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**BIGEYE TUNA FISHERIES, TRADE,  
AND MARKET OF JAPAN**

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## EXECUTIVE SUMMARY

Fisheries for bigeye tuna, *Thunnus obesus*, continue to be important throughout the world, with a total catch of more than 400,000 metric tons (mt) per year since 1997. Of more than 71 nations that reported bigeye tuna landings in 2005, four countries accounted for the majority of the catch with Japan ranked highest with 19 percent of the total. Taiwan, the world's largest producer during 2002-2004, was a close second with 18 percent. Indonesia and Spain harvested 9 and 6 percent, respectively of the world total.

Most of the world landings of bigeye tuna from 1963 through 2005 occurred in the Pacific Ocean. While more than 43 nations that reported bigeye tuna catches in Pacific Ocean in 2005, Japan and Indonesia harvested majority of the catches of bigeye tuna in this area -approximately 22 and 11 percent, respectively. Catches in the Indian Ocean increased to 150,000 mt in 1999 but declined to 112,000 mt in 2005. Taiwan harvested about 36 percent of the total catch in this area in 2005. The Atlantic catch reached a peak of 129,000 mt in 1994 and then declined sharply to 58,000 mt in 2005. Japan and Taiwan accounted for the majority of the catches of bigeye tuna in this area in 2005 - approximately 23 and 21 percent, respectively.

Japan is the world's largest market for bigeye tuna, utilizing an average of 230,000 mt during 2002-2006. Supply for this market comes from both domestic catch and imports. The share of the Japanese market for bigeye tuna supplied by imports increased from 41 percent in 1993 to 59 percent in 2006. In 2006, imports were worth \$649 million. Frozen products dominated, representing as much as 84 percent in volume and 81 percent in value.

Factors which influenced the recent rise in bigeye 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 bigeye tuna products with import tariffs. As the United States and Japan are signatories to the World Trade Organization (WTO), WTO tariffs apply to imports of bigeye tuna products from the U.S.

Bigeye tuna is sold through auctions at consumer wholesale markets located in consumption areas, and at production wholesale markets located at Japanese ports of landing. Bigeye tuna is also sold directly to supermarket chains. Between 1971 and 2006, the wholesale prices at major markets for both fresh and frozen bigeye tuna showed fluctuations which were influenced mainly by volume of supply, usually, the lower the supply, the higher the price, and vice versa.

## INTRODUCTION

Japan, the world's largest harvester as well as consumer of bigeye tuna, relies mainly on landings by her own fleet. Recently, however, decreasing domestic catches have forced Japan to increase imports of bigeye tuna.

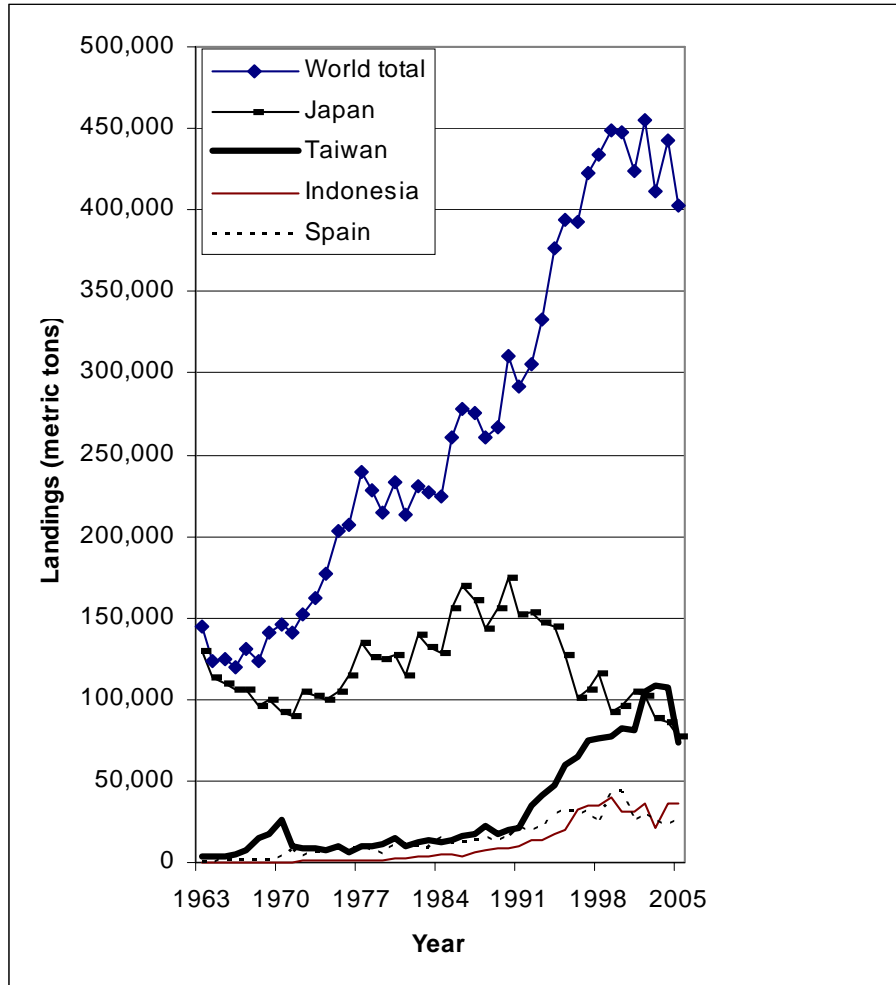
Fresh bigeye tuna from the United States has found a market niche in Japan. In 2006, Japan imported 85 mt valued at \$1.3 million of fresh bigeye tuna from the United States, an increase of 70 percent in volume and 52 percent in value over 2003 imports.

This report provides a detailed examination of the world bigeye tuna fisheries, as well as Japan's fishery, import, export, supply, demand, and market, in order to identify potential opportunities for export of U.S. producers.

## WORLD BIGEYE TUNA FISHERIES

The total world catch of bigeye tuna more than tripled from 123 thousand metric tons (mt) in 1964 to 403 thousand mt in 2005 (Figure 1). Total catch of bigeye tuna by all nations reached a high of 448 thousand mt in 1999. Of more than 71 nations that reported bigeye tuna landings in 2005, four countries accounted for the majority of the catch with Japan ranked highest with 19 percent of the total. Taiwan, the world's largest producer during 2002-2004, was a close second with 18 percent. Indonesia and Spain harvested 9 and 6 percent, respectively of the world total. Ecuador, the Republic of Korea, China, and Philippines were also major harvesters in 2005 (Table 1).

