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TUNA FISHERIES, TRADE, AND MARKET OF JAPAN

Sunee C. Sonu

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center

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EXECUTIVE SUMMARY

Fisheries for tuna continue to be important throughout the world, with a total catch of more than three million metric tons (mt) per year since 1993. Japan, the world's largest market for tuna, annually consumes about 35 percent of world catches. Supply for this market comes from both domestic catch and imports.

Between 1992 to 1997, about 67 percent of Japanese catches of large tuna (bluefin, bigeye, yellowfin and albacore) were caught by tuna longliners, while about 44 percent of skipjack were taken by skipjack pole-and-line. The number of Japanese tuna longliners has decreased from 2,443 in 1970 to 1,573 in 1997. The number of Japanese skipjack pole-and-line fleet has also decreased, from 3,660 in 1970 to just 598 in 1997. Most Japanese catches of tuna, except southern bluefin tuna, occurred in the Pacific Ocean, followed by the Indian and the Atlantic Oceans. The majority of Japanese catches of southern bluefin occurred in the Indian Ocean.

Japan, the world's largest importer of tuna, imported about 379,000 mt valued at $1.7 billion in 1998. The share of the Japanese tuna market supplied by imports has increased from 20 percent in 1987 to 30 percent in 1998. Factors which influenced the recent rise in tuna imports to Japan are: decreasing catches by Japan's own fishing fleet, increasing demand for gourmet food, and the appreciation of the Japanese yen relative to U.S. dollar.

Japan regulates imports of tuna products with import tariffs, which have been progressively reduced in GATT multilateral trade negotiation rounds. As the United States and Japan are signatories to the World Trade Organization (WTO), WTO tariffs apply to U.S. exports of tuna products.

Tuna is sold through auction at consumer wholesale markets located in consumption areas, and at production wholesale markets located at Japanese ports of landings. Tuna is also sold directly to processors and supermarket chains. The largest consumer fish wholesale market in Japan is the Tokyo Central Wholesale Market and the prices determined at the Tokyo Central Wholesale Market generally serve as a price index for fishery products throughout the world.

During 1988-1998, the highest annual average price for any

tuna species was achieved by fresh imported bluefin at 5,730 yen/kg in 1990. Japanese-caught fresh bluefin tuna was the only species which exhibited a steady rise in prices during recent years, reflecting the dwindling supply of this fish. Prices in 1998 increased from 1997 for all Japanese-caught fresh tuna except albacore. Prices decreased during the same period for all frozen tuna as well as for imported fresh bigeye and yellowfin.

Monthly wholesale prices for fresh bluefin usually rise from late fall through winter, when supply is low, and fall substantially during summer, when the Japanese bluefin tuna catch is at its peak.

INTRODUCTION

Japan has long been the world's largest harvester as well as consumer of tuna. Recently, however, while the Japanese demand for tuna has increased and the domestic catch has remained level, its share of the world catch has decreased sharply. To fill this increased demand for tuna, Japan has increased tuna imports from $133 million worth of tuna in 1976 to $1.5 billion in 1998.

Imports are likely to remain high due to a number of difficult challenges faced by the Japanese tuna fishery. The most important of these are: (1) competition from Taiwan, Indonesia, the Republic of Korea, and Australia which supply high valued tuna; (2) growing international regulations and catch quotas for tuna in international waters; (3) shortage of experienced fishermen for distant-water tuna vessel operations; (4) high cost of production; (5) increasing influence of imports on pricing of tuna in domestic market; and (6) lack of growth in catches by its own fleet.

This report provides detailed examination of the Japanese tuna fishery, imports, exports, supply, demand, and market, in order to identify potential opportunities for export by U.S. producers.

WORLD FISHERY

The total world catch of major tuna species (skipjack, *Katsuwonus pelamis*; yellowfin, *Thunnus albacares*; bigeye, *Thunnus obesus*; albacore, *Thunnus alalunga*; northern bluefin, *Thunnus thynnus;* and southern bluefin, *Thunnus maccoyii*) more than doubled from 1.4 million mt in 1973 to over 3.0 million mt in 1993, and has remained at that level through 1996 (Table 1). Since 1986, nine countries have maintained annual catches of more than 100,000 mt of tuna. In 1996, these countries were Japan, Taiwan, Indonesia, Spain, the Republic of Korea, the United States, Philippines, France, and Mexico.

During 1973-1996, Japan's tuna production averaged 677,000 mt annually. During this period, the annual catch was essentially level, with a range of 543,000 to 787,000 mt, though catch has declined since the peak in 1984. The percentage of Japan's catches relative to the global total has been substantial, but has steadily declined from 44 percent in 1973 to 18 percent in 1996. United States catches of tuna during this

period averaged 232,000 mt annually. The percentage of U.S. catches relative to the global total has declined from 11 percent in 1973 to 7 percent in 1996. The United States, historically the world's second largest producer of tuna, dropped to sixth in 1996.

The global increase in tuna landings during recent years was due to increased catches by countries other than Japan and the United States (Fig. 1). Countries with substantial increases in tuna landings during this period are Indonesia, Spain, the Republic of Korea, Philippines, France, and Mexico. Combined tuna landings by these six countries rose from 710,000 mt in 1985 to 1,205,000 mt in 1996, a 70 percent increase over this period.

World landings of tuna are dominated by skipjack and yellowfin (Table 2). In 1996, skipjack accounted for 49 percent of total landings of major tuna species, and yellowfin 33 percent. Landings of other species were 10 percent for bigeye, 6 percent for albacore, 2 percent for northern bluefin, and less than 1 percent for southern bluefin tuna.

Landings of skipjack and yellowfin have increased substantially since around 1984, while landings of bigeye, albacore, and northern bluefin have remained fairly stable, and those for southern bluefin declined. Skipjack landings rose from 908,000 mt in 1985 to 1,480,000 mt in 1996, an increase of about 63 percent, which accounted for about 65 percent of the increase for all major species during the same period. Yellowfin landings rose 35 percent from 731,000 mt in 1985 to 981,000 mt in 1996, accounting for about 29 percent of the increase for all major species during the same period. Approximately 58 percent of the 1996 skipjack catch was made in the western Pacific (FAO fishing area 71).

Table 1. World tuna catch* by major countries, 1973-1996 (1,000 metric tons).

Country	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Japan	630	678	543	660	625	723	672	723	643	674	696	787
China, Taiwan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indonesia	26	28	27	31	33	49	61	73	79	90	103	111
Spain	68	88	76	85	92	100	96	99	114	122	127	155
Korea, Rep.	91	107	119	122	147	139	125	110	105	108	89	71
U.S.A.	158	180	179	228	156	251	217	223	222	199	266	264
Philippines	18	81	84	74	114	97	94	79	95	103	119	104
France	55	72	56	73	73	75	64	72	73	69	85	88
Mexico	17	19	25	23	23	26	31	34	68	38	38	77
Venezuela	2	4	1	1	2	2	3	4	6	4	57	62
Maldives	25	29	20	25	19	18	22	28	26	20	26	39
Ecuador	12	17	28	25	28	24	34	19	19	21	21	31
Ghana	-**	1	7	9	8	4	5	6	11	23	33	32
Solomon Is.	6	10	7	16	13	17	24	23	25	20	34	36
Colombia	-	-	-	-	-	-	-	-	-	-	-	-
Iran	-	-	-	-	-	-	-	-	-	-	-	-
Sri Lanka	16	18	22	19	17	16	14	20	21	22	23	18
Portugal	6	11	6	3	5	10	7	7	6	7	5	8
Oman	-	-	9	8	8	-	-	-	-	-	-	-
Brazil	1	1	2	1	1	2	5	10	24	17	21	18
Panama	17	20	31	22	23	29	18	21	16	37	14	24
Fiji	-	-	-	1	2	3	4	2	7	8	9	7
Australia	13	10	11	11	10	12	11	14	18	21	21	15
New Zealand	1	2	2	5	2	5	4	4	5	12	5	7
India	-	-	-	-	-	-	-	-	2	2	2	3
Total***	1,433	1,578	1,445	1,663	1,668	1,829	1,705	1,741	1,787	1,811	1,829	2,098

* - Tuna catch includes albacore, yellowfin, bigeye, bluefin and skipjack N/A - not available
-** - Less than 500 metric tons
*** - Total also includes other countries not listed

Sources: FAO 1977, 1984, 1990, 1991, 1993, 1998a

Table 1 (continued). World tuna catch* by major countries, 1973-1996 (1,000 metric tons).

Country	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Japan	686	781	691	753	670	654	718	672	738	652	629	550
China, Taiwan	N/A	477	540	590	1,341	278	248	338	417	367	370	374
Indonesia	121	125	144	147	159	203	313	242	224	247	262	276
Spain	178	186	197	234	250	263	266	255	244	246	278	254
Korea, Rep.	92	110	131	148	141	233	266	224	168	243	217	213
U.S.A.	233	352	283	276	245	233	236	261	221	253	224	207
Philippines	125	137	126	116	127	181	198	128	106	148	171	171
France	102	113	125	153	142	153	163	168	200	198	178	162
Mexico	92	103	112	124	136	126	129	131	119	121	139	129
Venezuela	65	63	76	76	79	76	78	80	79	75	72	80
Maldives	49	50	49	65	64	67	67	68	69	82	82	79
Ecuador	35	41	36	36	42	58	51	43	55	43	58	67
Ghana	34	35	36	33	33	38	42	34	39	36	33	37
Solomon Is.	31	41	31	45	41	40	48	32	29	35	54	35
Colombia	-	-	-	-	-	-	32	43	49	23	42	34
Iran	-	-	-	-	1	2	4	16	17	26	25	30
Sri Lanka	19	22	20	20	21	19	41	34	38	35	29	29
Portugal	8	12	13	16	13	13	15	15	16	14	22	26
Oman	-	-	6	15	17	18	10	15	23	14	30	23
Brazil	28	15	14	20	26	23	24	27	28	27	24	23
Panama	26	30	34	14	22	27	17	17	19	23	20	19
Fiji	6	4	12	14	9	6	7	11	8	8	12	13
Australia	15	13	11	11	6	8	12	13	10	11	10	11
New Zealand	5	7	5	5	10	8	9	5	5	9	7	11
India	3	3	6	6	6	10	6	6	13	7	7	11
Total***	2,132	2,362	2,369	2,512	2,607	2,910	3,163	3,097	3,169	3,164	3,164	3,017

* - Tuna catch includes albacore, yellowfin, bigeye, bluefin and skipjack N/A - not available
-** - Less than 500 metric tons
*** - Total also includes other countries not listed

Sources: FAO 1977, 1984, 1990, 1991, 1993, 1998a

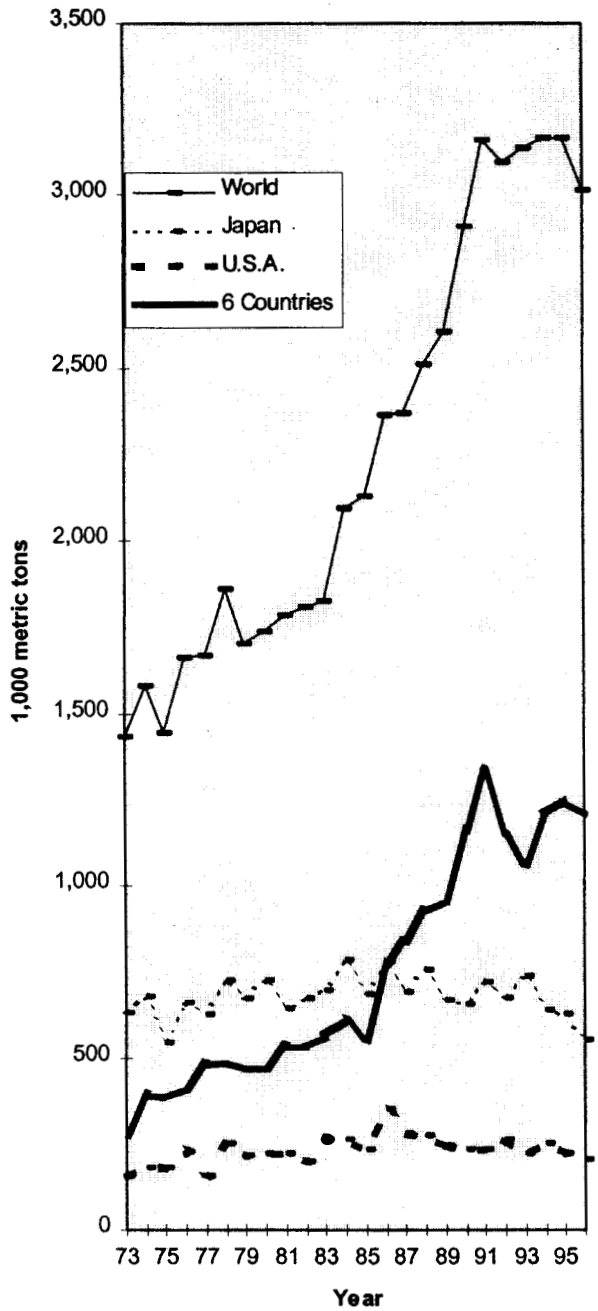

Figure 1. **Annual tuna catches by total world, Japan, the United States, and combined catches of Indonesia, Spain, the Republic of Korea, Philippines, France, and Mexico, 1973-1996.**
(Sources: FAO 1977, 1984, 1990, 1991, 1993, 1998a)

Table 2. World tuna catch by major species, 1973-1996 (1,000 metric tons).

Year	Skipjack	Yellowfin	Bigeye	Albacore	Northern bluefin	Southern bluefin	Total
1973	530	429	148	247	31	48	1,433
1974	637	458	162	240	35	46	1,578
1975	511	474	189	198	39	34	1,445
1976	643	527	186	237	37	33	1,663
1977	637	544	214	197	39	37	1,668
1978	796	531	208	223	39	32	1,829
1979	706	543	193	191	37	35	1,705
1980	771	520	198	181	32	39	1,741
1981	735	579	194	189	45	45	1,787
1982	760	545	211	204	49	42	1,811
1983	823	537	202	178	43	46	1,829
1984	1,050	599	190	186	35	38	2,098
1985	908	731	243	177	38	35	2,132
1986	1,067	794	253	186	35	27	2,362
1987	1,017	879	247	169	31	26	2,369
1988	1,242	863	187	171	28	21	2,512
1989	1,180	906	229	243	30	19	2,607
1990	1,302	1,058	272	232	30	16	2,910
1991	1,668	1,022	261	169	31	12	3,163
1992	1,426	1,134	273	217	34	13	3,097
1993	1,437	1,193	296	194	36	13	3,169
1994	1,490	1,094	320	202	47	11	3,164
1995	1,554	1,041	325	188	43	13	3,164
1996	1,480	985	308	182	48	14	3,017

Sources: FAO 1977, 1981, 1986, 1990, 1991, 1993, 1998-a

JAPANESE FISHERY

The tuna fishery is the most valuable fishery in Japan (Table 3). In 1997, Japan's tuna landings were valued at $2.4 billion, approximately 20 percent of the total value of its marine fishery landings for that year.

History and Catch Trends

The Japanese commercial fishery for tuna dates back to the 1500's. Originally, tuna were caught in Japanese coastal waters by harpoon or handline and, later, set net. Tuna fishing operations remained at a small scale, until 1743, when the Japanese developed a longline fishing technique, and tuna catches soon increased significantly (Suisan Sha 1963).

On March 31, 1897, the Japanese government established the Distant Water Fisheries Promotion Act to develop and strengthen its distant-water fishing industry (Yaizu Fisheries Cooperatives 1964). The Act, as revised in 1905, provided grants for new vessel construction and for installation of engines. In March 1906, the first engine (20 horsepower) was installed on a 25 gross-ton tuna longliner, and by 1925, nearly all tuna longliners were equipped with engines. In 1926, line haulers, cold storage facilities, and radios were added. This new technology enabled tuna longliners to fish further away from Japan, and the fishing grounds rapidly expanded. Total tuna catches increased steadily from 48,615 mt in 1894 to 202,439 mt in 1940, one year after the outbreak of the World War II.

During World War II, 1939 to 1945, 60 percent of the Japanese tuna fleet was sunk, and by 1945 the tuna catch had decreased to 32,039 mt (Agriculture and Forest Economic Research Institute 1965). After the war, reconstruction of the tuna industry was rapid. The number of tuna vessels increased from 306 in 1945 to 1,146 in 1948 and to 1,201 vessels in 1963. Catches of tuna expanded rapidly until 1963 (Fig. 2).

Beginning in 1965, Japanese longliners were equipped with freezers capable of freezing tuna to minus 55 degrees Celsius (Suisan Sha 1969). This technology allowed high-quality tuna to reach Japan even from distant fishing areas. Tuna became very popular in the "sashimi" (raw fish) market and prices for tuna increased sharply, especially for bigeye tuna (Fig. 3).

From 1972 to 1984, catches increased and reached a record of 812,000 mt in 1984. Since 1984, catches have trended downward between 556,000 and 812,000 mt.

Catch Trends by Species

The Japanese catch of skipjack tuna, the major species landed between 1964 and 1998, increased from 98,000 mt in 1956 to record landings of 446,000 mt in 1984 (Table 4 and Fig. 4). From 1985 through 1998 the catch fluctuated between 275,000 and 434,000 mt, with an average of 340,000 mt. The catch in 1998 increased by 18 percent from 1997 and 35 percent from 1996. The catch of skipjack in 1998 represented 56 percent of the total catch of major tuna species.

In the 1960's, the Japanese distant-water tuna industry grew rapidly, and fishing gear was modified to fish at greater depths to target bigeye tuna for the sashimi market. Bigeye tuna had traditionally been the third among tuna landings in Japan until 1968. Since 1969, however, bigeye landings have exceeded those of yellowfin tuna and it is now the second most important commercial species. In 1970, bigeye tuna comprised 27 percent of the tuna longline catches and by 1997 it had increased to 36 percent (Ministry of Agriculture, Forestry & Fisheries 1972 and 1999). This increase has been attributed to targeting of bigeye using deeper fishing longline gear. Catch of bigeye tuna rose steadily from 89,000 mt in 1971 to 158,000 mt in 1986. From 1987 to 1998, the catch fluctuated between 102,000 and 144,000 mt.

Catches of yellowfin tuna peaked very early in the post-war fishery, reaching 158,000 mt in 1962, then declined sharply over the next several years (Table 4). Annual catches gradually recovered to 100,000 mt in 1979. Since then the catch has fluctuated between 80,000 and 134,000 mt. The catch in 1998 decreased 15 percent from 1997.

Catch of albacore, peaked in 1965 and showed a decreasing trend to 1991, followed by a moderate increase in recent years.

Combined catches of northern bluefin tuna and southern bluefin tuna reached a peak of 70,000 mt in 1960, then declined steadily to a low of 14,000 mt in 1990. Since then the annual catch has remained fairly stable between 14,000 and 19,000 mt.

In 1998, approximately 56 percent of Japan's major tuna

landings was skipjack. This was more than triple the landings of the next important species, bigeye tuna, and almost four time those of the third-ranking yellowfin tuna. Landings during the same period for albacore were 11 percent, and those for bluefin tuna 2 percent.

Catch by Fishery

Between 1992 and 1997, an average of 67 percent of tuna other than skipjack was caught by tuna longline, and the rest by purse seine, pole and line, line, set net, drift net, and gillnet (Table 5). The Japanese tuna longline fishery is conducted in distant-waters using vessels larger than 120 gross tons, and in offshore and coastal waters of Japan using vessels of 20-120 gross tons and 10-20 tons, respectively. The number of Japanese tuna longliners has been decreasing over the years, from 2,443 in 1970 to 1,573 in 1997 (Fig. 5). The downward trend in the number of tuna longliners, mostly from the distant-water and offshore component, was due mainly to high cost of production, shortage of fishing labor, declining catches, and mounting international competition.

In 1997, about 54 percent of skipjack tuna were caught by purse seine, 43 percent by skipjack pole-and-line, and the rest by drift net, set net, tuna longline and gillnet. From 1987 to 1997, the catch by purse seine increased 44 percent while the catch by skipjack pole-and-line decreased by 33 percent (Ministry of Agriculture, Forestry & Fisheries 1999). The number of Japanese skipjack pole-and-line vessels has been decreasing over the years, from 3,660 in 1970 to just 598 in 1997 (Fig. 6). The downward trend in the number of vessels was mostly from the coastal fishery component. Unlike the tuna longline and skipjack pole-and-line fleets, the number of tuna purse seiners increased from 61 in 1995 to 69 in 1997 (Fig. 7). The catch, mostly skipjack and yellowfin tuna, also increased from 200,000 mt in 1996 to 246,000 mt in 1997.

Catch by Ocean Areas

Between 90 and 99 percent of Japanese catches of skipjack from 1988 through 1997 occurred in the Pacific Ocean, followed by the Indian Ocean and the Atlantic Ocean (Table 6). The total Pacific catch has fluctuated between 268,000 mt and 429,000 mt since 1988. Catches in the Indian Ocean increased from 823 mt in 1989 to 31,000 mt in 1992. The catch then declined abruptly to

10,000 mt in 1994 and has remained at low levels since. The Atlantic catches are small, less than one metric ton annually since 1993.

Between 53 and 75 percent of Japanese catches of bigeye tuna from 1988 through 1997 occurred in the Pacific Ocean, followed by the Indian Ocean (20 to 31 percent) and the Atlantic Ocean (5 to 16 Percent). The catch in the Pacific Ocean declined from 1990 through 1996. In 1997, however, the Pacific catch increased 20 percent from 1996 due to increased catches in the eastern central (FAO fishing area 71), western central(77), and northwest (61) sectors (Table 7 and Fig. 8).

Between 75 and 89 percent of Japanese catches of yellowfin tuna from 1988 through 1997 occurred in the Pacific Ocean, followed by the Indian Ocean (3 to 17 percent) and the Atlantic Ocean (4 to 8 percent). The catch in 1997 increased from 1996 in the Pacific and Indian Oceans, while the catch in the Atlantic Ocean shows a declining trend since 1995 (Table 8).

Between 94 and 96 percent of Japanese albacore catches during 1988 through 1997 occurred in the Pacific Ocean. The Atlantic and Indian Oceans accounted for less than 4 percent each. Much of the recent increase in albacore catches came from the northwest and western central Pacific Ocean in FAO fishing areas 61 and 71, and to a lesser extent, in the Indian Ocean (Table 9 and Fig. 8).

From 1988 through 1997, the major fishing regions for southern bluefin tuna were the Indian Ocean (accounting for between 19 and 77 percent of the catch), the southwest Pacific Ocean (10-30 percent), and the southeast Atlantic Ocean (9-51 percent; Table 10). Catches of southern bluefin rose sharply in the western Indian Ocean (area 51) in 1997, and the increase just offset the decline which occurred in the southeast Atlantic Ocean (area 47). During the same period, the major fishing grounds for northern bluefin tuna were the Pacific Ocean (54-85 percent) and the Atlantic Ocean (15-46 percent; Table 11).

Table 3. Catch and value of Japanese major marine fisheries, 1996-1997.

	1996			1997		
Species	10^3 tons	¥10^9	\$$10^6$	10^3 tons	¥10^9	\$$10^6$
Tuna	577	280	2,596	685	293	2,442
Squid	663	162	1,500	635	151	1,258
Sardine	773	78	725	632	76	633
Salmon	319	64	593	277	73	605
Flatfish	91	71	661	87	70	583
Jack mackerel	388	73	676	373	69	523
Pacific mackerel	760	54	499	849	59	544
Pollock	331	27	252	339	30	253
Other	2,072	654	6,042	2,108	646	5,387
Total	5,974	1,463	13,544	5,985	1,467	12,228

Conversion rate: 108 yen = U.S. \$1 for 1996, 120 yen = U.S. \$1 for 1997

Sources: Ministry of Agriculture, Forestry & Fisheries 1999
Japan Marine Products Importers Association 1997, 1998

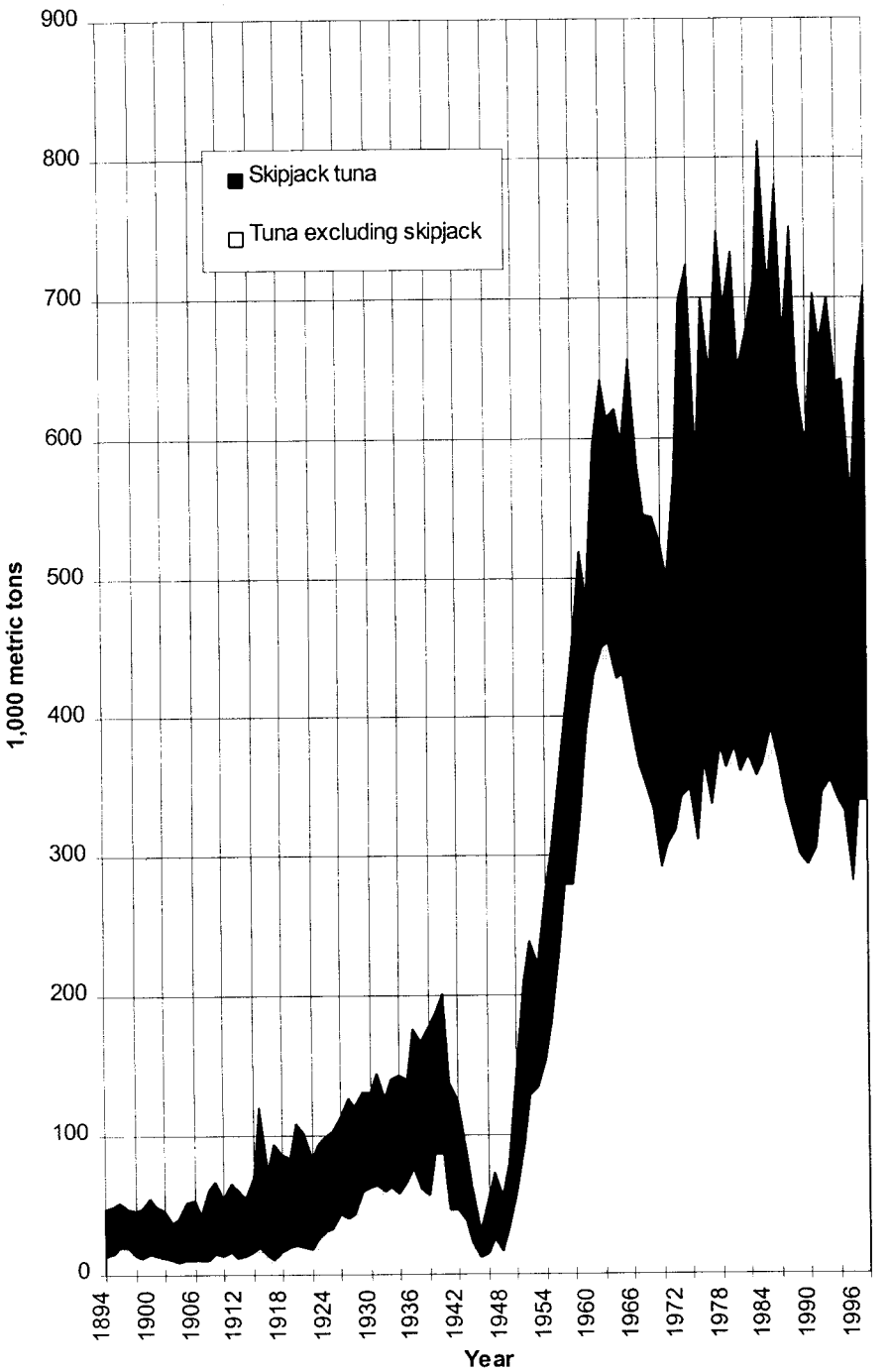

Figure 2. Japanese annual catch of tuna, 1894-1998. (Sources: Suisan Sha 1963; Ministry of Agriculture, Forestry & Fisheries 1895-1999; Suisan Keizai Shinbun Sha 1997, 1998, 1999)

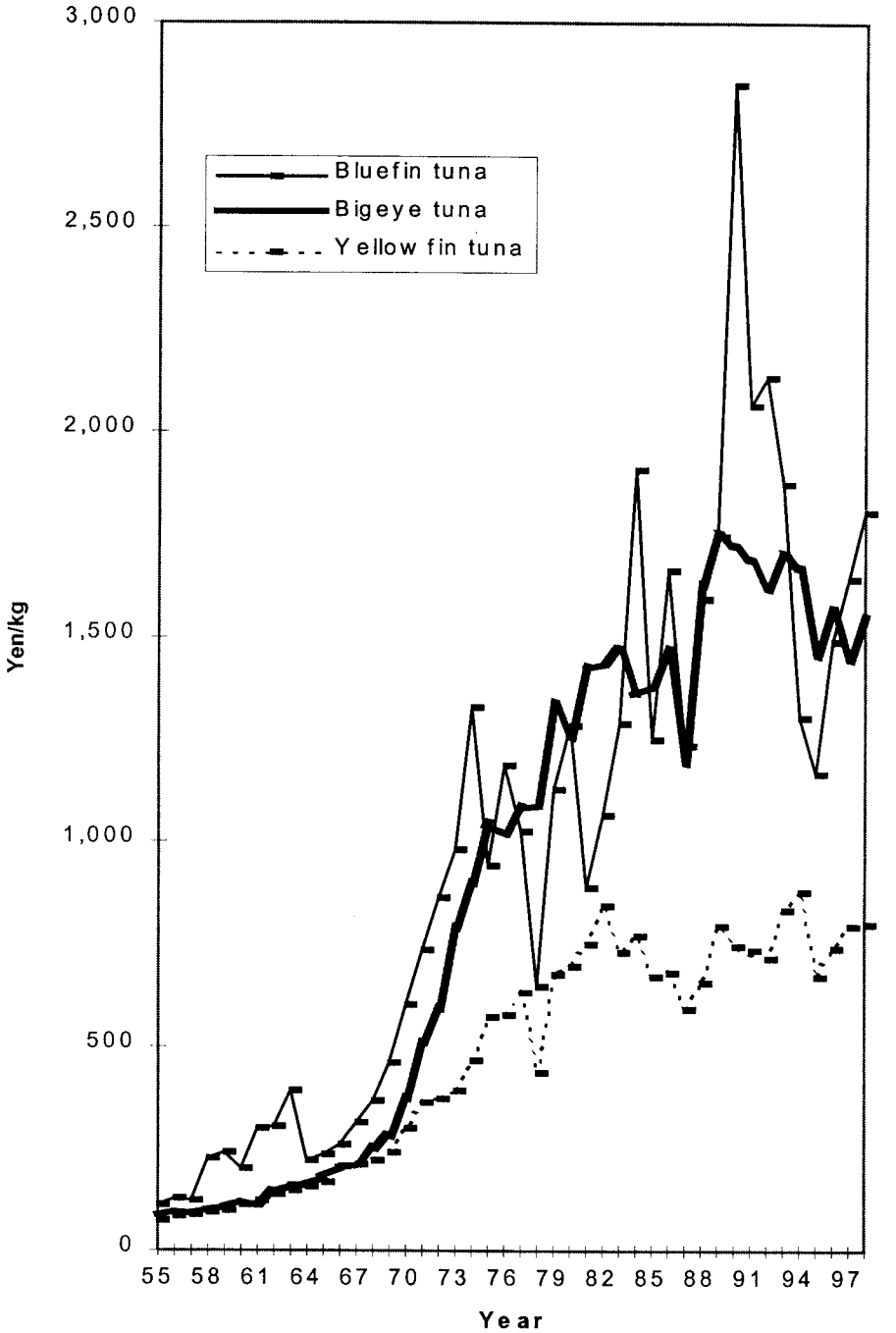

Figure 3. Annual average exvessel prices of fresh bigeye tuna, yellowfin tuna, and bluefin tuna at 51 major landing ports in Japan, 1955-1998. (Sources: Suisan Sha 1963; Ministry of Agriculture, Forestry & Fisheries 1967, 1978, 1988, 1999; Suisan Keizai Shinbun Sha 1997, 1998 , 1999)

Table 4. Japanese tuna catch by major species, 1956-1998 (1,000 metric tons).

