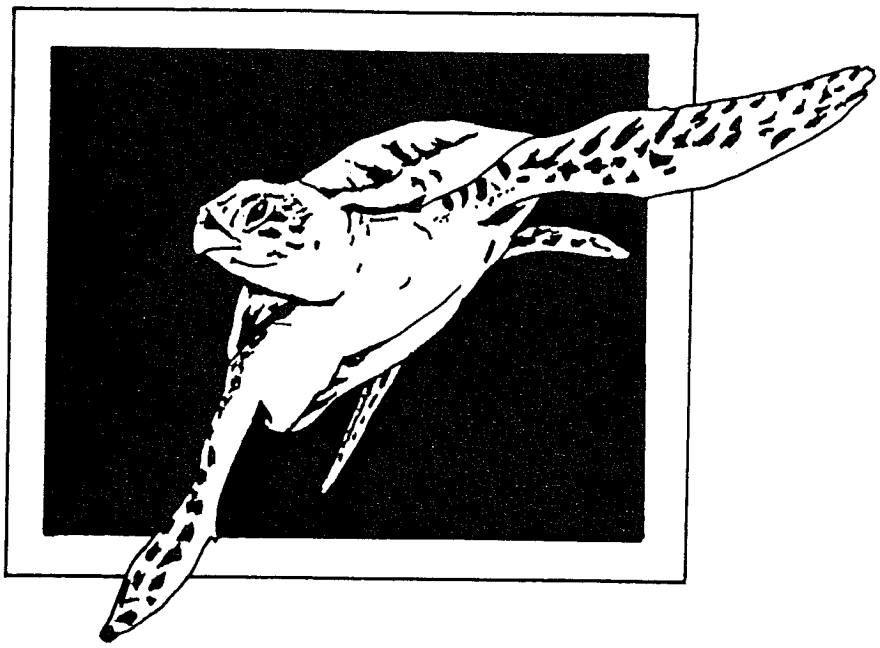
THE JAPANESE SEA TURTLE TRADE 1970 - 1986



TOM MILLIKEN and HIDEOMI TOKUNAGA

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TRAFFIC(JAPAN)
7th Fl. Nihonseimei Akabanebashi Bldg.
3-1-4 Shiba, Minato-ku, Tokyo 105 JAPAN

CENTER FOR ENVIRONMENTAL EDUCATION
1725 DeSales St., N.W. #500
Washington, D.C. 20036

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INTRODUCTION

To meet the demands of at least four separate native industries, Japan conducts the world's largest trade in sea turtles and sea turtle products. Importation is focused upon three species, the hawksbill (Eretmochelys imbricata), the green (Chelonia mydas), and the olive ridley (Lepidochelys olivacea), and includes trade in shell, skin, meat and stuffed specimens. Imports originate in a great number of countries throughout the tropics and sub-tropics, but trade patterns shift periodically in response to the status of local populations and the implementation and enforcement of national and international trade controls.

Japan's large trade in sea turtle shell is limited almost exclusively to the hawksbill, although very small quantities of green sea turtle shell are also imported from time to time. A separate, unrelated trade exists in whole lacquered and stuffed hawksbill and green sea turtles. These are sold as wall decorations throughout Japan. The Japanese reptile skin industry utilizes considerable quantities of green and olive ridley sea turtle skins in the manufacture of a variety of leather products. The full extent of Japan's sea turtle meat trade is unknown; green and olive ridley meat has been imported in recent years. Occasionally sea turtle eggs are found in Japanese fish markets, although evidence indicates that these are obtained through domestic exploitation of nesting loggerhead (Caretta caretta) sea turtles rather than international commerce.

The continued survival of sea turtles is a matter of increasing concern worldwide. The International Union for the Conservation of Nature and Natural Resources (ICUN) regards all three species heavily exploited by Japan as "Endangered" (Groombridge, 1982). Accordingly, the hawksbill, green and olive ridley were listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975. That listing prohibits all commercial trade, except under exceptional circumstances.

When Japan ratified CITES in 1980, the government placed reservations on the hawksbill, green and olive ridley in order to safeguard the commercial interests of her sea turtle industries. Under Article XXIII of the Convention, Japan's reservations on these species allow for the importation of otherwise banned sea turtle products. However, under a subsequent decision, CITES Conf. Resolution 4.25 (Trade in reservation species), any import from a CITES Party that does not hold a corresponding reservation, must be accompanied by a legal CITES export permit for the transaction to be sanctioned under the Convention.

Since 1983, when Conf. 4.25 was adopted at the 4th meeting

of the Conference of the Parties without any objection from Japan's delegation, the Japanese government has consistently failed to implement this resolution. Consequently, Japan's sea turtle trade policies remain a provocative issue among CITES Parties who wish to protect their sea turtle resources from commercial exploitation. As a result of Japan's general allowance of free entry of sea turtles products, CITES regulations at the producer end are routinely violated in order to meet Japanese demand.

To date, analyses of Japan's sea turtle trade have generally relied upon a review of Japanese Customs statistics, which quantify trade volumes for various sea turtle products in kilograms. In this report, a serious attempt has been made to move beyond the Customs data per se and arrive at estimates for the numbers of sea turtles consumed annually by Japan's various industries. Such data are absolutely necessary to accurately assess the impact of Japan's exploitation on individual sea turtle species and populations.

It is further necessary to evaluate exploitation of sea turtle populations from a long term perspective. According to Mortimer (1984) the complexities of sea turtle biology and breeding behavior are such that the decline of an exploited population may not become evident until up to two decades later, at which point a total population collapse is possible. Thus this report addresses a 17-year period, from 1970 to 1986, from the standpoint that exploitation which occurred long before CITES was a factor is still relevant to understanding and predicting current sea turtle population trends.

As many biologists have pointed out, sea turtles generally form discreet populations. Therefore, it is ultimately necessary to evaluate the impact of exploitation on individual populations and not the species as a whole. With this in mind, in addition to presenting overall trends in the Japanese statistics, trade data are analyzed for each country to highlight national trends of exploitation and to assess the efficacy of CITES controls. No serious attempt is made, however, to interpret the trade data as an indication of population and biological status for specific species or populations. That task is ultimately left in the hands of sea turtle biologists and others with access to more complete information concerning the distribution and biological status of sea turtles.

Definition of Terms

In this report, the following terms are used as defined below:

Bekko: A word of Japanese origin, "bekko" refers exclusively to the shell of the hawksbill species when used in the Japanese language. In this report, it is used accordingly

and should not be confused with the term "tortoiseshell", which refers to the shell of another species (see below). In the Japanese Customs data, there are two tariff headings which employ this term: "bekko" and "worked bekko". As will become evident in this report, both categories relate to hawksbill sea turtles, but the latter represents stuffed hawksbill specimens, rather than manufactured bekko products.

Since the shell of the hawksbill sea turtle - bekko - forms the material base for an entire traditional industry in Japan, the term "bekko" is also used in a generic sense throughout this report. For example, we refer to the "bekko industry".

Tortoiseshell: In this report, the term "tortoiseshell" indicates only the shell of the green sea turtle. Two tariff headings in the Japanese Customs data use this term: "tortoiseshell" and "worked tortoiseshell". As we will demonstrate, the first refers to imports of unworked shell of the green sea turtle. The second refers to green sea turtles, but, with rare exception, actually represents stuffed specimens, a fact we will clarify in this report.

Abbreviations and Country Codes

Due to inherent limitations in our word processing system, it has been necessary to substitute two-letter ISO country codes in lieu of full country names in some of the figures, tables and appendices of this report. For readers not familiar with these codes and other abbreviations used in the report, please turn to the following page for reference. Additionally, for quick reference, ISO country codes are also given in the Table of Contents in parentheses next to each country listed in the Country Synopsis.

COUNTRY CODES

AG	Antigua Barbuda
AU	Australia
BB	Barbados
BE	Belgium
BR	Brazil
BS	Bahamas
BZ	Belize
CA	Canada
CH	Switzerland
CN	China
CO	Colombia
CR	Costa Rica
CU	Cuba
CV	Cape Verde
DE	Federal Republic of Germany
DO	Dominican Republic
DM	Dominica
EC	Ecuador
ES	Spain
ET	Ethiopia
FJ	Fiji
FR	France
GB	United Kingdom
GD	Grenada
HK	Hong Kong
HN	Honduras
HT	Haiti
ID	Indonesia
IN	India
IT	Italy
JM	Jamaica
KE	Kenya
KM	Comoros
KY	Cayman Islands
LC	Santa Lucia
LK	Sri Lanka
MA	Morocco
MG	Madagascar
MV	Maldives
MX	Mexico
MY	Malaysia
MZ	Mozambique
NI	Nicaragua
NL	Netherlands
OM	Oman
PA	Panama
PG	Papua New Guinea
PH	Philippines
PK	Pakistan
PR	Puerto Rico
PT	Portugal
RE	Reunion
SA	Saudi Arabia
SB	Solomon Islands
SC	Seychelles
SG	Singapore
SO	Somalia
TC	Turks & Caicos Islands
TH	Thailand
TT	Trinidad & Tobago
TW	Taiwan
TZ	Tanzania
US	United States
VC	St. Vincent & Grenadines
VE	Venezuela

OTHER ABBREVIATIONS

KG	Kilograms
NO	Number
PRE	Pre-Convention
NON	Non-Party
POST	Post-Convention

METHODOLOGY

This report is based upon four principal sources of data. First, Japanese Customs statistics, which are compiled and published on a monthly basis by the Ministry of Finance, contain at least six tariff headings that directly relate to trade in sea turtles and sea turtle products. Between 1970 and 1986, data on Japanese imports of "bekko", "tortoiseshell", "worked bekko", "worked tortoiseshell", "sea turtle skins" and "sea turtle leather" were analyzed. (Data under the latter two headings were only available from 1976 onward). These statistics, presented in Appendices 1 through 6, quantify imports in terms of weight in kilograms and country of origin if declared, or country of export, if not.

For the purposes of analysis, these data were divided into six regional groupings: Caribbean/Latin America (including the Caribbean Sea and the Atlantic and Pacific Oceans adjacent to Central and South America); Asia (which is limited to the South China Sea and Pacific Ocean as far as the Philippines and Irian Jaya); Indian Ocean/East Africa (including India and Sri Lanka); Oceania/Pacific; Europe/West Africa (including the Mediterreanean Sea and East Atlantic Ocean); and North America.

Overall, Customs data give the best indication of Japan's sea turtle trade, although several shortcomings are apparent. First, the country listed as the source for a commodity is not always a reliable indication of where the commodity actually originated. In some cases, it is clear that the country given in the Customs statistics is in fact a re-exporting nation and the real country of origin remains unknown. An obvious example would be the hawksbill sea turtle shell received from the Federal Republic of Germany in 1984, a country where the species certainly does not occur in the wild. Secondly, species are not clearly specified, although in some instances the species can be ascertained. "Bekko", for example, is known to represent only shell from hawksbill sea turtles. Thirdly, Customs data do not provide the number of animals which comprise the trade. And finally, in the case of "worked bekko" and "worked tortoiseshell", Customs statistics do not indicate what products are actually represented by these imports. Therefore, in order to interpret Customs statistics accurately, other sources of data and information are required.

The second source of data used in this report concerns only the bekko trade and was obtained from the bekko importers themselves. In February 1987, a detailed questionnaire prepared by TRAFFIC (Japan) was distributed to the approximately 20 Japanese companies currently importing bekko (Appendix 7). The Japan General Merchandise Importers Association, the body under which bekko importers are organized for official administrative

purposes, coordinated this survey on behalf of TRAFFIC. Eleven responses were provided voluntarily. Under prearranged agreement, the names of the dealers who provided data remain confidential, even to TRAFFIC (Japan). Throughout this report, those data are referred to as the "dealers' data".

The TRAFFIC questionnaire addressed the years 1984 to 1986, and solicited data on the date of importation, country of export or country of origin, weight and declared value of each consignment, number of scutes, weight and size of the hawksbills involved, and the color and quality of the bekko received. The dealers' data are presented in Appendix 8. When compared with Customs statistics, the dealers' data accounted for about three-quarters of all bekko imported during the years examined. The principal result of the survey was that average weights of bekko per hawksbill were obtained for fifteen countries. This information was very useful in determining the approximate numbers of hawksbills represented by the trade volumes for bekko in the Customs statistics.

A third source of data, concerning the average weights of bekko and the size and weight of stuffed hawksbill and green sea turtles, was obtained through direct monitoring and inspection activities by TRAFFIC researchers. Through the cooperation of Japanese importers and dealers, TRAFFIC researchers were able to examine, weigh and count the number of scutes, belly shells and hooves contained in consignments of bekko from Cuba, Haiti, the Commonwealth of Dominica, and Indonesia. To obtain estimates of the number of hawksbills contained in these shipments, the total number of dorsal scutes was divided by 13, the number of scutes a single animal would produce. To obtain the average weight of bekko per animal, the total weight of the scutes was then divided by the estimated number of animals. In cases where belly shells and hooves were also imported, their total weight was added to the weight of backshells, and then divided by the estimated number of animals.

To obtain data on the size and weight of stuffed sea turtles, TRAFFIC researchers or dealers who agreed to cooperate with this study measured and weighed a total of 113 hawksbill and green sea turtles. All specimens were measured along the curve of the backshell from the base of the neck to the rear. The neck and the head were not included in the measurement.

A fourth source of data was obtained through a series of interviews with bekko dealers, stuffed sea turtle traders, and sea turtle skin and meat importers. Altogether, more than 20 interviews were conducted in Tokyo, Nagasaki, and Okinawa, often with individuals who have spent most of their adult lives involved with the sea turtle trade. These discussions produced a wealth of anecdotal information, as well as some quantitative data, which was extremely useful in the interpretation of data obtained from other sources. One bekko importer, for example, analyzed his import records from 1981 to 1986 independently of

the dealers' survey and produced average weight per hawksbill estimates for bekko imports from 42 countries. These estimates were then presented to other selected dealers, who generally concurred with the findings with the exception of the figure for Costa Rica. For that country, both the original and the later estimate are provided. Estimates for the average weight of sea turtle skins were obtained in a similar way.

Finally, other published materials, personal correspondence, and data on sea turtle trade were obtained and used where appropriate. These sources are listed in the Reference section of this report and are cited where used throughout the text.

TRADE IN BEKKO (HAWKSBILL SEA TURTLE SHELL)

The Japanese Bekko Industry

'Bekko' is the Japanese term for the shell of the hawksbill sea turtle (Eretmochelys imbricata). Bekko artifacts dating back over a thousand years are in the possession of the Imperial Household Agency, although there is some doubt as to their origin. Most likely, these items were brought to Japan from China. The indigenous bekko industry did not become established until the Edo period, some 280 years ago, in Nagasaki. Drawing upon a long and uninterrupted history, the Japanese bekko industry today is the largest in the world, despite the fact that it relies totally upon domestic consumption and not foreign export.

Skilled craftsmen use time-tested manufacturing processes to produce the world's highest quality bekko products. Whereas the small-scale indigenous industries in Southeast Asia, the Caribbean, the Seychelles, and elsewhere produce low-quality souvenir trinkets by directly carving the backshell of hawksbills, Japanese craftsmen elaborately shape the scutes, hooves, and belly pieces and blend the natural bekko colors using a combination of heat, water, and pressure techniques. Only French and Italian craftsman are known to employ similar techniques to produce high quality products. After the basic shape of the item is secured, designs are delicately carved and other details added to produce a variety of products. Finally, each item is buffed and polished to bring out the natural sheen of the finished bekko product.

Historically, women's hair ornaments and combs, including exceptionally elaborate creations traditionally worn by Japanese brides, and other culturally unique products were the mainstay of the industry. Today style and fashion have changed, and popular items include a wide range of contemporary jewelry, accessories, watch bands, shoe horns, and combs. Expensive eyeglass frames are made to order, and elaborate treasure ships and other sculpted art pieces are produced for the domestic market. These items are widely available at department stores and specialty shops throughout Japan and at the major beach resorts and tourist centers.

At the present time, the industry is organized into seven associations of manufacturers and dealers with the major production centers located in Nagasaki, Tokyo, and Osaka, although small-scale production also occurs in Okinawa and Shikoku. Each region has its own specialties. Production in Nagasaki, for example, caters largely to the tourist industry and therefore produces a tremendous variety of lower-priced jewelry and other accessories. Nagasaki products are very popular and widely available in Okinawa, where retailers ranked

coral, bekko, and precious stones, in that order, as the three most important tourist trade items as far as jewelry and accessories are concerned. Tokyo manufacturers specialize in the production of expensive eyeglass frames.

Japanese Trade Restrictions

Before Japan joined CITES in 1980, approximately 40 tonnes of bekko were imported annually to sustain the indigenous bekko industry. The Japanese government, in ratifying CITES, placed a reservation on the hawksbill sea turtle in order to provide for the future importation of bekko. However, as a concession to the Appendix I listing of the hawksbill, the Ministry of International Trade and Industry (MITI) imposed a 30-tonne import quota restriction at the same time. Thus the quota was based upon an arbitrary reduction of previous levels of importation and not upon biological data establishing sustainable levels of exploitation.

Since implementation of the 30-tonne quota in April 1980, the number of companies importing bekko has declined. Currently, approximately 20 companies are engaged in importation and account for 80% of all imports. The seven bekko associations directly import the remaining 20% of the trade, which allows manufacturers to obtain bekko at slightly reduced prices. Each company or association is given a semi-annual import quota, based upon previous levels of trade. All importers are obliged to provide MITI, via the Japan General Merchandise Importers Association, with a monthly report on all imports of bekko, a monthly record of all sales contracts, and any subsequent changes in sales contracts previously reported. The import quotas are administered according to the Japanese fiscal year, which runs from April until March.

Trade Volumes - Japanese Customs Data "Bekko"

Imports of bekko into Japan are easy to monitor because there is a specific tariff category for bekko in the Japanese Customs data. In the period examined, from 1970 until 1975, imports of bekko were listed under the tariff heading 291.141, "Bekko". This was changed to 05.11-100 in 1976, and then again to 05.09-060, "Bekko including waste" in 1979. Not only dorsal scutes, but also hooves or marginal scutes and belly shells of hawksbill sea turtles are included in these Customs categories.

Japanese imports of bekko from 1970 to 1986 totalled 641,531kg (Appendix 1). The general trend was one of relative stability. Imports between 1970 and 1979 averaged about 38,700kg per year, except in 1973 and 1979 when imports shot up to 73,206kg and 63,555kg respectively (Figure 1). Both increases were directly related to CITES: the 1973 stockpiling effort was stimulated by fears that the Washington Conference would impose immediate trade restrictions; the 1979 increase was in anticipation of Japan's ratification of the Convention the

following year. Since 1980, when the 30-tonne annual import quota went into effect, all trade has remained within the established limits.

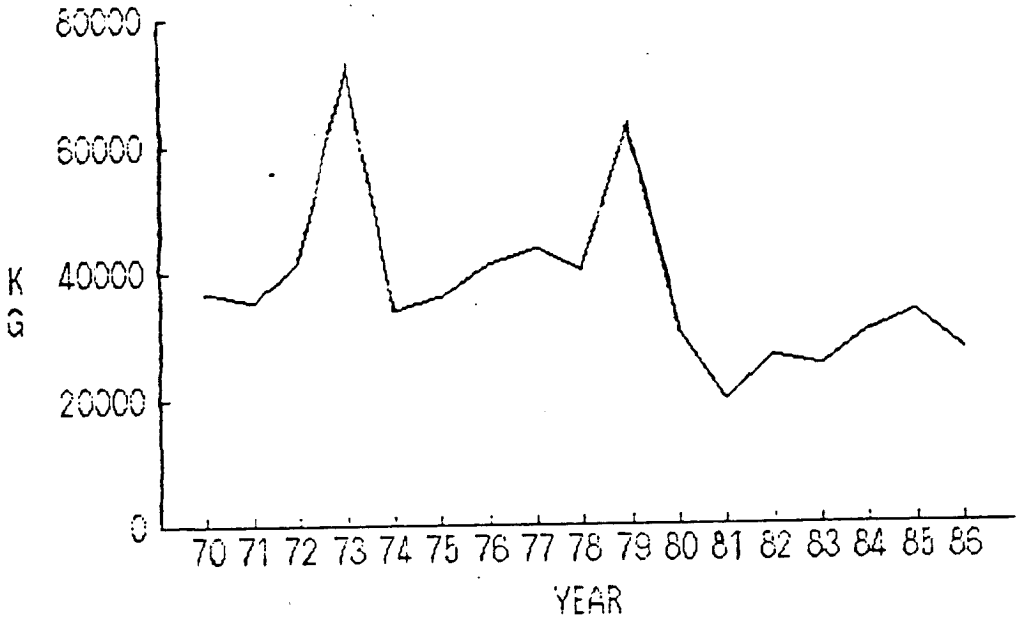

Figure 1: Japanese Imports of Bekko 1970-1986
Source: Japanese Customs Statistics

Overall, more than half of Japan's bekko imports originated from Caribbean and Latin American countries. Next in importance was the Asian region, which accounted for another 30% of the total trade over the period examined. A further 12% of Japan's bekko imports came from Indian Ocean and East African countries, with the remainder of the trade from Oceania and Pacific, European or North American countries (Figure 2).

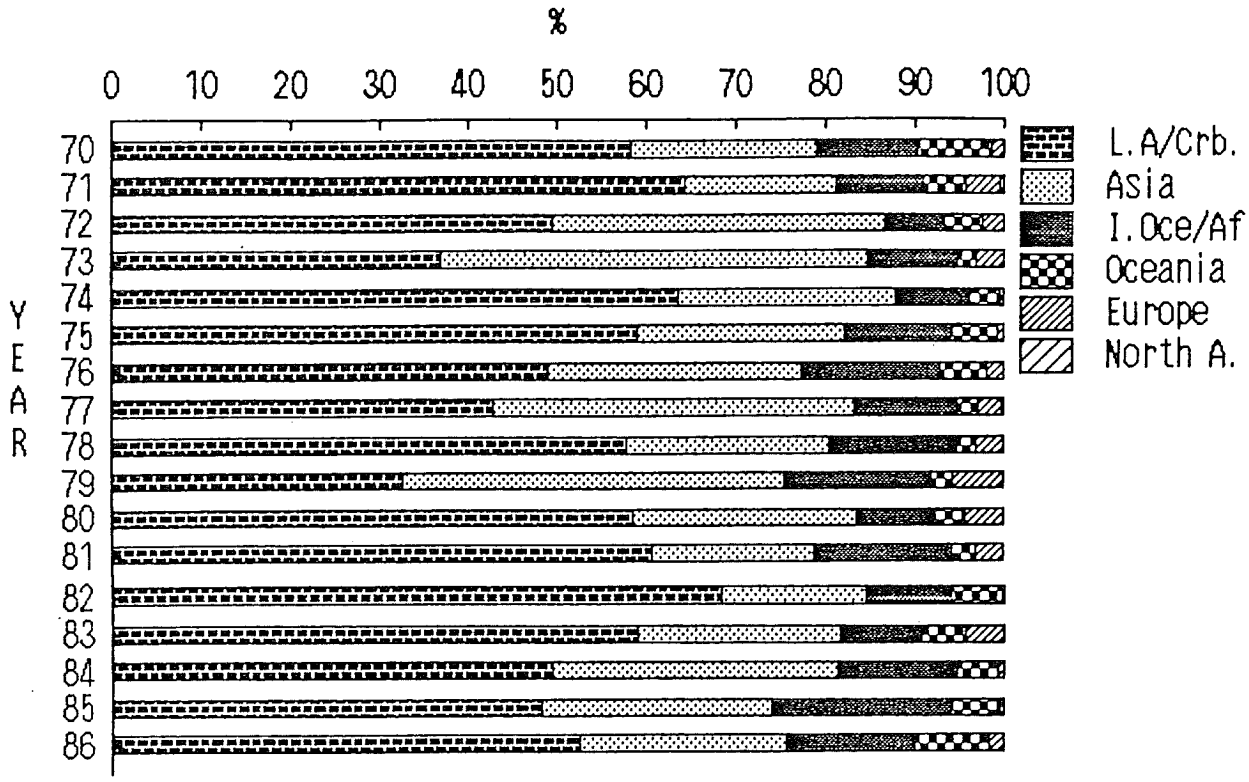

Figure 2: Regional Distribution of Japanese Imports of Bekko as a Percentage of Total Trade
Source: Japanese Customs Statistics

Trade from the Caribbean and Latin America was widely dispersed throughout the region, with 26 countries supplying bekko to Japan. Panama and Cuba were the major exporters, followed by the Cayman Islands and Haiti. These four countries accounted for about three-quarters of Japan's bekko imports from the region, although by 1986 trade from Panama and the Cayman Islands had ceased altogether, apparently due to stricter implementation of CITES controls in those countries.

Asia's trade was largely focused upon Indonesia and Singapore, which together supplied over three-quarters of the imports received from the region. The Philippines was also a regular supplier of bekko until 1986. Four other countries were identified in the data as sporadically exporting small quantities of bekko to Japan.

Among Indian Ocean and East African nations, Tanzania and Kenya together supplied two-thirds of the trade. The Maldives, Seychelles, and ten other countries were also identified in the data as other sources of bekko in the region. Japanese dealers also reported receiving imports from Oman, a country not listed in the Customs statistics.

Limited trade from Pacific, European, West African, and North American countries was also reported in the data. Altogether, these imports amounted to less than 7% of the total trade during the period examined. While imports of bekko from

the Solomon Islands and Fiji continue to the present, most trade from North America and Europe has ceased. Trade from these latter two regions is believed to have involved the re-exportation of bekko obtained elsewhere.

Trade Volumes - Japanese Dealers' Data

Dealers surveyed for this report supplied information concerning their imports from 1984 to 1986. These data represented between 77.9% and 78.9% of the total imports recorded in the Customs statistics (Figure 3).

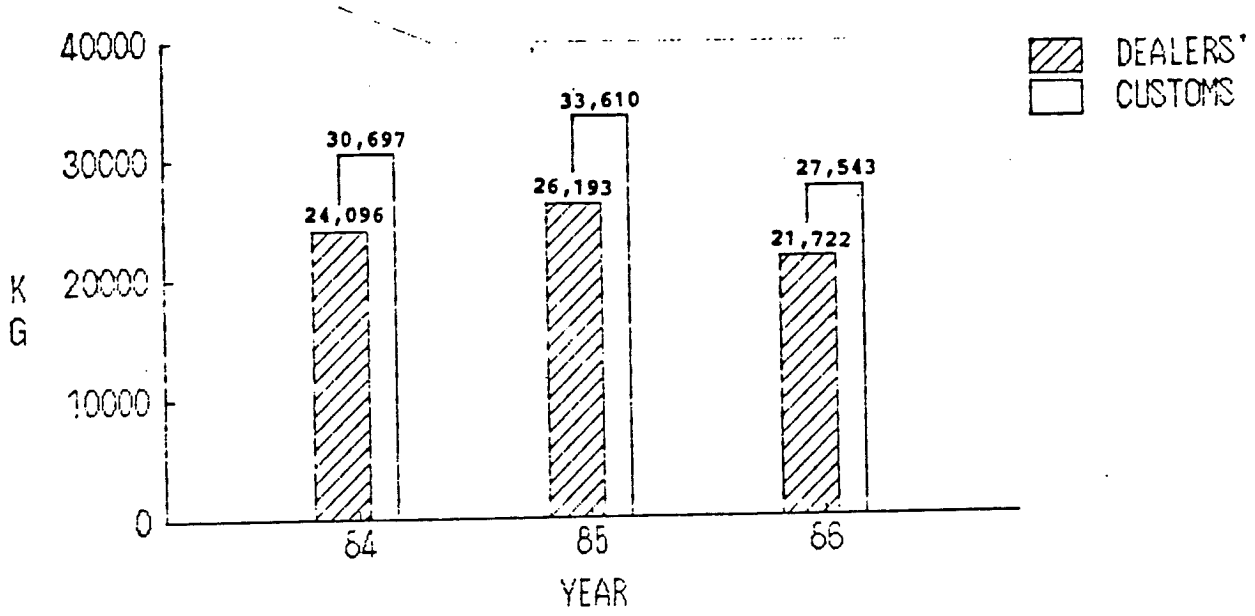

Figure 3: Comparison of Dealers' Data to Customs Data 1984-1986

In general, there was a high degree of correlation in the two sets of data, but trade from at least 13 countries was reportedly greater in the dealers' data than in the Customs statistics for at least one of the years surveyed. Of particular concern was trade emanating from Trinidad and Tobago, Antigua, Belize, the Philippines, Oman, Somalia, and Madagascar: in each case, the dealers' data reported imports at least 20% greater than the figures reported by Customs for the three years examined (Figure 4).

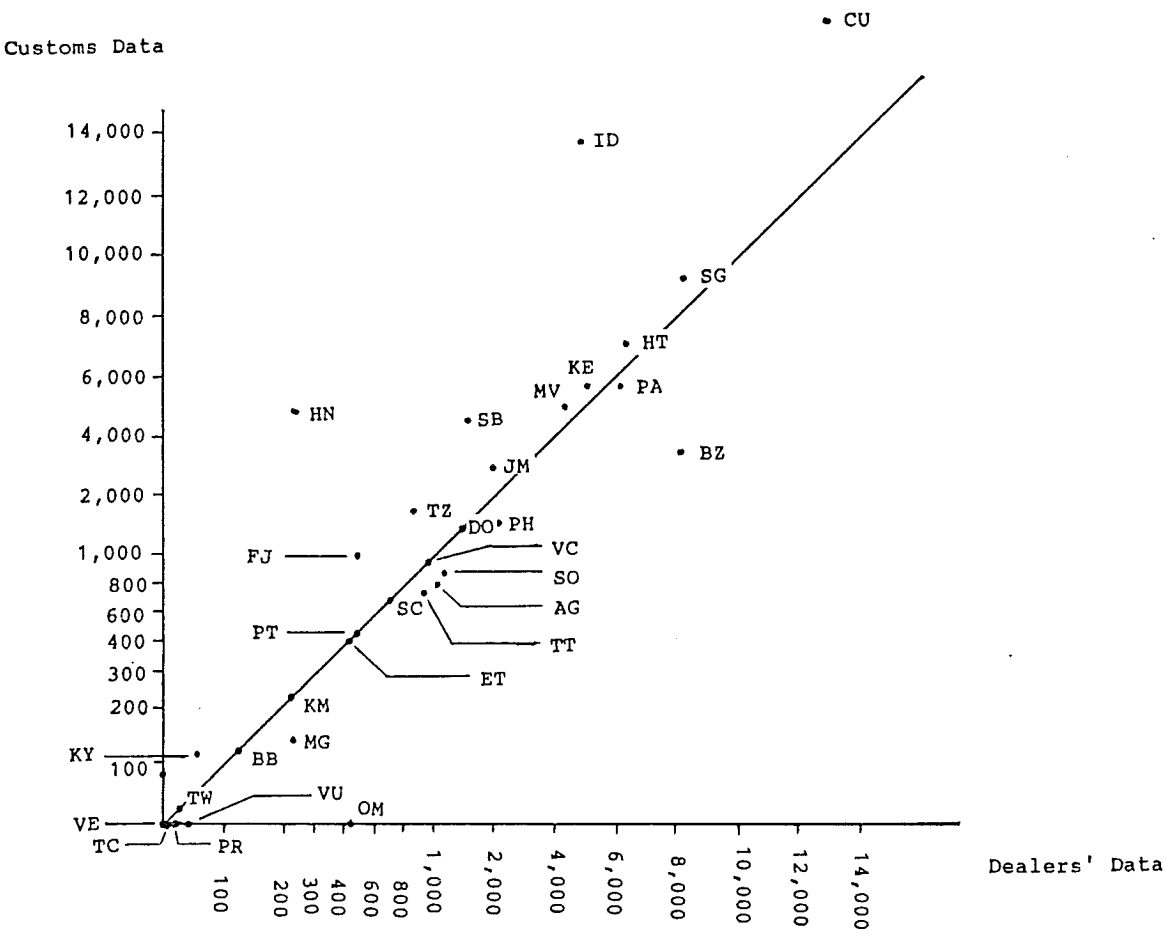

Figure 4: Discrepancies Between Dealers' Data and Customs Data 1984-1986

Average Weight of Bekko per Hawksbill

Data concerning the average weight per animal for bekko shipments from 42 countries is presented in Table 1. These data were compiled from four sources. First, the dealers' data provided average weights for imports received from 15 countries between 1984 and 1986. In Table 1, the total number of kilograms upon which these estimates are based is also given, along with the percentage of the total trade in Customs statistics the sample represents for each country. Secondly, interviews with selected importers with long experience in the trade also produced estimates for 42 countries. These calculations were derived from imports which took place between 1981 and 1986. Thirdly, TRAFFIC investigators on four occasions were invited by certain dealers to examine consignments received in 1987 from three Caribbean nations and Indonesia. The average weight of bekko per hawksbill as well as the total weight in kilograms of these consignments is given in Table 1. Finally,

Table 1: Average Weight of Bekko per Hawksbill

Part. 1

	DEALERS' DATA									DEALERS' INTERVIEWS	TRAFFIC'S OBSERVATION 87		OTHER REFERENCES
	1984			1985			1986						
	Average Weight	Based On Kg	Total % of Trade vs. Customs' data	Average Weight	Based On Kg	Total % of Trade vs. Customs' data	Average Weight	Based On Kg	Total % of Trade vs. Customs' data	DATA Based on 81-86 records	Average Weight	Based On Kg	
AG	1.11	381.45	—				1.09	239.59	81.8	0.98			
BS										0.81			
BB										1.10			
BZ				1.11	1,088.6	91.1	1.11	1,050.49	47.1	1.11			
DM										1.50	1.54	42.4	
KY										1.10			
CR										0.85 ~ 1.00			
CU	1.59	541.0	12.9	1.59	2,227.0	28.5	1.60	1,868.0	32.8	1.51	1.43	56.0	
DO										1.00			
Fr.W.Indies										1.00			
GD										1.00			
HT	1.59	1,874.78	94.3	1.56	1,953.65	88.7	1.59	2,098.83	75.9	1.59	1.52	121.4	
HN										0.90			
JM										1.50			
MX										1.20			
NI										1.11			
PA	1.14	3,339.98	78.4	1.19	1,340.02	89.3				1.30			
LC										1.03			
VC	1.10	243.1	100.5	1.10	191.86	100.5	1.20	341.2	72.6	1.08			
TT	1.03	545.65	100.3	1.06	63.5	30.5				1.03			
LA/Car.Total	(1.25)	6,925.96	45.0	(1.37)	6,864.63	42.0	(1.42)	5,598.11	38.0	(1.34)			
3 Year Ave.				(1.34)									
ID ※	0.80	2,751.0	41.7	0.82	1,245.0	22.5	0.70	700.0	40.2	0.68	0.73	40.1	0.94 ①
MY ※										0.80			
PH ※	0.80	294.4	24.0	0.76	280.73	101.7				0.70			
SG ※	0.68	1,571.69	84.2	0.68	1,503.42	53.5				0.65			
TW ※	0.82	23.0	100.0							0.81			
Asia Total	(0.76)	4,640.09	48.0	(0.74)	3,029.15	35.0	(0.70)	700.0	11.0	(0.68)			
3 Year Ave.				(0.75)									

Notes: ※ :Back only
no mark: Back, Belly & Hooves

Table 1: Average weight of Bekko per Hawksbill

Part 2 (Cont.)

	DEALERS' DATA									DEALERS' INTERVIEWS	TRAFFIC'S OBSERVATION 87		OTHER REFERENCES
	1984			1985			1986						
	Average Weight	Based On KG	Total % of Trade vs. Customs' data	Avarage Weight	Based On Kg	Total % of Trade vs. Customs' data	Avarage Weight	Based On Kg	Total % of Trade vs. Customs' data	DATA Based on 81-86 records	Average Weight	Based On Kg	
CV										1.01			
ET							0.75	427.93	100.2	0.91			
KE	0.72	1,340.0	63.5	0.74	3,110.56	100.0	0.74	400.0	100.0	1.04			
MG										0.99			
MV										0.80			
SC										0.94			0.90 Back ② 0.50 Belly/Hooves
SO										1.03			
LK										0.85			
TZ										0.99			
Ind.Ocean/Af	(0.72)	1,340.0	36.0	(0.74)	3,110.56	46.0	(0.75)	827.93	21.0	(0.95)			
3 Years Ave.				(0.74)									
FJ				0.70	20.0	6.8				1.01			
SB				0.98	40.0	2.6	0.89	88.0	4.9	1.12			
Oceania				(0.86)	60.0	3.2	(0.89)	88.0	3.8	(1.10)			
2 Years Ave.					(0.88)								
BE										1.10			
DE										1.13			
NL										1.20			
PT										1.02			
ES										1.05			
Europe										(1.14)			
US										1.10			
N. America										(1.10)			
Grand Total Average				(1.06)									

①1984 IUCN/WWF Marine Conservation Project
②1984 Mortimer, J.A Marine Turtles in the Republic of the Seychelles:Status and Management
Sea Turtle Trade in Indonesia

information on the average weight of bekko per animal found in recent sea turtle literature was compiled for comparative purposes.

The dealers' data provide the most detailed information to date with which to estimate the number of hawksbill sea turtles represented by Japan's trade in bekko. These data generally form the basis for analysis of Customs statistics. While the overall average yield of bekko per animal is estimated to be 1.06kg, different regional patterns are clearly evident in the data (Table 1). Caribbean hawksbills yield an average of 1.34kg of bekko per animal, which is a little less than twice the average weight of bekko per animal received from other regions. Data for Asia, the Indian Ocean and East African region, and Oceania give average weights per animal of 0.75kg, 0.74kg, and 0.88kg respectively.

Estimated Number of Hawksbills Represented by Japan's Trade in Bekko

Using an average of 1.06kg of bekko per hawksbill, as derived from the dealers' data, it is estimated that more than 600,000 hawksbills were required to produce the volume of bekko imported into Japan between 1970 and 1986 (Figure 5). To maintain current levels of importation, which on average are a little less than 30 tonnes, the annual slaughter of at least 28,000 hawksbills is required.

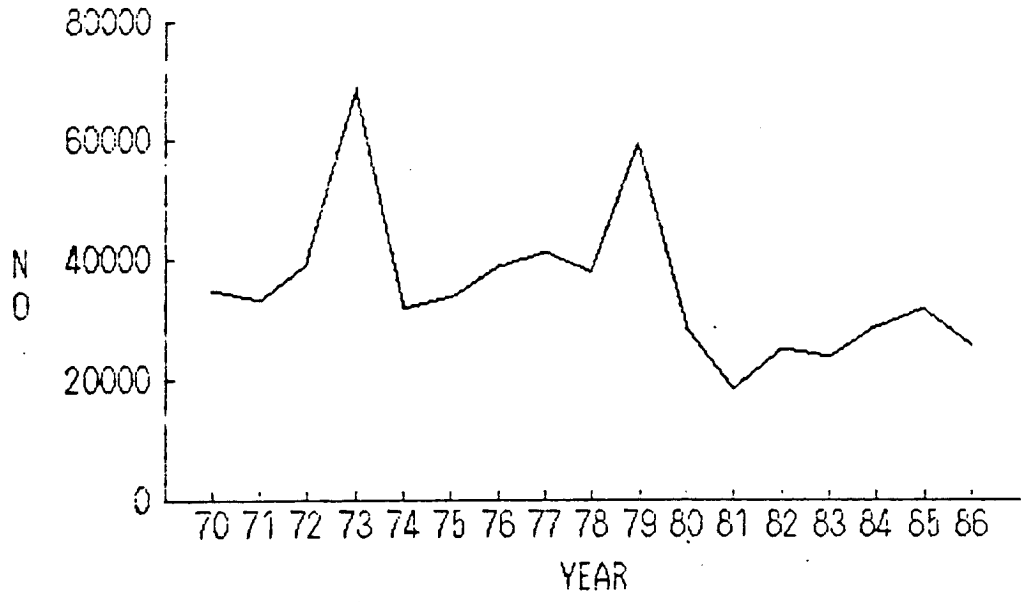

Figure 5: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko Between 1970-1986

Source: Japanese Customs Data Calculated at 1.06kg of Bekko per Hawksbill

Legality of Trade in "Bekko" Under CITES

Despite the Japanese government's policy of restricting bekko imports to an annual limit of 30 tonnes, Japan's trade has continually provoked international criticism. Reliance upon imports from CITES Parties, which are not officially authorizing trade under the terms of the Convention, has been chronic since Japan acceded to CITES in 1980.

Between 1975 and 1978, when the number of Parties to the Convention increased from 19 to 47 countries, the percentage of Japanese bekko imports received from CITES Parties steadily grew from 0.9% to 8.0% (Figure 6). In 1979, the year before Japan ratified the Convention and instigated the 30-tonne import limitation, this percentage dramatically increased to 52.9% and represented over 33,800kg of bekko. In subsequent years, similar levels of trade with CITES Parties were maintained. From 1980 to 1985, between 42% and 58% of all bekko imports were received from CITES Parties, apparently without proper export documentation. These imports annually have ranged between 10,781kg and 16,188kg of bekko and represent a minimum of 10,100 to 15,200 hawksbills each year.

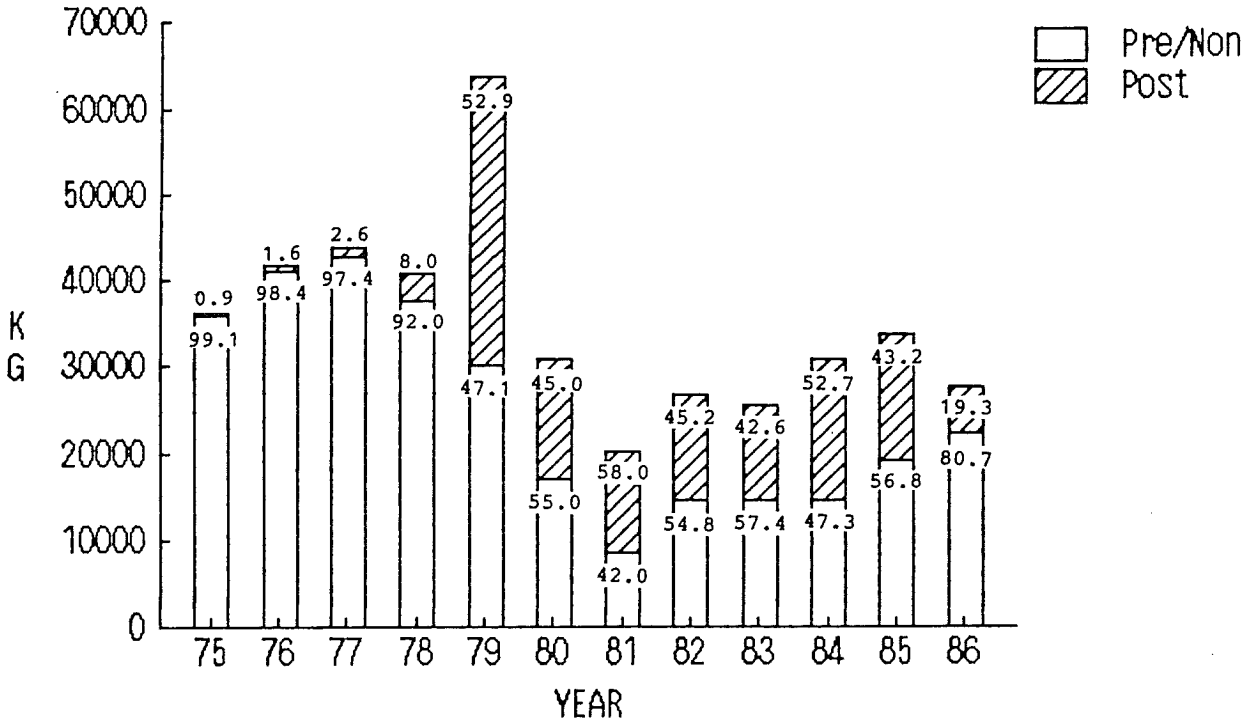

Figure 6: Volumes and Percentage of Japanese Imports of Bekko Received from CITES Parties 1975-1986
Source: Japanese Customs Statistics

In 1986, the percentage of Japan's trade which was received from CITES countries dropped substantially to 19.3%, the lowest figure since 1978. This can be attributed to a self-imposed policy to refrain from importation from CITES countries by the bekko importers themselves, not a commitment on the part of the Japanese government to implement the recommendations of Conf.

Resolution 4.25. While the cooperation of the dealers in this regard is certainly a positive development, there is some evidence to suggest that bekko which actually originated in CITES countries was shipped through non-Parties that year. Large quantities of bekko from Indonesia, for example, are believed to have been laundered through Singapore in 1986. While this does not represent a new development per se, but that year imports from Indonesia dropped to a 5-year low of 1,740kg, while Singapore's trade reached a 13-year record high of 4,586kg. In the Caribbean, the substantial increase in Jamaican imports from 170kg in 1985 to 2,182kg in 1986 was also probably achieved by shipping bekko obtained elsewhere in the region through that country (Appendix 1).

The scale of Indonesia's trade is particularly worrying. Since Indonesia's ratification of the Convention in 1979, more than 44,300kg of bekko has been directly imported into Japan (Table 2). It would seem that both Japanese and Indonesian officials have done little to inhibit the trade. Although the Indonesian CITES Management Authority denied authorizing any exports of bekko to Japan between January and May 1985 (Manan, in. litt.), a month later the same authorities seem to have aided the traffic by reportedly issuing permits for the export of 2,000kg of bekko (Anon, 1987).

Other Asian countries have also exported large quantities of bekko to Japan after CITES came into effect. The Philippines supplied some 3,500kg, although the Philippine government confirmed that none of the trade to Japan was authorized during this period (Nacu/Alvarez, in. litt.). Hong Kong also provided over 1,300kg of bekko, but nothing has been received by Japan since 1982. Limited trade from Malaysia after that country ratified the Convention was also reported in the Japanese Customs data (Table 2).

From the Caribbean, imports of bekko from Panama and the Cayman Islands have been substantial in the post-CITES period. More than 24,100kg and 12,400kg respectively have been received by Japan from these countries. The CITES Management Authority in Panama has warned the Japanese government on a number of occasions that they are not issuing permits (Alba, in. litt.). 1986 is the first year in which no imports are reported as originating in Panama in the Japanese Customs statistics. The Cayman Islands also appeared to have successfully shut down her trade in 1985 (Table 2).

Large consignments of bekko, which totalled 5,278kg between 1982 and 1986, were reportedly received from British Honduras/Belize after CITES came into force there, with most trade received after independence. Nicaragua also experienced difficulity in preventing trade to Japan, with over 3,000kg of bekko imported in apparent violation of Nicaraguan export controls. The Bahamas supplied some 2,000kg of bekko in the

Table 2: Japanese Imports of Bekko Received from CITES Parties 1975~1986
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
US 01/07/75	–	–	–	–	–	–	–	–	22	–	–	–	22
PR (US) 01/07/75	45	262	264	–	18	–	–	–	–	–	–	–	589
CA 09/07/75	–	–	–	–	–	–	–	40	–	–	–	–	40
CR 28/09/75	289	170	260	47	89	–	234	79	5	–	–	–	1,173
MG 18/11/75	–	60	–	–	–	–	–	–	–	–	–	138	198
DE 20/06/76	–	–	–	–	–	–	–	–	–	226	–	–	226
IN 18/10/76	–	–	68	20	–	–	–	–	–	–	–	–	88
AU 27/10/76	–	171	192	–	–	–	–	–	–	–	–	–	363
HK (GB) 31/10/76	–	–	163	89	945	–	104	–	–	–	–	–	1,301
BZ ※ 31/10/76	–	–	40	–	314	258	–	702	538	–	1,195	2,231	5,278
SC 09/05/77	–	–	191	976	1,027	618	423	472	675	629	61	–	5,072
NI 04/11/77	–	–	–	1,014	949	7	475	417	–	–	192	–	3,054
MY 18/01/78	–	–	–	–	–	–	–	196	349	74	–	–	619
VE 22/01/78	–	–	–	–	–	–	–	–	–	–	–	9	9

Table 2: Japanese Imports of Bekko Received from CITES Parties 1975~1986 (Cont.)
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
PA 15/11/78	–	–	–	1,087	4,810	3,360	3,011	2,243	3,889	4,259	1,500	–	24,159
KE 13/03/79	–	–	–	–	2,051	463	1,404	572	938	2,111	3,110	400	11,049
ID 28/03/79	–	–	–	–	18,482	4,811	1,579	2,032	3,605	6,604	5,534	1,740	44,387
KY (GB) 08/05/79	–	–	–	–	4,566	2,505	3,022	2,258	–	115	–	–	12,466
LK 02/08/79	–	–	–	–	–	46	–	–	17	–	–	–	63
BS 18/09/79	–	–	–	–	554	767	29	728	–	–	–	–	2,078
TZ 27/02/80	–	–	–	–	–	1,202	845	836	168	540	1,032	133	4,756
PH 16/11/81	–	–	–	–	–	–	430	1,376	232	1,227	276	–	3,541
LC 15/03/83	–	–	–	–	–	–	–	–	343	–	–	–	343
TT 18/04/84	–	–	–	–	–	–	–	–	–	403	208	–	611
HN 13/06/85	–	–	–	–	–	–	–	–	–	–	1,224	–	1,224
SO 02/03/86	–	–	–	–	–	–	–	–	–	–	–	450	450
Total	334	663	1,178	3,233	33,805	14,037	11,556	11,951	10,781	16,188	14,332	5,101	123,159
Non-Party	35,719	40,711	42,475	37,311	29,750	16,793	8,480	14,555	14,619	14,509	19,278	22,442	296,642

※Former Dependent Territory of UK

Table 2: Japanese Imports of Bekko Received from CITES Parties 1975~1986 (Cont.)
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Grand Total	36,053	41,374	43,653	40,544	63,555	30,830	20,036	26,506	25,400	30,697	33,610	27,543	419,801
Percentage of trade from CITES Parties	0.9	1.6	2.7	8.0	53.2	45.5	57.7	45.1	42.4	52.7	42.6	18.5	29.3

post-CITES period before curtailing all trade in 1983. Over 1,100kg was received by Japan from both Costa Rica and Honduras before authorities there were able to effectively shut down the trade (Table 2).