Most of the world landings of bigeye tuna from 1963 through 2005 occurred in the Pacific Ocean (Figure 2). The Pacific catch has fluctuated between 68,000 and 243,000 mt since 1963. While more than 43 nations that reported bigeye tuna catches in Pacific Ocean in 2005, Japan and Indonesia harvested majority of the catches of bigeye tuna in this area -approximately 22 and 11 percent, respectively. Catches in the Indian Ocean increased to 150,000 mt in 1999 but declined to 112,000 mt in 2005. Taiwan harvested about 36 percent of the total catch in this area in 2005. Japan and Spain each landed about 10 percent of the total catch. The Atlantic catch reached a peak of 129,000 mt in 1994 and then declined sharply to 58,000 mt in 2005. Japan and Taiwan accounted for the majority of the catches of bigeye tuna in this area in 2005 -approximately 23 and 21 percent, respectively.



Source: FAO 2007

**Figure 1. Annual landings of bigeye tuna by major countries, 1963-2005 (metric tons).**

**Table 1. World bigeye tuna catch by major countries, 1999-2005  
(metric tons).**

	1999	2000	2001	2002	2003	2004	2005
.....(round weight).....							
Japan	92,673	96,067	104,247	102,719	88,929	85,931	76,961
Taiwan	76,761	82,484	81,244	104,260	108,425	107,065	73,737
Indonesia	39,814	31,510	30,729	36,637	20,884	35,863	35,905
Spain	41,898	43,681	25,505	29,861	24,963	22,884	25,741
Ecuador	22,278	29,398	23,440	20,852	20,205	26,476	24,952
Korea, Rep. Of	26,558	30,079	31,335	31,962	21,839	26,352	24,178
China	11,334	11,993	17,508	18,557	25,812	26,836	23,571
Philippines	12,265	10,696	9,029	10,843	13,846	14,626	23,178
U.S.A.	6,909	5,715	5,899	12,523	9,417	12,017	12,189
Panama	1,449	4,078	2,270	1,669	3,879	10,446	11,427
Seychelles	3,112	2,365	3,749	5,989	7,088	11,353	10,414
Papua New Guinea	1,147	1,589	3,947	5,432	2,671	3,927	9,837
France	14,046	12,622	10,429	11,618	9,278	8,742	9,297
Vanuatu	5,479	6,047	4,406	3,044	6,970	6,992	4,843
Colombia	1,430	230	103	159	1,458	1,113	3,050
Marshall Islands	- *	48	304	167	357	1,031	2,466
Honduras	420	20	1,782	.	.	1,132	2,402
Ghana	11,460	5,586	14,095	5,893	4,816	6,944	2,333
Portugal	3,313	1,498	1,606	2,590	1,655	2,893	2,207
Netherlands	3,428	2,359	2,803	1,879	2,758	1,822	1,822
Thailand	-	342	194	19	96	111	1,741
Brazil	2,024	2,768	2,659	2,582	2,455	1,496	1,081
Maldives	1,007	560	923	1,323	1,284	1,190	1,054
Solomon Islands	1,377	709	1,127	1,039	1,626	2,122	1,000
Micronesia	1,132	1,278	1,510	1,346	993	1,268	975
Australia	1,379	1,140	1,548	1,399	1,254	880	888
El Salvador	.	**	2,059	4,590	1,147	971	756
Malaysia	-	-	-	145	355	109	655
Reunion	213	167	79	54	71	133	612
French	278	712	746	651	439	496	606
Morocco	700	770	857	913	889	929	519
Fiji Islands	462	687	662	853	889	1,254	423
Kiribati	222	74	199	153	85	132	395
Venezuela	150	436	792	1,046	1,357	2,355	368
Italy	848	-	57	315	300	669	307
Namibia	423	589	640	274	215	177	307
New Zealand	420	534	711	793	586	1,383	300
South Africa	69	283	273	621	365	343	296
Cook Islands	3	3	1	75	205	337	208
Liberia	112	201	175	180	190	209	200
Canada	263	327	241	279	182	143	187
Sri Lanka	462	348	336	338	140	210	180
Total	448,518	447,398	423,753	455,657	411,918	442,407	402,980

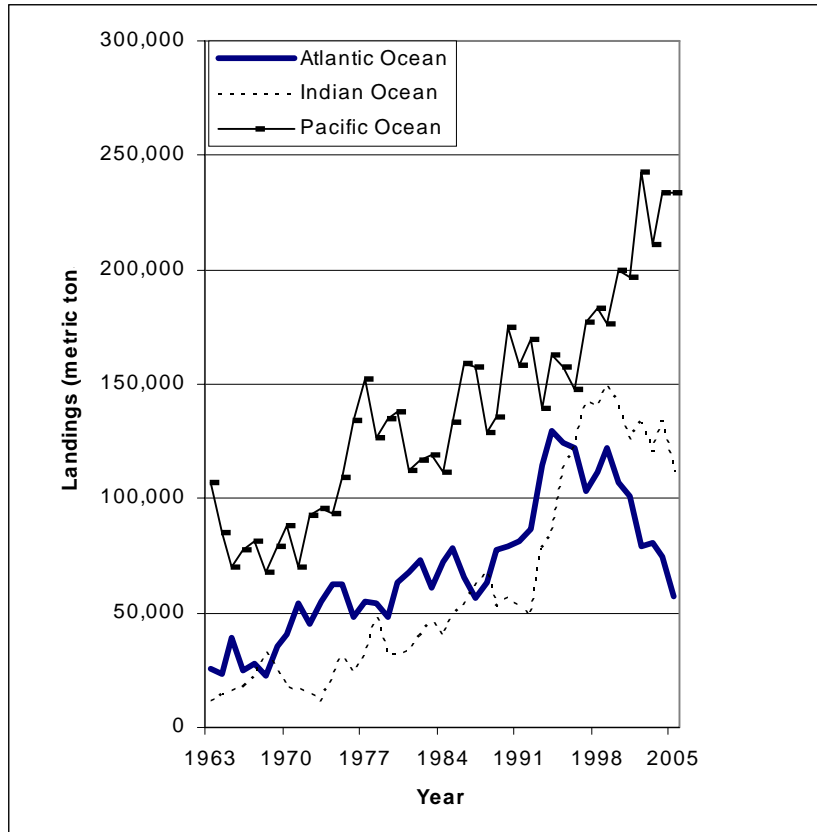
-\* zero;

\*\* not available

Total also includes other countries not listed

Source: FAO 2007





Source: FAO 2007

**Figure 2. Distribution of world bigeye tuna catch by ocean areas, 1963-2005 (metric tons).**

## JAPANESE FISHERY

The bigeye tuna fishery is a valuable fishery in Japan. In 2005, Japan's bigeye tuna landings were valued at \$479 million (Ministry of Agriculture, Forestry & Fisheries 2007).