Year	Skipjack	Yellowfin	Bigeye	Albacore	Bluefin	Total
1956	98	81	49	66	37	331
1957	97	100	60	78	34	369
1958	147	112	73	63	21	416
1959	167	126	74	68	51	486
1960	79	154	72	89	66	460
1961	144	148	114	88	70	564
1962	170	158	126	105	47	606
1963	113	131	130	116	63	553
1964	167	123	112	116	61	579
1965	136	124	110	127	56	553
1966	229	128	106	106	45	614
1967	182	94	106	98	55	535
1968	169	116	96	70	57	508
1969	182	90	100	78	53	503
1970	203	79	92	64	44	482
1971	172	71	89	88	48	468
1972	223	68	98	92	46	527
1973	322	76	105	95	49	647
1974	347	76	102	97	50	672
1975	259	72	113	69	41	554
1976	331	86	115	107	42	681
1977	309	83	128	54	52	626
1978	370	98	128	88	47	731
1979	330	100	130	67	44	671
1980	354	119	123	70	50	716
1981	289	110	111	64	58	632
1982	303	114	132	70	44	663
1983	353	112	139	52	37	693
1984	446	115	131	64	36	792
1985	315	134	149	58	30	686
1986	414	118	158	51	23	764
1987	331	115	141	47	25	659
1988	434	102	136	45	19	736
1989	338	100	117	45	20	620
1990	301	98	122	43	14	578
1991	397	108	125	38	16	684
1992	323	123	144	49	17	656
1993	345	127	140	60	17	689
1994	300	106	126	74	19	625
1995	309	112	116	64	17	618
1996	275	80	102	61	18	536
1997	314	112	108	84	18	636
1998	370	95	110	76	14	665

Sources: Ministry of Agriculture, Forestry & Fisheries 1967, 1978, 1988, 1999
Suisan Tsushin Sha April 23, 1999

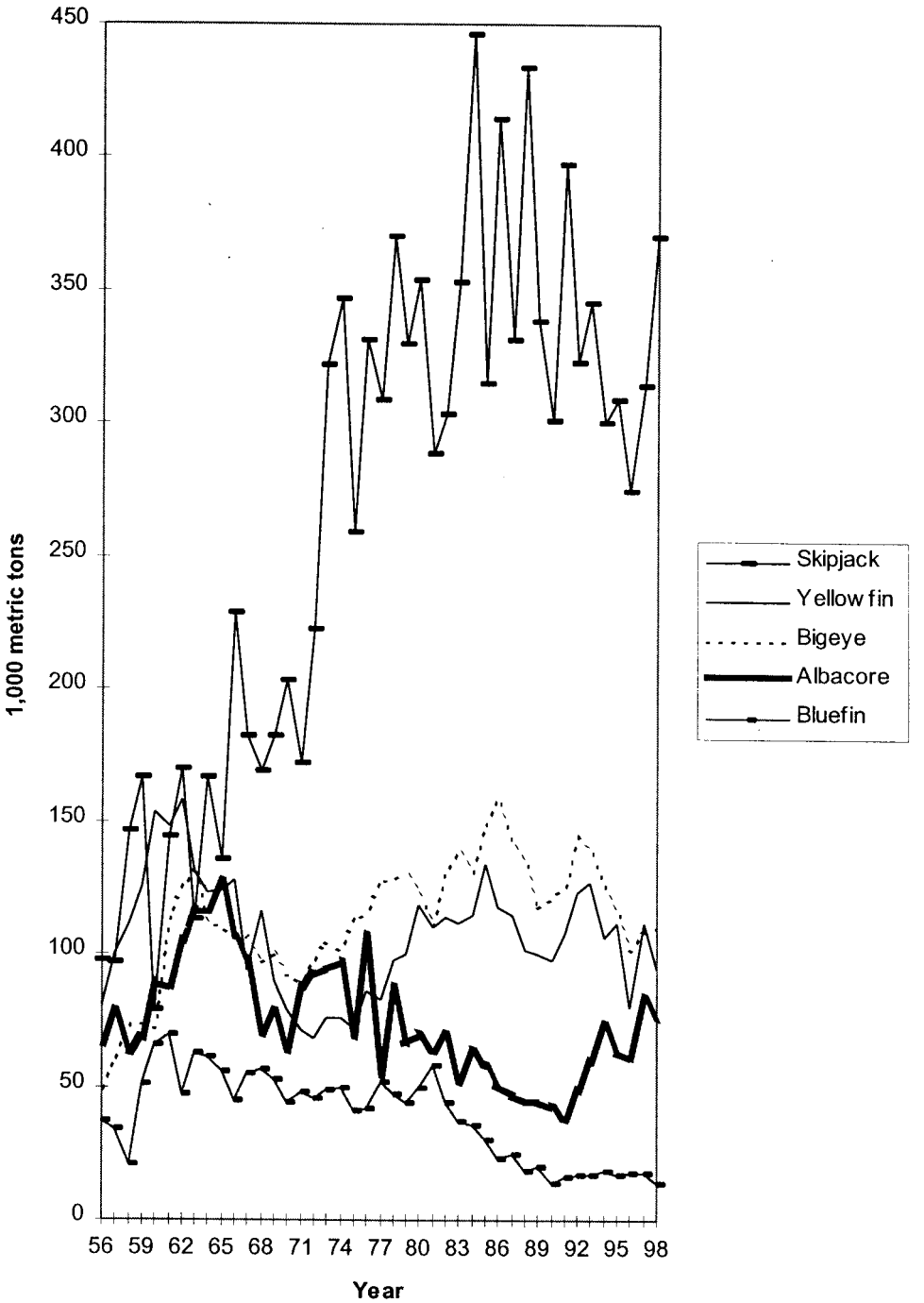

Figure 4. Japanese tuna catch by major species, 1956-1998. (Sources: Ministry of Agriculture, Forestry & Fisheries 1967, 1978, 1988, 1999; Suisan Tsushin Sha April 23, 1999)

Table 5. Japanese tuna* landings by fisheries, 1992-1997 (metric tons).

Type of fishery	1992	1993	1994	1995	1996	1997
Tuna longline						
Distant	165,570	174,069	167,219	164,204	139,668	142,482
Offshore	38,721	38,408	32,547	29,572	25,057	25,414
Coastal	26,216	33,562	31,707	32,466	33,583	39,106
Sub-total	230,507	246,039	231,473	226,242	198,308	207,002
Purse Seine	82,609	82,137	63,304	59,049	40,647	77,857
Skipjack Pole & Line	22,018	20,327	35,248	32,864	31,598	42,553
Other Pole & Line	5,621	4,649	8,233	1,183	1,228	1,229
Line	-**	-	-	8,813	7,380	8,376
Set net	1,294	933	1,265	2,153	1,412	1,027
Drift net	2,732	468	466	457	253	521
Gillnet	6	6	25	68	9	10
Other	1,036	227	408	836	176	326
Total	345,823	354,786	340,422	331,665	281,011	338,901

* - excluding skipjack tuna

-** - included in the catch by other pole and line until 1994

Source: Ministry of Agriculture, Forestry and Fisheries 1997, 1998, 1999

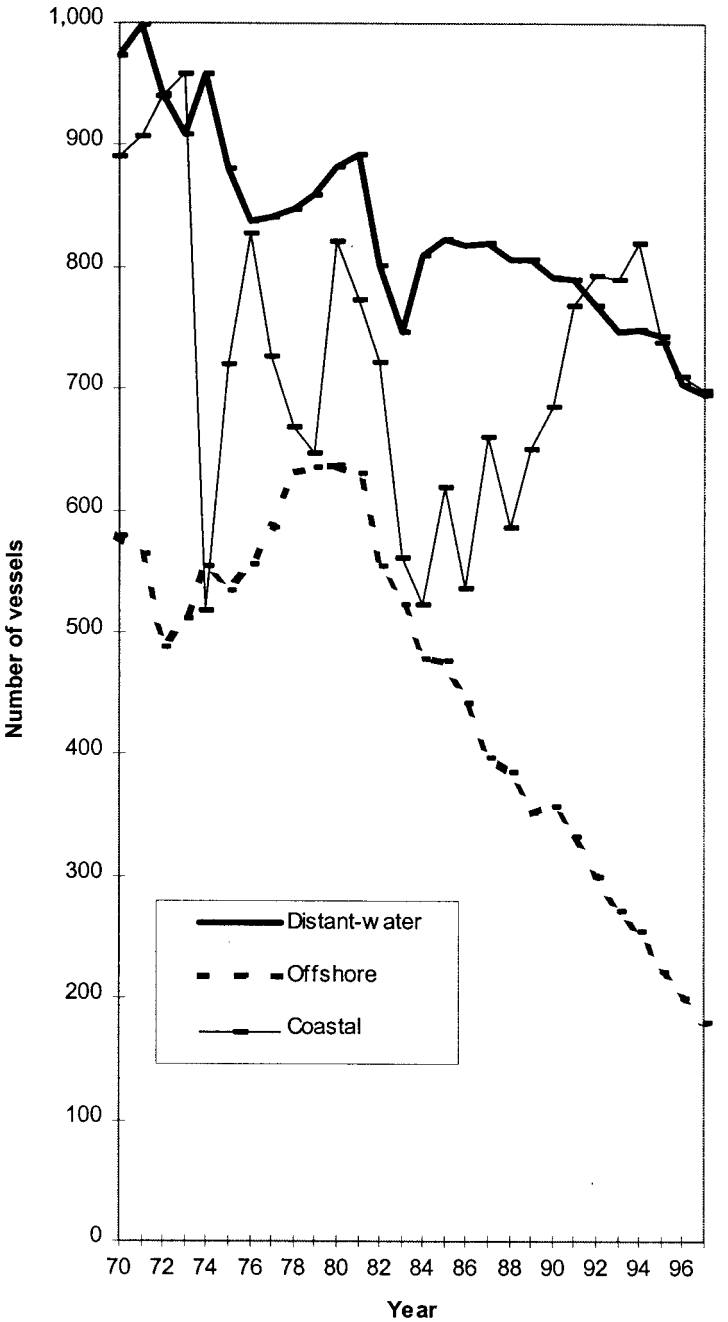

Figure 5. Japanese tuna longliners by number and class, 1970-1997. (Source: Ministry of Agriculture, Forestry & Fisheries 1972-1999)

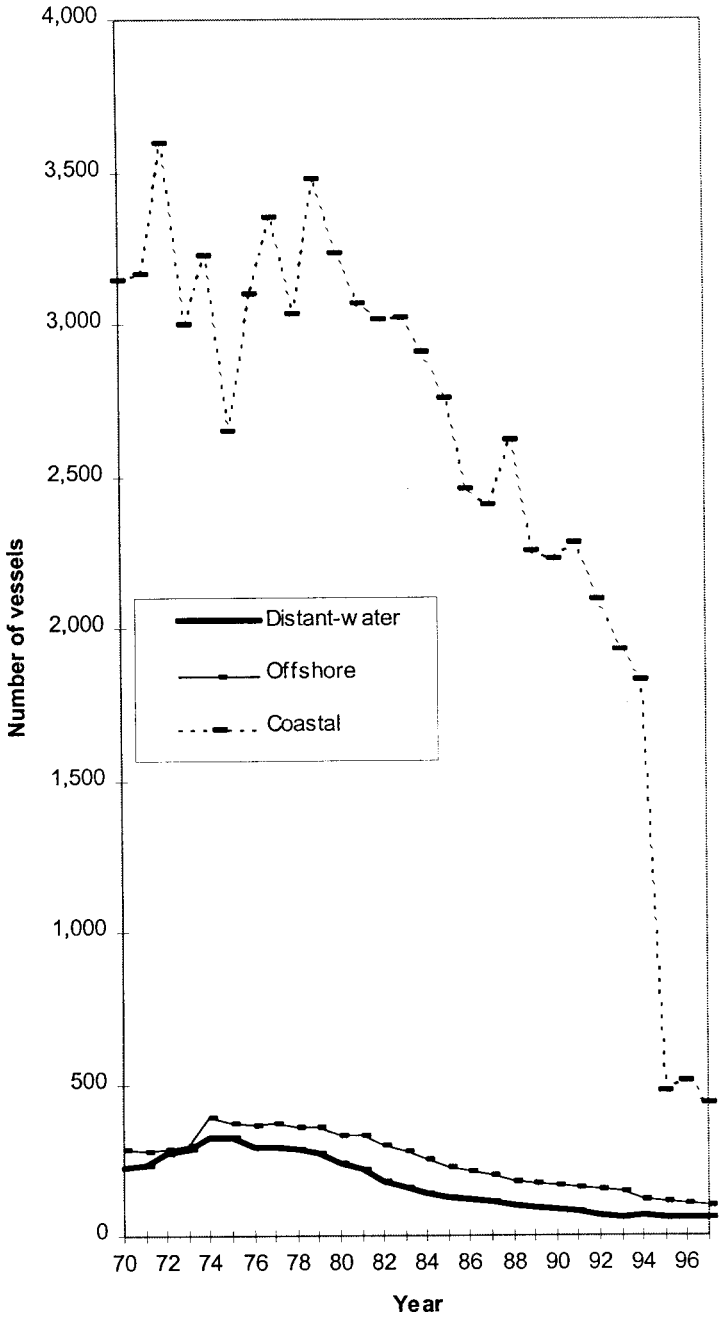

Figure 6. Japanese skipjack pole-and-line vessels by number and class, 1970-1997. (Source: Ministry of Agriculture, Forestry & Fisheries 1972-1999)

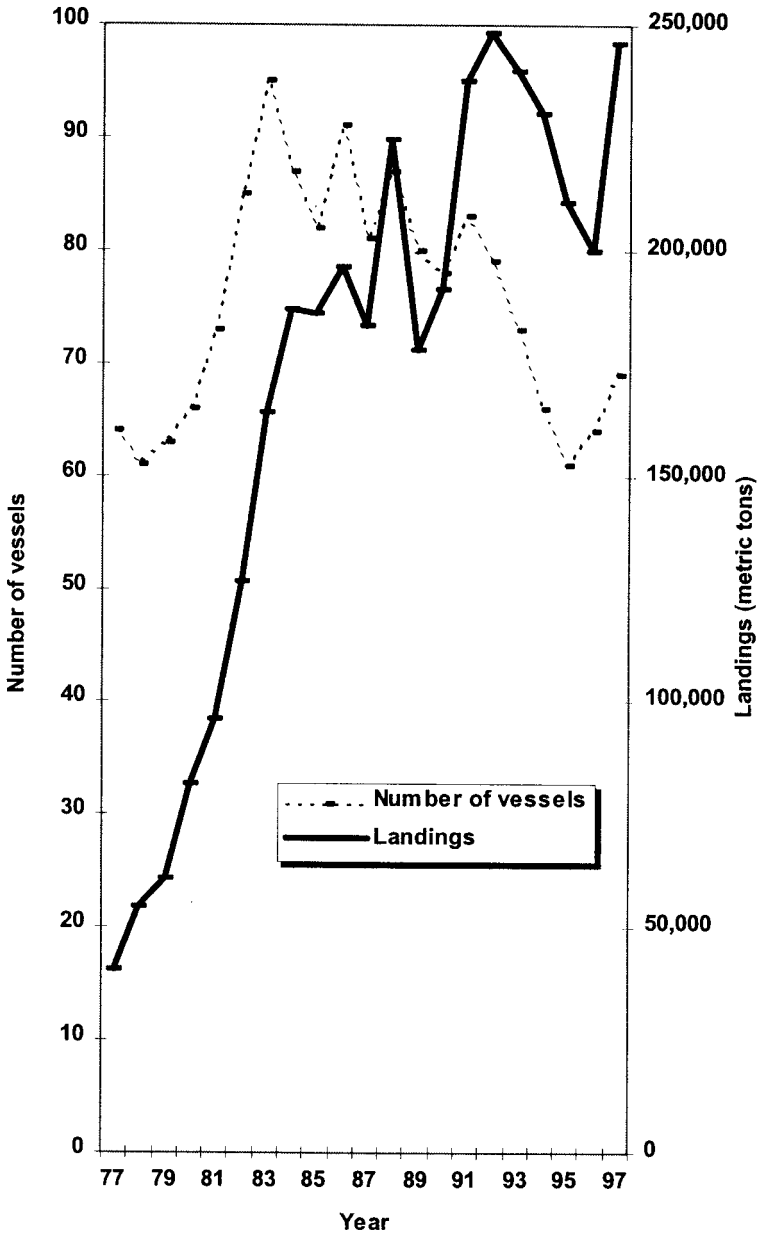

Figure 7. Number of Japanese tuna purse seiners and landings of tuna caught by tuna purse seiners, 1977-1997. (Source: Ministry of Agriculture, Forestry & Fisheries 1979-1999)

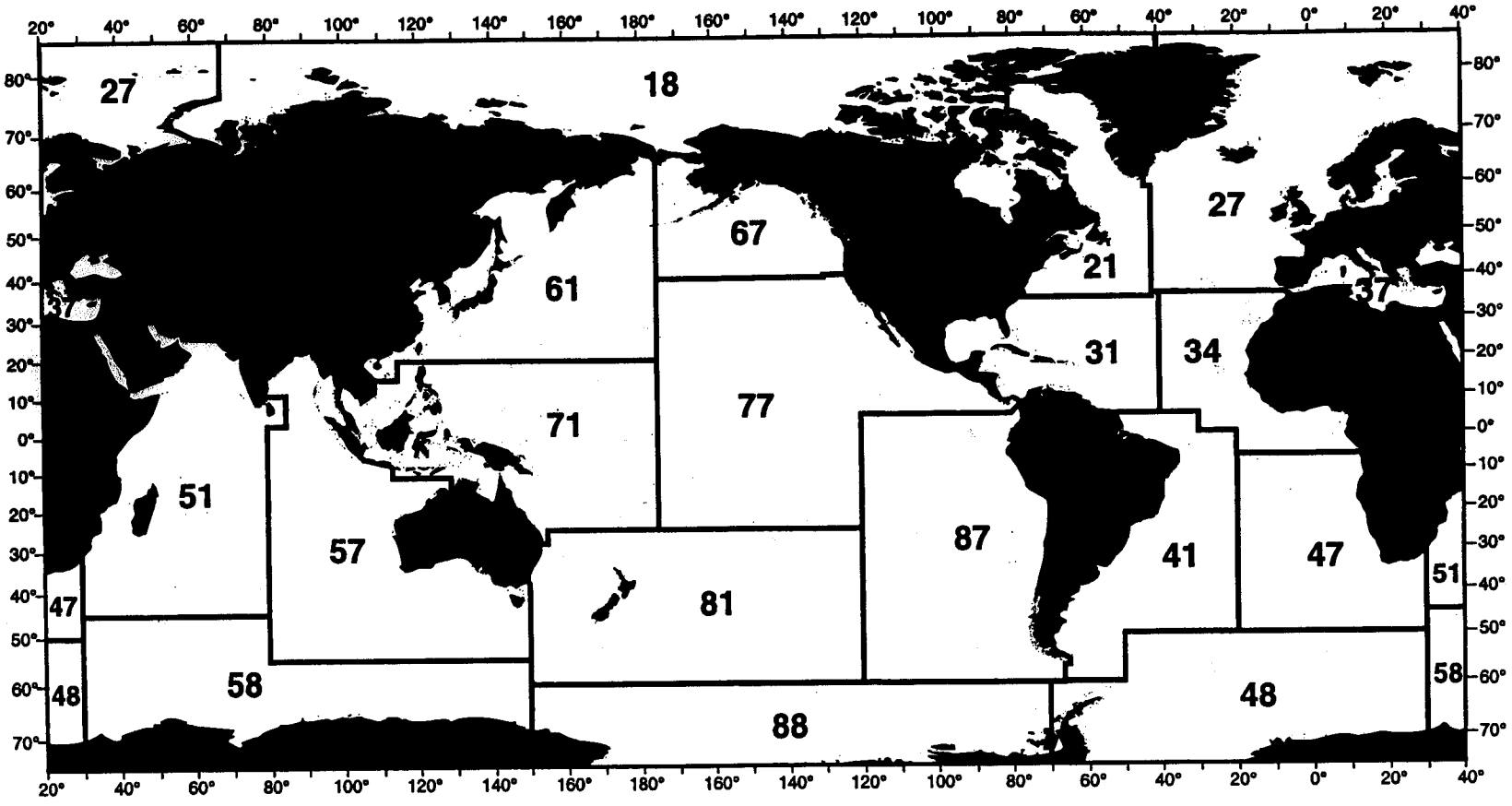

Figure 8. Major FAO statistical fishing areas.
(Source: FAO 1998)

Table 6. Distribution of Japanese skipjack catch by major FAO fishing area, 1988-1997 (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pacific Ocean										
61	158,709	109,646	105,945	150,092	108,100	181,405	123,799	139,695	93,441	189,198
71	254,701	209,594	179,599	222,949	175,538	159,572	164,970	148,664	174,308	129,460
77	12,461	13,868	10,529	12,841	6,460	4,200	2,462	3,834	264	3,670
81	124	1,017	2,112	5,973	13	15	3	762	150	220
87	47	1	15	5	1	26	7	4	23	7
67	3,083	660	287	281	405	-**	-	-	-	-
Sub-total	429,125	334,786	298,487	392,141	290,517	345,218	291,241	292,959	268,185	322,555
Indian Ocean										
51	1,936	798	1,849	6,713	30,886	29,413	10,067	556	395	2,265
57	156	25	2	580	120	28	-	15,432	6,550	4,354
Sub-total	2,092	823	1,851	7,293	31,006	29,441	10,067	15,988	6,945	6,619
Atlantic Ocean										
34	3,174	2,542	2,657	3,860	1,401	-	-	-	-	
Total	434,391	338,151	302,995	403,294	322,924	374,659	301,308	308,947	275,130	329,174

Area* - Numbers refer to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993
Ministry of Agriculture, Forestry and Fisheries 1997, 1999

Table 7. Distribution of Japanese bigeye tuna catch by major FAO fishing area, 1988-1997 (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pacific Ocean										
77	63,886	65,175	70,963	72,528	59,536	57,640	51,112	38,867	28,906	34,582
71	14,551	22,927	31,166	19,622	24,030	18,529	18,061	16,957	15,899	17,104
61	13,575	12,799	9,789	11,292	9,362	12,686	10,841	7,976	7,785	13,532
87	5,924	8,445	17,651	11,714	7,362	5,605	7,176	5,693	4,006	3,063
81	1,186	834	1,658	855	637	586	484	720	943	814
67	68	56	-**	-	1	-	-	-	-	-
Sub-total	99,190	110,236	131,227	116,011	100,928	95,046	87,674	70,213	57,539	69,095
Atlantic Ocean										
47	13,013	12,184	14,288	12,489	11,838	20,293	20,767	19,892	14,213	13,947
34	12,618	11,965	11,838	7,614	10,344	15,693	13,866	17,457	16,507	11,093
41	4,257	4,556	6,261	6,988	6,006	4,266	4,190	1,981	1,834	1,821
31	546	1,708	1,165	704	313	423	407	537	565	830
21	1,610	853	1,904	1,914	2,143	961	856	148	211	611
27	206	225	238	825	511	149	108	347	451	442
37	-	-	-	-	-	-	-	-	-	1
Sub-total	32,250	31,491	35,694	30,534	31,155	41,785	40,194	40,362	33,781	28,745
Indian Ocean										
51	9,181	5,415	5,416	4,713	4,275	5,820	9,464	7,234	7,128	9,715
57	3,251	1,629	2,689	3,077	1,351	4,126	7,022	13,263	10,232	8,093
Sub-total	12,432	7,044	8,105	7,790	5,626	9,946	16,486	20,497	17,360	17,808
Total	143,872	148,771	175,026	154,335	137,709	146,777	144,354	131,072	108,680	115,648

Area* - Number refers to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993
Ministry of Agriculture, Forestry and Fisheries 1997, 1999

Table 8. Distribution of Japanese yellowfin tuna catch by major FAO fishing area, 1988-1997 (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pacific Ocean										
71	53,669	62,818	53,593	62,195	69,305	76,876	63,999	62,530	38,083	63,860
61	20,180	16,085	14,272	15,628	16,324	25,151	13,132	14,965	12,701	15,571
77	13,213	15,607	23,523	20,296	10,696	15,771	19,035	14,250	8,412	14,874
81	2,337	1,377	1,848	1,322	1,296	1,200	1,615	3,158	2,816	2,284
87	3,466	3,613	7,033	2,741	2,964	3,752	5,077	3,300	2,766	1,937
67	40	12	-**	-	3	-	-	-	-	-
Sub-total	92,905	99,512	100,629	102,182	100,588	122,750	102,858	98,203	64,778	98,526
Indian Ocean										
51	6,413	2,506	3,660	5,446	13,804	14,631	9,272	5,809	9,197	13,161
57	2,487	1,234	2,118	1,239	537	399	743	5,884	5,576	3,407
Sub-total	8,900	3,740	5,778	6,705	14,341	15,030	10,015	11,693	14,773	16,568
Atlantic Ocean										
47	1,877	1,878	2,322	1,828	2,141	2,976	3,643	4,819	3,008	2,407
34	4,684	4,476	4,216	1,941	1,761	1,934	2,293	3,175	3,320	1,901
31	417	970	783	415	205	196	141	198	559	466
41	1,633	1,697	1,048	1,271	543	451	401	250	260	257
21	650	301	403	852	694	68	277	82	15	68
27	42	18	27	63	24	4	5	39	21	2
Sub-total	9,303	9,312	8,799	6,370	5,368	5,629	6,760	8,563	7,183	5,101
Total	111,108	112,592	115,206	115,257	120,297	143,409	119,633	118,459	86,734	120,195

Area* - Numbers refer to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993
Ministry of Agriculture, Forestry and Fisheries 1997, 1999

Table 9. Distribution of Japanese albacore tuna catch by major FAO fishing area, 1988-1997, (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pacific Ocean										
61	22,954	25,171	25,188	21,381	27,254	33,011	40,098	32,825	46,140	55,597
71	4,824	6,609	7,021	4,386	8,218	12,173	19,144	16,522	5,343	16,981
77	9,201	5,506	5,274	7,621	5,887	6,450	4,839	4,716	4,064	5,356
81	3,128	6,059	4,974	2,252	2,216	2,759	2,169	2,927	2,476	3,044
87	588	308	646	864	584	1,250	1,695	1,082	552	463
67	1,963	1,802	515	561	394	- **	-	-	-	-
Sub-total	42,658	45,455	43,618	37,065	44,553	55,643	67,943	58,072	58,575	81,441
Indian Ocean										
51	682	381	291	489	884	444	840	728	1,098	1,695
57	489	623	658	437	224	509	647	1,260	1,167	1,079
Sub-total	1,171	1,004	948	926	1,108	953	1,487	1,988	2,265	2,774
Atlantic Ocean										
47	407	485	488	394	1,083	645	729	730	670	737
21	632	218	438	519	412	337	365	87	185	140
34	38	88	59	47	47	93	58	69	146	127
41	272	428	283	405	192	119	223	45	40	65
27	40	82	55	116	53	60	70	24	68	46
31	25	202	215	133	43	8	14	7	38	19
Sub-total	1,414	1,503	1,538	1,614	1,830	1,262	1,460	962	1,147	1,134
Total	45,243	47,962	46,105	39,605	47,491	57,858	70,899	61,022	61,987	85,349

Area* - Number refers to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993
Ministry of Agriculture, Forestry and Fisheries 1997, 1999

Table 10. Distribution of Japanese southern bluefin tuna catch by major FAO fishing area, 1988-1997 (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Indian Ocean										
51	3,244	2,634	488	330	1,061	543	715	233	289	2,320
57	5,011	6,280	4,850	2,195	1,516	843	1,806	2,269	2,689	2,279
Sub-total	8,255	8,914	5,338	2,525	2,577	1,386	2,521	2,502	2,978	4,599
Pacific Ocean										
81	1,120	1,924	2,516	2,041	1,787	2,157	1,307	787	824	888
77	-**	-	-	-	1	2	3	3	4	1
71	-	1	-	-	-	-	-	-	-	-
87	3	1	-	-	-	-	1	-	-	-
Sub-total	1,123	1,926	2,516	2,041	1,788	2,159	1,311	790	828	889
Atlantic Ocean										
47	2,342	2,630	2,248	2,803	2,480	3,757	1,642	2,344	2,574	517
41	2	1	8	3	2	-	1	-	-	-
Sub-total	2,344	2,631	2,256	2,806	2,482	3,757	1,643	2,344	2,574	517
Total	11,722	13,471	10,110	7,372	6,847	7,296	5,475	5,636	6,380	6,005

Area* - Numbers refer to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993, 1998-a
Ministry of Agriculture, Forestry and Fisheries 1999

Table 11. Distribution of Japanese northern bluefin tuna catch by major FAO fishing area, 1988-1997 (metric tons).