Elsewhere in the Caribbean region, Japan has periodically received small volumes of bekko from Puerto Rico, St. Lucia, Trinidad and Tobago, and Venezuela in the post-CITES period for those countries (Table 2). The CITES Management Authorities in St. Lucia and Trinidad and Tobago have confirmed that shipments of bekko reported in the Japanese Customs data as originating in those countries were not authorized (Butler, pers. comm. /James, in. litt.).

Serious contravention of CITES restrictons in the Indian Ocean region, involved Kenya, Seychelles, and Tanzania. From those countries over 11,000kg, 5,000kg and 4,700kg respectively have been received by Japan, with trade occurring in virtually every year since CITES supposedly came into effect. Both Kenyan and Tanzanian authorities have confirmed that large-scale trade has occurred without being authorized with CITES permits (Oriero, in. litt. /Lwezaula, in. litt.). Small volumes of bekko were also imported by Japan from Madagascar, India, Sri Lanka, and most recently Somalia during the post-CITES period for those countries (Table 2).

From elsewhere, small quantities of bekko were also received by Japan from the U.S., Canada, F.R. Germany, Portugal, and Australia in apparent violation of CITES restrictions (Table 2). The German CITES Management Authority has stated that it never issued proper CITES documents for the trade reported in Japanese Customs statistics in 1984 (Kolodziejcok, in. litt.). Trade from France and the French West Indies which occurred after CITES came into effect was probably sanctioned under the reservation France held against the hawksbill until December 9, 1984, when it was withdrawn.

TRADE IN TORTOISESHELL (GREEN SEA TURTLE SHELL)

The Use of Tortoiseshell in Japan

In comparison to bekko, the Japanese demand for tortoiseshell is minimal. Extremely thin and brittle, the dorsal scutes of wild-caught green sea turtle are largely unsuitable for making tortoiseshell products (Weber, et al, 1983).

Over the last decade, however, Japanese bekko manufacturers reported extensive experimentation with tortoiseshell as a potential substitute for bekko. These experiments have proven for the most part unsuccessful. Unlike bekko, several layers of tortoiseshell will not readily adhere together in order to produce a greater thickness more conducive for manufacturing purposes. With time, compressed tortoiseshell invariably separates or cracks. However, single layers of tortoiseshell can be reinforced with plastic, but the finished products are clearly inferior to those made from real bekko.

One Nagasaki manufacturer reported that tortoiseshell scutes as thick as 3mm, purchased from the Cayman Island Turtle Farm in 1973, ultimately proved to be very unsatisfactory because it was necessary to shave off about half of the thickness before the tortoiseshell became workable. While chemical analysis and other laboratory data are unavailable, the dealer reported that the shavings had an exceptionally high salt content -- possibly as high as 50% -- as opposed to thinner tortoiseshell from wild-caught green sea turtles. The concentration of salt in the scutes prevented successful molding into thicker units for manufacturing purposes. In the end, the dealer cancelled all subsequent shipments of tortoiseshell from the Cayman Island Turtle Farm (Kawachi, pers. comm.).

Thus tortoiseshell is only occasionally used by the Japanese bekko industry. Its most common usage is probably in the construction of the thin, transparent sails on "treasure ships", which generally involves only the belly shell. Small quantities of tortoiseshell are also used in the production of thin, inexpensive brooches or other trinkets, some with laminated plastic backing. Very limited amounts are required for these purposes and some importers visited during this study complained that they have had stocks on hand for years which they have been unable to sell.

Trade Volumes - Japanese Customs Data "Tortoiseshell"

Imports of "tortoiseshell", the shell of the green sea turtle (Chelonia mydas), fall under a specific Customs category in Japanese statistics. From 1970 until 1975, tortoiseshell was listed under tariff heading 291.149 "tortoiseshell, claws, and waste of tortoiseshell (other than bekko)". In 1976, this was changed to tariff heading 05.11-200 "tortoiseshell, claws, and waste of tortoiseshell (excluding bekko)". Again in 1979 the tariff heading was changed to 05.09-070 "other tortoiseshell and claws, including waste".

Overall, a total of 86,690kg of tortoiseshell was imported into Japan from 1970 to 1986, according to Japanese Customs statistics (Appendix 2). Half of this trade was received between 1972 and 1974, a period when experimentation with tortoiseshell was known to occur. Thereafter, very small volumes were reported in the data. In 1985 and 1986, there were no imports at all (Figure 7).

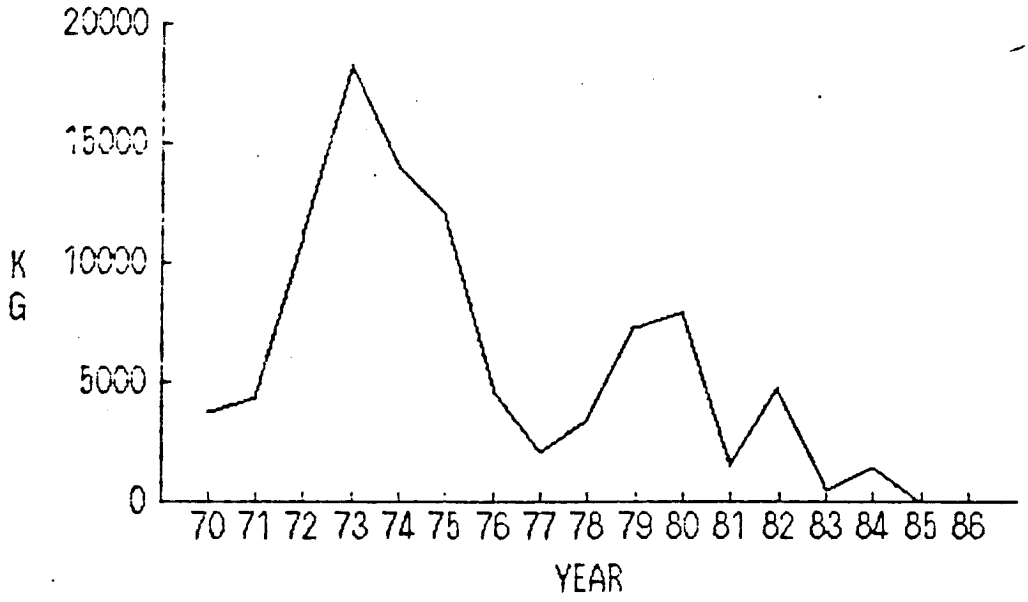

Figure 7: Imports of Tortoiseshell to Japan Between 1970-1986
Source: Japanese Customs Statistics

Regionally, the trade was fairly specific to Asia, which accounted for 75% of the total imports to Japan in the period examined. In recent years, the percentage of tortoiseshell imports from the Caribbean and Indian Ocean/East African regions has increased. Trade from other regions was minimal (Figure 8).

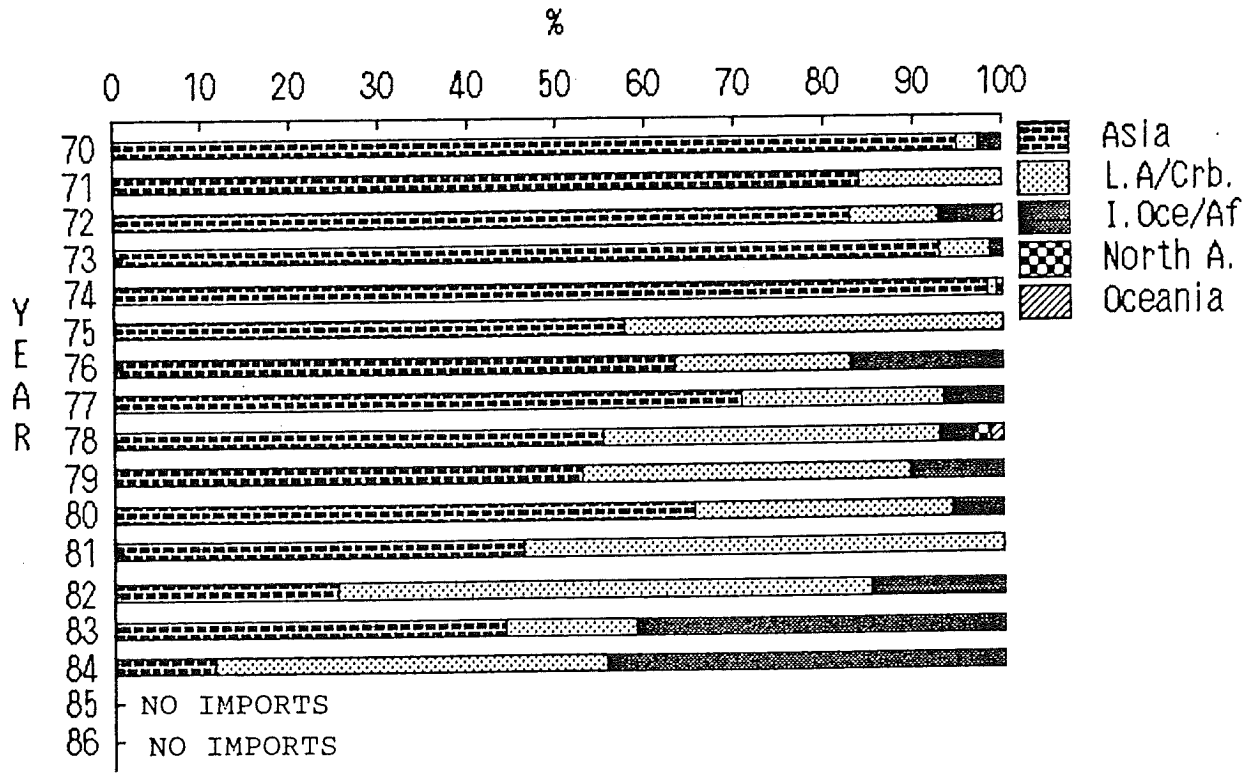

Figure 8: Regional Distribution of Japanese Imports of Tortoiseshell as a Percentage of Total Trade
Source: Japanese Customs Statistics

In Asia, the Philippines was the major supplier, followed by China, Singapore and Thailand. From the Caribbean region, only the Cayman Islands exported significant quantities and those stocks are believed to have originated from the Cayman Island Turtle Farm. Shipments from a number of other countries were also reported in the data, but trade was sporadic and volumes very low.

Unfortunately, no estimates were obtained for the average weight of tortoiseshell produced from a single animal. Thus, it is not possible to estimate how many green sea turtles were exploited for the Japanese trade during the period examined.

While low-volume trade may be anticipated in the future, all Japanese manufacturers contacted during this study held the view that the shell from the green sea turtle would never serve as an adequate substitute for bekko, even if the latter became very scarce.

Legality of Trade in "Tortoiseshell" Under CITES

Even though apparent violations of CITES restrictions are evident in the Japanese Customs data, Japan's trade in tortoiseshell has not become a provocative issue. In comparison to the trade in bekko, volumes are very low. The total lack of trade in 1985 and 1986 is indicative of the fact that importation of tortoiseshell is currently dormant and probably unlikely to reach serious dimensions in the future (Figure 9).

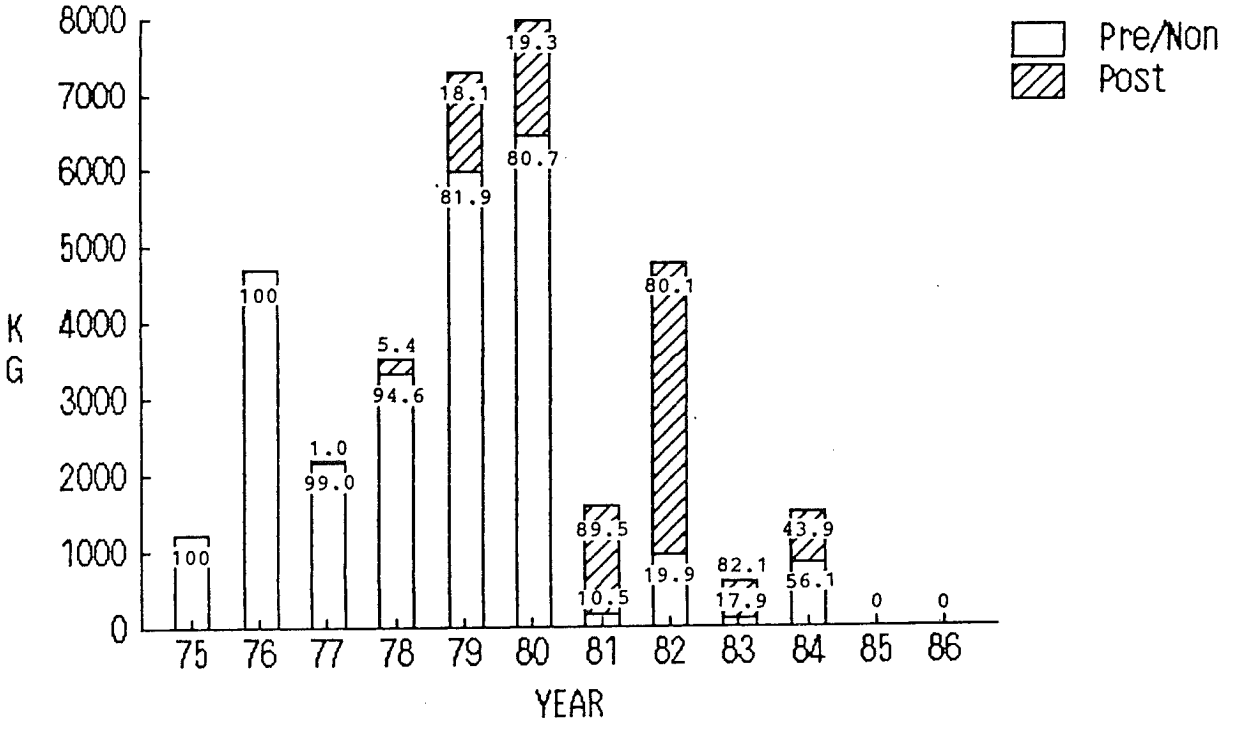

Figure 9: Volumes and Percentage of Japanese Imports of Tortoiseshell Received from CITES Parties 1975-1986

Source: Japanese Customs Statistics

Although the percentage of imports received from CITES Parties has reached over 80% in some years, trade volumes have remained low, never exceeding 3,829kg. Moreover, one-third of the total 9,414kg imported from CITES Parties after the Convention came into effect was received from the Cayman Islands. Those imports are believed to have represented tortoiseshell originating from the Cayman Island Turtle Farm (Table 3).

Trade in tortoiseshell from three other countries exceeded 1,000kg in the post-CITES period. A total of 2,228kg from China, 1,144kg from Kenya, and 1,031kg from Hong Kong was imported into Japan apparently in violation of CITES controls in those countries. Other small-scale importation involved Panama, Pakistan, Seychelles, Indonesia, the U.S., Puerto Rico, India and Australia (Table 3).

Table 3: Japanese Imports of Tortoiseshell Received from CITES Parties 1975~1986
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
US 01/07/75	–	–	–	66	–	–	–	–	–	–	–	–	66
PR (US) 01/07/75	–	–	–	25	–	–	–	–	–	–	–	–	25
PK 19/07/76	–	–	–	–	136	330	–	–	133	–	–	–	599
AU 27/10/76	–	–	–	6	–	–	–	–	–	–	–	–	6
HK (GB) 31/10/76	–	–	–	–	1,031	–	–	–	–	–	–	–	1,031
IN 18/10/76	–	–	21	–	–	–	–	–	–	–	–	–	21
SC 09/05/77	–	–	–	90	62	126	–	–	–	–	–	–	278
PA 15/11/78	–	–	–	–	–	452	362	–	–	–	–	–	814
KE 13/03/79	–	–	–	–	–	–	–	715	–	429	–	–	1,144
ID 28/03/79	–	–	–	–	92	100	–	–	–	–	–	–	192
KY (GB) 08/05/79	–	–	–	–	–	535	434	1,904	84	53	–	–	3,010
CN 08/04/81	–	–	–	–	–	–	600	1,210	250	168	–	–	2,228

Table 3: Japanese Imports of Tortoiseshell Received from CITES Parties 1975~1986 (Cont.)
Source: Japanese Customs Statistics

Country / Date of entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Total	–	–	21	187	1.321	1,543	1,396	3,829	467	650	–	–	9,414
Non-Party	1,208	4,686	2,144	3,308	5,970	6,436	164	950	102	830	–	–	25,798
Grand Total	1,208	4,686	2,165	3,495	7,291	7,979	1,560	4,779	569	1,480	–	–	35,212
Percentage of trade from CITES Parties	0	0	1.0	5.4	18.1	19.3	89.5	80.1	82.1	43.9	0	0	36.5

TRADE IN STUFFED SEA TURTLES

Interpreting Japanese Customs Data

Japanese Customs statistics include tariff headings for "worked bekko" and "worked tortoiseshell". While there has been some confusion in the past concerning what imports these Customs categories actually represent, it now seems clear that virtually all of the trade in both categories was composed of stuffed sea turtles. Although the term "worked tortoiseshell" suggests items made from the shell of the green sea turtle, as noted earlier, tortoiseshell is for the most part unsuitable for manufacturing purposes. There is little, if any, evidence to suggest that tortoiseshell is being manufactured into products for export on a commercial scale anywhere in the world. Wherever indigenous industries are found, the shell of the hawksbill is generally used and thus the finished products would be classified as "worked bekko" if they were imported into Japan. However, visiting tourists are the major consumers of these bekko products, not foreign importers. Moreover, Japanese bekko importers and manufacturers have stated that there is no demand in Japan for items produced elsewhere and that they face no competition from foreign-made bekko or tortoiseshell products. Japanese manufacturing techniques are unequalled anywhere in the world and quality-conscious Japanese consumers are simply not interested in purchasing inferior bekko products.

There is, however, a demand for stuffed hawksbill and green sea turtles suitable for mounting on walls as room decorations. Customs statistics for "worked bekko" and "worked tortoiseshell" are believed to reflect this demand, although there may be limited exceptions. Therefore, in this report all imports listed under "worked bekko" are treated as representing stuffed hawksbills and all trade reported as "worked tortoiseshell" is believed to comprise stuffed green sea turtles.

The Japanese Stuffed Sea Turtle Industry

In Japan the sea turtle symbolizes "long life" (the crane represents 1,000 years, the sea turtle 10,000 years), and is thus a popular decorative motif. However, stuffed sea turtles were not traditionally displayed in homes and businesses in Japan. The current practice began in the early 1970's when Japan experienced a surge of economic growth and affluence. Since then, stuffed sea turtles have been marketed throughout the country, particularly at popular tourist beaches. Probably the most active current trade is centered in Okinawa.

The trade in stuffed specimens involves both hawksbill and green sea turtles, although the former species is the preferred one. On very rare occasions, stuffed loggerhead sea turtles have been noted in the trade, but in such limited numbers and with such infrequency as to be of little significance. Stuffed hawksbills cost much more than the less attractive green sea turtles. Prices for hawksbills at Okinawan tourist shops in 1987 ranged from ¥14,000 for a juvenile measuring about 20cm, all the way up to ¥110,000 for adult specimens over 88cm. Green sea turtles, although generally larger, were considerably less expensive. Specimens whose carapace measured approximately 52cm

were priced between ¥28,000 and ¥30,000 in Okinawan tourist shops. (At the time, approximately ¥145 equalled one U.S. dollar.)

The bekko industry is not associated with this trade. Although a few bekko importers have been known to deal in small quantities of stuffed specimens, most importation has been conducted by totally unrelated companies based in Tokyo, Osaka, Kobe, and Naha, Okinawa. In fact, with the exception of the Okinawan trade, most importers of stuffed sea turtles are closely associated with the industry involved in the importation of reptile skins.

Imports include both finished and semi-finished sea turtle specimens, which are reported in the Japanese Customs statistics in the categories "worked bekko" and " worked tortoiseshell". In Okinawa, there is some limited production of stuffed specimens, although since Japan acceded to CITES the number of companies has been reduced to about three. In general, most specimens produced in Okinawa are stuffed and mounted in Indonesia or Singapore and then imported into Japan where they are sanded, lacquered, and polished into finished products.

The major Okinawan manufacturer also annually receives from Indonesia about 3,000 whole green sea turtle carcasses preserved in formaldehyde and individually packed in plastic bags for shipment to Japan. Imports of this nature are reported in the Japanese Customs data under tariff heading 05.15-800 "other animal products not elsewhere specified or included; dead animals unfit for human consumption", a category which is not exclusive to sea turtles so import volumes are difficult to measure. These specimens were believed to be a by-product of the Balinese trade in green sea turtle meat (Yogi, pers. comm.).

Japanese Trade Restrictions

In an era of diminishing sea turtle resources, the bekko industry now regards trade in stuffed hawksbills as contrary to its own interests, and is on record as calling for an end to the importation of stuffed sea turtles. The Japanese government, however, has a policy of protecting the interests of the stuffed sea turtle importers and manufacturers and is therefore unlikely to change the existing situation in the near future.

Currently, the importation of stuffed sea turtles is supposedly regulated by the Ministry of International Trade and Industry, but annual import quotas are not publicized and regulations are not clearly spelled out. Apparently, MITI requires importers and manufacturers to file reports on importation levels periodically and to ensure that specimens are accompanied with 'captive-bred' certificates from the exporting country at the time of importation. It is clear, however, that MITI's interpretation of the term 'captive-bred' is substantially different from the criteria established in CITES Conf. Resolution 2.12 (Specimens bred in captivity or artificially propagated). Captive breeding as defined in that document has never been achieved for any species of sea turtle.

Average Weight of Stuffed Sea Turtle Specimens

It is difficult to estimate the number of sea turtles this trade actually represents because quantified data on the sizes and weights of stuffed specimens is limited. Perhaps the best indication to date is contained in a 1984 IUCN/WWF report on the Sea Turtle Trade in Indonesia, which provides data on shipments of stuffed sea turtles from Ujung Pandang, Indonesia to Japan in February of that year (Table 4).

Product Description	Destination	Volume (Kg)	Number of Specimens	Average Weight Per Specimen (Kg)	Remarks
"Stuffed Tortoise, breeding(?)"	Kobe, Japan	3,800	3,297	1.15	Japanese Customs "Worked Bekko" reports 3,800 kg received in Feb 1984
"Stuffed Tortoise, breeding(?)"	Kobe, Japan	2,200	830	2.65	Japanese Customs "Worked Tortoiseshell" reports 7,025 Kg received in Feb 1984
Hawksbill/ Green Sea Turtle"	Yokohama, Japan	4,825	2,099	2.29	
"Stuffed Turtle"	Naha, Okinawa Japan	1,226	491	2.49	No corresponding report in Japanese Customs data

Table 4: Stuffed Sea Turtles Exported to Japan from Ujung Pandang, Indonesia in February 1984
Source: IUCN/WWF Report, Sea Turtle Trade in Indonesia, 1984

One shipment, which weighed 3,800kg and contained 3,297 specimens, had an average weight of 1.15kg per stuffed sea turtle. Although the species was not identified, Japanese Customs data also reported receiving exactly 3,800kg of "worked bekko" from Indonesia in the same month in which the shipment was exported, indicating that the shipment represented hawksbill sea tutrles.

The three other consignments in the Indonesian data are believed to totally or substantially represent green sea turtles. Two shipments, one of 2,200kg to Kobe and the other of 4,825kg to Yokohama, totalled 7,025kg, the exact figure reported in the Japanese Customs data in the "worked tortoiseshell" category for the month of February 1984. These shipments had an average weight of 2.65kg and 2.29kg respectively. In the Indonesian data the latter shipment reportedly contained hawksbills as well as green sea turtles, which probably explains the lower average weight figure.

Another consignment exported from Indonesia at the same time remains unaccounted for in the Japanese Customs data. The 1,226kg shipment was imported through Naha, Okinawa, Japan's "back door", where Customs record keeping and reporting may have

been loose or Customs controls circumvented altogether. Cargo carried on Taiwanese vessels is sometimes transferred to Japanese ships at sea and then enters Okinawa without inspection by Customs (Ikehara, pers. comm.). The average weight of the stuffed sea turtles in this shipment was 2.49kg, indicating that it most probably comprised green sea turtles.

If combined, all three shipments believed to represent green sea turtles yield an average weight of 2.41kg per specimen. If, on the other hand, the data from the shipment which may also have contained hawksbills are discarded, an average weight of 2.57kg per specimen is arrived at for stuffed green sea turtles.

As the Indonesian data indicates, stuffed hawksbills observed in souvenir shops in Okinawa, Nagasaki and Tokyo were generally much smaller than green sea turtle specimens. Data obtained from a TRAFFIC (Japan) market survey in 1987 confirmed this observation, although actual average weights for stuffed hawksbills and green sea turtles were less than those obtained from the Indonesian data. A sample of 91 stuffed hawksbills produced an average size of 35.8cm, when measured across the curve of the back shell from the base of the neck to the rear, and an average weight of 0.97kg. The specimens ranged from 25cm to 62cm in size (Figure 10).

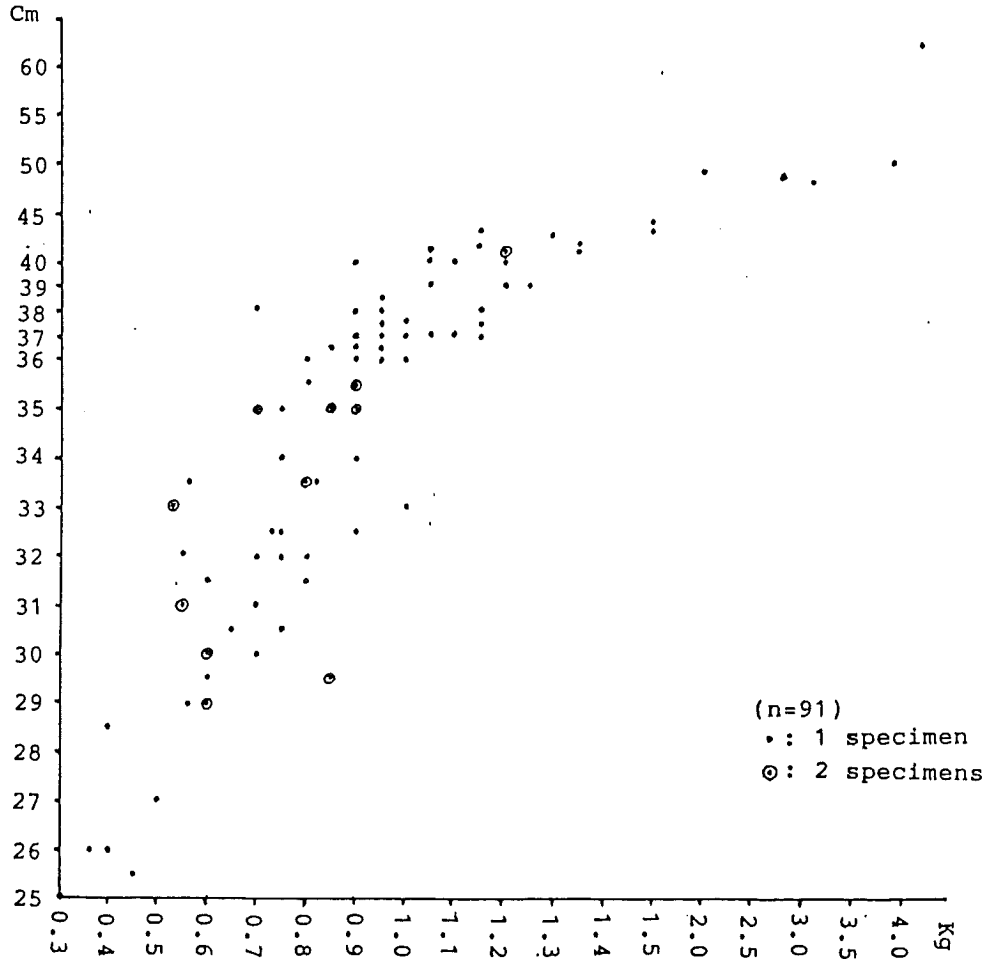

Figure 10: Average Weight and Size of Stuffed Hawksbill Sea Turtles for Sale in Japan in 1987

Source: TRAFFIC (Japan) Survey

A sample of 22 stuffed green sea turtles, ranging in size from 41.5cm to 70cm, produced an average size of 44.3cm and an average weight of 1.96kg (Figure 11).

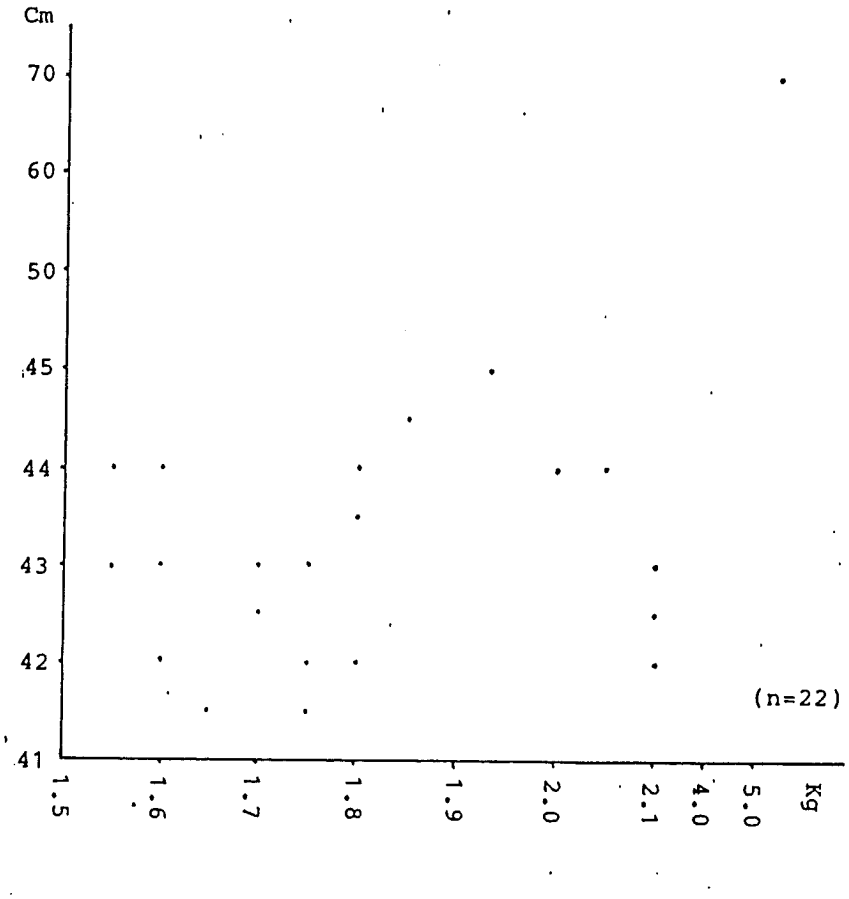

Figure 11: Average Weight and Size of Stuffed Green Sea Turtles for Sale in Japan in 1987
Source: TRAFFIC (Japan) Survey

Trade Volumes - Japanese Customs Data "Worked Bekko"

Japan's Customs statistics include a category for "worked bekko". From 1970 until 1975, imports were listed under tariff heading 899-111, "Worked bekko and articles thereof". Between 1976 and 1978, the tariff heading was changed to 95.05-100, and from 1979 to the present, imports have come under tariff heading 95.05-211.

Between 1970 and 1986, Japan imported a total of 664,245kg of worked bekko (Appendix 3). The trade demonstrated extremely rapid growth in the early 1970's (Figure 12). Although it peaked in 1973 at 85,843kg, import levels were maintained at over 40,000kg annually through 1980. Since then, imports for the period examined have gradually diminished to an all-time low of 8,855kg in 1986.

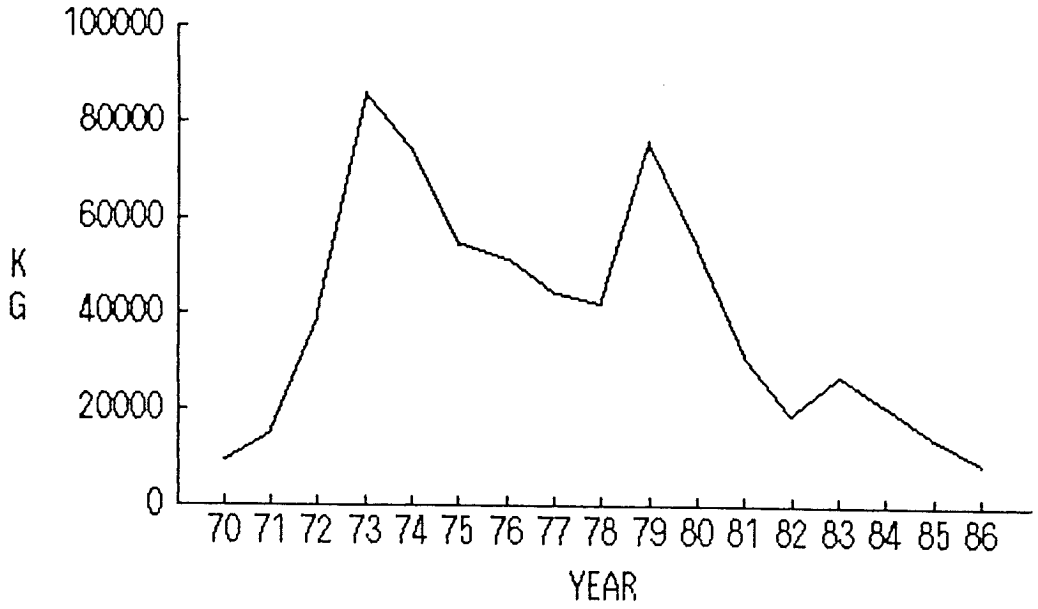

Figure 12: Japanese Imports of Worked Bekko from 1970-1986
Source: Japanese Customs Statistics

The worked bekko trade is very specific to Asia, with Indonesia and Singapore accounting for 90% of the imports reported in the Japanese Customs data. Very minor and sporadic trade was reported from other regions.

Estimated Number of Hawksbills Represented by Japan's Trade in "Worked Bekko"

On the basis of the Indonesian data, using an average weight of 1.15kg per animal, it is estimated that the Japanese trade in worked bekko between 1970 and 1986 represented more than 577,000 hawksbill sea turtles (Figure 13). The TRAFFIC survey of stuffed hawksbills indicated that stuffed specimens of this weight would probably have a carapace length from 37cm to 42cm (Figure 10).

Figure 13: Estimated Number of Hawksbills Represented by Japanese Imports of Worked Bekko Between 1970-1986
Source: Japanese Customs Statistics Calculated 1.15kg per Stuffed Specimen

Legality of Trade in "Worked Bekko" Under CITES

Serious problems characterize Japan's trade in worked bekko with respect to its legality under CITES. Up until 1978, very minor trade from CITES Parties was reported in the Japanese Customs data. However, from 1979 to 1986, the percentage of annual trade received from CITES Parties which do not hold corresponding reservations has remained between 65.3% and 99.9% (Figure 14).

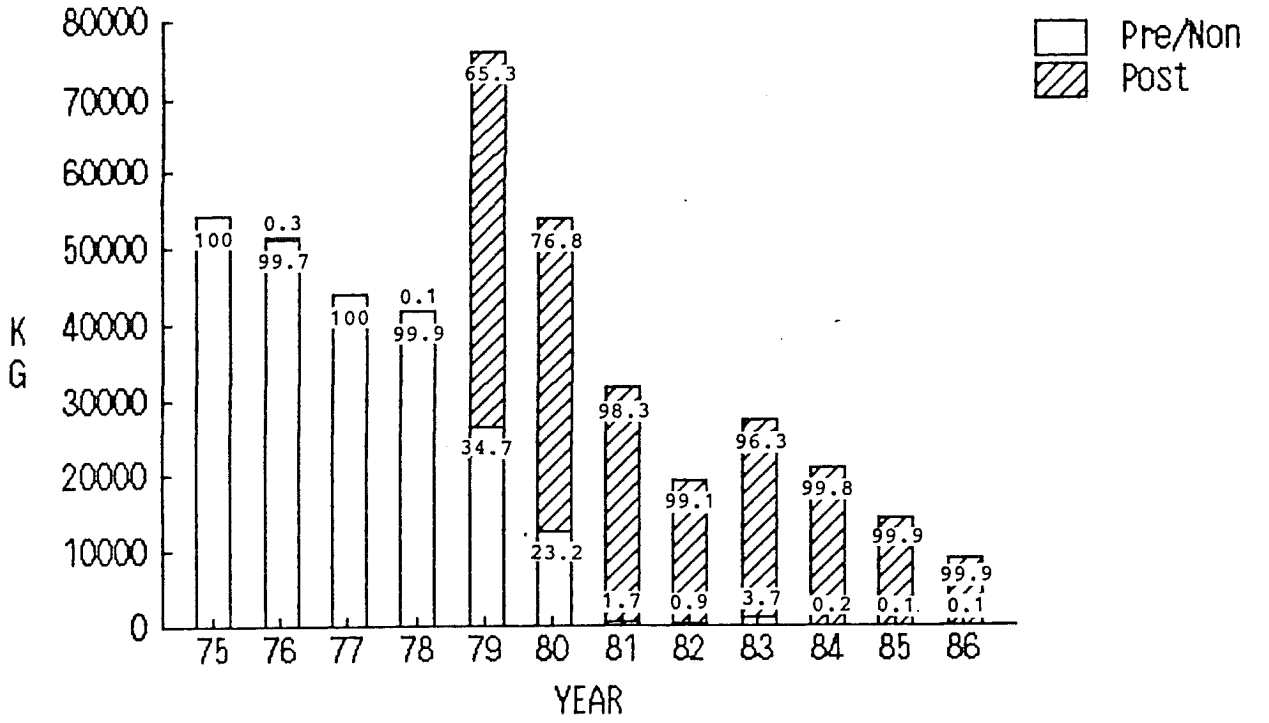

Figure 14: Volume and Percentage of Japanese Imports of Worked Bekko Received from CITES Parties
Source: Japanese Customs Statistics

Indonesia's ratification of CITES in 1979 and her subsequent inability to halt exports to Japan was the single most significant factor: virtually all trade in worked bekko originated in Indonesia. The only other noteworthy trade was the 1,007kg imported from Hong Kong in 1986, ten years after the Convention came into effect there. Other small-scale shipments of between 1kg and 140kg were sporadically received from Hong Kong, the U.S., Brazil, Great Britain and the Seychelles in other years, but nothing comes close in comparison to the persistent, large-scale trade from Indonesia, which ranged between 7,840kg and 49,300kg annually in the Japanese Customs data (Table 5).

Table 5: Japanese Imports of Worked Bekko Received from CITES Parties 1975~1986
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
US 01/07/75	–	–	–	2	–	–	–	–	–	–	–	–	2
BR 04/11/75	–	–	–	–	–	16	–	–	–	–	–	–	16
GB 31/10/76	–	–	1	–	–	–	–	–	–	–	–	–	1
HK (GB) 31/10/76	–	140	–	27	39	3	–	–	6	–	–	1,007	1,222
SC 09/05/77	–	–	–	–	–	–	–	–	–	–	8	–	8
ID 28/03/79	–	–	–	–	49,300	41,167	30,803	18,835	25,871	20,649	14,121	7,840	208,586
Total	–	140	1	29	49,339	41,186	30,803	18,835	25,877	20,649	14,129	8,847	209,835
Non-Party	53,968	51,067	43,888	41,711	26,228	12,455	540	178	988	40	8	8	231,079
Grand Total	53,968	51,207	43,889	41,740	75,567	53,641	31,343	19,013	26,865	20,689	14,137	8,855	440,914
Percentage of trade from CITES Parties	0	0.3	0	0.1	65.3	76.8	98.3	99.1	96.3	99.8	99.9	99.9	47.6

Trade Volumes - Japanese Customs Data "Worked Tortoiseshell"

There is also a Customs category for "worked tortoiseshell and articles thereof". From 1970 through 1975, the tariff number was 899-112, but this was changed to 95.01-200 in 1976. Since 1979, the tariff number has been 95.05-231.

Although trade patterns are very similar, imports of stuffed green sea turtles by volume have been much greater than trade in stuffed hawksbills imported under the Customs tariff category "worked bekko". Between 1970 and 1986, a total of 980,925kg of worked tortoiseshell was imported, with virtually the entire trade originating from Southeast Asian countries (Appendix 4). Indonesia, in particular, accounted for 66% of the imports, followed by Singapore with 14%, according to Japanese Customs data.

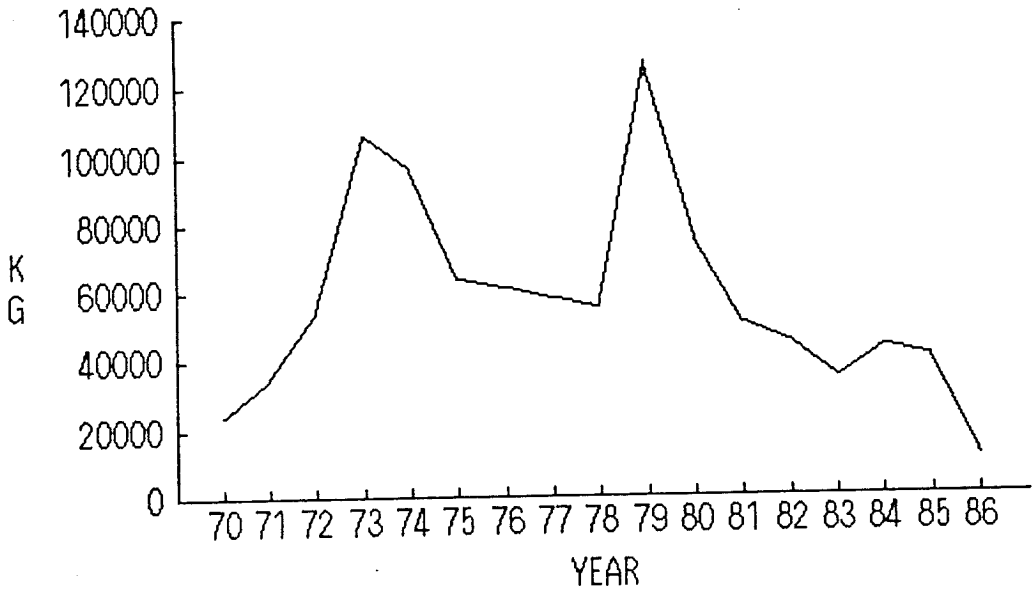

Figure 15: Imports of Worked Tortoiseshell to Japan Between 1970-1986
Source: Japanese Customs Statistics

The initial trade pattern was one of rapid growth, from a modest 24,484kg in 1970 to 105,723kg in 1973 (Figure 15). For the next eight years, the trade continued at over 50,000kg annually, including an all time high of 127,002kg in 1979, which resulted from a major stockpiling effort before Japan ratified CITES the following year. By 1986, imports had decreased to only 11,412kg, the lowest figure for the period examined.

Estimated Number of Green Sea Turtles Represented by Japan's Trade in "Worked Tortoiseshell"

On the basis of the Indonesian data, using an average weight of either 2.41kg or 2.57kg per specimen as representative of trade for all years in the period examined, it is estimated that 380,000 to over 400,000 green sea turtles have been imported to Japan as stuffed specimens between 1970 and 1986 (Figure 16). The TRAFFIC survey of stuffed green sea turtles indicates that stuffed specimens of this weight would probably have a carapace length of about 47cm to 50cm (Figure 11).

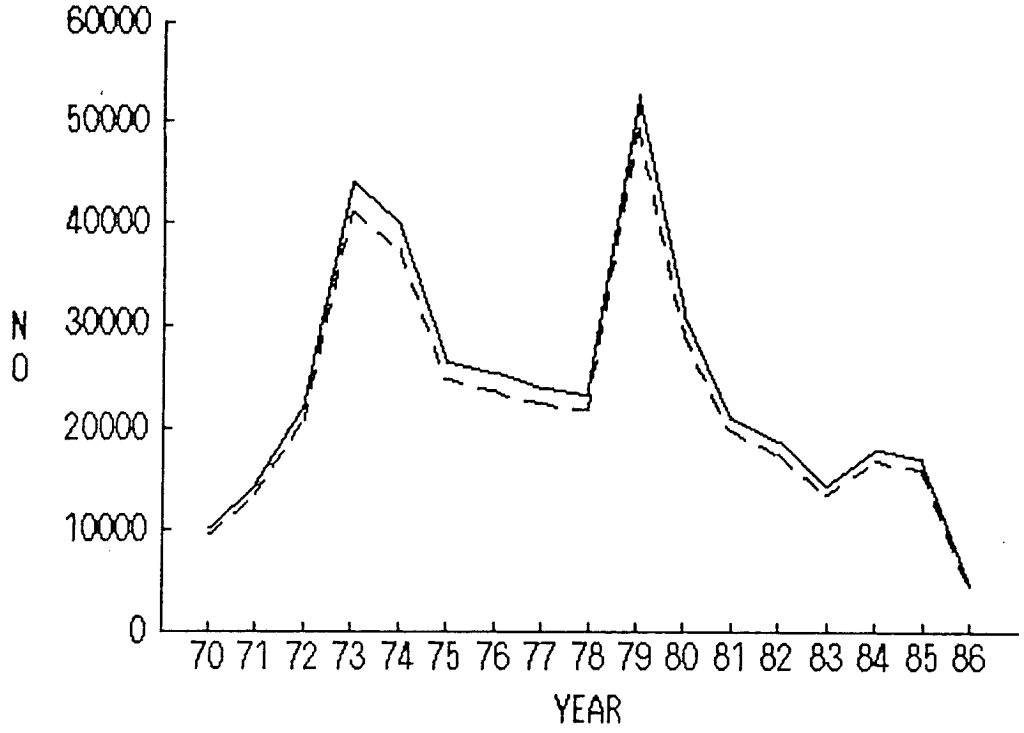

Figure 16: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Worked Tortoiseshell Between 1970-1986

Source: Japanese Customs Data Calculated at 2.41kg and 2.57kg per Stuffed Specimen

Legality of Trade in "Worked Tortoiseshell" Under CITES

From 1975 to 1978, none of Japan's imports of worked tortoiseshell was received from CITES Parties, except for 14kg imported from the Cayman Islands in 1977. In 1979, the ratification of the Convention by Indonesia changed the situation dramatically. That year more than 78,800kg of worked tortoiseshell were imported by Japan from CITES Parties, which represented 62.1% of the total trade. In 1980 the percentage of Japan's imports from CITES Parties accounted for more than three-quarters of the total trade. Since 1981, the figure has been between 85% and 100% in every year (Figure 17).

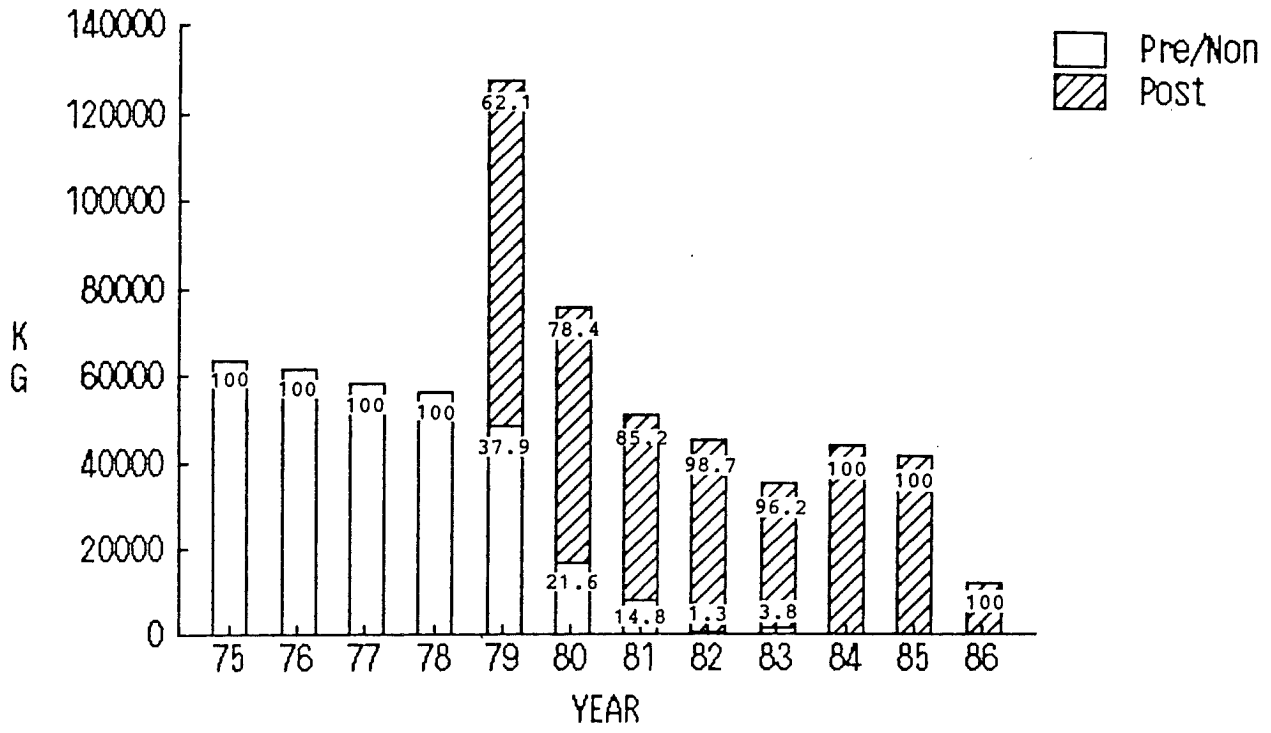

Figure 17: Volume and Percentage of Japanese Imports of Worked Tortoiseshell Received from CITES Parties 1975-1986

Source: Japanese Customs Statistics

All years since 1979 show substantial volumes, except 1986, and virtually all of the trade originated in Indonesia. In 1982 and 1983, comparatively smaller volumes of worked tortoiseshell, totalling 6,061kg, were imported from the Philippines after CITES came into effect. In 1986, consignments of worked tortoiseshell received from Hong Kong totalled some 2,850kg (Table 6).

