

## Argentina Revises Marine Resources Forecast

The Argentine National Institute for Fisheries Research and Development (INIDEP) has revised its estimates of fishery stocks in Argentine waters. The new estimates are, in many cases, calculated from research data supplied by Japanese and German (FRG) scientists who cooperated with Argentine scientists during 1978 and 1979. Those research programs were negotiated as part of the agreements with German and Japanese consortia which allowed fishing companies in those two countries to fish experimentally. The research programs included over 1,500 test trawls by the RV *Walter Herwig* and the RV *Shinkzi Maru* from Argentina's marine frontier with Uruguay (lat. 35°S) to Argentina's extreme southern coast (lat. 55°S) (see map).

INIDEP has slightly reduced its previous estimate of the maximum

sustainable yield (MSY) in Argentine waters from 2.7 million metric tons (t) to 2.4 million t, based on the results of the cooperative research programs (Table 1). The most significant changes were decreases in the MSY of hake, *Merluccius hubbsi*, and Antarctic blue whiting, *Micromesistius australis*.<sup>1</sup> The hake MSY was reduced by 100,000 t and is of particular significance as it is the major species caught by Argentine fishermen. Antarctic blue whiting is not yet caught in significant quantities. INIDEP did significantly increase its estimate of the MSY for squid from 38,000 t to 250,000 t. Catches by Argentina's joint ventures with Spain<sup>2</sup> have made

<sup>1</sup>FAO refers to this species as southern pout-assou.

<sup>2</sup>A report (No. DIB-80-04-007) describing the Argentine-Spanish joint venture can be purchased for \$5.00 from NTIS, Springfield, VA 22161.



squid one of the country's major fisheries.

INIDEP indicated that three different systems were used by the Japanese, German, and Argentine scientists to calculate the MSY. According to INIDEP, the German system took into account yields from distinct depths, the Japanese system analyzed distinct stocks, while the Argentine system attempted to measure the abundance of each species. INIDEP reports that all three systems gave similar results with the Argentine estimate, usually within a range between the Japanese and German estimates.

The new INIDEP MSY estimates do not include krill, found in huge quantities in Antarctic waters but not yet successfully exploited commercially. Argentina signed a cooperative research agreement in 1980 with the Soviet Union to study Antarctic resources, especially krill. If results are successful, the Argentines foresee a possible joint venture with the Soviets to exploit that species.

INIDEP has acquired two new research vessels. The RV *Eduardo Holmberg* was due to arrive from Japan in September 1980 and the RV *Eolo* was to be available to INIDEP by late 1980.

One unexpected result of the cooperative research program is that Japanese fishing vessels have begun to

Table 1.—Statistical data on Argentina's major fishery stocks, 1980.

Species			MSY (1,000t)			Catch <sup>1</sup> (1979)
English name	Spanish name	Scientific name	Biomass	Old	New	
Anchovy	Anchoita	<i>Engraulis anchoita</i>	N/A <sup>2</sup>	1,000	1,000	20
Hake	Merluza	<i>Merluccius hubbsi</i>	3,927	698	594	404
Squid	Calamares	<i>Loligo</i> spp. and <i>Illex</i> spp.	510	38	250	80
Sharks and rays	Tiburones y rayas	Various species	942	26	150	12
Grenadiers	Granaderos	<i>Macruronus</i> spp.	540	46	97	
Blue whiting <sup>3</sup>	Polaca	<i>Micromesistius australis</i>	532	523	88	
Long-tailed hake	Merluze de cola	<i>Macroronus magellanicus</i>	424	161	76	
Antarctic cod	Bacalao austral	N/A	288	14	52	
Ling	Abadejo	<i>Genypterus blacodes</i>	246	27	44	
Native cod	Bacalao criollo	<i>Salilota australis</i>	N/A	13	36	
Notothenia	Notothenia	<i>Notothenia</i> spp.	92	19	17	
Black hake	Merluza negra	<i>Dissostichus eleginoides</i>	89	11	12	
Other				91	N/A <sup>2</sup>	114
Total			N/A	2,667	2,416	630

<sup>1</sup>Includes fish caught off Argentina by Uruguayan fishermen.

<sup>2</sup>N/A = Not available.

<sup>3</sup>FAO refers to this species as southern poutassou.

<sup>4</sup>For unexplained reasons, INIDEP did not include an MSY calculation for other species in the 1979 total.