Area*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pacific Ocean										
61	4,996	5,188	3,602	4,367	4,588	4,390	7,624	5,829	6,722	6,599
81	27	45	26	19	12	4	15	5	4	12
71	3	1,909	184	30	341	494	4	345	232	3
77	10	20	7	19	27	16	11	12	11	3
Sub-total	5,036	7,162	3,819	4,435	4,968	4,904	7,654	6,192	6,972	6,619
Atlantic Ocean										
27	606	459	890	1,808	2,194	1,084	1,212	3,190	3,186	3,251
34	555	302	389	412	367	264	486	590	589	852
21	1,270	338	855	1,106	1,156	1,170	752	657	656	813
37	236	108	203	92	186	607	521	734	733	213
31	25	17	9	54	36	2	-	-	40	70
47	-**	-	2	1	-	14	-	-	-	-
Sub-total	2,692	1,224	2,348	3,473	3,939	3,141	2,971	5,171	5,204	5,136
Indian Ocean										
57	-	2	3	4	-	-	-	-	2	2
Total	7,728	8,388	6,170	7,912	8,907	8,045	10,625	11,363	12,178	11,757

Area* - Numbers refer to FAO fishing areas (see Figure 8)
-** - Less than 0.5 metric tons

Sources: FAO 1993, 1998-a
Ministry of Agriculture, Forestry and Fisheries 1999

WORLD TUNA IMPORTS

Tuna is an important commodity in the international market, as shown by imports by major countries listed in Table 12. The global total in 1996 was 2 million mt valued at $5.5 billion. Frozen products represented 62 percent in volume and 47 percent in value of imports. Prepared products accounted for 30 percent in volume and 34 percent in value, followed by fresh products with 8 percent in volume and 19 percent in value.

In 1996, Japan led the world in total tuna imports both in volume (20 percent of the world total) and value (39 percent).

In 1996, Thailand led in volume of imports of frozen tuna while Japan led in value. Thailand's share was 25 percent in volume and 14 percent in value, while Japan imported 22 percent in volume and 51 percent in value. The difference in value reflects Japan's imports of higher-valued fish for raw consumption. Thailand's imports consisted largely of less expensive tuna used in canned products.

France led the world in imports of prepared products (mostly canned tuna) both in volume (15 percent) and value (18 percent). Other major importers of prepared products were the United Kingdom (14 percent in volume and 13 percent in value) and the United States (14 percent in volume and 12 percent in value).

Japan led in imports of fresh products both in volume and value. Whereas Japan's import volume of fresh products was 56 percent of the world total, the value represented 71 percent due to imports of high-valued bluefin tuna, air-shipped from various parts of the world.

Table 12. World tuna imports by major country, 1996.

Country	Volume (metric tons)				Value (U.S. $1,000)			
	Fresh	Frozen	Prepared	Total	Fresh	Frozen	Prepared	Total
Japan	89,795	280,323	32,966	403,084	739,471	1,289,511	119,117	2,148,099
Thailand	2,360	316,805	46	319,211	2,274	349,293	132	351,699
U.S.A.	23,489	130,014	87,937	241,440	151,903	238,371	227,929	618,203
Spain	9,946	113,685	15,671	139,302	36,498	138,794	49,528	224,820
France	6,996	13,053	92,689	112,738	25,116	20,904	344,791	390,811
Italy	4,938	60,195	47,050	112,183	33,523	108,525	203,268	345,316
U.K.	16	0	88,131	88,147	101	0	248,179	248,280
Cote dlvoire	0	59,508	17	59,525	0	61,193	57	61,250
Germany	118	0	54,418	54,536	391	0	139,658	140,049
Singapore	1,066	43,641	0	44,707	6,488	93,907	0	100,395
Philippines	0	35,828	137	35,965	0	24,728	222	24,950
Canada	800	0	25,573	26,373	1,750	0	74,220	75,970
Portugal	18	19,094	2,207	21,319	22	23,231	8,170	31,423
Mauritius	0	20,809	10	20,819	0	21,222	20	21,242
Seychelles, Rep.	0	19,390	0	19,390	0	17,398	0	17,398
Costa Rica	1	19,267	51	19,319	9	21,552	121	21,682
Netherlands	177	403	15,484	16,064	472	1,692	39,846	42,010
Colombia	0	2,007	11,556	13,563	0	1,875	15,322	19,072
Australia	173	962	11,795	12,930	575	1,172	34,277	36,024
Belgium	0	0	12,540	12,540	0	0	40,289	40,289
Madagascar	0	12,378	0	12,378	0	11,509	0	11,509
Total*	160,858	1,253,641	610,970	2,025,469	1,035,562	2,544,258	1,871,759	5,451,579

Total* - also includes other countries not listed

Source: FAO 1998-b

JAPANESE IMPORTS

Japan's tuna import regulations were first liberalized in 1961 (Suisan Sha 1968). Tuna imports to Japan have since steadily increased and the trend has been accentuated in recent years (Fig. 9). From 1981 to 1998, imports of tuna into Japan increased more than three times in volume and six times in value. The number of countries supplying tuna to Japan also increased from 26 in 1981 to 79 in 1998 (Japan Marine Products Importers Association 1982 and 1999). Factors which influenced the recent rise in tuna imports to Japan are: decreasing catches by Japan's fishing fleet, increased demand for gourmet food, and appreciation of the Japanese yen relative to the U.S. dollar (Appendix 1).

In 1998, Japan's imports of fresh, frozen and prepared tuna were 379,000 mt valued at about $1.7 billion (Tables 13 and 14). Frozen products dominated, representing as much as 73 percent in volume and 59 percent in value. Fresh tuna accounted for 18 percent in volume and 34 percent in value. Imports of canned, dried, and other prepared products were minor, with a combined share of about 8 percent in volume and 7 percent in value.

Imports by Species

Bigeye and yellowfin dominate tuna imported into Japan (Tables 15 and 16). A sharp increase in imports of bigeye into Japan has been particularly pronounced since 1985 (Fig. 10). Imports of bigeye nearly tripled during this time, reaching a record level in 1998. Japanese imports of fresh bigeye tuna came mostly from Indonesia, with lesser quantities imported from Malaysia, Guam, Taiwan, and Philippines (Table 17). In 1992 Indonesia replaced Taiwan as the leading supplier of fresh bigeye tuna to Japan. Total Japanese imports of this commodity has remained fairly stable since 1994, ranging between 23,000 and 25,000 mt. The Republic of Korea and Taiwan continued to dominate the supplies of frozen bigeye tuna (Table 18). Significant quantities are also shipped from Honduras, Belize, and the Republic of Equatorial Guinea.

Imports of yellowfin tuna increased sharply from 1986 to a high in 1993, but have since shown a downward trend (Fig. 11). Imports recovered somewhat in 1998, increasing 5 percent from 1997, but this was still 34 percent less than the record year of 1993. Indonesia replaced Taiwan as the leading supplier of fresh

yellowfin tuna to Japan in 1991 (Table 19). Supplies of fresh yellowfin tuna from Taiwan to Japan have declined since 1996, while shipments of this products from Indonesia, Philippines, Vietnam, and Australia have increased sharply. Taiwan has become the leading supplier of frozen yellowfin tuna to Japan in recent years, passing the Republic of Korea which had been the leader (Table 20). Imports of frozen yellowfin tuna into Japan from Taiwan and Indonesia rose sharply in 1998.

Imports of bluefin tuna have more than doubled since 1993 (Table 15 and Fig. 12). In 1998, bluefin tuna imports reached a record of 22,000 mt. In 1998, the catch of bluefin tuna by the Japanese fishing fleet was the lowest since 1956 (Table 4). The United States had been the major supplier of fresh bluefin tuna to Japan until 1992, except 1986, with annual shipments of about 800 to 900 mt for the past several years (Table 21). Australia has been the major exporter of fresh bluefin since 1993. The so-called "jumbo bluefin tuna" caught off New England is the most prized of all tuna products in Japan. Fresh bluefin tuna caught off Los Angeles made a debut in Japan in 1988, and was considered to be as good in quality as bluefin caught in Japanese domestic waters. Japanese imports of frozen bluefin tuna have steadily increased since 1993 (Table 22). Major suppliers in 1998 were Australia, Spain, the Republic of Korea, and Taiwan.

Imports of fresh and frozen skipjack rose from 3,000 mt in 1989 to 55,000 mt in 1998 (Table 15 and Fig. 13), while Japanese catches decreased from 434,000 mt to 370,000 mt. Indonesia has been the leading supplier of frozen skipjack tuna to the Japanese market since 1987 (Table 23). The Republic of Korea has remained as the primary supplier of fresh skipjack tuna to the Japanese market since 1976 (Japan Marine Products Importers Association 1977-1999).

Imports of albacore were minor, with a share of less than one percent both in volume and value of total tuna imports in 1998 (Tables 13 and 14). A record high of 13,000 mt was imported into 1977 (Fig. 14). From 1976 through 1998, imports of albacore fluctuated widely between 730 mt and 13,361 mt, while the Japanese catch remained generally at a low level (Table 4). The Republic of Korea continues to provide most of the supply of frozen albacore tuna, whereas Fiji has remained the major source for air-shipped fresh albacore since 1991 (Japan Marine Products Importers Association 1992-1999).

Tariffs

Japan regulates imports of fishery products with import quotas (IQ) and tariffs. Over the years, Japan has relaxed its IQ and reduced trade barriers through multilateral and bilateral trade negotiations. Tariffs have been progressively reduced in GATT multilateral trade negotiation rounds. Due to these developments as well as other factors, Japan is now the world's largest importer of fishery products, with 1998 imports of $13 billion (FAO 1998 and Japan Marine Products Importers Association 1999).

Imports of tuna into Japan are subject to tariffs, but not IQ. As Japan and the United States are signatories to the World Trade Organization (WTO), those tariffs apply to U.S. exports of tuna products: 3.5 percent for fresh and frozen tuna, and 9.6 percent for prepared or preserved products, including those in airtight containers. Tariff rates are calculated as percentage of cost, insurance, and freight (CIF) value. Major Japanese importers of tuna products are listed in Appendix 2.

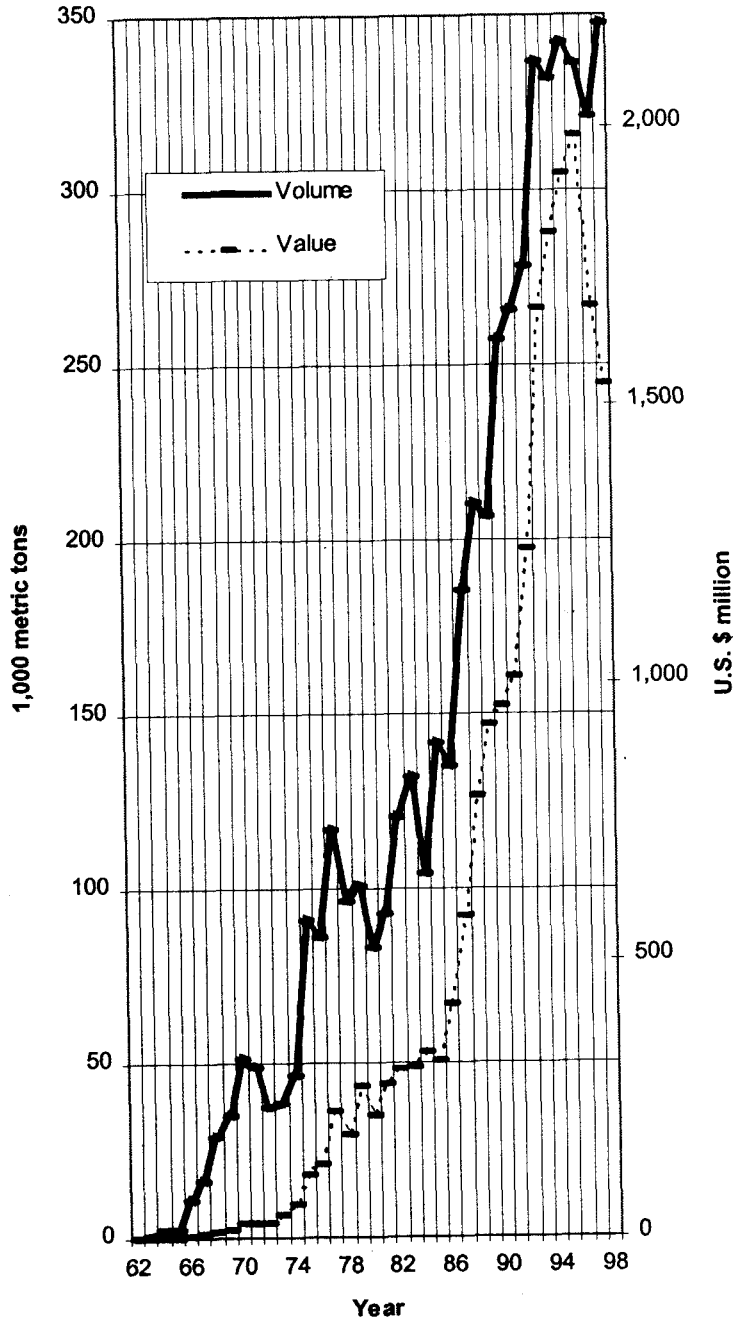

Figure 9. Japanese imports of fresh and frozen tuna, 1962-1998. (Sources: Suisan Sha 1969, 1971, 1972; Japan Marine Products Importers Association 1973-1999)

Table 13. Japanese imports of tuna by volume and product form, 1994-1998 (metric tons).

Product form	1994	1995	1996	1997	1998
Fresh, round:					
Albacore	390	384	265	266	331
Yellowfin	37,046	39,296	35,819	32,667	33,787
Skipjack	77	50	75	66	95
Bluefin	4,540	5,814	4,379	5,677	5,372
Bigeye	24,423	23,240	25,460	23,234	24,500
Southern bluefin	2,804	3,572	3,561	6,008	4,960
Other tuna	7	4	10	6	11
Fresh, fillets:					
Bluefin	259	236	75	46	82
Southern bluefin	0	27	18	4	9
Fresh, meat:					
Bluefin	19	13	12	7	41
Southern bluefin	0	0	0	1	1
Total, fresh	69,565	72,636	69,674	67,982	69,189
Frozen, round:					
Albacore	1,934	1,921	2,676	1,334	1,622
Yellowfin	106,688	93,056	99,840	77,309	81,640
Skipjack	52,306	58,211	51,048	62,606	55,356
Bluefin	1,897	2,818	2,210	2,869	3,394
Bigeye	90,804	103,425	98,378	97,233	124,170
Southern bluefin	1,194	1,601	2,243	2,037	5,149
Other tuna	9	3	25	0	4
Frozen, fillets:					
Bluefin	2,778	3,628	4,357	4,986	2,547
Southern bluefin	0	10	36	10	85
Other tuna	4,249	5,021	5,526	4,748	4,165
Frozen, meat:					
Bluefin	447	139	31	86	141
Total, frozen	262,306	269,833	266,370	253,218	278,273
Canned:					
Skipjack	62	972	316	1,580	1,682
Other tuna	17,428	21,887	18,790	20,975	18,203
Total, canned	17,490	22,859	19,106	22,550	19,885
Dried:					
Skipjack	1,658	2,293	2,295	2,494	3,292
Other prepared:	9,533	11,925	11,565	11,147	8,149
Grand total	360,552	379,546	369,010	357,391	378,788

Source: Japan Marine Products Importers Association 1995-1999

Table 14. Japanese imports of tuna by value and product form, 1994-1998 (U.S. $1,000).

Product form	1994	1995	1996	1997	1998
Fresh, round:					
Albacore	2,195	2,068	1,429	1,175	1,371
Yellowfin	305,629	322,993	267,052	232,770	210,636
Skipjack	96	133	370	235	154
Bluefin	102,304	130,297	103,498	102,749	105,181
Bigeye	228,007	212,514	203,329	178,378	167,202
Southern bluefin	43,004	59,346	53,681	82,568	68,795
Other tuna	37	38	62	47	38
Fresh, fillets:					
Bluefin	5,914	6,954	1,864	1,004	1,850
Southern bluefin	0	232	218	54	123
Fresh, meat:					
Bluefin	581	367	300	165	1,019
Southern bluefin	0	0	0	6	5
Total, fresh	687,767	734,942	631,803	599,151	556,374
Frozen, round:					
Albacore	3,851	3,600	5,297	2,655	2,396
Yellowfin	315,704	289,337	352,818	229,851	205,608
Skipjack	56,785	63,217	53,850	71,871	57,547
Bluefin	35,467	47,973	37,877	33,947	29,461
Bigeye	589,803	631,209	717,656	572,505	554,462
Southern bluefin	13,111	16,325	30,356	26,658	64,020
Other tuna	9	13	67	0	14
Frozen, fillets:					
Bluefin	62,567	78,710	90,974	94,774	35,594
Southern bluefin	0	22	1,172	26	199
Other tuna	34,871	47,678	61,842	42,314	28,451
Frozen, meat:					
Bluefin	9,948	2,605	757	2,480	2,424
Total, frozen	1,122,116	1,180,689	1,352,666	1,077,081	980,176
Canned:					
Skipjack	172	4,274	1,502	6,844	7,448
Other tuna	53,100	73,649	64,054	75,727	64,444
Total, canned	53,272	77,923	65,556	82,571	71,892
Dried:					
Skipjack	9,267	13,903	11,498	13,323	16,398
Other prepared:	31,493	42,262	42,237	43,849	31,472
Grand total	1,903,915	2,049,719	2,103,760	1,815,975	1,656,312

Source: Japan Marine Products Importers Association 1995-1999

Table 15. Japanese imports of fresh and frozen tuna by volume, 1976-1998 (metric tons).

Year	Yellowfin	Bigeye	Skipjack	Albacore	Bluefin	Other tuna *	Total
1976	31,164	43,776	8,864	1,639	709	127	86,279
1977	43,525	46,893	11,803	13,361	1,209	5	116,796
1978	39,274	47,015	6,322	2,035	1,410	86	96,142
1979	43,428	44,261	8,873	2,646	1,366	12	100,586
1980	35,511	40,329	5,297	730	1,042	0	82,909
1981	39,666	43,875	6,364	1,910	1,162	12	92,989
1982	48,192	46,397	21,720	2,997	1,049	0	120,355
1983	57,742	52,932	9,810	7,638	3,855	100	132,077
1984	48,770	46,651	799	3,575	4,226	36	104,057
1985	75,396	52,159	6,144	2,583	4,838	156	141,276
1986	66,781	57,778	2,879	2,433	5,246	42	135,159
1987	98,106	74,672	3,854	2,992	5,101	746	185,471
1988	120,099	77,413	3,420	3,135	5,838	38	209,943
1989	110,201	83,313	3,218	2,867	6,845	69	206,586
1990	134,360	88,715	25,633	1,808	6,956	49	257,521
1991	114,964	109,925	29,662	4,375	6,761	13	265,700
1992	133,687	98,571	29,271	9,397	5,013	2,506	278,445
1993	175,935	92,373	54,187	2,438	9,462	2,583	336,978
1994	143,734	115,227	52,383	2,324	13,938	4,264	331,871
1995	132,352	126,665	58,261	2,305	17,858	5,028	342,469
1996	135,659	123,838	51,123	2,941	17,113	5,370	336,044
1997	109,976	120,467	62,672	1,600	21,731	4,757	321,200
1998	115,427	148,670	55,451	1,953	21,781	4,180	347,462

*Other tuna - identification not recorded

Source: Japan Marine Products Importers Association 1977-1999

Table 16. Japanese imports of fresh and frozen tuna by value, 1976-1998 (U.S. $1,000).

Year	Yellowfin	Bigeye	Skipjack	Albacore	Bluefin	Other tuna*	Total
1976	53,406	68,906	4,496	2,213	3,485	93	132,599
1977	95,624	94,838	7,920	22,304	6,421	7	227,114
1978	88,338	81,823	4,327	3,156	7,932	136	185,712
1979	129,846	121,122	6,306	4,302	10,278	19	271,873
1980	106,912	98,300	4,818	1,169	8,008	0	219,207
1981	128,101	129,716	6,063	4,367	8,210	9	276,466
1982	136,831	135,339	16,631	5,762	6,826	0	301,389
1983	139,260	127,674	6,861	12,382	18,901	87	305,165
1984	137,558	159,172	439	5,271	29,517	44	332,001
1985	150,956	133,169	4,438	3,523	26,252	120	318,458
1986	180,106	188,150	2,260	3,338	44,874	182	418,910
1987	248,365	271,438	3,335	4,044	47,845	4,527	579,554
1988	341,997	359,895	3,577	5,594	86,296	199	795,558
1989	349,143	472,558	2,740	5,787	92,158	140	922,526
1990	395,419	436,199	23,853	3,345	97,948	188	956,952
1991	369,127	500,515	29,285	6,339	104,817	97	1,010,180
1992	516,790	564,493	26,306	16,218	95,287	21,888	1,240,982
1993	731,351	669,897	51,297	6,243	192,366	22,295	1,673,449
1994	621,333	817,810	56,881	6,046	272,896	34,917	1,809,883
1995	612,330	843,723	63,350	5,668	342,831	47,729	1,915,631
1996	619,870	920,985	54,220	6,726	320,697	61,971	1,984,469
1997	462,621	750,883	72,106	3,830	344,431	42,361	1,676,232
1998	416,244	721,664	57,701	3,767	308,671	28,503	1,536,550

*Other tuna - identification not recorded

Source: Japan Marine Products Importers Association 1977-1999

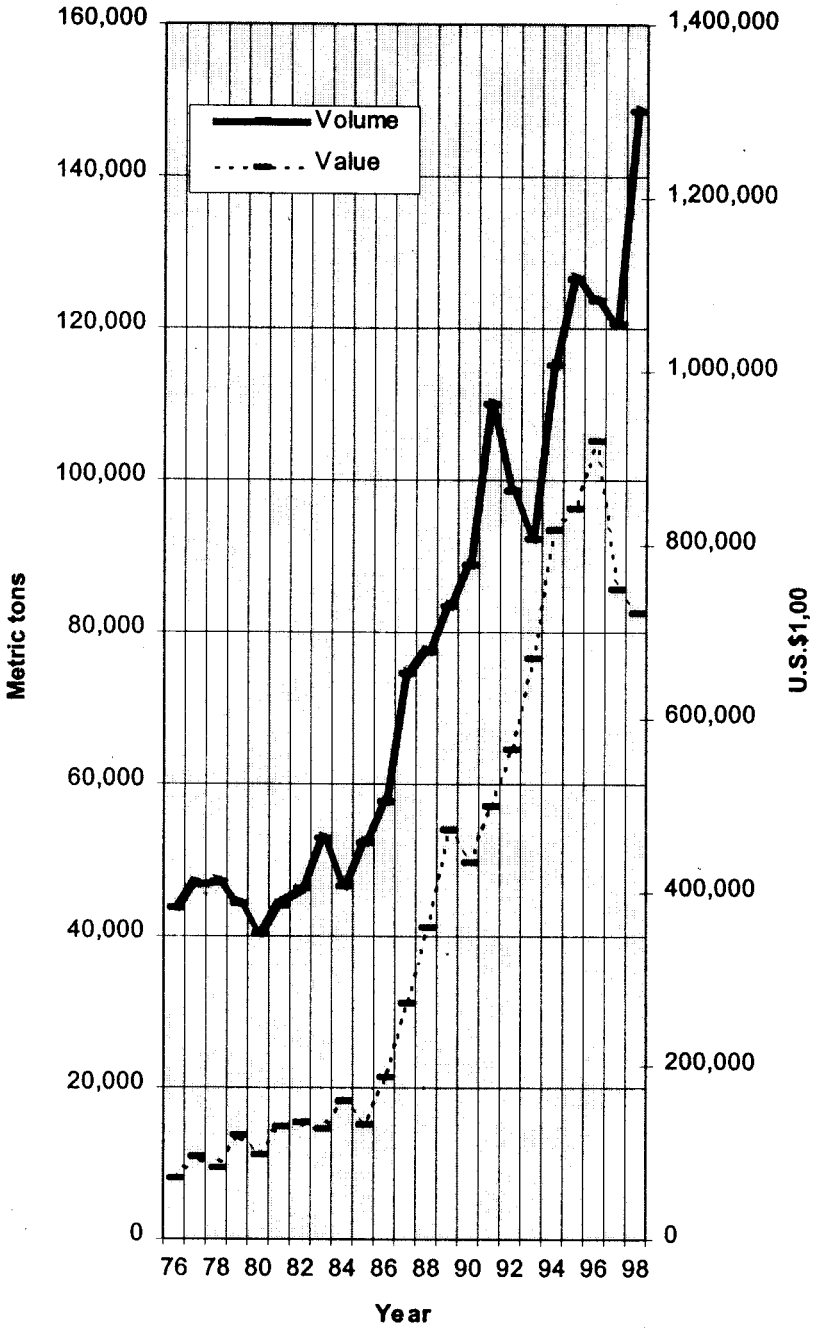

Figure 10. Japanese imports of fresh and frozen bigeye tuna, 1976-1998. (Source: Japan Marine Products Importers Association 1977-1999)

Table 17. Japanese imports of fresh bigeye tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Indonesia	Malaysia	Guam	Taiwan	Philippines	Micronesia	Thailand	Solomon Is.	Australia	Singapore	Palau	Total*
1976	0	0	0	364	1	0	0	0	0	0	0	429
1977	0	0	0	427	0	0	0	0	0	0	0	438
1978	0	0	0	550	0	0	0	0	0	0	0	560
1979	0	0	1	876	17	0	0	0	0	91	0	987
1980	0	0	17	823	88	0	0	0	0	0	0	932
1981	0	0	19	563	520	0	0	0	0	0	0	1,117
1982	0	0	0	671	346	0	2	0	0	13	0	1,040
1983	2	0	0	1,014	213	0	0	0	0	16	0	1,371
1984	7	0	0	1,513	173	0	0	0	3	0	0	1,843
1985	41	0	0	1,875	155	0	0	0	14	0	0	2,250
1986	52	0	8	2,887	147	0	0	0	16	25	0	3,474
1987	518	37	152	6,467	236	0	0	0	33	256	0	8,246
1988	1,282	280	367	4,921	152	0	0	0	14	1,116	0	9,339
1989	3,432	1,169	1,156	3,571	302	7	0	0	9	1,482	106	12,246
1990	2,378	1,963	1,895	2,486	291	27	0	0	7	620	1,221	11,818
1991	2,097	954	826	3,237	361	116	0	0	11	290	1,190	10,267
1992	4,799	741	1,490	3,520	334	1,253	0	0	10	181	2,042	15,445
1993	5,743	910	1,590	3,407	346	3,186	0	0	31	132	2,217	19,304
1994	5,779	1,873	1,680	2,295	311	5,982	191	0	68	223	1,262	24,423
1995	5,412	1,794	1,831	3,233	679	3,817	276	558	140	182	948	23,240
1996	8,825	1,886	1,349	1,432	731	2,170	1,386	976	245	1,884	836	25,460
1997	6,066	2,013	1,595	1,765	386	1,433	1,390	1,223	811	1,240	960	23,234
1998	6,999	2,364	2,136	2,050	1,964	1,406	1,218	1,150	1,006	829	808	24,500

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

Table 18. Japanese imports of frozen bigeye tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Taiwan	Korea, Rep.	Honduras	Belize	Eq. Guinea	Indonesia	Ecuador	St. Vincent	Panama	Philippines	Singapore	Total*
1976	4,476	36,435	0	0	0	236	36	0	463	185	0	43,367
1977	7,730	36,522	0	0	0	238	4	0	1,092	203	122	46,454
1978	8,013	36,421	0	0	0	280	38	0	701	7	0	46,455
1979	8,564	30,241	0	0		332	5	0	2,692	0	567	43,274
1980	9,103	26,117	0	0	0	242	244	0	2,889	0	538	39,397
1981	8,467	29,059	0	0	0	499	658	0	2,700	24	926	42,758
1982	10,732	27,278	0	0	0	984	761	0	2,670	74	1,055	45,356
1983	13,639	30,831	46	0	0	1,504	361	0	2,245	18	836	51,561
1984	11,364	25,985	369	0	0	1,672	24	307	3,165	45	589	44,808
1985	11,725	28,008	354	0	0	2,736	0	0	4,461	146	373	49,909
1986	14,154	31,811	757	0	0	2,535	361	186	5,133	0	496	57,304
1987	16,118	35,865	1,406	0	0	3,602	169	0	5,616	59	664	66,426
1988	17,586	33,950	2,155	0	0	3,406	477	27	3,847	19	1,859	68,074
1989	18,977	31,447	4,326	0	0	4,935	859	92	3,159	39	1,180	71,067
1990	23,990	29,333	5,674	0	0	4,609	1,587	87	5,258	5	1,210	76,897
1991	38,042	33,078	8,787	0	0	4,930	1,348	992	6,320	0	1,515	99,659
1992	30,170	28,840	5,911	0	0	3,106	1,516	1,394	7,494	0	1,013	83,126
1993	27,482	21,994	4,143	155	0	4,452	850	1,529	5,998	175	1,775	73,064
1994	35,298	26,643	8,244	607	0	3,491	1,160	1,848	7,709	209	1,054	90,804
1995	42,834	28,710	8,601	1,458	7	3,540	2,215	1,299	5,622	38	1,478	103,425
1996	46,056	26,130	7,827	3,077	210	2,792	1,172	946	2,843	60	1,064	98,378
1997	42,024	27,244	9,971	4,721	1,694	2,268	1,039	1,287	1,667	163	1,159	97,233
1998	49,543	38,690	11,474	7,322	4,412	2,208	1,925	1,462	1,077	1,007	763	124,170

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

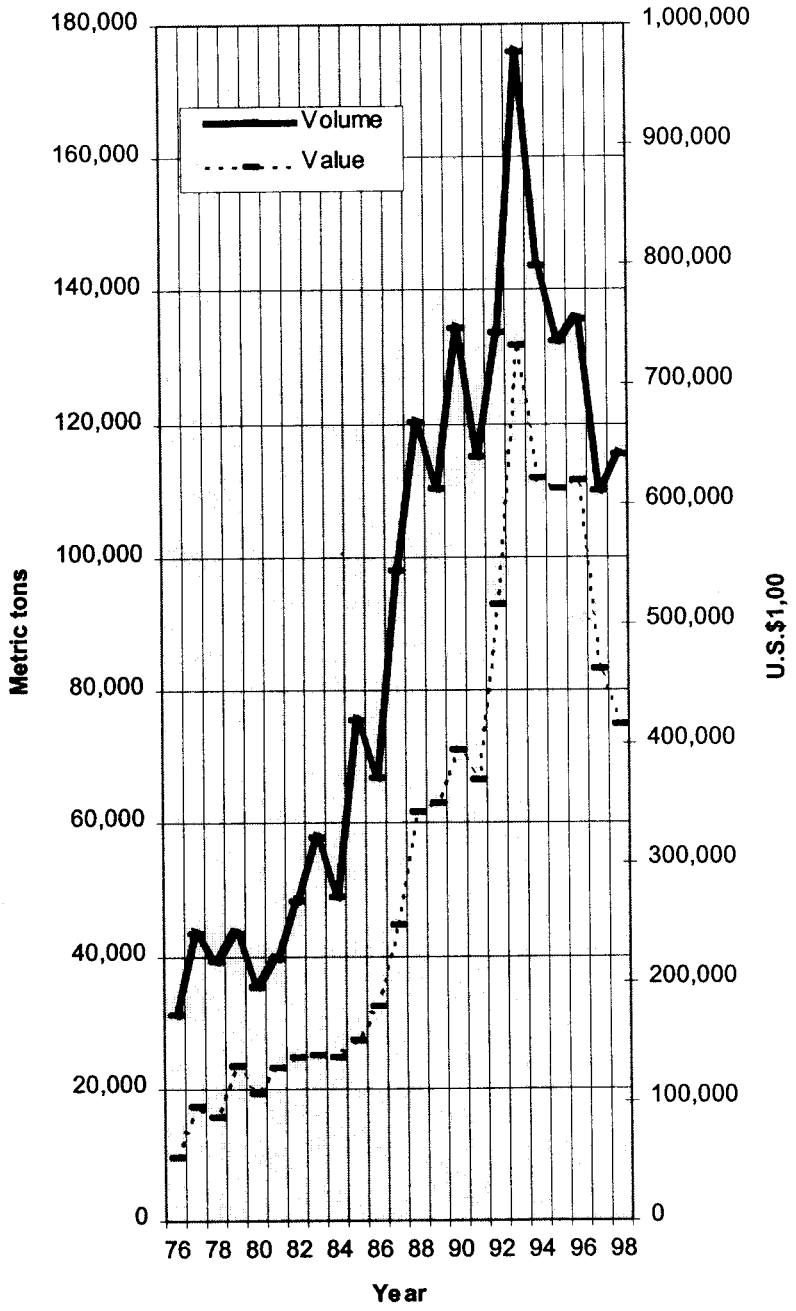

Figure 11. Japanese imports of fresh and frozen yellowfin tuna, 1976-1998. (Source: Japan Marine Products Importers Association 1977-1999)

Table 19. Japanese imports of fresh yellowfin tuna by major countries by volume, 1976-1998 (metric tons).

