Peruvian Fisheries Developments, 1980-81

Peru's fish catch declined to only 2.5 million metric tons (t) in 1980, a 30 percent decline from the 3.6 million t caught in 1979, and slipped to second place among South American fishing nations. The Ministry of Fisheries has implemented tough new regulations to protect sardine stocks.

Fishing Restricted

The Peruvian Ministry of Fisheries is restricting sardine fishing to allow stocks to recover from the effects of overfishing. Fisheries Minister Rene Deustua seems determined to follow more closely the recommendations of the Instituto del Mar (IMARPE) than previous governments, even though he is being severely criticized by the fishermen who would like to increase catches. Sardines have replaced anchovy as Peru's most important fishery, and the Ministry of Fisheries is attempting to manage sardine stocks more carefully than the decimated anchovy stocks were managed. One observer claims, however, that IMARPE really does not have precise data on the actual state of sardine stocks. IMARPE's acquisition of a new research vessel, the RV *Humboldt*, should allow the preparation of more accurate stock assessment estimates.

The Ministry of Fisheries authorized Peruvian fishermen to resume sardine fishing on 12 January 1981. The Ministry set a quota of 150,000 t for the first 3 months of the year, including 50,000 t for January. Fishermen who sell their catch to canneries and freezing companies will reportedly be allowed a quota of 600,000-700,000 t by the Ministry. Trade associations representing the companies are attempting to convince the Ministry to increase the quota to 1 million t. IMARPE initiated a new survey of sardine stocks to be completed by March 1981, when IMARPE was to make new recommendations on catch quotas.

Peruvian fishermen currently operate about 300 seiners which deliver sardines and other species to canneries and freezing plants. The Ministry of Fisheries has established a detailed schedule authorizing vessels from each port to fish only at specified times. The 104 seiners equipped with refrigerated seawater holds or other systems to preserve the catch may fish every week, Monday through Friday. The 158 seiners without any refrigeration system are only allowed to operate on alternate weeks.

The Ministry has given preference to the seiners which have systems to preserve the catch because they are able to deliver fish to the processing plants with much less spoilage than the seiners without such systems. The remaining 34 seiners which are based in the southern ports of Callao and Mollendo are allowed to fish every week, regardless of whether or not they are equipped with a refrigeration system. The Ministry has reportedly adopted less restrictive regulations for its southern fishermen because Chile continues to allow its fishermen to catch sardines and anchovies without restrictions. Largely because of the increased catch of sardines, Chile replaced Peru as Latin America's leading fishing nation in 1980.

Private Peruvian companies which can and freeze fish for human consumption are competing with PESCA PERU, the large state-owned fish meal company. PESCA PERU estimates that it will need to process at least 1.8 million t of fish (including sardines) just to cover costs. However, the Ministry has tentatively assigned PESCA PERU only a 1.0 millon t quota.

Private industry is very critical of PESCA PERU. Some businessmen would like to see PESCA PERU abolished. Others insist that the state-owned company should not be allowed to produce fish meal from species which could be used for processing edible products. Representatives of PESCA PERU counter that many private businessmen build small canning or freezing plants to justify the more lucrative processing of fish meal. The Ministry of Fisheries has attempted to limit illicit fish meal production by private companies. The Ministry has set minimum yields of canned and frozen products for every ton of fish purchased by the com-

panies from fishermen. The Ministry has determined minimum yields to be the best system to prevent the companies from diverting sardines and other valuable species to fish meal production.

Mixed Result for 1980

Peruvian fishermen caught an estimated 2.5 million t of fish in 1980, a 30 percent decline from the 3.6 million t caught in 1979. The 2.5 million t estimate is based on Ministry of Fisheries data which show a total catch of 2.35 million t through November 1980. As a result of the decline, Peru dropped to only the second most important fishing country in Latin America.

PESCA PERU reduced about 1.2 million t of fish in 1980 to fish meal and oil. The fish processed by PESCA PERU consisted of 0.6 million t of anchovy, 0.4 million t of sardines, and 0.2 million t of other species. The quantity of fish processed by PESCA PERU was one of the lowest in many years. Fishing to supply PESCA PERU's fish meal reduction plants was limited to the southern coastal area so that canning and freezing plants would have access to adequate supplies of sardine and other species.

Private companies processed 1.32 million t of fish in 1980, although 0.46 million t of that total was reduced to fish meal. The remaining 0.86 million t which was used to produce edible products set a record for Peru. Private canneries produced an estimated 8.4 million cases (48 cans each) of canned fish in 1980. Preliminary statistics reveal that Peru exported over $100 million worth of edible fishery products through November 1980, a 40 percent increase over the same period of 1979. Initial projections for 1981 are below 1980 levels. Industry sources believe, for example, that only about 7 or 8 million cases of canned fish will be produced in 1980.

