

Australia Reports Growth in Fish Consumption and Prices

Australians are estimated to have spent almost \$200 million on seafood in 1975-76, according to a report in *Australian Fisheries*. A survey there has shown that some \$123 million was spent on seafood for consumption at home, while estimates for the value of fish eaten outside the home were pegged at "probably \$60-70 million." Later studies have also shown both per capita fish and seafood consumption and fish prices to be growing.

The \$123 million spent on seafood for home use included \$43 million for fresh fish and \$80 million for processed fish (frozen fillets, canned fish, etc.). These estimates were calculated from an Australia-wide survey of household expenditure by the Bureau of Statistics, and based on diary records kept by a sample of over 5,800 households during the survey week. The results of this survey complemented the findings of a survey in 1976-77 into fish and seafood consumed in Australia and published by the Fisheries Division.

Spending by Area

The survey showed that the average household spent an estimated \$172 weekly in 1975-76, and \$33 of this went for food. Spending on fish and seafoods eaten at home was \$0.57 per week and represented 1.7 percent of household food expenses. Almost two-thirds of this (\$0.37) was spent on processed fish and seafoods.

Households in capital cities spent an average of \$0.64 on fish compared with \$0.44 spent by other urban households and \$0.41 by those in rural areas. Capital city households spent about 64 percent more on fresh fish and 40 percent more on processed fish com-

pared with other urban and rural households.

Spending by Income

Higher income households spent considerably more on fish and seafood than those with lower incomes. Households with an average income of less than \$80 weekly spent an average of \$0.32 on fish and seafood which was slightly less than half the amount spent by those earning \$260 or more. These differences were especially noticeable for fresh fish where spending by the lowest income group was about one-quarter of that of the highest grouping.

Much of this difference reportedly resulted from greater household size in the higher income group—there were about twice as many persons living in high income households compared with the lowest income group. To adjust for this, expenditures per person in each group were calculated. This revealed that, although differences between income groups were sharply reduced, expenses per person were still greater in the higher income grouping. Households with an average income of less than \$200 weekly spent an average of \$0.17 per person on fish compared with \$0.19 for higher income groups.

Seafood Spending Trends

Between an earlier (1974-75) survey and 1975-76, average spending on fish and seafoods rose by about 5 percent from \$0.61 to \$0.64 in the major capital cities. This was much less than the 17 percent rise in total household expenditures and was also lower than the 9 percent increase in food expenses.

The rise in average fish and seafood

expenditure was fairly uniform among the capital cities, except Canberra and Hobart (where expenditures fell) and Adelaide (no change).

Between the two surveys Australia's apparent fish consumption is estimated to have risen by 8 percent. Retail prices also rose although the increase at the wholesale level was relatively small. This would suggest that much of the increased consumption was in the take-away and catering markets.

Recent Increases

There have been further increases in expenditures on fish and seafood since 1975-76, the last year of the survey. Apparent consumption per person rose another 6 percent in 1976-77 and trends in imports and market data suggest that there was a further increase in 1977-78. The increases in fish consumption were greater than the rise in food consumption generally in 1976-77.

Over the past 2 years the rate of growth in Australian fish prices has been greater than that of other foods and consumer prices generally. In the 2 years to September 1978, fish prices rose by some 37 percent, as against 23 percent for all household items. These increases in both consumption and prices suggest that fish and seafood is now a more important component of Australian household expenditures than it was at the time of the survey.

Further information, including tables giving full details of amounts spent on seafood in Australia, are available from the Editor, *Australian Fisheries*, Department of Primary Industry, Canberra, ACT 2600, Australia.

Canadian Weir Fishermen Try Catch Insurance Plan

The Canadian Federal Government and Bay of Fundy fishermen have worked out the first catch insurance program in Canada, Fisheries and Oceans Minister Roméo LeBlanc announced in late April. For the unpredictable herring weir fishery, a one-shot federal grant of a quarter-million dollars and a 3 percent annual levy on landings will create an insurance fund. Catch insurance will guarantee each weir a yearly revenue of \$5,000-\$10,000 minimum.