The Japanese catch of bigeye tuna peaked in 1990 at 175,000 mt and showed a decreasing trend to 2005 with exceptions in 1997-1998 and 2000-2001 (Figure 1). The catch in 2006 decreased 12 percent from 2005 (Table 2). The catch of bigeye tuna in 2006 represented 12 percent of the total catch of major tuna species.

**Table 2. Japan's tuna catch by major species, 1999-2006  
(1,000 metric tons).**

Year	1999	2000	2001	2002	2003	2004	2005	2006
.....(round weight).....								
Skipjack	287	341	277	302	322	297	370	323
Yellowfin	97	99	102	73	79	77	83	71
Bigeye	99	87	90	90	83	80	72	63
Albacore	101	66	70	90	68	69	53	48
Bluefin	24	23	17	18	16	19	19	15
Total	608	616	556	573	568	542	597	520

Source: Ministry of Agriculture, Forestry & Fisheries 2001-2007

Between 1998 and 2004, an average of 91 percent of bigeye tuna was caught by tuna longline, 7 percent by purse seine, 1 percent by skipjack pole-and-line, and the rest by other pole and line, other longline, drift net, gillnet, and set net (Table 3).

In 2004, about 88 percent of bigeye tuna was caught by tuna longline, 9 percent by purse seine, 3 percent by skipjack pole-and-line, and less than 1 percent by other pole and line, drift net, set net, other longline, and gillnet.

From 1998 to 2004, the catch by distant-water skipjack pole-and-line increased from 153 mt to 1,276 mt. The catch by distant-water tuna longline decreased from 81,089 mt to 57,702 mt during the same period.

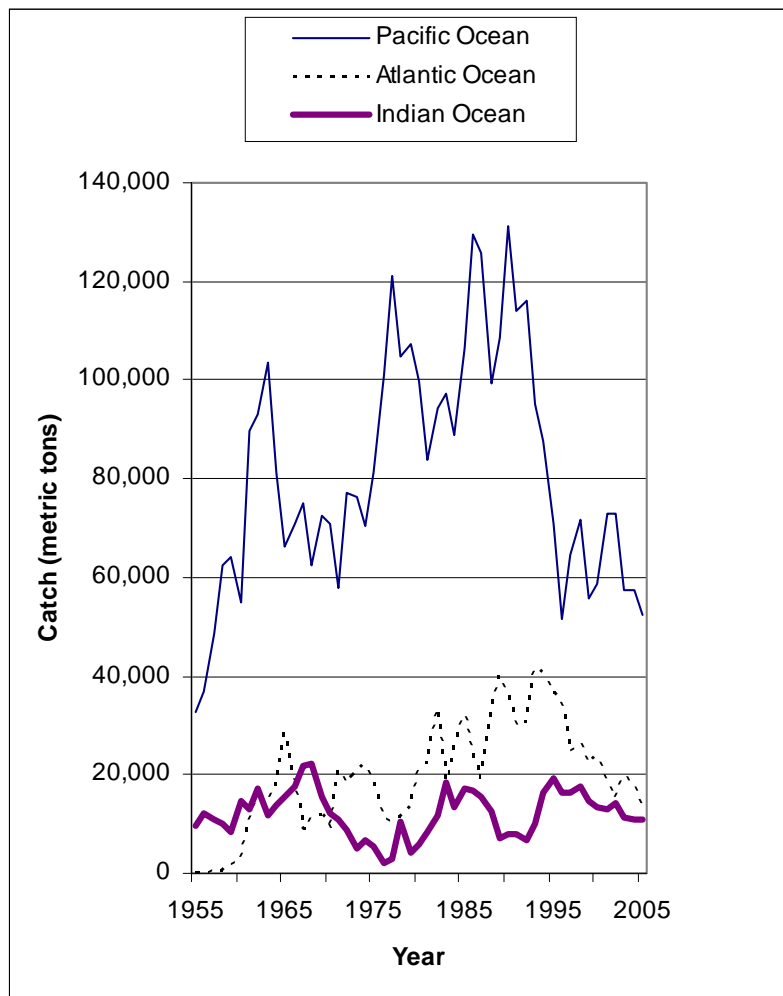
**Table 3. Japan's bigeye tuna landings by fisheries, 1998-2004  
(metric tons).**

Type of fishery	1998	1999	2000	2001	2002	2003	2004
.....(round weight).....							
Tuna longline:							
Distant	81,089	77,844	66,097	68,816	68,008	63,026	57,702
Offshore	6,622	7,488	5,884	5,899	13,327	12,430	12,382
Coastal	4,846	5,805	6,042	5,587	630	650	581
Sub-total	92,557	91,137	78,023	80,302	81,965	76,106	70,665
Skipjack pole & line:							
Distant	153	277	290	147	572	148	1,276
Offshore	679	1,322	1,046	857	562	177	997
Coastal	180	134	125	56	43	35	52
Sub-total	1,012	1,733	1,461	1,060	1,177	360	2,325
Purse seine	5,041	5,489	7,364	8,506	6,797	6,188	6,840
Drift net	3	7	1	3	12	11	3
Gillnet	0	0	0	0	0	1	2
Set net							
Large	1	1	2	1	5	1	0
Small	2	0	0	2	1	1	1
Other longline	4	3	9	10	14	13	3
Other pole & line	272	228	192	191	133	116	99
Others	0	0	1	0	0	0	0
Total	98,891	98,600	87,051	90,079	90,101	82,796	79,941

Total may not add due to rounding

Source: Ministry of Agriculture, Forestry & Fisheries 2000-2007

Between 61 and 70 percent of Japanese catches of bigeye tuna from 1997 through 2005 occurred in the Pacific Ocean, followed by the Atlantic Ocean (15 to 25 percent) and the Indian Ocean (13 to 16 percent; Figure 3 and Table 4). The total Pacific catch declined from 131,000 mt in 1990 to 52,000 mt in 1996. Since then, annual catch has fluctuated between 52,000 and 73,000 mt. The catch in 2005 decreased 9 percent from 2004. Catches in the Atlantic Ocean reached a peak of 42,000 mt in 1993, then declined to a low of 14,000 mt in 2005. Catch of bigeye tuna in Indian Ocean reached 19,000 mt in 1995 and declined over the next several years.