Source: Instituto Nacional de Investigaciones y Desarrollo Pesquero (INIDEP).

fish squid off Argentina, outside the country's 200-mile zone. The Japanese consortia has not formed a joint venture in Argentina, probably because Argentina has insisted that the Japanese finance industrial projects in exchange for permission to form a joint venture. As a result, the Japanese fished for squid as a distant-water fishery in 1980 instead of operating out of Argentine ports. Argentine officials were concerned about this development and reported that 17 Japanese factory trawlers were fishing off Argentina last year. Earlier in 1980, Argentine officials reported a fleet of Polish vessels fishing off Argentina's 200-mile limit.

INIDEP has revised Argentina's development plans, based on the new findings and current economic problems encountered by Argentine fishermen and processing companies. INIDEP had originally projected a 1980 catch of 1 million t. The 1979 catch, however, was only about 550,000 t and INIDEP now doesn't believe 1 million t will be reached until 1982. INIDEP estimates that 2.4 million t of fish and shellfish (excluding krill) could be caught in Argentine waters. The largest single resource is a small anchovy, *Engraulis anchoita*, which INIDEP estimates has a MSY of 1 million t. INIDEP doesn't believe, however, that a significant commercial fishery on anchovy is possible because there is no demand for such a large quantity of that species. Thus, the development of the Argentine fishing industry has to be based on the remaining 1.4 million t which INIDEP estimates can be caught annually. (Source: IFR-80/138.)

## **Indonesian Fishing Industry Progresses**

Indonesian fishermen reported a catch of 1.7 million metric tons (t) in 1978, a 9 percent increase over the 1977 catch. There has been a steady increase in Indonesia's fishery production for more than a decade and a concurrent climb in the quantity and

value of exports.

Indonesia's 1978 exports totaled 64,000 t of fishery products valued at \$190 million. Shrimp is the most important fisheries export product, and during the 1970's accounted for 85 percent of the quantity and 90 percent of the value of all fishery exports. Japan is Indonesia's largest customer for both shrimp and other fishery products taking about 85 percent of Indonesia's exports.

Shrimp is likely to continue to be Indonesia's most valuable export commodity; Indonesia's current five year plan (1979-1983) projects that exports of shrimp will increase from 32,600 t in 1978 to 35,200 t in 1983. Foreign participation in the shrimp fishery is generally closed, but participation is possible in other fisheries, notably tuna.

Elizabeth Bollman at the U.S. Embassy in Jakarta has prepared a 23-page report on Indonesian fishing developments during the 1970's. A copy of that report can be purchased for \$5.00 by ordering report number DIB-80-05-004 from the National Technical Information Service, Springfield, VA 22161. (Source: IFR-80/146.)

## **Japan Fishing Company Aids Modernization of China's Fish Industry**

Resource protection, increased fish breeding, and refrigeration improvements are reported to be the three main fishery policy components in China's drive to modernize its fishing industry. Still observers report that it may take 5-7 years for modernization to permeate the Chinese fishing industry.

Taiyo Fishing Company<sup>1</sup>, a major Japanese fishing firm, sent a 7-member team to China last year to observe Shandong's Yantai Ocean Fishing

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

Company, and other regional facilities, to assist China in modernizing their fishing industry. The team, headed by Managing Director K. Nakashima, studied Chinese management processes, fishing vessel construction, wharf facilities, and freezing equipment and processes.

In particular China's General Bureau of Aquatic Products Director Xiao Peng had requested aid in modernizing refrigeration techniques for the export of yellow sea shrimp, *Penaeus orientalis*, in the Bohai Gulf. The Bureau wants to set up the Yantai Ocean Fishing Company as a model for other fishing companies in China and intends to manage it directly. This company possesses 97 large dragnet vessels—40 with more than 400 horsepower (20 pairs) — and 10 purse seining vessels. It lands 450,000 tons of fish per year, has a 10,000-ton cold storage capacity, and operates netting factories and shipyards.

By assisting in the modernization program, Taiyo will reportedly receive orders for refrigeration and netting equipment and a China National Cereals, Oils, and Food Stuffs Importing and Exporting Corporation (CEROILS) center, to be established in Bohai with eight 50-ton prefabricated cold stores.

The Japanese group inspected fishing industries in Liaoning and Hebei provinces to study and encourage concrete modernization measures. They also observed Dairen's Liaoning Ocean Fishing Corporation and the Qingzhou Gulf, Zhimiao Gulf, and Qinghuangdao fishery-related facilities. The wharf and freezing equipment, and the treatment factories were considered far behind the preservation capabilities of Japan.

Some problems observed included lack of understanding of the procedure for handling the fish catch on board vessels and icing with excessively large ice particles, thus halving preservation capabilities.