Table 6: Japanese Imports of Worked Tortoiseshell Received from CITES Parties 1975~1986
Source: Japanese Customs Statistics

Country / Date of Entry into force	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
MA 14/01/76	–	–	–	–	–	–	–	–	–	10	–	–	10
HK (GB) 31/10/76	–	–	–	–	1	2	–	–	–	–	–	2,850	2,853
ID 28/03/79	–	–	–	–	78,812	58,901	43,092	42,355	29,341	43,352	41,138	8,562	345,553
KY (GB) 08/05/79	–	–	0	–	–	–	–	–	–	–	–	–	0
IT 31/12/79	–	–	–	–	–	–	1	–	–	–	–	–	1
PH 16/11/81	–	–	–	–	–	–	–	1,989	4,072	–	–	–	6,061
Total	–	–	0	–	78,813	58,903	43,093	44,344	33,413	43,362	41,138	11,412	354,492
Non-Party	63,418	61,079	57,785	55,865	48,189	16,237	7,511	600	1,336	–	–	–	354,478
Grand Total	63,418	61,079	57,785	55,865	127,002	75,140	50,604	44,944	34,749	43,362	41,138	11,412	312,020
Percentage of trade from CITES Parties	0	0	0	0	62.1	78.4	85.2	98.7	96.2	100	100	100	53.2

TRADE IN SEA TURTLE SKINS

The Japanese Sea Turtle Skin Industry

The Japanese reptile skin industry annually imports considerable quantities of sea turtle skin for manufacture into a variety of leather products, including belts, handbags, wallets, and shoes. The species affected by this trade are the green sea turtle (Chelonia mydas) and the olive ridley (Lepidochelys olivacea). Skin of the latter species is preferred because of its finer grain.

Surpassed only by crocodile skin, sea turtle is the second most expensive leather in the reptile skin industry. For this reason, both the green and olive ridley sea turtle were singled out for reservations when Japan ratified CITES. Approximately six Japanese companies import raw skins, but other companies within Japan process the skins and manufacture sea turtle leather products.

Trade Volumes - Japanese Customs Data "Sea Turtle Skins"

Japanese Customs data have only identified imports of sea turtle skins in a separate category since 1976. From that year until the present, all imports have been reported under tariff heading 41.01-274, "turtle skins". These imports represent only raw skins, while processed skins are recorded under a different heading (See Trade in Sea Turtle Leather).

Imports of sea turtle skins totalled 663,462kg between 1970 and 1986 (Appendix 5). Two trade patterns are apparent in the data. The first pattern, from 1976 to 1980, is characterized by high volume trade which fluctuated considerably between 53,542kg in 1980 to 169,088kg in 1979. Some of these imports represent a concerted stockpiling effort on the part of Japanese dealers, who feared the imposition of CITES controls with Japan's accession of the Convention in 1980. From 1981 to 1986, annual import volumes dropped substantially from the previous five year period, but nevertheless remained fairly stable between 20,000kg and 35,000kg (Figure 18).

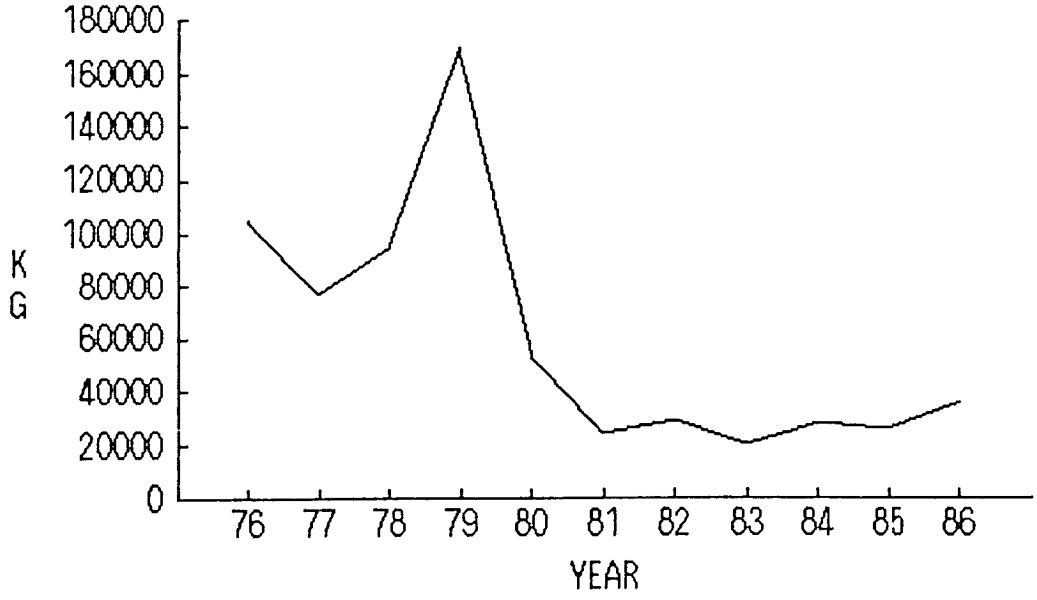

Figure 18: Japanese Imports of Sea Turtle Skins 1976-1986
Source: Japanese Customs Statistics

Overall, more than 70% of the trade originated from Latin American and Caribbean countries. Only in 1982 and 1983 were Asian imports greater (Figure 19).

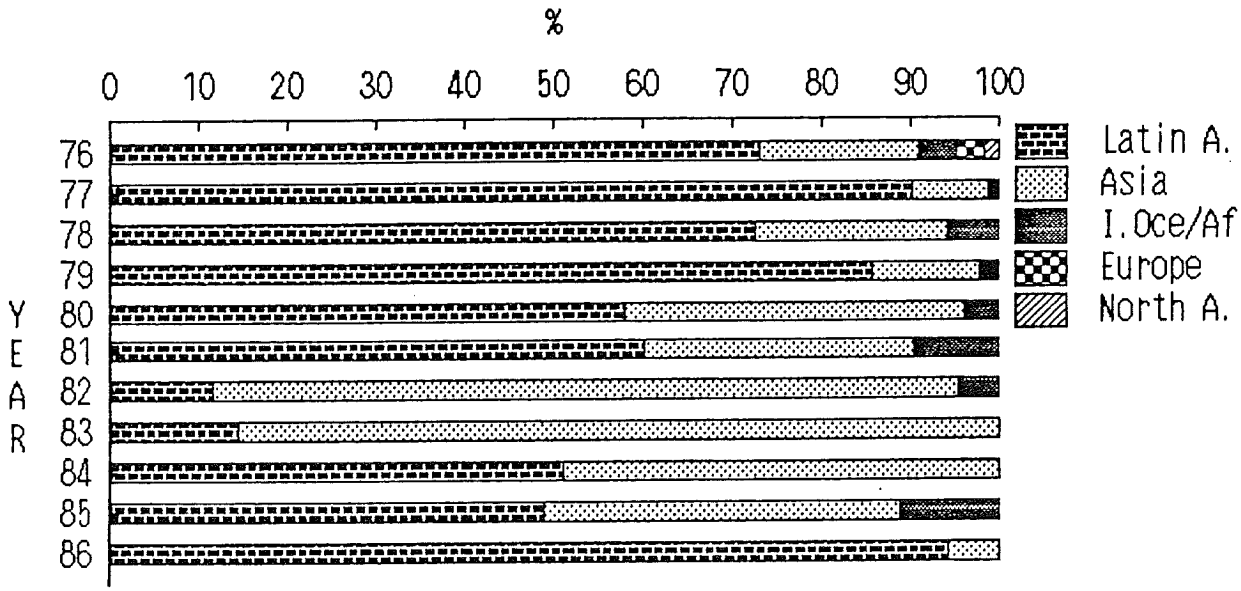

Figure 19: Regional Distribution of Japanese Imports of Sea Turtle Skins as a Percentage of Total Trade

Ecuador alone supplied about three-quarters of the trade from Latin American and Caribbean countries. Trade from that region reportedly represented olive ridley sea turtles, with the exception of imports from the Cayman Islands, which supplies green sea turtle skins. Imports from Southeast Asia and

Pakistan, which are comprised of green sea turtle skins, accounted for virtually all of the remaining trade.

Average Weights of Sea Turtle Skin Sets

It is difficult to estimate the number of sea turtles Japan's trade in skins represents because imports were comprised of two species and both wild-caught and captive-reared animals. Average weights for sets of sea turtle skins, obtained from a variety of sources, are given in Table 7.

SPECIES	COUNTRY	TYPE	WEIGHT	SOURCE	REMARKS
Lepidochelys olivacea	Ecuador	Wet-salted	2.2-2.5 Kg	Japanese dealers estimates 1987	
	Mexico	Wet-salted	2.5 Kg	1964 Rene Marquez (unpublished paper)	Sample apparently based on 14 animals
	Mexico	Wet(probably not salted?)	1.8-2.0 Kg	1980 Jack Frazier (unpublished)Marine Turtle Fisheries in Ecuador and Mexico: The Last of the Pacific Ridley	Sample taken at Oaxaca, Mexico slaughterhouse
	Mexico	Tanned	0.3 Kg	Japanese dealers estimates 1987	
Chelonia mydas	Indonesia Singapore	Wet-salted	5.0 Kg	Japanese dealers estimates 1987	
	Cayman Island	Wet-salted	0.45Kg	Jim Woods, in. litt. to UK CITES MA Mar 15, 1982	From 3.5 year old, captive-reared 23.56Kg animals

Table 7: Average Weights of Olive Ridley and Green Sea Turtle Skin Sets

While the figures in Table 7 for Ecuador, Mexico, Indonesia, and Singapore are probably fairly reliable, the one for the Cayman Islands is problematic. If 0.45kg per set accurately represents all trade for the years examined, over 131,800 green sea turtles would have comprised the trade from the Cayman Islands, a number in excess of the total green sea turtle stocks held at the Cayman Island Turtle Farm.

Estimated Number of Sea Turtles Represented by Japan's Trade in "Sea Turtle Skins"

Thus, with the exception of trade from the Cayman Islands, it is possible to obtain a general estimate of the number of wild-caught adult sea turtles represented by Japan's trade in

skins. Imports from Ecuador, Mexico, Panama, and Nicaragua are comprised of olive ridley skins. Using 2.5kg as the average weight per skin set, approximately 165,500 olive ridleys would have been harvested for Japan's imports (Figure 20).

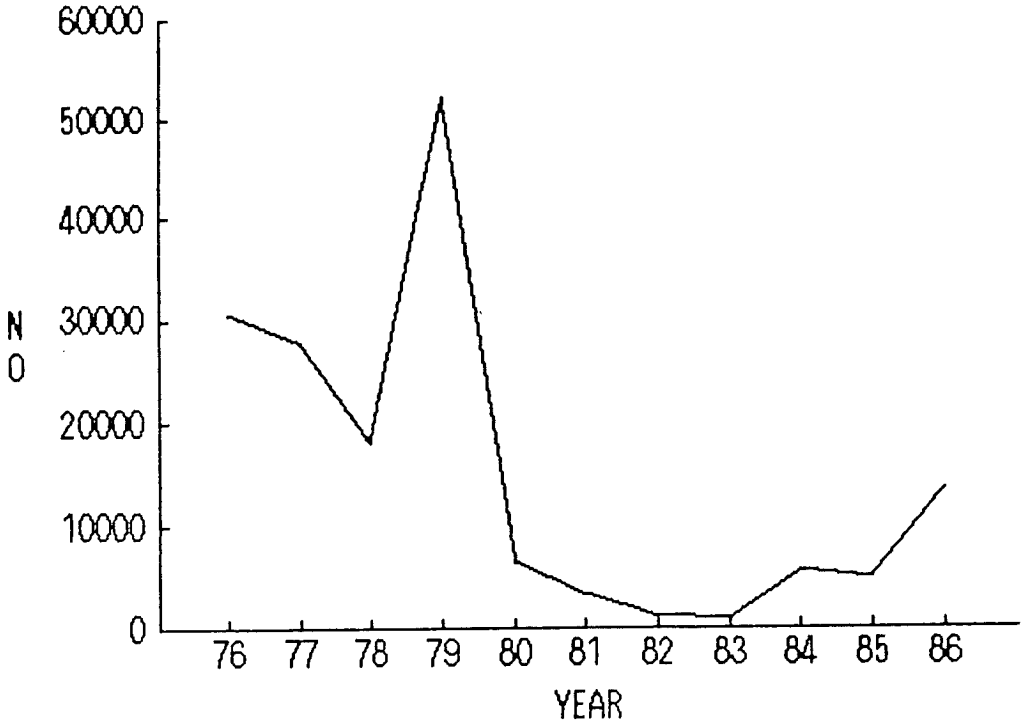

Figure 20: Estimated Number of Olive Ridleys Represented by Japanese Imports of Sea Turtle Skins 1976-1986

Source: Japanese Customs Data (Ecuador, Mexico, Panama, Nicaragua) Calculated at 2.5kg per Skin Set

If Customs data for all other countries (again excluding the Cayman Islands) is comprised of green sea turtle skins and the average weight per skin set is 5.0kg, as data from Indonesia and Singapore indicate, approximately 38,000 green sea turtles were required for Japan's trade (Figure 21).

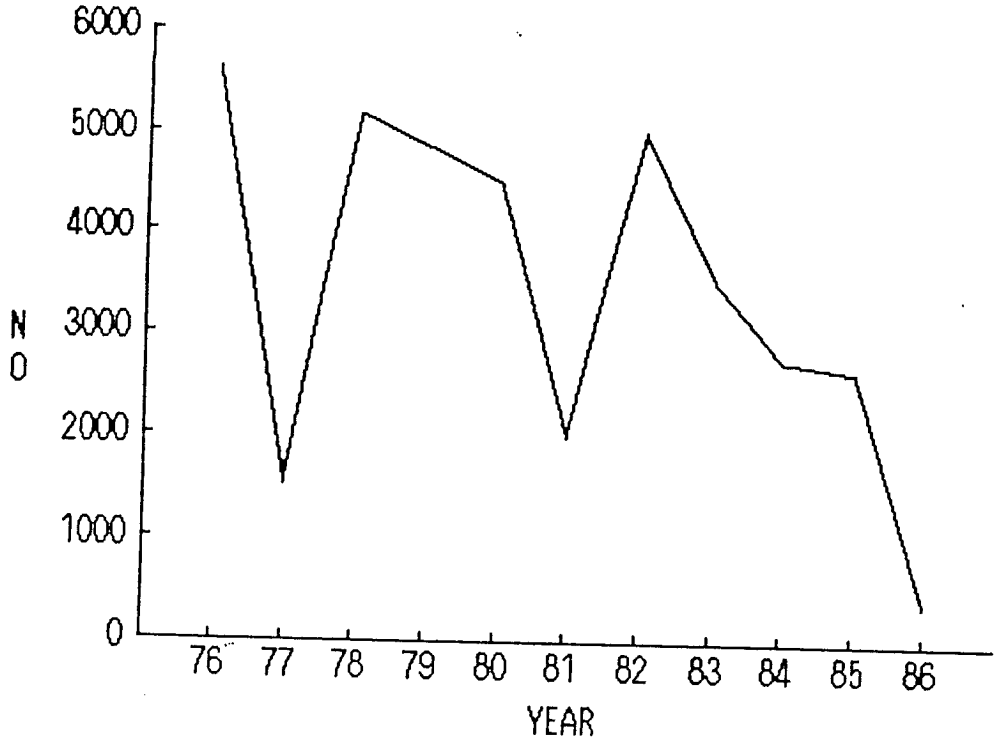

Figure 21: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Sea Turtle Skins 1976-1986

Source: Japanese Customs Data (Excluding All Latin American/Caribbean Countries) Calculated at 5.0kg per Skin Set

Legality of Trade in "Sea Turtle Skins" Under CITES

Large volumes of sea turtle skins are annually imported from CITES Parties into Japan. As a percentage of total trade, between 42% and 100% of the imports have been received from CITES Parties after the Convention came into force. Significantly, after Japan acceeded to CITES in 1980, all subsequent years show that her entire trade in sea turtle skins contravened CITES controls at the producer end, with one exception (Figure 22).

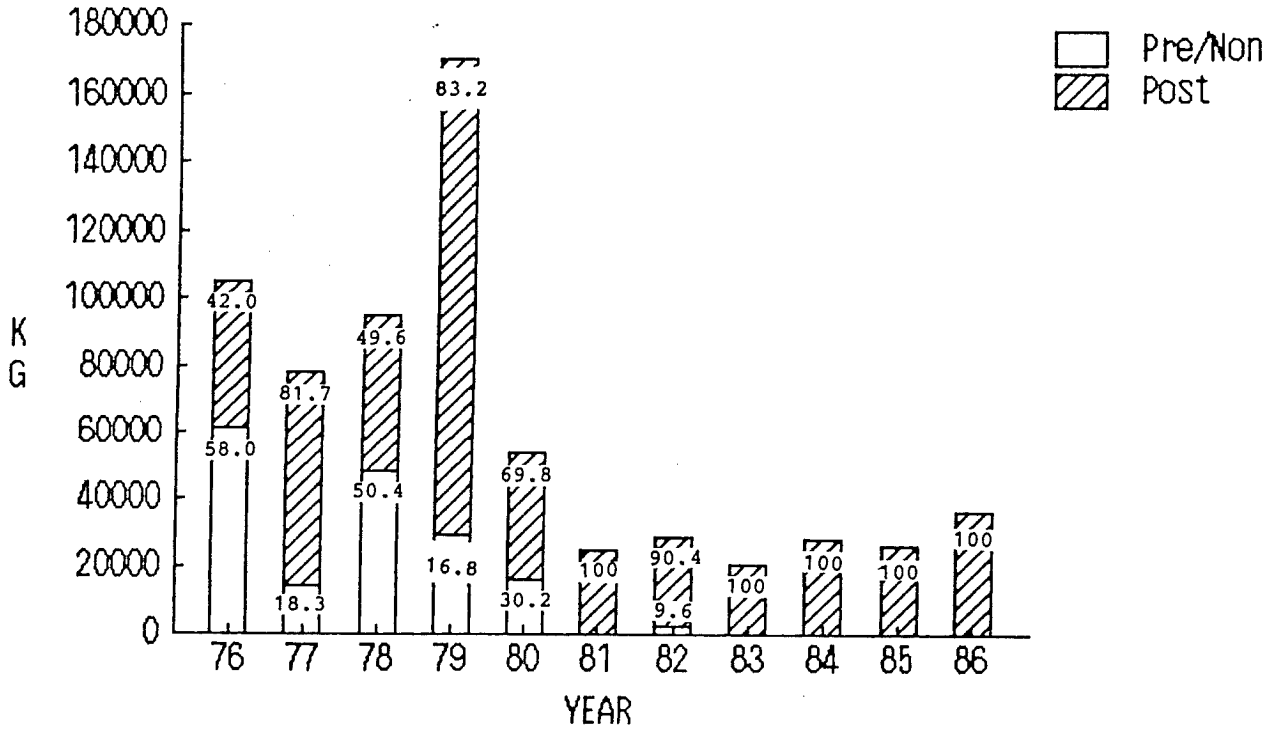

Figure 22: Volume and Percentage of Japanese Imports of Sea Turtle Skins Received from CITES Parties
Source: Japanese Customs Statistics

The situation concerning Ecuador is particularly serious. Ecuador has chronically failed to halt the direct flow of tremendous volumes of sea turtle skins to Japan in all years except 1985 (Table 8). However, that year, it is known that illegal exports originating in Ecuador were laundered through Panama before being shipped to Japan. Over 338,400kg of sea turtle skins have been directly imported from Ecuador and Panama has supplied another 18,354kg in apparent contravention of CITES. Both countries have notified TRAFFIC (Japan) that trade attributed to them in the Japanese Customs statistics was not authorized (Kakabadse, in. litt. /Alba, in. litt.)

Table 8: Japanese Imports of Turtle Skins Received from CITES Parties 1976~1986
Source: Japanese Customs Statistics

Country / Date of Entry into force	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
EC 01/07/75	40,275	62,073	40,807	121,399	16,313	8,465	3,376	3,000	8,943	–	33,765	338,416
US 01/07/75	1,676	–	–	–	–	–	–	–	–	–	–	1,676
PK 19/07/76	1,960	1,016	5,360	3,248	2,100	2,400	1,200	–	–	2,925	–	20,209
NI 04/11/77	–	–	640	–	–	–	–	–	–	–	–	640
FR ※ 09/08/78	–	–	–	480	–	–	–	–	–	–	–	480
PA 15/11/78	–	–	–	–	–	–	–	–	5,518	12,836	–	18,354
ID 28/03/79	–	–	–	3,989	4,160	7,585	20,587	14,759	13,737	10,369	2,025	77,211
KY (GB) 08/05/79	–	–	–	11,512	14,778	6,687	–	–	–	–	–	32,977
PH 16/11/81	–	–	–	–	–	–	625	2,988	–	–	–	3,613
Total	43,911	63,089	46,807	140,628	37,351	25,137	25,788	20,747	28,198	26,130	35,790	493,576
Non Party	60,695	14,155	47,638	28,460	16,191	–	2,747	–	–	–	–	169,886
Grand Total	104,606	77,244	94,445	169,088	53,542	25,137	28,535	20,747	28,198	26,130	35,790	663,462
Percentage of trade from CITES Parties	42.0	81.7	49.6	83.2	69.8	100	90.4	100	100	100	100	74.4

※ French reservations on Chelonia mydas and Eretomochelys imbricata valid until Dec. 1984

The only other significant trade from the region involved over 32,977kg of sea turtle skins from the Cayman Islands (Table 8). These imports are believed to have been derived from green sea turtles held at the Cayman Island Turtle Farm.

In Asia, large-scale importation of sea turtle skins from Indonesia continued after CITES ratification. More than 77,200kg have been received by Japan, illuminating the chronic enforcement problems Indonesia faces. Much lower volumes were also imported by Japan from the Philippines after CITES took effect there (Table 8).

Pakistan has also experienced serious difficulty in curtailing trade to Japan in her post-CITES period. More than 20,200kg have been received by Japan from Pakistan (Table 8).

Elsewhere, very small scale trade was received from Nicaragua and the U.S (Table 8).

TRADE IN SEA TURTLE LEATHER

Trade Volumes - Japanese Customs Data "Sea Turtle Leather"

Although they prefer to obtain raw skins, Japanese reptile skin dealers also import processed sea turtle skins. Only since 1976 have these imports been recorded under a separate Customs tariff heading, 41.05-310 "Turtle Leather". Both tanned or semi-processed "crusts" are contained in this category.

From 1976 to 1986, a total of 98,102kg of leather was reported in the Japanese Customs data (Appendix 6). Before Japan ratified CITES, the general trade pattern was one of growth. After 1979, the trade experienced a steady decline, with imports totalling only 1,180kg in 1985, the lowest level in the period (Figure 23).

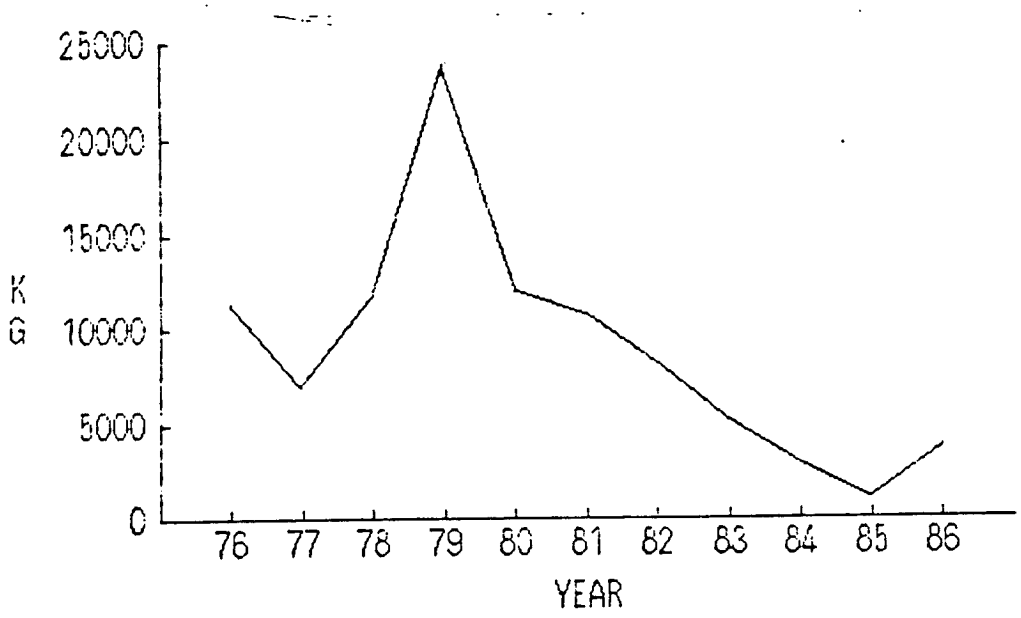

Figure 23: Imports of Sea Turtle Leather to Japan Between 1976-1986
Source: Japanese Customs Statistics

Virtually all of this trade -- 95% -- was received from Mexico. The imports from Mexico represent olive ridley sea turtles. It is known that at least three Japanese companies have long term contract arrangements with Mexican tanners to obtain annual supplies. Very sporadic, low-volume trade was reported from Asian and European countries, but nothing has been received from the latter region since 1980.

Estimated Number of Sea Turtles Represented by Japan's Trade in "Sea Turtle Leather"

When measured only on the basis of total weight, trade in sea turtle leather seems minor in comparison with trade in raw sea turtle skins. However, tanned skins are substantially lighter than wet-salted raw skins and, in fact, the trade in leather actually represents more animals. With an estimated

average weight of 0.3kg per set of skin, Japan's imports since 1976 required the harvest of about 327,000 olive ridleys (Figure 24).

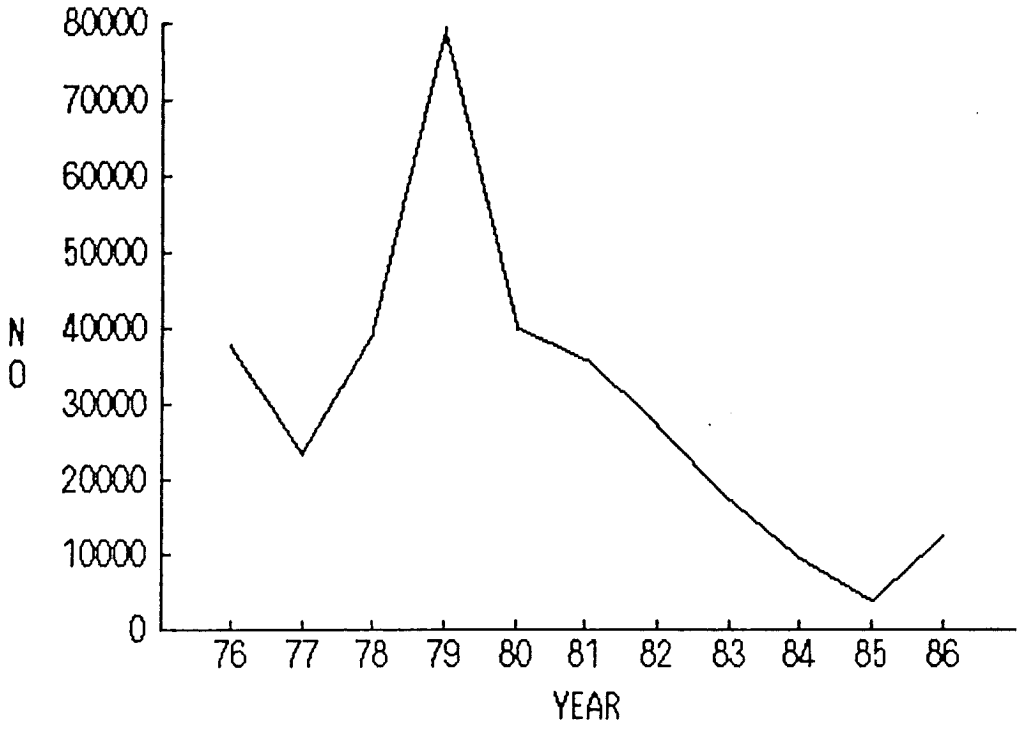

Figure 24: Estimated Number of Olive Ridleys Represented by Japanese Imports of Sea Turtle Leather 1976-1986
Source: Japanese Customs Statistics Calculated at 0.3kg per Skin Set

Legality of Trade in "Sea Turtle Leather" Under CITES

Trade in turtle leather from CITES Parties has been minimal and does not represent a significant enforcement problem. As a percentage of total trade, imports from CITES Parties never exceeded 4.4% and during the entire period amounted to only 559kg. Half of the trade came from Indonesia. Other small scale consignments were received by Japan from Belize and the Federal Republic of Germany (Table 9).

Table 9: Japanese Imports of Turtle Leather Received from CITES Parties 1976~1986
Source: Japanese Customs Statistics

Country / Date of entry into force	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
DE 20/06/76	120	–	–	–	–	–	–	–	–	–	–	120
BZ ※ 31/10/76	–	–	–	–	168	–	–	–	–	–	–	168
ID 28/03/79	–	–	–	–	–	–	144	–	127	–	–	271
Total	120	–	–	–	168	–	144	–	127	–	–	559
Non-Party	11,251	7,008	11,803	23,874	11,879	10,805	8,032	5,206	2,733	1,180	3,772	97,543
Grand Total	11,371	7,008	11,803	23,874	12,047	10,805	8,176	5,206	2,860	1,180	3,772	98,102
Percentage of trade from CITES Parties	1.1	0	0	0	1.4	0	1.8	0	4.4	0	0	0.4

※ Former Dependent Territory of UK

TRADE IN SEA TURTLE MEAT

Japan's trade in sea turtle meat is difficult to assess because there is no exclusive category in Japanese Customs data for this commodity. Imports of sea turtle meat are listed under Customs tariff heading 02.04-200, "other meat and edible offals, fresh, chilled or frozen". As such, they are indistinguishable from other imported meats in this category.

Traditionally, sea turtle meat has not held a position of any significance in the Japanese diet, although exceptions occur in a few communities in Okinawa, the Ogasawara Islands, and Miyazaki Prefecture in Kyushu where small quantities from locally caught animals are reportedly consumed. Interestingly, the sea turtle is probably one of the few edible marine species which has not become a major feature in Japanese cuisine.

Now, however, in an age of unprecedented affluence and considerable experimentation with exotic foods, there is a limited movement within Japan to promote the consumption of turtle meat. Canned sea turtle meat is available in the Ogasawara Islands, mostly for sale to visiting tourists from the main islands. The meat comes from locally harvested green sea turtles and is exclusively canned for sale in the Ogasawara Islands by a factory in Chiba Prefecture. Vendors at Tsukiji in Tokyo, the largest fish market in Japan (and probably the world), occasionally feature imported sea turtle meat. One importer contacted by TRAFFIC said that virtually all of their stocks are sold to wholesalers, who in turn sell directly to restaurants.

Meat from the green sea turtle is the most common sea turtle meat available, but olive ridley meat is eaten occasionally, although it is considered poorer in quality. Indonesia appears to be the major supplier of green sea turtle meat, but importers indicated that frozen meat was also received from Ecuador in the past. Those imports probably represented olive ridley sea turtles, but were comparatively more expensive and, as mentioned, not as good. Apparently importation from Ecuador has ceased.

The only quantified data on the trade is contained in Anon (1984), where a shipment of 8,011.6kg was identified as exported from Ujung Pandang to Tokyo in February 1984. This export apparently appeared in the Japanese Customs data under "other meat", where the import of 8,011kg of meat is reported as having been received from Indonesia in March 1984. The total value of the import was ¥7,756,000, indicating that the price per kilo was ¥986. The same importer, when contacted in 1987, gave a retail price of ¥2,500 per kilo of meat, and said that a minimum purchase of 3kg was necessary.

TRADE IN SEA TURTLE EGGS

Although sea turtle eggs are occasionally found for sale in Tokyo's major fish market at Tsukiji, TRAFFIC researchers were unable to turn up any evidence suggesting that the eggs had been imported from abroad. To the contrary, available stocks seem to be derived exclusively from the illegal collection of loggerhead sea turtle (Caretta caretta) eggs from breeding beaches in Japan.

Fletcher (1984) documented large scale poaching along the supposedly protected Fukiage coast in southern Kyushu. Most eggs obtained there ended up in Osaka markets, where they were apparently used as an ingredient in the production of commercial health food drinks.

ANTIGUA BARBUDA

Bekko

The importance of Antigua Barbuda as a source of bekko for Japan is a recent development. Between 1970 and 1982, no imports were reported at all in Japanese Customs data. In 1983, a small shipment of only 49kg was reported in the data, but from 1984 to 1986 trade levels ranged between 221kg and 293kg annually. Altogether, a total of 849kg was received by Japan (Appendix 1). It is probable that shipments of bekko obtained elsewhere in the Caribbean were deliberately routed through Antigua Barbuda, as that country remains a non-Party to the Convention.

The correlation of the dealers' data to Customs statistics was only fair. In all years the dealers' data showed larger volumes of bekko received from Antigua Barbuda than Customs statistics indicated (Figure 25). Overall, the dealers' data showed about 35% more bekko from Antigua Barbuda than Customs data reported.

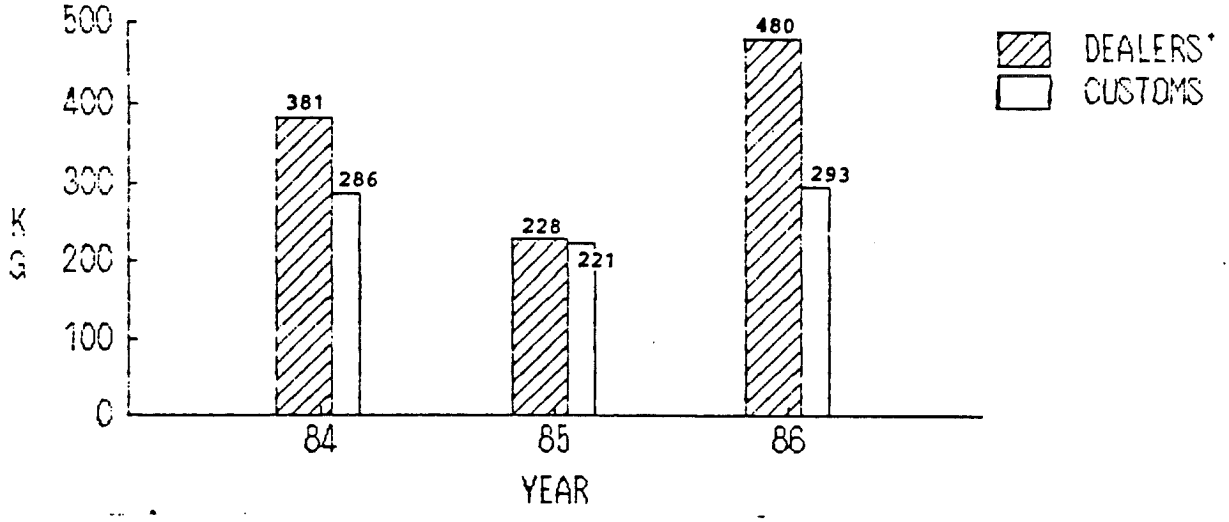

Figure 25: Comparison of Dealers' Data for Antigua Barbuda with Customs Statistics 1984-1986

The average weight of bekko per animal from Antigua Barbuda was estimated at 1.10kg in the dealers' data (Table 1). Accordingly, since 1983, imports of bekko from Antigua Barbuda have represented approximately 770 hawksbills.

Bekko

Between 1970 and 1986 a total of 8,839kg of bekko was received from the Bahamas, making her an important source in the region (Appendix 1). Fluctuating import levels characterized this trade, which ranged from a low of 29kg in 1981 to a high of 1,886kg in 1979 (Figure 26). Since 1983 there has been no trade at all, probably reflecting the implementation of CITES controls in the Bahamas.

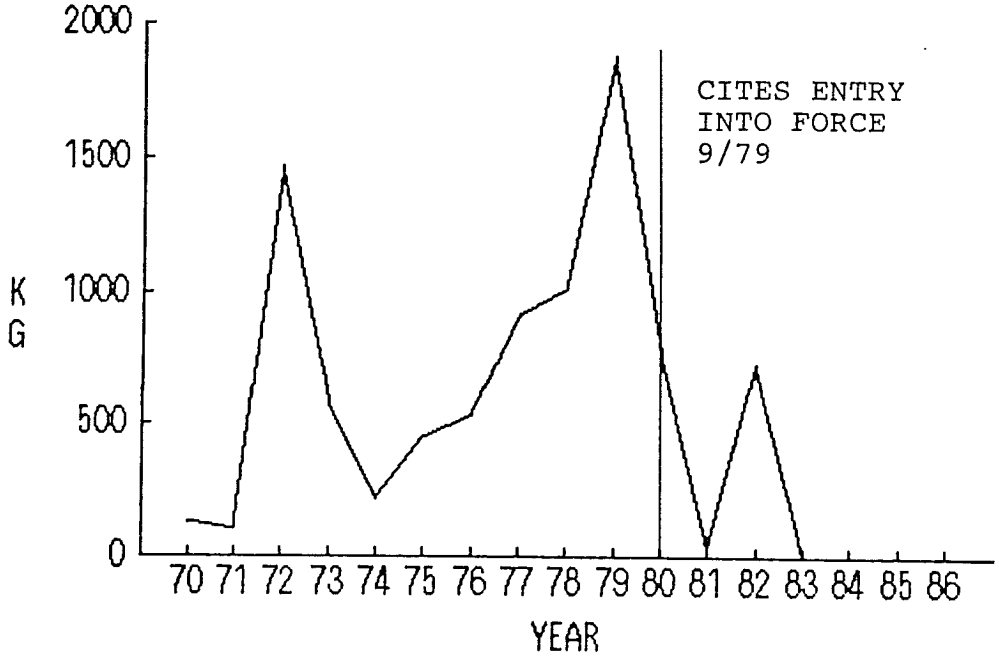

Figure 26: Japanese Imports of Bekko from the Bahamas 1970-1986
Source: Japanese Customs Statistics

Dealers' data for the period 1984 to 1986 did not contain any imports from the Bahamas, mirroring the situation reported by Customs, and therefore no estimates for the average weight of bekko per hawksbill were obtained. One Japanese dealer, on the basis of previous experience, however, estimated that the average weight of bekko per animal originating from the Bahamas was 0.81kg (Table 1). If applied to the Bahamian data as a whole, approximately 11,000 hawksbills comprised the trade to Japan during the period examined (Figure 27). This figure is the lowest average weight per animal for bekko from anywhere in the Caribbean. Interestingly, Japanese dealers mentioned that hawksbill scutes received from the Bahamas, while of excellent quality in terms of color and thickness, have always been smaller in size than those from elsewhere in the region.

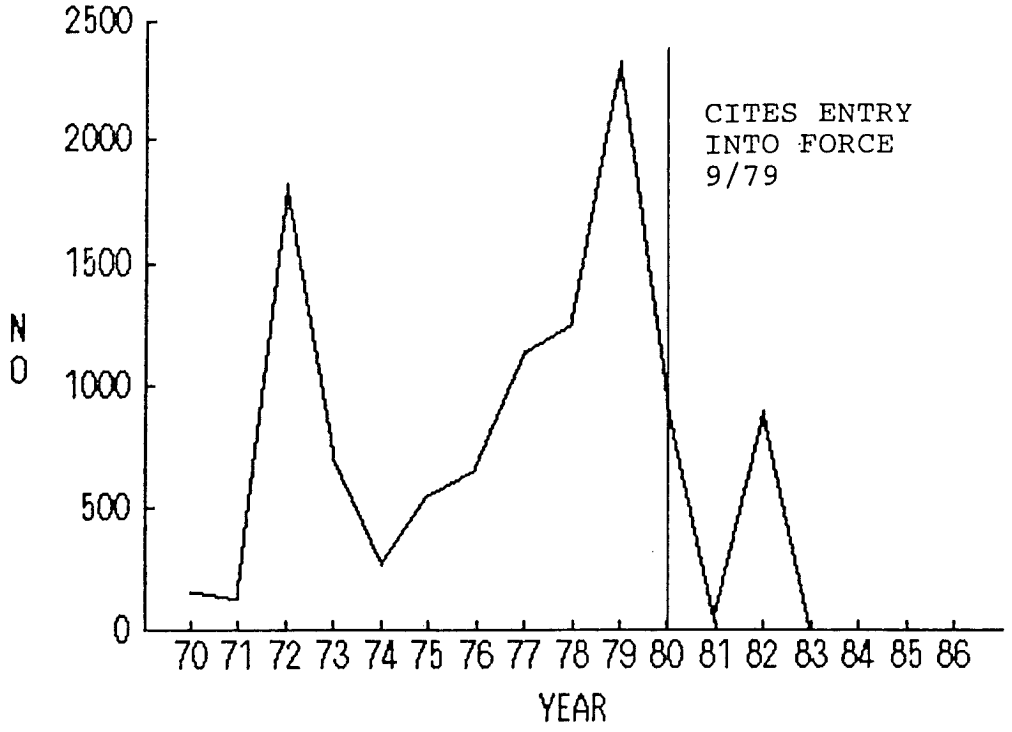

Figure 27: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Bahamas 1970-1986
Source: Japanese Customs Data Calculated at 0.81kg of Bekko per Hawksbill

Tortoiseshell

Minor imports in 1970 and 1971, amounting to a total of only 49kg, were reported in the Japanese Customs statistics as originating in the Bahamas (Appendix 2).

BARBADOS

Bekko

Barbados has been of only minor importance as a source of bekko in recent years in spite of the fact that she remains a non-Party to CITES. Between 1970 and 1986, Barbados supplied Japan with a total of 1,930kg of bekko (Appendix 1). Between 1970 and 1974, over 300kg were received annually, but thereafter trade virtually disappeared until 1986, when 116kg were imported.

Dealers' data correlated perfectly with Customs statistics in 1986, the only year imports were reported by either source (Appendix 8). No average weight data for bekko received from Barbados were reported in the dealers' data, although one importer estimated the average weight of bekko per animal to be 1.10kg (Table 1). If this is accurate, Japan's imports from Barbados during the period examined would have comprised 1,755 hawksbill sea turtles.

Bekko

From 1970 to 1982, only small volumes of bekko were imported sporadically from Belize (Appendix 1). 68% of the 5,773kg reported in the Customs data was received since 1983, in spite of the fact that there was no trade whatsoever in 1984 (Figure 28). The sudden increase in trade from Belize was probably attributable to the confused status of CITES in Belize at the time. After Belize became independent from the United Kingdom, it was unclear whether CITES restrictions were still in force. Caribbean exporters apparently took advantage of the ambiguous situation and used the country to stage large-scale shipments to Japan. Belize has since clarified the situation with the CITES Secretariat and remains a Party to the Convention. Thus, all imports since 1981 have contravened CITES controls.

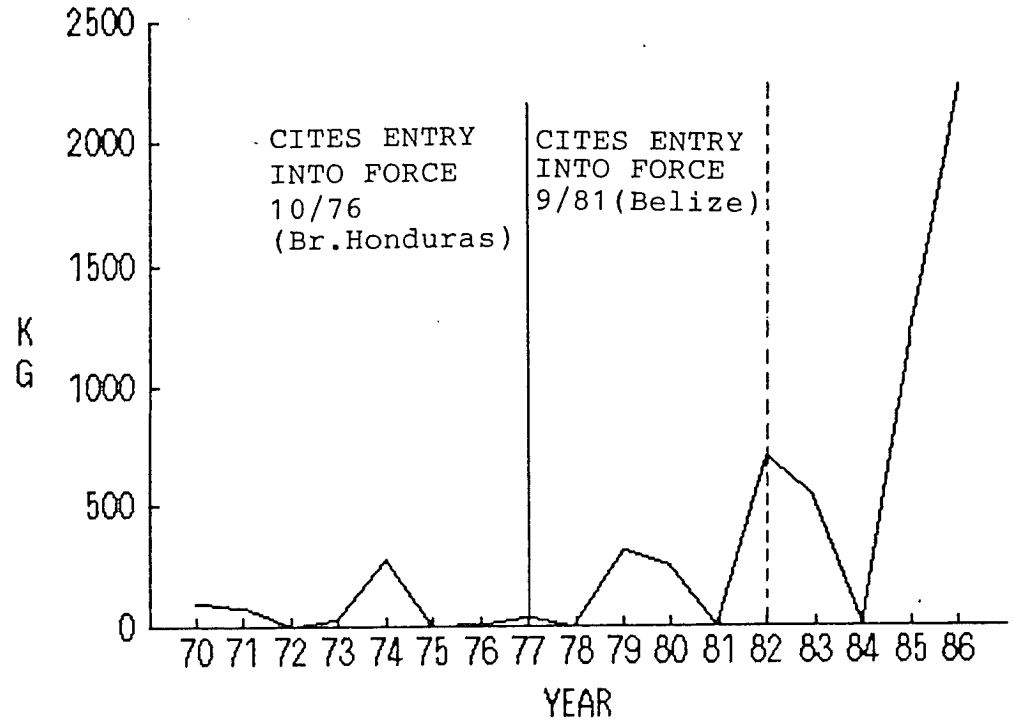

Figure 28: Japanese Imports of Bekko from Belize 1970-1986
Source: Japanese Customs Statistics

Customs statistics and dealers' data show poor correlation. From 1984 through 1986, dealers reported receiving much greater quantities of bekko from Belize than Customs statistics indicated. These discrepancies ranged from 1,628kg to 2,045kg more in the dealers' data than Customs and included the only trade reported for 1984 (Figure 29).

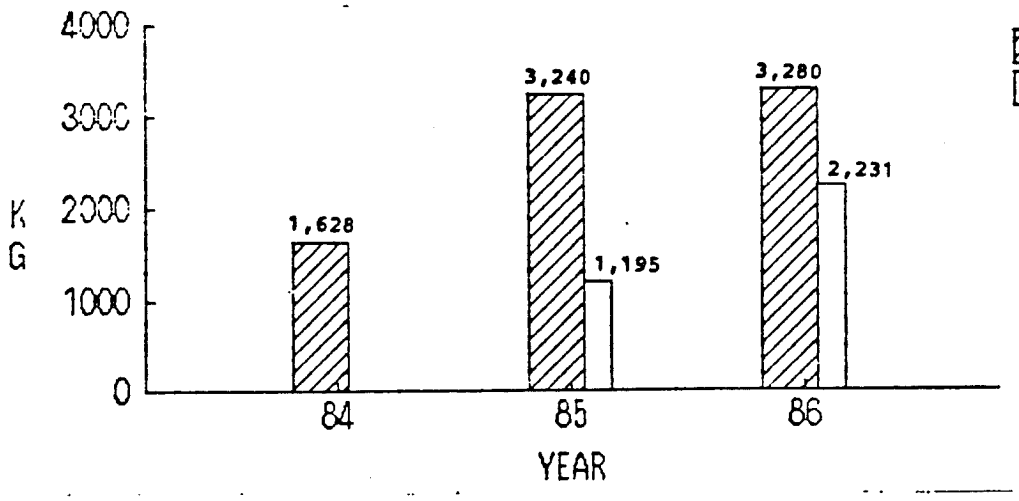

Figure 29: Comparison of Dealers' Data for Belize with Customs Statistics 1984-1986

The average weight per animal for bekko from Belize was 1.11kg in the dealers' data (Table 1), suggesting that approximately 5,200 hawksbills were required to supply Japan with bekko during this period (Figure 30). Of these, over 4,000 hawksbills represent imports obtained after Belize became independent in 1981.

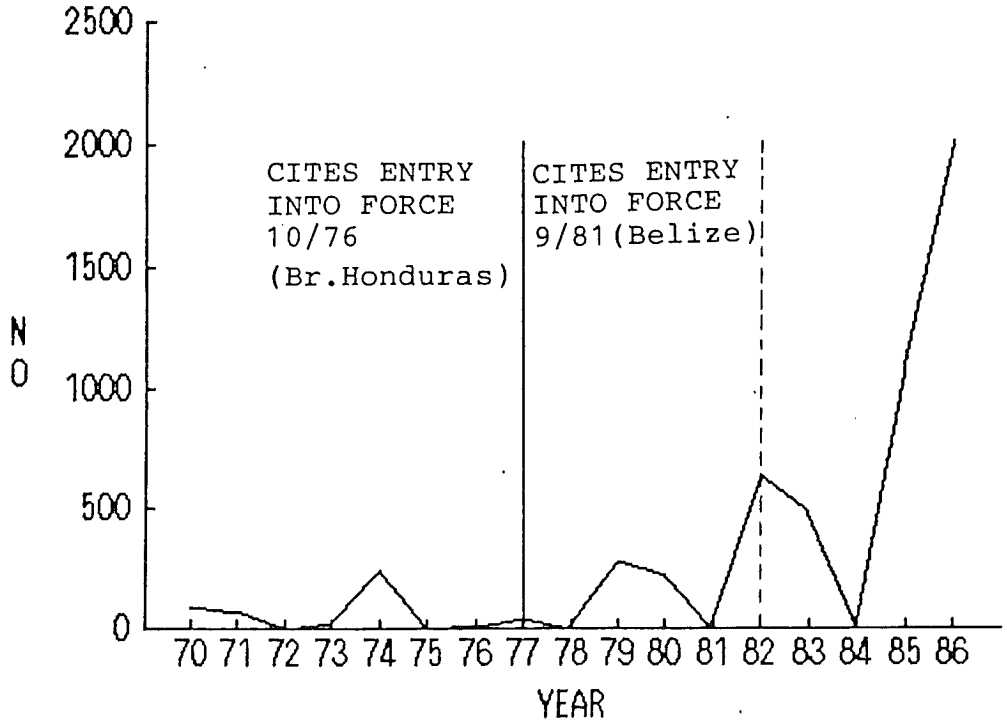

Figure 30: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Belize

Source: Japanese Customs Data Calculated at 1.11kg of Bekko per Hawksbill

Turtle Leather

In 1980, a single shipment of sea turtle leather weighing 168kg was reported in the Customs data as coming from Belize (Appedix 6). Since Belize is not known to have an indigenous tanning industry, these imports could have originated in neighboring Mexico which does.

