	—	—
Portugal	NA	13,510	21,200	13,100	18,700	18,400
Romania	NA	—	—	—	1,000	1,200
S. Africa	¹ 113,000	134,870	133,000	118,100	111,500	96,000
Spain	NA	176,600	176,600	186,400	199,600	195,600
USSR	NA	298,408	398,300	655,600	334,600	340,600
Zaire	NA	² 2,800	² 2,800	² 2,800	2,800	5,100
Total	NA	² 768,134	² 889,600	² 1,111,300	798,300	761,900

¹U.S. Consulate General, Cape Town.

²FAO estimate.

Source: FAO Yearbook of Fishery Statistics, 1974.

¹Approximately 4,000 metric tons of frozen fillets.

coast of South America. Since 1972, the FRG hake catch has declined even though a catch of 1,400 metric tons of cape hake off southern Africa was reported for 1973. U. S. statistics do not list hake imports separately from other species, so it is impossible to determine the quantity of FRG-caught hake exported to the United States.

Thirteen countries fish hake off southern Africa. Only the Romanians, who have not operated there since 1971, had reported smaller catches than the Germans. Almost 770,000 metric tons of hake were caught in 1974, a decline of 31 percent from the 1.1 million metric tons caught in 1972. The Soviet Union, Spain, and South Africa all reported catches in excess of 100,000 metric tons in 1974 (Table 2).

Sweden's 1975 Fish Take Stable, Value Declines

Swedish fishery landings in 1975 were 196,000 metric tons, approximately the same as in 1974. The total 1975 round-weight catch was estimated at 211,000 metric tons. Value of the landings declined from \$59 million in 1974 to \$54 million in 1975.

The industry was further affected by rising costs, making 1975 a poor year. The Government paid out more than \$2 million in subsidies, in the form of price supports and loans to the fishing industry, and fishermen have requested permanent assistance, similar to that received by Swedish farmers.

In April 1976, 800 fishermen in southeast Sweden went on strike for one week to draw attention to their poor economic situation. Fishermen

Figure 1.—Sweden's annual fish catch, 1960-74. Source: FAO Yearbook of Fishery Statistics, 1974.

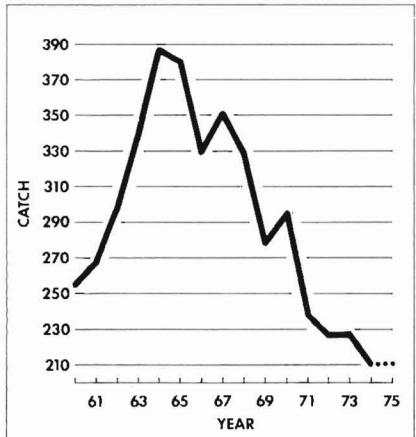


Table 1.—Sweden's preliminary annual fishery landings by species, 1974-75, In metric tons.

Species	1974	1975
Herring (including Baltic herring)	74,976	79,137
Sprat	4,367	3,650
Haddock	2,569	2,624
Cod	19,136	17,965
Mackerel	3,528	4,605
Salmon	578	576
Eel	958	1,273
Fish for reduction	79,696	76,138
Prawns, deep-water	1,865	1,848
Other	8,221	8,273
Total	195,894	196,089
Total value ¹	US\$59,394,853	US\$54,596,363

¹Currency conversion rate: US\$1.00 = 4.275 Swedish kroner (Skr), 1974; US\$1.00 = 4.40 Skr, 1975.

Source: Swedish Central Bureau of Statistics.

are also concerned about declining fish stocks in the North and Baltic seas, and the international trend towards extensions of fishery jurisdictions to 200 miles. Preliminary landings are shown in Table 1. Annual fishery catches for the past 16 years are shown in Figure 1. (Source: U.S. Embassy, Stockholm.)

