

## The Italian Seafood Market

Italy consumes about 700,000 metric tons (t) of fishery products per year, of which two-thirds is caught by the Italian fleet and one-third imported. Major fish imports, by highest quantity, are: Tuna, merluzzo (demersal species such as hake and cod), squid, octopus, mackerel, crayfish, shark, sole, eels, salmon, and trout.

U.S. fish exports to Italy increased considerably during the first half of 1982 (Table 1), particularly frozen salmon, eels, loligo and other squids, and lobsters. U.S. fishery exports, however, still account for less than 1 percent of Italian fishery imports. According to Italian importers, the small U.S. share is due primarily to problems of quality, presentation, price,

and mercury content.

Italian fishery product consumption was reportedly stable in 1980 and 1981 near the 700,000 t figure. However, partial 1982 figures and industry specialists indicate it is again on the rise, some say by as much as 20 percent. The most popular species eaten are the locally caught pesce azzurro (blue fish), tuna (caught and imported for canning), squid (caught and imported frozen), and merluzzo (cod varieties, imported fresh, frozen, dry, salted, or in brine).

Landings of fish and shellfish by local producers were an estimated 500,000 t in 1981. This includes Italian freshwater lake and aquaculture production, as well as the Italian fleet harvests in coastal and foreign waters. Italy exported 85,759 t of fish in 1981.

Italy's oceanic fleet of some 45 vessels catches about 45,000-50,000 t of fish per year, of which about 20 percent is taken in U.S. waters. Italy's Mediterranean fleet includes about 2,900 medium-sized motor vessels and 1,100 small boats of under 25 GRT.

The Italian fleet is facing serious difficulties, due to rising costs as well as increased competition and third country efforts to reduce foreign fishing in their waters. North African countries, for example, are reducing Italian fleet access to their waters, and the United States has served notice that foreign fishing is to be phased out of U.S. waters in the relatively near future. The Italian industry has responded to this challenge by actively seeking and developing, among other initiatives, joint ventures, bilateral government-level fishing agreements, and the exchange of Italian technol-

ogy for fishing rights in countries from Africa to the Far East as well as with the United States.

An Italian law passed in 1982 outlined the government's program to restructure and upgrade the Italian fishing fleet as well as to improve, reorganize, and expand processing on shore, distribution, and fish harvesting facilities. Recently, the Italian government allocated 60 billion lire (US\$1 = 1,385 lire) for this program. In the meantime, ship owners and fishing cooperatives are also soliciting emergency government subsidies to help defray the high cost of fuel, which they claim accounts for as much as 60 percent of operating costs.

Italian trade statistics reveal imports of 225,695 t of fresh, chilled, and frozen fish and shellfish (with a value of 574.8 billion lire) in 1981, in addition to 51.5 t of dried, salted, smoked, and canned fish (21.5 billion lire). By volume and category, 1981 imports were: Tuna (71,225 t); dry, salted merluzzo (23,426 t); squid (22,254 t); fresh, frozen merluzzo (11,224 t); octopus (9,614 t); mackerel (8,591 t); crayfish (4,877 t); shark (4,322 t); sole (4,098 t); eels (3,202 t); salmon (790 t); and trout (228 t). The Italian canning industry is of good size, processing mainly locally caught fish (especially sardines) and imported tuna.

Statistics for the first 5 months of 1982 indicated imports of fresh, chilled, and frozen fish increased about 30 percent over the same period in 1981. This increase was mostly in fresh and chilled trout, salmon, tuna, and an unspecified group of frozen marine species. The major supplier countries of these products were Belgium for trout, the United States for salmon, the Philippines for tuna, and Mauritania and Panama for other frozen fishes.

In the first 6 months of 1982, Italian imports of fresh, chilled, and frozen fish from the United States were about 1,000 t (4.7 billion lire), mainly in frozen salmon, eels, loligo and other squid, and lobsters. This figure compares favorably with that of 1981 when U.S. fish exports to Italy were

Table 1.—U.S. exports of fishery products to Italy by commodity, 1978-September 1982, in millions of U.S. dollars.