"Unpredictable herring migrations meant this fishery was traditionally like a lottery, with unstable incomes causing hardship," LeBlanc said. "Landings vary enormously from year to year, cove to cove, and weir to weir. A few hundred yards can separate bonanza from disaster." Built near shore, the weirs are large, circular, wood-and-twine structures. Herring, swimming near the beach, follow a leader fence into the weir's mouth.

"Now fishermen can pool the risk with mutual insurance. An unlucky weir can survive a bad year, and fishermen can keep out of debt," said LeBlanc. "The Fundy Weir Fishermen's Association instigated this plan.

New Skipjack Ground in Central Pacific

A new skipjack tuna fishing ground had reportedly been discovered in the vicinity of Agrihan Island (lat. 19°N, long. 146°E) in the central Pacific where the fish size is reported to average 5-8 kg. Approximately 10 vessels of 59 and 69 gross tons were fishing in this area in March with average catches of about 20 t per vessel in 2 days of fishing, according to the Japanese Fishery Information Service Center. Prices at Omaezaki, Japan, for the skipjack caught on the new fishing ground were reported to be around ¥500-600/kg (US\$2,202-2,642/short ton at ¥206=US\$1). (Source: FFIR 79-4.)

Our officials worked it out through extensive townhall consultations with fishermen. Weirmen will run the plan, which will pay for itself."

In the initial operation of the plan, each weir is insured for \$5,000, the amount it generally takes to start up in the spring for the year's fishing. If the previous season's revenue was less than \$10,000, catch insurance pays one-half the shortfall. For example, if a weir earns \$4,000, catch insurance pays \$3,000, one-half the \$6,000 shortfall. A weir making \$8,000 will get \$1,000 extra; a weir making \$10,000 or more gets nothing, only contributes to the fund like all weirs, at 3 percent of landed value.

In most years, it is likely that more than half the weirs will make less than \$10,000. The top earners do the most paying. The fishermen accept this because one year's top earner may be next year's hard-luck weir. There is little danger of consistent low earners trying to live off the fund, since the minimum insurance level only meets normal start-up costs for operation. The fishermen can adjust the plan if necessary.

Extensive consultations with fishermen over more than 2 years developed the plan. In a final ballot by mail last year, weir fishermen endorsed the plan strongly (90 percent response rate, 88 percent in favor). The federal government will remain involved for 3 years; in 1981 the fishermen will take over the program completely.

There are about 250 weirs in the Bay of Fundy, employing 700-900 workers. Most weirs are in New Brunswick, between Saint John and the Maine border, the rest are in the Digby-St. Mary's Bay area of Nova Scotia. In 1977, the weir fishery landed about 27,000 t of herring worth \$2.6 million. The average income per weir was \$11,000; incomes for individual weirs however varied between \$70 and \$95,000.

Weirs are the mainstay of the Canadian sardine industry, which had a product value of \$9 million in 1976. Weirs create about 950 jobs in sardine processing, and contribute to about 500 jobs in processing large herring.

"Federal initiatives in the last 4 years quadrupled the value of the purse-seine

fishery for large herring in the Bay of Fundy, from \$2.8 to \$11.8 million. Now this fishery provides good steady incomes," LeBlanc said. "Catch insurance and the increase in value of this fishery will extend a new stability to the weir fishermen as well."

Japan Seinners Survey South Pacific Tunas

The Japanese tuna purse seiner *Nippon Maru* (999 gross tons), which is engaged in tuna surveys in the South Pacific under charter to the semigovernmental Marine Resources Research Center, caught 142 metric tons (t) of mostly skipjack tuna during the second half of January in waters north of New Guinea in the vicinity of lat. 1°-4°N and long. 140°-143°E. The catches were made on eight sets around schools associated with drifting wood. Poor fishing was reported in February as the vessel failed to encounter floating objects in water north of the Solomon Islands in the vicinity of lat. 1°-4°N and long. 146°-158°E. The *Nippon Maru's* catches since the beginning of the survey in April 1978 to mid-February 1979 totaled 614 t of tuna, representing 78.7 percent of the catch target. The catches consisted of 331 t of skipjack, 271 t of yellowfin, 7 t of bigeye, and 5 t of other tuna.