CAYMAN ISLANDS

Bekko

The Cayman Islands, a dependent territory of the United Kingdom, is ranked worldwide as the sixth largest supplier of bekko to Japan during the period examined. A total of 30,350kg were imported between 1970 and 1986, representing almost 5% of total imports for the period (Appendix 1).

Beginning in 1972, the trade pattern was one of steady increase, rising to over 6,000kg in 1978 and 1979, the year CITES was finally implemented in the Cayman Islands. Nonetheless, substantial volumes of bekko, over 2,258kg were imported annually over the next three years. The trade finally halted altogether after 1984, when only 115kg of bekko were reportedly received (Figure 31). Japanese dealers stated that the Cayman Islands traditionally functioned as an entrepot for bekko originating in the region.

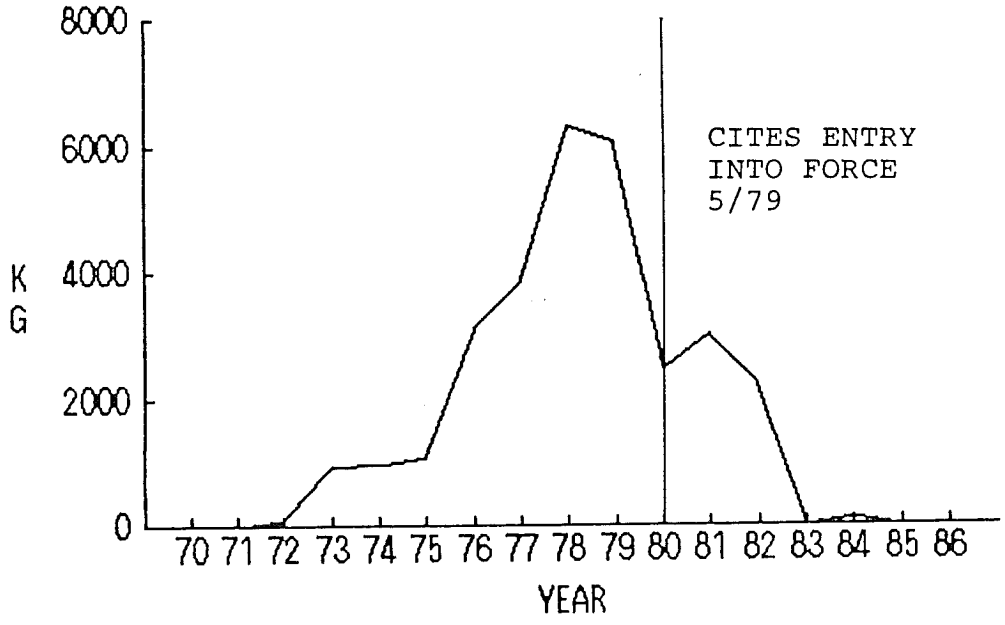

Figure 31: Japanese Imports of Bekko from the Cayman Islands 1970-1986
Source: Japanese Customs Statistics

Dealers' figures correspond to 53% of Customs' statistics in 1984, with no imports reported in 1985 or 1986 by either source (Figure 32).

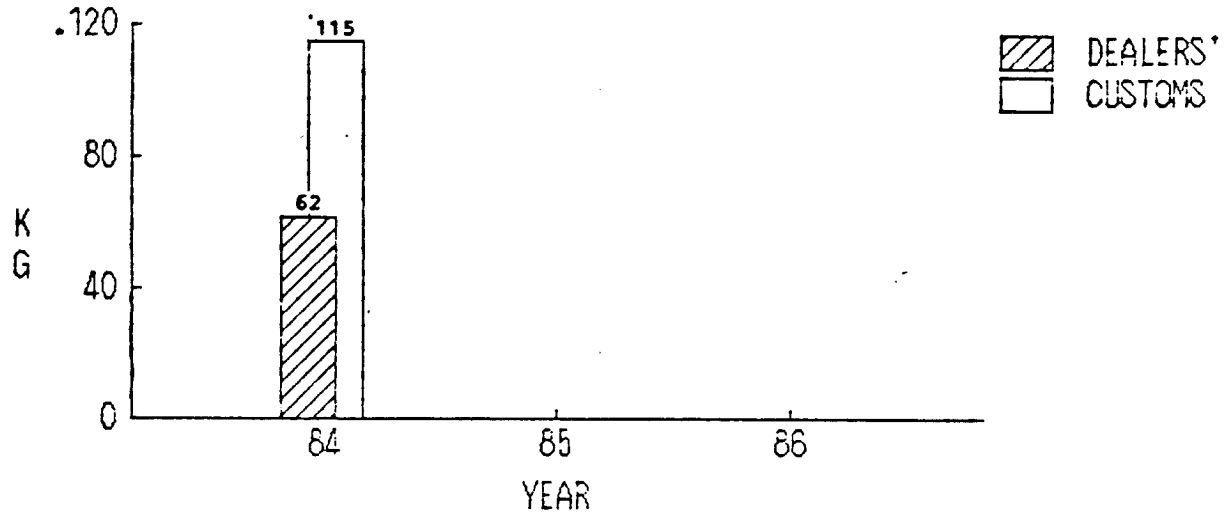

Figure 32: Comparison of Dealers' Data for the Cayman Islands with Customs Statistics 1984-1986

No average weights were reported in the dealers' data for 1984 to 1986. However one dealer estimated, on the basis of previous imports from the Cayman Islands, that the average weight of bekko per animal was 1.10kg (Table 1). If this figure is representative of the trade over the entire period, an estimated 27,590 hawksbills were required to sustain the Cayman Islands' bekko trade to Japan (Figure 33).

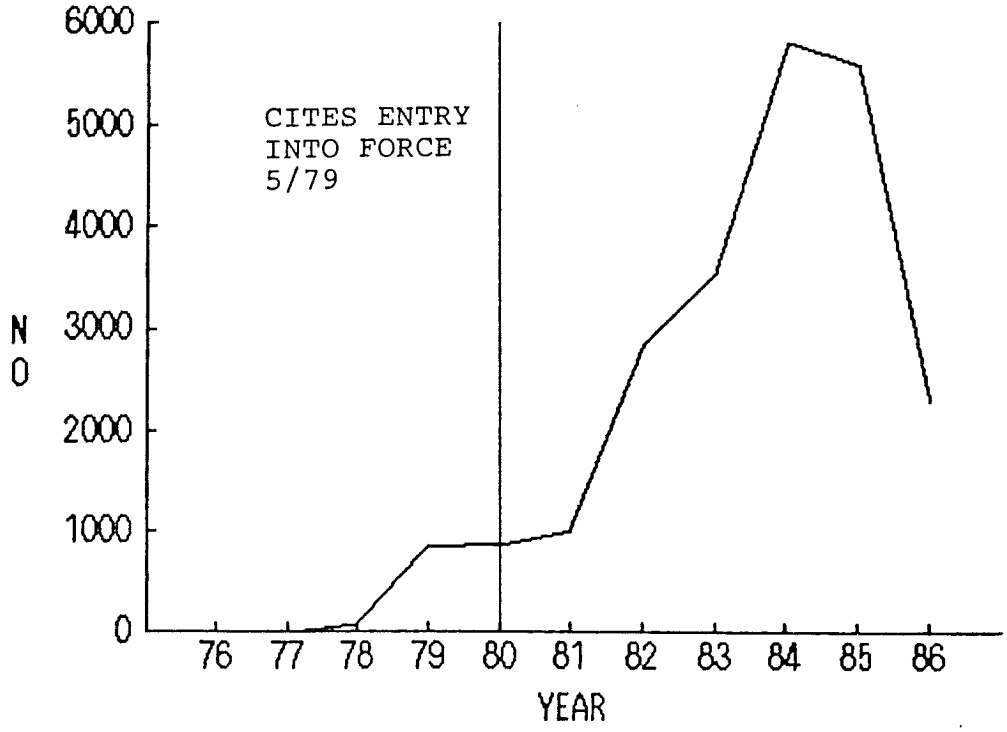

Figure 33: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Cayman Islands 1970-1986
Source: Japanese Customs Data Calculated at 1.10kg of Bekko per Hawksbill

Tortoiseshell

The Cayman Islands was the major source of tortoiseshell in the Caribbean region. A total of 7,149kg was imported by Japan between 1970 and 1986, although imports were received in only ten of those years (Appendix 2). Most trade occurred between 1976 and 1982 and is believed to have originated from the Cayman Island Turtle Farm. Since 1985, no imports have been reported and trade in 1983 and 1984 was minor (Figure 34).

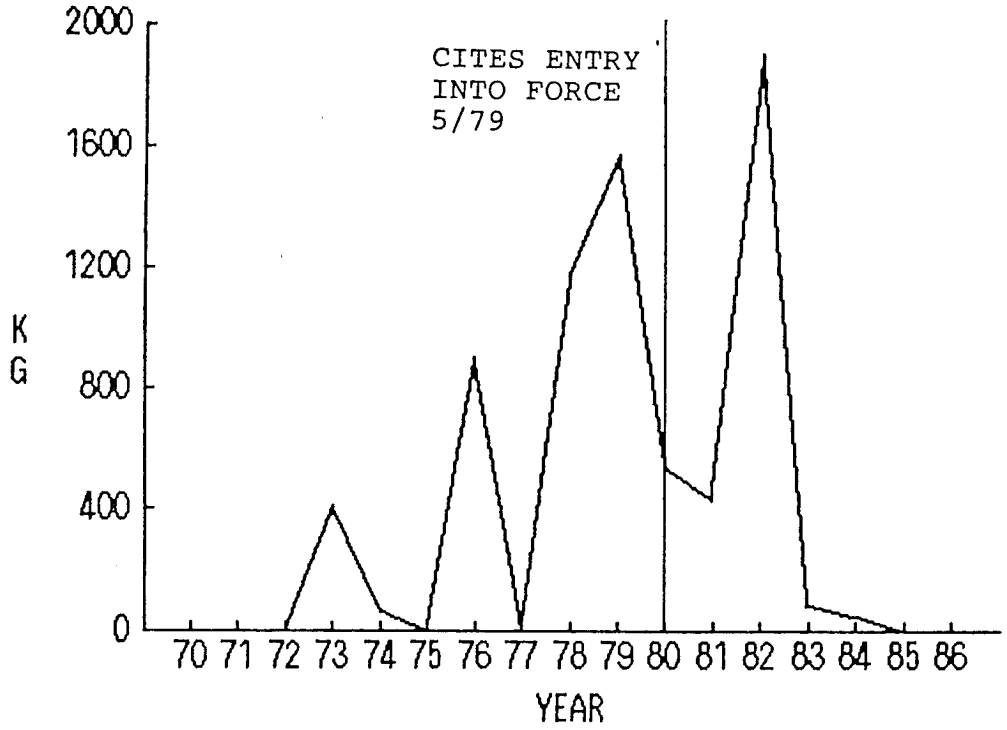

Figure 34: Japanese Imports of Tortoiseshell from the Cayman Islands 1970-1986
Source: Japanese Customs Statistics

Worked Bekko

A total of 202kg in 1973 is the only recorded import of worked bekko from the Cayman Islands in the Japanese Customs data (Appendix 3).

Worked Tortoiseshell

From 1970 to 1986, worked tortoiseshell imports were recorded in only two years, 1973 and 1977, when 184kg and 14kg respectively were received (Appendix 4).

Turtle Skins

The Cayman Islands also supplied turtle skins during a five-year period from 1977 to 1981, with importation levels ranging from 36kg in 1977 to a high of 23,514kg in 1978 (Appendix 5). These imports, which totalled 59,351kg, are believed to be green sea turtles and to have come from the Cayman Island Turtle Farm. There are no reports of any turtle skin imports from 1982 onward (Figure 35).

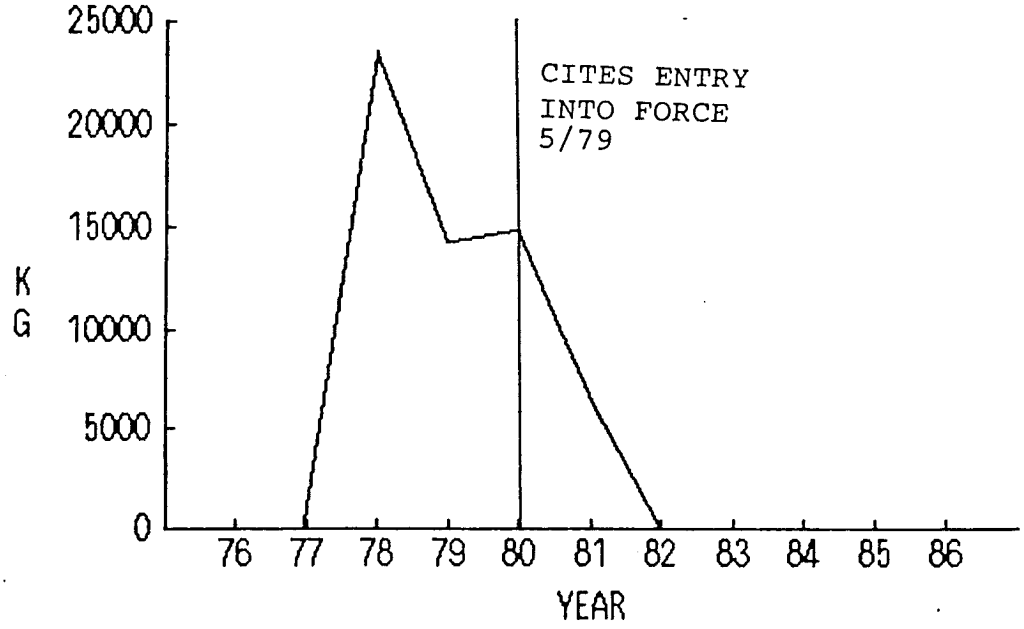

Figure 35: Japanese Imports of Turtle Skins from the Cayman Islands 1976-1986
Source: Japanese Customs Statistics

Information obtained from the Cayman Island Turtle Farm suggest that three and one-half year old animals which weighed approximately 24kg each produced about 0.45kg of wet-salted skin when slaughtered (Table 7). If applied to the Japanese Customs data, approximately 131,900 green sea turtles would have been required to sustain the trade to Japan. Since the Cayman Island Turtle Farm has never stocked such large numbers of green sea turtles, it seems clear that the figure is not representative of the trade as a whole.

COMMONWEALTH OF DOMINICA

Bekko

Dominica has only become an important supplier of bekko to Japan over the last couple of years. A total of 868kg was reported in Japanese Customs data between 1970 and 1986, but almost half was received during the last two years (Appendix 1). Previous to that, minor imports, rarely exceeding 100kg annually, were received for seven years during the period examined. The recent trend probably reflects Dominica's importance as an exporter not inhibited by CITES controls.

Although no imports were reported in the dealers' data between 1984 and 1986, it appears that trade which actually came from Dominica was reported by the dealers to have come from the Dominican Republic (see Dominican Republic).

No average weight of bekko per animal was provided in the dealers' data, but one experienced importer suggested that bekko from Dominica averaged 1.50kg per animal (Table 1). Calculated accordingly, Customs data would translate into 570 hawksbills

for the period examined. This figure is probably fairly accurate: TRAFFIC researchers examined a shipment of 42.4kg of bekko from Dominica and obtained an average weight of 1.54kg of bekko per animal.

COSTA RICA

Bekko

Costa Rica was a steady, if not modest, source of bekko, annually providing small quantities to Japan. Between 1970 and 1986, imports totalled 2,775kg (Appendix 1). Even after the imposition of CITES controls in Costa Rica in late 1975, trade continued at generally reduced levels until 1983, when it finally disappeared altogether (Figure 36).

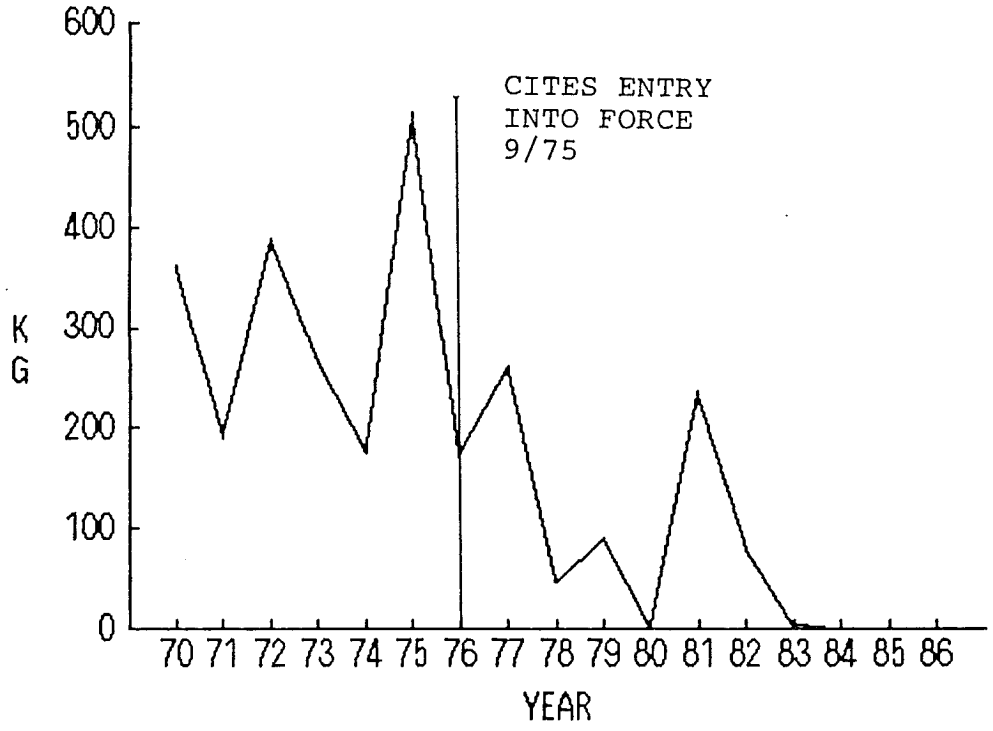

Figure 36: Japanese Imports of Bekko from Costa Rica 1970-1986
Source: Japanese Customs Statistics

Japanese dealers did not report any trade from Costa Rica between 1984 and 1986, which corresponds with Customs data. Accordingly no data on the average weight of bekko per animal were obtained from that source. However, the average weight was estimated at 0.85kg by one Japanese dealer with many years of experience in the industry (Table 1). Another dealer, stated that the average weight of bekko per animal from Costa Rica was generally about 1.00kg. Accordingly, an estimated 2,775 to 3,260 hawksbills would have been required to sustain Costa Rica's bekko trade to Japan since 1970 (Figure 37).

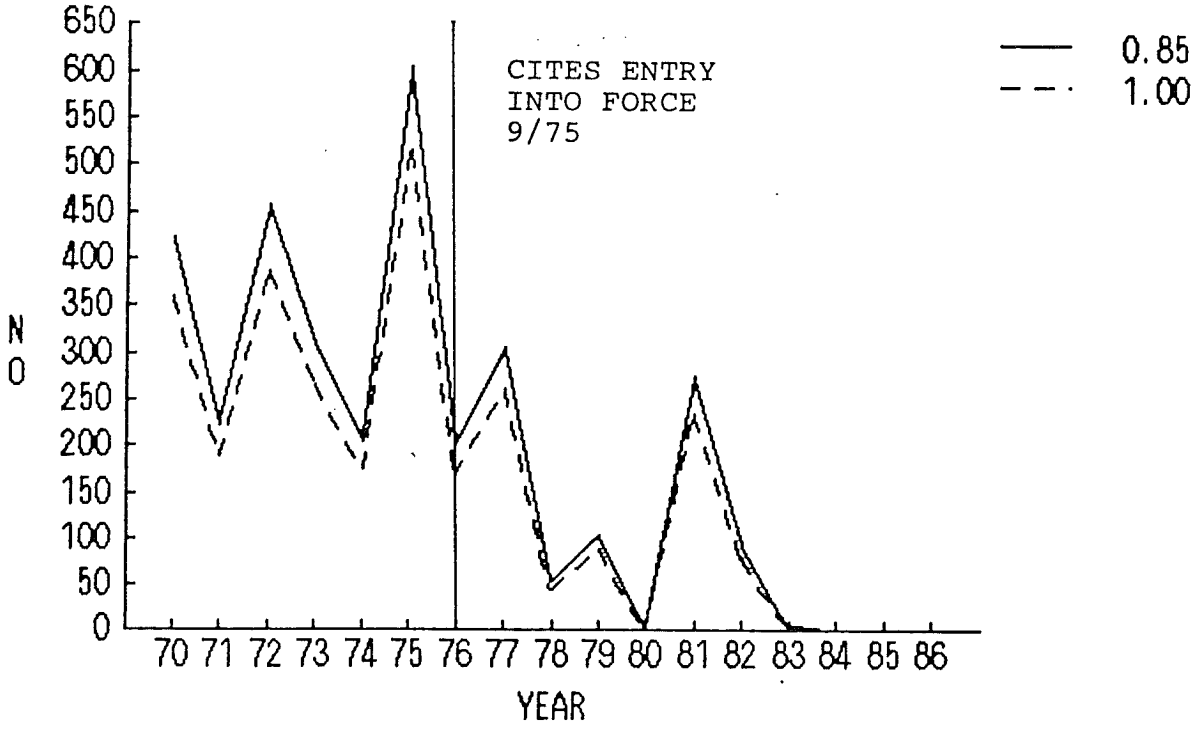

Figure 37: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Costa Rica 1970-1986
Source: Japanese Customs Data Calculated at 0.85kg and 1.00kg of Bekko per Hawksbill

CUBA

Bekko

Cuba is the world's third largest supplier of bekko to Japan, supplying 97,852kg, or 15% of the total trade, between 1970 and 1986 (Appendix 1). Although Cuba, which is not a Party to CITES, remains the most important legal source of bekko for Japan, imports from that country have not increased as CITES controls have gradually curtailed other supplies in the region. This suggests that Cuba does not function as an entrepot, but depends upon local exploitation of hawksbills for her bekko trade. In fact, Cuba's exports to Japan, though still substantial and persistently the largest of any country in recent years, have declined by about 10% since 1976. Annual Cuban exports now average about 5,540kg as opposed to 6,150kg in the 5-year period from 1970 to 1975 (Figure 38).

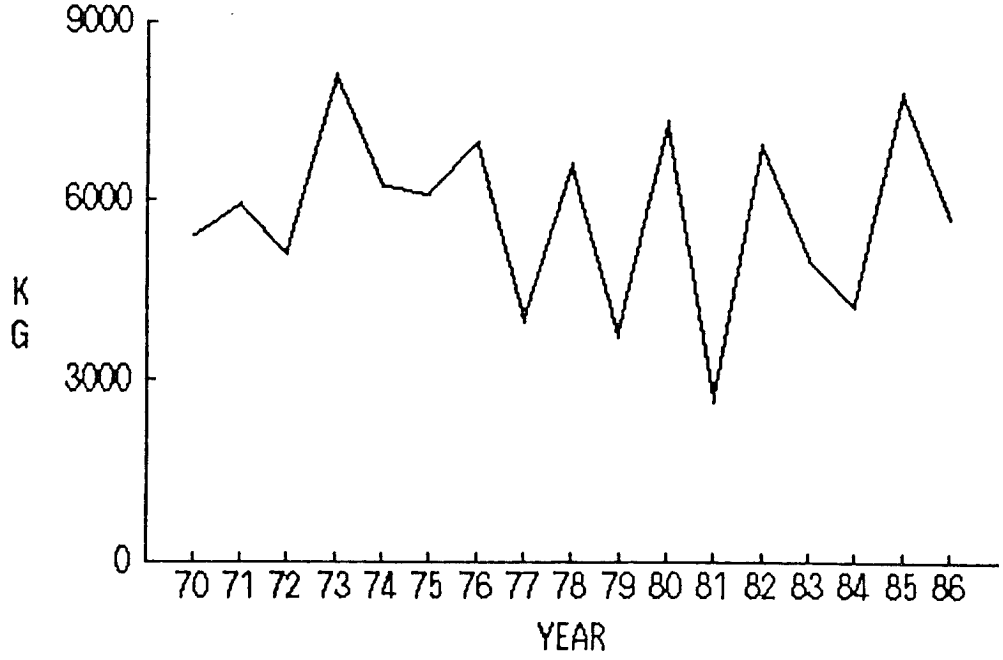

Figure 38: Japanese Imports of Bekko from Cuba 1970-1986
Source: Japanese Customs Statistics

The dealers' data showed 50% to 80% correlation with Customs statistics for the three years examined (Figure 39).

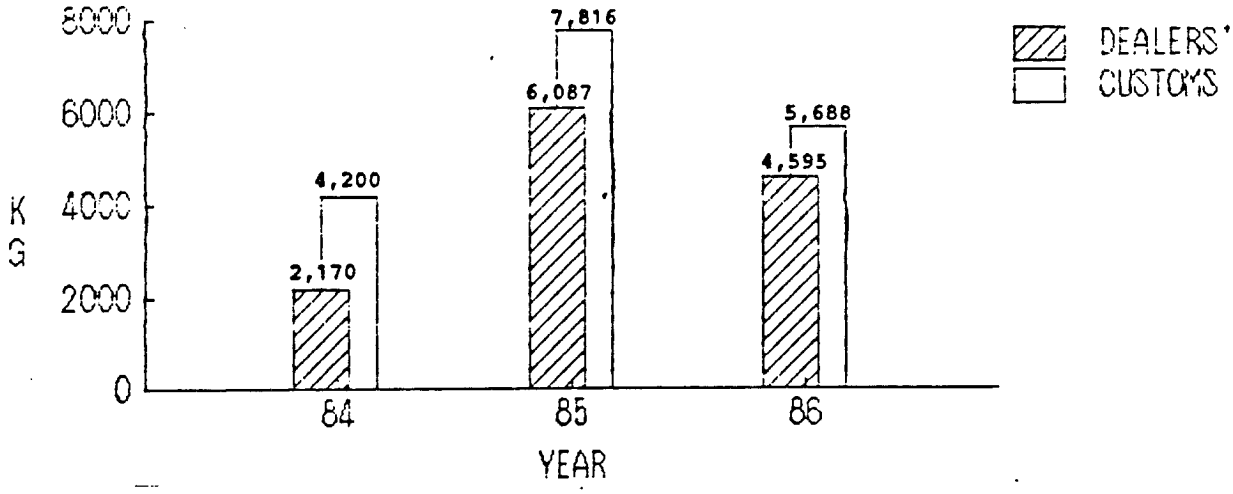

Figure 39: Comparison of Dealers' Data for Cuba with Customs Statistics 1984-1986

Cuban exports of bekko are distinguished by the fact that they seem to be comprised of some of the largest hawksbills entering trade. The average weight of bekko per animal was between 1.59kg and 1.60kg in the dealers' data (Table 1). Accordingly, bekko imports to Japan from Cuba since 1970 represent approximately 61,000 hawksbills and current levels of exploitation require an annual harvest of about 3,400 animals (Figure 40). Another dealer estimated the average weight of

bekko per animal at 1.51kg, and TRAFFIC (Japan) researchers, on the basis of a shipment of 56kg of bekko, arrived at an average weight of 1.43kg. These data suggest that the trade could actually represent about 10% more hawksbills than the average weight figure from the dealers' data would indicate.

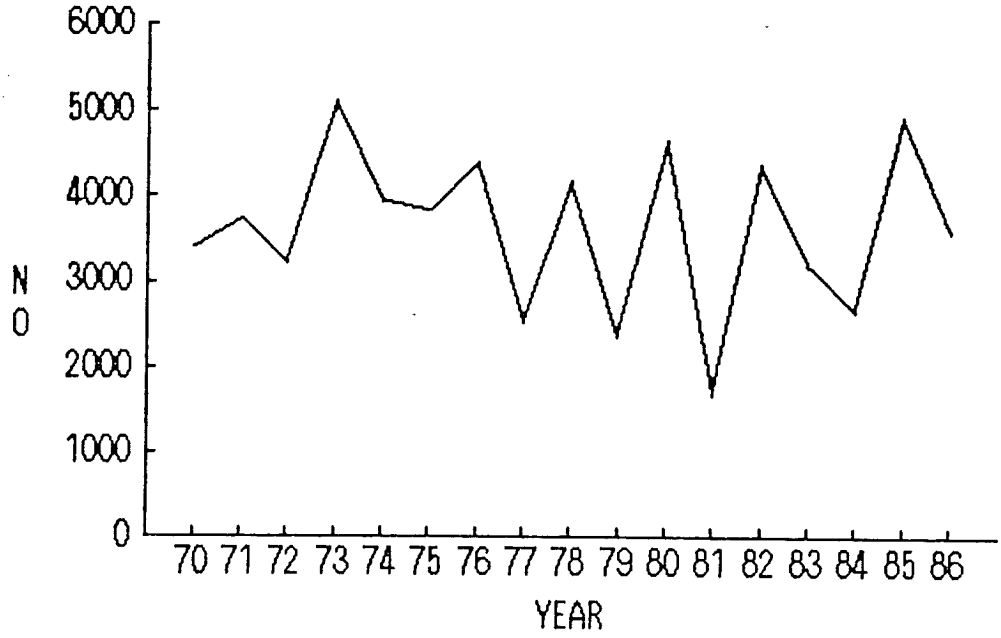

Figure 40: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Cuba 1970-1986
Source: Japanese Customs Data Calculated at 1.59kg of Bekko per Hawksbill

Dealers commented that Japan is currently the only purchaser of Cuban bekko. Formerly, according to the dealers, a Dutch dealer was also involved in the trade, but has not been active since the early 1970's. Moreover, Japanese dealers noted the quality of bekko from Cuba is among the best in the world. The abundance of blond or amber toned scutes makes Cuban bekko especially suitable for the manufacture of eyeglass frames. Japanese importers purchase bekko, which has been graded and sorted according to color and quality, through a State-controlled monopoly.

Tortoiseshell

Cuba has also been a source of small quantities of tortoiseshell to Japan, which totalled 2,595kg during the period examined (Appendix 2). Since 1973, imports are reported for only six years and have never totalled more than 950kg annually (Figure 41).

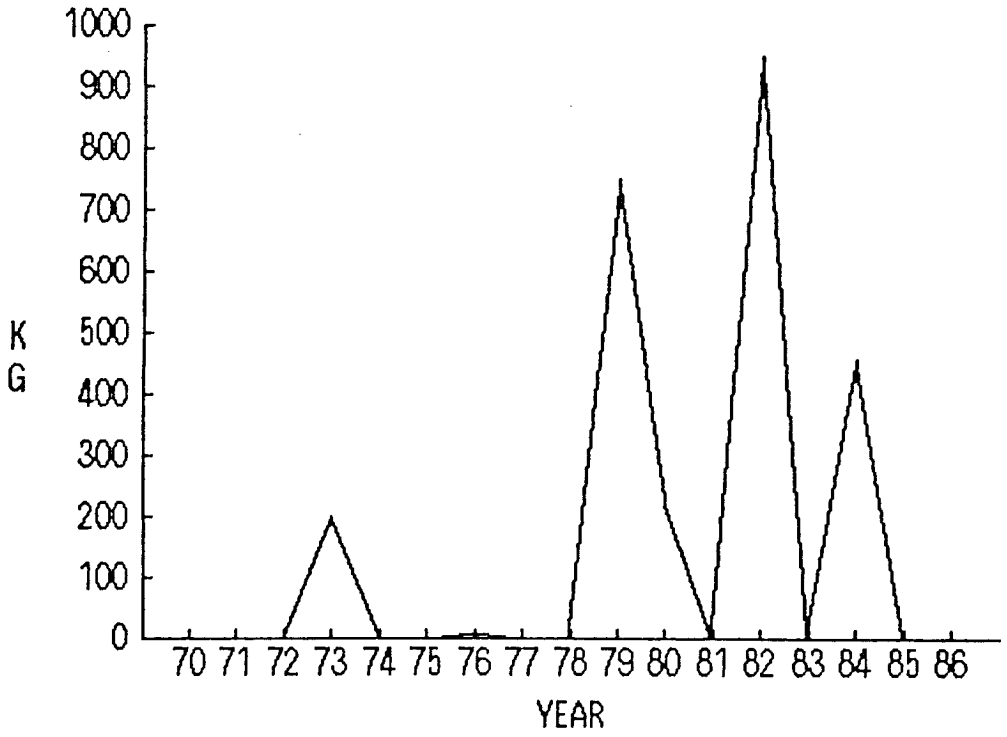

Figure 41: Japanese Imports of Tortoiseshell from Cuba 1970-1986
Source: Japanese Customs Statistics

DOMINICAN REPUBLIC

Bekko

The Dominican Republic was a moderate source of bekko for Japan during the period examined, with a total of 4,366kg received since 1970 (Appendix 1). From 1970 to 1976, only small quantities, which never reached more than 113kg, were imported annually, with the exception of two years when there was no trade at all. Since 1977, import volumes have increased considerably, fluctuating between 219kg and 872kg, except for 1978 when again there was no trade (Figure 42).

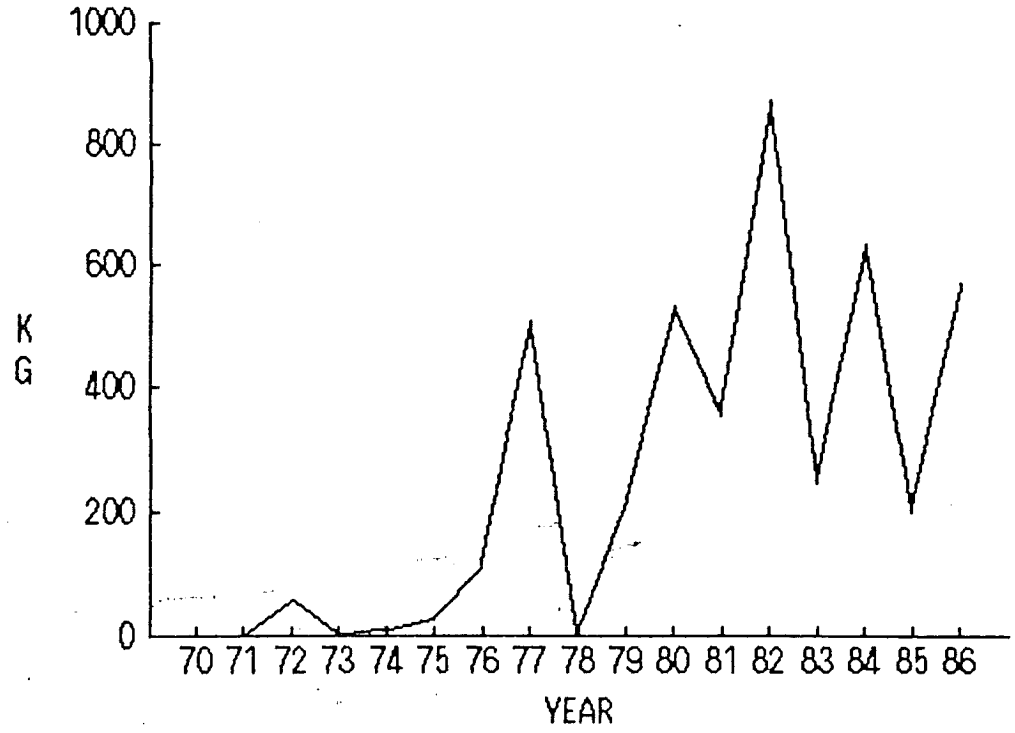

Figure 42: Japanese Imports of Bekko from the Dominican Republic 1970-1986
Source: Japanese Customs Statistics

The dealers' data showed higher levels of importation than Customs statistics for the years 1984 and 1985, but not for 1986 (Figure 43).

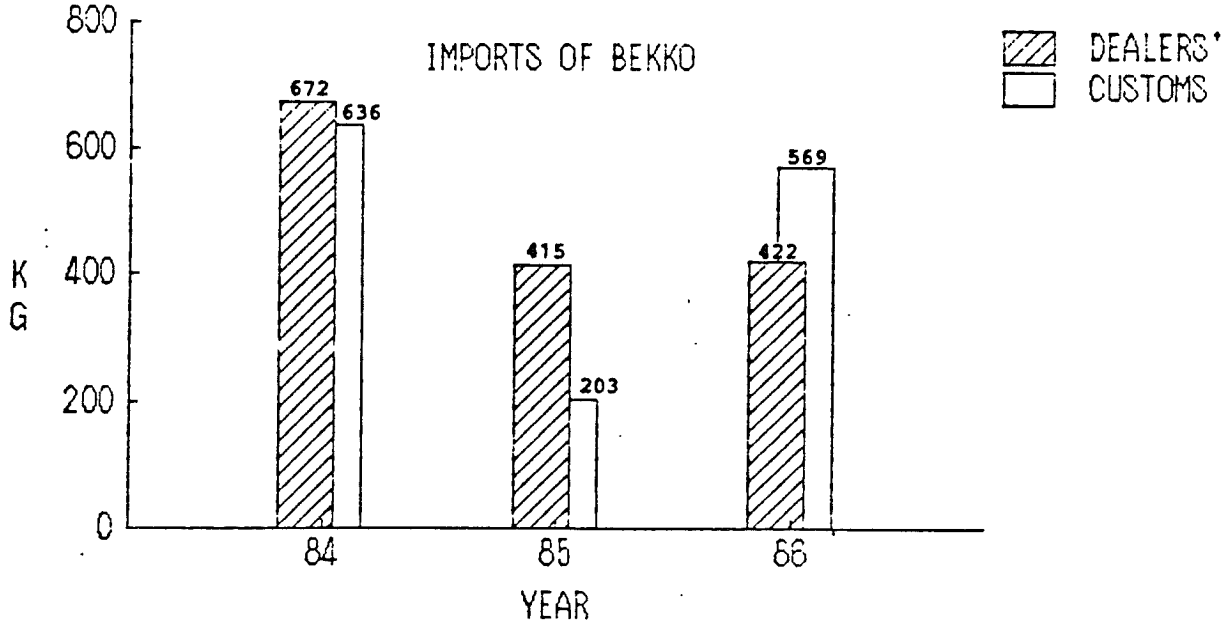

Figure 43: Comparison of Dealers' Data for the Dominican Republic with Customs Statistics

However, it is very likely that some dealers included imports reported in the Customs data as originating in the Commonwealth of Dominica as part of the trade from the Dominican Republic (Table 10).

Dominican Republic Bekko 1985

	Bekko Shipments Reported in Dealers' Data (kg)	Bekko Imports Reported in Customs Statistcs (kg)	
	DO	DO	DM
Jan.	* 36.0 * 20.3 10.5 9.071	—	*56
Mar.	* 45.35 * 49.89	*94	—
Apr.	* 13.154	*13	—
May.	16.67	—	—
Aug.	* 72.0	—	*72
Sep.	* 46.0 * 25.0 * 30.0	*55	*46
Oct.	* 32.204	*32	—
Dec.	* 9.07	* 9	—
Total	415.209		

Table 10: Monthly Imports from the Dominican Republic and Commonwealth of Dominica Contrasted With Dealers' Data

While the dealers' data did not provide an average weight per animal for bekko imports from the Dominican Republic, one dealer suggested a figure of 1.00kg based on his experience in the trade (Table 1). If so, trade to Japan would have been composed of some 4,300 hawksbills for the period examined.

Tortoiseshell

In 1978 and 1981, 62kg and 44kg of tortoiseshell respectively were recorded in the Japanese Customs statistics as originating in the Dominican Republic (Appendix 2).

Worked Bekko

The Dominican Republic was a minor source of worked bekko with only 3kg in 1983 and 28kg in 1984 reported in the Japanese Customs data (Appendix 3).

ECUADOR

Sea Turtle Skins

Traditionally, Ecuador has been the principal supplier of sea turtle skins to Japan. In Japanese Customs data, a total of 338,416kg was received from Ecuador between 1976 and 1986, accounting for over half of all imports of sea turtle skins reported in the statistics (Appendix 5).

Although Ecuador was one of the first countries to ratify CITES and the Convention came into force in July 1975, sea turtle skins were imported to Japan from Ecuador in every year, with the exception of 1985 (Figure 44). In the Japanese Customs data, trade volumes were very high during the first four years, ranging between 40,275kg in 1976 and 121,399kg in 1979. Thereafter, importation persisted, but at substantially reduced levels. However, in 1986, a marked resurgence was seen when a total of 33,765kg were received.

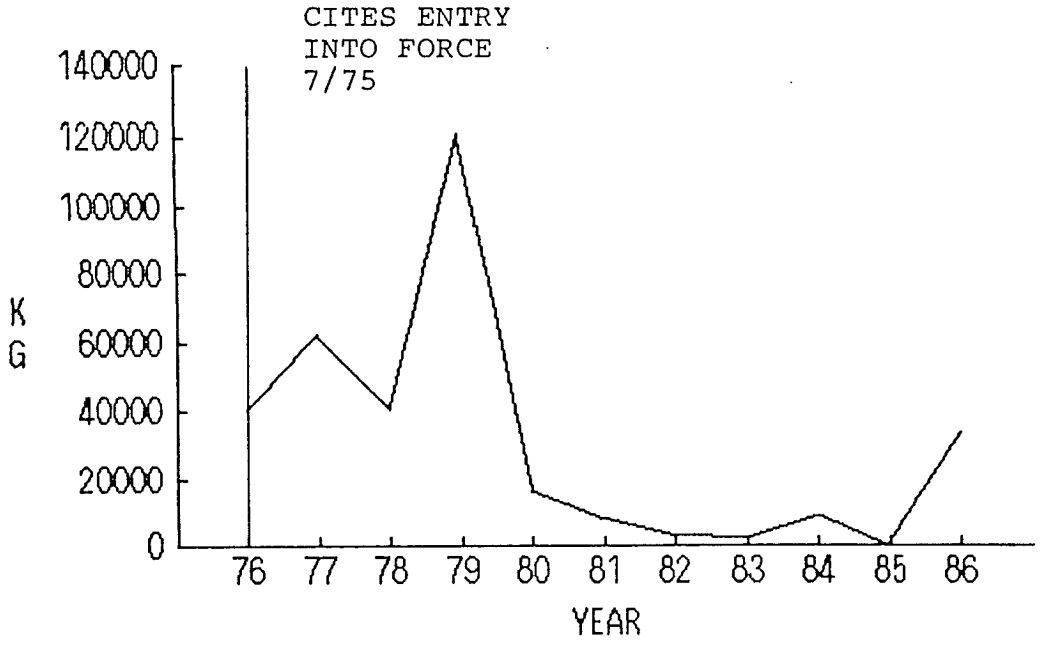

Figure 44: Japanese Imports of Sea Turtle Skins from Ecuador 1976-1986
Source : Japanese Customs Statistics

This trade is derived from olive ridley sea turtles, according to Japanese dealers. Each turtle produces a set of skin and the average weight of wet-salted skin sets is between 2.20kg and 2.50kg per set (Table 7). Therefore, Japanese imports of sea turtle skins from Ecuador would have required the slaughter of between 135,000 and 154,000 olive ridley turtles since 1976 (Figure 45).

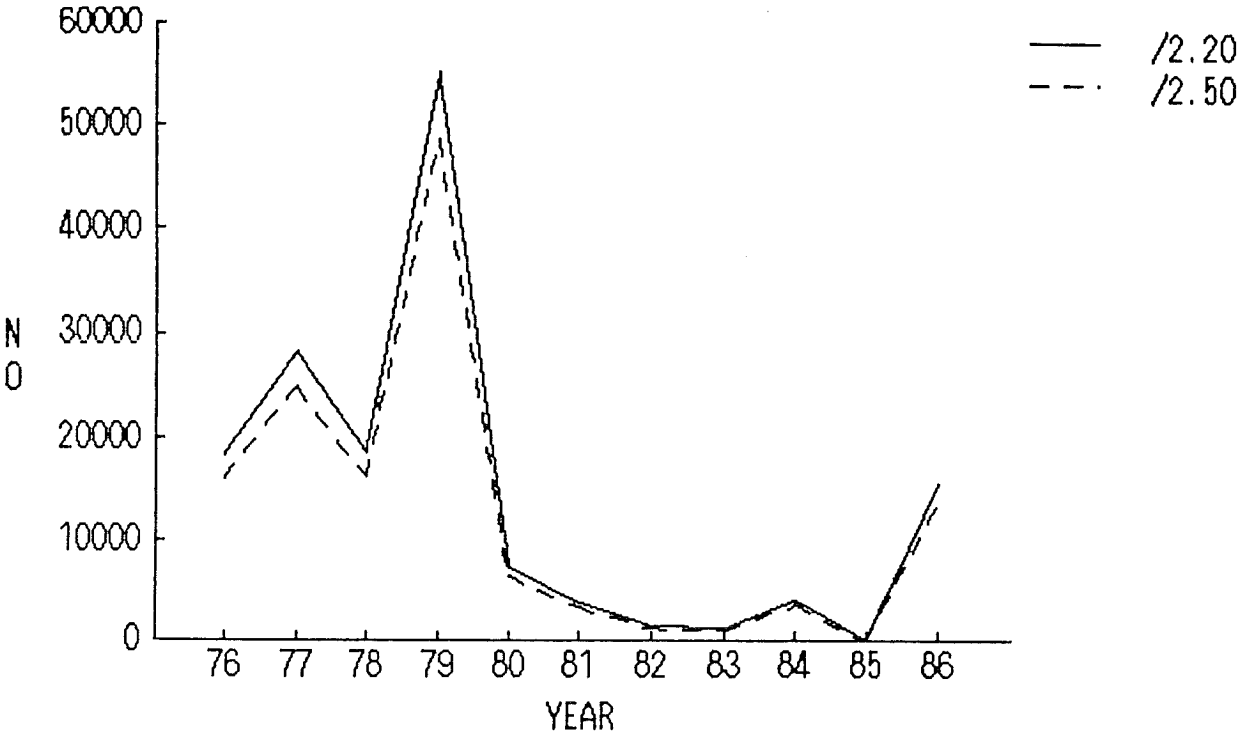

Figure 45: Estimated Number of Olive Ridley Sea Turtles Represented by Japanese Imports of Sea Turtle Skins from Ecuador 1976-1986
Source: Japanese Customs Data Calculated at 2.20kg and 2.50kg

In November 1986, the Ecuadorian CITES Management Authority confirmed to TRAFFIC (Japan) that 24,717kg of skins imported from Ecuador by Japan between January and June of that year had not been authorized with proper export documents (Kakabadse, in. litt.). The authorities requested TRAFFIC's assistance in the subsequent investigation.

FRENCH WEST INDIES

Bekko

The French West Indies reportedly provided Japan with 1,779kg of bekko between 1970 and 1982, according to Japanese Customs statistics (Appendix 1). Imports ranged between 122kg and 276kg in each year. France's reservation on the hawksbill apparently allowed for the trade which occurred after the Convention came into effect.

Although Japanese dealers did not receive any imports from the French West Indies between 1984 and 1986 and therefore did not produce any data concerning the average weight of bekko per animal, a figure of 1.00kg was provided by one Japanese importer familiar with the trade from there (Table 1). If the Customs data is analyzed accordingly, about 1,700 hawksbills would have been required to fulfill Japanese import levels of bekko during the period examined.

Tortoiseshell

A single import of 38kg was reported in the Japanese Customs data in 1977 (Appendix 2).

GRENADA

Bekko

Grenada is a minor source of bekko for Japan. Only one year showed sizable trade, 1973, when 499kg was received. Imports were also received during four other years, for a total of 706kg overall (Appendix 1). No trade has been reported during the last five years. One dealer produced an average weight figure of 1.00kg of bekko per animal for imports from Grenada (Table 1), indicating that approximately 700 hawksbills comprised the trade.

HAITI

Bekko

From 1970 to 1986, Haiti supplied Japan with 24,793kg of bekko, accounting for almost 4% of Japan's total bekko imports (Appendix 1). Over the last 11 years, 1976 to 1986, as CITES controls gradually eliminated or reduced trade from other traditional sources of bekko in the region, imports from Haiti, a non-Party, increased by about 12%. Perhaps of significance is the fact that imports from Haiti have steadily increased since 1981, with the highest volume to date, 2,767kg, reported in 1986 (Figure 46). This would indicate that Haiti has either increased exploitation of her own hawksbill resources or is functioning to some extent as an entrepot for bekko collected elsewhere.

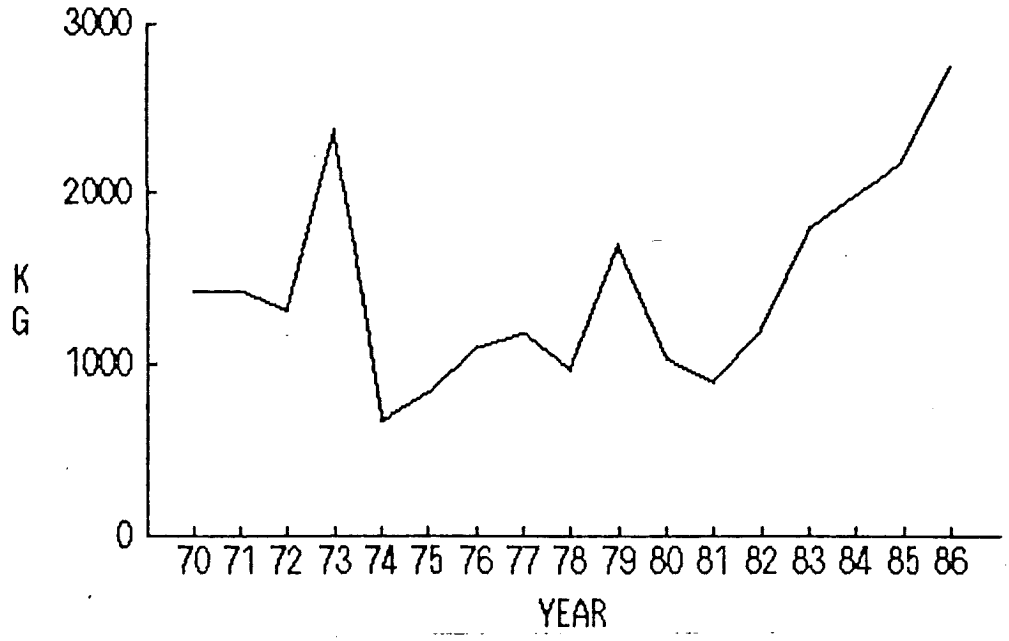

Figure 46: Japanese Imports of Bekko From Haiti 1970-1986
Source: Japanese Customs Statistics

Dealers' data correlated with Customs statistics very well, showing at least 88% concurrence for each year (Figure 47).