Experimental Fishing for Jack Mackerel

The Ministry of Fisheries is attempting to promote fisheries for species other than sardine and anchovy to reduce the industry's dependence on those two species. The Ministry organized an experimental fishing expedition for jack mackerel 3-22 December 1980, claiming that fishermen should be able to take nearly 1.0 million t of that species. Over 85 small seiners participated in the expedition financed by the Ministry. Preliminary reports, however, indicate that the expedition was a failure. The seiners used by the fishermen were mostly built in the late 1960's and early 1970's for fishing anchovy close to the coast. The Ministry had hoped that new fishing techniques and gear would permit the seiners to be deployed for jack mackerel. As a result of the expedition, the Ministry is reportedly now convinced that the small seiners currently in the fleet are not capable of fishing in the deeper water where jack mackerel are caught.

New Commission

The Ministry of Fisheries established a new Fisheries Commission in January 1981 to prepare recommendations for a new national fisheries policy. The primary problem that the Commission will deal with is the conflict between PESCA PERU and the private companies which process edible products. The Commission is composed of three representatives of the Ministry of Fisheries and three leading businessmen, Guido Rossi, German Carmona, and Pedro Reatequi. (Source: IFR-81/30.)

Note: Unless otherwise credited, material in this section is from either the Foreign Fishery Information Releases (FFIR) compiled by Sunee 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) or Language Services Biweekly (LSB) reports produced by the Office of International Fisheries Affairs, National Marine Fisheries Service, NOAA, Washington, DC 20235.

Pakistan Tells Joint Fish Venture Rules

The Pakistani Government has announced criteria which the Government will use to evaluate joint fishing ventures in Pakistan's 200-mile Exclusive Economic Zone (EEZ). Pakistan implemented the new regulations in December 1980 to encourage the formation of joint ventures with foreign companies. The new regulations permit the formation of joint ventures for not less than 1 year, beginning with the arrival of the foreign vessel in Pakistani waters. Under the regulations, the Pakistani Government can terminate any joint venture on 1 month's written notice.

Joint venture fishing will be allowed in Pakistani waters beyond 25 miles along the Sind coast and beyond 12 miles along the Baluchistan coast. No fishing will be permitted within Pakistan's 12-mile territorial waters to protect the interests of small-scale fishermen.

The percentage of equity to be shared by the Pakistani and the foreign partner, as well as terms relating to shared operations and expenses, is to be negotiated between the respective firms. The joint venture is required to pay the Pakistani Government a royalty equal to the value of at least 10 percent of the catch. The joint venture also has to maintain a foreign exchange bank account containing deposits equal to 30 percent of the value of the exports for payment to the Government. The marketing and export of the catch requires prior permission in writing from the Government and is subject to the prevailing rules and regulations at the time of export. Income from the joint fishing venture will be exempt from income tax until 30 June 1983; extensions of the tax exemption may be allowed by the Central Board of Revenue.

The joint venture companies are also required to crew any foreign-flag vessels with at least 50 percent Pakistani citizens while operating in Pakistan's EEZ to train Pakistan

fishermen in modern marine fishing techniques. Foreign vessels and their crews will also be subject to all Pakistani laws and regulations and will be liable to penalties prescribed therein. (Source: IFR-81/33.)

Caribbean Pollution and the Fisheries

The most serious pollutant in the Caribbean area is oil. One estimate suggests that nearly 7 percent of all offshore production is spilled through blowouts, overflows, pipeline accidents, and malfunctions. Other important pollutants are sewage, agriculture wastes, and industrial effluents. The Caribbean has the potential for developing coastal aquaculture, and artisanal fisheries are already important in most of the countries in the region. Both coastal aquaculture and artisanal fishing, however, are linked to coral, algal, sea grass, and mangrove habitats. It is these ecosystems that are mainly threatened by marine pollution and land reclamation.

The Western Central Atlantic Fisheries Commission (WECAFC) has prepared a 30-page study entitled "Review of Pollution in the Caribbean Region in Relation to Marine Artisanal Fisheries." The report surveys the hydrography of the region, major pollutants, artisanal fisheries, fishery stocks, and fisheries endangered by pollution. A copy of the report can be requested from Dennis Weidner (F/IA1), NMFS, NOAA, Washington, DC 20235, enclosing a large self-addressed envelope with $0.50 postage.