Later, the *Nippon Maru* caught 24 t of skipjack and 0.1 t of small yellowfin tuna during the first half of April in waters near lat. 5°N-2°S and long. 92°-98°E. The catches were made around schools associated with drifting logs.

Another Center-chartered tuna purse seiner, *Gempuku Maru No. 82* (499 gross tons), caught 144 t of mainly skipjack tuna during the second half of January in waters north of New Guinea in the vicinity of lat. 1°S-3°N and long. 140°-143°E. The catches were made on one set near drifting wood, one set near a bird flock, and one set near artificial drifting logs.

In the first half of February, the *Gempuku Maru No. 82* reportedly caught 50 t of yellowfin tuna in waters near lat. 1°N and long. 134°E. The

catches were made on seven sets around schools associated with whales. The vessel's total catch since April 1978 was reported as 1,257 t of tuna, surpassing the catch target by 70 percent (Sources: FFIR 79-3-6.)

First Snow Crab Load Sells Fast in Japan

This year's first shipment of imported shrink-packed snow crabs from Kodiak, Alaska, arrived in Japan in late March, and its entire amount of 200 tons was virtually sold out within 3 days after it was placed on the wholesale market by the importer. Prices quoted to wholesalers were ¥1,450/kg (US\$3.08/pound at ¥214=US\$1) for size "4L", ¥1,340/kg (\$2.85/pound) for size "3L", ¥1,180/kg (\$2.51/pound) for size "2L", and ¥1,070/kg (\$2.27/pound) for size "L".

Shrink-packed snow crabs processed aboard the Japanese factoryship *Keiko Maru* in Bristol Bay were also placed on the market in Japan in early April. Asking prices by the producer were ¥1,333/kg (\$2.83/pound) for size "3L", ¥1,183/kg (\$2.51/pound) for size "2L", ¥1,083/kg (\$2.30/pound) for size "L", ¥933/kg (\$1.98/pound) for size "M", ¥783/kg (\$1.66/pound) for size "S", and ¥683/kg (\$1.45/pound) for size "2S". (Source: FFIR 79-5.)

B.C. Roe Herring Prices Escalate to C\$5,000/ST

Prices of roe herring in Canada escalated to C\$5,000/short ton (ST) in late March, far outstripping the season-open prices of C\$1,200/ST for the gillnet-caught fish and C\$1,300/ST for the seine-caught fish established between the local packers and the fishermen.

According to an unconfirmed report, landings on 28 and 29 March were sold at C\$5,200/ST in a cash transaction, the highest price thus far in the season. Informed sources were attributing the extraordinary high prices of Canadian roe herring partly

to the poor catches and partly to the lack of "guideline" prices this year as a result of the exclusive sales agreement between the Japanese Taiyo Fishery Company and the British Columbia Packers of Canada. The roe herring fishery in British Columbia has reportedly wound up with total estimated catches of between 41,500 and 42,000 ST. (Source: FFIR 79-5.)

Japan Offers Tariff Cuts on Five Fishery Items

Multilateral trade negotiations sponsored by GATT (General Agreement on Tariff and Trade) concluded the round in Geneva on 11 April and agreements on tariff cuts which are to be implemented over a period of 8 years beginning 1 January 1980 were released. Twenty-two industrialized nations have initiated the agreements.

Japan has agreed to reduce tariffs by up to 5 percent on five major fishery import items (Table 1) consisting of

Table 1.—Japan's proposed tariff cuts on individual fishery items.

Commodity	Current tariff	Proposed new tariff	Proposed cut
Salmon roe (dried or salted)	7.5%	5%	2.5%
Herring roe (dried or salted)	15	12	3
Shrimp	5	3	2
Crab	10	6	4
Squid	10	5	5

salted or dried salmon roe, salted or dried herring roe, shrimp, crab, and squid. Japan reportedly planned to offer tariff cuts on approximately 20 additional fishery items by 30 June but the extent of these cuts again was expected to fall between 2 and 5 percent, according to an informed source in Tokyo. A government spokesman in Tokyo announced that the tariff cuts Japan has agreed to were too small to result in a substantial increase in the imports of fishery products by Japan.