Product	1978	1979	1980	1981	1982 <sup>1</sup>
<b>Edible</b>					
Finfish					
Live				0.3	Negl.
Frozen <sup>2</sup>					
Whole	3.6	4.9	5.1	2.6	3.4
Fillets	0.1	0.4	1.2	0.4	0.1
Canned (not in oil)	0.1	0.7	0.3	0.2	0.2
Roe	0.2	0.4	0.3	0.1	0.1
Shellfish					
Frozen <sup>2</sup>	0.4	1.9	2.7	0.5	0.7
Canned	Negl.		0.1	0.2	
Other	Negl.	Negl.			
Total	4.4	8.3	9.7	4.3	4.5
<b>Inedible</b>					
Fish meal	Negl.		3.0		
Fish oil	Negl.	Negl.	Negl.	Negl.	
Total		0.4	3.0		
<b>Grand total</b>	<b>4.4</b>	<b>8.7</b>	<b>12.7</b>	<b>4.3</b>	<b>4.5</b>

<sup>1</sup>January through September 1982.

<sup>2</sup>May include small quantities of fresh seafood.

Note: The data in this table have been computed for comparative purposes to correspond to the fishery commodity data compiled by FAO. It includes edible fishery products, fish meal, and fish oil. Source: U.S. Department of Commerce, Bureau of the Census.

191 t of processed fish and 979 t of fresh and frozen fish.

Per capita fish consumption in Italy is roughly 11 kilos (8.8 kilos of fresh and frozen fish and 2.2 kilos of preserved fish and seafoods). Industry sources claim consumption rose about 20 percent in 1982. Fish consumption is highest in southern Italy where fresh domestic fish prevails. The market in northern Italy has expanded considerably in recent years, especially for frozen and processed fish. Packaged fish products (e.g., fish fillets, steaks, and breaded fish portions) are widely available and several major fish companies have successfully organized distribution channels throughout Italy.

Squid is by far the most popular seafood bought frozen in Italy. High quality loligo is the preferred variety, but the market is increasingly accepting the illex variety, which is about one-third the cost of loligo. Most loligo sold in Italy is caught by the Italian fishing fleet in U.S. waters or imported from Thailand and Japan. The U.S. accounts for only a tiny fraction of squid imported into Italy. For example, Italian fishing industry statistics for the first 6 months of 1982 show Italy imported 4.2 million kilos of squid from Thailand (valued at 10.6 billion lire); 1.4 million kilos from Japan (for 3.5 billion lire) and only 184,163 kilos from the United States (for 492 million lire).

The Italian industry is noncommittal about the market potential of other U.S. fish species in Italy. Fish is a high-priced, highly valued commodity in Italy and the local consumer demands a well-presented product of high quality. The major complaint against U.S. fish products is low quality, poor processing, and poor presentation. Price is also a factor, particularly in high-volume imports such as tuna and cod, which come cheaper from northern Europe, Argentina, and Africa.

Italian health regulations governing the importation and distribution of foods, especially seafoods, are strict and energetically enforced by local authorities. Maximum mercury con-

tent is set at 0.7 ppm. The permissible mercury level for tuna, shark, and swordfish in canned form is 1.5 ppm. Italy's lower permissible mercury content prejudices U.S. products, whose maximum is set at 1.0 ppm.

EC policy and regulations establishing reference prices on imports of certain fish species have caused serious concern to U.S. exporters in the past. Although the reference price mechanism is still in force, reportedly the effects have been mitigated since U.S. export prices are now well above EC minimum prices due to the current dollar exchange rate. (Source: IFR-83/7.)

## Canadians Charge 130 With Salmon Poaching

The Canadian Department of Fisheries and Oceans (DFO) disclosed the "most extensive undercover operation in its history" aimed at preventing the poaching and illegal sales of salmon from the Fraser River in British Columbia. During the last 4 months of 1982, Federal agents in British Columbia set up "storefront" operations and made 200 "buys" of about 61.5 metric tons of salmon. As a result, 130 persons, all but one of whom were Indians, were charged with violating the Canadian Fisheries Act.

The DFO enforcement action has created considerable public attention and controversy. Native Indian groups charged that the "sting" action was a blatantly discriminatory and illegal entrapment of innocent Indian fishermen, and that it was motivated by the Canadian Government's desire to take control of Fraser River fisheries away from the Indians. The president of the Canadian United Fishermen and Allied Workers Union, Jack Nichols, has charged that the DFO's enforcement action was designed to achieve a quick passage of the U.S.-Canadian Pacific Salmon Treaty, by appeasing U.S. fishermen who dislike unlimited fishing rights for Indians in the subsistence fishery on the Fraser River. U.S.

fishermen have become concerned in recent years with the significant increase in levels of "subsistence" fishing.