Year	Indonesia	Taiwan	Guam	Philippines	Singapore	Vietnam	Malaysia	Micronesia	Australia	Solomon Is.	Thailand	Total*
1976	0	5,314	0	20	0	0	0	0	2	0	0	5,432
1977	0	6,127	0	4	0	0	0	0	0	0	0	6,192
1978	0	8,156	0	40	0	0	0	0	1	0	0	8,228
1979	0	10,386	6	226	0	0	0	0	5	0	0	10,688
1980	0	10,498	23	4	0	0	0	0	2	0	0	10,885
1981	0	9,600	0	445	0	0	0	0	2	0	0	10,109
1982	0	10,331	0	517	41	0	0	0	4	0	2	10,909
1983	3	10,299	0	1,388	27	0	0	0	13	0	0	11,746
1984	20	9,994	0	2,621	0	0	0	0	79	0	0	12,718
1985	48	9,712	0	2,877	0	0	0	0	128	0	0	12,958
1986	76	10,346	23	3,415	16	0	0	0	388	0	0	14,458
1987	644	11,599	357	3,712	208	0	45	0	304	0	0	17,260
1988	1,601	10,214	332	3,919	1,018	0	442	0	144	0	0	19,353
1989	4,040	10,247	674	3,914	1,448	0	1,042	2	313	0	0	22,180
1990	5,415	10,982	1,968	3,757	736	0	1,741	18	242	0	0	26,658
1991	12,655	11,537	1,161	1,428	570	0	3,672	104	207	0	1	33,102
1992	13,068	11,000	1,570	1,089	635	0	4,313	852	185	0	0	35,066
1993	11,068	12,284	1,837	2,102	1,388	4	3,035	1,735	180	0	0	37,161
1994	11,174	10,929	3,202	958	1,517	18	2,885	2,773	416	0	180	37,046
1995	10,812	11,052	5,077	1,977	523	63	1,456	3,559	655	272	383	39,296
1996	10,301	6,412	6,006	1,383	1,795	262	1,433	1,471	782	857	1,093	35,819
1997	9,675	5,554	2,423	684	1,865	1,644	1,662	1,010	953	1,280	1,241	32,667
1998	12,115	4,716	2,476	2,028	1,985	1,922	1,251	1,144	1,113	992	948	33,787

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

Table 20. Japanese imports of frozen yellowfin tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Taiwan	Korea, Rep.	Indonesia	Honduras	Solomon Is.	Belize	Philippines	Guam	Eq. Guinea	Thailand	Singapore	Total*
1976	1,553	19,505	501	0	74	0	2,893	0	0	0	0	25,733
1977	2,385	30,853	221	0	101	0	1,910	0	0	0	3	37,333
1978	2,765	26,312	30	0	103	0	199	0	0	0	0	31,046
1979	2,473	26,259	161	0	16	0	49	0	0	0	192	32,740
1980	2,258	19,166	8	0	1	0	60	0	0	0	385	24,626
1981	3,376	19,053	1,525	0	979	0	1,182	0	0	0	230	29,558
1982	3,561	19,274	2,467	0	2,983	0	2,031	664	0	0	575	37,283
1983	5,654	26,852	2,167	754	3,925	0	1,627	1,319	0	113	370	45,996
1984	4,600	17,250	2,619	406	4,262	0	3,476	521	0	76	320	36,051
1985	7,729	18,119	3,606	526	5,381	0	1,897	1,050	0	114	281	62,438
1986	10,557	24,143	3,280	956	1,826	0	0	16	0	0	352	52,323
1987	20,687	30,161	7,252	1,297	2,110	0	2,417	0	0	0	1,297	80,846
1988	22,705	38,535	8,179	2,324	1,948	0	1,661	482	0	476	3,004	100,747
1989	20,994	21,343	10,120	2,635	1,619	0	1,497	892	0	323	1,711	88,021
1990	37,250	25,998	10,738	3,938	3,175	0	1,575	1,921	0	428	1,860	107,702
1991	31,677	19,300	6,606	4,240	443	0	1	2,880	0	474	2,806	81,862
1992	57,742	20,484	4,833	3,768	896	0	64	1,327	0	184	1,785	98,621
1993	93,701	17,619	5,505	2,555	1,321	98	627	414	0	2	6,522	138,774
1994	56,624	15,618	4,019	3,626	1,579	604	3,480	882	0	1,100	2,924	106,688
1995	42,842	17,238	4,494	2,913	3,228	862	3,720	1,904	0	372	2,507	93,056
1996	38,768	16,318	2,571	3,970	9,068	1,315	1,912	2,610	20	668	3,719	99,840
1997	24,553	21,384	2,463	4,155	3,172	1,399	1,477	915	393	447	2,460	77,309
1998	33,587	20,245	4,850	4,057	3,949	2,894	1,928	1,449	1,263	757	746	81,640

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

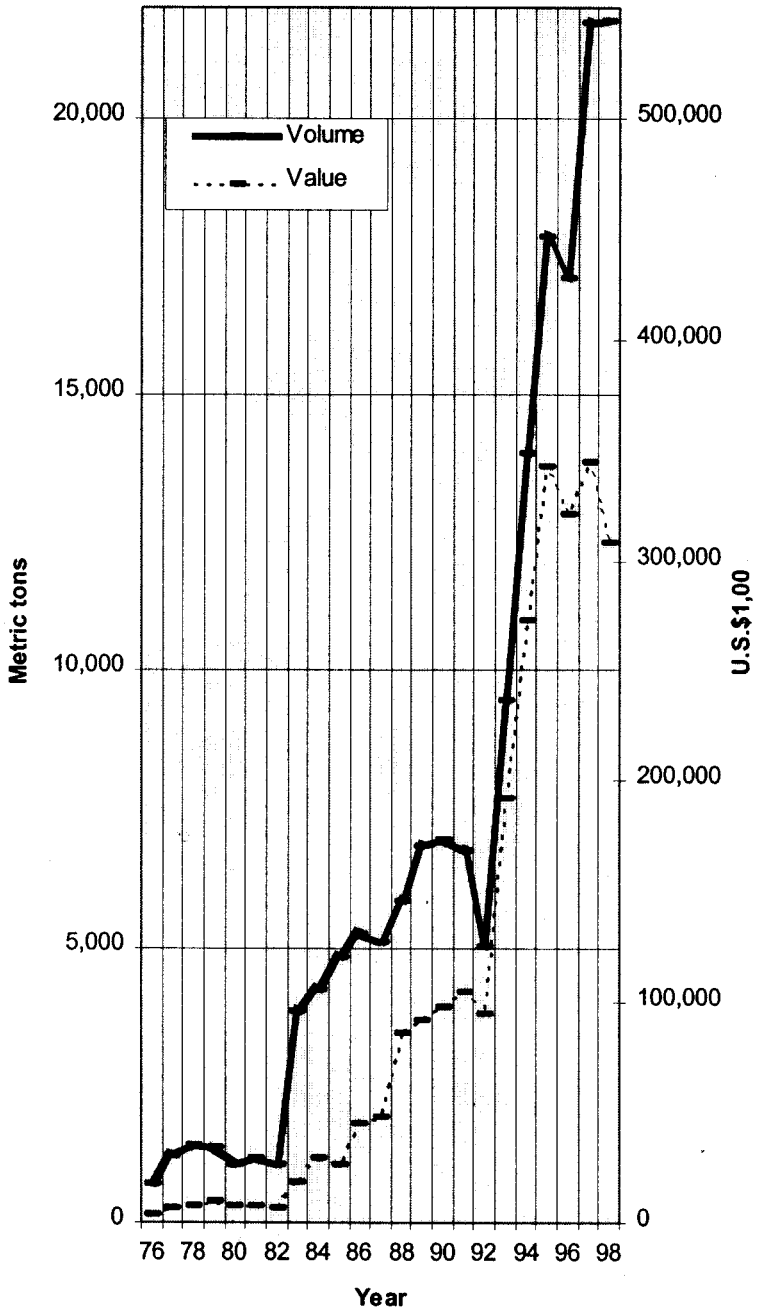

Figure 12. Japanese imports of fresh and frozen bluefin tuna, 1976-1998. (Source: Japan Marine Products Importers Association 1977-1999)

Table 21. Japanese imports of fresh bluefin tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Australia	Spain	Taiwan	U.S.A	Tunisia	Canada	Turkey	Greece	Italy	Croatia	Indonesia	Total*
1976	0	0	3	243	0	353	0	0	6	0	0	609
1977	0	0	3	535	0	459	0	0	0	0	0	999
1978	0	1	1	557	0	330	0	0	1	0	0	897
1979	12	14	6	770	0	187	0	0	0	0	0	1,008
1980	10	0	4	402	0	190	0	0	0	0	0	702
1981	0	0	65	256	0	177		0	0	0	0	533
1982	10	6	132	141	0	181	0	0	2	0	0	503
1983	6	0	118	503	0	289	0	0	0	0	0	933
1984	8	54	170	531	0	164	1	0	0	0	0	957
1985	5	145	54	549	0	78	99	6	0	0	0	962
1986	263	104	78	589	0	25	669	71	0	0	0	2,150
1987	72	171	80	939	0	43	243	54	0	0	1	1,723
1988	458	389	52	856	95	303	104	56	14	0	5	2,428
1989	325	250	66	889	225	454	156	72	8	0	51	2,759
1990	345	356	112	815	357	310	140	84	19	0	45	2,999
1991	700	323	232	719	406	381	121	67	21	0	129	3,502
1992	47	291	162	956	465	331	211	50	42	0	36	3,009
1993	1,644	648	195	857	406	307	118	182	331	0	247	5,236
1994	2,428	1,139	239	937	565	291	159	441	620	0	261	7,622
1995	3,206	1,309	125	901	479	438	134	388	992	0	186	9,662
1996	3,048	547	460	821	613	455	133	396	687	22	312	8,045
1997	5,586	568	997	800	327	366	293	508	291	345	350	11,743
1998	4,510	1,460	949	858	426	420	334	293	256	234	196	10,465

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

Table 22. Japanese imports of frozen bluefin tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Australia	Spain	Korea, Rep.	Taiwan	Italy	France	Libya	Guinea	Eq. Guinea	Tunisia	Portugal	Total*
1976	0	0	18	53	6	0	0	0	0	0	0	101
1977	53	0	6	68	25	0	0	0	0	0	0	210
1978	100	0	6	190	96	94	0	0	0	0	0	514
1979	0	186	3	128	6	0	0	0	0	0	0	359
1980	17	218	5	78	0	0	0	0	0	0	0	340
1981	40	147	4	99	45	0	0	0	0	0	0	629
1982	68	37	1	138	41	0	0	0	0	0	0	546
1983	1,965	229	0	102	253	0	0	0	0	0	0	2,922
1984	2,420	97	16	211	1	17	0	0	0	0	0	3,269
1985	3,352	54	63	100	26	167	0	0	0	0	0	3,876
1986	2,497	50	134	61	25	0	0	0	0	0	0	3,096
1987	2,798	95	1	146	14	0	0	0	0	0	0	3,378
1988	1,703	773	11	243	6	0	0	0	0	0	0	3,410
1989	2,085	378	39	889	1	0	0	0	0	0	0	4,086
1990	2,444	338	17	715	30	0	0	0	0	25	75	3,957
1991	473	225	197	1,157	1	4	0	0	0	0	240	3,259
1992	0	309	87	218	12	188	0	0	0	0	221	2,004
1993	165	1,051	220	857	170	90	0	0	0	0	209	4,226
1994	89	2,533	202	1,120	339	159	0	239	0	0	321	6,316
1995	68	2,862	151	1,869	414	136	0	346	81	0	341	8,196
1996	148	3,018	578	1,631	865	420	0	180	0	355	309	9,068
1997	539	2,744	798	837	772	1,858	0	118	654	149	56	9,988
1998	1,746	1,732	1,730	1,668	760	683	583	470	462	288	216	11,316

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

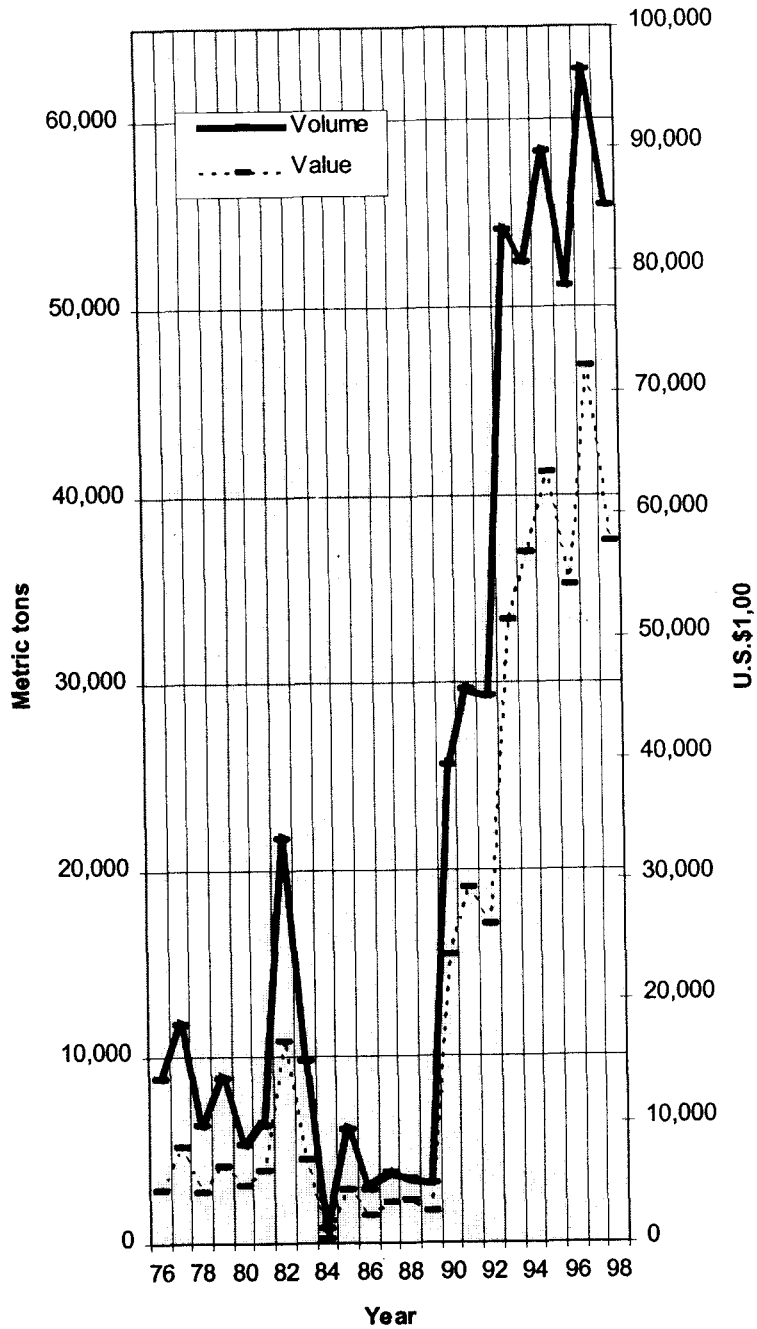

Figure 13. Japanese imports of fresh and frozen skipjack tuna, 1976-1998. (Source: Japan Marine Products Importers Association 1977-1999)

Table 23. Japanese imports of frozen skipjack tuna by major countries, by volume, 1976-1998 (metric tons).

Year	Indonesia	Solomon Is.	Philippines	Kiribati	Maldive	Malaysia	Viet Nam	Ghana	Thailand	Taiwan	Singapore	Total*
1976	2	1,099	1,450	0	4,653	0	0	0	0	46	0	8,507
1977	308	621	1,555	0	4,267	0	0	0	205	2,831	233	11,295
1978	868	323	878	0	2,319	0	0	0	0	186	0	6,109
1979	1,080	1,466	1,280	0	3,051	0	0	0	0	133	0	8,814
1980	11	0	1,633	27	2,709	0	20	0	0	106	3	5,198
1981	313	2,964	49	58	2,301	0	0	0	0	96	10	6,222
1982	1,827	10,293	1,549	0	2,996	0	5	0	0	57	327	21,488
1983	4,327	3,295	3	0	174	0	0	0	1	54	0	9,776
1984	179	78	0	0	0	0	0	0	0	17	17	797
1985	712	113	920	28	3,084	0	0	0	0	33	0	6,144
1986	976	515	0	0	1,179	0	0	0	0	33	0	2,859
1987	2,301	43	48	0	1,079	0	0	0	0	148	0	3,823
1988	1,850	23	0	0	951	2	0	0	0	477	0	3,379
1989	2,518	119	0	0	76	35	0	0	0	47	240	3,211
1990	14,269	1,116	729	41	3,068	0	2	0	11	3,552	1,742	25,629
1991	19,155	608	0	0	3,922	0	0	0	0	818	2,446	29,652
1992	18,214	1,187	2	0	1,852	0	0	0	909	2,398	3,520	29,626
1993	25,885	1,091	8,043	0	983	641	9	0	163	5,645	9,704	54,165
1994	23,793	2,487	12,475	1,447	2,547	2,196	0	1,854	219	1,453	2,483	52,306
1995	25,327	9,779	6,233	1,592	2,029	2,180	0	55	762	437	8,469	58,211
1996	23,051	6,406	5,303	2,187	3,865	2,324	0	0	670	737	5,749	51,048
1997	27,431	10,380	9,545	1,381	4,436	1,828	43	1,876	852	1,104	3,712	62,606
1998	27,874	11,869	9,549	2,018	1,982	1,741	175	57	47	8	0	55,356

* - Total also includes other countries not listed

Source: Japan Marine Products Importers Association 1977-1999

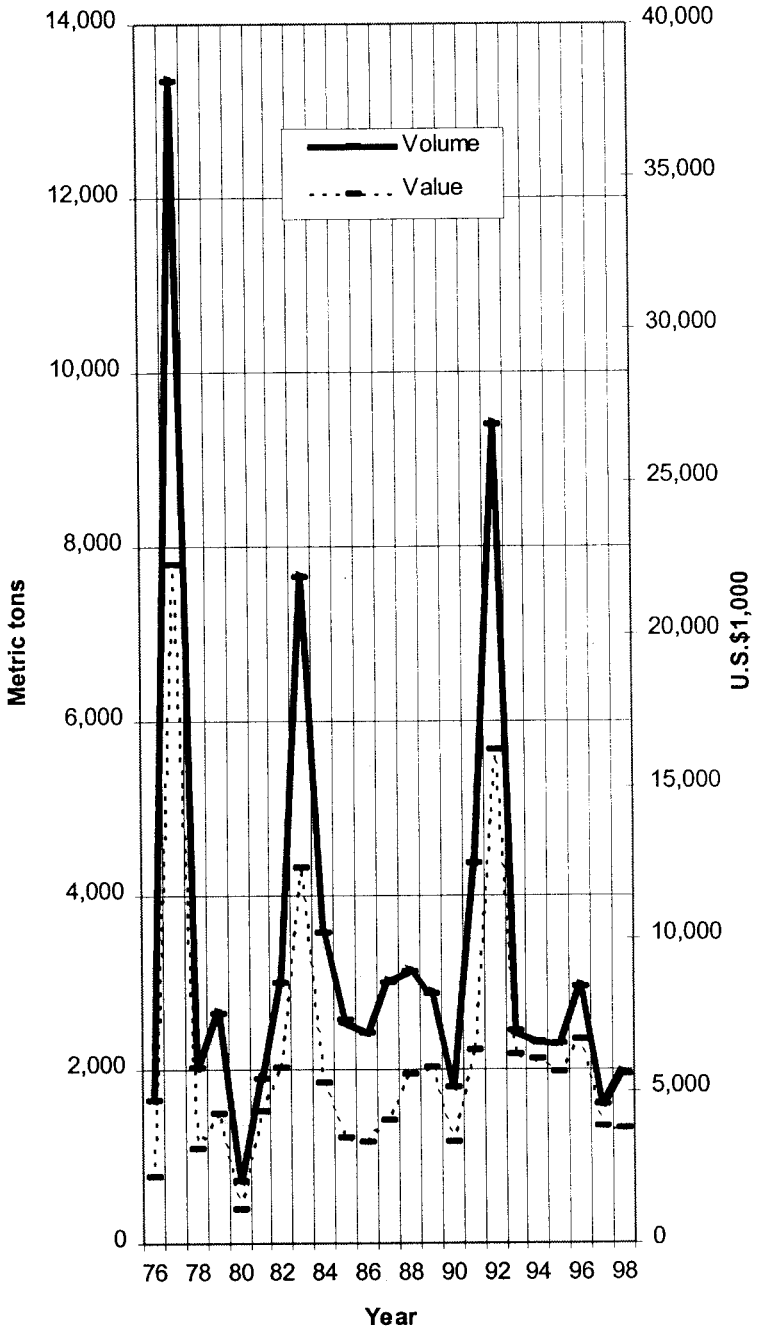

Figure 14. Japanese imports of fresh and frozen albacore tuna, 1976-1998. (Source: Japan Marine Products Importers Association 1977-1999)

EXPORTS

Japanese exports of tuna products from 1994 through 1998 are summarized in Table 24. In 1998, Japan exported about 116,000 mt, amounting to $178 million worth of tuna products, an increase of 13 percent in volume and 9 percent in value over 1997. Much of the increase was due to increased exports of frozen skipjack. This was made possible by the large increase in catch of skipjack in 1998 (Suisan Tsushin Sha February 18, 1999). Frozen tuna was the most important export product worth $142 million, followed by fresh tuna ($29 million), and prepared tuna products ($7 million).

Japanese exports of frozen tuna in 1998 increased 12 percent in volume and 9 percent in value from the 1997 level. Much of the frozen tuna (mostly skipjack and albacore) is sent to canneries in Thailand and elsewhere. Thailand was by far the major market for frozen skipjack tuna, taking 71 percent both in volume (53,201 mt) and in value ($53.5 million) in 1998. This was a notable increase from the 1997 purchase of 25,238 mt valued at $24.5 million (Ministry of Finance 1995-1999). Other important buyers for Japanese frozen skipjack in 1998 were the Philippines (10,018 mt), Australia (3,668 mt), Equador (2,400 mt), and Puerto Rico (2,257 mt). The main markets for frozen albacore in 1998 were Thailand (15,720 mt), Puerto Rico (5,017 mt), and American Samoa (2,379 mt).

Japanese exports of fresh tuna are minor. The major buyer was Guam, which in 1998 purchased 91 percent in volume (7,575 mt) of Japanese fresh tuna exports in 1998 (Ministry of Finance 1995-1999).

Exports of prepared products have remained rather stable in terms of both volume and value between 1994 and 1998. Saudi Arabia was the largest export market for canned tuna in oil, purchasing 335 mt valued at $2.6 million in 1998 (Ministry of Finance 1995-1999, Japan Marine Products Importers Association 1999).

Table 24. Japanese exports of tuna by volume and value, 1994-1998.

	Volume (metic tons)					Value (million yen)				
Product Form	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Fresh, round:										
Albacore	1,481	0	9	6	215	337	0	3	2	82
Yellowfin	627	612	756	2,148	3,617	270	265	327	736	1,459
Other tuna	6,425	6,751	6,385	5,585	4,453	1,851	1,887	1,910	2,236	2,211
Fresh, Fillets										
Tuna*	14	17	18	17	12	133	153	173	155	93
Frozen, round:										
Albacore	23,504	18,525	17,553	31,623	26,913	5,468	3,910	4,168	8,396	6,759
Yellowfin	5,092	5,703	3,995	10,640	2,322	485	446	375	1,603	426
Skipjack	26,271	44,927	19,176	42,920	75,176	2,226	3,507	1,738	5,232	9,955
Other tuna	3,201	4,220	2,716	7,529	2,123	422	437	241	1,055	817
Frozen, fillets:										
Tuna*	193	523	287	305	252	917	884	852	766	678
Canned:										
Tuna:**										
in oil	731	518	856	700	648	483	340	643	575	566
in water	59	58	108	97	88	35	34	59	63	64
other packs	27	15	2	4	6	19	12	2	5	6
Skipjack:										
in oil	256	45	25	25	31	135	25	18	22	28
other packs	1,235	813	711	755	302	683	385	391	415	167
Dried:										
Skipjack	7	11	21	18	13	16	17	43	39	27
Other prepared:										
Tuna*	18	17	33	56	41	25	23	36	63	52

*Tuna - identification not recorded
** - excluding skipjack

Sources: Ministry of Finance 1995-1999

COLD STORAGE HOLDINGS

Tables 25-29 show Japan's monthly and annual inventories of frozen tuna between 1987 and 1998. Compared to 1997, the amounts of inventory in 1998 remained higher for all species of tuna except yellowfin. Monthly average inventories in 1998 were record highs for frozen albacore, bluefin, and skipjack due to higher Japanese catches for albacore and skipjack and increased imports of bluefin. The monthly average inventory for yellowfin was higher than 1993-1997 average.

SUPPLY

Japan is the world's largest market for tuna, utilizing an average of 1,014,000 mt or about 35 percent of the world's tuna catches during 1987-1996 (Fig. 15). Annual supply of tuna for the Japanese market is comprised of the cold storage inventory on January 1, plus domestic catches and imports.

Between 1987 and 1998, annual tuna supplies ranged between 902,000 and 1,142,000 mt, averaging 1,017,000 mt (Fig. 16). During this period catches averaged 660,000 mt (about 65 percent of the total supply), imports 285,000 mt (28 percent), and the January inventory 72,000 mt (7 percent). The percentage of the Japanese tuna market supplied by imports has increased from 20 percent in 1987 to 30 percent in 1998 (Fig. 17).

Annual supply of all tunas, except yellowfin, reached record highs in 1998 (Fig. 18-22), due mainly to increased imports of bigeye and bluefin tuna and increased domestic catches of albacore and skipjack. Imports of bigeye and bluefin increased 99 percent and 300 percent, respectively, from 1987 to 1998. The domestic catches of albacore more than doubled, while catch of skipjack increased by 12 percent during the same period. Supply of yellowfin tuna has shown a downward trend since 1993.