Japanese imports in 1978 of the five

fishery items which are now designated for tariff reduction were: 7,800 metric tons (t) for salmon roe, 9,600 t for herring roe, 150,000 t for shrimp, 32,000 t for crab, and 118,000 t for squid. (Source: FFIR 79-5.)

Japan Pays US \$400,000 Fishing Fees to Palau

Representatives of the Government of Palau and the Japanese fishing industry on 16 April initialed an agreement to the conditions under which Japanese fishermen will be allowed to fish within 200 miles of Palau. According to the agreement, up to 470 Japanese vessels will be admitted within Palau's 200-mile zone at a combined total fishing fee of US\$400,000, to be paid in lump sum covering the period from 1 January to 31 December. Palau will assess incremental fishing fees to additional vessels fishing in its waters.

While setting no ceiling to either the number of vessels or the maximum catches allowable within the 200-mile zone, the agreement specifically bans purse seiners from the waters within 50 miles on the east side of Palau and further limits to 10 the number of skipjack vessels allowed to fish simultaneously in the same waters. (Source: FFIR 79-6.)

Blackcod Prices Climb in Japan

In an auction held 7 March at Ishinomaki, Japan, 3,325 cases (case = 15-16 kg) of frozen blackcod which was caught in the Bering Sea by a Japanese longliner, was sold at prices surpassing the highs recorded last year by as much as ¥100-150/kg (US\$0.22-0.33/pound at ¥206=US\$1). The new prices set that day were ¥855/kg (US\$1.89/pound) for the fish, size 4-6 to the case, ¥805-810/kg (US\$1.77-1.79/pound) for the size 7-8 to the case, and ¥725-728/kg (US\$1.60-1.61/pound) for the size 9-10 to the case.

The rising prices of domestic blackcod have continued to push up the prices of the imports from the United States and Canada. The recent prices of the imported frozen blackcod were ¥680-700/kg (US\$1.50-1.54/pound) for the fish without collar and ¥600-650/kg (US\$1.32-1.43/pound) for the fish with collar, up about ¥50/kg (US\$0.11/pound) during the recent 10 days.

In April, ex-vessel prices of blackcod caught by Japanese longliners again set new historical highs in Japan. The prices of blackcod, reported from the landing ports in the Sanriku region, were ¥1,000/kg (US\$2.11/pound at ¥215=US\$1) for the size 4-6 to the case (case=15-16 kg), ¥958/kg (\$2.03/pound) for the size 7-8 to the case, and ¥918/kg (\$1.94/pound) for the size 9-10 to the case.

At the Tokyo Central Wholesale Market, imported blackcod was virtually sold out by mid-April, but the sale of domestic catches remained stagnant owing to the high prices. (Source: FFIR 79-4,6.)

Mediterranean Bluefins Are Airlifted to Japan

Bluefin tuna from the Mediterranean Sea and yellowfin tuna from the Philippines joined the list of fresh tuna being airlifted to Japan during the previous winter season. Until last year, the list was dominated by bigeye and yellowfin tuna from Taiwan with occasional arrivals of bigeye tuna from Hawaii.

Early this year, five shipments totaling 21 fish arrived at the Tokyo Central Wholesale Market from the Mediterranean Sea and Spain, consisting of small bluefin (50-60 kg in size) from the Mediterranean Sea and jumbo bluefin (around 200 kg in size) from Spain. Prices of these fish ranged from a low of ¥200/kg (US\$0.42/pound at ¥214=US\$1) to a high of ¥2,000/kg (\$4.25/pound). Yellowfin tuna from the Philippines, arriving about once every 1 to 2 weeks, were being sold at prices higher than the fish from Taiwan. (Source: FFIR 79-5.)