Source: FAO 2007

**Figure 3. Japan's bigeye tuna catch by ocean areas, 1955-2005 (metric tons).**

**Table 4. Japan's bigeye tuna catch by ocean areas, 1963-2005 (metric tons).**

Year	Pacific Ocean	Atlantic Ocean	Indian Ocean
.....(round weight).....			
1963	103,600	14,500	11,600
1964	81,500	17,400	14,000
1965	66,200	28,700	15,400
1966	70,700	17,600	17,400
1967	75,200	9,000	21,700
1968	62,400	11,300	22,400
1969	72,600	11,800	15,700
1970	71,000	9,000	12,300
1971	57,900	21,000	10,800
1972	77,200	18,600	8,900
1973	76,300	20,500	5,100
1974	70,392	22,155	6,782
1975	81,170	18,087	5,622
1976	101,040	11,143	2,098
1977	120,929	10,641	2,968
1978	104,640	11,368	10,354
1979	107,389	13,500	4,183
1980	99,692	21,568	5,904
1981	83,721	22,409	8,395
1982	94,113	33,334	11,687
1983	97,224	16,320	18,484
1984	88,867	25,526	13,516
1985	106,486	32,302	17,372
1986	129,390	23,480	16,892
1987	125,816	19,338	15,423
1988	99,190	32,250	12,432
1989	108,679	40,362	7,116
1990	131,227	35,694	8,105
1991	114,079	30,122	7,904
1992	116,239	30,712	6,603
1993	95,046	41,785	9,946
1994	87,674	40,194	16,486
1995	70,914	36,499	19,203
1996	51,746	33,701	16,144
1997	64,753	24,521	16,306
1998	71,578	26,453	17,540
1999	55,626	22,173	14,874
2000	58,808	23,943	13,316
2001	73,073	18,084	13,090
2002	73,073	15,435	14,211
2003	57,327	20,161	11,441
2004	57,536	17,448	10,947
2005	52,356	13,525	11,080

Source: FAO 2007

## IMPORTS

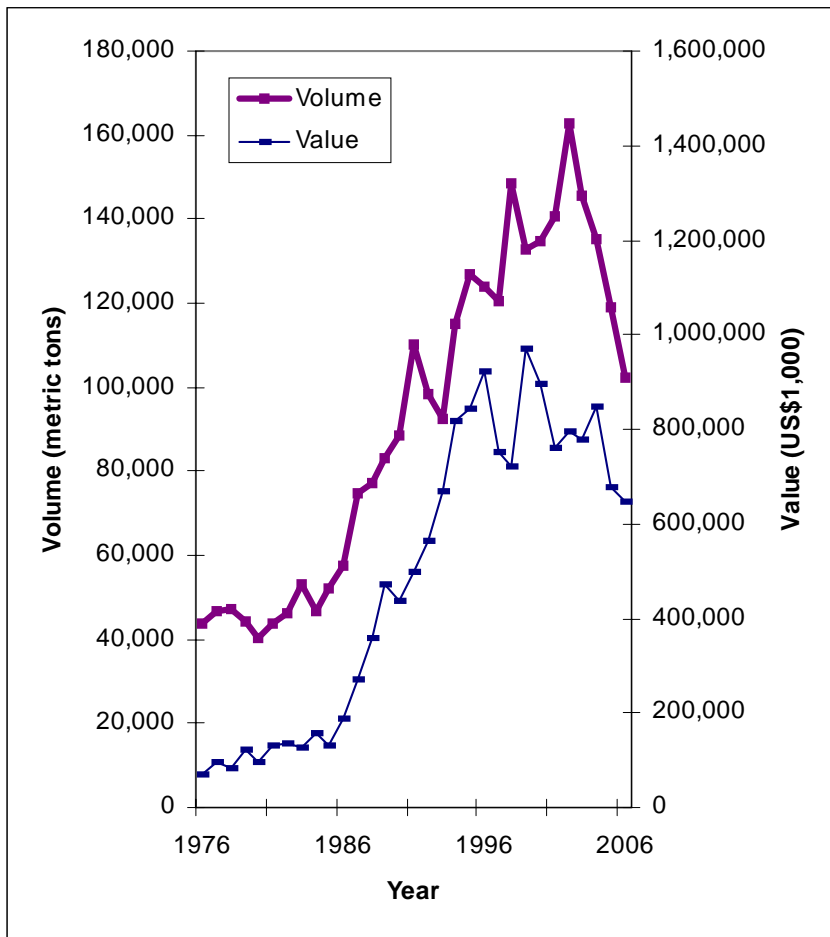
Japan liberalized the import of tuna in 1961, making it free from import quota restrictions (Suisan Sha 1968). From 1976 to 2006, imports of bigeye tuna into Japan increased more than 2.3 times in volume and 9.4 times in value (Figure 4). The number of countries supplying bigeye tuna to Japan also increased from 16 in 1976 to 48 in 2006 (Japan Fish Traders Association 1977 and 2007). Much of this increase was due to strong demand, decreased domestic catches, and strong yen (Appendix).

Japan's imports of fresh and frozen bigeye tuna in 2006 were 102,152 mt (product weight) valued at about \$649 million, a decrease of 14 percent in volume and 4 percent in value over 2005 imports (Tables 5 and 6). Frozen products dominated, representing as much as 84 percent in volume and 81 percent in value. Fresh products accounted for 16 percent in volume and 19 percent in value.

Japanese imports of air-shipped fresh bigeye tuna in 2006 came mostly from Indonesia (Table 5). In 1992, Indonesia replaced Taiwan as the leading supplier of fresh bigeye tuna to Japan (Table 5 and Japan Marine Products Importers Association 1992-2006). Supplies of fresh bigeye tuna from Taiwan to Japan have declined since 1992. Imports of fresh bigeye tuna into Japan from Palau rose sharply in 2006.