The DFO denied these allegations, maintaining that the enforcement action was conducted for conservation purposes only. The DFO stated in a press release earlier this year that:

"Over the entire Fraser River watershed, the illegal catch for the summer of 1982 is conservatively estimated at one-half million salmon. For comparison, the local commercial catch of Fraser River salmon is only 793,000 fish, so the illegal catch is almost two-thirds as large. The Department is particularly concerned about the impact this poaching activity has on conservation, especially for chinook salmon. Two years ago, the Department embarked on a long-term rehabilitation program to restore Fraser River chinook salmon to former abundance and all user groups were required to reduce or eliminate their catches of chinook. These efforts were diminished greatly because of the damaging effects of poaching. Over the years, many attempts have also been made to rebuild some of the early (July) sockeye runs, and it is now clear why we continually fall short of spawning escapement goals even when all directed commercial fishing is eliminated."

Commercial salmon fishing on the Fraser River above Mission Bridge (near New Westminster, British Columbia) has been prohibited since the last century. The only in-river activity above Mission Bridge permitted by law is traditional Indian subsistence fishing. The remaining salmon resource, not taken by subsistence fishermen, is intended for spawning escapement. The DFO estimates that the 1982 escapements on the Fraser River system are 4 million sockeye, 3,000-4,000 chum, 50,000 coho, 60,000 chinook, and no pink salmon. The 1982 sockeye run was one of the best on record, substantially exceeding targets, but chum, coho, and chinook escapements were about half the desired levels, according to the DFO spokesman. (Source: IFR-83/17.)

## The Malaysian Fisheries Market

Malaysia is a net exporter of seafood. In 1981, it imported \$63.85 million and exported \$114.10 million worth of seafood. The leading foreign suppliers were Thailand (\$29.66 million), Japan (\$19.01 million), New Zealand (\$1.88 million), and Singapore (\$1.88 million). The United States supplied a mere \$0.81 million of the total imports. For the first 9 months of 1982, Malaysia's imports

Table 1.—Malaysia's imports, exports, and reexports of seafood<sup>1</sup> in 1981 and 1982.

Product category and country	Value (U.S. \$)	
	1981	1982
<b>Fish: Fresh, chilled or frozen</b>		
Imports from:		
Thailand	13.81	12.81
New Zealand	1.10	0.76
Singapore	0.83	0.63
United States	0.59	0.08
Japan	0.26	0.21
Other countries	1.29	3.08
Total	17.88	17.57
Exports	9.72	7.88
<b>Fish: Dried, salted or brined, smoked</b>		
Imports from:		
Thailand	1.88	1.46
Japan	0.20	0.20
Singapore	0.17	0.08
New Zealand	0.01	—
United States	0.01	0.01
Other countries	1.62	1.33
Total	3.89	3.08
Exports	3.68	2.30
<b>Crustaceans and mollusks: Fresh, frozen, and salted</b>		
Imports from:		
Thailand	11.47	6.46
Japan	0.75	0.73
Singapore	0.27	0.37
New Zealand	0.24	0.14
United States	0.03	0.02
Other countries	6.08	6.33
Total	18.84	14.05
Exports	29.56	21.76
<b>Crustaceans and mollusks: Prep. or pres. nes.</b>		
Imports from:		
Japan	17.80	12.46
Thailand	2.50	0.25
Singapore	0.61	0.41
New Zealand	0.53	0.38
United States	0.18	0.11
Other countries	1.62	4.60
Total	23.24	18.21
Exports	71.14	41.24
<b>Import totals</b>		
Thailand	29.66	20.98
Japan	19.01	13.60
Singapore	1.88	1.49
New Zealand	1.88	1.28
United States	0.81	0.22
Other countries	10.61	15.34
Total	63.85	52.91
<b>Export totals</b>	114.10	73.18

<sup>1</sup>All data are in U.S. dollars.

of seafoods totaled \$52.91 million with the United States supplying \$0.22 million (Table 1).

The Malaysia fishing industry, which employs some 87,000 fishermen, remains predominantly an in-shore activity with the majority of the fishing fleet operating in coastal waters. In 1981, the number of licensed fishing boats totaled 25,952 (powered) and 4,434 (nonpowered) and the number of licensed fishing gears was 32,213. For the same year, the number of ponds used for fish culture totaled 16,147 with a total acreage of 13,788.8, and the number of new ponds opened for fish culture totaled 2,046 with a total acreage of 1,070.6.

In 1982, marine fish landings in Malaysia were estimated at 861,000 tons, an increase of 4 percent over the previous year. Freshwater fish production was estimated at 8,500 tons compared with 8,400 tons in 1981.