Table 25. Monthly and annual cold storage holdings of frozen albacore, 1987-1998 (metric tons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1987	5,435	4,599	4,249	3,550	5,275	11,164	11,202
1988	8,179	8,220	7,847	7,810	5,457	7,927	7,692
1989	5,243	5,776	6,528	9,675	10,101	11,519	12,957
1990	8,884	8,640	8,723	10,788	9,542	10,232	12,339
1991	9,679	9,044	8,695	10,353	9,223	8,643	7,280
1992	5,781	5,142	5,176	4,441	3,051	4,327	10,456
1993	9,629	8,996	10,016	9,688	7,671	7,752	11,406
1994	7,820	7,459	8,513	8,222	6,431	7,161	10,114
1995	9,607	8,634	9,617	7,290	5,774	5,304	8,941
1996	10,440	9,793	9,096	7,409	5,389	7,539	12,474
1997	8,564	8,181	7,505	6,011	4,715	9,620	10,955
1998	11,450	10,386	10,668	9,806	7,833	9,502	9,521
Average (1993-1997)	9,212	8,613	8,949	7,724	5,996	7,475	10,778

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Total (Jan.-Dec.)	Monthly Average
1987	10,052	9,327	8,818	8,555	8,691	90,917	7,576
1988	6,239	6,358	6,900	6,472	6,420	85,539	7,128
1989	11,816	11,503	11,123	10,399	8,557	115,197	9,600
1990	12,659	12,186	12,451	10,783	10,604	127,831	10,653
1991	7,268	7,238	7,361	6,189	7,445	98,418	8,202
1992	12,306	13,175	12,672	11,090	11,162	98,779	8,232
1993	12,482	11,427	9,728	9,304	8,492	116,591	9,716
1994	13,036	13,744	12,848	11,872	10,645	117,865	9,822
1995	10,494	12,054	10,696	11,112	10,642	110,165	9,180
1996	12,814	13,687	11,362	10,702	9,953	120,658	10,055
1997	11,585	12,483	13,419	13,699	12,497	119,234	9,936
1998	11,602	13,220	13,357	12,146	11,089	130,580	10,882
Average (1993-1997)	12,082	12,679	11,611	11,338	10,446	116,903	9,742

Sources: Ministry of Agriculture, Forestry and Fisheries 1988, 1990, 1997, 1998
Suisan Tsushin Sha 1989-1999

Table 26. Monthly and annual cold storage holdings of frozen Bigeye Tuna, 1987-1998 (metric tons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1987	13,759	15,530	16,919	19,791	20,777	21,823	22,566
1988	14,135	14,143	15,918	16,929	16,327	18,029	18,442
1989	10,854	12,611	12,974	15,778	18,093	19,055	18,404
1990	12,293	13,270	14,544	14,580	14,083	16,610	17,876
1991	16,007	16,869	18,977	21,213	22,122	23,231	23,919
1992	18,675	16,927	17,581	19,239	19,190	17,841	18,289
1993	9,378	10,648	12,965	15,985	14,890	15,428	17,610
1994	15,592	14,123	14,940	17,423	15,155	16,431	16,427
1995	13,170	14,346	16,565	18,531	18,898	19,362	20,497
1996	11,708	12,090	14,487	16,120	15,364	17,611	16,517
1997	13,124	14,641	15,923	17,892	18,504	18,363	19,151
1998	14,216	15,928	17,511	18,479	20,309	20,157	20,375
Average (1993-1997)	12,594	13,170	14,976	17,190	16,562	17,439	18,040

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Total (Jan.-Dec.)	Monthly Average
1987	19,569	17,465	14,957	15,956	14,566	213,678	17,807
1988	17,539	15,362	14,362	12,097	11,711	184,994	15,416
1989	16,796	16,221	14,564	13,692	12,822	181,864	15,155
1990	15,621	15,707	15,542	15,013	14,789	179,895	14,991
1991	23,061	22,457	23,388	23,201	19,885	254,330	21,194
1992	14,326	12,912	12,728	11,730	11,251	190,689	15,890
1993	17,709	15,814	14,327	14,353	14,762	173,869	14,489
1994	15,349	14,114	12,449	15,447	14,432	181,882	15,157
1995	17,766	14,228	11,687	12,192	11,362	188,604	15,717
1996	17,443	15,969	13,720	14,593	13,351	178,973	14,914
1997	17,365	17,591	16,080	16,027	13,782	198,443	16,537
1998	19,264	18,609	19,189	18,472	15,066	217,575	18,132
Average (1993-1997)	17,126	15,543	13,653	14,522	13,538	184,354	15,363

Sources: Ministry of Agriculture, Forestry and Fisheries 1988, 1990, 1997, 1998
Suisan Tsushin Sha 1989-1999

Table 27. Monthly and annual cold storage holdings of frozen Yellowfin Tuna, 1987-1998 (metric tons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1987	13,216	14,237	14,115	13,324	13,643	12,988	11,092
1988	13,437	12,921	12,211	11,670	13,968	15,415	14,939
1989	12,830	13,076	10,496	11,051	12,876	13,975	15,630
1990	11,016	12,046	14,905	16,767	17,362	19,867	20,807
1991	20,294	19,456	18,426	16,132	18,625	18,581	19,283
1992	14,999	15,644	15,880	15,926	15,430	15,364	16,214
1993	11,108	12,926	12,686	14,122	15,371	16,226	16,697
1994	17,538	15,236	13,967	13,912	14,057	15,752	15,126
1995	13,344	13,338	14,829	13,778	14,272	15,493	15,372
1996	16,701	15,205	14,129	13,393	13,535	12,338	16,223
1997	14,130	16,644	17,717	18,033	17,857	18,470	18,991
1998	16,491	16,656	16,859	16,031	15,126	16,420	15,996
Average (1993-1997)	14,564	14,670	14,666	14,648	15,018	15,656	16,482

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Total (Jan.-Dec.)	Monthly Average
1987	9,675	8,470	8,129	8,266	10,932	138,087	11,507
1988	14,611	14,756	14,336	11,586	13,316	163,166	13,597
1989	16,583	14,670	15,162	11,791	10,375	158,515	13,210
1990	18,841	19,135	19,747	19,428	20,306	210,227	17,519
1991	18,985	15,853	14,287	12,268	13,547	205,737	17,145
1992	16,050	17,287	14,683	13,278	13,139	183,894	15,325
1993	15,278	13,567	14,664	16,605	18,670	177,920	14,827
1994	15,340	15,044	11,913	14,031	13,564	175,480	14,623
1995	13,517	14,069	15,373	14,349	16,038	173,772	14,481
1996	20,073	18,937	16,202	17,133	16,361	190,230	15,853
1997	17,435	17,466	17,101	17,505	18,227	209,579	17,465
1998	16,379	15,953	16,916	19,075	20,177	202,079	16,840
Average (1993-1997)	16,329	15,817	15,051	15,925	16,572	185,396	15,450

Sources: Ministry of Agriculture, Forestry and Fisheries 1988 1990, 1997, 1998
Suisan Tsushin Sha 1989-1999

Table 28. Monthly and annual cold storage holdings of frozen Bluefin Tuna, 1987-1998 (metric tons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1987	6,737	6,488	6,077	6,740	6,525	6,855	5,823
1988	7,426	6,661	6,041	5,835	5,165	4,802	5,934
1989	5,333	4,871	4,322	5,325	6,122	5,658	5,228
1990	7,218	7,593	7,975	7,954	7,476	7,205	7,114
1991	8,833	8,356	7,709	7,383	6,781	6,205	6,315
1992	8,656	9,046	9,387	9,315	7,947	7,513	7,509
1993	8,137	7,383	6,955	6,364	5,586	5,056	5,269
1994	8,911	8,688	8,065	7,249	6,039	5,985	6,917
1995	12,441	12,020	10,244	9,144	7,615	6,937	7,043
1996	14,343	14,033	12,829	10,859	9,305	8,280	8,386
1997	13,941	12,559	11,735	11,261	10,667	9,724	10,957
1998	17,893	17,536	15,597	14,522	14,418	15,501	14,818
Average (1993-1997)	11,555	10,937	9,966	8,975	7,842	7,196	7,714

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Total (Jan.-Dec.)	Monthly Average
1987	6,504	7,435	9,243	9,223	8,531	86,181	7,182
1988	6,015	7,249	7,230	6,287	5,810	74,455	6,205
1989	6,312	7,636	8,547	7,974	7,335	74,663	6,222
1990	6,985	7,912	9,086	8,843	7,965	93,326	7,777
1991	6,530	7,060	8,295	8,807	8,538	90,812	7,568
1992	7,824	8,756	10,333	9,749	8,566	104,601	8,717
1993	8,202	9,266	9,720	10,702	9,517	92,157	7,680
1994	8,481	10,226	12,418	12,704	12,122	107,805	8,984
1995	7,698	9,784	12,304	12,582	11,476	119,288	9,941
1996	10,083	10,561	12,466	13,120	12,208	136,473	11,373
1997	12,782	14,238	16,834	18,853	17,033	160,584	13,382
1998	15,959	16,535	17,222	15,719	15,166	190,886	15,907
Average (1993-1997)	9,449	10,815	12,748	13,592	12,471	123,261	10,272

Sources: Ministry of Agriculture, Forestry and Fisheries 1988, 1990, 1997, 1998
Suisan Tsushin Sha 1989-1999

Table 29. Monthly and annual cold storage holdings of frozen Skipjack, 1987-1998 (metric tons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1987	17,350	11,623	14,893	15,448	19,658	13,827	12,048
1988	19,904	17,190	15,874	15,875	21,535	22,251	28,547
1989	22,798	20,131	18,663	20,905	22,174	17,777	13,920
1990	16,313	11,020	11,431	14,247	17,621	17,433	20,650
1991	27,746	26,386	23,197	26,624	23,947	25,404	27,109
1992	27,193	19,749	16,120	17,117	21,437	22,554	26,156
1993	21,727	19,069	20,104	20,754	22,006	25,770	21,294
1994	28,130	21,835	23,171	21,704	24,001	25,855	24,810
1995	33,598	31,916	34,030	36,034	38,057	39,070	40,429
1996	26,526	21,168	21,755	25,079	26,771	28,476	27,081
1997	34,786	31,771	27,287	25,288	24,842	24,453	29,937
1998	26,354	22,513	19,082	17,783	18,859	25,561	33,597
Average (1993-1997)	28,953	25,152	25,269	25,771	27,135	28,725	28,710

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Total (Jan.-Dec.)	Monthly Average
1987	15,863	14,999	14,432	16,360	20,178	186,679	15,557
1988	25,964	23,644	20,283	22,810	28,940	262,817	21,901
1989	13,831	13,575	16,354	14,080	17,009	211,217	17,601
1990	20,127	20,829	19,575	23,234	28,832	221,312	18,443
1991	30,480	31,157	27,097	29,541	31,781	330,469	27,539
1992	24,155	23,729	25,025	22,981	27,739	273,955	22,830
1993	23,536	27,735	24,731	25,886	27,802	280,414	23,368
1994	22,873	20,907	20,411	20,993	28,774	283,464	23,622
1995	33,528	25,648	23,289	21,329	23,430	380,358	31,697
1996	24,570	22,361	24,066	27,690	30,384	305,927	25,494
1997	28,723	26,652	23,353	26,015	25,492	328,599	27,383
1998	34,680	35,346	37,598	39,990	44,552	355,915	29,660
Average (1993-1997)	26,646	24,661	23,170	24,383	27,176	315,752	26,313

Sources: Ministry of Agriculture, Forestry and Fisheries 1988, 1990, 1997, 1998
Suisan Tsushin Sha 1989-1999

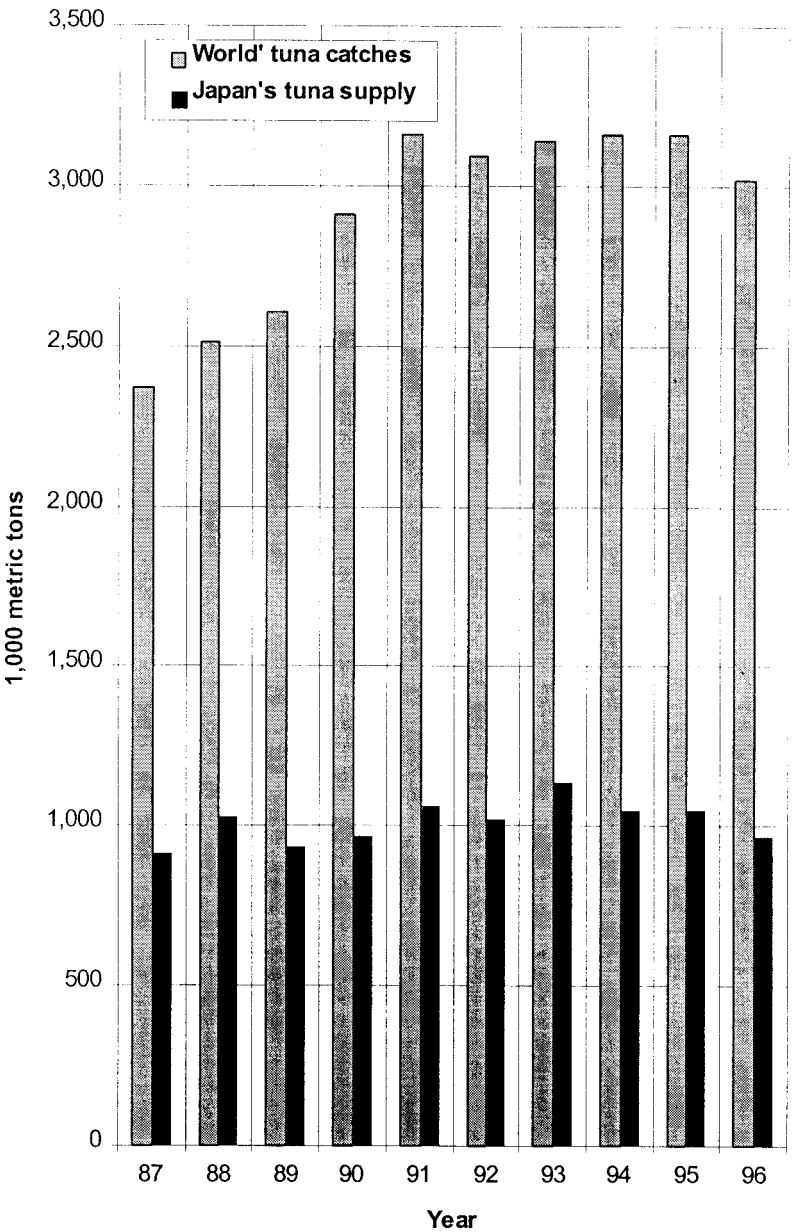

Figure 15. Total world catches of tuna and Japan's tuna supply, 1987-1996. (Sources: Japan Marine Products Importers Association 1988-1997; Ministry of Agriculture, Forestry & Fisheries 1989-1998; FAO 1989-1998)

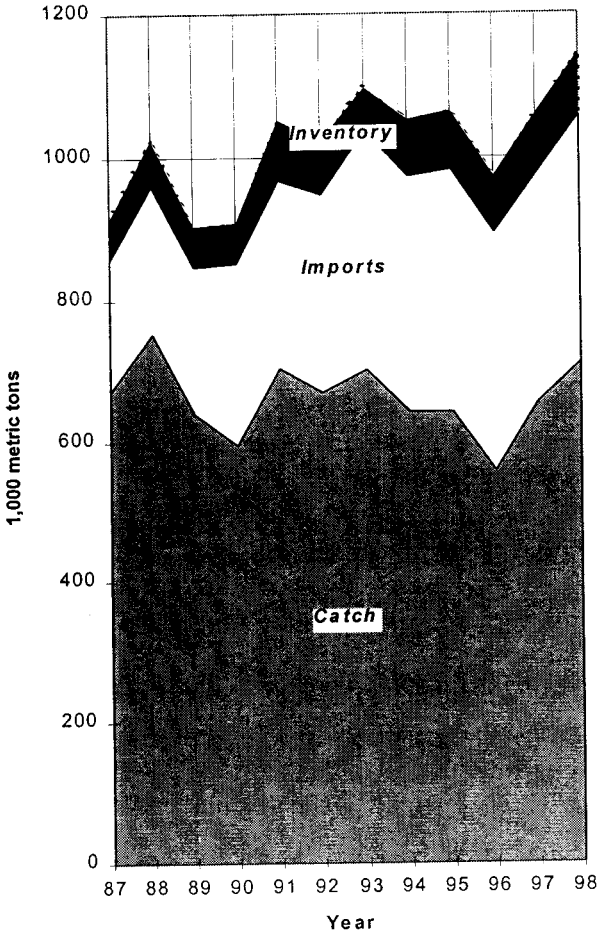

Figure 16. Japanese annual tuna supply by volume, 1987-1998.

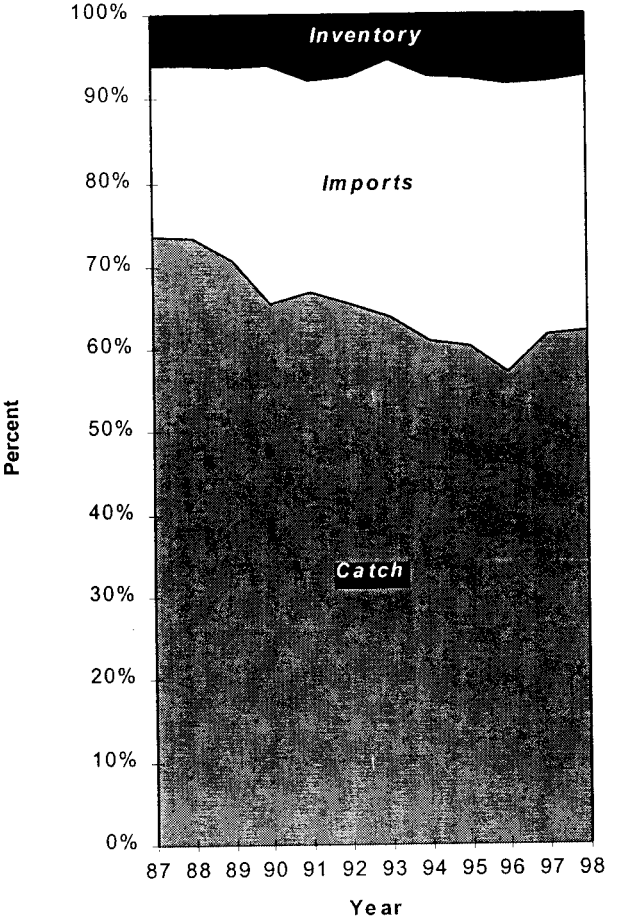

Figure 17. Japanese annual tuna supply by share, 1987-1998.

(Sources: Ministry of Agriculture, Forestry and Fisheries 1989-1999; Suisan Tsushin Sha 1989-1999; Japan Marine Products Importers Association 1988-1999)

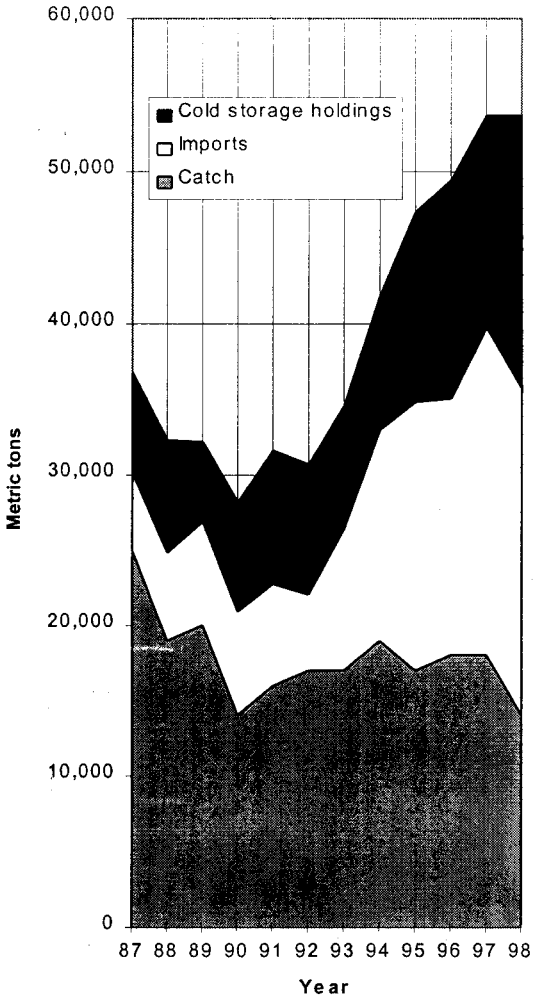

Figure 18. Japanese annual supply of bluefin tuna, 1987-1998.

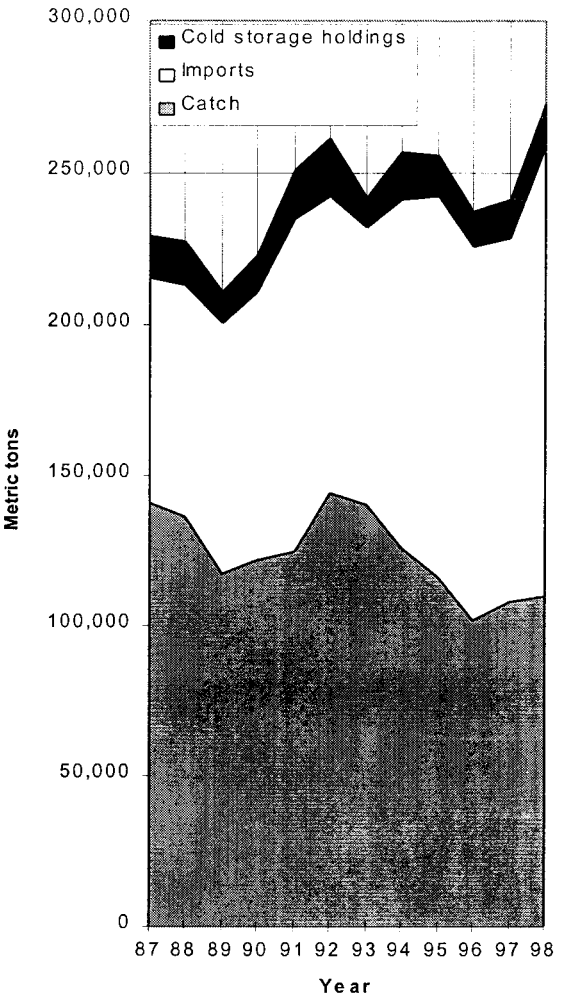

Figure 19. Japanese annual supply of bigeye tuna, 1987-1998.

(Sources: Ministry of Agriculture, Forestry and Fisheries 1989-1999; Suisan Tsushin Sha 1989-1999; Japan Marine Products Importers Association 1988-1999)

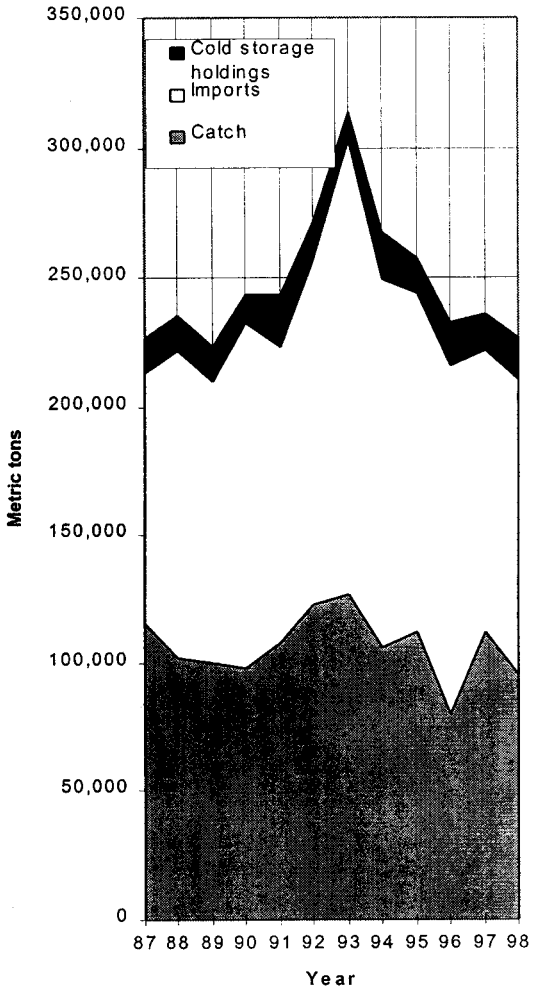

Figure 20. Japanese annual supply of yellowfin tuna, 1987-1998.

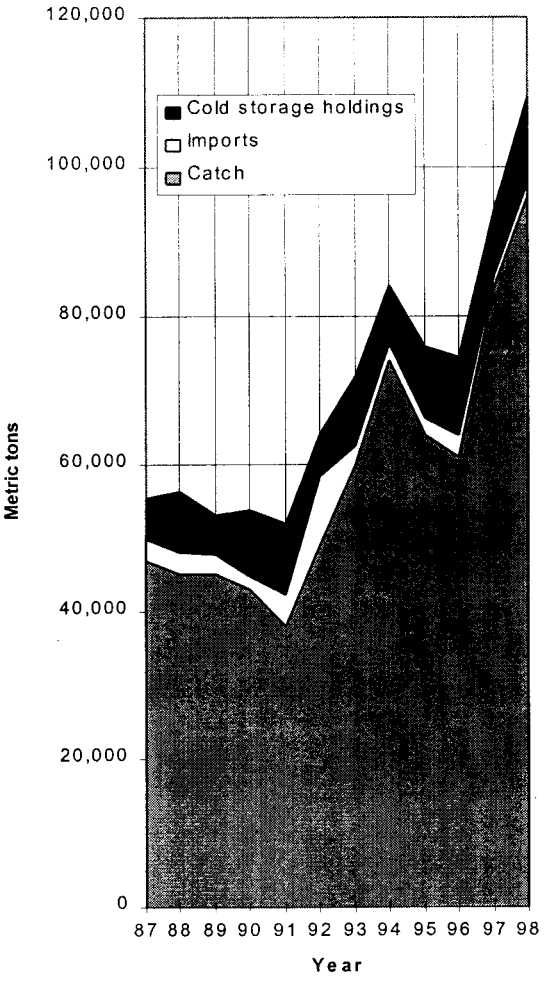

Figure 21. Japanese annual supply of albacore tuna, 1987-1998.

(Sources: Ministry of Agriculture, Forestry and Fisheries 1989-1999; Suisan Tsushin Sha 1989-1999; Japan Marine Products Importers Association 1988-1999)

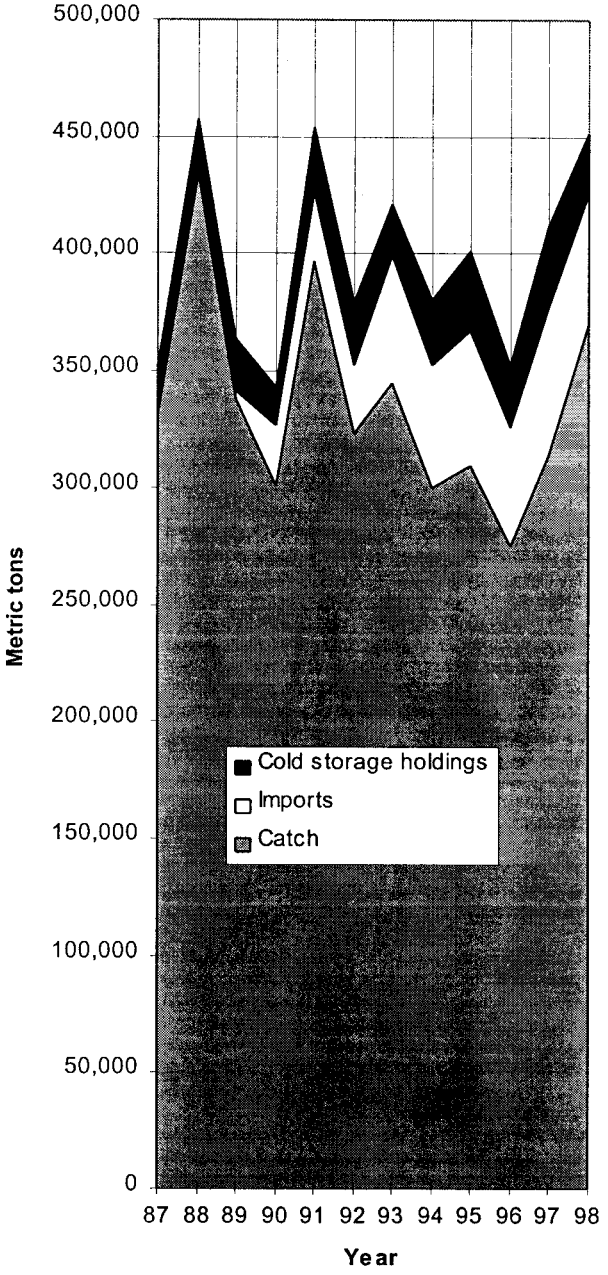

Figure 22. Japanese annual supply of skipjack tuna, 1987-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1989-1999; Suisan Tsushin Sha 1989-1999; Japan Marine Products Importers Association 1988-1999)

CONSUMPTION

Japanese consumers spend more for tunas than for any other fresh and frozen seafood (Table 30). While demand is sensitive to price, tuna is the most popular of all fresh and frozen seafood products in Japan (Minato November 9, 1998). While per household consumption of other major fresh and frozen fish continues to decline, consumption of fresh and frozen tuna has increased. In 1998, Japanese families purchased an average of 4.83 kilograms (10.63 lbs) of fresh and frozen tuna and spent 11,303 yen ($86) on fresh and frozen tuna. The average price of tuna was 2,339 yen/kg, 2 percent below the 2,398 yen/kg average price paid a year earlier. In 1998, the average per household consumption expenditure on fresh and frozen tuna rose 7 percent in volume and 5 percent in value from 1997 amounts due mainly to a drop in price due to sharply increased imports of bigeye tuna in 1998 (Shokuryo Shinbun Sha February 12, 1999). The number of persons represented in a household has been declining steadily, from 4.29 in 1964 to 3.31 in 1998 (Table 31). In 1998, the annual average per capita consumption and expenditure on fresh and frozen tuna, excluding skipjack, hit record highs of 1,069 kilogram and 2,708 yen.

The annual Japanese apparent consumption of tuna (supply minus exports and the cold storage inventory on December 31) was a record 920,000 mt in 1998, an increase of 6 percent compared with 1997. Between 1995 and 1998, annual apparent consumption of tuna averaged about 885,000 mt.

UTILIZATION

Tuna is prepared in various ways for the table by the Japanese. The most popular dish is "sashimi" (which typically consists of thin slices of raw seafood) served with soy sauce and condiments. Tuna species used for raw consumption in Japan are northern bluefin, southern bluefin, bigeye, yellowfin, and skipjack. Bluefin is the most-prized and hence the highest-priced tuna in Japan, followed by bigeye, yellowfin and skipjack.