Yaizu 1980 Tuna, Billfish Landings Up 21 Percent

Tuna and billfish landings at the leading tuna port of Yaizu, Japan, during 1980 totaled 180,385 metric tons (t) valued at ¥84,316 million ($376 million at ¥224 = US$1), according to the Yaizu Fishery Cooperative Association. The landings were up 31,806 t or 21 percent from the landings in 1979. The increase was due primarily to gains in southern bluefin, yellowfin, bigeye, and skipjack tuna landings. Ex-vessel prices per short ton of tuna at Yaizu in 1980 averaged $1,668 for albacore, $2,041 for yellowfin tuna, and $1,239 for skipjack tuna. (Source: FFIR 81-3.)

Tuna and billfish landings and average ex-vessel prices at Yaizu, Japan, 1980.

Species	Landings (10^3t)	Value (10^9¥)	Avg. ex-vessel price[1] ¥/kg	$/ST[2]	$/t
Bluefin	1.2	1.4	1,191	4,823	5,316
S. bluefin	9.3	18.7	2,005	8,120	8,950
Bigeye	12.1	9.0	742	2,932	3,312
Yellowfin	22.9	11.5	504	2,041	2,249
Albacore	25.9	10.7	412	1,668	1,839
Swordfish	0.7	0.5	726	2,940	3,241
Marlin					
Striped	0.4	0.3	770	3,118	3,437
Blue	0.9	0.5	520	2,105	2,321
Black	0.1	0.05	469	1,899	2,093
Skipjack	0.05	0.02	306	1,239	1,366
Other[3]	106.9	31.7			
Total[4]	180.4	84.3			

[1] Based on ¥224 = US$1
[2] ST = short ton.
[3] Other includes small tuna and some billfish.
[4] Totals may not add up due to rounding.

Japan's 1980 Fishery Imports Down 10 Percent

Japanese imports of fishery products in 1980 declined both in quantity and value from the preceding year on a customs clearance basis, according to the Japanese Finance Ministry. At 1,037,350 metric tons (t) valued at ¥764,272 million ($3,411 million at ¥224 = US$1), the 1980 imports were down 10 percent in quantity and 18 percent in value from 1979.

Decline in quantity was particularly severe for pollock roe (down 58 percent), squid (down 40 percent), herring roe (down 30 percent), salmon (down 18 percent), crab (down 17 percent), tuna (down 19 percent), shrimp (down 10 percent), abalone (down 52 percent), and jellyfish and sea cucumber (down 55 percent). An increase in imports occurred for eel (up 15 percent), salmon roe (up 10 percent), and octopus (up 1 percent).

Frozen shrimp imports, which totaled 143,256 t worth $1,073 million, led all other imports both in quantity and value, accounting for 14 percent in quantity and 31 percent in value of the total fishery imports. (Source: FFIR 81-5.)

Japanese imports of fishery products, 1959-80.

Year	Metric ton	¥ Million	Year	Metric ton	¥ Million
1959	19,270	2,766	1970	374,568	114,628
1960	47,476	5,523	1971	398,071	153,347
1961	56,634	8,173	1972	480,649	190,338
1962	89,623	10,694	1973	658,425	300,072
1963	156,330	21,385	1974	604,141	323,239
1964	232,120	32,266	1975	710,373	385,008
1965	278,939	37,422	1976	813,430	563,884
1966	333,799	60,331	1977	1,045,610	657,700
1967	330,949	68,966	1978	1,018,894	675,600
1968	370,143	72,134	1979	1,151,174	930,738
1969	362,627	93,844	1980	1,037,350	764,272

Japan's Surimi Products Down 2 Percent in 1980

Japanese frozen "surimi" (minced fish meat) production during January-December 1980 amounted to 288,900 metric tons (t), down 2 percent from the 1979 figure. Of this quantity, 183,232 t or 63 percent consisted of high-seas production (motherships and independently operated large trawlers) and 105,668 t or 37 percent, land-based production. Land-based surimi production in 1980 fell 8 percent from 1979, whereas high-seas production surpassed the 1979 output by 2 percent. The historical trend in the production of surimi during 1969-80 is shown in the table below. (Source: FFIR: 81-5.)

Japanese frozen surimi production, 1969-80, in metric tons.

Year	Land-based	High-seas	Total
1969	92,718	103,610	196,328
1970	118,521	142,802	261,324
1971	137,847	183,534	321,382
1972	155,868	191,145	347,013
1973	159,146	223,599	382,745
1974	157,555	195,297	352,852
1975	191,729	169,036	360,765
1976	187,806	195,311	383,117
1977	168,823	191,769	360,592
1978	132,433	183,012	315,445
1979	114,426	180,402	294,828
1980	105,668	183,232	288,900

New Zealand's Fisheries and Fish Exports Expand

New Zealand's fishing industry has grown rapidly in recent years. Finfish landings increased from 48,000 metric tons (t) in 1974 to 76,000 t in 1979. New Zealand's finfish exports have also increased, breaking the industry's dependence on lobster. Finfish exports exceeded lobster exports in value for the first time in 1978. Exports of all fishery products totalled 65,000 t valued at $98 million in 1979, a fourfold increase since 1974. Finfish exports total about half of all fishery exports. New Zealand now exports its fisheries products to over 40 countries.