Total fish landings in 1982 were therefore expected to amount to 869,500 tons compared with 836,100 tons in 1981, or an increase of 4 percent, primarily due to the increase in pelagic fish and cockles landings and following implementation of the Government of Malaysia's fishing projects. The Fisheries Department and the Fisheries Development Authority are the two government agencies responsible for the development and expansion of the fishing industry. With continued development of the fishing industry, total fish landings in 1983 are expected to increase by 4.5 percent to 908,700 tons. During 1981-85, the fishing industry is projected to have an annual growth rate of 4 percent, and the public development expenditure for fisheries totaled \$198.0 million, or 1.1 percent of the total allocation for public sector development programs. (Source: IFR-83/6.)

## Pakistan Receives Fisheries Aid

The Asian Development Bank (ADB) has approved a \$35.4 million loan and technical assistance grant to Pakistan to help finance the \$42.2 million Baluchistan Province Fisheries Development Project.

Major project components include: 1) Construction of a fisheries harbor and landing facilities at Pasni on the Arabian Sea; 2) extension of credit to fishermen to buy 700 marine engines and 1,560 sets of fishing gear; 3) extension of credit to the private sector to build two fish meal plants, five ice plants, four fish transport vessels, two fish transport trucks, and to buy vessel repair equipment; and 4) provision of training classes, extension services, consultation services, and educational fellowships.

The Pakistan Government plans to complete the project by 30 June 1989 under the supervision of the Baluchistan Department of Livestock and Fisheries, the Pasni Fisheries Harbor Authority (to be established), and the Agricultural Development Bank of

Pakistan.

Any U.S. companies interested in possible equipment sales should contact the Department of Livestock and Fisheries, Provincial Government of Baluchistan, Quetta, Pakistan, or the Agricultural Development Bank of Pakistan, Islamabad, Pakistan, Telex: 5618 ADBP PK. U.S. companies may want to send copies of this correspondence to the Economic/Commercial Section (Ref: Karachi 436), U.S. Consulate General, Karachi, c/o U.S. Department of State, Washington, DC 20520.



## Mexico's Pacific Coast Shrimp Fisheries Reviewed

The shrimp fishery off the Mexican states of Sinaloa and Nayarit on the Pacific coast continues to have several long-term problems. Shrimp fishermen have had difficulty landing their catch at the overcrowded ports, especially at Mazatlan in Sinaloa.

Shrimp fishermen reported that, while initial estimates of extremely large catches appeared to have been overoptimistic, the 1982-83 Pacific shrimp season was likely to be slightly better than the 1981-82 season. The December 1982 decline in the shrimp catch, normal after the first weeks of shrimping, somewhat eased the unloading problems with Mazatlan. Incidents of alleged theft of shrimp and of cooperative black marketing have increased. Some cooperatives had begun to sell shrimp directly to U.S. companies, avoiding the export marketing system established by the Mexican Government.

### Two Fisheries

Two shrimp fisheries, coastal trawler and artisanal estuarine, are conducted by Mexican fishermen along the country's Pacific coast. The two fisheries differ both in method and in duration. Modern commercial trawlers which have a 45-day range are used in coastal fishing. Artisanal fishermen, using hand-held or throw nets, fish in the estuaries where they restrict the channels leading to the sea by fencing off such outlets with concrete, wood, and bamboo. When the tide goes out, the shrimp (along with crabs and fish) are channeled into enclosed areas from which they are netted by hand. The catch is then loaded into small boats and taken from the estuary channels to trucks loaded with ice which take the shrimp for processing to Rosario and Escuinapa, small towns near Mazatlan. The trawler fishermen take much larger quantities of shrimp, but the artisanal catch is nevertheless significant. Production from the estuaries during the 1982-83 season will be over

1,000 metric tons (t). In the past, violent clashes have occurred between the artisanal and trawler fishermen. The trawler fishermen claim that harvesting juvenile shrimp in estuaries reduces their catch of the more valuable adult shrimp at sea.

### Aquaculture

Several new shrimp farms in Nayarit are planning their first commercial harvest in early 1983. Other farms along Sinaloa's central coast are being constructed near the smaller estuaries which are not currently being fished by the artisanal fishermen. If these ponds prove a commercial success, they could have a substantial impact on future shrimp production in Nayarit and Sinaloa.