Imports of frozen bigeye tuna decreased from 101,914 mt in 2005 to 86,276 mt in 2006. Taiwan has been the leading supplier of frozen bigeye tuna to the Japanese market since 1991. In 2006, significant quantities of frozen bigeye tuna were also shipped from China, the Republic of Korea, Philippines, Seychelles, Vanuatu, and Indonesia (Table 6). Supplies of frozen bigeye tuna from Taiwan to Japan decreased from 83,831 mt in 2003 to 44,305 mt in 2006.

Bigeye tuna products imported into Japan are subject to tariffs. As the United States and Japan are signatories to the World Trade Organization (WTO), WTO tariffs apply to imports of bigeye tuna products from the U.S. The current tariff for fresh or frozen bigeye tuna products is 3.5 percent, calculated as percentage of total cost, including insurance and freight.



Source: Japan Fish Traders Association 1977-2007

**Figure 4. Japan's imports of fresh and frozen bigeye tuna, 1976-2006.**

**Table 5. Japan's imports of fresh bigeye tuna by country, 2003-2006.**

Country of Origin	2003	2004	2005	2006	2003	2004	2005	2006
	(metric tons...product weight)				(U.S.\$1,000)			
Indonesia	5,612	7,240	7,135	5,288	39,392	53,905	54,144	37,359
Palau	553	691	1,813	2,883	5,159	6,389	16,583	24,654
Maldives	933	1,084	1,330	1,403	7,279	8,517	9,089	10,340
Sri Lanka	1,532	1,062	1,092	1,288	9,876	7,560	7,510	8,731
Guam	1,321	878	370	964	8,952	6,732	2,580	7,774
Thailand	824	1,275	636	822	5,023	8,134	4,208	5,700
Philippines	367	434	729	674	2,661	3,503	6,158	5,219
Taiwan	1,756	990	624	412	10,760	7,301	4,349	2,667
Australia	945	739	553	335	9,346	8,656	6,544	3,841
Micronesia	1,096	677	96	301	9,179	5,999	830	2,792
Singapore	242	643	639	299	1,756	4,576	4,339	2,010
Viet Nam	725	1,023	555	288	4,759	7,555	4,153	2,349
Fiji	634	456	306	280	4,685	3,635	2,531	2,689
Papua New Guinea	390	391	219	165	2,700	2,986	1,581	1,003
Malaysia	202	98	80	150	1,344	692	597	1,038
New Zealand	177	166	119	130	3,220	2,645	1,743	2,352
U.S.A.	50	103	167	85	838	1,236	1,974	1,270
South Africa	71	23	167	31	1,151	489	2,039	537
Tonga	4	5	25	20	43	53	249	203
Uruguay	- *	-	1	17	-	-	8	330
Mauritius	5	5	0	15	22	33	2	100
Marshall Islands	346	557	214	12	2,716	4,677	1,893	124
Canada	7	19	3	5	121	353	73	95
Cook Islands	33	16	6	3	339	214	80	39
Spain	1	6	-	2	5	91	-	12
Samoa	-	-	-	1	-	-	-	6
India	-	2	-	1	-	18	-	3
American Samoa	-	-	-	0	-	-	-	4
Saudi Arabia	-	-	-	0	-	-	-	3
Panama	19	2	-	0	287	25	-	5
China	2	-	1	0	12	-	11	2
Solomon Islands	532	442	19	-	2,663	2,880	135	-
Chile	-	-	5	-	-	-	47	-
France	2	-	2	-	27	-	12	-
Yemen	-	-	1	-	-	-	3	-
Peru	-	-	0	-	-	-	3	-
Rep. of Nauru	6	-	-	-	47	-	-	-
French Polynesia	1	-	-	-	13	-	-	-
Namibia	1	-	-	-	27	-	-	-
Tunisia	1	-	-	-	17	-	-	-
Portugal	1	-	-	-	8	-	-	-
El Salvador	0 **	-	-	-	2	-	-	-
Seychelles	39	-	-	-	258	-	-	-
<b>Total</b>	<b>18,541</b>	<b>19,067</b>	<b>16,930</b>	<b>15,876</b>	<b>135,775</b>	<b>149,344</b>	<b>133,742</b>	<b>123,260</b>

-\* zero imports

0\*\* more than zero but less than 500 kg

Total may not add due to rounding

Source: Japan Fish Traders Association 2004-2007



**Table 6. Japan's imports of frozen bigeye tuna by country, 2003-2006.**

Country of Origin	2003	2004	2005	2006	2003	2004	2005	2006
	(metric tons....product weight)				(U.S.\$1,000)			
Taiwan	83,831	73,221	61,972	44,305	419,779	432,337	321,170	261,241
China	18,470	14,485	13,700	18,299	93,033	86,874	71,473	112,899
Rep. of Korea	16,693	18,092	15,561	12,608	87,022	116,389	95,977	86,494
Philippines	2,465	3,226	2,805	3,507	12,575	19,821	15,190	22,069
Seychelles	2,292	4,010	4,458	3,378	11,936	23,185	22,740	18,872
Vanuatu	403	1,374	1,779	2,170	2,346	8,503	8,886	14,019
Indonesia	1,990	1,452	1,354	1,628	8,869	6,991	5,727	8,246
Ecuador	529	336	217	285	3,463	2,188	1,352	1,578
Fiji	9	19	17	60	46	140	88	286
Viet Nam	- *	-	-	25	-	-	-	68
Kiribati	50	-	28	7	25	-	14	5
Spain	8	-	-	2	111	-	-	4
Maldives	-	14	22	-	-	12	28	-
Papua New Guinea	361	86	-	-	1,770	532	-	-
Namibia	19	5	-	-	67	11	-	-
Guam	37	4	-	-	39	4	-	-
Mariana	16	-	-	--	8	-	-	-
South Africa	7	-	-	-	23	-	-	-
<b>Total</b>	<b>127,178</b>	<b>116,323</b>	<b>101,914</b>	<b>86,276</b>	<b>641,112</b>	<b>696,988</b>	<b>542,646</b>	<b>525,781</b>

-\* zero imports

Total may not add due to rounding

Source: Japan Fish Traders Association 2004-2007

### EXPORTS

Japanese exports of bigeye tuna products from 2003 through 2006 are summarized in Table 7 and 8. In 2006, Japan exported about 5,131 mt (product weight), amounting to \$21 million worth of fresh and frozen bigeye tuna products, a decrease of 9 percent in volume and an increase of 1 percent in value from the 2005 level. Much of the decrease was due to decreased exports of fresh bigeye tuna.