Japan's 1978 Fishery Product Imports Drop

Total Japanese imports of fishery products in 1978 declined in quantity from the preceding year for the first time since 1974, according to the customs clearance data released by the Finance Ministry (Table 1). The total quantity of imported fishery products in 1978 was 1,018,894 t, down 3 percent from 1977. In value, the 1978 imports were up approximately 3 percent from 1977.

The decline in quantity was particularly severe for fish meal, tuna, billfish, herring, and smelt. Imports in 10 categories set a new historical record in 1978; these were salmon, shrimp, hairtail, sea bream, spiny lobster,

crab, squid, jellyfish and sea cucumber, salted salmon roe, and salted pollock roe.

A particularly strong increase in imports occurred for salmon, crab, and salted pollock roe, whose domestic production has been cut back sharply by the restricted catch quotas in the North Pacific. The imports of salmon increased 2.6 times to 49,780 t, and those of salted pollock roe increased 2.8 times to 2,711 t. Crab imports increased 74 percent to 31,830 t, of which the purchase from the United States more than doubled to 25,900 t. Imports of shrimp rose 15 percent to 143,962 t. (FFIR 79-3.)

Table 1.—Japanese imports of fishery products, 1967-78.

Year	Imports		Year	Imports	
	Metric tons	Million Yen		Metric tons	Million Yen
1967	330,949	68,966	1973	658,425	300,074
1968	370,143	72,134	1974	604,141	323,239
1969	362,627	93,844	1975	710,373	385,008
1970	374,568	114,628	1976	813,430	563,884
1971	398,071	153,347	1977	1,045,610	657,700
1972	460,649	190,338	1978	1,018,894	675,600

PRC Herring Roe Offered to Japan

China reportedly offered for sale approximately 450 metric tons (t) of semiprocessed herring roe to Japan in the spring trade negotiations in Canton. The volume, consisting of 100 t of high grades and 350 t of low grades, is estimated to represent approximately half of China's annual production.

According to a trading journal in Tokyo, the price being asked for grade No. 1C, which is believed to be equivalent to the Canadian grade No. 1, was ¥7,700/kg (\$16.28/pound at ¥215=US\$1), FOB Canton. This would bring the price of this product upon arrival in Japan to ¥9,100/kg (\$19.24/pound).

Offers which were reportedly made to trading firms were: 100 t to Taiyo, 30 t to Tokyo Maruichi, 20 t (or reportedly 20-30 t) to Nichiryō, 6 t (or reportedly 10 t) to Sumisho, 15 t to Shinei, 20

t to Nissho, 5 t to Gunze, 40 t (or reportedly 40-50 t) to Kenbo, 20 t to Nichiryō Bussan, 12 t (or reportedly 20 t) to Nomura, 3 t (or reportedly 5 t) to Mitsukura, 5 t to Ryu Shoki, 25 t (or reportedly 10-20 t) to Nichiro, 25 t to Marubeni, 30 t to Meika, 7 t (or reportedly 0 t) to Sansho, 15 t (or reportedly 0 t) to Nikkyobo, 30 t to Tokaibo, 20 t to Towa, 50 t to Kyokuyo, and 5-7 t (or reportedly 0 t) to Zenshin. (Source: FFIR 79-6.)

Japan Still Sets Frozen Shrimp Import Records

Frozen shrimp imports to Japan during February 1979 were 12,516 metric tons (t) valued at ¥18,519 million (US\$93 million at ¥200=US\$1) on a customs clearance basis, according to the Finance Ministry. In

quantity, this was the highest February record ever, representing an increase of 13 percent from the preceding month and 66 percent from the month a year ago.

India was the top supplier with 3,744 t, followed by Indonesia which supplied 2,305 t. Other large suppliers were Thailand (1,073 t), Norway (664 t), Mexico (554 t), and The People's Republic of China (522 t). The cumulative 1979 imports to February were 23,588 t, up 39 percent from the comparable year-earlier period.

Frozen shrimp imports into Japan during March were 14,088 metric tons (t) valued at ¥23,186 million (US\$113 million at ¥206=US\$1) on a customs clearance basis, according to the Finance Ministry. In quantity, this was the highest March record ever, representing the third consecutive record-setting month this year.