### Catch

The initially optimistic reports of a record shrimp catch appear to have been exaggerated in both the coastal trawler and the artisanal estuarine fisheries. Trawlers have averaged around 6-8 t rather than 8-10 t per trip during their first voyage in October 1982. Preliminary reports, however, indicated that the 1982-83 season would be slightly better than average. Artisanal fishermen also overstated their initial catches in the estuaries. By mid-November 1982, only 720 t of shrimp, for example, had been delivered to Productos Pesqueros of Escuinapa. Company officials believed that the catch for the entire season would be only 1,000-1,500 tons and speculated that the poor rains during the summer of 1982 may have affected shrimp stocks.

### Ports

The coastal trawler fishermen found it difficult during October and November 1982 to land their shrimp catch at Mazatlan. At one time there were over 150 trawlers waiting to unload. As the season progressed and catch rates declined, fewer fishermen experienced excessively long waits to land their catch. However, even in

mid-December some fishermen still had to wait as long as 2-3 days to land their shrimp.

An unusually large number of fishermen reported problems with the refrigeration machinery on their trawlers. As a result, many had to use ice to preserve their catch and, as a result, returned to land their catch more frequently than usual, causing some of the congestion at the port in Mazatlan. Unloading delays in Mazatlan also meant increased spoilage. Mazatlan newspapers reported that 6 t of shrimp spoiled at the port during the third week of November alone.

### Theft and Blackmarketing

Several shrimp fishermen reported armed robberies at sea to Mexican authorities during late November and early December 1982. This prompted charges by the Mexican Navy (most notably by Admiral Martinez, Commander of the 8th Naval Zone) that the cooperative fishermen were selling their shrimp illegally and then claiming that they had been robbed. While there may be a considerable amount of illegal sales by the fishermen, some industry sources indicate that there have been several genuine robberies. The Navy agreed to increase its patrol activities, especially in the Mazatlan area.

### Co-op Shrimp Marketing

Only cooperatives are authorized to fish for shrimp in Mexico. In the past, the cooperatives have relied on companies owned by the Mexican Government to market their catch. The Government became almost the exclusive channel for marketing shrimp when Productos Pesqueros Mexicanos (PPM), the state-owned fishing company, took over most private packing plants in late 1981 and early 1982. Some cooperatives in Mazatlan are now attempting to participate more directly in the marketing of their shrimp abroad. This stems from the cooperatives' desire to have more control over their catch and to increase their profits.



Several cooperatives have reported pricing and payment problems with Government companies, PPM, and its U.S. marketing subsidiary, Ocean Gardens. The cooperatives claim that PPM and Banpesca<sup>1</sup> have been taking a disproportionate share of the money earned by cooperative shrimp sales. This is being done in several ways. PPM has been raising the price it charges per kilo for processing the cooperatives' shrimp. The processing charge was about 75 pesos/kilo in both Mazatlan and Escuinapa<sup>2</sup>. At the same time, if a cooperative owes money to Banpesca (which most do), PPM deducts a portion from their shrimp revenue as loan payments to Banpesca. Even for those cooperatives not owing money to Banpesca, PPM has attempted to set up contingency funds by taking deductions from their shrimp revenues. The cooperative fishermen have been extremely critical of the increased processing fees and deductions. Cooperative officials have also demanded a detailed review of Ocean Gardens' operations and financial records, but Ocean Gardens has yet to allow cooperative representatives access to internal company information. Further problems developed in December 1982 when some Mazatlan cooperatives complained about having their dollar earnings converted at the controlled rate (about 100 pesos to the dollar) rather than at the then-current market rate (about 150 pesos to the dollar).

Several cooperatives thus began to sell their shrimp directly to foreign importers in the United States. The association of cooperatives "Camaroneros del Pacifico" indicated on 15 November 1982 that it made its first

delivery of shrimp to a private U.S. company. The quantity and prices were not disclosed. Cooperative members in Mazatlan report that those cooperatives not owing money to Banpesca could sell shrimp to anyone they choose. As of 15 November 1982, three cooperatives were reported to be free of any Banpesca debts. Some other cooperatives decided to pay off their Banpesca loans as quickly as possible so that they could also market their catch directly. One cooperative which was selling its shrimp directly to U.S. companies is Pescadora de Mariscos in Mazatlan. This cooperative has 18 trawlers which landed over 300 tons of shrimp during the 1981-82 season. The other cooperatives which sell directly are similar.