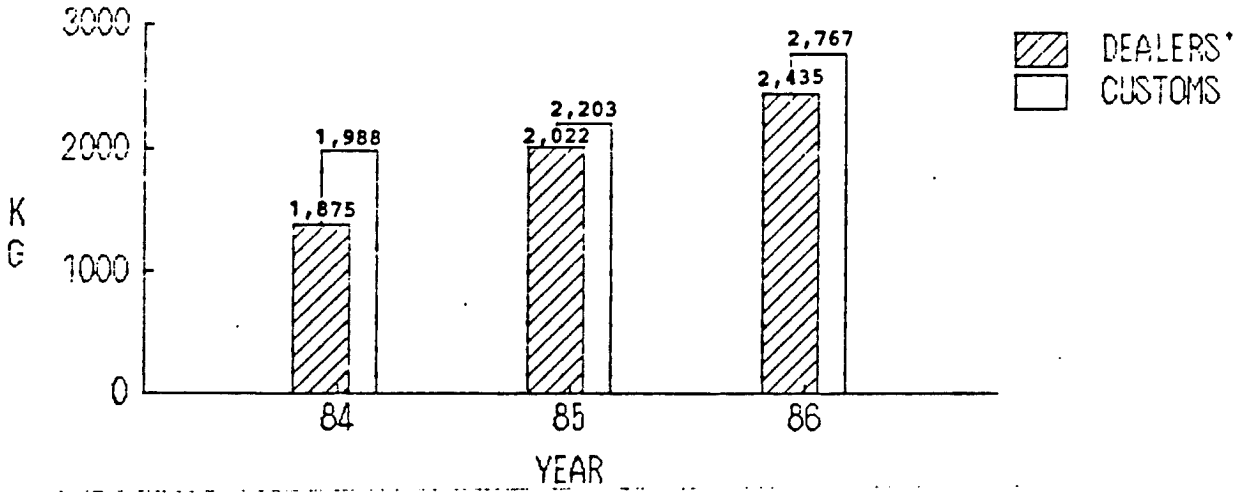

Figure 47: Comparison of Dealers' Data for Haiti with Customs Statistics 1984-1986

Average weight per animal was estimated to be between 1.56kg and 1.59kg in the dealers' data (Table 1). Therefore, imports since 1970 would have comprised about 15,500 animals, with current levels of exportation requiring the annual harvest of at least 1,200 hawksbills (Figure 48). These figures are probably fairly accurate. An examination of a shipment weighing 121kg by TRAFFIC determined a slightly smaller average weight of 1.52kg in 1987.

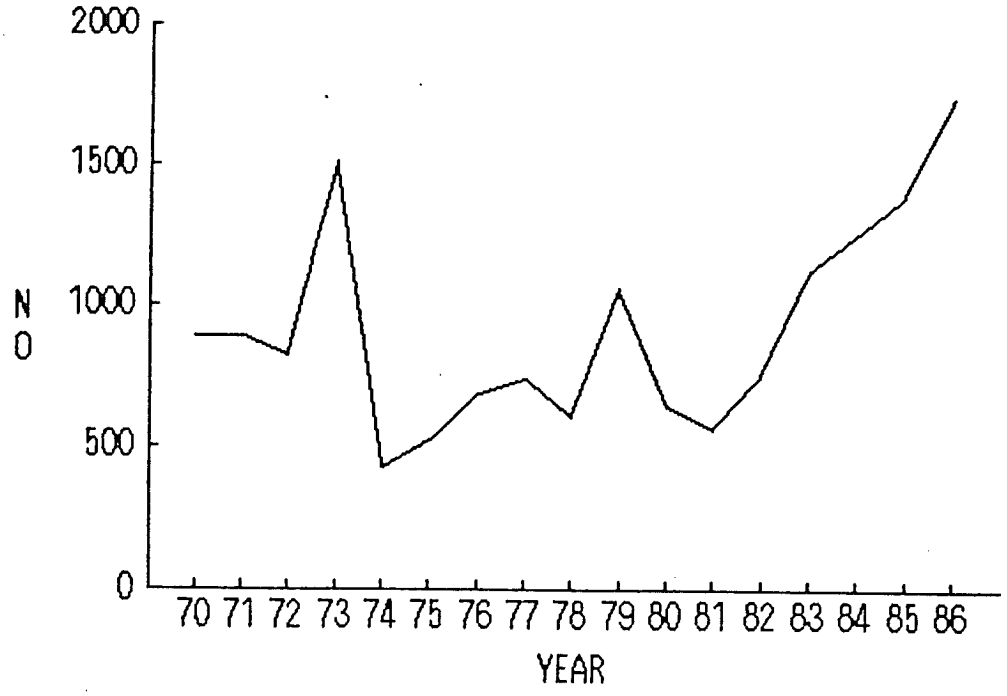

Figure 48: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Haiti 1970-1986
Source: Japanese Customs Data Calculated at 1.59kg of Bekko per Hawksbill

Tortoiseshell

A total of 1,346kg of tortoiseshell was imported from Haiti between 1970 and 1972 and in 1978 (Appendix 2). This trade is not of great significance.

HONDURAS

Bekko

Although a total of 9,258kg of bekko was imported from Honduras, she was not a major supplier of bekko to Japan until 1980, when imports reached 1,132kg (Appendix 1). This contrasted sharply with the previous decade, when Japan received only 443kg in total from Honduras, including five years of no trade at all. Six years of steady trade finally dropped to nothing in 1986, presumably because CITES controls took effect the previous year (Figure 49). It is very likely that Honduran exports of bekko in fact originated in neighboring Nicaragua and Costa Rica, where implementation of CITES controls prevented legal export in the period when Honduras aggressively entered the trade.

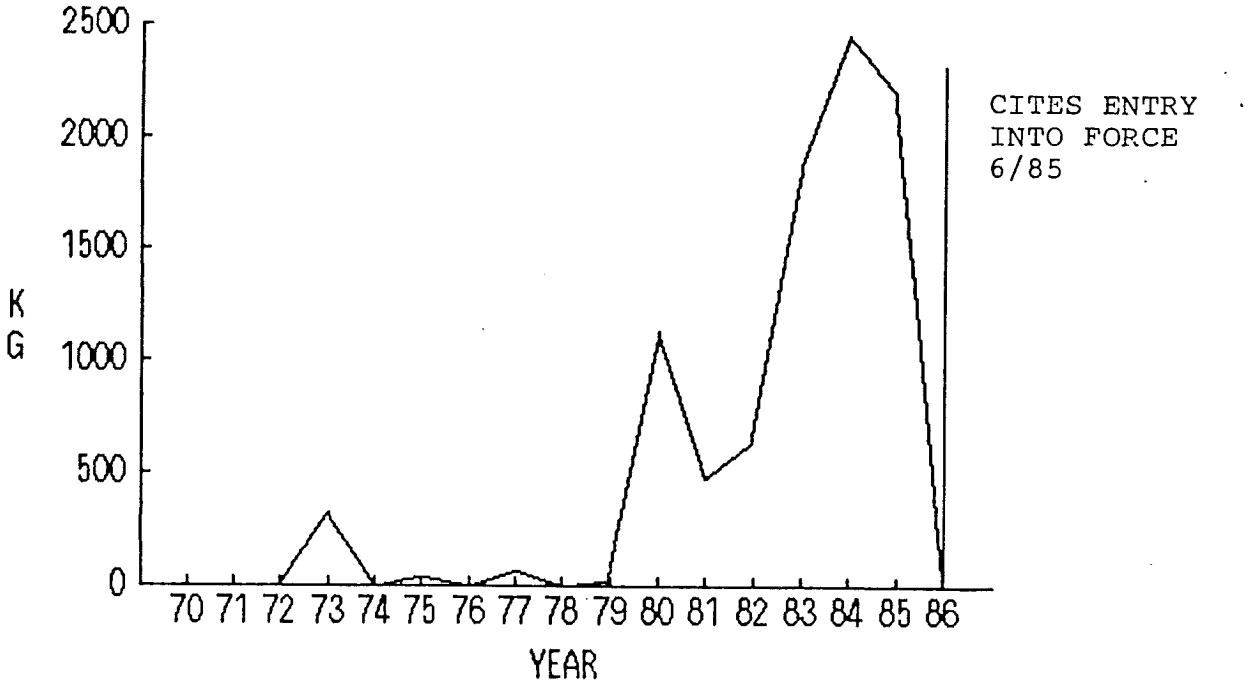

Figure 49: Japanese Imports of Bekko from Honduras 1970-1986
Source: Japanese Customs Statistics

Dealers' data reported few imports from Honduras, and no estimates on the average weight per animal for bekko shipments of Honduran origin were given (Figure 50).

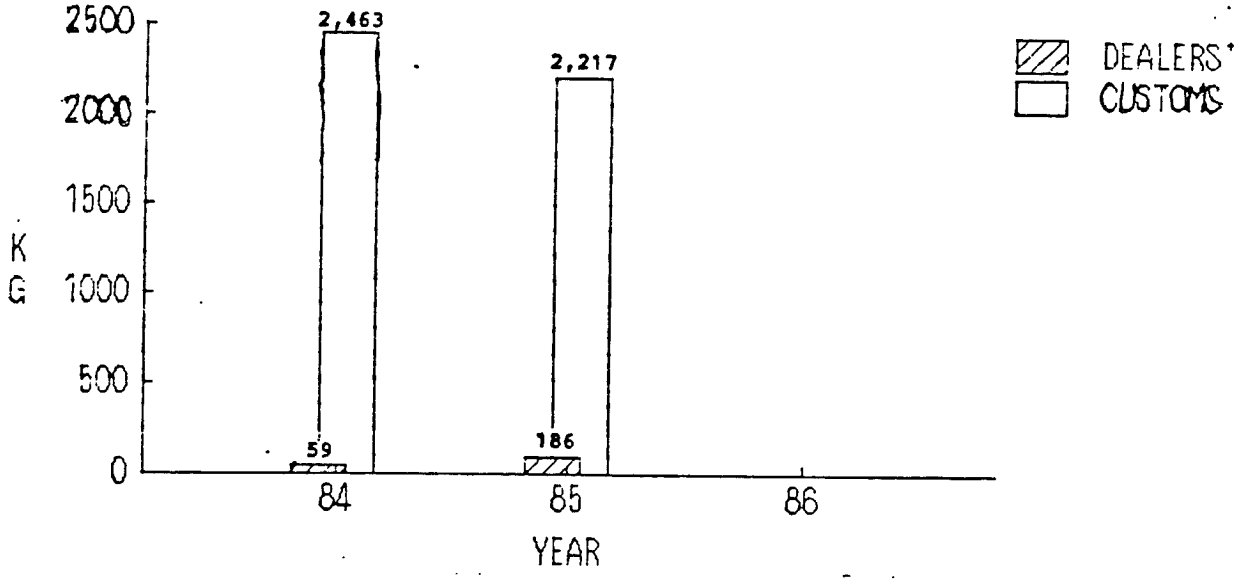

Figure 50: Comparison of Dealers' Data for Honduras with Customs Statistics 1984-1986

On the basis of previous experience, one dealer suggested an average weight of 0.90kg per animal for bekko from Honduras (Table 1). Using this figure, it is estimated that Honduran bekko imports to Japan represented over 10,000 hawksbills during the period examined (Figure 51).

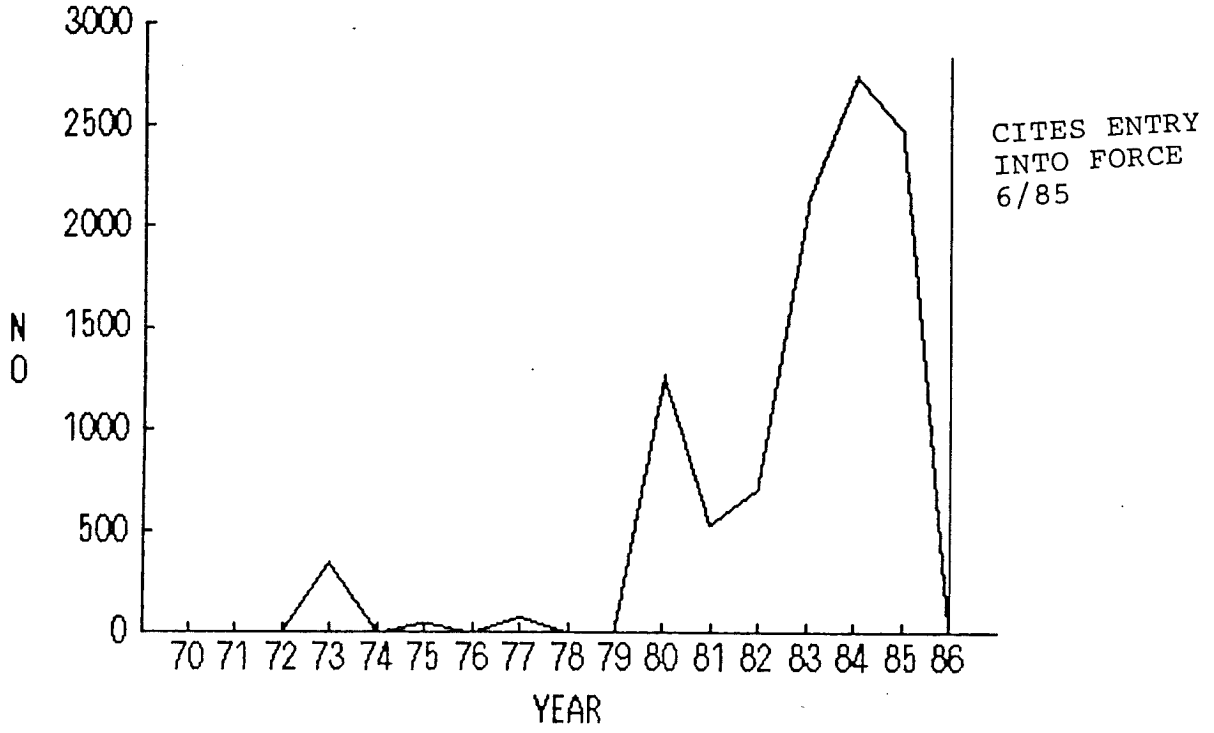

Figure 51: Estimated Numbers of Hawksbills Represented by Japanese Imports of Bekko from Honduras 1970-1986
Source: Japanese Customs Data Calculated at 0.90kg of Bekko per Hawksbills

JAMAICA

Bekko

From 1970 to 1986, 14,285kg of bekko were received from Jamaica, with trade reported for every year (Appendix 1). Throughout the period, imports fluctuated considerably, rising as high as 2,521kg in 1973 and dropping to a low of 128kg in 1978. Significantly, the 1986 import volume of 2,182kg was the second largest volume reported in the data. This sudden increase might reflect the movement of large quantities of bekko into Jamaica, a non-Party to the Convention, for export to Japan. Overall, the data suggest a very opportunistic approach to hawksbill exploitation, which apparently occurred in spite of the fact that sea turtles are supposedly protected by domestic legislation in Jamaica (Figure 52).

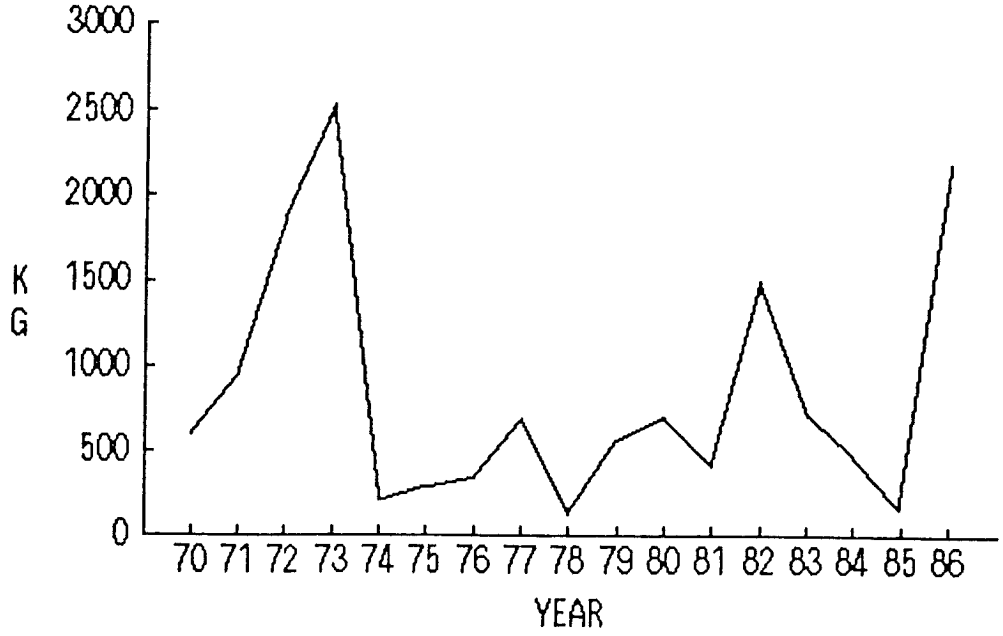

Figure 52: Japanese Imports of Bekko from Jamaica 1970-1986
Source: Japanese Customs Statistics

In 1984, dealers' data differed substantially from Customs statistics, with a discrepancy of 836kg more bekko reported by the dealers. In contrast, the 1985 figures were in perfect correlation (Figure 53).

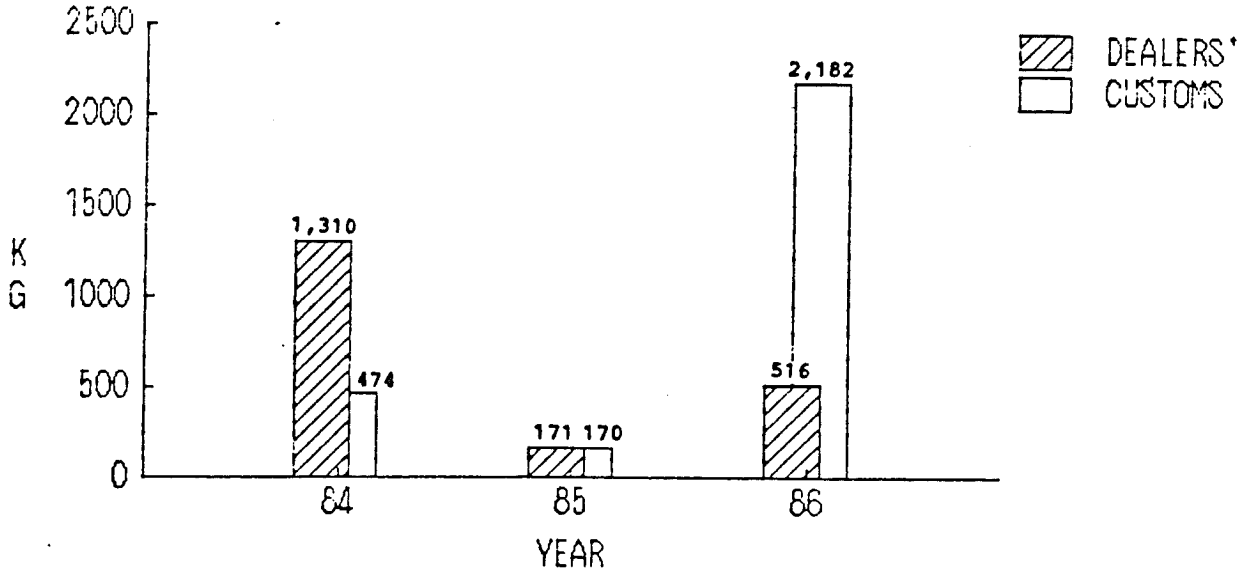

Figure 53: Comparison of Dealers' Data from Jamaica with Customs Statistics

The 1984 discrepancy can perhaps be explained. When analyzed on a monthly basis, it appears that imports recorded as originating in Honduras and the Cayman Islands in the Customs data were in fact from Jamaica, according to dealers' data (Table 11).

JAMAICA Bekko 1984

	Bekko Shipments Reported in Dealers' Data(kg)	Bekko Imports Reported in Customs Statistics (Kg)		
	JM	JM	HN	KY
Jan.	*368.8	——	*368	——
Apr.	*115.0	——	——	*115
May.	* 30.5	* 30	575	——
Jun.	*144.2	*144	648	——
Oct.	*350.2 *131.5	*131	*350	——
Nov.	* 45.4	* 45	——	——
Dec.	*124.5	*124	——	——
Total	1,310.1			

*Direct Correspondence Between Dealers' Data and Customs Statistics

Table 11: 1984 Monthly Imports from Jamaica, Cayman Islands and Honduras Reported in Customs Statistics Contrasted with Dealers' Data

One dealer with extensive experience in the trade proposed an average weight per animal of 1.50kg for bekko shipments from Jamaica (Table 1). If this assessment is accurate, Japanese imports of bekko from Jamaica would have represented about 9,500 hawksbills for the period examined (Figure 54).

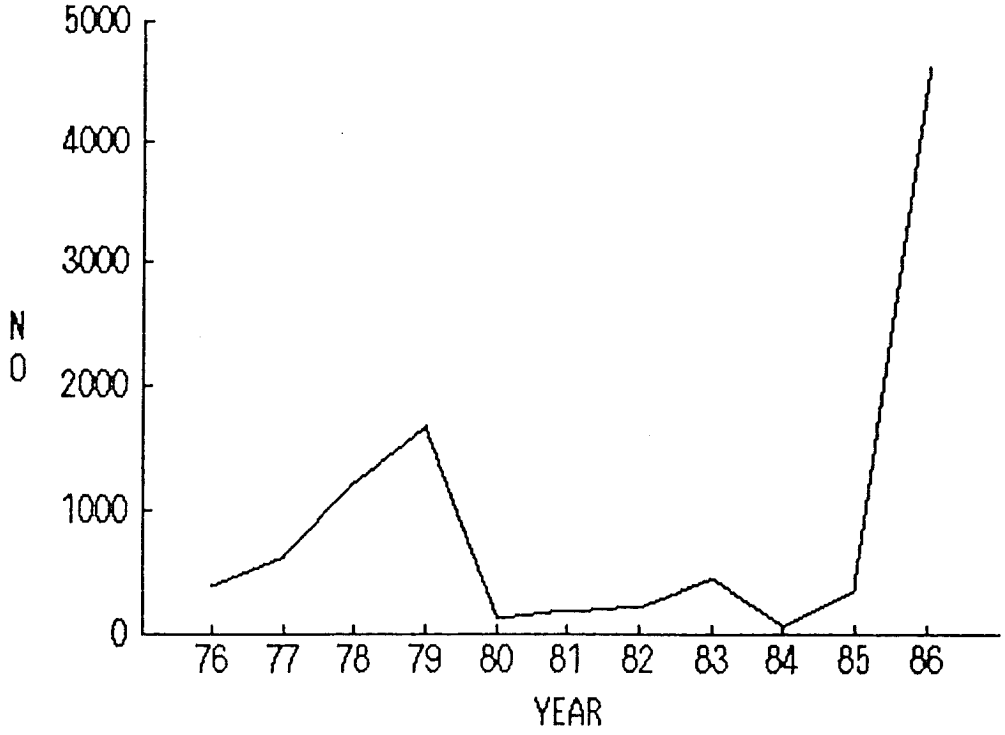

Figure 54: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Jamaica 1970-1986
Source: Japanese Customs Data Calculated at 1.50kg of Bekko per Hawksbill

Tortoiseshell

Small volumes of tortoiseshell, which totalled 1,735kg in Japanese Customs data between 1970 and 1986, were periodically received from Jamaica (Appendix 2). Only in 1980, when 997kg were imported, could trade in any particular year be considered sizeable.

MEXICO

Bekko

Only 44kg of bekko were imported from Mexico during the entire period from 1970 to 1986 (Appendix 1). These imports occurred in 1973 and 1983.

Worked Tortoiseshell

A small quantity of worked tortoiseshell, totalling 343kg, was received from Mexico in 1973 and 1974, according to Japanese Customs data (Appendix 4).

Sea Turtle Skins

Between 1976 and 1979, Mexico supplied a considerable quantity of sea turtle skins, totalling 50,611kg (Appendix 5).

The only year with substantial trade was 1976, when 35,231kg were received (Figure 55). Since 1980, no trade has been reported in Japanese Customs data, probably reflecting Mexico's policy to allow only exports of processed skins, which are traded as leather.

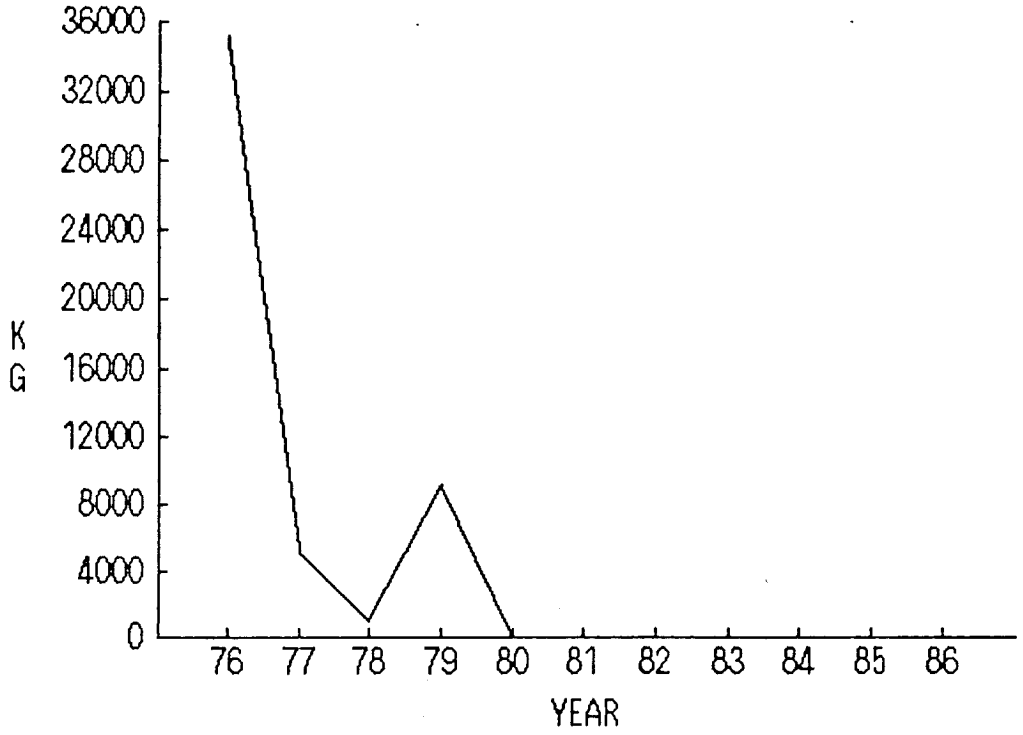

Figure 55: Japanese Imports of Sea Turtle Skins from Mexico 1976-1986
Source: Japanese Customs Statistics

These imports are believed to represent trade in olive ridley sea turtles. In the data, average weights of olive ridley skin sets from Mexico ranged from 1.80kg to 2.00kg for wet but probably unsalted skins, and 2.5kg for wet-salted skins (Table 7). Since exported skins would certainly be salted, the 2.5kg figure is used to estimate that Japan's imports during this period represented about 20,200 olive ridley sea turtles.

Sea Turtle Leather

Virtually all of Japan's imports of sea turtle leather originated in Mexico. Between 1976 and 1986 a total of 94,084kg was received (Appendix 6). Imports since 1979 have dropped every year except 1986 when a slight increase was noted (Figure 56).

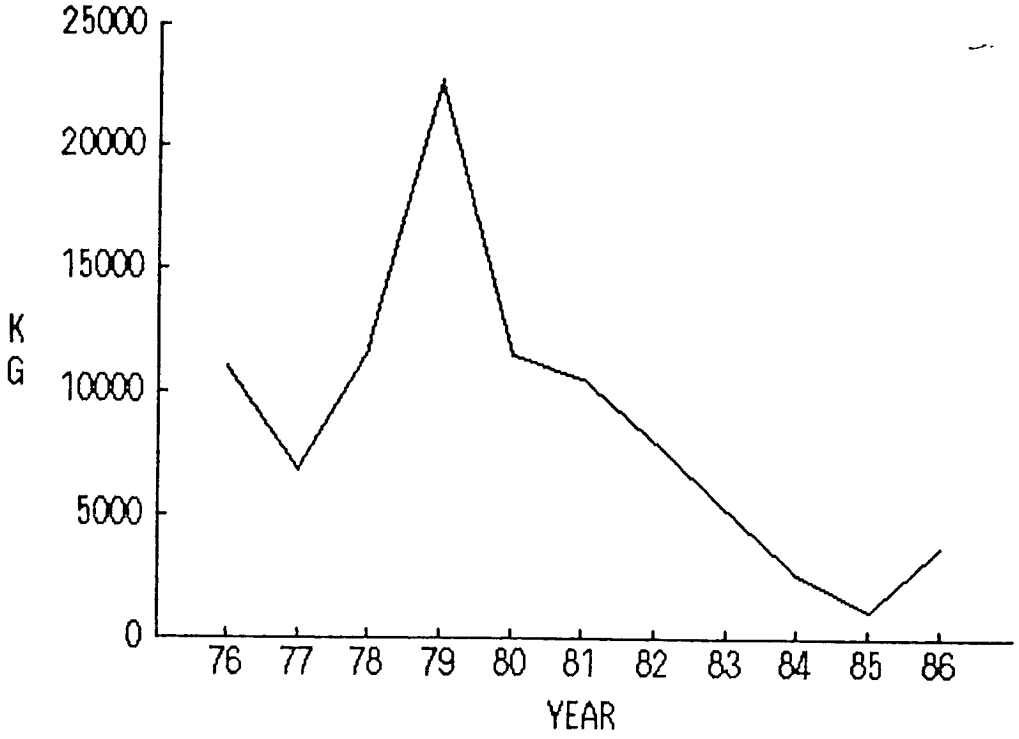

Figure 56: Japanese Imports of Sea Turtle Leather from Mexico 1976-1986
Source: Japanese Customs Statistics

These imports are believed to be composed of olive ridley sea turtles. Japanese dealers have indicated that the average weight of leather produced by an olive ridley sea turtle is about 0.30kg (Table 7). Accordingly, this trade represented approximately 313,000 olive ridleys since 1976 (Figure 57).

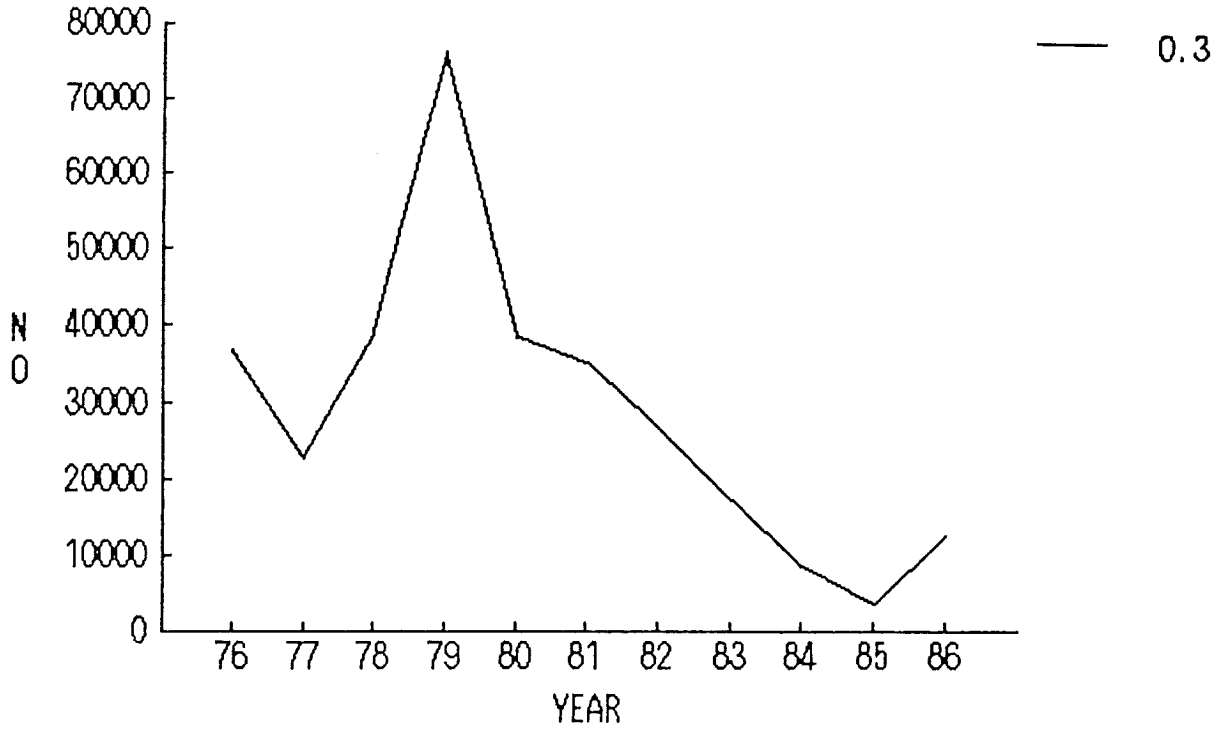

Figure 57: Estimated Number of Olive Ridley Sea Turtles Represented by Japanese Imports of Sea Turtle Leather from Mexico 1976-1986
Source: Japanese Customs Data Calculated at 0.3kg of Leather per Olive Ridley

NICARAGUA

Bekko

An important source of bekko for Japan before CITES came into force in 1977, Nicaragua has more or less successfully curtailed her bekko trade since then. From 1970 to 1986, 14,519kg of bekko were imported from Nicaragua to Japan (Appendix 1). About 80% of the trade occurred before 1977 (Figure 58).

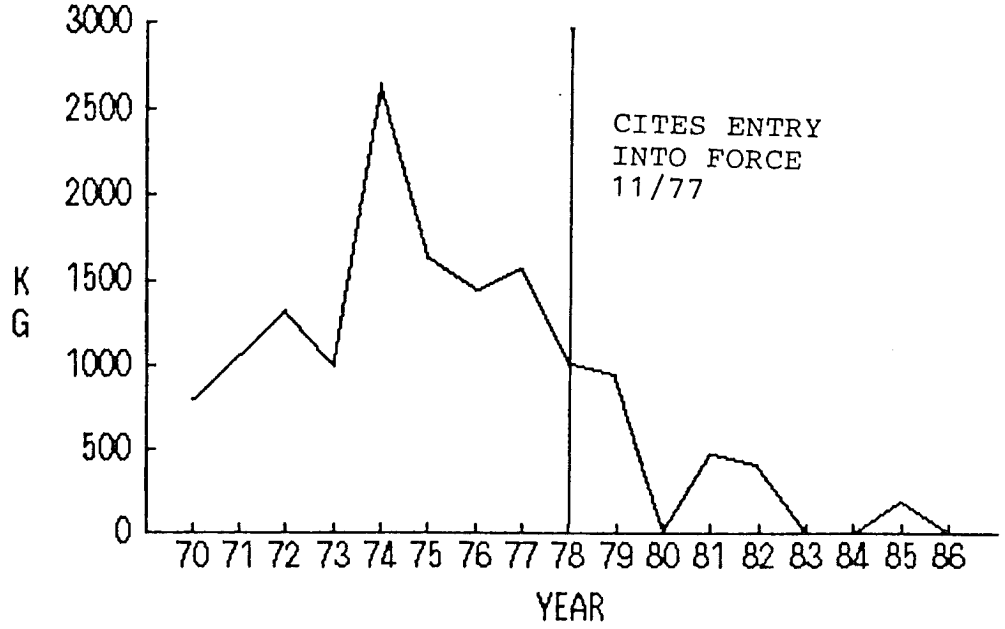

Figure 58: Japanese Imports of Bekko from Nicaragua 1970-1986
Source Japanese Customs Statistics

The dealers' data did not include any imports from 1984 to 1986, although Customs data indicate a single shipment of 192kg in 1985. An average weight for bekko per animal was estimated at 1.11kg by one experienced dealer (Table 1). Accordingly, Japanese Customs statistics represented more than 13,000 hawksbill sea turtles during the period examined (Figure 59).

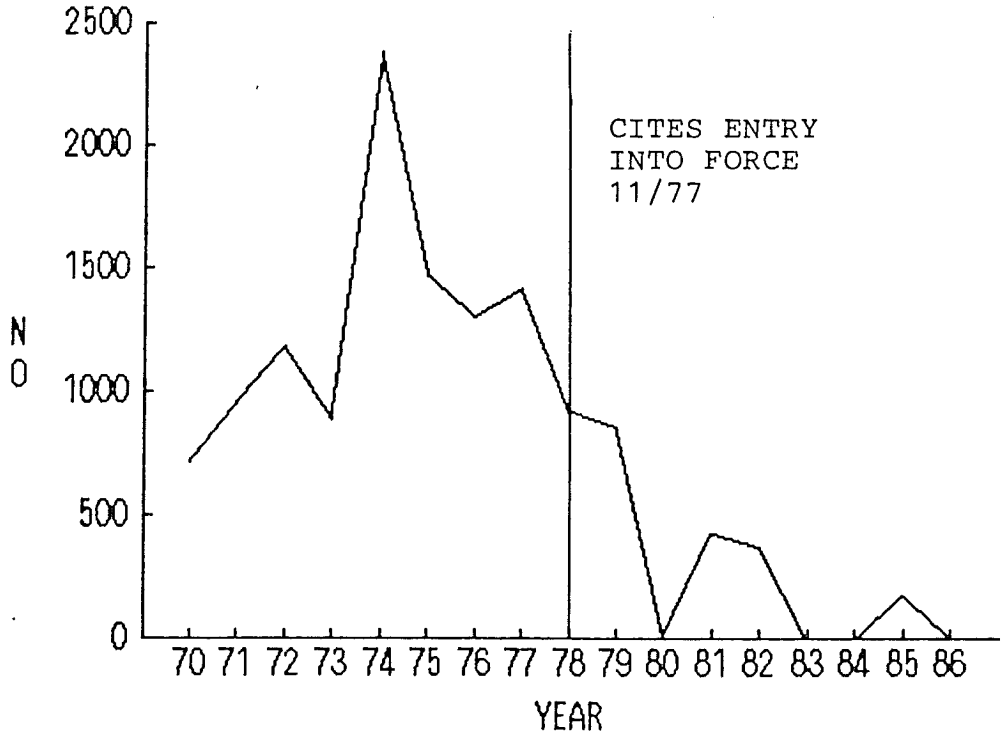

Figure 59: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Nicaragua 1970-1986
Source: Japanese Customs Data Calculated at 1.11kg of Bekko per Hawksbill

Tortoiseshell

The import of tortoiseshell is limited to 1974 when 66kg were recorded as originating in Nicaragua in Japanese Customs statistics (Appendix 2).

Turtles Skins

From 1976 through 1978, a total of 3,845kg of turtle skins was reported in Japanese Customs statistics (Appendix 5). These are believed to represent olive ridley sea turtle skins. Since then, no further imports have been recorded.

PANAMA

Bekko

Panama, second only to Indonesia as the largest exporter of bekko to Japan, supplied 98,679kg between 1970 and 1986 (Appendix 1). This represented 15% of total bekko imports to Japan for the period, and surely resulted from Panama's role as an entrepot for bekko obtained throughout the region. For example, neighboring Colombia is known to take large numbers of hawksbills but is virtually absent in the Japanese Customs statistics as a source for bekko. With little doubt, most of Colombia's trade entered international markets through Panama.

During the five year period 1970 to 1975, imports never dropped below 8,389kg, marking the highest consistent trade volumes for a single country in the data. Japanese dealers indicated that Panama functioned as an entrepot for bekko collected from Costa Rica, Nicaragua, and other countries in the region during those years. Panama began implementation of CITES in November 1978, and although trade levels dropped considerably in subsequent years, imports of bekko to Japan have totalled 24,159kg since then (Figure 60). Finally, in 1986, importation from Panama apparently ceased, as no trade was reported in the Customs statistics.

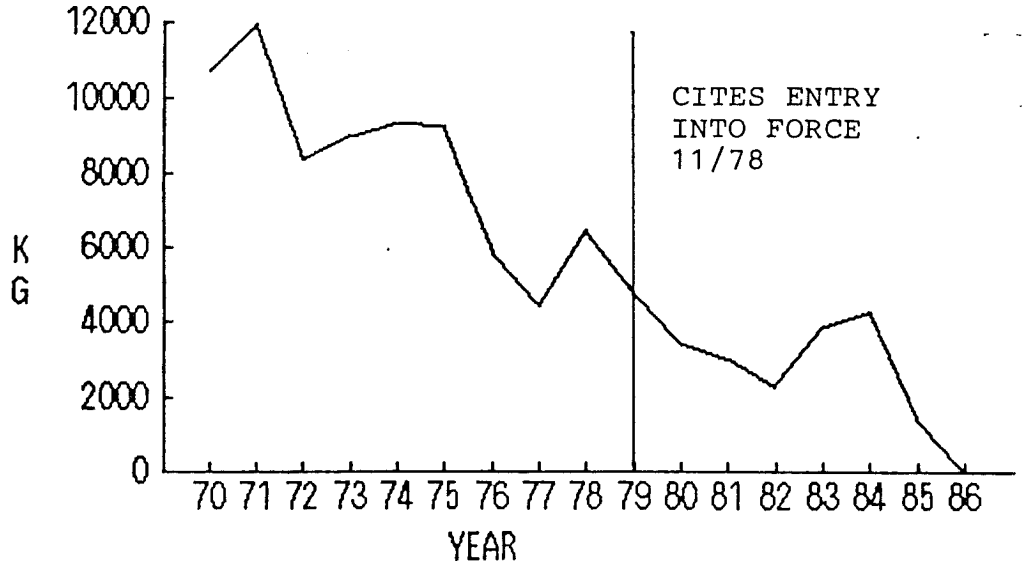

Figure 60: Japanese Imports of Bekko from Panama 1970-1986
Source: Japanese Customs Statistics

Dealers' data reflect Customs statistics rather well in 1984 and 1985, but falter in 1986, when Customs statistics showed nothing while dealers reported receiving 920kg from Panama (Figure 61).

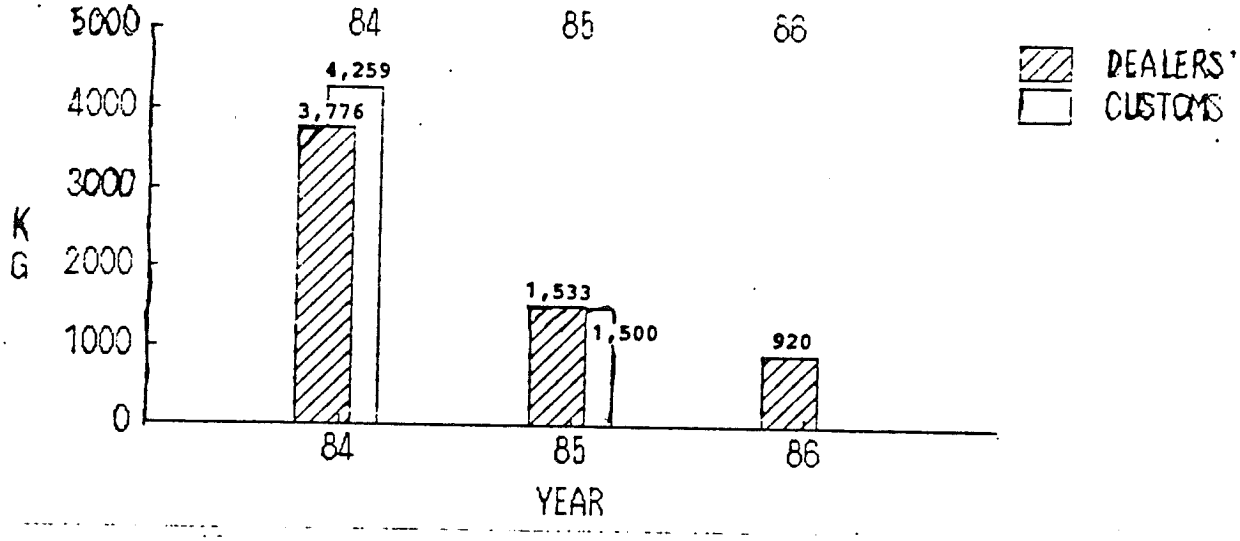

Figure 61: Comparison of Dealers' Data for Panama with Customs Statistics 1984-1986

The 1986 trade apparently was reported in the Customs data as originating in Haiti, Belize, and possibly other countries, when shipments are analyzed on a monthly basis (Table 12).

PANAMA Bekko 1986

	Bekko Shipments Reported in Dealers' Data(kg)	Bekko Imports Reported in Customs Statistics (kg)		
	PA	PA	HT	BZ
Jul.	78. 697	——	202	758
Aug.	*90. 718 136. 077	——	*90	158
Sep.	*136. 077	——	——	*136
Oct.	——	——	192	367
Nov.	*226. 795 161. 024	——	752	*226
Dec.	*90. 718	——	*90	58
Total	920. 106	——		

*Direct Correspondence Between Dealers' Data and Customs Statistics

Table 12: Monthly Imports from Panama, Haiti, and Belize Contrasted with Dealers' Data

Average weights per animal varied considerably from shipment to shipment, according to the dealers' data. Weights as low as 0.60kg and as great as 1.20kg were reported in the data, but the overall average was between 1.14kg and 1.19kg (Table 1). It is therefore estimated that Panama's bekko trade represented over 80,000 hawksbills, with approximately 20,000 animals involved in the trade since CITES came into force in 1978 (Figure 62). Another importer suggested, however, that the average weight was 1.30kg per hawksbill, indicating that slightly fewer numbers of hawksbills were involved in the trade.

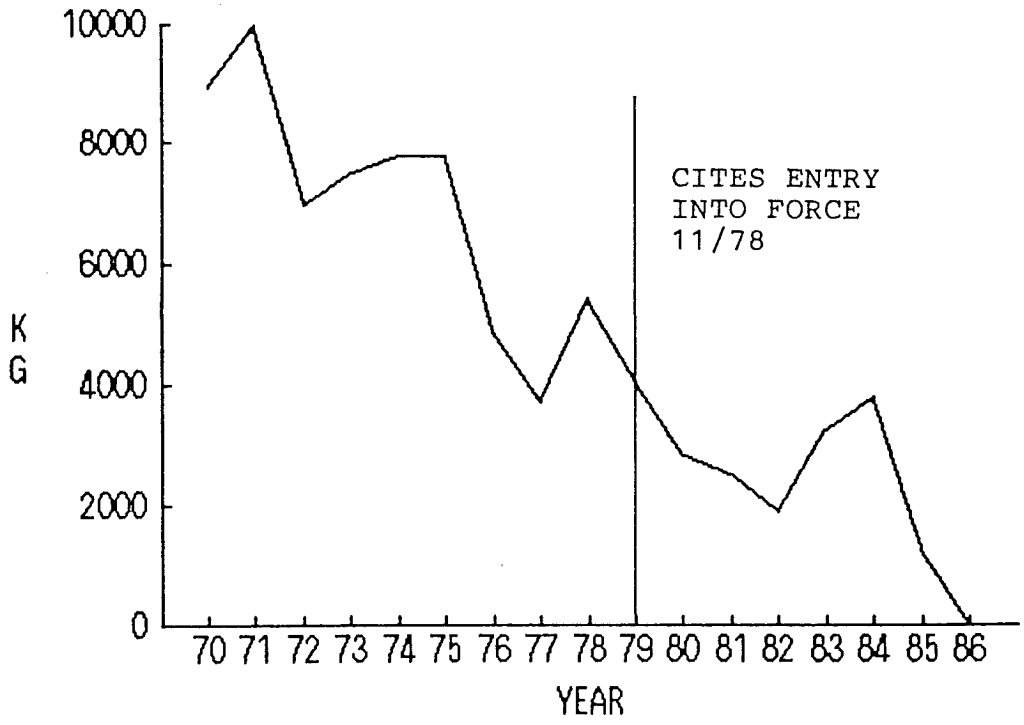

Figure 62: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Panama 1970-1986
Source: Japanese Customs Data Culculated at 1.20kg of Bekko per Hawksbill

According to some dealers, although Panamanian bekko scutes are comparatively larger than those of other countries, they are also generally thinner. No reason was given for this observation.

In response to inquiries made by TRAFFIC (Japan), the government of Panama confirmed in 1985 that no CITES export permits have been issued for exports of bekko over the last ten years and claimed that all trade reported in the Japanese data illegally left the country (Alba, in. litt.). Moreover, the Panamanian CITES Management Authority has directly written Japan's Ministry of International Trade and Industry to bring the matter to their attention on at least two occasions, but apparently has never received a reply.

Tortoiseshell

A total of 2,133kg of tortoiseshell was imported from Panama, according to Japanese Customs statistics (Appendix 2). The only recent trade occurred in 1980 and 1981, when 452kg and 362kg respectively were received.

Turtle Skins

Panama has also been a sporadic supplier of sea turtle skins to Japan. Since 1978, a total of 20,900kg of turtle skins has been reported in the Customs data as originating in Panama (Appendix 5). This trade was reported for only three years. It is believed to represent olive ridley skins illegally obtained from Ecuador and re-exported through Panama. If these skins

averaged 2.5kg per set (Table 7), 8,360 olive ridleys would have been harvested.