Northern bluefin, the largest of all tunas, grows to as much as 679 kg. The "toro" (fatty meat) portion of bluefin tuna is rated highly as gourmet food. Bluefin is generally sold to high-class Japanese-style and specialty "sushi" restaurants. The Japanese name for bluefin "hon maguro" (meaning "genuine tuna")

is indicative of the status this species enjoys in the Japanese market. Southern bluefin has also secured its niche in the Japanese market. By virtue of the quality of its meat, which closely resembles that of northern bluefin, southern bluefin enjoys high demand from restaurants and sushi outlets (Tokyo University of Fisheries 1989; Collette and Nauen 1983).

Bigeye, generally weighing around 45 kg, is the only species other than bluefin that provides "toro", and the quality of its meat is rated second only to that of bluefin (Tokyo University of Fisheries 1989). In Japan, the fish is landed in the second largest quantity of all the major tuna species, and hence is popular as a year-round substitute for bluefin. Principal distribution outlets for bigeye are sushi restaurants, supermarkets, and fish retailers.

Yellowfin is generally smaller than bigeye and does not contain a "toro" portion in its meat, which is somewhat less reddish and also blander, and therefore less desired and less expensive. Landings of yellowfin are third among tuna species, and it is available year-round. These characteristics make yellowfin popular for home consumption. The fish is also used for canned products.

Albacore is smaller than yellowfin, and is almost exclusively used for canned products, but small quantities are sold in the form of loins at supermarkets for home consumption as steak and "teriyaki" (marinated in soy sauce and other flavorings, then grilled or broiled).

Skipjack landings are the largest among all the major tuna species in Japan. The fish is used for "katsuo bushi" (dried and smoked) and for canned products. Some high quality skipjack is also used for sashimi.

Table 30. Japanese per household consumption expenditure on fresh and frozen fish and shellfish by major species or groups, 1996-1998.

Species	1996	1997	1998	1996	1997	1998
	Yen			Grams		
Tuna	10,243	10,791	11,303	4,324	4,500	4,832
Squid	4,655	4,544	4,193	4,801	4,651	3,993
Salmon	4,169	4,446	4,343	2,984	3,051	3,005
Jack Mackerel	2,705	2,694	2,568	2,496	2,467	2,420
Flounder	2,668	2,569	2,376	1,820	1,792	1,728
Crab	3,462	3,579	3,385	1,404	1,446	1,407
Scallop	1,894	1,842	1,743	1,153	1,064	998
Oyster	1,593	1,465	1,455	875	811	811

Source: Hokkai keiza Shinbun Sha February 11, 1999

Table 31. Average per household consumption expenditure in Japan on fresh and frozen tuna, excluding skipjack, 1964-1998.

Year	Per household		Number of Person	Per capita		Average price
	Yen	Gram	Per household	Yen	Gram	Yen/kg
1964	1,337	2,450	4.29	312	571	546
1965	1,440	2,450	4.26	338	575	589
1966	1,541	2,400	4.19	368	573	643
1967	1,846	2,640	4.15	445	636	698
1968	2,249	2,930	4.07	553	720	768
1969	2,446	2,890	3.99	613	724	846
1970	2,848	2,940	3.98	716	739	971
1971	3,328	2,970	3.96	840	750	1,119
1972	3,598	2,970	3.93	916	756	1,210
1973	3,772	2,779	3.91	965	711	1,358
1974	4,892	2,962	3.91	1,251	757	1,651
1975	6,057	3,149	3.89	1,557	810	1,924
1976	6,946	3,313	3.84	1,809	863	2,097
1977	7,533	3,289	3.82	1,972	861	2,290
1978	8,226	3,740	3.83	2,148	977	2,200
1979	8,134	3,407	3.83	2,124	890	2,390
1980	8,573	3,314	3.82	2,244	868	2,590
1981	8,673	3,314	3.79	2,288	874	2,617
1982	8,830	3,127	3.78	2,336	827	2,824
1983	8,146	3,121	3.76	2,166	830	2,610
1984	7,692	2,850	3.72	2,068	766	2,699
1985	8,305	3,044	3.71	2,239	820	2,720
1986	8,316	3,355	3.69	2,254	909	2,479
1987	8,199	3,357	3.67	2,234	915	2,442
1988	7,638	3,104	3.63	2,104	855	2,461
1989	7,885	2,904	3.61	2,184	808	2,716
1990	8,324	3,010	3.56	2,338	846	2,766
1991	8,736	3,151	3.57	2,447	883	2,772
1992	9,416	3,360	3.53	2,667	952	2,800
1993	9,121	3,321	3.49	2,613	952	2,750
1994	9,226	3,525	3.47	2,659	1,016	2,617
1995	8,928	3,622	3.42	2,611	1,059	2,465
1996	8,327	3,288	3.34	2,493	984	2,530
1997	8,435	3,170	3.34	2,525	949	2,660
1998	8,965	3,538	3.31	2,708	1,069	2,530

Sources: Suisan keizai Shinbun Sha July 24, 1996
Hokkai keizai Shinbun Sha February 11, 1999
Tokyo University of Fisheries 1989
Suisan Tsushin Sha March 10, 1995
Shokuhin Sangiyo Center March 30, 1977

WHOLESALE MARKET

Tuna is sold through auctions at consumer wholesale markets located in consumption areas, and at production wholesale markets located at Japanese ports of landings. Tuna is also sold directly to processors and representatives of supermarket chains. There are about 270 consumer and 340 production wholesale markets for fish in Japan (Suisan Sha 1993 and 1995). The largest consumer fish wholesale market is the Tokyo Central Wholesale Market. In 1998, this market handled about 715,000 mt of fishery products valued at about $5.1 billion (Minato Shinbun Sha January 18, 1999). It therefore plays an important role in providing information on the supply and demand of fishery products in Japan. Also, the wholesale price determined at the Tokyo Central Wholesale Market generally serves as a price index for fishery products throughout the world.

Wholesale prices for tuna vary widely, depending on species, product form, quality, supply and demand, and other factors.

Wholesale Prices at 10 Major Markets

Tables 32-36 and figures 23-30 show annual average wholesale prices and supply of tuna at 10 major central wholesale markets in Japan between 1971 and 1998. The wholesale prices at major markets were generally dictated by the supply: the lower the supplies, the higher the prices. As shown in Table 32 and Figures 23 and 24, the highest price of fresh bluefin (4,617 yen/kg) was realized in 1990 when supply was at the lowest at 4,224 mt. Likewise, with respect to frozen bluefin, the highest price (4,626 yen/kg) occurred in 1989, which corresponded to lowest supply of 11,751 mt.

Similar trends in inverse relationships between wholesale price and supply occurred with other species. Occasional exceptions to this trend occurred, however, with respect to bigeye and yellowfin. For instance, in 1998, wholesale prices of frozen bigeye fell 17 percent from 1997, from 1,199 yen/kg to 994 yen/kg, which in turn triggered a drop in prices for frozen yellowfin by 10 percent, from 857 yen/kg in 1997 to 773 yen/kg in 1998, even though supply decreased 3 percent during the same period.

Wholesale Prices at the Tokyo Central Wholesale Market

Tables 37-62 show monthly and annual average wholesale prices and sales volumes of tuna at the Tokyo Central Wholesale Market between 1988 and 1998. All species showed fluctuations in wholesale prices, which were influenced mainly by volume of supply; usually, the greater the supply, the lower the price.

The highest price for any species during this period was achieved by fresh imported bluefin at 5,730 yen/kg in 1990. Domestically caught fresh bluefin tuna was the only species which exhibited a steady rise in prices during recent years, reflecting the rapidly dwindling supply of this fish. Prices for fresh bluefin increased 32 percent from 2,592 yen/kg in 1994 to 3,424 yen/kg in 1998. Prices for Japanese caught fresh juvenile bluefin tuna increased 30 percent from 781 yen/kg in 1997 to 1,013 yen/kg in 1998. Prices in 1998 increased from 1997 also for fresh Japanese caught bigeye, juvenile bigeye, yellowfin, and skipjack. Prices decreased during the same period for all frozen tuna and imported fresh bigeye and imported fresh yellowfin tuna.

Monthly wholesale prices for fresh bluefin usually rise from late fall through winter, when supply is low, and fall substantially during summer, when the Japanese bluefin tuna catch is at its peak. For example, in 1998, prices ranged from a high of 7,605 yen/kg in January to a low of 2,017 yen/kg in July. Prices of other fresh tuna as well as frozen tuna were fairly steady during the same period.

Direct Sales to the Tokyo Central Wholesale Market

United States exporters can export fresh tuna on consignment basis to auction houses at the Tokyo Central Wholesale Market for sale through auctions. Auction houses do not receive frozen tuna directly from overseas. Auction houses at Tokyo Central Wholesale Market are authorized by the Ministry of Agriculture, Forestry, and Fishery to handle fish through auction at the market. Auction houses at the Tokyo Central Wholesale Market are listed in Appendix 3.

Other Wholesale Markets

While the Tokyo Central Wholesale Market is the largest consumer wholesale market in Japan, other wholesale markets also handle substantial amounts of fish and prices for the same

commodities may vary considerably from market to market. Prices at the Tokyo Central Wholesale Market may not always be the most profitable for exporters. In 1997, highest prices for different products were achieved at widely scattered wholesale markets.

For example, Tables 63 and 64 show annual average wholesale prices at ten major central wholesale markets in Japan in 1997 for fresh and frozen bluefin, bigeye, yellowfin, and skipjack tuna. Highest prices for the prized bluefin occurred at Kobe for fresh fish, and at Nagoya for frozen bluefin.

Certain species of products appear to be favored in the same market. For example, in 1997, the largest volume of fresh and frozen yellowfin tuna was sold at Nagoya.

Direct Sales to Supermarket Chains

Huge national chains of supermarkets have become significant factors in the Japanese economy. Many of these supermarkets maintain independent supply systems dealing directly with producers, including those located overseas. Since these retailers are powerful enough to use their own independent suppliers, they represent additional potential buyers other than wholesale markets. A list of major supermarket chain stores are listed in Appendix 4.

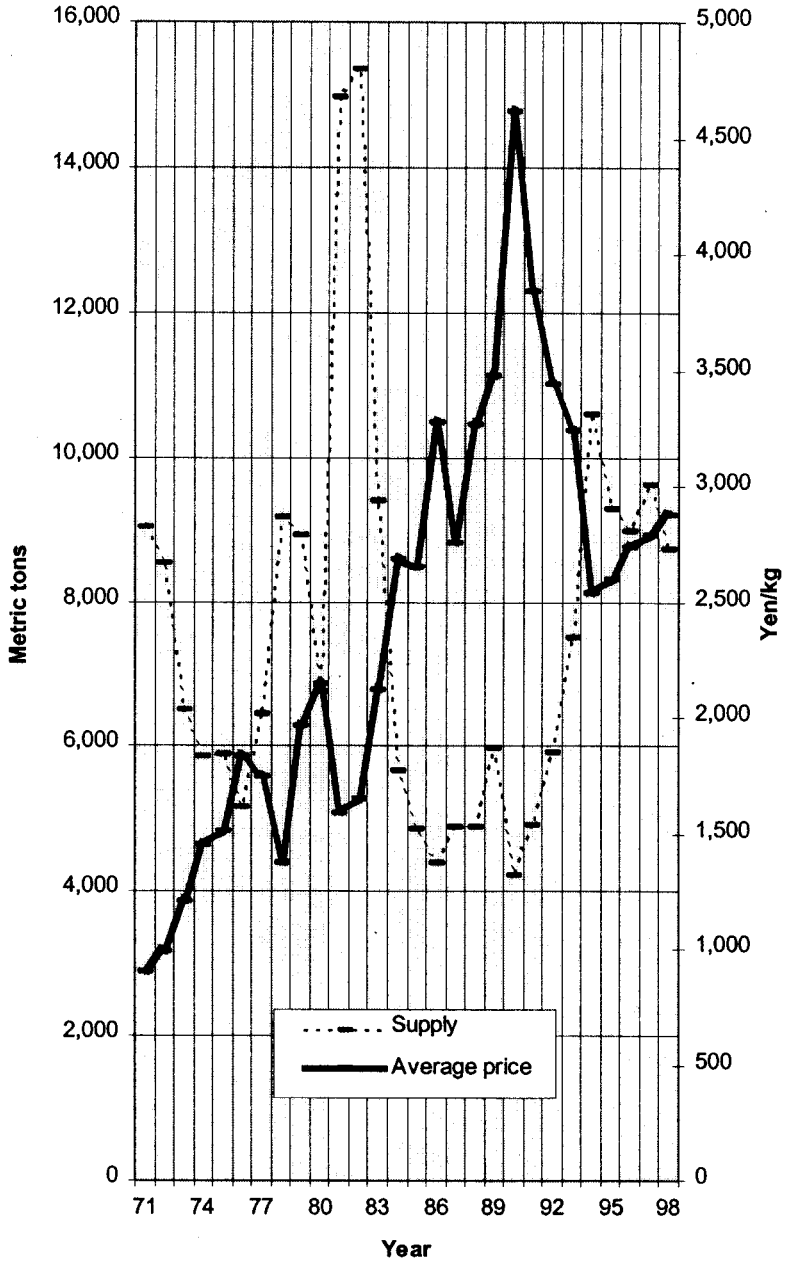

Figure 23. Supply and average wholesale prices of fresh bluefin tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

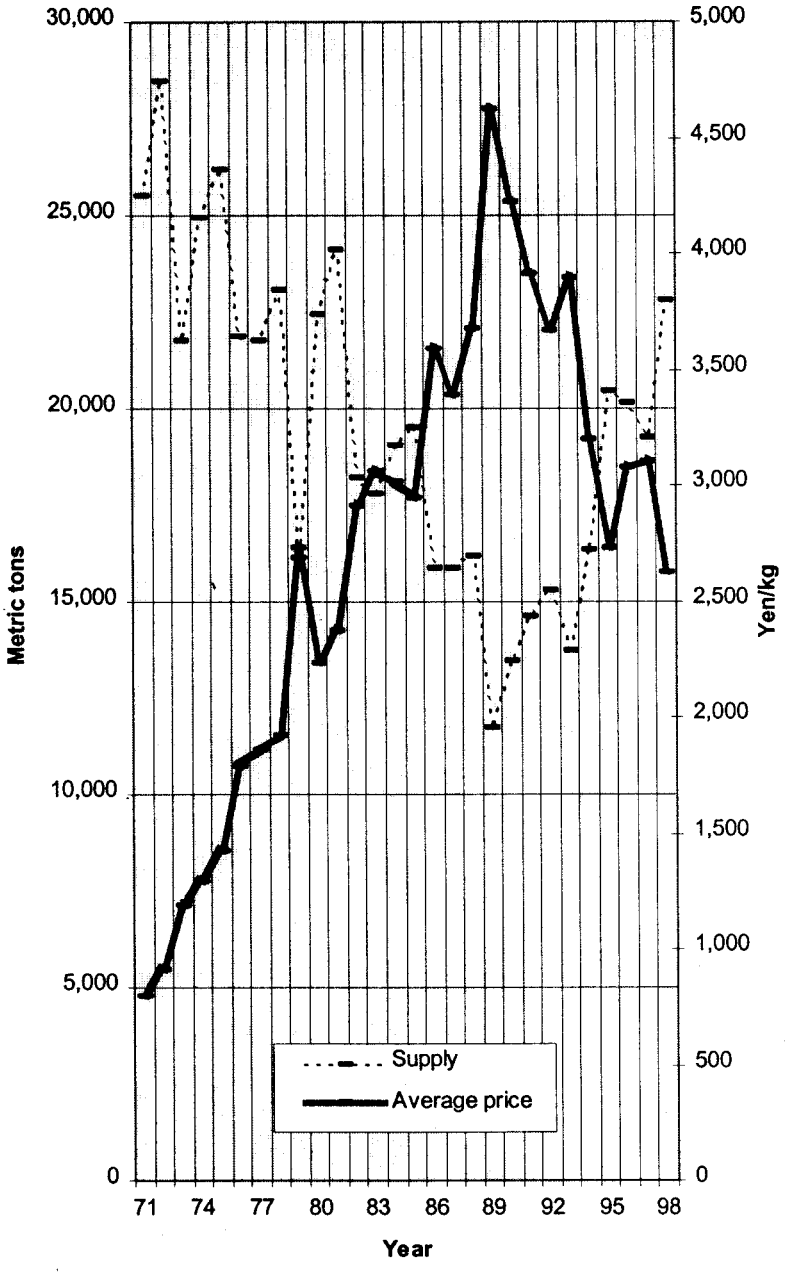

Figure 24. Supply and average wholesale prices of frozen bluefin tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

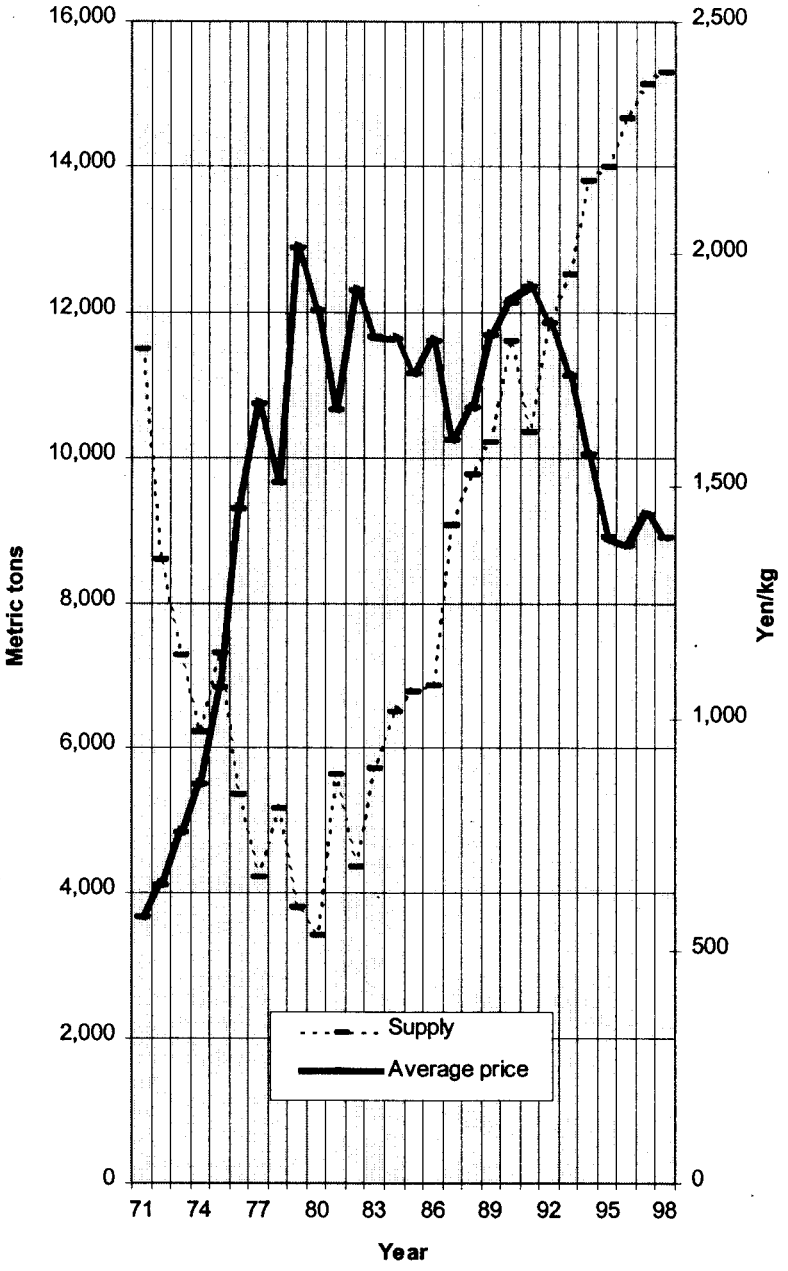

Figure 25. Supply and average wholesale prices of fresh bigeye tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

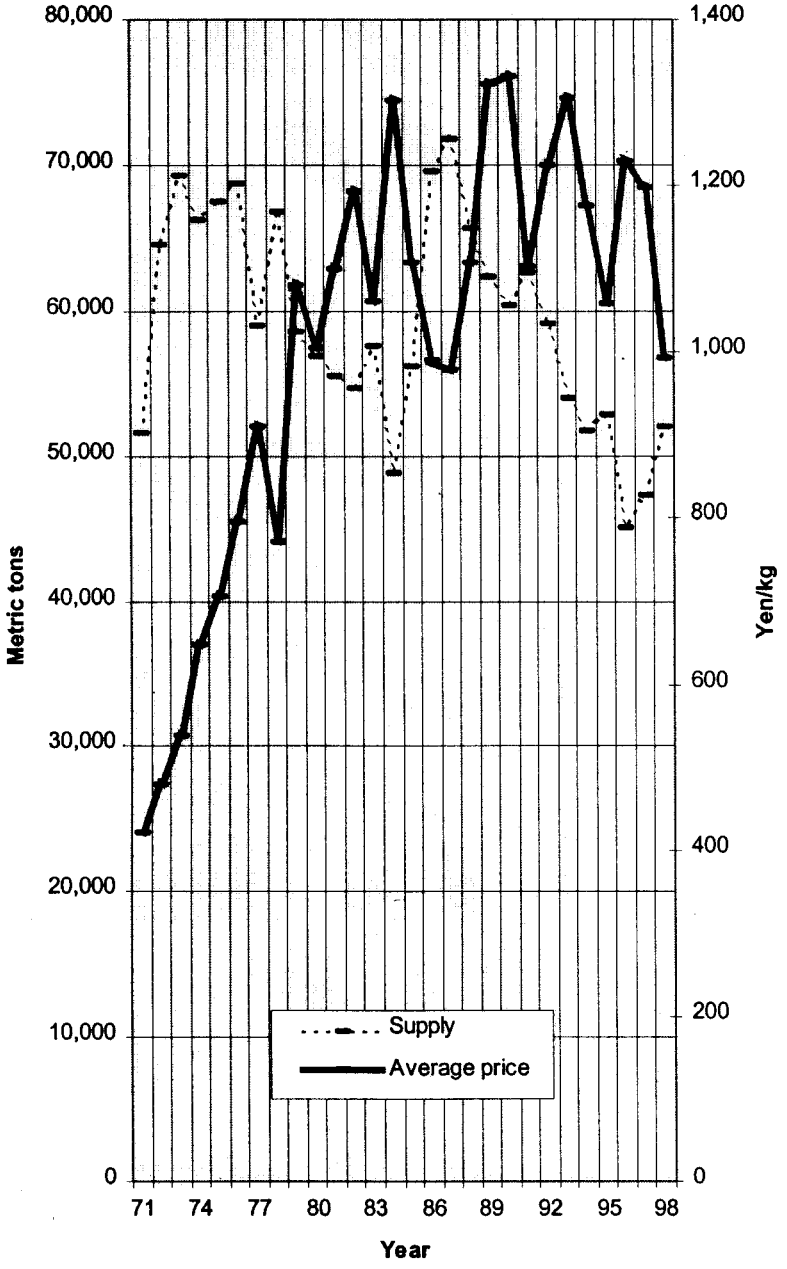

Figure 26. Supply and average wholesale prices of frozen bigeye tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

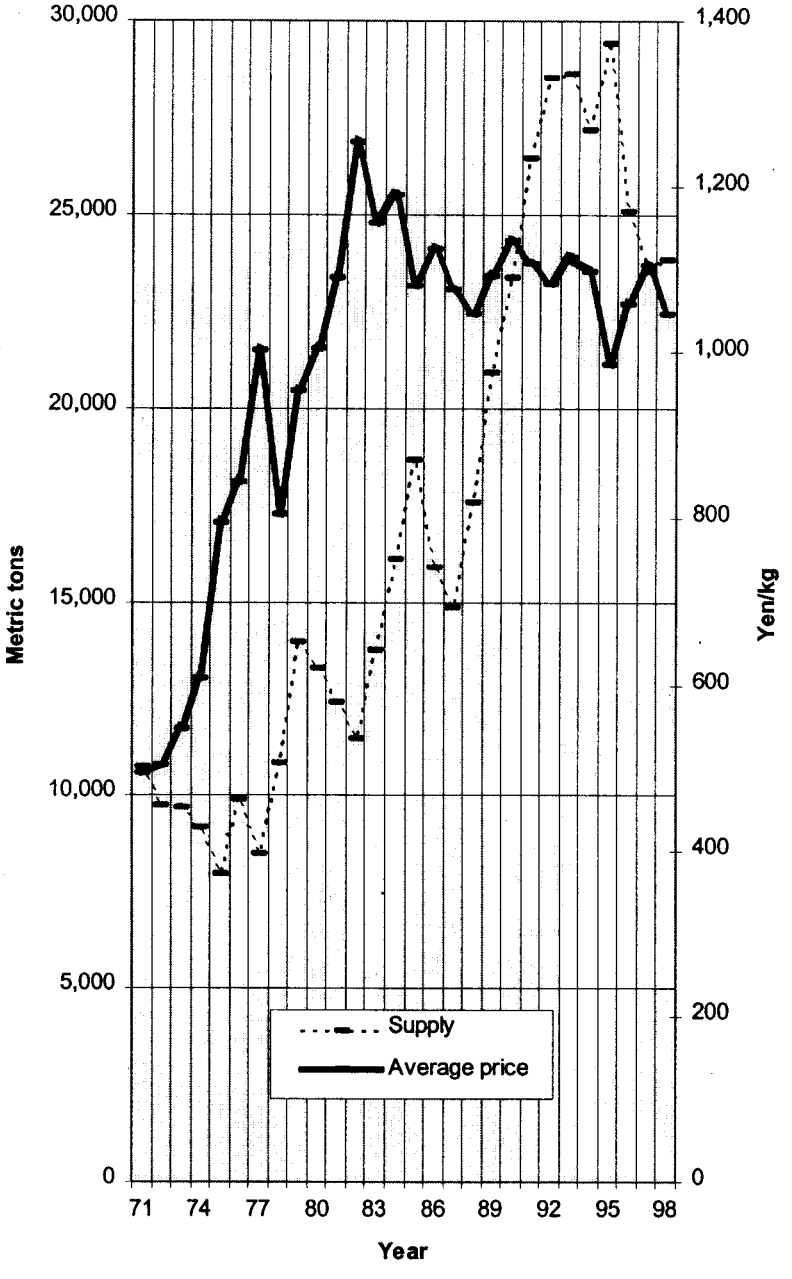

Figure 27. Supply and average wholesale prices of fresh yellowfin tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

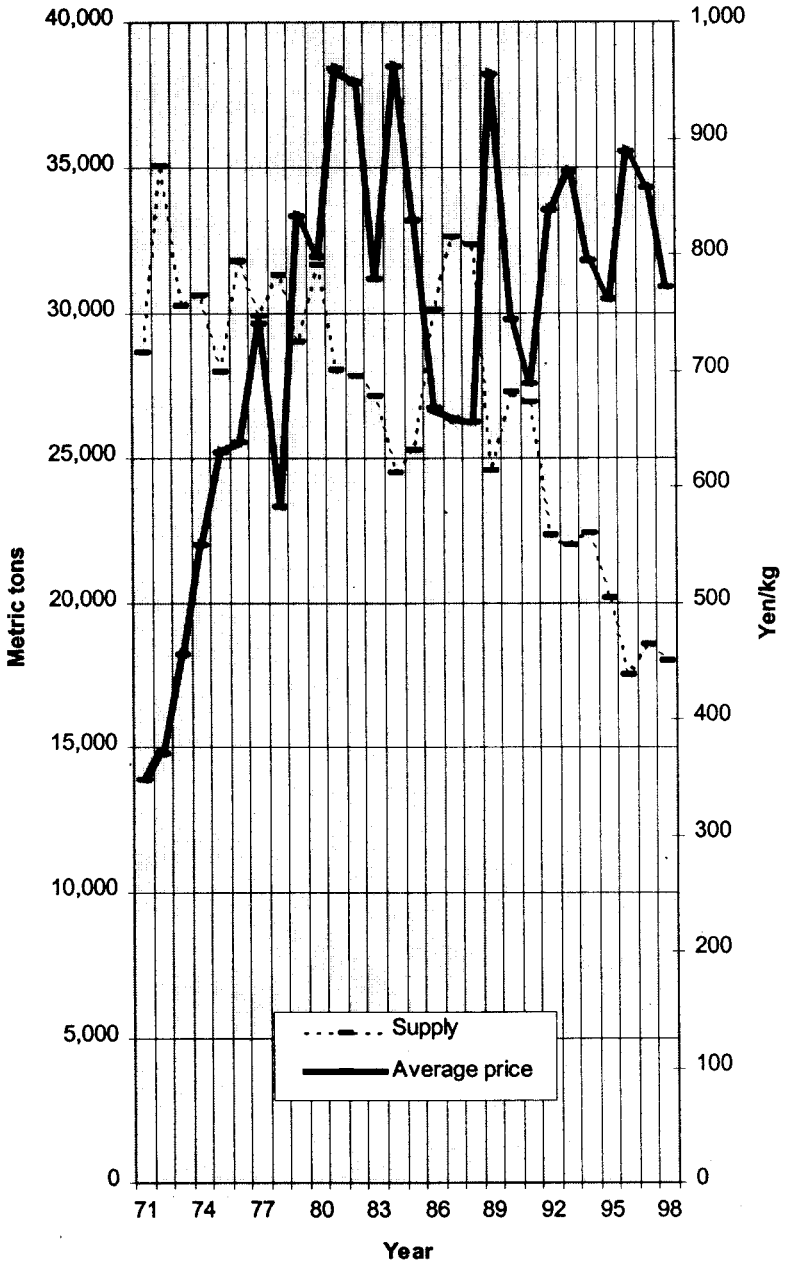

Figure 28. **Supply and average wholesale prices of frozen yellowfin tuna at ten major central wholesale markets in Japan, 1971-1998.** (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