The direct shrimp sales to U.S. firms, if they continue, could eventually encompass a significant portion of the future shrimp harvest. As long as the market rate for exchanging pesos is much higher than the controlled Government rate, there will be great inducement for the cooperatives to sell directly to U.S. importers. Officials are known to be concerned, and one PPM official referred to the direct sales as "disloyalty" on the part of the cooperatives, because of the extensive assistance the Mexican Government has given the cooperatives in the past. PPM officials claim that private U.S. importers will not be able to provide all of the services that PPM and Ocean Gardens offer the cooperatives. If direct sales by the co-

operatives continue to grow, however, the Mexican Government may require sales through PPM. Cooperatives have to obtain Government export licenses to ship shrimp to the United States, and the Government could use those licenses to discourage direct sales on dollar remittances through the Government-owned Mexican banking system.

Several other U.S. companies have had agents in Mazatlan negotiating the purchase of shrimp from the cooperatives. They are reportedly offering better prices than those offered by PPM and Ocean Gardens. If Ocean Gardens continues to deny the cooperatives' access to company records, the direct sale of shrimp to U.S. firms could escalate, especially as more cooperatives pay off their loans from Banpesca (Source: IFR-83/21.)

## ITALY AND TUNISIA FORM JOINT VENTURE

Italian Foreign Minister Emilio Colombo visited Tunisia in late December 1982 to sign two agreements furthering bilateral economic cooperation. One of the agreements will create a joint-venture fishing company to alleviate a long-standing fishing dispute which has troubled relations between the two countries.

The new joint company will be 51 percent owned by the Tunisian Government and 49 percent by private Italian fishermen, primarily from Sicily. The company will operate 10 vessels in Tunisian-claimed waters.

Tunisian President Bourguiba, following Foreign Minister Colombo's departure, pardoned several Italian fishermen who had been arrested while fishing in Tunisian-claimed waters. The joint venture is an important step toward resolving the fisheries dispute between the two countries. To permanently avoid future seizures of unlicensed Italian fishermen operating off Tunisia, the two countries will probably have to eventually negotiate a comprehensive bilateral fisheries agreement. (Source: IFR-83/18.)

Note: Unless otherwise credited, material in this section is from either the Foreign Fishery Information Releases (FFIR) compiled by Sune C. Sonu, Foreign Reporting Branch, Fishery Development Division, Southwest Region, National Marine Fisheries Service, NOAA, Terminal Island, CA 90731, or the International Fishery Releases (IFR), Language Services Bi-weekly (LSB) reports, or Language Services News Briefs (LSNB) produced by the Office of International Fisheries Affairs, National Marine Fisheries Service, NOAA, Washington DC 20235.

<sup>1</sup>The Banco Pesquero y Portuario is the Mexican Government's financial institution responsible for financing fisheries and port projects.

<sup>2</sup>The Mexican peso fluctuated widely in foreign exchange markets during 1982. On 10 December 1982, exchange controls were eased and the peso was allowed to float. The free market exchange rate was almost 150 pesos per dollar at the end of December. The Government maintained a lower controlled rate for many official transactions.

## South Africa Sees Steep Pilchard, Anchovy Drop

The Republic of South Africa's Department of Environmental Affairs and Fisheries (DEAF) announced a change in the fishing season for the valuable west coast pilchard and anchovy fisheries to avert a collapse of the resource. The west coast pilchard catch has decreased from 318,000 metric tons (t) in 1960 to only 35,000 t in 1982, but the anchovy catch has increased from 300 t in 1963 to 307,000 t in 1982. Indications are that too many juvenile fish are being taken in the anchovy fishery, as has occurred in the pilchard fisheries in the past.

DEAF announced the following changes which began with the 1983 fishing season:

1) The season for anchovy and pilchard is divided into two periods. The first half began 1 January and lasts until half of the 1983 quota of 380,000 t (190,000 t) has been caught. The second half of the season will begin 1 November and will last until the remaining 190,000 t has been caught.

2) Beginning this year too, the pilchard catch may be used for canning only and no longer for reduction to fish meal.

3) Underutilized pelagic fish (hering, lanternfish, mackerel, and maasbanker) will not have a catch quota in 1983.

4) Deep-sea hake quotas for 1983 are reduced from 136,000 t to 120,000 t a) the deep-sea trawler catch is reduced from 9,000 to 7,940 t; b) the coastal trawler catch is reduced from 119,150 to 105,135 t; and c) the foreign trawler catch has been reduced from 7,850 to 6,925 t and the South African Navy has been asked to help patrol fishery grounds to prevent illegal foreign fishing.