PUERTO RICO

Bekko

Between 1970 and 1979, a total of 3,267kg of bekko was received from Puerto Rico, a U.S. Protectorate (Appendix 1). Since then, no trade has been reported in the Japanese Customs data, probably reflecting the imposition of CITES controls.

Japanese dealers reported receiving 6kg from Puerto Rico in 1984 (Appendix 8), although no imports were received that year according to Japanese Customs data. No data on the average weight of bekko per animal from Puerto Rico are available.

Tortoiseshell

Two shipments from Puerto Rico, totalling 57kg, were received by Japan in 1971 and 1978 (Appendix 2).

ST. LUCIA

Bekko

A total of 2,997kg of bekko was received from St. Lucia between the years 1973 and 1983, although in 1976, there was no trade at all (Appendix 1). Import volumes ranged from 143kg in 1980 to a high of 489kg in 1977 (Figure 63). Previous and subsequent years showed no imports in the Japanese Customs data. In 1983, the St. Lucian delegate to the 4th meeting of the Conference of the Parties to CITES confirmed that Japanese imports of bekko were not accompanied with proper export documents (Butler, pers. comm.). The absence of trade in recent years is probably attributable to the strict implementation of CITES controls in St. Lucia.

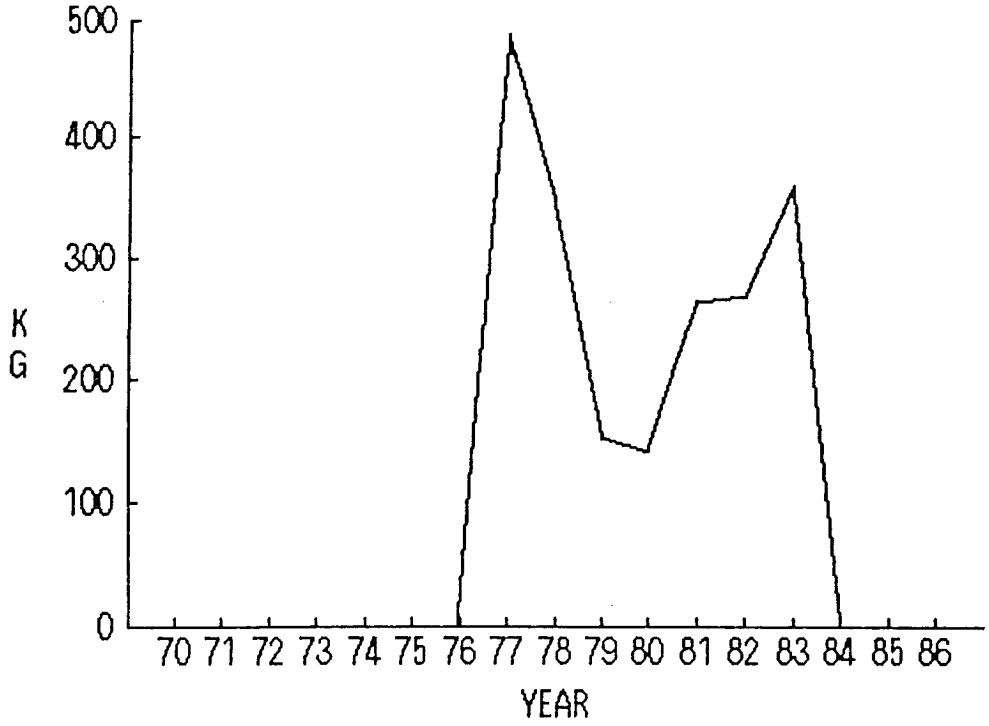

Figure 63: Japanese Imports of Bekko from St. Lucia 1970-1986
Source: Japanese Customs Statistics

Japanese dealers reported no trade from St. Lucia between 1984 and 1986, which corresponds with Customs data, and no data on the average weight of bekko per animal are available. However, one dealer provided an estimate of 1.03kg, based on previous imports (Table 1). If all trade from St. Lucia is analyzed accordingly, an estimated 2,900 hawksbills comprised Japanese bekko imports since 1970.

Tortoiseshell

A total of 434kg of tortoiseshell was received from St. Lucia in 1979 and 1980, according to Japanese Customs data (Appendix 2).

ST. VINCENT

Bekko

St. Vincent supplied Japan with a total of 2,235kg between 1970 and 1986 (Appendix 1). Modest trade levels of 130kg to 250kg were maintained between 1973 and 1978, with no subsequent trade until 1982, when low-volume importation again resumed. However, the 1986 figure reached 470kg, the greatest volume in the data (Figure 64). This might reflect increased reliance upon St. Vincent, a non-Party to the Convention, to move bekko shipments obtained elsewhere in the region to Japan.

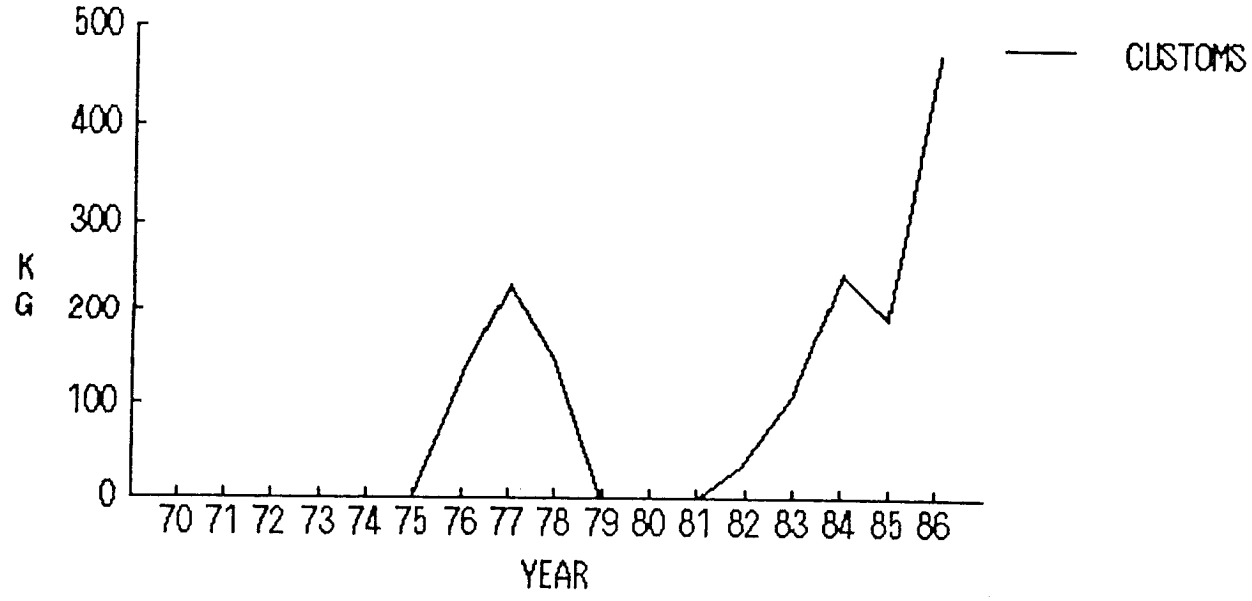

Figure 64: Japanese Imports of Bekko from St. Vincent 1970-1986
Source: Japanese Customs Statistics

Dealers' data showed very good correlation with Customs statistics, with only slightly larger volumes reported by the dealers in 1985 and 1986 (Figure 65).

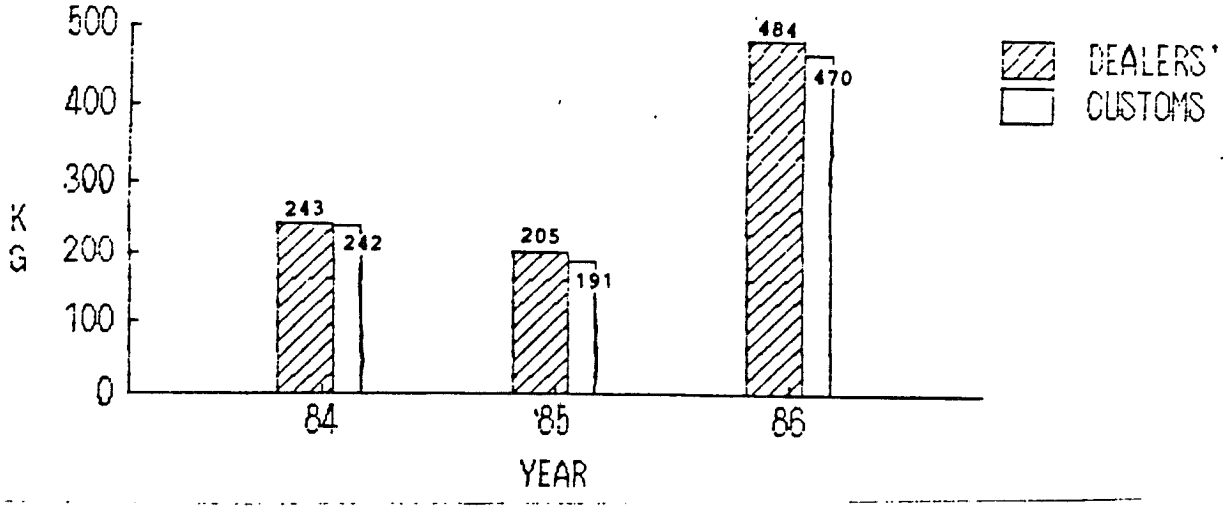

Figure 65: Comparison of Dealers' Data for St. Vincent with Customs Statistics 1984-1986

The average weight of bekko per animal, declared by the dealers, was between 1.10kg and 1.20kg during the period examined (Table 1). On the basis of those data, it is estimated that 1,800 to 2,000 hawksbills were required to sustain St. Vincent's bekko trade to Japan since 1970.

TRINIDAD AND TOBAGO

Bekko

Although no trade was reportedly received from Trinidad and Tobago between 1970 and 1982, imports of bekko from these islands suddenly appeared in the Japanese Customs data in 1983, 1984, and 1985 for a total of 1,081kg (Appendix 1). In 1986, the trade halted altogether. This occurred after the CITES Management Authority of Trinidad and Tobago confirmed to TRAFFIC (Japan) that 63kg of bekko exported to Japan in 1985 after the Convention had come into force were not authorized with proper CITES documents (James, in. litt.). Subsequent enforcement efforts on the part of the authorities have apparently met with success.

Dealers' data reported trade from Trinidad and Tobago in 1984 and 1985. These data correlated perfectly with Customs statistics in 1984 (Figure 66).

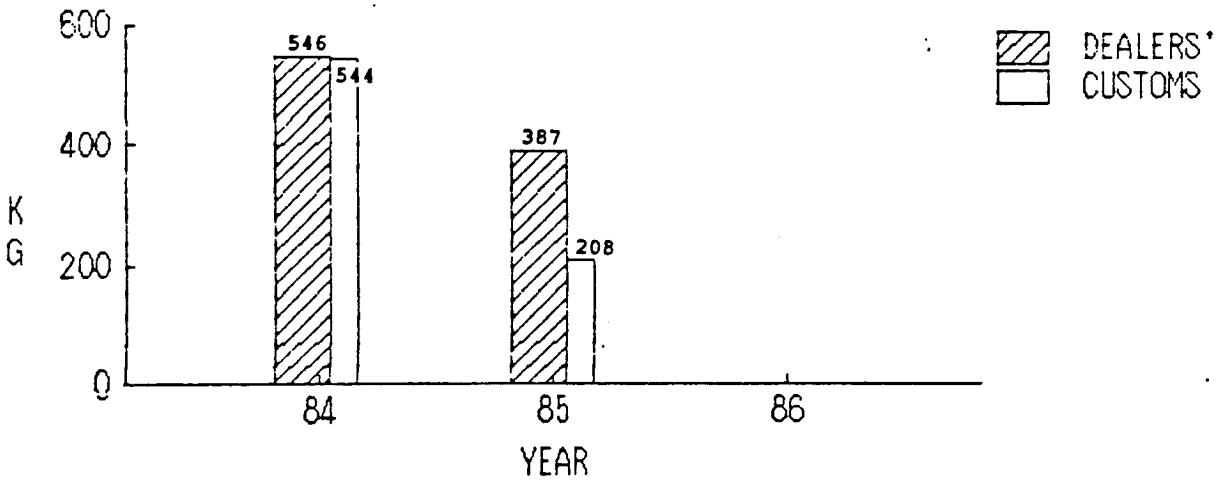

Figure 66: Comparison of Dealers' Data for Trinidad and Tobago with Customs Statistics 1984-1986

The average weight of bekko per animal ranged from 1.03kg to 1.06kg in the data (Table 1), indicating that at least 1,000 hawksbills comprised the trade between 1983 and 1985.

VENEZUELA

Bekko

During the entire period examined, 1970 to 1986, Venezuela provided bekko to Japan on only two occasions. In 1973, 171kg were received and, in 1986, another 9kg, most probably a violation of CITES, were reported in the Japanese Customs data (Appendix 1). The dealers' data also contained the 9kg import in 1986 (Appendix 8).

OTHER CARIBBEAN AND LATIN AMERICAN COUNTRIES

Bekko

Other minor suppliers of bekko to Japan from the Caribbean included the Turks and Caicos Islands, which supplied 234kg in 1970 and 1971. Although nothing has been imported from Turks and Caicos Islands since 1971 in the Customs statistics, the dealers' data reported an import of 3kg in 1986 (Appendix 8). Japan has also imported bekko from Colombia, where very small volumes which totalled 166kg were obtained in most years prior to 1976 (Appendix 1). In 1970, the Netherlands' West Indies supplied 68kg and the Leeward and Westward Islands exported 45kg (Appendix 1).

Worked Bekko

Brazil was reported in the Japanese Customs statistics as supplying a total of 16kg of worked bekko to Japan in 1980 (Appendix 3).

ASIAN COUNTRIES

HONG KONG

Bekko

Hong Kong has been a modest source of bekko to Japan, supplying a total of 4,690kg between 1970 and 1986, according to Japanese Customs data. Most of this trade occurred before 1976, when CITES came into effect in the British colony. From 1976 to 1981, 1,301kg of bekko were received from Hong Kong, but there have been no imports since 1981 (Appendix 1).

Japanese dealers did not report any trade from Hong Kong between 1984 and 1986 and were unable to give an estimate for the average weight of bekko per animal in earlier shipments.

Tortoiseshell

Until 1979, when a total of 1,031kg of tortoiseshell was imported to Japan, trade from Hong Kong was reported in only two years, 1975 and 1976, and these together totalled only 62kg (Appendix 2).

Worked Bekko

Between 1970 and 1976, a total of 2,999kg of worked bekko was received from Hong Kong (Appendix 3). These imports are believed to represent stuffed hawksbills. After the imposition of CITES controls in 1976, a trickle of trade, totalling no more than 75kg, was reportedly received over the next nine years. Suddenly, in 1986, 1,007kg of worked bekko were imported from Hong Kong, a highly irregular event a decade after CITES controls came into effect.

Worked Tortoiseshell

In 1972 and 1973, a total of 948kg of worked tortoiseshell was imported from Hong Kong (Appendix 4). Over the next 12 years, only 3kg were reported in the Japanese Customs data. In 1986, however, a total of 2,850kg was suddenly received from Hong Kong. Since this occurred well after CITES became effective in Hong Kong, the trade is highly suspect, especially as it is believed to represent stuffed green sea turtles.

INDONESIA

Indonesia is by far the major supplier of sea turtle products to Japan. The trade includes hawksbill and green sea turtle shell, stuffed specimens, turtle skins and leather, and

meat. In addition, trade in many of these commodities declared in the Japanese Customs data as imports from Singapore are also believed to have originated in Indonesia.

Although Indonesia joined CITES on March 28, 1979, her trade in sea turtle products has continued uninterrupted. Domestically, it seems that the authorities are either unable or unwilling to enforce CITES regulations and other national controls. Anon, 1984, for example, indicates that officials in Ujung Pandang, Indonesia authorized trade in shell, stuffed specimens and meat. Other sources indicate that Indonesian authorities were issuing permits for bekko as late as 1985, although this practice was challenged by the CITES Secretariat (Anon, 1987).

Bekko

Between 1970 and 1986, a total of 105,479kg of bekko was received, making Indonesia the single largest source of Japanese bekko imports during the period examined (Appendix 1). These imports accounted for 16% of the total. However, the actual figure is certainly considerably higher -- possibly up to 23% of the total -- since much, if not most, of the 44,411kg received from Singapore is believed to have originated in Indonesia (see Singapore).

The trade has fluctuated rather wildly throughout the period, ranging from 736kg in 1970 to 20,302kg in 1973. The 1979 increase to 19,071kg certainly represented a stockpiling effort by Japanese importers coinciding with Indonesia's ratification of the Convention that year and Japan's accession in 1980. Since then, a total of 44,387kg of bekko was imported into Japan, with the trade dropping considerably in 1986 (Figure 67). However, this does not necessarily reflect reduced exploitation of Indonesia's hawksbills, as imports from Singapore, which are believed to originate in Indonesia, steadily increased over the same period, surpassing those of Indonesia in 1986 (Figure 67).

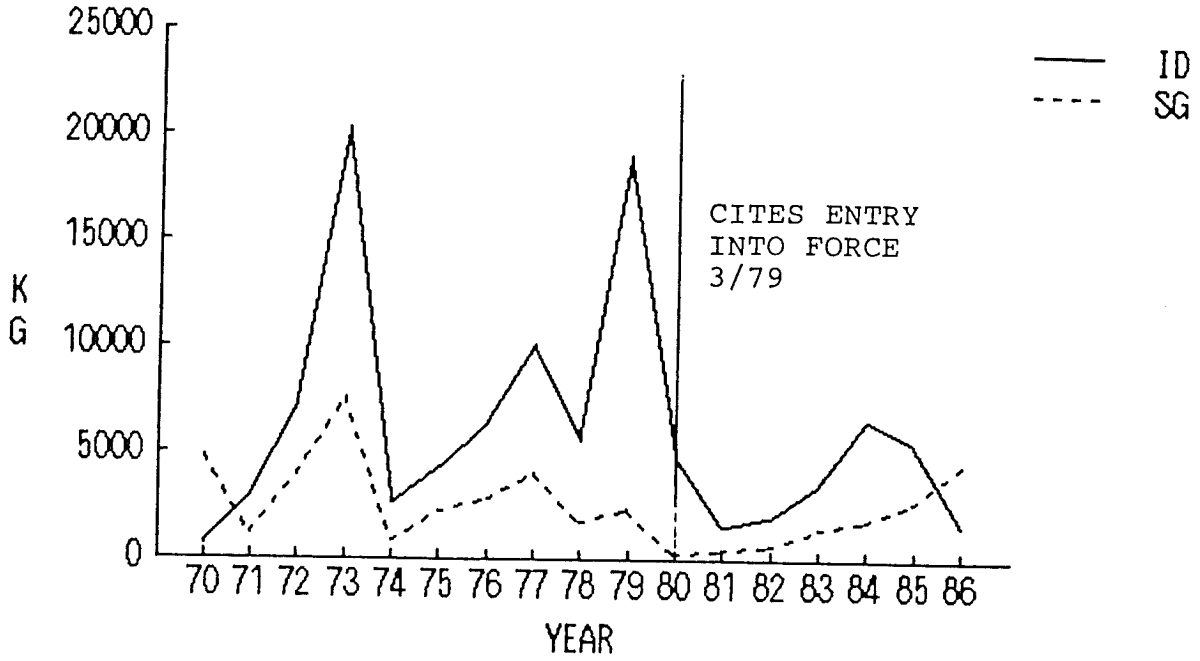

Figure 67: Japanese Imports of Bekko from Indonesia and Singapore 1970-1986
Source: Japanese Customs Statistics

The Indonesian CITES Management Authority confirmed in a letter to TRAFFIC (Japan) in August 1985, that "the export of hawksbill sea turtle (Eretmochelys imbricata) to Japan during the period of January - May 1985 apparently were not covered by our CITES export permit, since we never issued such permit during that period" (Manan, in. litt.). Imports of bekko to Japan during the period mentioned amounted to 798kg. In 1986, TRAFFIC (Japan) made repeated inquiries concerning the validity of three export permits purportedly issued on June 12, 1985 by the Indonesia government authorizing the export of 2,000kg of bekko, but to date no reply has been received.

The dealers' data showed a rather poor correlation of between 23% and 42% with the Customs data for 1984 to 1986 (Figure 68).

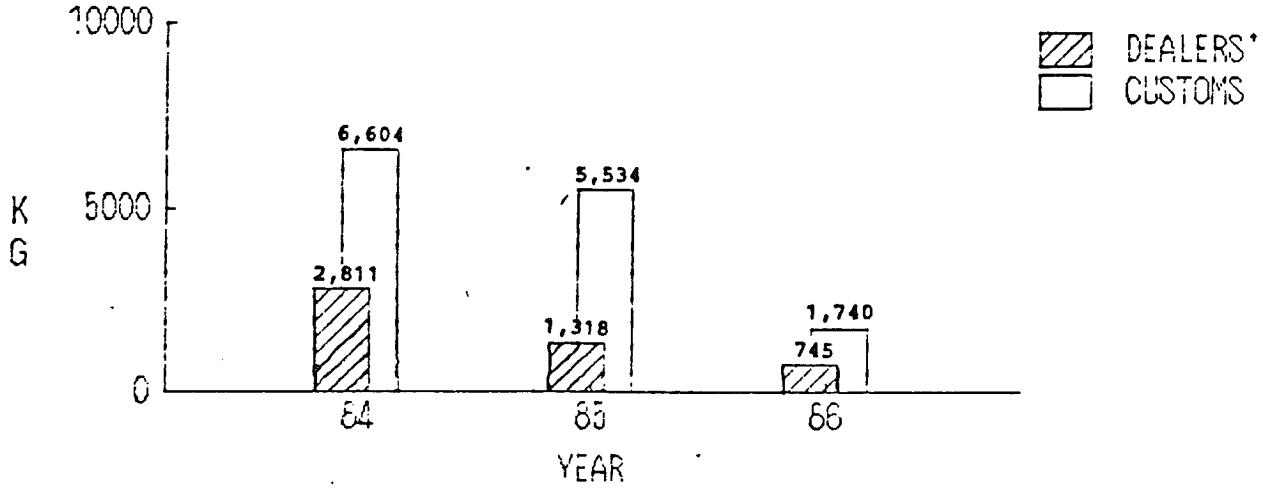

Figure 68: Comparison of Dealers' Data for Indonesia with Customs Statistics

In the dealers' data, the overall average weight per animal was reportedly between 0.70kg and 0.82kg for an overall average of 0.78kg (Table 1). Other data indicated that the figure may be even lower. Another dealer, with long experience in the trade estimated the average weight at 0.68kg for Indonesia and TRAFFIC (JAPAN)'s analysis of a 40.1kg shipment in 1987 produced an average weight of 0.73kg of bekko per hawksbill.

Using the average weight figure derived from the dealers' data of 0.78kg, it is estimated that more than 135,200 hawksbills have been harvested since 1970. Since March 1979, when Indonesia ratified CITES, at least 56,900 hawksbills were required to supply Japan with bekko (Figure 69). Recent trade is based upon an annual harvest of about 5,000 hawksbills.

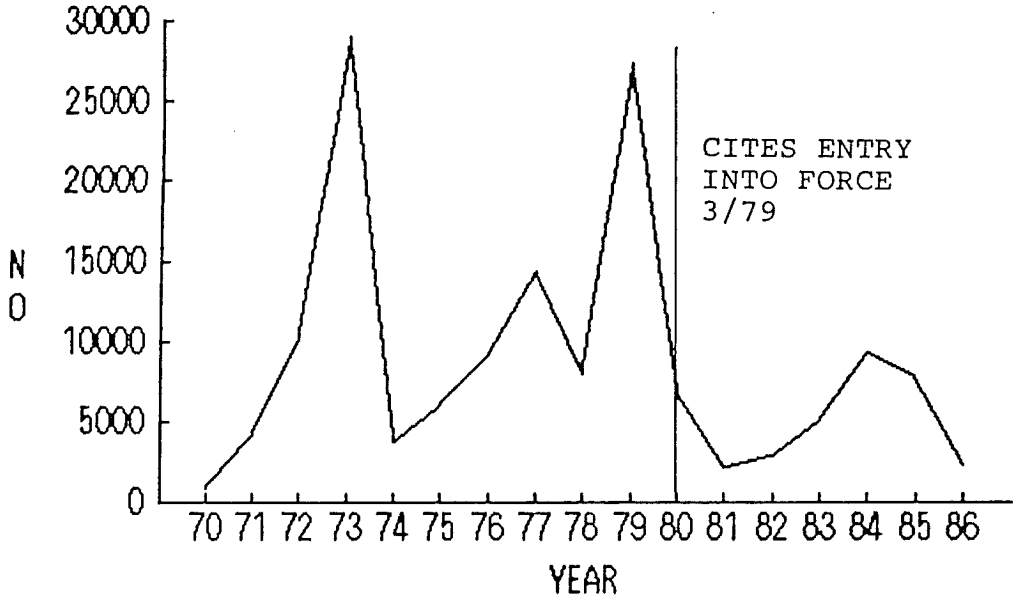

Figure 69: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Indonesia 1970-1986
Source: Japanese Customs Data Calculated at 0.78kg of Bekko per Hawksbill

Despite the predominence of Indonesian bekko in Japanese trade, Japanese dealers claim that it is characteristically smaller and thinner in size, darker in color, and generally, poorer in quality than bekko from elsewhere. Nonetheless, it is suitable for the production of cheaper jewelry, accessories and other souvenir trade items. As a result, most Indonesian bekko is utilized by Nagasaki manufacturers.

In Indonesia it is customary to punch a hole along the edge of each dorsal scute and string together all 13 scutes from a single animal for export. The belly shells and hooves are not imported into Japan as they are exceptionally thin and poor in quality, which makes them virtually useless in the Japanese bekko industry. Instead, these hawksbill products are

reportedly exported to Southeast Asian countries and most likely South Korea for use in a powdered form as a calcium additive by Oriental medicine shops.

Tortoiseshell

Small quantities of tortoiseshell were received from Indonesia. Between 1970 and 1986, trade, which totalled only 348kg, was reported during four years (Appendix 2). The trade was minor and reflects the fact that tortoiseshell is generally of little value to Japanese importers.

Worked Bekko

Indonesia is by far the major supplier of stuffed hawksbills, the principal item represented in this Customs category. Between 1970 and 1986, a total of 493,188kg was received from Indonesia, representing 74% of the total trade (Appendix 3). Imports from Singapore, the second largest supplier, also represented a high proportion of specimens of Indonesia origin, according to Japanese dealers (see Singapore).

Since Indonesia ratified CITES, trade in worked bekko has experienced a steady decline, with no corresponding increase in importation from Singapore (Figure 70).

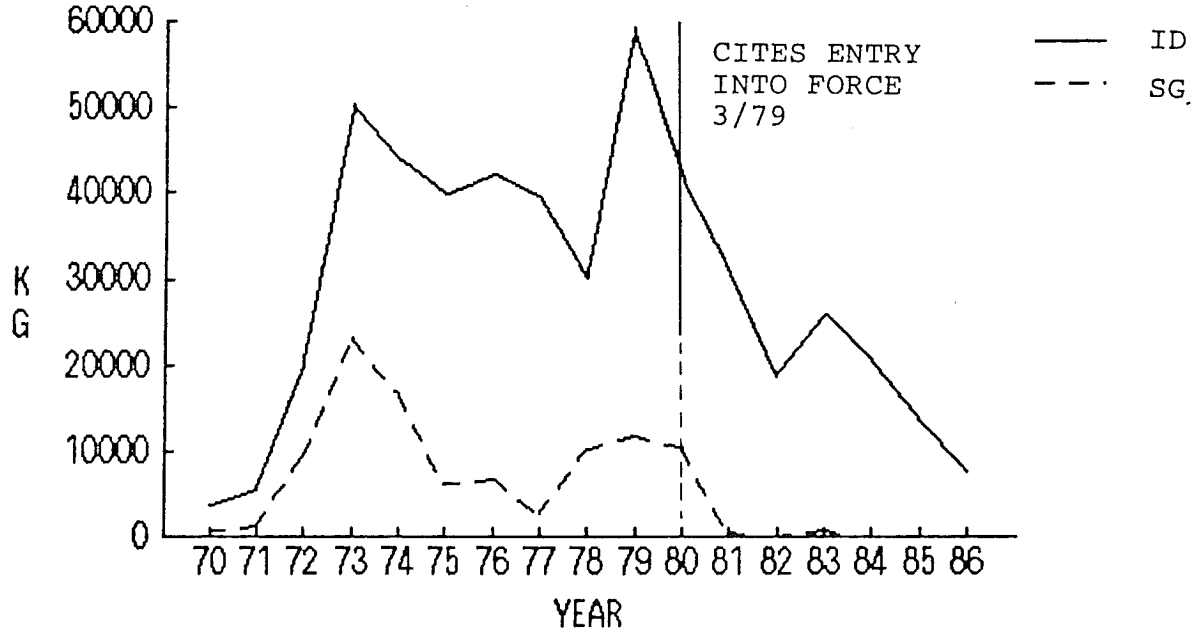

Figure 70: Japanese Imports of Worked Bekko from Indonesia and Singapore 1976-1986
Source: Japanese Customs Statistics

A 3,800kg shipment of 3,297 stuffed sea turtles believed to represent hawksbills, imported from Indonesia in 1984, averaged 1.15kg per specimen (Table 4). TRAFFIC (Japan) surveys of stuffed sea turtles indicated that specimens of this weight would measure approximately 32cm to 42cm across the backshell. Assuming that the figure is representative of all Indonesian imports of worked bekko to Japan since 1970, more than 428,000 hawksbills were required to sustain the trade (Figure 71). This

would average out to an annual harvest of more than 25,000 hawksbills, although certainly in recent years far fewer animals have been required.

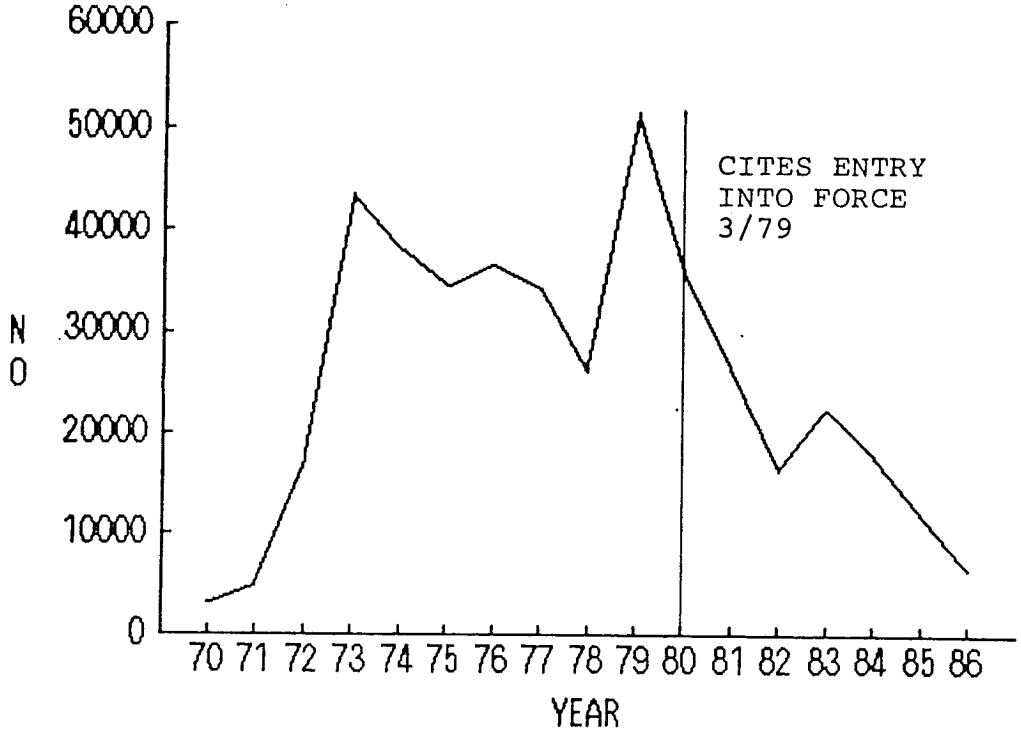

Figure 71: Estimated Number of Hawksbills Represented by Japanese Imports of Worked Bekko from Indonesia 1970-1986
Source: Japanese Customs Data Calculated at 1.15kg per Stuffed Specimen

It is known that in some parts of Indonesia, hawksbill hatchlings are raised in enclosures for eventual use in the production of stuffed specimens. Thus, it is difficult to know how much of the Indonesia worked bekko trade represents juvenile sea turtles taken from the wild as opposed to animals reared in captivity from wild-collected eggs or hatchings.

Worked Tortoiseshell

Indonesia is also the major supplier of stuffed green sea turtles, the item this Customs category represents most frequently. Between 1970 and 1986, Japan received a total of 645,657kg of worked tortoiseshell from Indonesia, representing 66% of the total trade to Japan (Appendix 4). Between 1970 and 1982, exports from Singapore, the second major supplier, also are believed to have largely originated in Indonesia, so the real total is significantly higher. Since Indonesia ratified CITES, at least 266,741kg of worked tortoiseshell have been received. With the exception of 1986, import volumes have remained fairly steady (Figure 72).

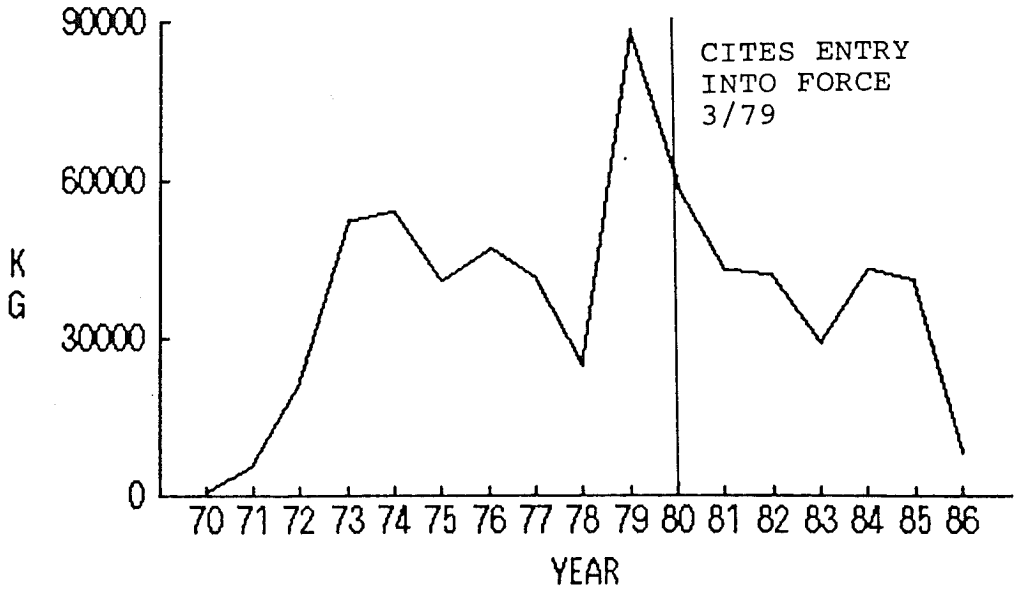

Figure 72: Japanese Imports of Worked Tortoiseshell from Indonesia 1970-1986
Source: Japanese Customs Statistics

Three Indonesian shipments containing 3,420 stuffed specimens, believed to represent green sea turtles in large part or in total, weighed 8,251kg, for an average weight of 2.41kg per specimen (Table 4). If this figure is representational of all imports of worked tortoiseshell from Indonesia since 1970, a total of 267,907 green sea turtles would have been required to sustain the trade (Figure 73). The average annual harvest was more than 15,000 animals.

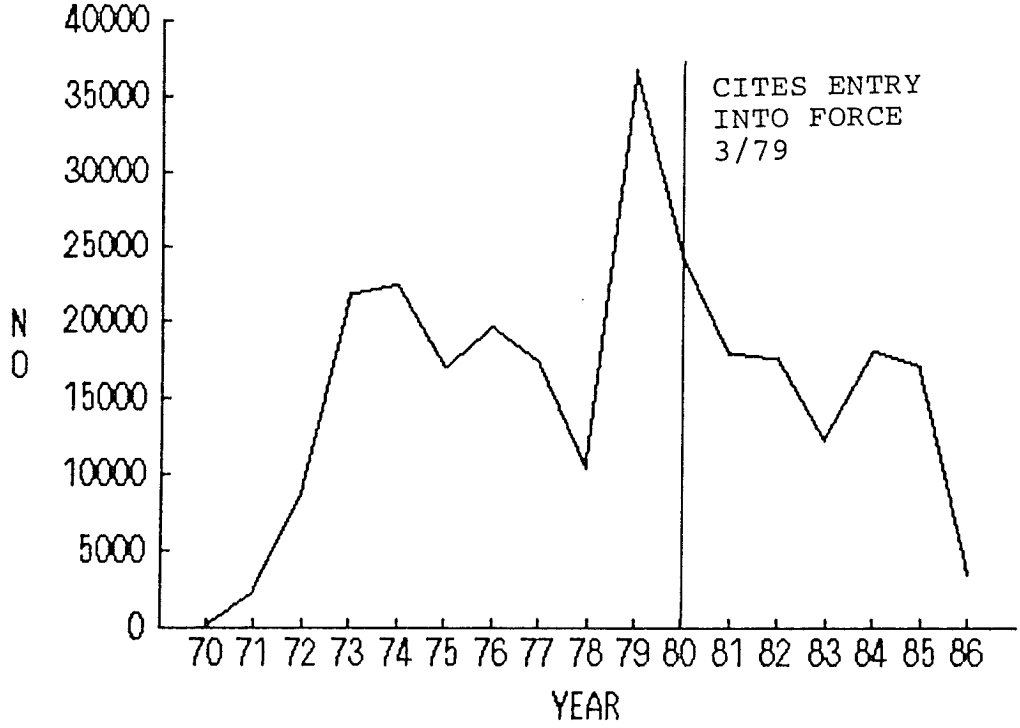

Figure 73: Estimated Number of Green Sea Turtles Represented By Japanese Imports of Worked Tortoiseshell From Indonesia Between 1970-1986
Source: Japanese Customs Data Calculated at 2.41kg per Stuffed Green Sea Turtle

Sea Turtle Skins

Indonesia is the largest supplier of sea turtle skins in Asia and is second only to Ecuador among all Japanese sources. Between 1976 and 1986, a total of 83,617kg was imported from Indonesia (Appendix 5) other trade from Singapore certainly originated in Indonesia. Since CITES ratification, at least 73,222kg of sea turtle skins have been received from Indonesia, with trade fluctuating wildly (Figure 74).

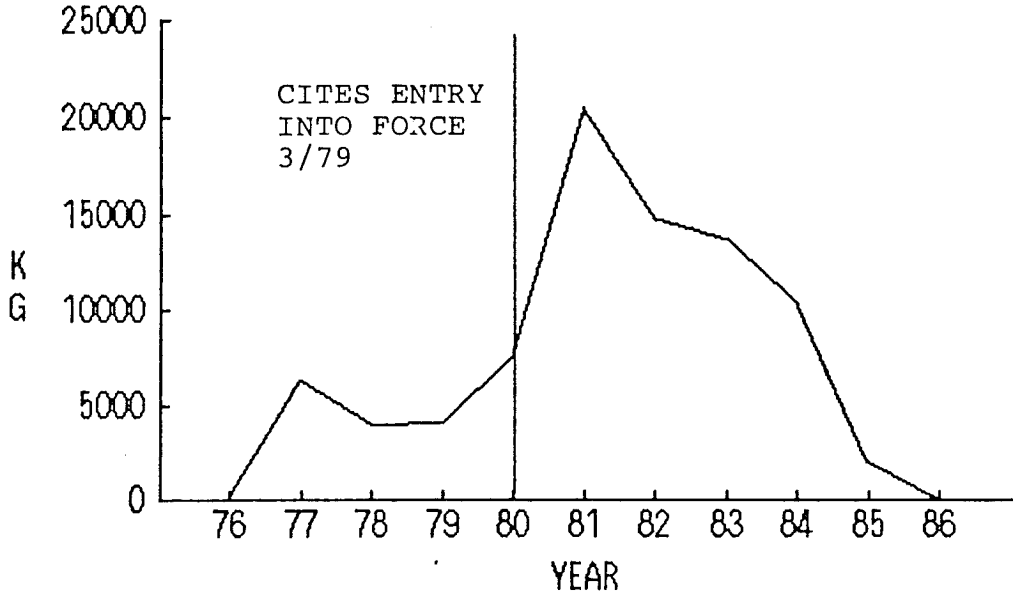

Figure 74: Japanese Imports of Turtle Skins from Indonesia 1976-1986
Source: Japanese Customs Statistics

Japanese importers indicated that imports of sea turtle skins from Indonesia comprised green sea turtles and estimated the average weight of the skins sets at 5.0kg (Table 1). Thus, imports from Indonesia since 1976 are believed to represent at least 16,700 large green sea turtles (Figure 75).

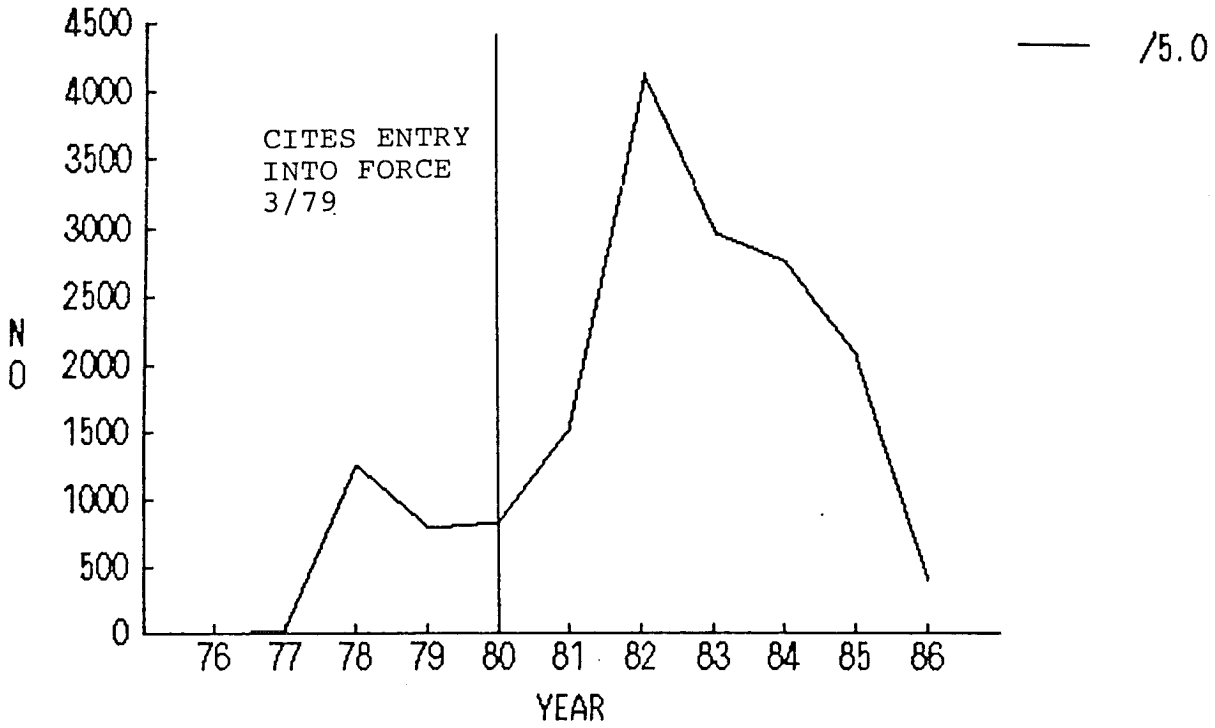

Figure 75: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Sea Turtle Skins from Indonesia 1976-1986
Source: Japanese Customs Data Calculated at 5.0kg of Skin per Green Sea Turtle

Turtle Leather

A minor trade, totalling 271kg, exists in sea turtle leather with imports reported in the Customs data for only two years (Appendix 6).

Meat

Data contained in Anon, 1984 indicated that 8,011.6kg of frozen turtle meat, entrails, and bones were shipped from Ujung Pandang to Tokyo in February 1984. Japanese Customs Statistics report receiving 8,011kg from Indonesia under the tariff heading "other meat" a month later. This is the only direct evidence that Indonesia conducts a sea turtle meat trade with Japan. However, other imports probably occurred according to sources in Japan, but there are no data available to actually measure the scale of the trade.

MALAYSIA

Bekko

Between 1970 and 1986, only 2,997kg of bekko were obtained from Malaysia, according to Japanese Customs data (Appendix 1). Almost 80% of the trade was imported between 1970 and 1973. Thereafter, only very small volumes were received during four years.

Japanese dealers did not report any trade from Malaysia between 1984 and 1986. While Customs data indicated that there was no trade in 1985 and 1986, a total of 74kg was reportedly received from Malaysia in 1984.

On the basis of many years' experience in the industry, one major importer estimated that the average weight of bekko per animal from Malaysia was 0.80kg (Table 1). Accordingly, an estimated 3,700 hawksbills comprised Malaysia's bekko trade with Japan between 1970 and 1986.

Tortoiseshell

In 1970 and 1971, substantial quantities of tortoiseshell totalling 3,041kg were received from Malaysia. Since that time, no trade has been reported in Japanese Customs statistics (Appendix 1).

Worked Bekko

Japanese Customs statistics report trade with Malaysia in only one year, 1973, when 346kg of worked bekko were received (Appendix 3).

Worked Tortoiseshell

A single 7kg import of worked tortoiseshell was reported in the Japanese Customs statistics in 1972 (Appendix 4).

PHILIPPINES

Bekko

The Philippines has regularly supplied bekko to Japan. A total of 32,921kg was imported by Japan between 1970 and 1986, making the Philippines Japan's third most important source in the Asian region (Appendix 1). Trade volumes fluctuated considerably from year to year, but levels over 3,000kg to 4,000kg were reached periodically until 1979. After 1981, when the Philippines ratified CITES, imports dropped substantially. No imports were reported in 1986 (Figure 76).

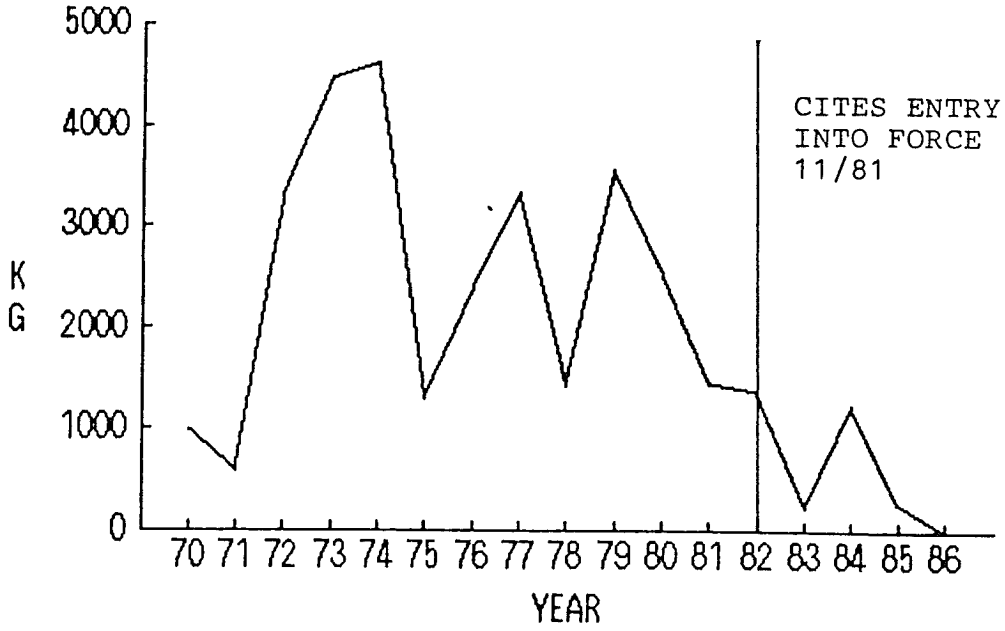

Figure 76: Japanese Imports of Bekko from the Philippines 1970-1986
Source: Japanese Customs Statistics

The dealers' data reported higher quantities of bekko from the Philippines than Customs statistics indicated. In 1985, the discrepancy amounted to over 600kg (Figure 77).