From these observations, Taiyo made the following recommendations: 1) Introduce resource protection methods for yellow sea shrimp to increase reproduction; 2) teach

methods of refrigeration, transportation, processing, and packaging; and 3) effectively prepare yellow sea shrimp, globe fish, angler fish, and squid for export.

China reportedly has good facilities and machines for domestic refrigeration, but needs additional technical skills in order to export fish. However, the understanding about the need for good refrigeration among fishing crews is limited and this must parallel modernization of the industry, according to the Japanese team. (Source: LSB 80-20.)

### **Brazil Promulgates New Marine Resource Policy**

Brazilian President Joao Batista Figueiredo issued a new national marine resource policy in 1980 which appears to strengthen the role of the Interministerial Commission on Marine Resources (CIRM). The growing importance of CIRM as a key agency in determining marine resource policy was first apparent when a high ranking naval officer, Orlando Amaral Alfonso, was named CIRM's Executive Secretary.

Brazil's new national policy for marine resources aims to promote the integration of Brazilian-claimed waters, continental shelf, and space, and the rational exploitation of marine resources for the economic and social development of the country. The objectives of the new policy are:

1) Facilitate the development of education, research, and rational exploitation and exploration of Brazilian marine resources.

2) Stimulate the development of national technology and equipment.

3) Guarantee effective Brazilian participation in all phases of foreign research, exploration, and exploitation in Brazilian-claimed waters.

4) Bring Brazilian marine resource legislation up to date.

5) Improve the use and formation of Brazilian marine resource technical and scientific personnel at all levels.

6) Enhance the exchange of scientific and technical information, both internally and externally, related

to training, research, exploration, and exploitation of marine resources.

7) Stimulate the creation of a national center of research and training dedicated to marine study.

8) Participate in regional exploitation of marine resources beyond national jurisdictions.

The Government of Brazil reserves for itself the exclusive right to direct, coordinate, and control research, exploration, and exploitation of living, mineral, or energy resources in Brazilian-claimed waters and on the continental shelf, including the respective ocean floor, subsoil, and the water column. The President, in consultation with the National Security Council, will determine national policies on marine resources as proposed and assisted by the Interministerial Commission for Marine Resources (CIRM). The Minister of the Navy will exercise the role of President of CIRM. Other members of CIRM will be representatives from Ministries of External Relations, Transportation, Agriculture, Education, Industry and Commerce, Mines and Energy, Interior, and the Planning Secretariat and the National Council for Scientific and Technological Development (CNPQ). Each of these agencies has specific responsibilities related to marine resources.

The CIRM, as direct adviser to the President, must: 1) Make policy recommendations to the President; 2) monitor the results of the national policy for marine resources and to propose alterations to the President when necessary; 3) provide opinions and suggestions related to marine resources when needed by the President; 4) evaluate the planning and the programs of activities concerning marine resources and make annual suggestions to the President on project priorities; and 5) establish contacts with the ministries not represented on the Commission and also with the state governments and private companies, and promote and support national marine resources plans and programs.

(Source: U.S. Embassy and IFR-80/158.)

### **NORWAY, RUSSIA OKAY FISHERY QUOTAS**

Norway and the Soviet Union have reached agreement on proposed quotas for fisheries in the Norwegian and Soviet zones in 1981, the Norwegian Information Service reports. The proposed allocations are shown in the table below.

The parties agreed that 35,000 t of the quota for Arcto-Norwegian cod is to be allocated to a third country and 6,000 t of this amount is to be fished in the Svalbard zone. Of the remaining 29,000 t, 17,500 t is to be licensed off to a third country in the Norwegian zone and 11,500 t in the Soviet zone.

No progress was made in the negotiations on mesh width. This will be the subject of joint Soviet/Norwegian research, and the results will be submitted to a commission. As regards capelin fishing, the right to transfer landings from summer and autumn fisheries to winter fisheries will be maintained. It has also been stipulated that by 25 January the one party must have made a decision to transfer the winter capelin quota to the other party. This means that the Soviets can transfer part of the winter quota to Norway. In this connection a catch of 50,000 t was intimated from the Soviet side. Whether or not a third party will share in the quotas mentioned here, was to be the subject of negotiations with the respective countries.

Quotas of the most important types of fish in thousands of metric tons.

Fish	Total 1980	Total 1981	Norway	USSR	Other countries
Arcto-Norwegian cod	350	260	112.5	112.5	35
Norwegian coastal cod			40		
Murmansk cod				40	
Haddock	75	110	65	35	10
Redfish	100	89			
Redfish in Norw. E.Z.		71.5	28.5	47	
Winter capelin	1,000	1,200	720	480	
Summer capelin	700	700	420	280	
Blue whiting	100	150		150	