The Department of Fisheries also recommended a change from the former January-August catching season for anchovy and pilchard to provide the fish a 6-month period to mature and breed; too many juvenile fish were being taken before sexual

maturation under the previous arrangement. DEAF decided not to decrease the pelagic fish quota below 380,000 t because it believed such a move would impact private vessel owners adversely and might lead to increased fish meal prices. The fishermen assured the South African Government of their support for the new arrangement and pledged to help control irregularities in the industry so that fish stocks can recover. The fishermen will have to wait until the end of the 1983 season for payment for the "second season" catch, but an industry spokesman stated that they would be assisted by advance payments from fish processors if necessary.

John Wiley, Deputy Minister of DEAF, in announcing the changes, said that the "New Deal" could succeed only if the industry is prepared to accept responsibility for honestly monitoring their own catches and fully cooperating with DEAF to ensure that quotas are not exceeded and irregularities are corrected. (Source: IFR-83/20.)

## Norway's Fish Research Council Sets 1983 Agenda

The Norwegian Fisheries Research Council (Norges Fiskeriforskningsrad) (NFFR), which finances and has the professional supervision of fisheries research, does not itself engage in research, according to the Norwegian Ministry of Foreign Affairs. Rather, it participates in planning the course of, and setting priorities for, Norwegian fisheries research.

Institutions of higher learning, research institutions, enterprises, and individuals engage in research with funds received from the Council. For 1983, NFFR distributed approximately Nkr 35 million to various research projects.

Administratively, NFFR is funded by and subject to the Ministry of Fisheries. Appropriations are made to research projects connected with the marine environment, basic fisheries, fishing methods, processing, and economy and social studies. The Nor-

wegian Fisheries Research Council also has a grants program to aid recruitment, domestic and foreign researchers, travel, adult education, etc.

The Norwegian Fisheries Research Council includes the following bodies: Central Board (NFFR's executive body), Council board (monitors and makes recommendations to the Central Board), and the Main Secretariat, NFFR's administrative body which is located in Trondheim.

The Institute of Fishery Technology Research (FTFI) is an independent research institute under the Norwegian Fisheries Research Council. NFFR appoints the board of the Institute and allocates the major share of the funds for FTFI's activities.

The Institute has branches in Tromsø (economy and processing), Bergen (fishing methods), and in Trondheim (vessels). About half of NFFR's 1983 research money will go to FTFI.

NFFR's research areas include: Living resources of the sea, fishing methods, processing, and economy and other social studies. Research on the living resources of the sea aims to increase knowledge about all conditions related to the biological resources in the sea and their environment. This includes: 1) Studies of stocks, 2) special biology and behavior, 3) environmental studies and supervision, 4) effects of competing uses of the sea, 5) aquaculture, and 6) development and improvement of methods. NFFR is supporting this research this year with about Nkr 6.5 million. A major share will be spent on projects at the Institute of Marine Research.

Good and efficient gear, a knowledge of where the fish are and how they react to the gear, a good and safe vessel, profitable operations, the best possible use of fuel, and safe and good working conditions on board are among the many research projects included in the area of fishing methods. Research is now being done on: 1) Catch-relevant fish behavior; 2) gear, handling of gear, and catch operations; 3) fishing vessels, machinery and equipment, instrumentation, operations, and maintenance; 4) tactical

information on resources; and 5) fishing system solutions. NFFR is supporting this research with about Nkr 10 million this year.

Processing studies are being conducted on: 1) Raw materials, 2) preservation between catch and production, 3) processing of fish products, 4) environment/pollution, 5) quality problems/questions of nutrition, 6) packaging, 7) transport, and 8) knowledge of the market. NFFR is

supporting this research in 1983 with approximately Nkr 15 million.

Research into the possibilities and problems for people in the fisheries industry is financed at Nkr 4.6 million this year. Some of the questions being studied are: 1) What is the most profitable proportion of fishing vessels to shore installations? 2) What does a good or a poor fishery mean for the country in actual money? 3) What is the situation with regard to incomes,

working conditions, housing situation, health, etc., in fisheries areas? and 4) What does a woman's employment inside and outside of the home mean for a fisheries household?

More detailed information on Norwegian marine research may be obtained from the Norges Fiskeriforskningsrad (NFFR), Hakon Magnussons gate 1 b, Postbox 1853, N-7001 Trondheim, Norway. (Source: IFR-83/16.)