The New Zealand industry has relied on small coastal fishing vessels for years. New Zealand fishermen, since the country declared a 200-mile Exclusive Economic Zone (EEZ) in 1978, have developed offshore fisheries for demersal species which have previously been fished only by foreigners. New Zealand companies are acquiring modern new vessels and building modern processing plants. Joint fishing ventures between New Zealand companies and foreign fishing interests have provided New Zealand's fishermen experience with large vessels, deepwater fishing techniques, and access to new markets. New Zealand has potential for still more expansion. Its 200-mile EEZ is one of the world's largest. The Government believes that an annual harvest of 250,000 t of finfish and 100,000 tons of squid may be possible.

Further, the New Zealand Fishing Industry Board reports that the country's fishery exports have increased by approximately 500 percent during the last decade. In 1970, the country's exports of fishery products amounted to 10,700 t valued at NZ$17 million[1]. By 1979, these exports had increased to 65,000 t and were worth NZ$98 million[2]. Although all fishery exports were higher priced in 1979, the total value of fishery exports increased only as much as the volume exported. This is due to the fact that more lower priced, underutilized species were exported in the late 1970's.

The increasing quantity of landed fish sold for export can be attributed to the considerable expansion of the fishing industry and the development of joint ventures. Of the NZ$98 million worth of fishery exports in 1979, over NZ$26 million (about 27 percent) was contributed by New Zealand companies chartering vessels in joint ventures with foreign companies.

Also helping to increase New Zealand fishery exports was an expansion into new and rapidly growing markets and a diversification in the number of species caught. In 1979, New Zealand's three main markets—Japan, the United States, and Australia—accounted for 70 percent of the nation's fishery exports. This was, however, a significant decline from 1970, when exports to these three countries were 90 percent of total fishery exports. Fishery exports were diversified into new markets in southern Europe, West Africa, and the Middle East.

Japan imported NZ$28 million of New Zealand fishery products in 1979, almost double the 1978 amount. Japan is now New Zealand's largest market; the main export commodities were snapper and squid. However, because of the erratic demand in the Japanese markets, New Zealand hopes to decrease this dependence and diversify its export markets. The United States was overtaken by Japan in 1979 as a major New Zealand export market, but it still remains important to New Zealand fish exporters because of its role as a price-setter for many commodities. The United States is increasing its traditional imports of rock lobster which amounted to NZ$21 million in 1979, compared with NZ$11 million in 1970.

Australia was New Zealand's major market for finfish in 1979. Over 85 percent of the NZ$17 million exported to Australia in 1979 were finfish. Exports in 1979 increased by 55 percent over 1978 levels.

Three new markets have begun to emerge, and hold promise for the future. Government-industry Export Opportunity Teams visited southern Europe and West Africa in 1979 to promote New Zealand fishery exports.

Southern Europe bought NZ$11 million in 1979 compared with only NZ$4 million in 1970. Most of these exports went to Spain, Greece, and Italy. West Africa is also attracting New Zealand fish exporters because it offers a large market for the lower-priced, high-volume species which are now being caught in greater quantities. And, the large expatriate work force in the Middle East oil countries is also attracting New Zealand exporters, but the long-term market potential there is still uncertain.

In 1979, the major species exported were snapper; tuna; eels; flatfishes; red cod, *Pseudophycis bacchus*; hoki, *Macruronus novaezealandiae*[3]; and barracouta. The most substantial growth in exports occurred in less familiar species such as hoki; red cod; barracouta; mackerel; kahawai, *Arripes trutta*; ling; and warehou, *Seriolella* sp.

Rock lobster exports amounted to NZ$27 million in 1979, or 28 percent of the total exports. This contrasts sharply with 1970, when exports of rock lobster accounted for 72 percent of New Zealand's fishery exports. On the other hand, other shellfish exports increased from 3 percent of the total in 1970 to 17 percent in 1979. Squid comprised the bulk of 1979 shellfish exports, whereas in 1970 abalone and scallops were the most important shellfish species.

The growing exports of air-freighted refrigerated fish during the last few years is also a major development. In 1979, these exports were valued at NZ$11 million and are expected to increase rapidly as general air and specialized freight services, primarily to Japan, continue to grow.

[1] NZ$1.00 = US$1.115 (1970).
[2] NZ$1.00 = US$1.023 (1979).
[3] Also known as the New Zealand whiting.