Japan, U.S. Discuss Fish Conservation, Management Issues

Bilateral fishery negotiations between Japan and the United States began 18 August 1976, in Washington, D.C. These talks were one of several which have taken place with other governments since the enactment of the Fishery Conservation and Management Act of 1976 (FCMA), the U. S. law which establishes a fishery conservation zone extending out to 200 nautical miles from the U. S. coasts after 1 March 1977. The FCMA established a new system for allowing access to foreign countries which hope to fish off the coasts of the United States, and required each foreign country to sign a "Governing International Fishery Agreement" (GIFA).

One of the conditions for access to fish inside the U. S. 200-mile zone is the acknowledgement by a foreign country of the exclusive management authority of the United States. In addition, no foreign fishing vessels will be allowed to fish inside the 200-mile zone except those licensed by the Secretary of Commerce, or having a valid registration permit issued by the Secretary of State.

The official Japanese position on 200-mile economic zones have been non-recognition of unilateral declarations of extended jurisdiction by coastal states, pending a comprehensive international agreement resulting from the Law of the Sea Conference. Japan's leading business newspaper, *Nihon Keizai Shimbun*, carried a story on 9 August that Japan was prepared to recognize 200-mile economic zones as customary international law. The report was attributed to an anonymous Japanese government official. If this report is true, it would represent a major shift in the Japanese position.

Japan is the world's leading fishing nation based on both the quantity and value of its catch. Japanese vessels catch several important species of fish and shellfish in the North Pacific and eastern Bering Sea including salmon, crab, sablefish, Alaska pollock, rockfish, and other groundfish. Under bilateral agreement with the United States, in 1974 Japan caught approximately 1.4 million metric tons of Alaska pollock, tanner crab, rockfishes, and sablefish in waters within 200 miles of the United States. According to official Japanese government statistics, 4.5 million metric tons of fish and shellfish was caught within 200 miles of foreign countries in 1974. This amount represented 41 percent of Japan's total catch by quantity and about 30 percent of Japan's total catch by value in that year. Japan's total catch in 1974 had a landed value of \$5.7 billion. Using these figures, Japan's catch off the United States represented about 13 percent of its total catch by quantity in 1974.

In contrast to the soft-line approach taken by the anonymous Japanese government official quoted on 9 August, the Japanese fishing industry, through the Japan Fisheries Association, has taken a hard line in petitions to the Japanese Government and has submitted a formal representation to the American Embassy in Tokyo.

The Japan Fisheries Association asks that Japan's historical catch levels in the fisheries of the Northeast Pacific be maintained because: 1) Japanese vessels developed the fishery resources, including species still underutilized by the United States, ahead of

other countries; 2) Japan's catch in the Northeast Pacific provides 1.6 million metric tons of food and employs 30,000 crew members and 700 fishing vessels; 3) fish provides more than half the animal protein intake of the Japanese consumer; 4) negotiations with the United States will set a precedent for Japan's negotiations with other coastal nations.

A Japanese press account in the *Suisan Keizai Shimbun* listed the following problems presented by the FCMA to the Japanese industry:

1) The law permits the corporal punishment (i.e. imprisonment) of foreign

fisherman convicted of violations of U.S. law

2) It seeks to prohibit fishing for anadromous species (i.e. salmon) outside the 200-mile conservation zone

3) As the licensing procedures and their scheduling and coordination are unclear, it may be technically impossible to administer the law to permit orderly preparations or punctual departures for the fishing grounds

4) Costs of U. S. fishery management and administration of the cumbersome law may be imposed on foreign fishing vessels

5) As ecological and recreational

considerations necessary to determination of the "optimum sustainable yield" are vague, they may be abused

6) As criteria for assessing U. S. catch capacity are not stated, they may lead to overestimates

7) No provision for consultations with foreign countries concerning management of anadromous stocks originating outside the United States is made

8) As too much authority is given to the Regional Fishery Management Councils established by the law, meaningful bilateral fishery negotiations will be impossible.

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