Japanese exports of fresh bigeye tuna in 2006 decreased 28 percent in volume and 45 percent in value over 2005 (Table 7). Thailand has been the major market, taking 79 percent in volume and 71 percent in value of Japanese exports of fresh bigeye tuna in 2006. Other important buyers for Japanese fresh bigeye tuna in 2006 were Malaysia, Indonesia, and the Republic of Korea.

Japanese exports of frozen bigeye tuna in 2006 increased 10 percent both in volume and in value from the 2005 level (Table 8). Guam was by far the major market for frozen bigeye tuna, taking as much as 99 percent in volume and 98 percent in value in 2006.

**Table 7. Japan's exports of fresh bigeye tuna by country, 2003-2006.**

	2003	2004	2005	2006	2003	2004	2005	2006
	(metric tons....product weight)				(million yen)			
Thailand	2,351	1,919	2,300	1,620	187	169	203	150
Malaysia	199	266	319	236	25	28	33	28
Indonesia	-*	16	-	174	-	2	-	18
Korea, Rep. of	78	43	245	22	26	12	144	14
Peru	-	-	-	1	-	-	-	0
Hong Kong	1	-	0	0	4	-	1	1
Viet Nam	-	91	-	-	-	23	-	-
Philippines	-	4	-	-	-	0	-	-
U.S.A.	12	0	-	-	95	1	-	-
China	22	-	-	-	14	-	-	-
Taiwan	0**	-	-	-	2	-	-	-
Singapore	0	-	-	-	1	-	-	-
<b>Total</b>	<b>2,663</b>	<b>2,339</b>	<b>2,865</b>	<b>2,053</b>	<b>353</b>	<b>235</b>	<b>381</b>	<b>211</b>

-\* zero imports

0\*\* more than zero but less than 0.5

Total may not add due to rounding

Source: Japan Fish Traders Association 2004-2007

**Table 8. Japan's exports of frozen bigeye tuna by country, 2003-2006.**

	2003	2004	2005	2006	2003	2004	2005	2006
	(metric tons....product weight)				(million yen)			
Guam	2,573	2,977	2,748	3,034	1,763	2,121	1,960	2,152
Papua New Guinea	-*	-	23	44	-	-	17	33
Micronesia	72	72	26	-	50	50	18	-
Hong Kong	9	0**	-	-	33	1	-	-
U.S.A.	1	-	-	-	9	-	-	-
<b>Total</b>	<b>2,654</b>	<b>3,049</b>	<b>2,797</b>	<b>3,078</b>	<b>1,855</b>	<b>2,172</b>	<b>1,995</b>	<b>2,185</b>

-\* zero imports

0\*\* more than zero but less than 500 kg

Total may not add due to rounding

Source: Japan Fish Traders Association 2004-2007

## SUPPLY

The annual supply of bigeye tuna for the Japanese market and for export is comprised of the cold storage inventory of January 1, plus that year's domestic catches and imports. The annual supply reached a record high in 2002 due mainly to sharply increased imports (Table 9).

Between 1995 and 2006, annual supply of bigeye tuna ranged between 199,000 and 294,000 mt (round weight equivalent), averaging 238,000 mt. During this period imports averaged 153,000 mt (about 59 percent of the total supply). The January inventory averaged 17,000 mt (6 percent), and catches 91,000 mt (35 percent).

**Table 9. Japan's annual supply of bigeye tuna, 1987-2006.**

Year	Catch (metric tons)	Imports (1) (round weight)	Inventory (1) (round weight)	Supply	Share of Supply		
					Catch (percent)	Imports (percent)	Inventory (percent)
1987	140,985	85,873	16,535	243,393	58%	35%	7%
1988	135,856	89,025	16,751	241,632	56%	37%	7%
1989	117,263	95,810	13,468	226,541	52%	42%	6%
1990	122,148	102,022	14,745	238,916	51%	43%	6%
1991	124,501	126,414	17,007	267,922	46%	47%	6%
1992	143,560	113,357	22,868	279,784	51%	41%	8%
1993	139,507	106,229	12,939	258,675	54%	41%	5%
1994	125,696	132,511	16,976	275,183	46%	48%	6%
1995	116,232	145,665	16,597	278,494	42%	52%	6%
1996	101,591	142,414	13,066	257,071	40%	55%	5%
1997	107,835	138,537	15,354	261,726	41%	53%	6%
1998	98,891	170,971	15,849	285,711	35%	60%	6%
1999	98,600	152,853	17,326	268,779	37%	57%	6%
2000	87,051	154,944	16,485	258,480	34%	60%	6%
2001	90,079	162,009	21,599	273,687	33%	59%	8%
2002	90,101	187,021	16,551	293,673	31%	64%	6%
2003	82,796	167,579	13,529	263,904	31%	64%	5%
2004	79,941	155,699	11,631	247,271	32%	63%	5%
2005	72,000	136,671	22,262	230,932	31%	59%	10%
2006	63,000	117,475	18,302	198,777	32%	59%	9%
Average (1995-2006)	90,676	152,653	16,546	259,875	35%	59%	6%

(1) Converted to round weight (live) by multiplying product weight by 1.15

Sources: Ministry of Agriculture, Forestry and Fisheries 1989-2007  
Japan Fish Traders Association 1988-2007

## DEMAND

Annual demand for bigeye tuna for both the Japanese market and for export (annual supply minus the cold storage inventory on December 31) was 180,000 mt (round weight equivalent) in 2006, a decrease of 16 percent compared with 2005 (Table 10). Between 2002 and 2006, annual demand for bigeye tuna ranged between 180,000 and 280,000 mt, averaging 230,000 mt per year.

**Table 10. Japan's demand for bigeye tuna and apparent consumption, 2002-2006 (metric tons).**

Year	Supply	Inventory (1)	Demand	Export (1)	Apparent consumption
.....(metric tons .....round weight).....					
2002	293,673	13,529	280,144	8,340	271,804
2003	263,904	11,631	252,273	6,115	246,158
2004	247,271	22,262	225,009	6,196	218,813
2005	230,932	18,302	212,630	6,511	206,119
2006	198,777	19,273	179,504	5,901	173,603

(1) Converted to round weight (live) by multiplying product weight by 1.15

Sources: Ministry of Agriculture, Forestry and Fisheries  
2004-2007  
Japan Fish Traders Association 2003-2007

## CONSUMPTION

Bigeye tuna is mainly used for sushi and "sashimi" (which typically consists of thin slices of raw seafood) served with soy sauce and condiments. Sashimi is eaten both at home and in restaurants.