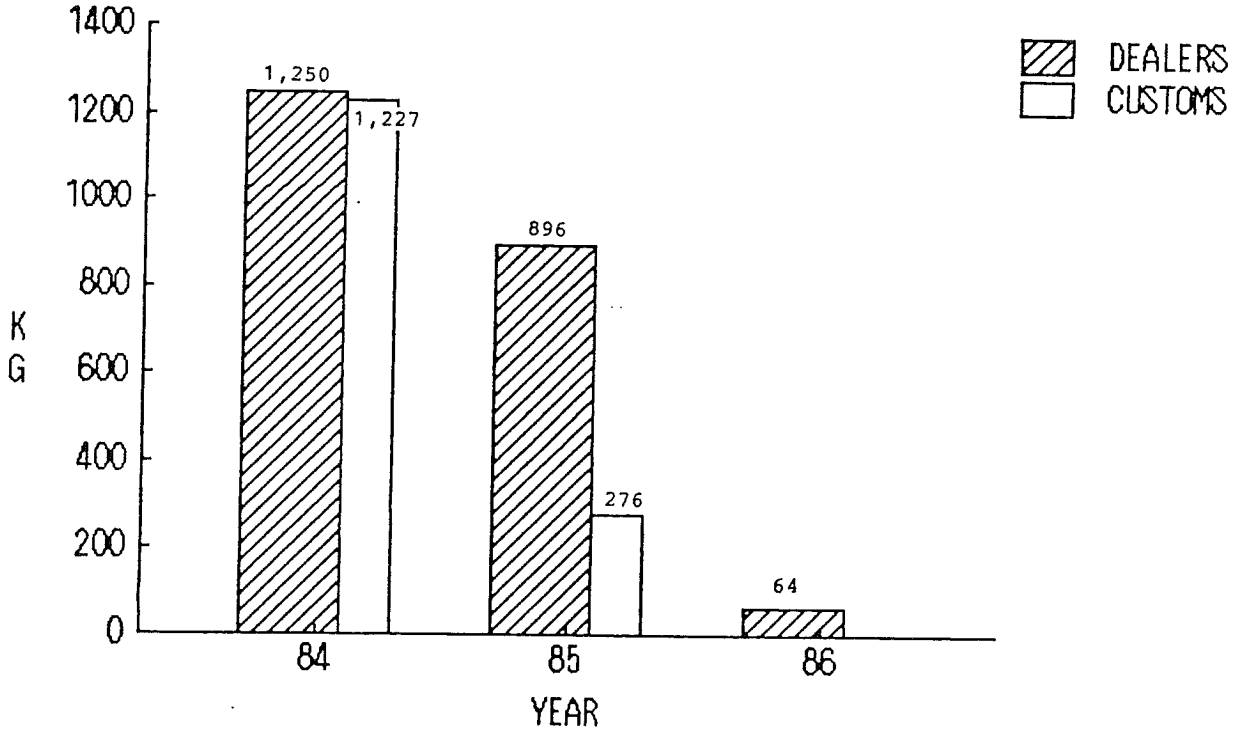

Figure 77: Comparison of Dealers' Data for the Philippines with Customs Statistics

A small sampling of bekko imports in the dealers' data revealed an average weight of 0.79kg per animal (Table 1). This figure could possibly be larger than usual. Another dealer, with many years experience in the trade estimated the average weight at 0.70kg per hawksbill for imports from the Philippines. Accordingly, it is estimated that more than 47,000 hawksbills were taken to sustain the trade to Japan between 1970 and 1986 (Figure 78). Since the Philippines ratified CITES in 1981, bekko from more than 4,400 hawksbills apparently was exported to Japan.

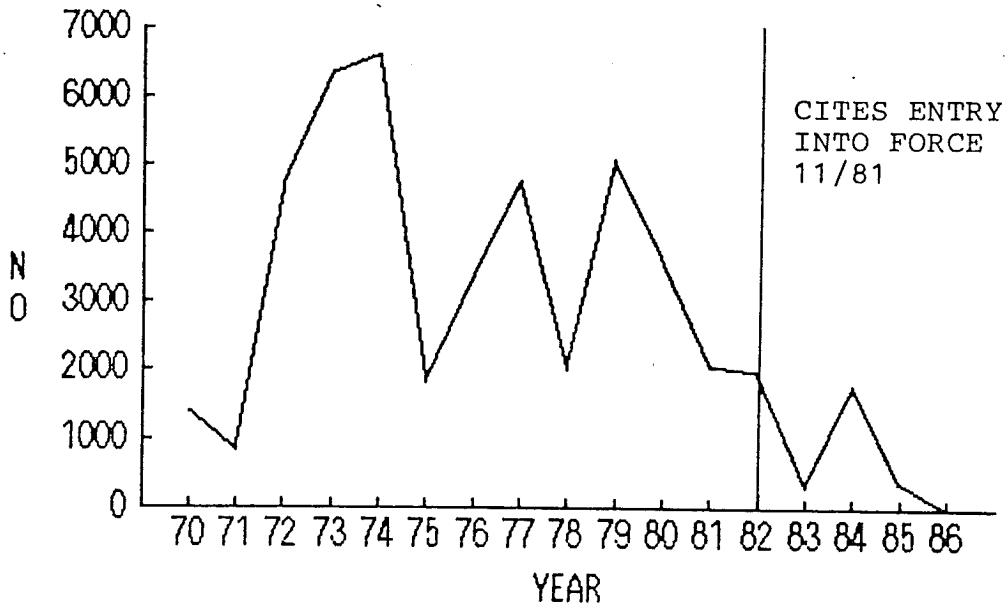

Figure 78: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Philippines 1970-1986
Source: Japanese Customs Data Calculated at 0.70kg of Bekko per Hawksbill

The Philippines CITES Management confirmed that none of Japan's imports of bekko were authorized after CITES took effect in 1981. In letters to TRAFFIC (Japan) in November and December 1985, Philippine authorities stated that no CITES documents have been issued for the export of sea turtles and sea turtle by-products (Nacu/Alvarez, in. litt.). In fact, it was declared that there is a total ban on the exportation of sea turtles and that the national Customs office had confiscated turtle products being shipped abroad. The Philippines authorities requested TRAFFIC's cooperation in curtailing illegal trade.

Tortoiseshell

The Philippines ranks as Japan's major Asian source for tortoiseshell between 1970 and 1986, due to the inexplicably high volume of Japanese imports in 1973 and 1974. In those two years, 8,979kg and 12,301kg respectively were received, out of a total trade of 26,510kg for the entire period (Appendix 2).

Comparatively, Japan received only small quantities in all other years for which trade is reported, and no imports at all after 1981.

Worked Bekko

Regular quantities of worked bekko, which are believed to represent stuffed hawksbills, were imported into Japan from the Philippines between 1973 and 1980, according to Japanese Customs data. These imports totalled 10,003kg (Appendix 3). If an average weight of 1.15kg per specimen, as derived from Indonesian data (Table 4), is applied to the Philippines import figures, an estimated 8,700 hawksbills would be represented by this trade.

Worked Tortoiseshell

Between 1972 and 1983, a fairly substantial trade in worked tortoiseshell totalling 59,771kg was reported in the Japanese Customs data (Appendix 4). No imports were reported in previous or subsequent years (Figure 79).

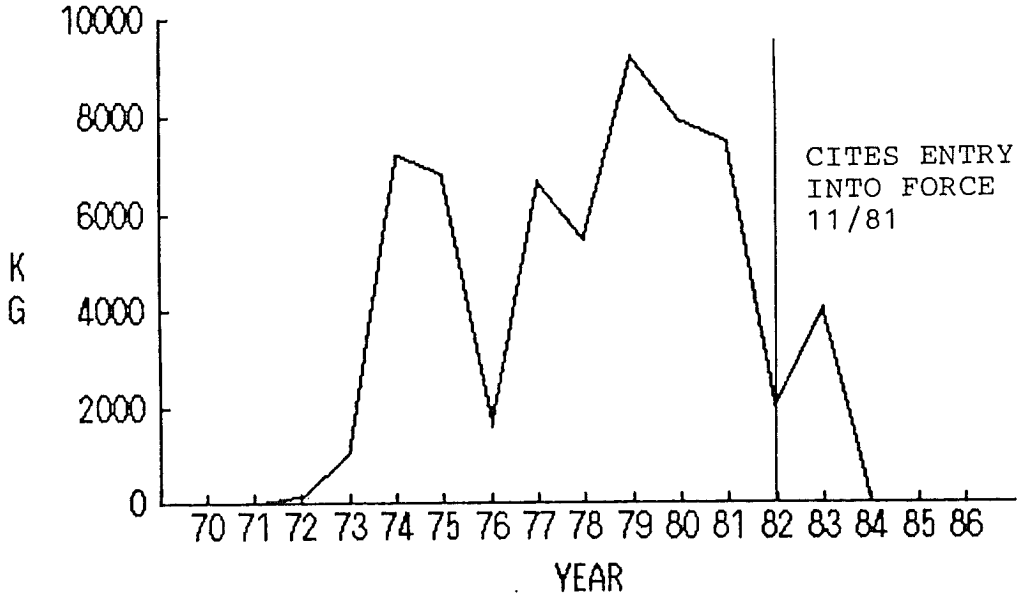

Figure 79: Japanese Imports of Worked Tortoiseshell from the Philippines 1970-1986
Source: Japanese Customs Statistics

Believed to be composed of stuffed green sea turtles, these imports represent more than 24,800 animals if the average weight per specimen is 2.41kg (Table 4), the figure derived from Indonesian data for similar trade (Figure 80).

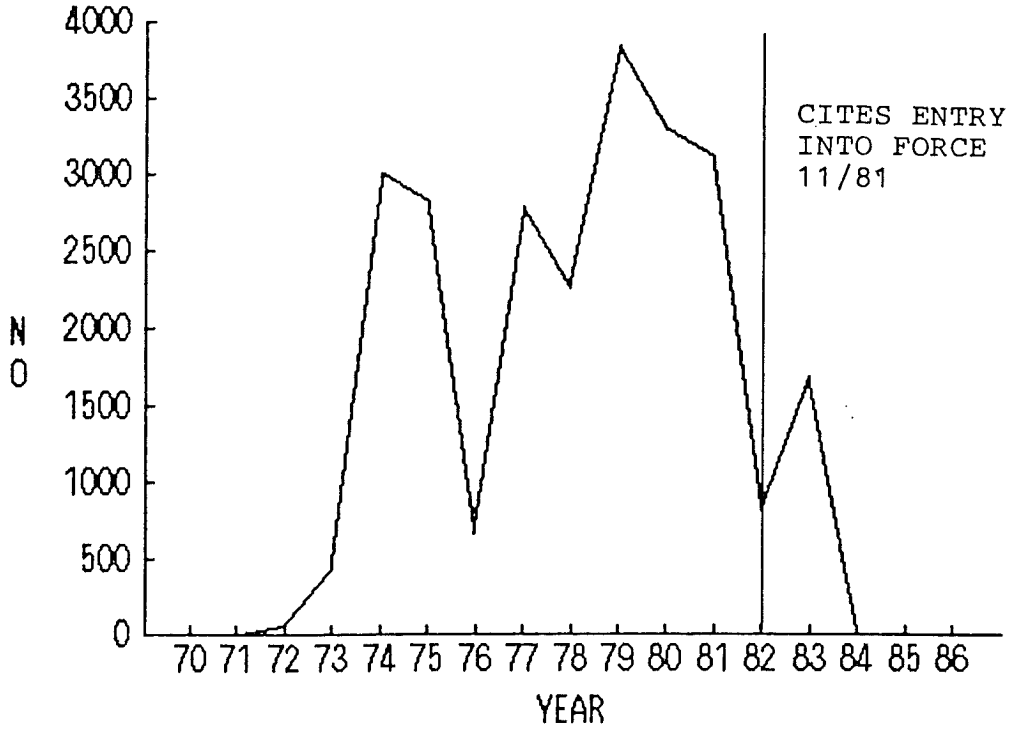

Figure 80: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Worked Tortoiseshell from the Philippines 1970-1986

Source: Japanese Customs Data Calculated at 2.41kg per Stuffed Specimen

Sea Turtle Skins

The Philippines as a steady source of sea turtle skins between 1976 and 1980, when 40,706kg of the total 44,319kg were received (Appendix 5). Trade halted in 1981, the year the Philippines became a CITES Party, but resumed over the next two years. Since 1984, however, there have been no reported imports (Figure 81).

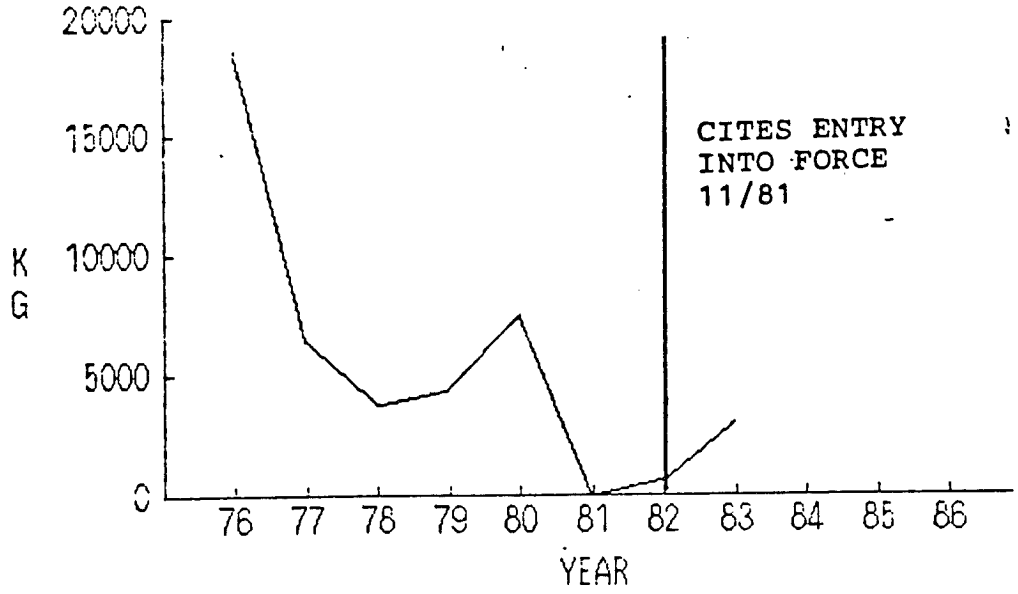

Figure 81: Japanese Imports of Sea Turtle Skins from the Philippines 1976-1986

Source: Japanese Customs Statistics

This trade is believed to be composed of green sea turtle skins sets. Similar skin sets from Indonesia and Singapore were estimated by Japanese dealers to weigh 5.0kg (Table 7). If the Philippines imports are calculated accordingly, more than 8,800 large green sea turtles would have comprised the trade (Figure 82).

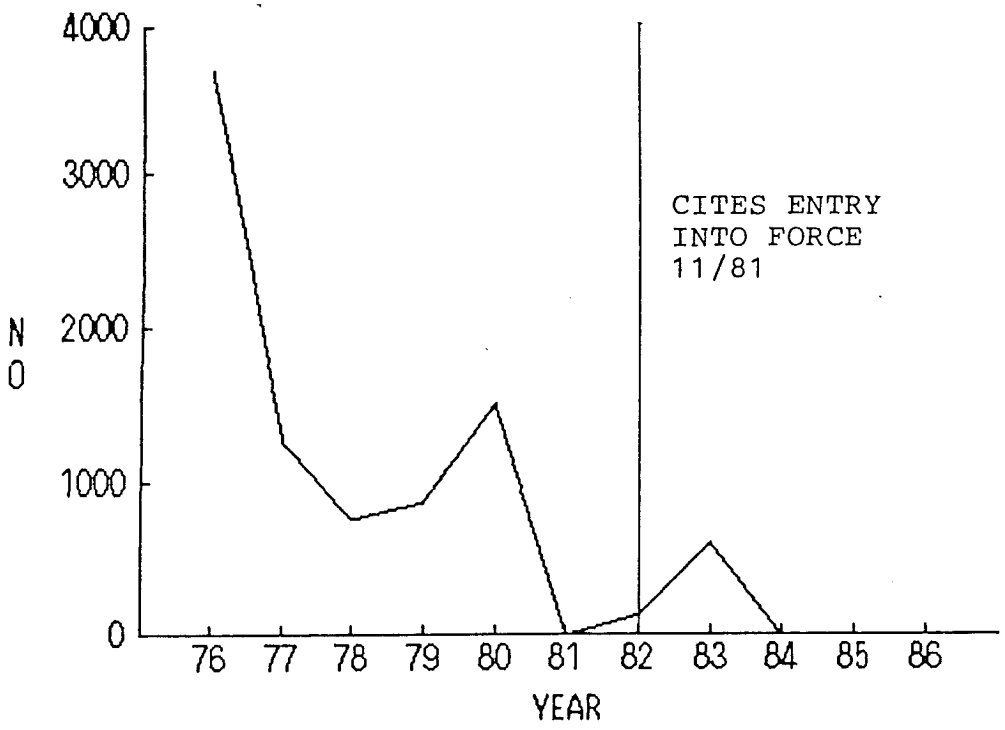

Figure 82: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Sea Turtle Skins from the Philippines
Source: Japanese Customs Data Calculated 5kg of Skin per Green Sea Turtle

SINGAPORE

Singapore has functioned as Southeast Asia's major entrepot in the wildlife trade, and sea turtle products are no exception. Although a major source of bekko, sea turtle skins and stuffed sea turtles, these commodities undoubtedly originated in neighboring countries, principally Indonesia. Singapore finally ratified CITES on November 30, 1986 and began official implementation of the Convention on February 9, 1987. In the interim, large-scale stockpiling of many commodities, including sea turtle products, is believed to have taken place.

Bekko

With imports totalling 44,411kg from 1970 to 1986, Singapore rated as the fourth largest worldwide source of bekko for Japan (Appendix 1). Ratification of CITES by neighboring Southeast Asian countries failed to curtail the traffic through Singapore; between 1976 and 1986, Japan received a total of 23,486kg from Singapore (Figure 83). Japanese imports in 1986 reached 4,586kg, the highest level in 13 years. According to Japanese dealers, most of the bekko from Singapore is believed to originate in Indonesia or off the coast of Sarawak. Significantly, imports from Indonesia dropped considerably in 1986, while trade from Singapore rose substantially (Figure 67).

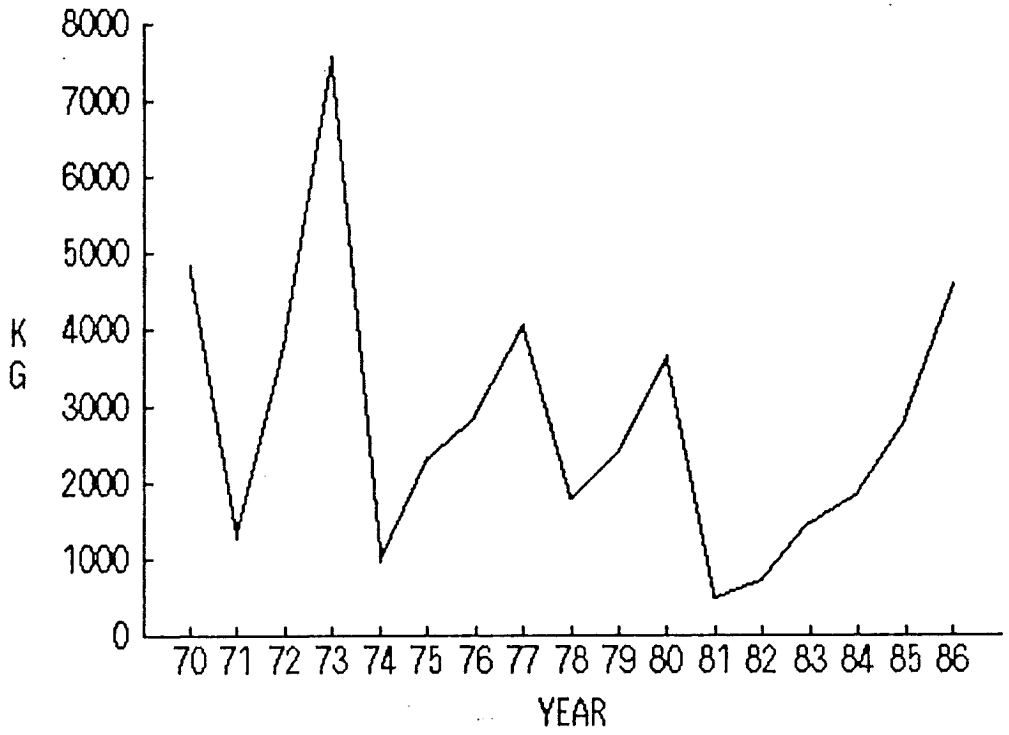

Figure 83: Japanese Imports of Bekko from Singapore 1970-1986
Source: Japanese Customs Statistics

In fact, the trade from Singapore may be greater than Customs statistics indicate. The dealers' data report larger quantities of bekko received from Singapore for the years 1984 and 1985 than the Customs statistics showed (Figure 84).

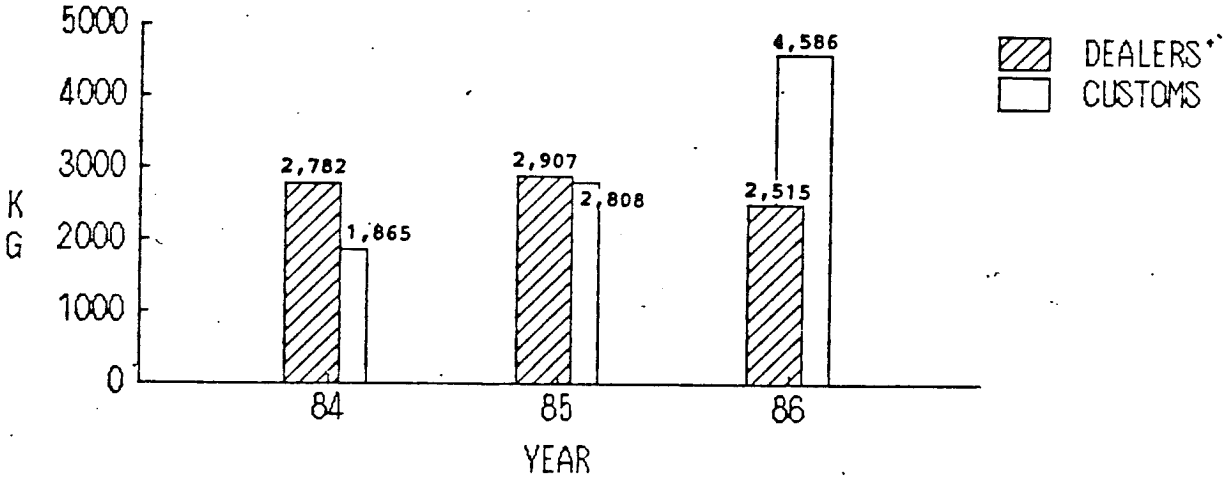

Figure 84: Comparison of Dealers' Data for Singapore with Customs Statistics

Japanese dealers estimated the average weight of bekko per animal at 0.68kg, the lowest figure reported in the dealers' data (Table 1). Another dealer, based on his experience in the trade, gave an even lower figure of 0.65kg. The low weights are partly due to the fact that Singaporean exports of bekko that originated in Indonesia would not include belly shells or hooves (see Indonesia). Nevertheless the figure is still considerably lower than the regional average. An estimated 65,300 hawksbills would have been required to sustain Singapore's exports to Japan over this period, with perhaps almost 4,000 animals comprising annual trade over the last four years (Figure 85).

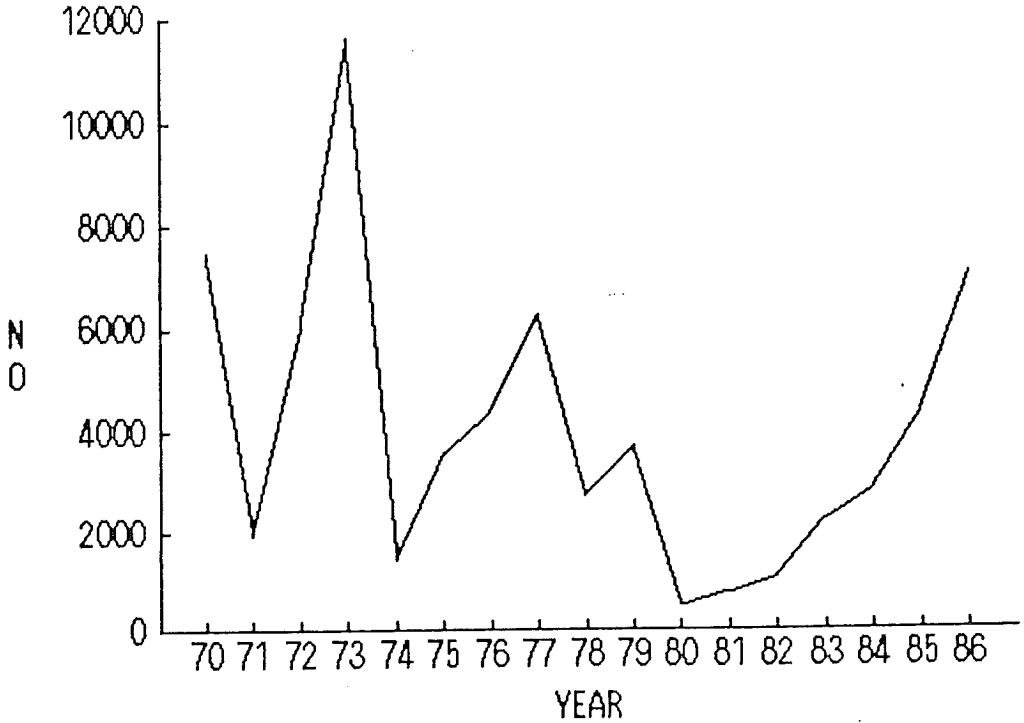

Figure 85: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Singapore 1970-1986

Source: Japanese Customs Data Calculated at 0.68kg of Bekko per Hawksbill

Tortoiseshell

Between 1970 and 1986, Japan imported a total of 9,156kg of tortoiseshell from Singapore, only 458kg of which were obtained after 1975 (Appendix 2). This trade was minimal and certainly reflects the lack of demand for the commodity in Japan.

Worked Bekko

Next to Indonesia, Singapore has been the major source of worked bekko for Japan, although in fact most of the Singapore imports are believed to have originated in Indonesia and other neighboring countries in the region. Between 1970 and 1986, Japan imported a total of 101,820kg of worked bekko, which primarily represents stuffed hawksbills (Appendix 3). Although trade has fallen off altogether since 1984, imports from 1976 to 1986 still totalled some 43,754kg due to high volumes received between 1978 and 1980 (Figure 86).

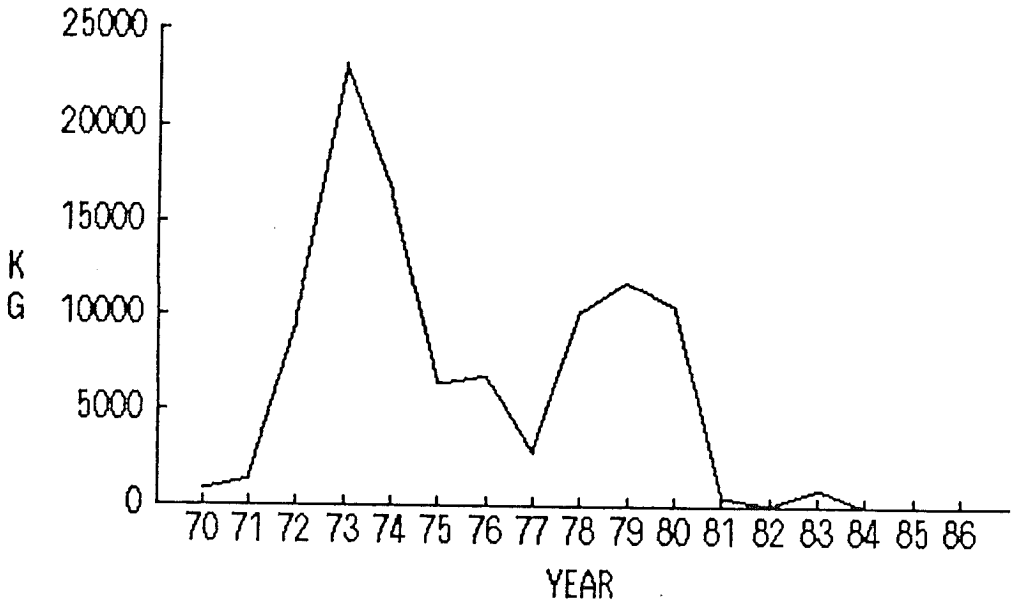

Figure 86: Japanese Imports of Worked Bekko from Singapore 1970-1986
Source: Japanese Customs Statistics

Using a figure of 1.15kg per specimen to represent the average weight for each stuffed hawksbill in trade (Table 4), it is estimated that imports from Singapore have comprised over 88,500 hawksbills since 1970 (Figure 87).

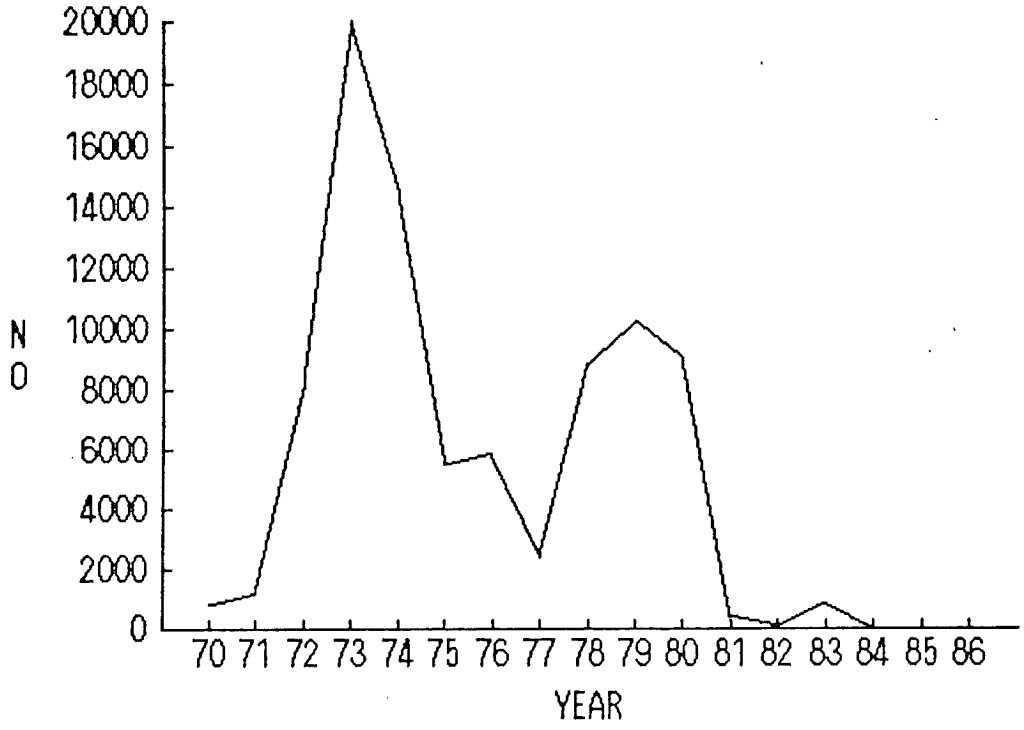

Figure 87: Estimated Number of Hawksbills Represented by Japanese Imports of Worked Bekko from Singapore 1970-1986
Source: Japanese Customs Data Calculated at 1.15kg per Stuffed Specimen

Worked Tortoiseshell

Singapore was traditionally a major source of worked tortoiseshell, which is believed to represent stuffed green sea turtles. Between 1970 and 1986, Japan imported a total of 139,003kg, making Singapore the second largest supplier after Indonesia (Appendix 4). Although the trade appears to have largely ended by 1981, between 1976 and 1986 Japan received a total of 81,028kg due to large-scale importation in 1978 and 1979 (Figure 88). Again, most of these imports are believed to have originated in Indonesia and other neighboring countries.

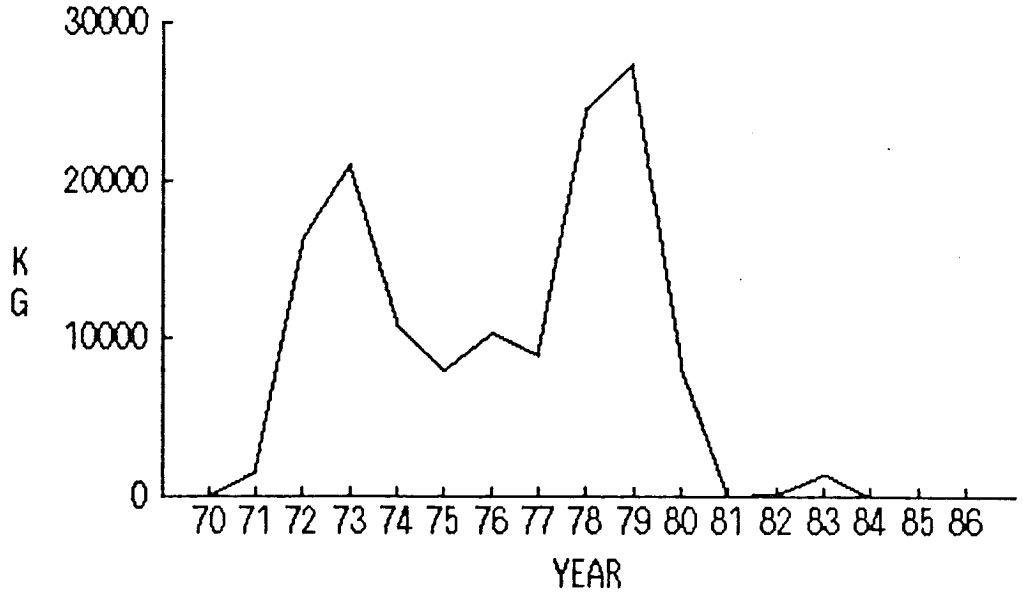

Figure 88: Japanese Imports of Worked Tortoiseshell from Singapore 1970-1986
Source: Japanese Customs Statistics

Data from Indonesia indicate that stuffed green sea turtle specimens averaged 2.41kg in weight (Table 4). If this figure is applied to the Singapore trade, more than 57,600 green sea turtles would have been required to sustain the trade to Japan since 1970 (Figure 89).

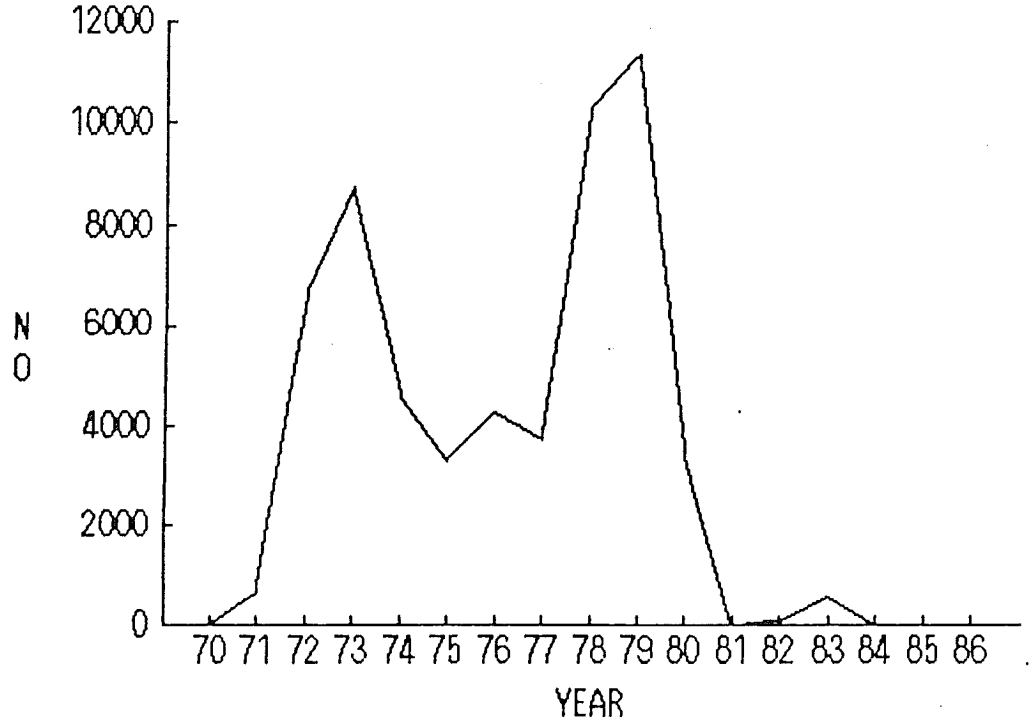

Figure 89: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Worked Tortoiseshell from Singapore 1970-1986
Source: Japanese Customs Data Calculated at 2.41kg per Stuffed Specimen

Sea Turtle Skins

Singapore has been a sporadic supplier of sea turtle skins to Japan, a pattern which probably amplifies the opportunistic nature of her entrepot trade. Between 1976 and 1986, Japan imported a total of 33,261kg of sea turtle skins (Appendix 5), but trade actually occurred only in four years during the period examined. No imports have been received by Japan since 1983 (Figure 90).

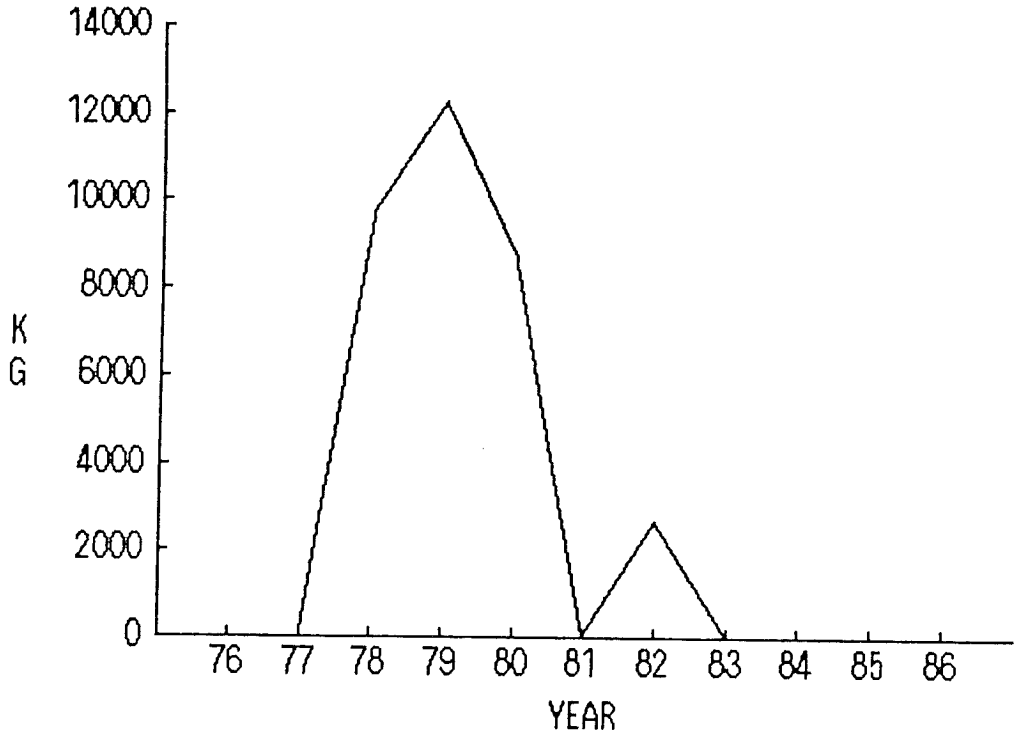

Figure 90: Japanese Imports of Sea Turtle Skins from Singapore 1976-1986
Source: Japanese Customs Statistics

Japanese dealers indicated these imports represented green sea turtles and gave an average weight of 5.0kg per skin set (Table 7). Accordingly, this trade would have been composed of more than 6,600 large green sea turtles (Figure 91).

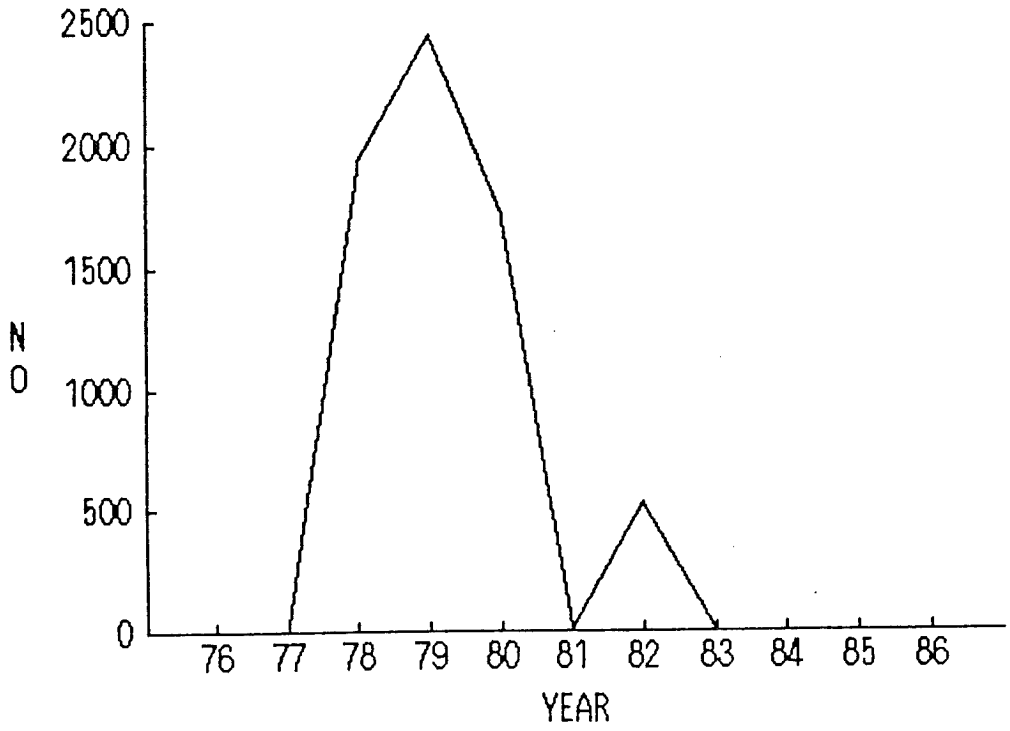

Figure 91: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Sea Turtle Skins from Singapore 1976-1986
Source: Japanese Customs Data Calculated at 5kg of Skin per Green Sea Turtle

Sea Turtle Leather

Singapore is a regular source of small quantities of sea turtle leather (Appendix 6). Between 1976 and 1986, Japan imported a total of 1,534kg, but the trade never exceeded 373kg, and in 1986 no imports were received (Figure 92).

Figure 92: Japanese Imports of Sea Turtle Leather from Singapore 1976-1986
Source: Japanese Customs Statistics

TAIWAN

Bekko

Taiwan has supplied only sporadic, small quantities of bekko to Japan, with the exception of 1979, when 1,323kg of bekko were received. Altogether a total of 2,220kg is reported in the Customs data as originating from Taiwan between 1970 and 1986 (Appendix 1).

Both Customs data and the dealers' data reported an import of 23kg in 1984 (Appendix 8). Japanese dealers estimated the average weight of bekko per animal was 0.82kg, and indicated that only the backshell was received from Taiwan (Table 1). If calculated accordingly, Taiwan's trade with Japan represented about 2,700 hawksbills.

Tortoiseshell

Small annual shipments of tortoiseshell, which totalled 774kg, were imported from Taiwan between 1970 and 1973 (Appendix 2). For the next six years, there was no trade whatsoever. In 1980, 2,300kg of tortoiseshell were suddenly received. There has been no trade reported since.

Worked Bekko

Between 1970 and 1980, Taiwan was a regular supplier of worked bekko to Japan (Appendix 3). During that decade, Japan received a total of 36,886kg, but since 1981 only 1kg has been imported (Figure 93).

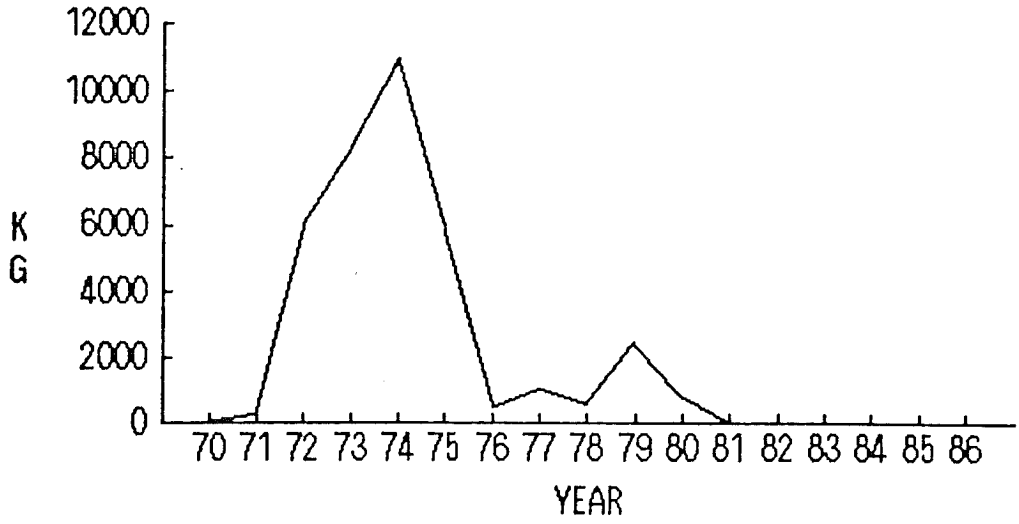

Figure 93: Japanese Imports of Worked Bekko from Taiwan
Source: Japanese Customs Statistics

These imports are believed to be stuffed hawksbills. If the average weight of 1.15kg per specimen is used, as derived from the Indonesian data (Table 4), more than 32,000 hawksbills would have been required to sustain this trade (Figure 94).

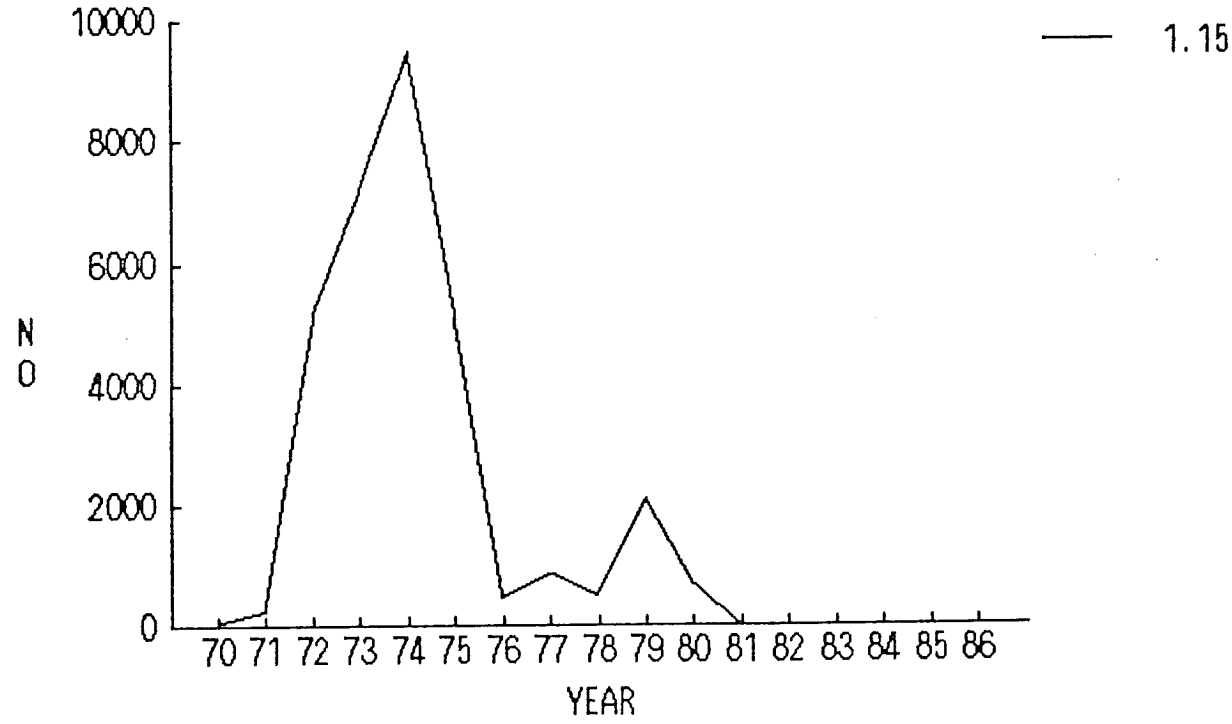

Figure 94: Estimated Number of Hawksbills Represented by Japanese Imports of Worked Bekko from Taiwan 1970-1986
Source: Japanese Customs Data Calculated at 1.15kg per Stuffed Specimen

Worked Tortoiseshell

The persistently high volume of trade reported between 1970 and 1980 marks Taiwan as the third largest supplier of worked tortoiseshell, according to Japanese Customs data (Appendix 4). Imports, which peaked at 29,986kg in 1973, totalled 72,914kg overall, even though there have been no imports since 1981 (Figure 95).

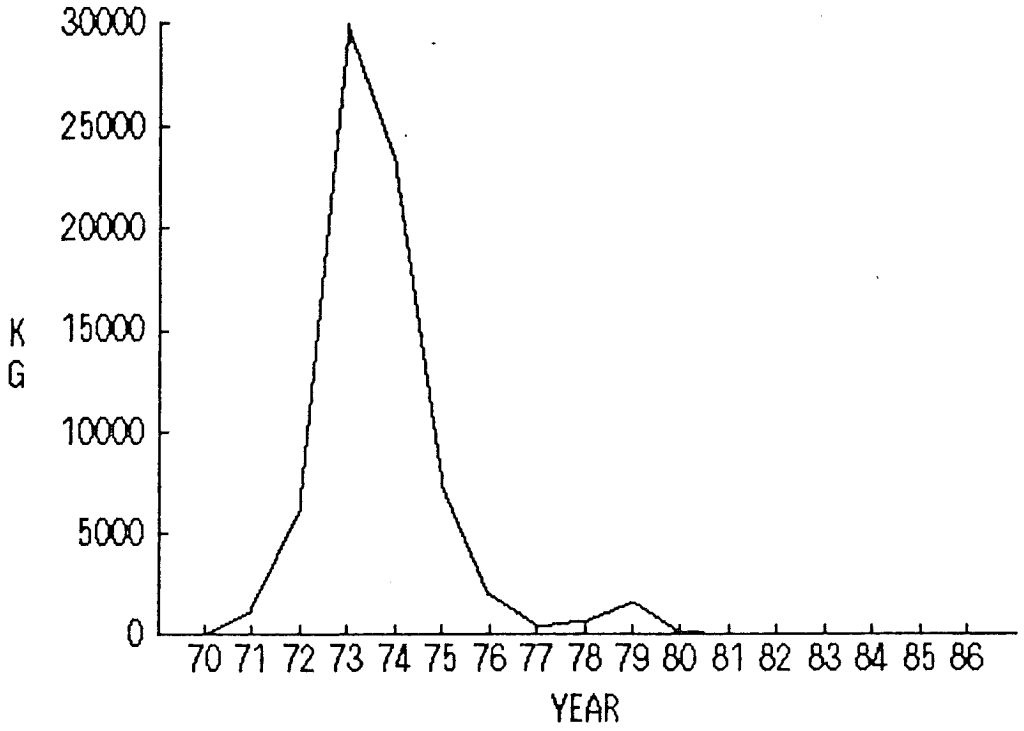

Figure 95: Japanese Imports of Worked Tortoiseshell from Taiwan 1970-1986
Source: Japanese Customs Statistics

This trade is believed to be composed of stuffed green sea turtles. If the Indonesian figure of 2.41kg per stuffed specimen is adopted here (Table 4), the trade is likely to have comprised an estimated 30,200 green sea turtles (Figure 96).