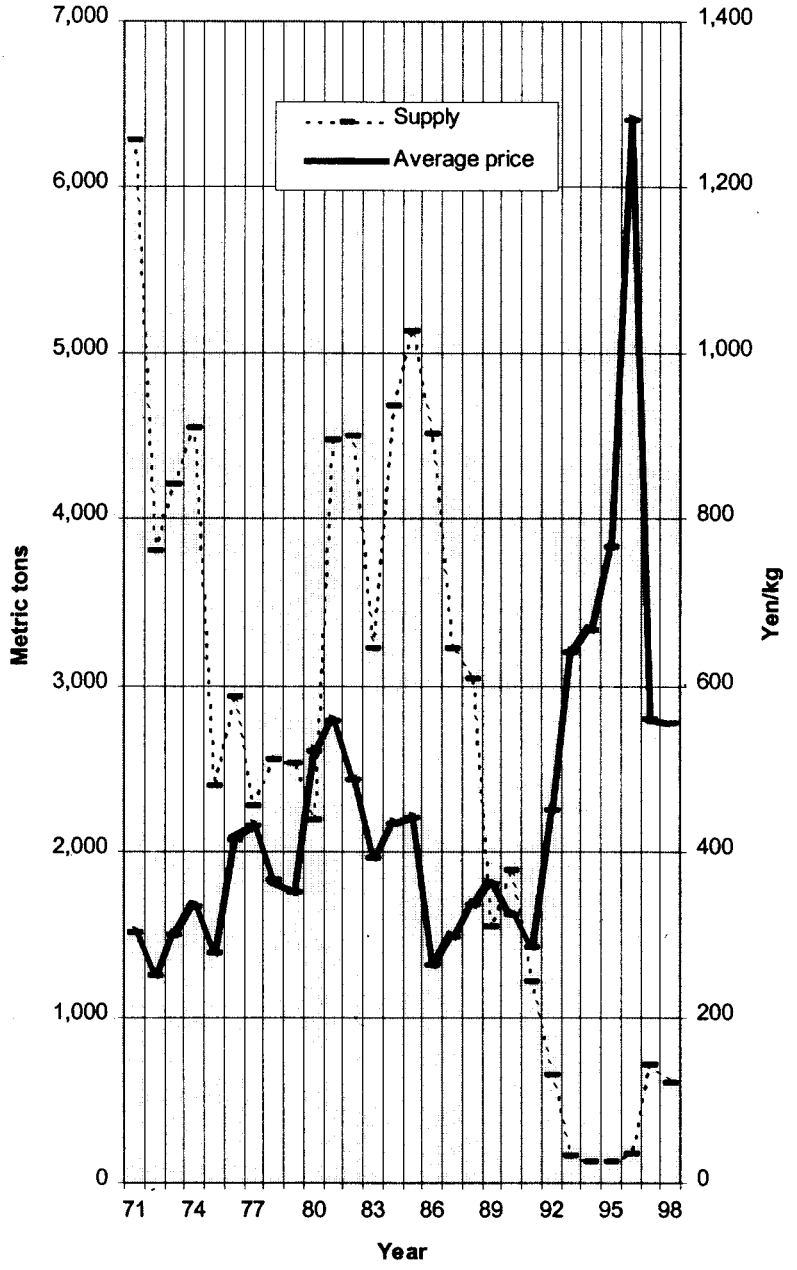

Figure 29. Supply and average wholesale prices of frozen albacore tuna at ten major central wholesale markets in Japan, 1971-1998. (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

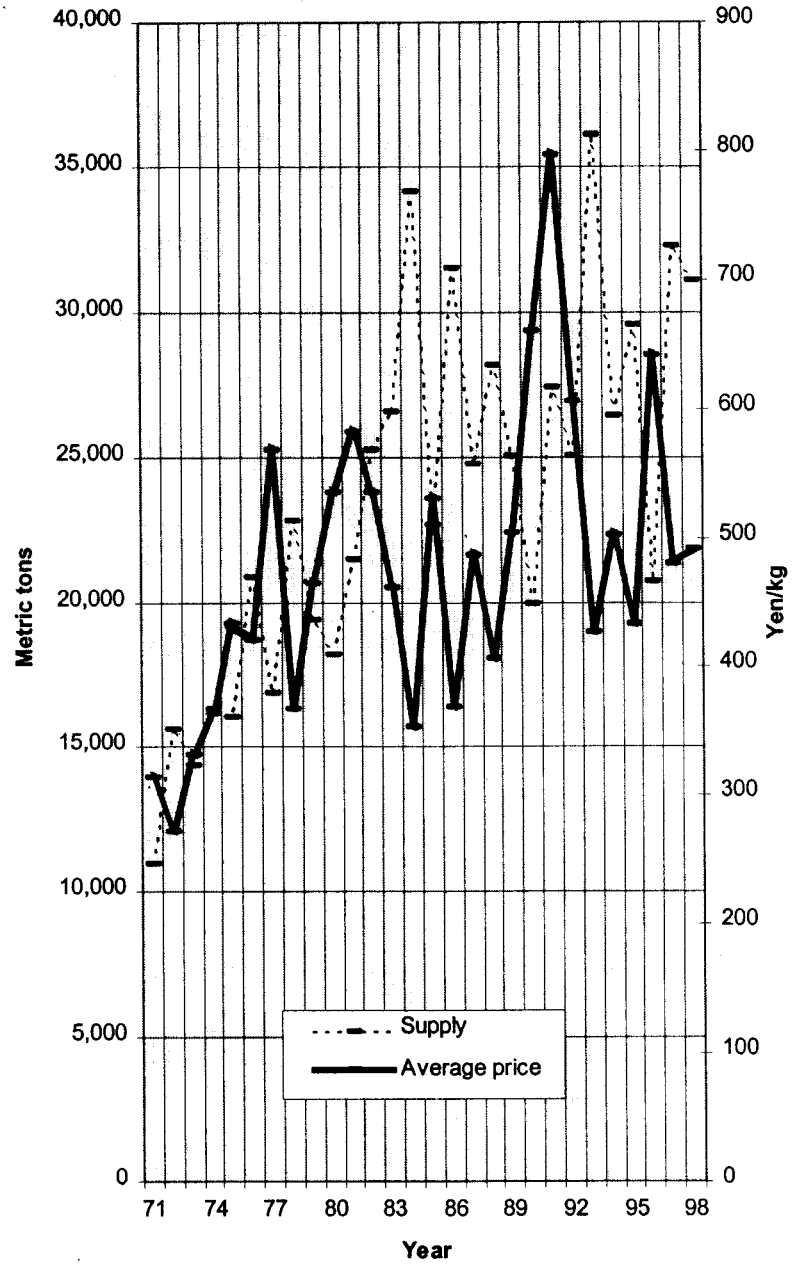

Figure 30. **Supply and average wholesale prices of fresh skipjack tuna at ten major central wholesale markets in Japan, 1971-1998.** (Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999; Suisan Tsushin Sha 1999)

Table 32. Supply and average wholesale prices of bluefin tuna at six major central wholesale markets (through 1980) and ten major central wholesale markets (since 1981) in Japan, 1971-1998.

	Fresh		Frozen	
Year	Metric tons	Yen/kg	Metric tons	Yen/kg
1971	9,038	903	25,495	802
1972	8,538	991	28,473	916
1973	6,509	1,207	21,731	1,193
1974	5,879	1,451	24,939	1,296
1975	5,913	1,510	26,206	1,430
1976	5,189	1,833	21,875	1,793
1977	6,448	1,750	21,771	1,859
1978	9,188	1,371	23,036	1,926
1979	8,923	1,964	16,139	2,728
1980	6,758	2,145	22,423	2,232
1981	14,960	1,590	24,086	2,377
1982	15,360	1,651	18,196	2,917
1983	9,403	2,125	17,799	3,061
1984	5,688	2,690	19,029	3,020
1985	4,861	2,655	19,516	2,946
1986	4,392	3,282	15,861	3,593
1987	4,889	2,758	15,856	3,394
1988	4,902	3,269	16,173	3,678
1989	5,982	3,482	11,751	4,626
1990	4,224	4,617	13,438	4,226
1991	4,915	3,841	14,592	3,914
1992	5,914	3,447	15,296	3,672
1993	7,502	3,246	13,725	3,896
1994	10,605	2,535	16,317	3,201
1995	9,289	2,597	20,468	2,733
1996	8,999	2,735	20,155	3,076
1997	9,636	2,794	19,273	3,108
1998	8,731	2,878	22,799	2,624

Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999
Suisan Tsushin Sha February 18, 1999

Table 33. Supply and average wholesale prices of yellowfin tuna at six major central wholesale markets (through 1980) and ten major central wholesale markets (since 1981) in Japan, 1971-1998.

	Fresh		Frozen	
Year	Metric tons	Yen/kg	Metric tons	Yen/kg
1971	10,735	495	28,688	347
1972	9,742	504	35,086	371
1973	9,718	549	30,230	456
1974	9,192	609	30,601	549
1975	7,967	796	27,983	630
1976	9,897	846	31,791	638
1977	8,520	1,003	29,892	741
1978	10,873	805	31,324	583
1979	13,993	954	29,033	833
1980	13,285	1,005	31,635	798
1981	12,397	1,091	28,046	960
1982	11,484	1,255	27,796	948
1983	13,790	1,157	27,101	779
1984	16,127	1,191	24,517	962
1985	18,701	1,081	25,236	830
1986	15,894	1,124	30,151	667
1987	14,982	1,077	32,639	660
1988	17,579	1,047	32,334	655
1989	20,937	1,094	24,578	955
1990	23,364	1,134	27,281	744
1991	26,476	1,108	26,955	689
1992	28,546	1,083	22,303	838
1993	28,664	1,114	21,991	872
1994	27,169	1,098	22,408	794
1995	29,412	986	20,147	762
1996	25,105	1,059	17,564	889
1997	23,509	1,106	18,541	857
1998	23,869	1,047	18,016	773

Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999
Suisan Tsushin Sha February 18, 1999

Table 34. Supply and average wholesale prices of bigeye tuna at six major central wholesale markets (through 1980) and ten major central wholesale markets (since 1981) in Japan, 1971-1998.

	Fresh		Frozen	
Year	Metric tons	Yen/kg	Metric tons	Yen/kg
1971	11,501	576	51,674	422
1972	8,595	643	64,504	479
1973	7,290	756	69,339	538
1974	6,223	862	66,194	647
1975	7,313	1,070	67,515	705
1976	5,376	1,454	68,682	796
1977	4,240	1,679	58,970	911
1978	5,178	1,510	66,771	771
1979	3,805	2,013	58,604	1,081
1980	3,422	1,878	56,862	1,005
1981	5,662	1,664	55,579	1,101
1982	4,356	1,920	54,696	1,194
1983	5,742	1,823	57,563	1,061
1984	6,522	1,817	48,862	1,303
1985	6,796	1,744	56,256	1,108
1986	6,873	1,814	69,588	991
1987	9,069	1,598	71,725	980
1988	9,762	1,668	65,712	1,107
1989	10,208	1,827	62,389	1,323
1990	11,603	1,896	60,449	1,333
1991	10,351	1,932	62,550	1,102
1992	11,860	1,852	59,085	1,225
1993	12,535	1,739	53,981	1,306
1994	13,810	1,570	51,769	1,177
1995	14,002	1,392	52,930	1,058
1996	14,667	1,376	45,018	1,229
1997	15,133	1,439	47,285	1,199
1998	15,313	1,393	52,025	994

Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999
Suisan Tsushin Sha February 18, 1999

Table 35. Supply and average wholesale prices of fresh skipjack tuna at six major central wholesale markets (through 1980) and ten major central wholesale markets (since 1981) in Japan, 1971-1998.

	Fresh	
Year	Metric tons	Yen/kg
1971	10,963	315
1972	15,640	272
1973	14,407	332
1974	16,332	364
1975	16,085	433
1976	20,869	421
1977	16,919	568
1978	22,807	368
1979	19,433	465
1980	18,228	535
1981	21,464	583
1982	25,260	535
1983	26,549	461
1984	34,143	354
1985	22,685	531
1986	31,530	369
1987	24,732	487
1988	28,185	407
1989	25,070	504
1990	20,000	660
1991	27,382	497
1992	25,064	605
1993	36,096	427
1994	26,414	503
1995	29,598	433
1996	20,748	642
1997	32,279	480
1998	31,103	492

Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999
Suisan Tsushin Sha February 18, 1999

Table 36. Supply and average wholesale prices of frozen albacore tuna at six major central wholesale markets (through 1980) and ten major central wholesale markets (since 1981) in Japan, 1971-1998.

	Frozen	
Year	Metric tons	Yen/kg
1971	6,276	301
1972	3,815	251
1973	4,207	299
1974	4,547	334
1975	2,400	277
1976	2,928	414
1977	2,279	432
1978	2,553	366
1979	2,527	351
1980	2,186	521
1981	4,481	557
1982	4,509	486
1983	3,224	392
1984	4,685	434
1985	5,134	440
1986	4,513	264
1987	3,223	297
1988	3,041	336
1989	1,542	360
1990	1,885	324
1991	1,223	284
1992	656	451
1993	175	640
1994	132	668
1995	138	767
1996	179	1,280
1997	719	561
1998	604	555

Sources: Ministry of Agriculture, Forestry and Fisheries 1972-1999
Suisan Tsushin Sha February 18, 1999

Table 37. Monthly average wholesale prices of fresh Japanese bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	6,616	4,641	9,355	7,479	6,877	7,486	7,848	7,224	5,327	7,605
February	6,733	5,520	6,490	6,380	6,944	5,598	6,261	6,426	3,635	6,158
March	7,906	11,076	7,880	9,016	6,380	6,390	6,837	6,570	5,320	4,709
April	8,610	9,299	8,381	6,511	4,986	4,227	5,754	5,376	5,046	5,853
May	4,276	6,680	5,858	4,644	4,319	3,053	4,094	2,790	3,667	3,154
June	2,712	4,565	4,871	3,135	3,799	2,027	2,175	2,223	2,792	2,522
July	2,279	3,774	2,535	2,379	1,979	1,331	1,398	1,849	1,672	2,017
August	2,529	3,783	2,274	3,489	2,727	1,864	1,845	2,054	2,458	2,301
September	2,367	2,813	4,226	4,178	3,665	2,442	3,502	3,497	2,372	3,149
October	6,077	7,962	6,459	5,430	5,634	5,864	4,594	3,976	3,703	3,867
November	9,052	8,299	9,117	5,922	5,362	7,047	6,594	5,292	5,383	4,816
December	6,131	10,087	7,546	4,746	4,905	7,915	6,510	5,288	7,697	7,460
Jan.-Dec.	3,335	4,857	3,934	3,841	3,562	2,592	2,880	2,973	3,342	3,424

Source: Tokyo Metropolitan Government 1990-1999

Table 38. Monthly average wholesale prices of fresh imported bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	5,849	6,840	6,442	4,659	5,816	4,931	4,824	5,251	5,743	4,604
February	4,335	6,309	6,808	5,400	5,415	5,052	3,896	6,019	4,913	4,127
March	4,416	5,856	6,830	5,230	5,171	4,370	3,983	4,168	3,898	2,961
April	4,392	4,777	5,678	3,905	4,174	3,173	2,955	2,895	3,201	3,052
May	3,915	4,804	3,955	4,043	3,061	2,599	2,715	2,694	2,245	2,133
June	3,843	4,507	3,757	3,954	3,349	2,912	2,767	2,714	2,971	2,800
July	4,819	5,621	5,766	4,331	3,291	4,070	3,217	3,555	4,448	3,806
August	4,538	6,438	5,329	5,838	4,891	3,892	4,579	4,469	3,605	2,734
September	5,112	5,192	5,463	5,622	5,355	3,304	3,893	4,211	3,932	3,815
October	5,122	5,369	5,538	4,166	4,524	3,356	3,908	4,120	3,726	4,056
November	5,808	5,821	5,870	5,110	4,462	3,199	4,314	4,033	3,289	4,003
December	8,103	7,406	6,720	5,708	5,241	4,335	5,000	5,097	4,406	4,515
Jan.-Dec.	5,051	5,730	5,421	4,905	4,468	3,597	3,626	3,834	3,641	3,539

Source: Tokyo Metropolitan Government 1990-1999

Table 39. Monthly average wholesale prices of fresh juvenile bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	2,027	2,080	1,264	1,344	1,664	1,999	889	1,004	1,334	2,078
February	1,534	2,477	2,065	1,546	1,589	1,764	736	1,610	1,223	1,398
March	1,896	1,766	1,303	1,117	1,329	1,807	976	1,825	982	941
April	1,721	1,706	1,218	899	1,285	1,407	657	1,322	1,158	994
May	1,334	2,143	2,222	1,373	1,621	982	634	2,111	1,091	880
June	1,255	1,884	1,660	767	1,925	2,114	1,275	1,026	690	1,086
July	1,169	1,412	915	1,140	1,397	1,574	458	1,384	558	905
August	1,443	1,232	1,141	2,304	1,175	1,350	859	1,288	639	1,132
September	1,159	888	1,041	989	1,025	986	619	1,015	618	892
October	1,489	1,111	737	1,099	1,991	811	547	947	812	1,171
November	2,181	1,374	726	3,128	1,940	801	439	1,247	753	873
December	2,667	1,796	1,026	2,364	1,558	1,015	876	1,213	1,663	1,039
Jan.-Dec.	1,439	1,419	968	1,129	1,501	1,071	633	1,153	781	1,013

Source: Tokyo Metropolitan Government 1990-1999

Table 40. Monthly average wholesale prices of fresh Japanese yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	1,177	2,132	2,247	1,933	1,666	1,998	2,119	2,134	2,169	1,191
February	1,128	1,375	1,489	1,167	1,622	1,456	1,404	955	1,075	1,102
March	1,472	1,803	1,787	1,275	1,701	1,516	1,109	1,498	1,257	1,245
April	1,094	1,332	1,192	973	1,569	1,373	1,135	1,271	1,104	1,105
May	829	1,047	663	751	673	754	565	677	489	610
June	904	818	766	717	734	789	412	600	592	589
July	890	620	856	602	751	660	375	602	430	847
August	1,162	1,304	1,242	765	725	841	513	475	618	770
September	1,186	1,018	1,935	935	900	1,034	630	765	676	917
October	1,295	1,670	1,803	874	1,347	994	1,004	1,146	894	706
November	2,015	2,069	2,121	1,549	1,252	1,119	1,944	1,504	1,014	1,136
December	2,437	2,625	2,770	2,002	1,708	2,207	2,060	2,219	1,415	1,534
Jan.-Dec.	1,088	1,155	1,137	964	1,027	1,065	691	823	762	832

Source: Tokyo Metropolitan Government 1990-1999

Table 41. Monthly average wholesale prices of fresh imported yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	884	1,013	982	970	1,011	1,087	938	1,062	965	838
February	961	877	1,177	1,160	1,163	1,177	1,134	1,185	1,006	1,344
March	908	1,055	1,123	1,235	1,147	1,376	1,476	1,640	1,058	995
April	1,059	1,299	1,471	1,379	1,105	1,295	1,410	1,538	1,742	1,465
May	1,548	1,944	1,559	1,183	1,075	1,142	1,256	1,363	1,310	1,342
June	1,322	1,818	1,427	1,637	1,066	1,156	994	1,381	1,164	1,195
July	1,183	1,118	1,246	965	950	1,197	1,067	1,106	1,169	991
August	1,621	1,299	1,447	1,336	1,245	1,286	1,292	1,034	1,526	1,016
September	1,424	1,358	1,539	1,319	1,248	1,398	1,106	1,221	1,307	1,148
October	1,435	1,226	1,336	1,197	1,222	1,195	1,252	1,203	1,130	1,082
November	1,034	909	1,222	943	926	1,144	1,166	1,225	1,193	1,112
December	1,066	1,207	915	1,061	1,214	995	1,061	1,127	1,162	1,243
Jan.-Dec.	1,180	1,256	1,269	1,181	1,116	1,198	1,206	1,275	1,259	1,151

Source: Tokyo Metropolitan Government 1990-1999

Table 42. Monthly average wholesale prices of fresh juvenile yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	783	922	682	546	709	684	427	731	530	595
February	746	784	748	527	724	719	412	711	570	688
March	665	916	663	717	792	637	508	873	642	737
April	404	792	544	522	744	845	466	886	686	602
May	324	600	365	418	416	434	261	460	387	495
June	368	484	346	367	508	374	229	354	280	336
July	390	467	493	523	499	382	242	271	271	414
August	694	826	644	853	716	451	460	399	638	484
September	831	839	847	869	745	587	456	816	679	626
October	692	575	1,008	931	656	520	353	716	650	529
November	785	543	380	811	669	397	455	735	794	541
December	966	696	455	802	586	537	393	645	781	415
Jan.-Dec.	587	717	608	581	619	505	313	543	560	511

Source: Tokyo Metropolitan Government 1990-1999

Table 43. Monthly average wholesale prices of fresh Japanese bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	3,521	4,255	3,966	4,018	3,314	3,807	3,439	3,395	2,597	2,289
February	3,364	3,748	3,544	3,263	3,295	3,473	3,046	3,415	2,310	2,404
March	3,165	4,028	3,687	3,665	3,647	3,607	3,012	2,981	2,050	1,947
April	2,439	3,061	3,113	3,216	2,598	2,695	2,071	2,137	1,909	1,434
May	802	1,829	1,618	1,978	1,534	1,390	1,146	1,096	1,078	1,292
June	907	1,403	1,328	1,663	1,074	1,319	599	1,041	885	897
July	976	1,234	1,151	1,214	1,118	1,063	1,004	827	864	1,312
August	1,623	1,719	2,768	2,109	2,278	1,866	1,477	2,325	2,045	2,118
September	2,124	2,498	3,023	2,773	2,459	3,029	2,814	3,290	2,411	2,207
October	3,629	3,265	3,529	3,290	3,387	2,603	2,985	2,959	2,299	2,303
November	3,584	3,462	3,846	3,152	2,988	3,086	3,064	2,996	2,672	2,369
December	4,679	4,545	4,530	3,863	4,300	4,054	4,114	3,704	3,052	3,108
Jan.-Dec.	3,224	3,299	3,409	3,169	3,232	3,094	2,507	2,778	2,034	2,134

Source: Tokyo Metropolitan Government 1990-1999

Table 44. Monthly average wholesale prices of fresh imported bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	1,337	1,650	1,870	1,637	1,392	1,630	1,488	1,317	1,311	1,461
February	1,370	1,409	1,733	1,655	1,811	1,476	1,265	1,446	1,431	1,495
March	1,532	1,915	2,006	1,777	1,691	1,790	1,605	1,679	1,457	1,416
April	1,414	1,932	2,060	1,997	1,765	1,700	1,313	1,325	1,597	1,656
May	1,659	1,759	1,806	1,688	1,522	1,353	1,210	1,271	1,457	1,498
June	1,890	1,747	1,771	1,722	1,638	1,349	1,221	1,319	1,587	1,747
July	2,708	2,124	2,173	1,747	1,480	1,588	1,412	1,521	1,610	1,416
August	2,858	2,493	2,415	2,270	1,904	1,720	1,709	1,357	1,729	1,440
September	2,465	1,938	2,477	2,175	1,680	1,589	1,552	1,407	1,566	1,494
October	2,288	2,167	2,584	2,187	1,823	1,649	1,539	1,446	1,384	1,307
November	2,226	2,056	2,223	1,770	1,592	1,532	1,500	1,523	1,503	1,311
December	2,147	2,138	2,041	1,823	2,011	1,718	1,795	1,580	1,641	1,494
Jan.-Dec.	2,087	1,989	2,116	1,924	1,705	1,600	1,471	1,439	1,515	1,472

Source: Tokyo Metropolitan Government 1990-1999

Table 45. Monthly average wholesale prices of fresh juvenile bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	1,098	852	602	606	494	870	538	542	1,492	2,041
February	754	754	738	393	471	963	465	921	731	2,293
March	636	816	716	383	411	888	382	742	677	1,609
April	544	711	655	542	395	683	445	800	684	891
May	496	637	596	515	415	531	313	422	439	673
June	595	586	497	538	360	539	318	488	408	591
July	608	552	523	507	429	542	315	374	369	891
August	804	850	739	795	555	683	389	414	623	877
September	716	648	758	487	393	692	430	657	576	1,141
October	778	762	776	700	564	543	418	671	802	1,402
November	862	960	1,027	749	518	473	470	660	1,049	1,417
December	895	1,095	750	708	477	462	379	1,352	1,245	3,283
Jan.-Dec.	620	646	579	527	446	580	337	457	486	937

Source: Tokyo Metropolitan Government 1990-1999

Table 46. Monthly average wholesale prices of frozen bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	2,747	3,203	2,587	3,304	3,189	3,467	2,740	3,018	3,720	3,035
February	2,508	3,207	2,893	3,135	3,289	3,072	2,887	2,943	3,589	2,889
March	3,695	3,488	3,366	3,143	3,406	3,469	2,871	3,132	3,754	2,744
April	4,742	3,550	3,406	3,289	3,756	3,580	2,602	3,093	3,686	2,704
May	4,539	3,477	3,300	3,611	4,395	2,998	2,925	3,301	3,776	2,642
June	4,387	3,717	3,553	3,126	4,350	3,245	2,777	3,512	3,765	2,665
July	3,994	3,336	3,296	3,149	3,769	3,193	2,811	3,436	3,376	2,662
August	3,567	3,342	2,749	3,309	3,484	3,139	2,788	3,580	3,381	2,718
September	3,179	3,184	2,708	2,986	3,318	2,854	2,494	3,579	3,278	2,803
October	2,604	2,852	3,016	3,037	3,194	2,863	2,622	3,713	3,189	2,665
November	2,914	2,912	2,721	3,036	3,141	2,793	2,675	3,666	3,176	2,635
December	3,340	2,897	3,037	3,107	3,332	2,740	2,814	3,611	3,287	2,800
Jan.-Dec.	3,505	3,251	3,056	3,171	3,531	3,085	2,744	3,383	3,473	2,727

Source: Tokyo Metropolitan Government 1990-1999

Table 47. Monthly average wholesale prices of frozen yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	768	838	471	782	799	686	768	693	836	726
February	804	801	426	716	791	699	746	611	824	673
March	903	768	516	789	813	692	744	740	822	641
April	981	796	579	766	844	701	707	748	774	662
May	864	646	523	672	756	700	660	765	776	675
June	862	536	488	674	802	704	569	793	795	650
July	888	499	535	665	751	700	613	841	789	615
August	1,010	583	626	737	787	708	652	819	777	636
September	918	609	781	749	727	725	647	804	718	647
October	976	646	1,029	763	673	778	684	790	688	678
November	959	490	710	784	687	771	687	813	741	717
December	920	534	874	864	684	805	672	865	780	759
Jan.-Dec.	894	612	608	752	755	720	675	763	767	675

Source: Tokyo Metropolitan Government 1990-1999

Table 48. Monthly average wholesale prices of frozen bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	1,352	1,373	1,318	1,160	1,454	1,271	1,226	1,239	1,343	1,171
February	1,407	1,349	1,196	1,129	1,423	1,203	1,139	1,221	1,249	1,027
March	1,459	1,353	1,183	1,205	1,468	1,235	1,089	1,195	1,222	986
April	1,506	1,365	1,172	1,215	1,428	1,225	1,067	1,175	1,191	974
May	1,392	1,394	1,092	1,183	1,393	1,202	1,027	1,172	1,192	952
June	1,263	1,362	1,035	1,204	1,350	1,139	967	1,166	1,174	914
July	1,280	1,353	988	1,187	1,320	1,140	964	1,201	1,167	919
August	1,306	1,368	1,045	1,233	1,253	1,163	960	1,203	1,151	910
September	1,256	1,376	1,080	1,276	1,225	1,156	1,013	1,222	1,126	905
October	1,253	1,353	1,062	1,286	1,209	1,179	1,054	1,280	1,124	952
November	1,288	1,273	1,119	1,424	1,250	1,213	1,129	1,357	1,152	1,048
December	1,464	1,491	1,342	1,577	1,446	1,333	1,328	1,477	1,276	1,172
Jan.-Dec.	1,352	1,372	1,136	1,264	1,351	1,207	1,077	1,248	1,196	991

Source: Tokyo Metropolitan Government 1990-1999

Table 49. Monthly and annual supply of fresh Japanese bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	33	8	12	25	27	28	19	17	43	26
February	13	5	18	15	34	37	16	27	45	21
March	29	23	11	37	57	49	32	39	60	44
April	52	45	51	89	130	137	64	84	100	84
May	174	89	92	181	204	292	138	251	198	220
June	371	142	93	300	228	449	290	366	150	150
July	396	203	403	442	567	629	456	334	267	124
August	122	82	227	40	133	250	39	116	119	185
September	265	203	22	46	32	257	22	41	129	70
October	35	30	43	34	47	37	27	38	108	34
November	28	31	27	28	43	35	24	43	46	27
December	8	10	11	44	55	33	41	59	40	27
Jan.-Dec.	1,527	873	1,012	1,281	1,557	2,234	1,168	1,416	1,304	1,015

Source: Tokyo Metropolitan Government 1990-1999

Table 50. Monthly and annual supply of fresh imported bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	30	76	76	62	78	98	76	89	75	93
February	54	94	43	81	53	68	108	50	80	102
March	56	84	82	59	72	108	128	100	125	182
April	42	71	71	73	112	149	188	192	122	123
May	89	90	134	61	139	170	238	209	248	137
June	66	67	131	68	129	195	249	148	126	117
July	70	70	43	65	106	107	184	118	88	84
August	181	92	107	111	127	144	151	94	101	110
September	187	148	159	128	162	160	185	157	145	141
October	129	140	120	148	97	136	150	154	139	158
November	65	79	55	95	98	144	109	148	154	131
December	98	88	71	98	115	130	113	125	162	174
Jan.-Dec.	1,066	1,100	1,095	1,049	1,288	1,610	1,878	1,583	1,567	1,552

Source: Tokyo Metropolitan Government 1990-1999

Table 51. Monthly and annual supply of fresh juvenile bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	44	44	149	338	114	58	252	357	177	61
February	46	13	36	112	93	44	342	82	146	58
March	19	18	74	92	124	20	100	20	207	129
April	6	6	27	73	70	24	69	19	46	67
May	36	16	16	14	27	105	111	5	48	162
June	224	79	72	821	64	30	57	206	420	138
July	228	193	543	377	229	36	854	118	822	244
August	88	81	211	28	43	53	160	56	266	55
September	147	167	90	124	38	168	318	144	460	162
October	51	126	328	104	17	179	713	140	409	56
November	44	147	709	21	45	296	1,087	161	403	326
December	59	137	812	109	131	360	903	339	109	407
Jan.-Dec.	993	1,026	3,068	2,214	995	1,372	4,967	1,646	3,512	1,864