The annual Japanese apparent consumption of bigeye tuna (demand minus exports) was 174,000 mt (round weight equivalent) in 2006, a decrease of 16 percent compared with 2005 (Table 10). Between 2002 and 2006, annual apparent consumption of bigeye tuna averaged about 223,000 mt per year.

## WHOLESALE MARKETS

Bigeye tuna is usually sold through auctions at consumer wholesale markets located in consumption areas, and at production wholesale markets located at Japanese ports of landing. Bigeye tuna is also sold directly to representatives of supermarket chains. The largest consumer wholesale fish market is the Tokyo Central Wholesale Market. In 2006, this market handled about 632,000 mt of seafood products valued at about \$4.6 billion (Tokyo Metropolitan Government 2007). It therefore plays an important role in providing indicators about supply and demand of fishery products in Japan. Wholesale prices at the Tokyo Central Wholesale Market generally serve as price indices for fishery products throughout the world.

Wholesale prices for bigeye tuna vary widely, depending on quality, origin (Table 11), supply (Table 12 and 13) and demand, as well as other factors.

### Wholesale Prices at the Tokyo Central Wholesale Market

**Table 11. Wholesale prices of fresh bigeye tuna at Tokyo Central Wholesale Market, August 24- September 13, 2007.**

Date of sale (month/date)	Sales volume	Origin	Price range (yen/kg)		
			High	Average	Low
09/13	9 fish	Australia	1,500-1,177-	1,000	
09/13	7 fish	Bali	1,500-1,225-	1,000	
09/11	5 fish	Cape Town	3,400-2,450-	2,000	
08/28	7 fish	Hawaii	1,800-1,750-	1,700	
09/13	5 fish	Fiji	1,700-1,366-	1,000	
09/13	20 fish	Guam		800	
09/11	8 fish	Indonesia	1,300-1,100-	1,000	
09/08	24 fish	Maldives	2,000-	965-	600
09/13	72 fish	New Zealand	4,000-1,517-	1,000	
09/13	10 fish	Palau	1,000-	900-	800
09/11	60 fish	Ponape	1,900-1,165-	800	
09/10	16 fish	Sri Lanka	2,700-1,607-	800	
08/24	2 fish	Tonga	2,000-1,850-	1,700	

Source: Minato shinbun sha 2007

Table 12 shows annual average wholesale prices and supply of bigeye tuna at the Tokyo Central Wholesale Market between 1989 and 2006. Wholesale prices for both fresh and frozen bigeye tuna showed fluctuations which were influenced mainly by volume of supply, usually, the lower the supply, the higher the price, and vice versa.

**Table 12. Annual average wholesale prices and supply (metric tons) of bigeye tuna at Tokyo Central Wholesale Market, 1989-2006.**

Year	Fresh				Frozen	
	Domestic		Imports		Domestic & Imports	
	Yen/kg	Supply	Yen/kg	Supply	Yen/kg	Supply
1989	3,224	1,851	2,087	1,597	1,352	46,781
1990	3,299	1,919	1,989	2,166	1,372	45,394
1991	3,409	1,584	2,116	2,116	1,136	46,719
1992	3,169	1,701	1,924	2,690	1,264	43,876
1993	3,232	1,396	1,705	3,746	1,351	39,792
1994	3,094	1,047	1,600	4,994	1,207	38,452
1995	2,507	1,104	1,471	4,498	1,077	39,424
1996	2,778	951	1,439	4,553	1,248	33,730
1997	2,034	1,622	1,515	4,624	1,196	36,355
1998	2,134	1,450	1,472	4,907	991	39,120
1999	1,993	1,629	1,486	4,291	1,174	34,257
2000	2,059	1,341	1,483	3,632	1,032	37,861
2001	1,978	1,181	1,521	3,186	916	39,457
2002	1,688	1,389	1,453	2,802	830	42,221
2003	1,663	1,539	1,387	2,191	844	39,654
2004	1,758	1,360	1,344	2,023	897	35,103
2005	1,717	1,401	1,333	1,734	824	35,143
2006	1,649	1,778	1,416	1,744	896	32,961

Source: Tokyo Metropolitan Government 1990-2007

### Wholesale Prices at 10 Major Central Wholesale Markets

Table 13 shows annual average wholesale prices and supply of frozen albacore at 10 major central wholesale markets<sup>1</sup> in Japan between 1971 and 2006. The wholesale prices at major markets were generally dictated by the supply: the lower the supplies, the higher the prices.

\* Markets in Tokyo, Sapporo, Sendai, Yokohama, Nagoya, Kyoto, Osaka, Kobe, Hiroshima, and Fukuoka

**Table 13. Annual average wholesale prices and supply of bigeye tuna at ten major central wholesale markets\* in Japan, 1971-2006.**

Year	Fresh		Frozen	
	Price (yen/kg)	Supply (metric tons)	Price (yen/kg)	Supply (metric tons)
1971	576	11,501	422	51,674
1972	643	8,595	479	64,504
1973	756	7,290	538	69,339
1974	862	6,223	647	66,194
1975	1,070	7,313	705	67,515
1976	1,454	5,376	796	68,682
1977	1,679	4,240	911	58,970
1978	1,510	5,178	771	66,771
1979	2,013	3,805	1,081	58,604
1980	1,878	3,422	1,005	56,862
1981	1,664	5,662	1,101	55,579
1982	1,920	4,356	1,194	54,696
1983	1,823	5,742	1,061	57,563
1984	1,817	6,522	1,303	48,862
1985	1,744	6,796	1,108	56,256
1986	1,814	6,873	991	69,588
1987	1,598	9,069	980	71,725
1988	1,668	9,762	1,107	65,712
1989	1,827	10,208	1,323	62,389
1990	1,896	11,603	1,333	60,449
1991	1,932	10,351	1,102	62,550
1992	1,852	11,860	1,225	59,085
1993	1,739	12,535	1,306	53,981
1994	1,570	13,810	1,177	51,769
1995	1,392	14,002	1,058	52,930
1996	1,376	14,667	1,229	45,018
1997	1,439	15,133	1,199	47,285
1998	1,393	15,313	994	52,025
1999	1,365	14,582	1,177	45,159
2000	1,342	13,274	1,045	48,754
2001	1,315	12,848	936	50,639
2002	1,250	12,350	846	54,780
2003	1,207	11,454	860	51,604
2004	1,191	11,166	911	45,576
2005	1,201	10,229	841	44,910
2006	1,262	10,677	915	42,092