India again was the top supplier with 3,550 t, followed by Indonesia which supplied 2,708 t. Other large suppliers were the People's Republic of China (1,371 t), Thailand (1,017 t), Mexico (848 t), Sabah (467 t), Philippines (365 t), Taiwan (329 t), Sarawak (308 t), Australia (247 t), and Hong Kong (238 t). The cumulative 1979 imports to March were 37,676 t, up 34 percent from the comparable year-earlier period. (Source: FFIR 79-5.6.)

Yellowfin Tuna Import Prices Rise in Italy

Import prices of frozen round yellowfin tuna into Italy rose earlier this year, and the import prices in March on delivery to Italy were reported to be around \$1,700/t. The rise in the import prices of yellowfin tuna in Italy is attributed to a steep decline in the supply of the fish since rising fuel costs began to force the Korean tuna vessels, the main supplier of yellowfin tuna for Italy, from the Atlantic to the Pacific Ocean.

An industry source in Tokyo predicted an increase in Japanese exports of yellowfin tuna to Italy as the profit would be higher with exports to Italy, even after the high cost of shipment, than with exports to the

United States, where the import prices on delivery to the west coast remained around \$1,200/t. Some

shipments to Italy from Japan reportedly had already taken place. (Source: FFIR 79-5.)

Japan, Russia Agree on 1979 Salmon Quota

Japanese and Soviet fishery officials in Moscow on 21 April signed the protocol to an agreement stipulating conditions for the 1979 Japanese salmon fishery in waters bordering the Soviet 200-mile boundary in the northwest Pacific. The agreement has set the overall 1979 Japanese catch quota for salmon at the same amount of 42,500 metric tons (t) as in 1978, while curtailing the high-seas portion of allowable catches to 23,500 t from the 28,000 t allowed in 1978.

Under the new agreement, Japanese high-seas catches of chum salmon in 1979 will be limited to 3.8 million fish as compared to 4.3 million in 1978, those of red salmon to 1.1 million fish as compared to 1.6 million in 1978, and

those of silver salmon to 1.2 million fish for which there was no catch restriction in 1978.

The agreement has introduced a new season restriction to one of the fishing zones: the season was to end on 15 June, instead of 31 July in 1978, in the areas bounded by long. 170°E and 175°E, lat. 44°N, and the U.S. 200-mile boundary. Under the new agreement, Japanese payment in fishery cooperation fees, supposedly a contribution to the Soviet investments made for the conservation of salmon resources, will be increased to ¥3.24 billion (US\$15.12 million at ¥215=US\$1), up almost 85 percent from the ¥1.76 billion (US\$8.19 million) in 1978. (Source: FFIR 79-6.)

Calcium Chloride Used for Quick Freezing

A new method using calcium chloride solution as a medium to freeze skipjack loin aboard a vessel is reported to have been developed in Japan. Whereas the conventional air blast freezing method will take about 4.5 hours to freeze skipjack loin to -40°C, the new method is said to cut this time to about 1 hour.

The optimum specific gravity of

the calcium chloride medium used in the new method is reported to be 1.286. Calcium chloride costs about ¥1,625 per 25 kg (US\$7.89/55 pounds) and its medium is used year-round. A patent application for the new method was filed on 30 October last year by its inventor, Kusuharu Hamaguchi of Mie Prefecture. (Source: FFIR 79-4.)

Japanese Harvest Brings Young Eel Prices Down

The harvest of shirasu (young eel for culture) in Japan amounted to 61.61 t by the end of January. The exceptionally good harvest quickly drove the prices of shirasu from the season-early ¥200,000/kg (US\$455/pound at ¥200=US\$1) to as low as ¥40,000/kg (\$91/pound). Informed sources were predicting that the total harvest this year by the end of the season in April could top 100 t. The demand for shirasu in Japan is reported to be about 90 t a year. (Source: FFIR 79-3.)

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 Daily (LSD) reports produced by the Office of International Fisheries Affairs, National Marine Fisheries Service, NOAA, Washington, DC 20235.