Source: Tokyo Metropolitan Government 1990-1999

Table 52. Monthly and annual supply of fresh Japanese yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	92	35	41	62	64	57	61	20	41	14
February	121	84	70	152	108	82	71	154	171	80
March	222	109	142	203	176	152	182	116	206	166
April	508	256	366	626	226	177	173	125	154	153
May	552	408	506	624	569	327	364	322	505	274
June	326	321	366	254	325	202	593	340	252	356
July	218	318	123	177	138	158	317	236	253	120
August	120	73	16	165	225	88	231	226	147	65
September	106	179	65	142	156	39	241	220	42	69
October	52	106	36	47	35	121	25	23	37	182
November	32	38	34	54	51	38	18	29	24	36
December	62	53	72	106	77	36	34	43	19	28
Jan.-Dec.	2,413	1,980	1,837	2,612	2,150	1,476	2,310	1,853	1,849	1,541

Source: Tokyo Metropolitan Government 1990-1999

Table 53. Monthly and annual supply of fresh imported yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	81	97	122	92	52	60	59	40	35	62
February	98	67	95	66	47	51	55	40	27	38
March	101	79	95	102	63	73	82	43	41	40
April	82	71	78	60	73	64	85	53	68	43
May	97	91	144	86	91	57	93	65	51	55
June	84	60	83	60	81	68	49	57	46	49
July	63	36	88	58	55	63	42	36	32	28
August	55	58	96	51	54	56	59	38	28	28
September	67	43	86	73	61	52	54	35	17	31
October	90	67	99	90	103	44	56	42	21	26
November	98	79	97	85	80	57	58	48	28	35
December	128	142	150	91	87	84	56	49	63	37
Jan.-Dec.	1,045	889	1,233	913	846	730	748	545	457	471

Source: Tokyo Metropolitan Government 1990-1999

Table 54. Monthly and annual supply of fresh juvenile yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	32	6	5	10	4	5	14	3	20	8
February	21	37	20	28	25	18	10	3	70	54
March	18	54	62	18	14	11	9	1	37	49
April	29	36	23	24	10	15	15	14	39	29
May	48	28	17	42	18	41	113	46	39	67
June	15	20	31	28	24	29	65	71	14	70
July	10	15	18	31	46	29	28	79	40	127
August	19	10	20	22	24	32	40	81	72	98
September	11	2	27	6	16	22	8	66	38	27
October	32	9	8	9	14	19	7	73	11	78
November	7	30	6	15	12	16	5	66	7	33
December	7	2	1	5	11	9	3	7	7	11
Jan.-Dec.	248	250	239	239	219	246	317	511	392	651

Source: Tokyo Metropolitan Government 1990-1999

Table 55. Monthly and annual supply of fresh Japanese bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	229	167	193	160	203	125	70	68	76	75
February	204	170	183	182	149	103	84	80	72	71
March	189	162	156	181	128	75	74	57	66	78
April	103	106	88	110	59	32	32	31	55	100
May	88	74	69	79	36	33	35	49	130	72
June	96	137	129	83	29	26	108	39	187	120
July	60	112	55	104	18	44	104	66	131	54
August	23	77	24	54	22	36	100	64	149	100
September	57	104	73	61	101	80	95	77	152	131
October	179	196	152	129	154	166	141	153	217	211
November	289	263	185	211	253	151	132	131	195	220
December	335	352	278	348	243	156	130	137	192	218
Jan.-Dec.	1,851	1,919	1,584	1,701	1,396	1,047	1,104	951	1,622	1,450

Source: Tokyo Metropolitan Government 1990-1999

Table 56. Monthly and annual supply of fresh imported bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	86	170	175	154	210	234	445	428	475	492
February	82	134	132	151	181	292	396	344	371	417
March	114	142	129	158	260	318	309	329	418	493
April	108	124	150	113	232	350	357	381	373	395
May	124	132	185	166	286	349	399	352	353	380
June	80	61	141	175	301	372	322	279	318	333
July	112	191	202	209	351	442	296	312	310	388
August	156	231	178	316	348	423	318	330	299	364
September	168	188	185	334	438	441	378	352	347	351
October	177	206	193	349	369	570	407	428	429	422
November	190	230	183	294	354	508	426	454	370	395
December	201	256	264	271	414	636	445	565	560	476
Jan.-Dec.	1,597	2,166	2,116	2,690	3,746	4,994	4,498	4,553	4,624	4,907

Source: Tokyo Metropolitan Government 1990-1999

Table 57. Monthly and annual supply of fresh juvenile bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	2	11	2	10	7	7	1	1	6	9
February	3	16	5	14	3	4	1	3	3	6
March	22	17	11	15	5	5	3	23	6	13
April	62	71	31	12	12	18	29	28	24	44
May	177	88	90	48	23	96	237	170	136	60
June	169	187	184	92	145	204	307	254	224	129
July	207	171	70	148	79	154	147	366	141	46
August	79	60	33	40	47	112	121	148	110	46
September	69	49	34	15	34	20	34	31	15	34
October	27	16	7	16	33	11	12	11	5	20
November	17	6	-*	10	26	5	7	6	5	16
December	10	1	-	4	5	5	3	8	10	7
Jan.-Dec.	843	693	466	423	420	641	903	1,049	684	430

-* - Less than 0.5 metric tons

Source: Tokyo Metropolitan Government 1990-1999

Table 58. Monthly and annual supply of frozen bluefin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	171	127	206	219	243	193	243	305	221	232
February	192	137	176	266	240	220	196	299	226	274
March	234	283	259	303	341	252	255	380	322	487
April	142	175	293	291	304	225	253	419	336	534
May	172	167	257	276	221	229	186	350	262	504
June	146	190	237	341	195	201	182	326	281	492
July	215	300	397	358	281	257	231	410	397	531
August	155	205	331	312	249	234	254	266	342	460
September	118	169	263	1	229	242	285	265	268	381
October	155	186	338	24	234	242	256	321	331	455
November	167	210	353	73	240	246	279	381	349	451
December	259	340	429	97	346	437	458	468	459	572
Jan.-Dec.	2,126	2,490	3,539	3,870	3,125	2,977	3,076	4,191	3,795	5,371

Source: Tokyo Metropolitan Government 1990-1999

Table 59. Monthly and annual supply of frozen yellowfin tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	351	140	296	91	150	183	128	169	166	123
February	289	169	312	110	208	221	129	329	189	147
March	380	179	393	145	306	290	163	185	187	170
April	305	207	301	208	263	314	156	213	216	142
May	173	238	272	195	267	233	179	161	177	122
June	113	299	324	150	212	207	175	151	157	109
July	157	258	183	167	251	192	151	133	162	115
August	114	241	195	149	221	207	183	101	175	102
September	91	418	187	174	246	192	157	129	265	112
October	269	682	289	156	271	201	191	187	370	144
November	141	455	119	191	252	179	173	204	210	124
December	177	564	181	268	355	220	256	262	179	155
Jan.-Dec.	2,559	3,848	3,052	2,004	3,001	2,639	2,042	2,224	2,453	1,566

Source: Tokyo Metropolitan Government 1990-1999

Table 60. Monthly and annual supply of frozen bigeye tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	3,180	3,246	2,997	3,151	2,482	2,695	2,415	2,318	2,229	2,380
February	2,783	3,271	2,922	3,330	2,673	2,813	2,671	2,368	2,400	2,906
March	3,643	4,130	3,933	3,707	3,209	3,346	3,395	2,988	3,003	3,466
April	3,571	3,804	4,108	4,014	3,440	3,427	3,334	3,255	3,237	3,638
May	3,647	3,736	4,021	4,603	3,231	3,120	3,539	3,037	2,959	3,352
June	3,819	3,687	3,740	3,541	3,295	3,266	3,343	2,826	2,759	3,358
July	4,335	3,727	4,474	3,904	3,563	3,288	3,586	2,969	3,036	3,512
August	4,031	3,701	3,975	3,606	3,359	3,312	3,698	2,296	2,997	3,211
September	3,914	3,649	3,427	3,488	3,218	2,995	3,303	2,468	3,157	3,311
October	4,061	3,802	4,064	3,632	3,404	3,032	3,262	2,745	3,265	3,224
November	4,111	3,547	3,829	3,304	3,356	3,107	3,054	2,785	2,991	2,888
December	5,687	5,093	5,230	4,596	4,562	4,050	3,824	3,673	4,320	3,876
Jan.-Dec.	46,781	45,394	46,719	43,876	39,792	38,452	39,424	33,730	36,355	39,120

Source: Tokyo Metropolitan Government 1990-1999

Table 61. Monthly average wholesale price of fresh skipjack tuna at Tokyo Central Wholesale Market, 1989-1998 (yen/kg).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	496	807	899	716	867	912	391	906	1,153	1,242
February	567	769	846	709	795	782	431	730	861	764
March	777	1,015	952	907	788	984	784	1,012	828	862
April	772	1,088	923	1,029	849	947	761	927	749	797
May	650	829	738	920	486	659	578	772	500	722
June	549	711	558	697	416	462	397	605	389	438
July	433	578	389	583	301	305	380	410	382	350
August	506	628	429	589	352	575	350	555	475	347
September	528	518	377	506	297	505	348	665	486	438
October	557	720	476	536	415	520	463	887	397	374
November	792	1,220	720	714	718	759	685	968	554	599
December	935	1,340	888	929	949	1,059	1,055	1,384	1,095	963
Jan.-Dec.	614	783	612	740	487	587	493	715	523	538

Source: Tokyo Metropolitan Government 1990-1999

Table 62. Monthly and annual supply of fresh skipjack tuna at Tokyo Central Wholesale Market, 1989-1998 (metric tons).

Month	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	63	41	68	66	55	51	61	27	25	20
February	246	193	235	253	212	141	246	182	228	263
March	905	746	681	740	901	535	629	587	950	832
April	1,611	1,092	1,402	1,389	1,540	1,229	1,377	1,260	1,644	1,606
May	1,853	1,357	1,741	1,519	2,350	1,717	1,981	1,743	2,522	1,691
June	1,439	1,261	1,482	1,409	2,239	1,882	1,964	1,644	2,291	1,899
July	1,356	1,085	1,600	1,115	2,025	1,897	1,542	1,290	1,640	1,719
August	792	718	1,133	864	1,302	832	1,316	625	1,005	1,401
September	675	819	1,052	1,113	1,519	781	1,437	657	1,055	1,328
October	478	654	887	829	1,301	807	935	516	1,285	1,402
November	255	184	359	320	528	352	355	200	768	612
December	38	66	31	91	129	40	32	35	117	101
Jan.-Dec.	9,712	8,216	10,671	9,708	14,100	10,265	11,876	8,768	13,529	12,873

Source: Tokyo Metropolitan Government 1990-1999

Table 63. Sales volume and average wholesale prices of fresh tuna by major central Wholesale markets in Japan, 1997.

Wholesale	Bluefin tuna		Bigeye tuna		Yellowfin tuna		Skipjack tuna	
Market	Metric tons	Yen/kg	Metric tons	yen/kg	Metric tons	yen/kg	Metric tons	yen/kg
Tokyo	4,226	3,111	6,246	1,650	2,305	860	13,532	523
Yokohama	722	2,391	1,060	1,655	471	840	3,458	471
Nagoya	856	1,981	537	1,209	10,204	1,093	3,892	540
Kyoto	630	3,923	753	1,395	1,709	1,268	317	559
Osaka	1,062	2,631	525	1,221	6,133	1,251	3,456	477
Kobe	18	4,388	20	1,172	1,437	1,049	541	562
Sapporo	1,382	2,547	1,128	1,117	19	580	356	353
Sendai	641	2,104	4,818	1,247	1,229	901	5,911	363
Hiroshima	42	1,589	45	1,931	2	546	466	347
Fukuoka	58	1,293	-*	360	-	825	350	351
Total	9,636	2,794	15,133	1,439	23,509	1,106	32,279	480

-* - Less than 0.5 metric tons

Source: Ministry of Agriculture, Forestry and Fisheries 1999

Table 64. Sales volume and average wholesale prices of frozen tuna by major central wholesale markets in Japan, 1997.

	Bluefin tuna		Bigeye tuna		Yellowfin tuna	
	Metric tons	Yen/kg	Metric tons	Yen/kg	Metric tons	Yen/kg
Tokyo	14,063	2,963	36,355	1,195	2,453	767
Yokohama	570	3,537	5,490	1,261	773	940
Nagoya	1,127	4,195	156	1,523	6,871	917
Kyoto	-*	-	-	-	-	
Osaka	1,429	4,133	3,835	1,073	6,589	780
Kobe	486	3,292	149	1,216	1,169	893
Sapporo	644	2,682	463	1,293	418	1,185
Sendai	594	2,162	440	1,611	211	942
Hiroshima	29	2,616	27	1,598	16	1,525
Fukuoka	331	2,695	371	1,132	36	2,239
Total	19,273	3,108	47,285	1,199	18,536	857

-* - Less than 0.5

Source: Ministry of Agriculture, Forestry and Fisheries 1999

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Appendix 1. Monthly and annual average exchange rate applied to Japanese imports, 1976-1998 (yen/U.S. $1.00).

Month	1976	1977	1978	1979	1980	1981	1982
Jan.	305.50	292.64	240.73	195.98	237.68	203.99	221.36
Feb.	302.84	288.41	241.46	199.16	240.35	203.44	231.15
Mar.	301.50	282.49	236.94	203.39	247.44	207.80	237.03
Apr.	299.30	275.91	222.99	210.87	252.39	211.99	246.01
May	299.00	277.66	225.36	217.81	238.71	217.18	237.25
June	299.83	275.79	222.54	219.83	221.44	223.89	243.66
July	296.89	267.78	205.17	217.24	217.95	226.55	256.07
Aug.	292.81	265.70	191.18	216.13	224.85	236.35	257.18
Sep.	288.18	267.14	190.94	220.54	219.10	230.26	258.60
Oct.	288.43	261.78	187.76	225.41	210.18	229.15	268.14
Nov.	294.12	249.13	184.41	238.48	211.28	230.56	272.81
Dec.	295.68	241.87	196.54	244.62	212.85	218.15	250.33
Jan.-Dec.	296.92	270.53	212.17	217.46	227.85	219.94	248.30

Month	1983	1984	1985	1986	1987	1988	1989
Jan.	232.89	233.83	252.04	202.07	159.01	126.01	125.64
Feb.	237.03	233.98	256.66	193.53	152.70	128.57	128.49
Mar.	235.99	228.79	260.53	180.21	153.47	128.72	128.00
Apr.	238.61	225.10	254.49	178.62	146.97	125.64	132.12
May	235.43	227.48	251.36	167.08	139.91	124.76	133.78
June	238.48	231.56	250.26	169.29	142.58	125.23	143.06
July	239.93	238.69	246.22	163.17	147.81	131.40	141.60
Aug.	242.70	243.69	237.92	155.04	150.83	133.12	140.29
Sep.	244.80	243.02	239.20	154.66	143.02	134.21	145.10
Oct.	236.15	246.68	221.43	154.23	144.59	132.58	142.58
Nov.	234.22	244.08	209.32	160.34	138.52	125.36	142.67
Dec.	234.81	246.07	202.60	162.73	132.65	122.21	143.83
Jan.-Dec.	237.59	236.91	240.17	170.08	146.01	128.15	137.26

Appendix 1 (continued). Monthly and annual average exchange rate applied to Japanese imports, 1976-1998 (yen/U.S. $1.00).

Month	1990	1991	1992	1993	1994	1995	1996
Jan.	144.36	135.27	126.21	124.66	111.79	100.25	104.49
Feb.	144.93	130.97	125.47	123.98	109.23	99.19	106.38
Mar.	148.61	134.02	130.46	117.95	105.04	94.49	105.32
Apr.	156.99	137.68	133.37	115.05	104.47	86.99	107.07
May	157.09	137.71	132.77	110.81	103.07	83.75	106.02
June	159.28	139.05	128.15	107.97	104.29	84.96	108.19
July	151.95	138.85	125.61	108.16	99.55	85.46	109.55
Aug.	148.90	137.00	126.99	105.38	99.57	90.73	107.84
Sep.	142.96	136.24	124.36	104.37	99.25	98.48	108.78
Oct.	133.82	131.72	121.03	105.79	98.97	100.88	110.99
Nov.	128.31	130.47	122.71	107.80	97.41	101.56	112.86
Dec.	130.86	129.14	124.11	108.35	99.22	101.51	112.70
Jan.-Dec.	145.67	134.84	126.77	111.69	102.66	94.02	108.35

Month	1997	1998
Jan.	115.60	130.98
Feb.	121.26	125.90
Mar.	122.38	127.35
Apr.	124.29	130.84
May	123.99	132.33
June	114.98	138.65
July	114.08	140.47
Aug.	117.18	143.44
Sep.	119.44	138.58
Oct.	121.18	129.32
Nov.	122.27	118.14
Dec.	127.90	120.26
Jan.-Dec.	120.38	131.36

Sources: Japan Marine Products Importers Association 1977-1999

Appendix 2. Major Japanese tuna importers

COMPANY: **Daimaru Kogyo Ltd.**
ADDRESS: 2-18-11 Kiba
Koto-ku, Tokyo 135
PHONE: 81-3-3820-7123
FAX: 81-3-3820-7089
CONTACT: Haruji Fujimori

COMPANY: **Gomeikaisha Aburamasa Shoten**
ADDRESS: 14-4 Hananocho
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-31-1230
FAX: 81-832-22-0435

COMPANY: **Happy World Inc.**
ADDRESS: Shibuya Happy Bldg.
6-19-14 Jingumae
Shibuya-ku, Tokyo 150-0001
PHONE: 81-3-5466-4080
FAX: 81-3-5466-4108

COMPANY: **Honami Bussan Co., Ltd.**
ADDRESS: 1-3-7 Izakicho
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-67-5670
FAX: 81-832-66-2181

COMPANY: **Itochu Corporation**
ADDRESS: 2-5-1 Kitaaoyama
Minato-ku, Tokyo 107-77
PHONE: 81-3-3497-6185
FAX: 81-3-3497-6186
CONTACT: Marine Products Dept.

COMPANY: **Ito-Yokado**
ADDRESS: 4-1-4 Shibakoen
Minato-ku, Tokyo 105-0011
PHONE: 81-3-3459-2519
FAX: 81-3-3459-6892
CONTACT: Yoshiyuki Yano

COMPANY: **Kaioh Suisan Co., Ltd.**
ADDRESS: 2-6-7 Tsukiji
Chuo-ku, Tokyo 104
PHONE: 81-3-3543-6066
FAX: 81-3-3545-1689
CONTACT: Keisuke Aoyama

COMPANY: **Kanekyo-Sanyu Reizo Co., Ltd.**
ADDRESS: Kachidoki Shuhan Bldg., 7-10-10 Tsukiji
Chuo-ku, Tokyo 104
PHONE: 81-3-3543-5318
FAX: 81-3-3545-6071

COMPANY: **Kawamoto Shoji Co., Ltd.**
ADDRESS: 1-10-13 Yamatomachi
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-67-1321
FAX: 81-832-67-1322

COMPANY: **Marubeni Corporation**
ADDRESS: 1-4-2 Ohtemachi
Chiyoda-ku, Tokyo 100-0004
PHONE: 81-3-3282-4766
FAX: 81-3-3282-9654
CONTACT: Marine Products Dept.

COMPANY: **Maruha Corporation**
1-1-2 Otemachi
Chiyoda-ku, Tokyo 100-0004
PHONE: 81-3-3216-0269
FAX: 81-3-3216-0844
CONTACT: Marine Products Department

COMPANY: **Marutaka Co., Ltd.**
ADDRESS: 1-2-8 Yamatocho
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-66-4106
FAX: 81-832-67-3019

COMPANY: **Matsuoka Co., Ltd.**
ADDRESS: 1-10-12, Higashi-yamatomachi
Shimonoseki, Yamaguchi 750-0066
PHONE: 81-832-67-5566
FAX: 81-832-67-5286

COMPANY: **Matsuyama Co., Ltd.**
ADDRESS: 11-39 Hananocho
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-34-4131
FAX: 81-832-34-4138

COMPANY: **Meiwa Trading Co., Ltd.**
ADDRESS: 3-3-1 Marunouchi
Chiyoda-ku, Tokyo 100-0005
PHONE: 81-3-3240-9390
FAX: 81-3-3240-9560
CONTACT: Agricultural & Marine Products Dept.

COMPANY: **Mitsubishi Corporation**
ADDRESS: 2-3-1 Marunouchi
Chiyoda-ku, Tokyo 100-0005
PHONE: 81-3-3210-6705
FAX: 81-3-3210-6726
CONTACT: Marine Products Dept.

COMPANY: **Mitsui & Co., Ltd.**
ADDRESS: 1-2-1 Ohtemachi
Chiyoda-ku, Tokyo 100-0004
PHONE: 81-3-3285-5972
FAX: 81-3-3285-9802
CONTACT: Marine Products Section

COMPANY: **Nichimen Corporation**
ADDRESS: Mita NN Bldg, 4-1-23 Shiba
Minato-ku, Tokyo 108
PHONE: 81-3-5446-1207
FAX: 81-3-5446-1239
CONTACT: Marine Products Dept.

COMPANY: **Nichirei Corporation**
ADDRESS: 6-19-20 Tsukiji
Chuo-ku, Tokyo 104
PHONE: 81-3-3248-2222
FAX: 81-3-3248-2159
CONTACT: Marine Products Div.

COMPANY: **Nichiro Corporation**
ADDRESS: 1-12-1 Yurakucho
Chiyoda-ku, Tokyo 100
PHONE: 81-3-3240-6353
FAX: 81-3-3287-2326

COMPANY: **Nikkan Marine Products Import Association**
ADDRESS: 4-16-4 Daigakucho
Shimonoseki, Yamaguchi Pref. 751
PHONE: 81-832-52-1441
FAX: 81-832-52-1441

COMPANY: **Nippon Suisan Kaisha, Ltd.**
ADDRESS: 2-6-2 Otemachi
Chiyoda-ku, Tokyo 100-0004
PHONE: 81-3-3244-7347
FAX: 81-3-3244-7269
CONTACT: Katsunori Sasao

COMPANY: **Nissho Iwai Corporation**
ADDRESS: 2-4-5 Akasaka
Minato-ku, Tokyo 107-0052
PHONE: 81-3-3588-3991
FAX: 81-3-3588-4860
CONTACT: Marine Products Dept.

COMPANY: **Nozaki & Co., Ltd.**
ADDRESS: SAS Bldg., 2-2-6 Nihonbashi-bakurocho
Chuo-ku, Tokyo 103-91
PHONE: 81-3-5641-4351
FAX: 81-3-5641-4397
CONTACT: Marine Products Dept.

COMPANY: **Sanyo Trading Co., Ltd.**
ADDRESS: 2-11 Kanda-nishikicho
Chiyoda-ku, Tokyo 101-0054
PHONE: 81-3-3233-5882
FAX: 81-3-3233-4158

COMPANY: **Sumikin Bussan Kaisha Ltd.**
ADDRESS: 8-5-27 Akasaka
Minato-ku, Tokyo 107
PHONE: 81-3-5412-5080
FAX: 81-3-5412-5178
CONTACT: Food Products Dept.

COMPANY: **Taito Seiko Co., Ltd.**
ADDRESS: Imaasa Bldg., 1-1-21 Higashi-shimbashi
Minato-ku, Tokyo 105
PHONE: 81-3-3572-3235
FAX: 81-3-3571-7881

COMPANY: **Taiyo A & F Co., Ltd.**
ADDRESS: 2-1-1 Uchisaiwaicho
Chiyoda-ku, Tokyo 100-0011
PHONE: 81-3-3506-5384
FAX: 81-3-3591-3575

COMPANY: **Takaei Trading Co., Ltd.**
ADDRESS: 6-17-4 Tsukiji
Chuo-ku, Tokyo 104-0045
PHONE: 81-3-3542-4791
FAX: 81-3-3542-4794

COMPANY: **Toei Reefer Line, Ltd.**
ADDRESS: Shibakoen Koike Bldg., 3-5-5 Shiba
Minato-ku, Tokyo 105
PHONE: 81-3-5476-2085
FAX: 81-3-5476-2090

COMPANY: **Tohto Suisan Co., Ltd.**
ADDRESS: Tsukiji Central Wholesale Market, 5-2-1 Tsukiji
Chuo-ku, Tokyo 104
PHONE: 81-3-3541-1803
FAX: 81-3-3541-5647
CONTACT: Kyosuke Suganuma

COMPANY: **Toko Industrial Co., Ltd.**
ADDRESS: 1-2-5 Higashi-yamatomachi
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-67-2385
FAX: 81-832-67-0100

COMPANY: **Tokusui Co., Ltd.**
ADDRESS: Tokyo Suisan Bldg. 5F, 4-18 Toyomicho
Chuo-ku, Tokyo 104-0055
PHONE: 81-3-3533-5131
FAX: 81-3-3533-5173

COMPANY: **Tokusui Trading Corporation**
ADDRESS: Tokyo Suisan Bldg. 5F, 4-18 Toyomicho
Chuo-ku, Tokyo 104-0055
PHONE: 81-3-3531-8165
FAX: 81-3-3531-8167

COMPANY: **Tokyo Commercial Co., Ltd.**
ADDRESS: 8-15 Toyomicho
Chuo-ku, Tokyo 104-0055
PHONE: 81-3-3534-1301
FAX: 81-3-3532-9420
CONTACT: Kosuke Sakai

COMPANY: **Tokyo Seafoods Ltd.**
ADDRESS: Saiesta Bldg. 5F, 2-14-5 Tsukiji
Chuo-ku, Tokyo 104-0045
PHONE: 81-3-5565-3511
FAX: 81-3-5565-3524
CONTACT: Yasuo Tajima

COMPANY: **Tosho Co., Ltd.**
ADDRESS: 1-2-8 Yamatomachi
Shimonoseki, Yamaguchi Pref. 750
PHONE: 81-832-66-5141
FAX: 81-832-66-5142

COMPANY: **Toshoku Seafoods Ltd.**
ADDRESS: Shinmuromachi Bldg. 8F
2-4-3 Nihonbashi-muromachi
Chuo-ku, Tokyo 103
PHONE: 81-3-3245-2173
FAX: 81-3-3245-2170
CONTACT: Kiwamu Moriguchi

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The National Marine Fisheries Service cannot be responsible for the accuracy of this information nor do they endorese any companies listed herein.
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Source: Japan Marine Products Importers Association 1999

Appendix 3. Auction houses at the Tokyo Central Wholesale Market

COMPANY: **Tohto Suisan Co., Ltd.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Kyosuke Suganuma, Manager
PHONE: 81-3-3541-1803
FAX: 81-3-3541-5647

COMPANY: **Dauchi Suisan K.K.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Hiroyuki Taguchi, President
PHONE: 81-3-3545-1111
FAX: 81-3-3541-1466

COMPANY: **Chuo Gyorui Co., Ltd.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Michiro Aizawa, Director
PHONE: 81-3-3542-3941
FAX: 81-3-3542-3996

COMPANY: **Daito Gyorui K.K.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Keiichi Suzuki, President
PHONE: 81-3-5565-8151
FAX: 81-3-3543-6611

COMPANY: **Tsukiji Uoichiba Co., Ltd.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Kozo Takahashi, Chief
PHONE: 81-3-3541-6130
FAX: 81-3-3543-4960

COMPANY: **Marusen-Chiyoda Suisan K.K.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Toshihiro Ishibashi, President
PHONE: 81-3-3546-2877
FAX: N/A

COMPANY: **Sogo Shokuhin K.K.**
ADDRESS: Tokyo Central Wholesale Market
2-1, 5-Chome, Tsukiji, Chuo-ku, Tokyo 104
CONTACT: Tsuguyoshi Kiriya, President
PHONE: 81-3-3541-7041
FAX: 81-3-3545-2639

Appendix 4. Major supermarket chain stores

COMPANY: **Fuji Citio Corp.**
ADDRESS: 17 Nihon-odori, Naka-ku
Yokohama, Kanagawa 231
PHONE: 81-45-662-1801
FAX: 81-45-681-3145
CONTACT: Hitoshi Suzuki

COMPANY: **Maruetsu, Inc.**
ADDRESS: 5-51-12 Higashi Ikebukuro
Toshima-ku, Tokyo
PHONE: 81-3-3590-1110
CONTACT: N/A

COMPANY: **Nichii Co., Ltd.**
ADDRESS: Nichii Group Bldg., 8-5-30
Akasaka, Minato-ku, Tokyo
PHONE: 81-3-3475-4121
CONTACT: N/A

COMPANY: **Nippon Selco Co., Ltd.**
ADDRESS: Echo Akihabara Bldg., 1-10-3
Taitoh, Taitoh-ku, Tokyo 110
PHONE: 81-3-3834-4821
FAX: 81-3-3831-8469
CONTACT: N/A

COMPANY: **Sotetsu Rozen**
ADDRESS: 2-9-14 Kita-saiwai, Nishi-ku
Yokohama, Kanagawa 220
PHONE: 81-45-319-7165
FAX: 81-45-311-3223
CONTACT: Kenji Maruyama

COMPANY: **Tsunekawa Co. Ltd.**
ADDRESS: 364 Mizonokuchi, Takatsu-ku
Kawasaki, Kanagawa
PHONE: 81-44-833-2231
FAX: 81-44-833-2237
CONTACT: Kenji Tsunekawa

COMPANY: **Uny Co., Ltd.**
ADDRESS: 3-26-33 Takanawa
Minato-ku, Tokyo
PHONE: 81-3-3440-8811
CONTACT: N/A

COMPANY: **York-Benimaru Co., Ltd.**
ADDRESS: 2-18-2 Asahi
Koriyama, Fukushima 963
PHONE: 81-249-24-3132
FAX: 81-249-22-1294
CONTACT: Jun Inomata

****
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Source: U.S. Embassy, Fisheries Industry Section, Tokyo, Japan 1999