\* Markets in Tokyo, Sapporo, Sendai, Yokohama, Nagoya, Kyoto, Osaka, Kobe, Hiroshima, and Fukuoka

Source: Ministry of Agriculture, Forestry and Fisheries  
1973-2007

## Direct Sales to the Tokyo Central Wholesale Market

United States exporters can export fresh bigeye tuna on consignment basis to auction houses at the Tokyo Central Wholesale Market for sale through auctions. Auction houses do not receive frozen bigeye 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 auctions at the market. Auction houses at the Tokyo Central Wholesale Market are listed at:

[http://www.tsukiji-market.or.jp/youkoso/oroshi7/orosi7\\_e.htm](http://www.tsukiji-market.or.jp/youkoso/oroshi7/orosi7_e.htm)

## 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. For example, in December 2006, highest price for bigeye tuna occurred at Yokohama Central Wholesale Market for fresh fish and at Sapporo for frozen bigeye tuna (Table 14).

**Table 14. Monthly average wholesale prices and supply of bigeye tuna by ten major central wholesale markets in Japan, December 2006.**

Wholesale Market	Fresh		Frozen	
	Price (yen/kg)	Supply (metric tons)	Price (yen/kg)	Supply (metric tons)
Sapporo	1,066	45	1,752	24
Sendai	1,235	462	1,650	62
Tokyo	1,779	396	962	3,488
Yokohama	1,859	47	1,031	472
Nagoya	1,010	45	1,284	28
Kyoto	1,312	48	-	-
Osaka	1,405	14	920	326
Kobe	1,041	4	1,507	4
Hiroshima	1,236	5	1,541	4
Fukuoka	- *	-	1,068	37

-\* No sales

Source: Ministry of Agriculture, Forestry and Fisheries, 2007



## **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.

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**Appendix. Monthly and annual average exchange rate applied to Japanese imports, 1981-2006 (yen/U.S. \$1.00).**

Month	1981	1982	1983	1984	1985	1986	1987
January	203.99	221.36	232.89	233.83	252.04	202.07	159.01
February	203.44	231.15	237.03	233.98	256.66	193.53	152.70
March	207.80	237.03	235.99	228.79	260.53	180.21	153.47
April	211.99	246.01	238.61	225.10	254.49	178.62	146.97
May	217.18	237.25	235.43	227.48	251.36	167.08	139.91
June	223.89	243.66	238.48	231.56	250.26	169.29	142.58
July	226.55	256.07	239.93	238.69	246.22	163.17	147.81
August	236.35	257.18	242.70	243.69	237.92	155.04	150.83
September	230.26	258.60	244.80	243.02	239.20	154.66	143.02
October	229.15	268.14	236.15	246.68	221.43	154.23	144.59
November	230.56	272.81	234.22	244.08	209.32	160.34	138.52
December	218.15	250.33	234.81	246.07	202.60	162.73	132.65
Annual Average	219.94	248.30	237.59	236.91	240.17	170.08	146.01

Month	1988	1989	1990	1991	1992	1993	1994
January	126.01	125.64	144.36	135.27	126.21	124.66	111.79
February	128.57	128.49	144.93	130.97	125.47	123.98	109.23
March	128.72	128.00	148.61	134.02	130.46	117.95	105.04
April	125.64	132.12	156.99	137.68	133.37	115.05	104.47
May	124.76	133.78	157.09	137.71	132.77	110.81	103.07
June	125.23	143.06	159.28	139.05	128.15	107.97	104.29
July	131.40	141.60	151.95	138.85	125.61	108.16	99.55
August	133.12	140.29	148.90	137.00	126.99	105.38	99.57
September	134.21	145.10	142.96	136.24	124.36	104.37	99.25
October	132.58	142.58	133.82	131.72	121.03	105.79	98.97
November	125.36	142.67	128.31	130.47	122.71	107.80	97.41
December	122.21	143.83	130.86	129.14	124.11	108.35	99.22
Annual Average	128.15	137.26	145.67	134.84	126.77	111.69	102.66

**Appendix (continued). Monthly and annual average exchange rate applied to Japanese imports, 1981-2006 (yen/U.S. \$1.00).**

Month	1995	1996	1997	1998	1999	2000	2001
January	100.25	104.49	115.60	130.98	114.09	103.76	115.37
February	99.19	106.38	121.26	125.90	115.02	107.05	116.56
March	94.49	105.32	122.38	127.35	119.88	108.29	118.10
April	86.99	107.07	124.29	130.84	119.55	106.02	123.97
May	83.75	106.02	123.99	132.33	120.21	107.38	122.56
June	84.96	108.19	114.98	138.65	121.52	108.36	120.93
July	85.46	109.55	114.08	140.47	121.56	106.34	124.40
August	90.73	107.84	117.18	143.44	115.95	108.70	123.50
September	98.48	108.78	119.44	138.58	110.21	106.71	119.97
October	100.88	110.99	121.18	129.32	106.34	107.88	119.40
November	101.56	112.86	122.27	118.14	105.21	108.14	121.73
December	101.51	112.70	127.90	120.26	103.73	110.67	124.35
Annual Average	94.02	108.35	120.38	131.36	114.44	107.44	120.90

Month	2002	2003	2004	2005	2006
January	131.11	119.60	106.93	103.66	116.09
February	133.32	119.30	106.03	103.83	116.93
March	132.04	118.06	108.98	104.84	117.50
April	132.09	119.62	106.25	107.15	117.55
May	128.74	118.54	110.39	106.02	113.50
June	124.84	117.74	111.10	107.90	112.72
July	120.17	118.31	108.75	110.60	115.33
August	118.39	119.35	110.45	111.54	115.89
September	118.93	117.32	109.72	110.21	116.78
October	123.23	111.49	110.29	113.34	117.94
November	122.40	109.18	106.66	116.67	118.16
December	122.83	108.71	103.64	119.52	116.53
Annual Average	125.67	116.44	108.27	109.61	116.24

Sources: Japan Fish Traders Association 1982-2007