## Norway-U.S.S.R. Set 1983 Fishing Quotas

Norway and the Soviet Union reached agreement on 1983 fishing quotas in the Barents and Norwegian Seas during the eleventh session of the Joint Soviet-Norwegian Fisheries Commission held in Oslo late last year. V. K. Zilanov, head of the International Section of the Soviet Ministry of Fisheries, and G. H. Gundersen, Director General, Office of Fisheries of the Norwegian Ministry of Fisheries, led their respective delegations.

The Commission established quotas for cod, haddock, capelin, shrimp, Greenland halibut, redfish,

blue whiting, and octopus. Norway was allocated a 1983 fishing quota of 1,582,500 metric tons (t). The actual Norwegian quota for 1983, however, will be substantially larger because the Soviet Union will transfer 202,500 t of cod, haddock, and capelin back to the Norwegians. In return, Norway has allowed the Soviets to take 485,000 t of blue whiting, 70,000 t of redfish, as well as small amounts of shrimp, Greenland halibut, and octopus from the Norwegian 200-mile fishery conservation zone (Table 1, 2).

During the negotiations, the Soviets expressed concern over alleged overfishing by the Norwegians, claiming that Norway's use of passive gear in the coastal cod fishery resulted in a

catch above the quota allowed. The Norwegians would not promise that the 1983 quotas would be adhered to because of the difficulties in regulating their coastal fisheries, but promised stricter enforcement measures.

The Norwegians were concerned that the Soviet Union would not respect the unilateral increase in net mesh size in the Spitsbergen (Svalbard) fisheries protection zone. The increase in net mesh size to 135 mm, which became effective on 1 January 1983, is part of the Norwegian effort to regulate the fish stocks in the Barents Sea. Despite the Norwegian concern that the net mesh-size increase would not be accepted, both nations have agreed that the Barents Sea fish stocks, which have declined considerably in recent years, should be regulated and controlled. (Source: IFR-82/168.)

Table 1.—Soviet-Norwegian fishing quotas, 1983.

Species	Quota (1,000 t)			Total
	Norway	U.S.S.R.	Other	
Cod				
Arctic	112.5 <sup>1</sup>	112.5 <sup>1</sup>	35.0	260.0
Soviet coastal		40.0		40.0
Norwegian coastal	40.0			40.0
Total cod	152.5	152.5	35.0	340.0
Haddock	35.0 <sup>1</sup>	35.0 <sup>1</sup>	7.0	77.0
Capelin	1,380.0 <sup>1</sup>	920.0 <sup>1</sup>	NA <sup>3</sup>	2,300.0
Shrimp	2.0	0.5 <sup>2</sup>		2.5
Redfish		70.0 <sup>2</sup>		70.0
Greenland halibut	13.0	5.5 <sup>2</sup>		18.5
Blue whiting		485.0 <sup>2</sup>		485.0
Octopus		5.0 <sup>2</sup>		5.0
Total	1,582.5 <sup>1</sup>	1,673.5 <sup>1</sup>	42.0 <sup>3</sup>	3,298.0

<sup>1</sup>The U.S.S.R. will transfer 72,500 t of cod, 20,000 t of haddock, and 110,000 t of capelin to the Norwegians (total 202,500 t) reducing the total U.S.S.R. quota for 1983 to 1,471,000 t and increasing the Norwegian quota to 1,785,000 t.

<sup>2</sup>In exchange, the Norwegians are granting the U.S.S.R. catch allocations amounting to 556,000 t of shrimp, Greenland halibut, redfish, blue whiting, and octopus to be fished inside the Norwegian 200-mile fishery conservation zone.

<sup>3</sup>Both Norway and the U.S.S.R. may transfer up to 20,000 t of their capelin quota to third countries.

Table 2.—Soviet-Norwegian fishing quotas after transfer of catch allocations 1983.

Species	Quota (1,000 t)			Total
	Norway	U.S.S.R.	Other	
Cod				
Arctic	185.0	40.0	35.0	260.0
Soviet coastal		40.0		40.0
Norwegian coastal	40.0			40.0
Total cod	225.0	80.0	35.0	340.0
Haddock	55.0	15.0	7.0	77.0
Capelin	1,490.0	810.0	(40.0) <sup>1</sup>	2,300.0
Shrimp	2.0	0.5		2.5
Redfish		70.0		70.0
Greenland halibut	13.0	5.5		18.5
Blue whiting		485.0		485.0
Octopus		5.0		5.0
Total	1,785.0	1,471.0	82.0 <sup>1</sup>	3,298.0

<sup>1</sup>The 40,000 t quota for capelin is the maximum amount (20,000 t each) that Norway and the U.S.S.R. may transfer to third countries.