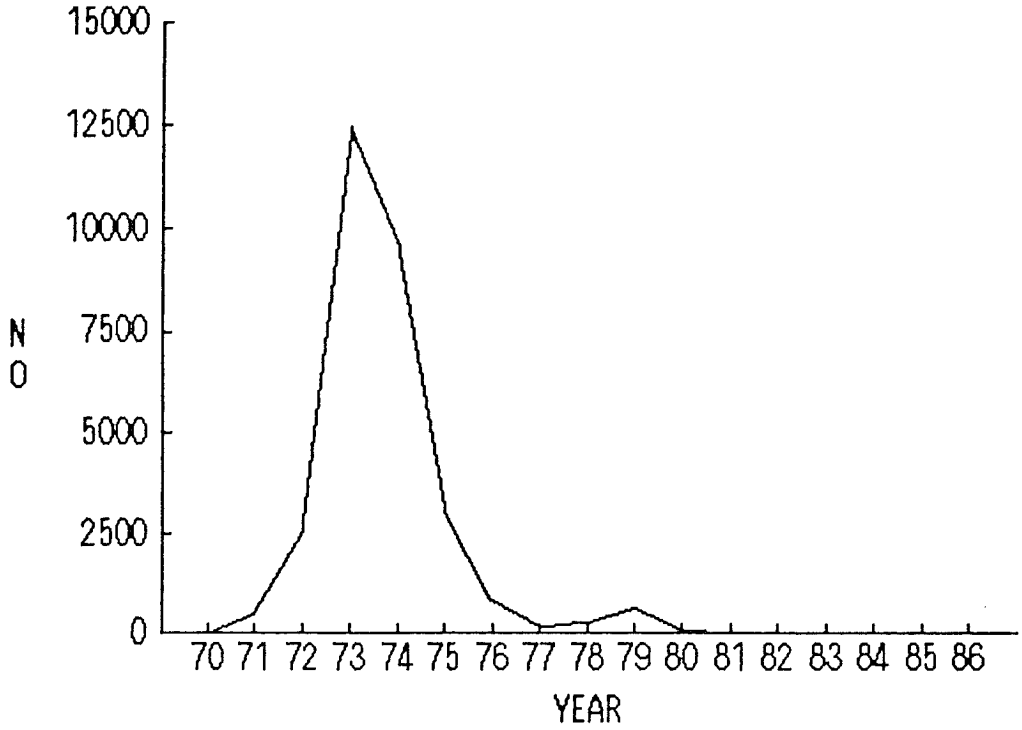

Figure 96: Estimated Number of Green Sea Turtles Represented by Japanese Imports of Worked Tortoiseshell 1970-1986
Source: Japanese Customs Data Calculated at 2.41kg per Stuffed Specimen

Sea Turtle Skins

Only a single shipment of 726kg of sea turtle skins was reported from Taiwan, in 1978, according to Japanese Customs data (Appendix 5).

Sea Turtle Leather

In 1981, a very minor quantity, 19kg, was reported in Japanese Custom statistics as originating in Taiwan (Appendix 6). Most likely, the trade represented green sea turtles.

OTHER ASIAN COUNTRIES

Bekko

A single shipment of 20kg was received from Thailand in 1970, according to Japanese Customs statistics (Appendix 1).

Tortoiseshell

The Ryukyus (Okinawa), administered at the time by the U.S. occupation forces, provided 930kg of tortoiseshell to Japan in 1971 (Appendix 2).

Worked Bekko

The Ryukyus (Okinawa), before reversion to Japan in 1972, were reported in the Japanese Customs statistics as a major source of worked bekko. From 1970 to 1972, mainland importers obtained a total of 15,454kg from Okinawa (Appendix 3). These imports probably did not originate in the Ryukyus as the hawksbill is a rare species in Okinawan waters (1983, Kamezaki).

From 1971 to 1977, Vietnam supplied 1,347kg of worked bekko to Japan. Between 1984, when small-scale trade resumed, and the end of 1986, another 27kg were received (Appendix 3).

Both Korea and China were reported in the data as providing small volumes of worked bekko in 1973, when 31kg and 24kg respectively were received (Appendix 3).

Worked Tortoiseshell

Substantial quantities of worked tortoiseshell, believed to be composed of stuffed green sea turtles, were received from the Ryukyus (Okinawa) between 1970 and 1972 (Appendix 4). This trade, which totalled 58,255kg, occurred during the U.S. occupation. It is estimated that approximately 24,100 green sea turtles comprised this trade, if the average weight per specimen is calculated at 2.41kg (Table 4).

Thailand, in 1974 and 1979, supplied a total of 442kg of worked tortoiseshell. Vietnam supplied a single shipment of 23kg in 1973 (Appendix 4).

Sea Turtle Skins

Thailand supplied 80kg of sea turtle skins in 1982, according to Japanese Customs statistics (Appendix 5). These probably represented green sea turtles.

INDIAN OCEAN AND EAST AFRICAN COUNTRIES

COMOROS

Bekko

Imports from the Comoros, which is not yet a Party to CITES, amounted to only 45kg in 1980 and 225kg in 1986 (Appendix 1). The dealers' data reported 226kg imported in 1986 (Appendix 8). If trade continues to pick up substantially, it could indicate that the Comoros are being used to export stocks obtained elsewhere since CITES regulations do not apply there.

ETHIOPIA

Bekko

Ethiopia is not a CITES Party. Trade generally averaged between 400kg and 500kg annually from 1970 to 1975, but ceased abruptly in 1976, according to Japanese Customs statistics. Interestingly, after a ten-year trade hiatus, Japan imported 427kg in 1986. Over the entire 17-year period, a total of 3,139kg of bekko was received by Japan (Appendix 1).

Dealers' data and Customs statistics correlated perfectly in 1986, the only year importation is reported for Ethiopia in either set of data (Appendix 8). According to the dealers' data, the average weight of bekko per hawksbill from Ethiopia was 0.75kg (Table 1). If this figure is indicative of trade for all years in the period examined, a total of 4,185 hawksbills would have composed Japan's imports. One knowledgeable dealer, however, estimated the average weight at 0.91kg, a significantly higher figure.

INDIA

Bekko

Between 1970 and 1986, Japanese Customs statistics for India indicated that a total of 3,303kg of bekko was imported by Japan, with one-third of the trade, 1,193kg, received in 1973 alone (Appendix 1). India, however, ratified CITES at its inception in 1976, and by 1979 all importation from India had ceased.

Tortoiseshell

Small volumes, which together totalled 329kg, were received from India in 1972, 1973, and 1977 (Appendix 2).

Worked Bekko

A single import of 22kg was received in 1976, according to Japanese Customs data (Appendix 3).

Worked Tortoiseshell

In 1975, Japanese Customs data reported 20kg of worked tortoiseshell as originating from India (Appendix 4).

KENYA

Bekko

Between 1970 and 1986, a total of 22,426kg of bekko was received from Kenya (Appendix 1). Before 1976, the figures fluctuated considerably between a high of 1,744kg in 1973 and a low of 38kg in 1971. Thereafter, trade rose dramatically to surpass 2,000kg per year until 1979, when CITES came into effect in Kenya. Immediately, figures dropped to 463kg, but trade persisted and reached an all-time high of 3,110kg in 1985 (Figure 97).

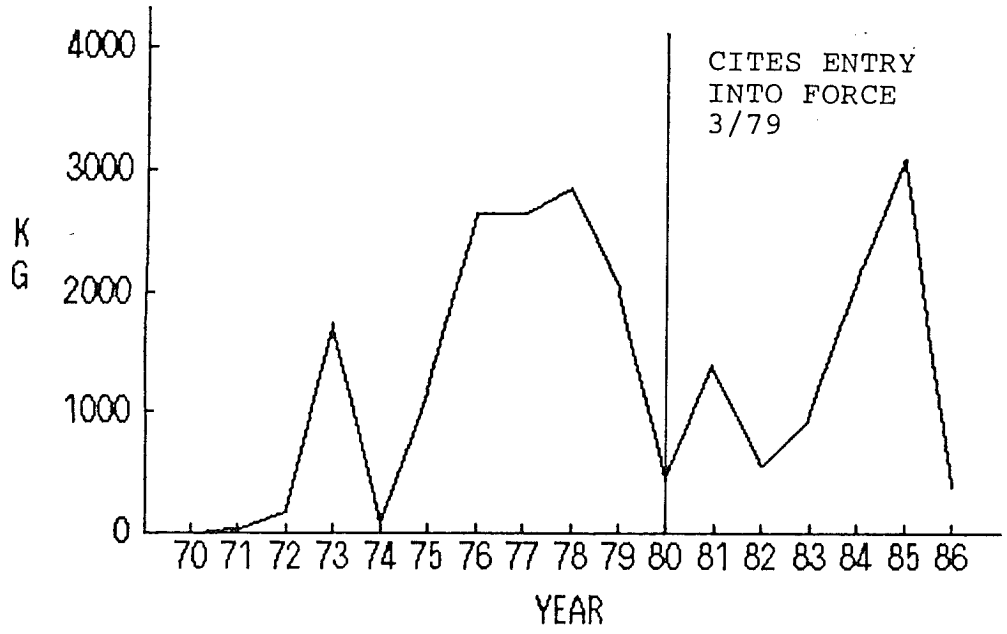

Figure 97: Japanese Imports of Bekko from Kenya 1970-1986
Source: Japanese Customs Statistics

There was a high degree of correlation between Customs and dealers' data for the 1984 to 1986 period (Figure 98). The last two years, in fact, correlate 100%.

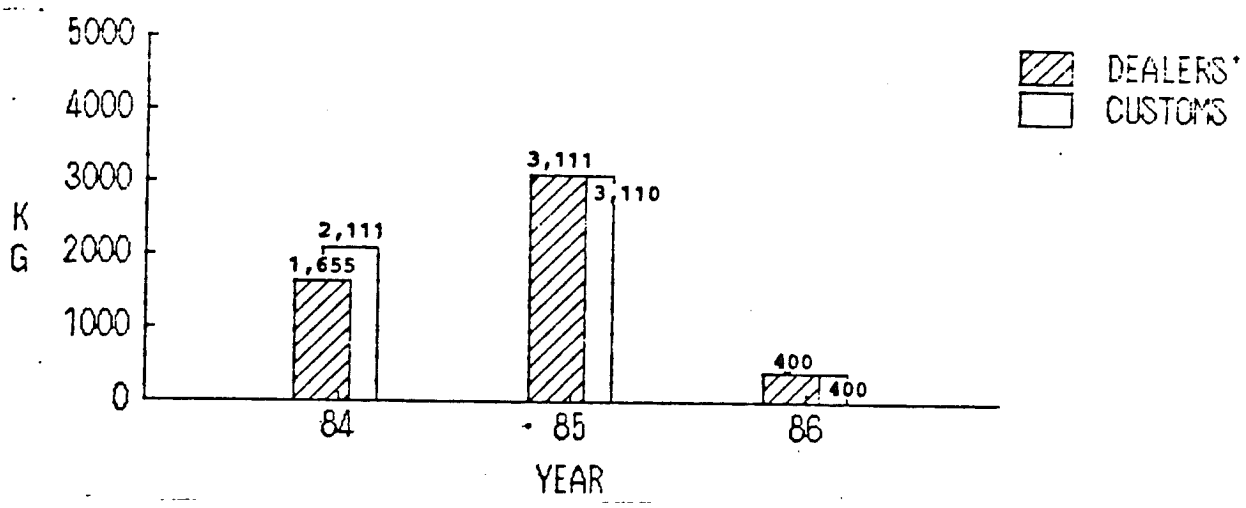

Figure 98: Comparison of Dealers' Data for Kenya with Customs Statistics 1984-1986

The overall average weight of bekko per animal originating in Kenya was reported at 0.73kg per hawksbill in the dealers' data (Table 1). Applying this average to import totals since 1970, an estimated 30,700 hawksbills would have been taken over the 17-year period (Figure 99).

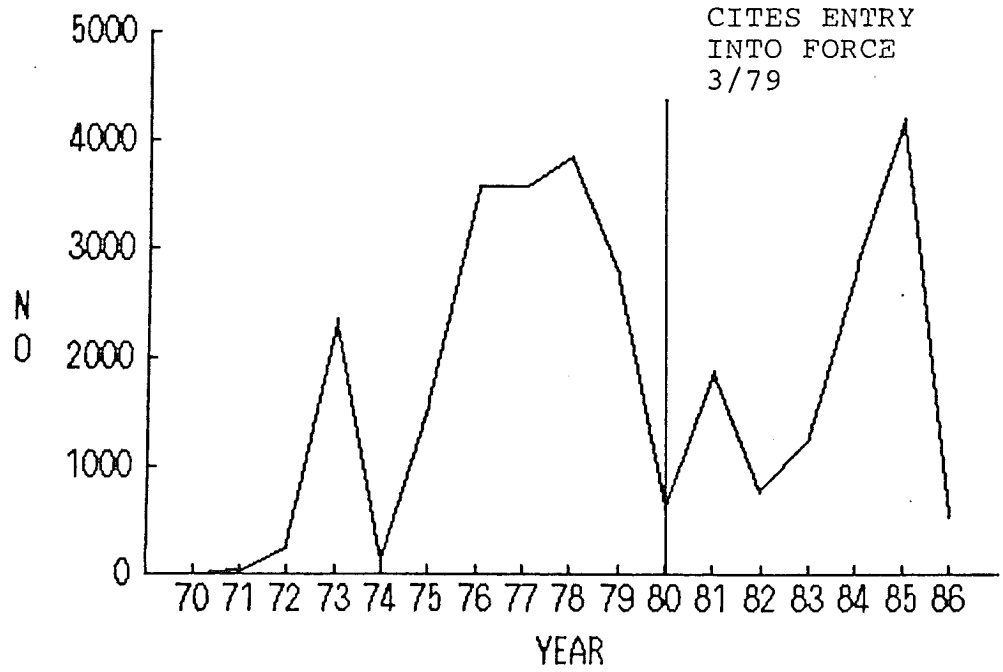

Figure 99: Estimated Number of Hawksbills Represented by Japanese Import of Bekko from Kenya

Source: Japanese Customs Data Calculated at 0.73kg of Bekko per Hawksbill

The Kenyan CITES Management Authority has expressed concern at the scale of her post-CITES trade. In a letter to TRAFFIC (Japan) in September 1986, authorities stated that proper export permits were not issued for 3,110kg and 400kg of bekko reported in Japanese Customs statistics as originating in Kenya in 1985 and 1986 respectively (Oriero, in. litt.).

Tortoiseshell

Between 1970 and 1986, tortoiseshell totalling 1,214kg was imported from Kenya during only four years (Appendix 2). However, the two largest shipments, 715kg in 1982 and 429kg in 1984, were received after CITES became effective in Kenya.

MADAGASCAR

Bekko

Madagascar is a minor source of bekko to Japan, with only small volumes received between 1970 and 1976. Altogether, 1,282kg were imported between 1970 and 1986 (Appendix 1), but there was no trade at all between 1977 and 1985, probably because CITES controls went into effect in November 1975. A modest volume of 138kg, however, was reported in Japanese Customs statistics in 1986, although no corresponding data was obtained in the dealers' survey.

The dealers' data reported 234kg from Madagascar in 1986, a much greater volume than Customs statistics indicated (Appendix 8). The average weight of bekko per animal was estimated at 0.99kg by one importer (Table 1). If this figure is representative of trade for the entire period a total of 1,295 hawksbills would have comprised the Japanese trade.

MALDIVES

Bekko

Imports of bekko from the Maldives totalled 9,661kg between 1970 and 1986 (Appendix 1). From 1973 until 1983, fairly regular but rather modest volumes of bekko were received annually by Japan. Thereafter, imports jumped sharply to reach 2,225kg and 1,956kg in 1985 and 1986 respectively, far exceeding the previous high of 1,266kg in 1979 (Figure 100). The Maldives are not a Party to CITES, so escalating imports may indicate that stocks obtained elsewhere are now moving into international trade via the island group.

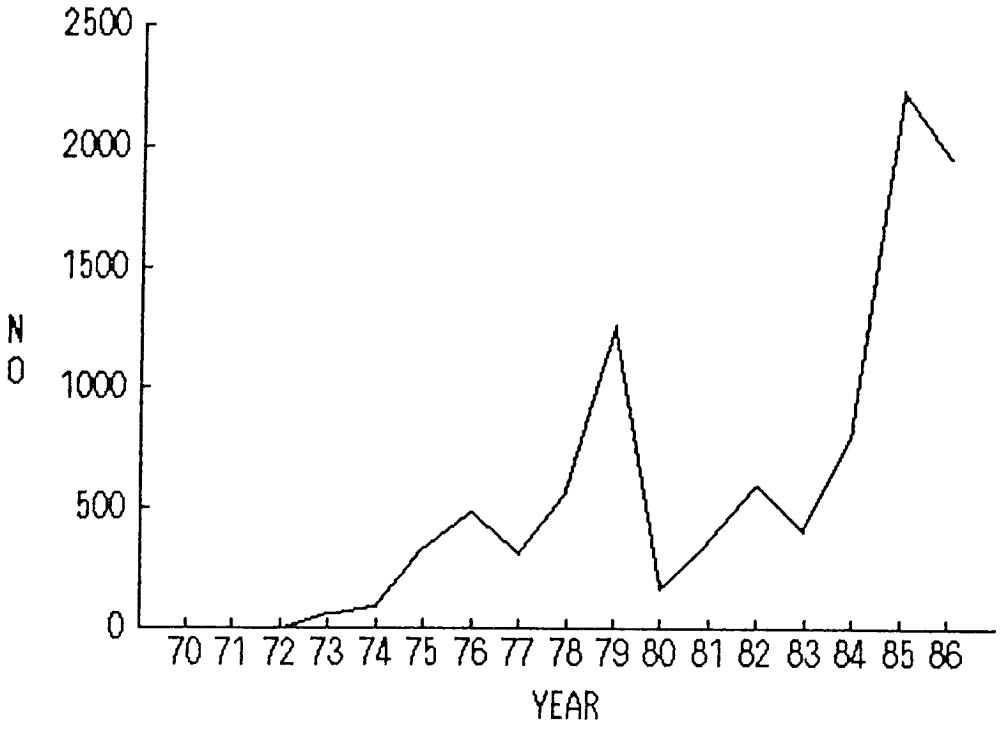

Figure 100: Japanese Imports of Bekko from the Maldives 1970-1986
Source: Japanese Customs Statistics

The dealers' data correlated with Customs statistics very well, showing at least 74% concurrence for each year (Figure 101).

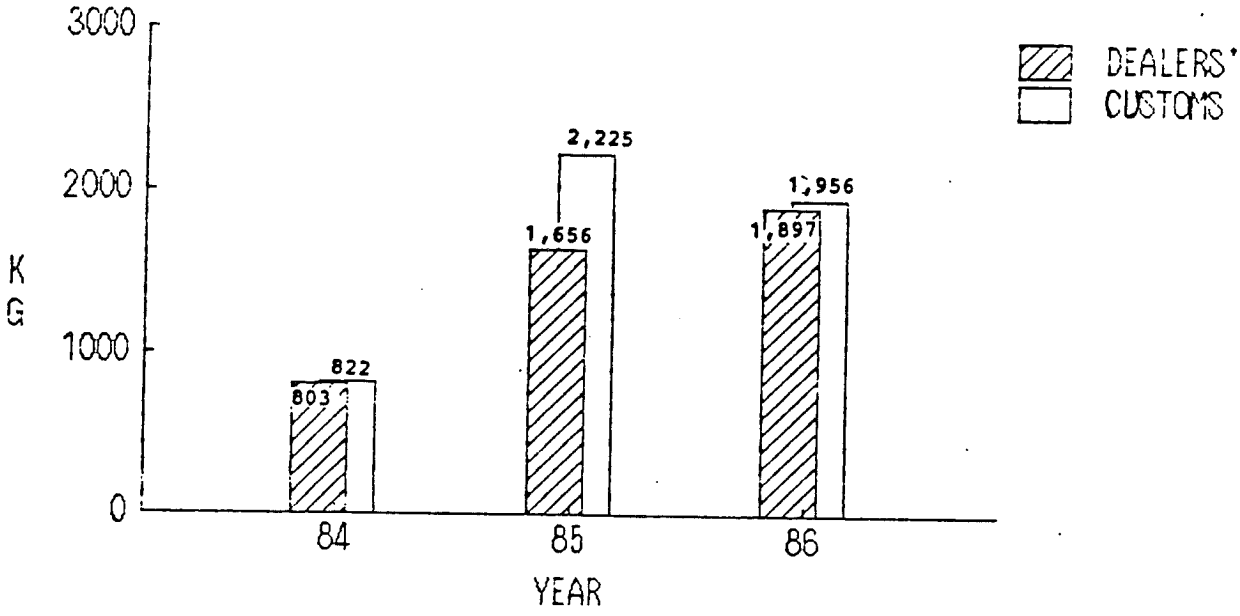

Figure 101: Comparison of Dealers' Data for the Maldives with Customs Statistics 1984-1986

No average weight figures were obtained from the dealers' data. However, an experienced dealer estimated the average weight of bekko from Maldives at 0.80kg per hawksbill (Table 1). If so, Japan's imports from the Maldives would have been composed of over 12,000 hawksbills in the period examined (Figure 102).

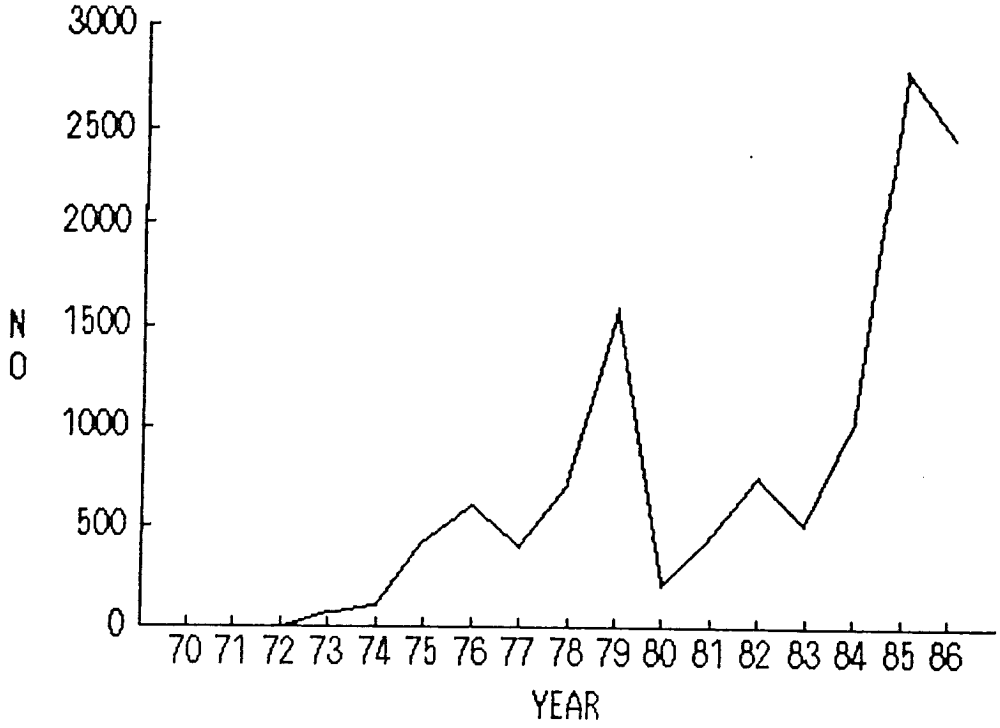

Figure 102: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Maldives 1970-1986
Source: Japanese Customs Data Calculated at 0.80kg per Hawksbill

Tortoiseshell

Japanese Customs Statistics show imports of tortoiseshell as originating in the Maldives in only three years, 1979, 1983, and 1984. These imports totalled 746kg (Appendix 2).

Worked Bekko

Worked bekko imports, probably stuffed hawksbills, were only received in 1979 and 1980 and totalled 496kg in the Japanese Customs data (Appendix 3).

MOZAMBIQUE

Bekko

Between 1970 and 1986, Mozambique was a source of bekko for Japan in only 2 years, 452kg in 1973 and 277kg in 1976 (Appendix 1).

OMAN

Bekko

The only reported instance of bekko trade with Oman comes from the dealers' data, where a total of 456kg was reportedly received in 1984 (Appendix 8).

PAKISTAN

Tortoiseshell

Sporadic trade in tortoiseshell from Pakistan totalled 1,344kg in the Japanese Customs data (Appendix 2). Since all imports occurred in 1976 or thereafter, the legality of the trade must be questioned as CITES took effect in Pakistan in 1976.

Turtle Skins

Pakistan is the only country in the region that exported sea turtle skins to Japan. A 1976 signatory to CITES, Pakistan nevertheless was the country of origin for 22,897kg of sea turtle skins between 1976 and 1986 (Appendix 5). The high for the period was 5,360kg in 1978. No trade was reported for 1983, 1984, and 1986 (Figure 103).

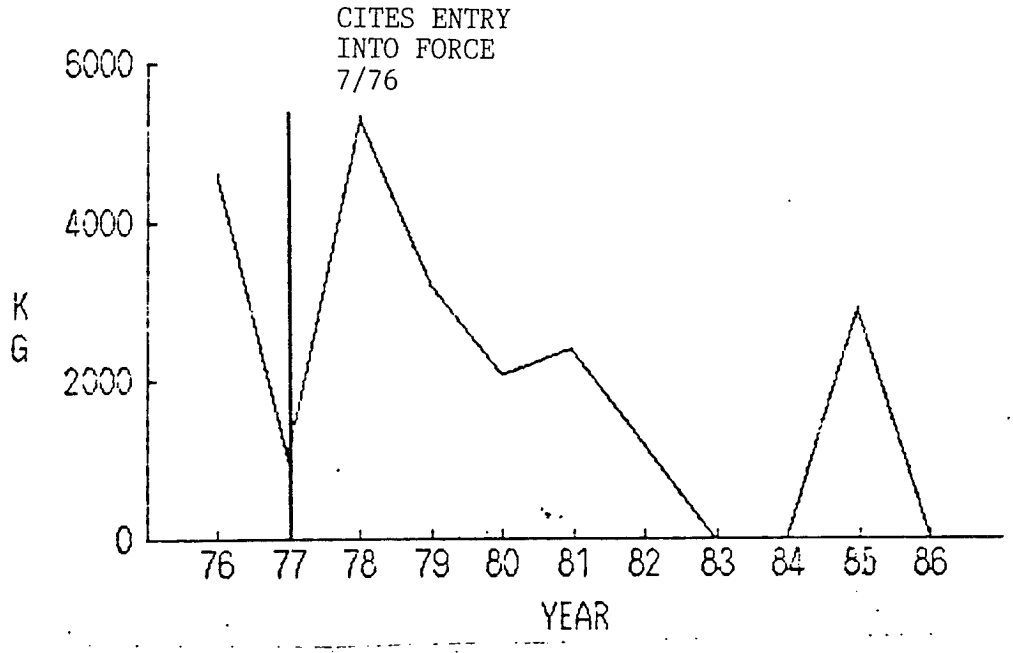

Figure 103: Japanese Imports of Turtle Skins from Pakistan 1976-1986
Source: Japanese Customs Statistics

Japanese dealers report that the green sea turtle is the species involved in the trade. Based on an average weight of 5.0kg per skin set (Table 1), Pakistan's trade with Japan would have comprised over 4,500 green sea turtles.

REUNION

Bekko

In the 17-year period from 1970 to 1986, there was only one instance of bekko trade to Japan coming out of Reunion, 377kg in 1976 (Appendix 1). However, this does not indicate Reunion's lack of involvement in the trade. Most bekko exports from that country are believed to go to France.

Tortoiseshell

A single import of 46kg in 1978 was reported in the Japanese Customs statistics (Appendix 2).

SAUDI ARABIA

Bekko

Saudi Arabia, which has not yet joined CITES, was reported in the Japanese Customs statistics as the source of a single shipment of bekko, totalling 110kg, in 1979 (Appendix 1).

SEYCHELLES

Bekko

The Seychelles exported a total of 6,547kg of bekko to Japan between 1970 and 1986, with no trade reported in 1972, 1973, and 1986 (Appendix 1). Although CITES came into force in 1977, post-CITES figures generally exceed pre-enforcement levels of importation. Bekko imports from the Seychelles hit a record high of 1,027kg in 1979 and continued to reach volumes above 400kg until 1985 (Figure 104).

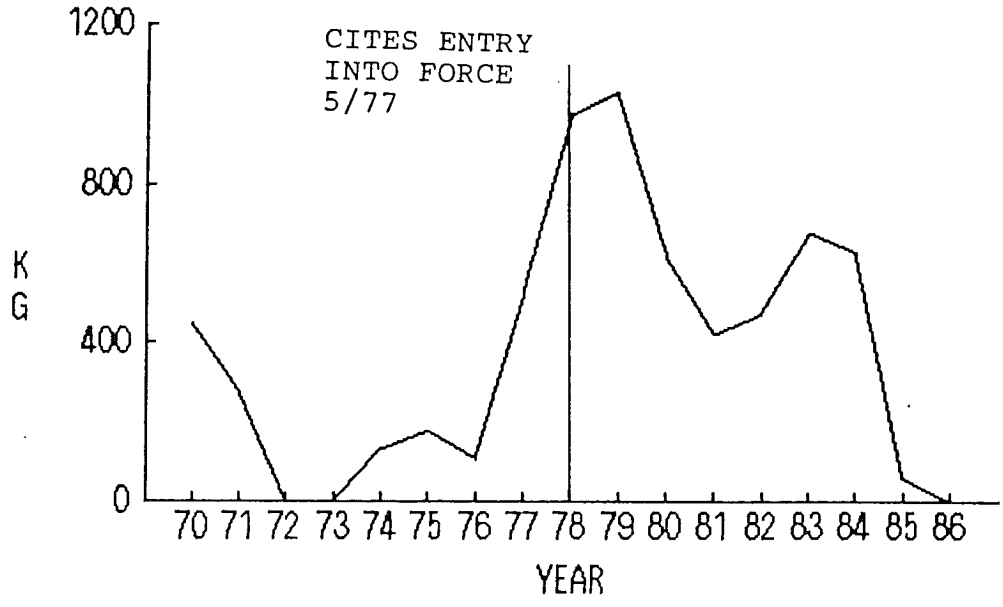

Figure 104: Japanese Imports of Bekko from the Seychelles 1976-1986
Source: Japanese Customs Statistics

The dealers' data correlated perfectly with Customs statistics for the all years surveyed (Figure 105).

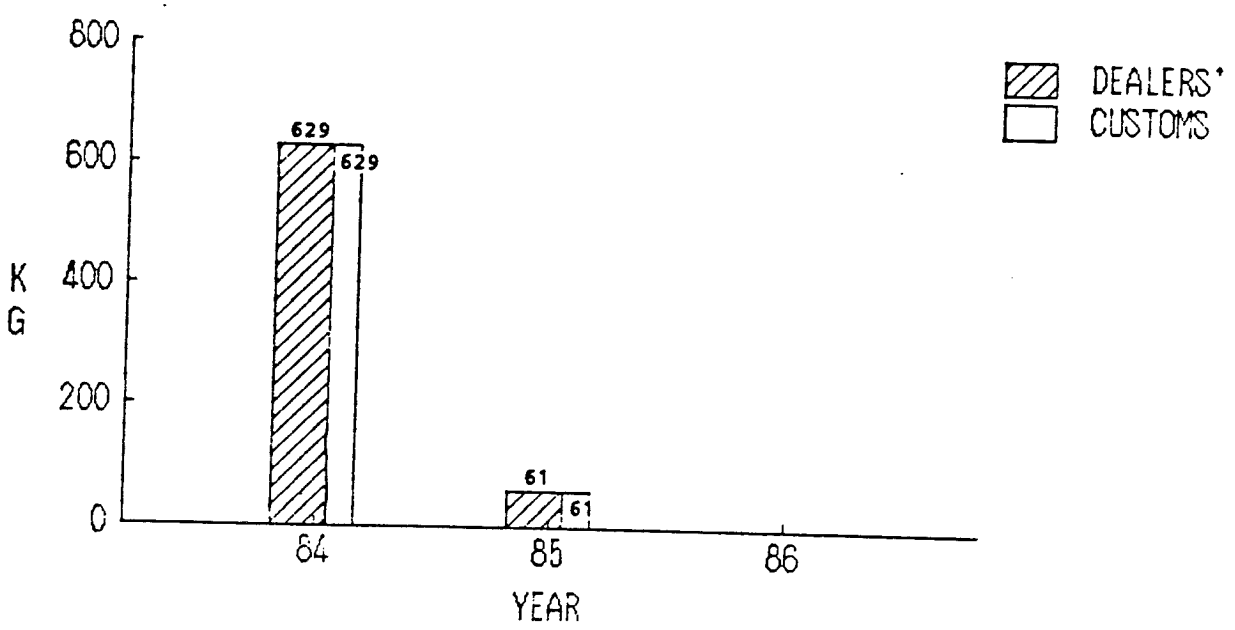

Figure 105: Comparison of Dealers' Data for Seychelles with Customs Statistics 1984-1986

Mortimer (1984) reported that all exports of raw hawksbill shell from the Seychelles since 1972 have been composed of belly shells and hooves only. Japanese dealers mentioned that the belly shell from the Seychelles is highly prized as it has a very unique reddish color when processed. Some backshell, however, was also imported during this period, according to Japanese dealers. Mortimer gave an average weight of 0.9kg for backshell and 0.5kg for the belly and hooves. One Japanese dealer gave a figure of 0.94kg per animal for bekko from the Seychelles, indicating that his trade comprised backshell (Table 1).

Depending on whether Japan's imports included backshell or belly shells and hooves, it can be estimated that the trade represented between 6,900 and 13,000 hawksbills during the period examined (Figure 106).

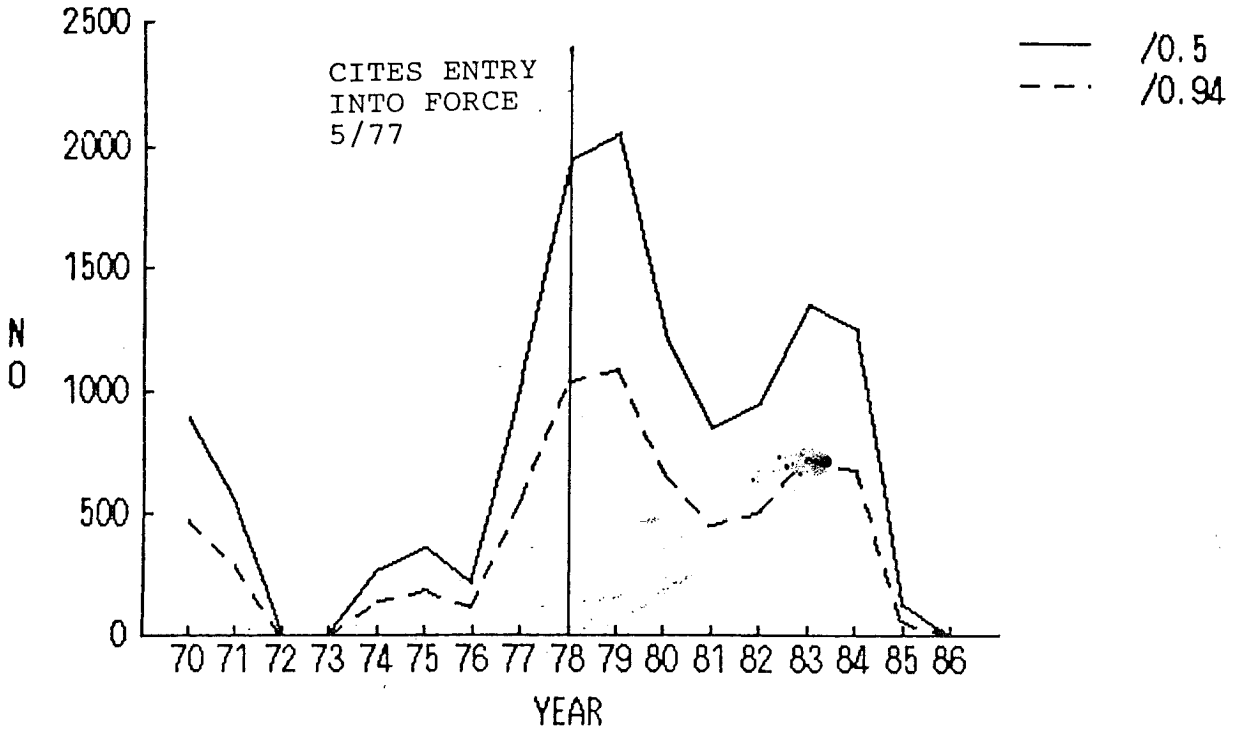

Figure 106: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Seychelles 1970-1986
Source: Japanese Customs Data Calculated at 0.5kg and 0.94kg per Hawksbill

Tortoiseshell

Tortoiseshell imports from the Seychelles were received by Japan over the four-year period between 1977 and 1980. These imports totalled 332kg (Appendix 2).

Worked Bekko

Imports of worked bekko from the Seychelles represented a very insignificant portion of the total trade, with only one recorded importation of 8kg in 1985 (Appendix 3).

SOMALIA

Bekko

Japanese import records for Somalia show that small quantities of bekko were imported over the four-year period from 1972 to 1975, and then again in 1985 and 1986. However, the importation of 645kg in 1986 represented the largest volume to date. Total trade for the period examined was 1,781kg, but half was derived from the 1985 and 1986 shipments (Appendix 1). Somalia joined CITES in 1986, so subsequent imports will probably be in contravention of the Convention.

The dealers' data for Somalia consistently showed greater than Customs statistics indicated (Figure 107).

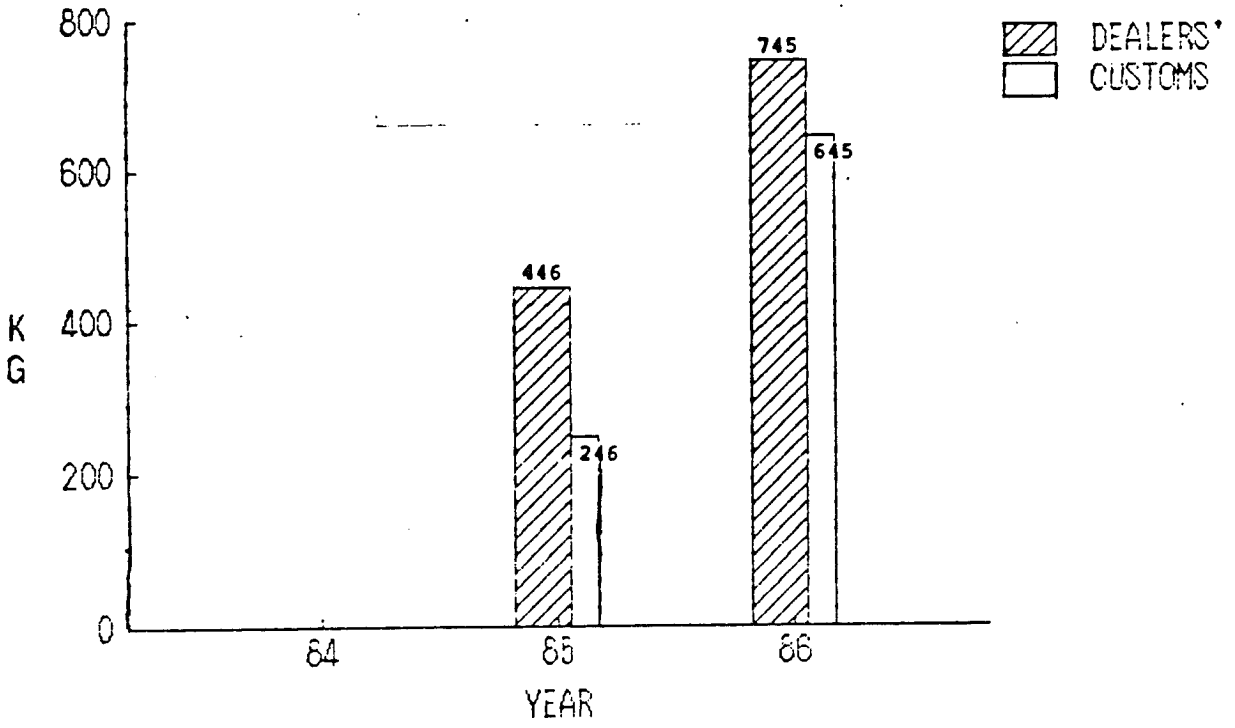

Figure 107: Comparison of Dealers' Data for Somalia with Customs Statistics 1984-1986

No average weight figures were provided in the dealers' data, but one experienced dealer estimated the average weight of bekko for hawksbills from Somalia at 1.03kg (Table 1). If this figure is applied to all trade during this period, over 1,700 hawksbills would have been required.

Tortoiseshell

In 1972, 600kg of tortoiseshell were received from Somalia, but no trade has been reported since (Appendix 2).

SRI LANKA

Bekko

With a total of 63kg reported in the Japanese Customs statistics, Sri Lanka had the lowest level of trade in the region for the period under study (Appendix 1). Imports represented 46kg of bekko in 1980 and 17kg in 1983. It is noteworthy that both instances occurred after Sri Lanka became a CITES Party in 1979. One dealer said that the average weight of bekko per animal for these imports was 0.85kg (Table 1). If so, they represented 74 hawksbills.

Worked Bekko

Only in 1972 and 1973 was trade in worked bekko from Sri Lanka to Japan reported in Japanese Customs statistics. These imports totalled 185kg (Appendix 3).

Worked Tortoiseshell

An insignificant quantity of worked tortoiseshell, 2kg, was reported as originating from Sri Lanka in the Japanese Customs statistics (Appendix 4).

TANZANIA

Bekko

Between the years 1970 and 1986, Tanzania exported a total of 27,666kg of bekko to Japan, making her Japan's major source in the Indian Ocean/East Africa region (Appendix 1). Annual totals ranged from 1,000kg to 2,000kg until 1980, with the exception of 1979, when imports to Japan hit 5,943kg. The 1979 trade probably resulted from Tanzanian dealers clearing out stockpiles to comply with CITES regulations, which were to go into effect the following year. Since 1980, importation to Japan has continued and figures have shown drastic reductions, although a post-CITES high of 1,032kg was reached in 1985 (Figure 108).

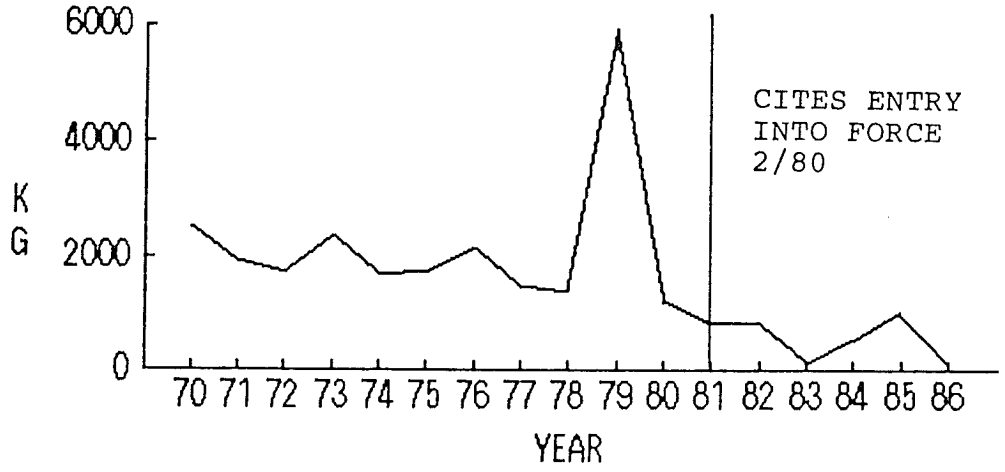

Figure 108: Japanese Imports of Bekko from Tanzania 1970-1986
Source: Japanese Customs Statistics

Dealers' data showed poor correlation with Customs statistics for all years except 1985 (Figure 109).

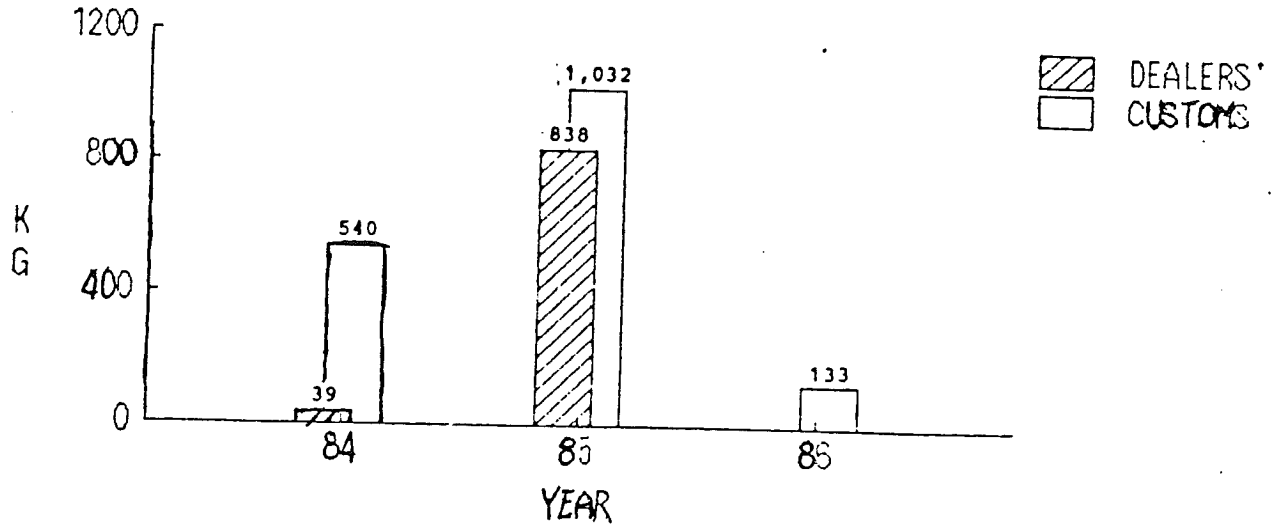

Figure 109: Comparison of Dealers' Data for Tanzania with Customs Statistics 1984-1986

No average weight figures were obtained from the dealers' data, but one importer estimated that the average weight of bekko per animal from Tanzania was 0.99kg (Table 1). If this is accurate, Tanzania's trade with Japan would have comprised almost 28,000 hawksbills during the period examined (Figure 110).

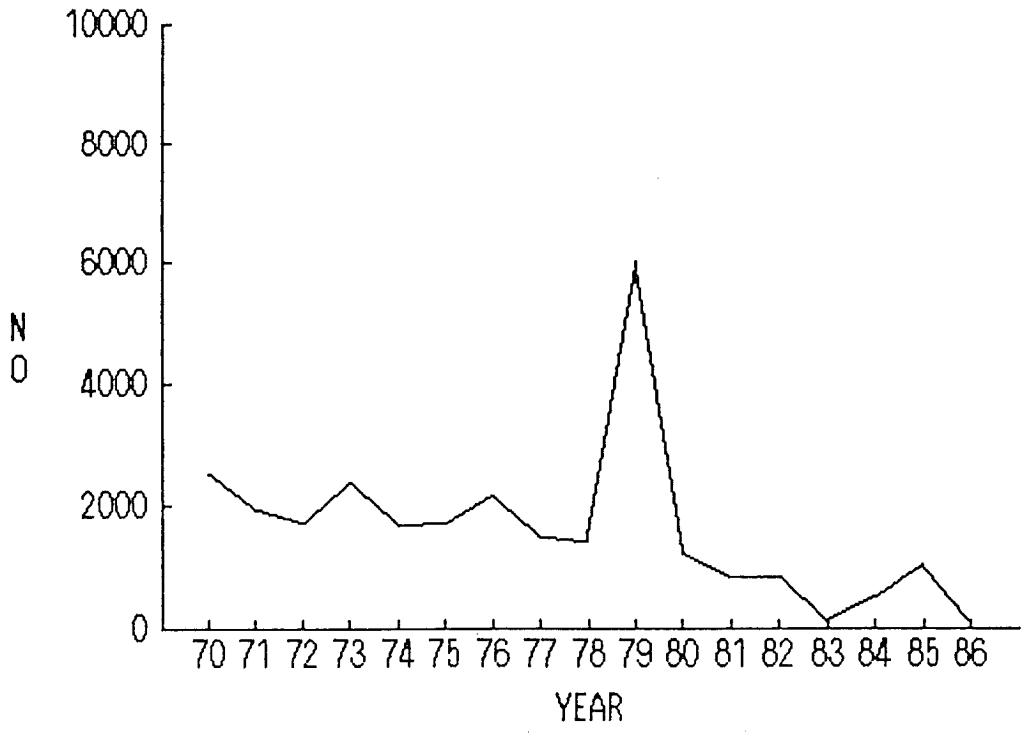

Figure 110: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Tanzania 1970-1986
Source: Japanese Customs Data Calculated at 0.99kg per Hawksbill.

The Tanzanian CITES Management Authority confirmed to TRAFFIC (Japan) in 1985, that of the 83kg of bekko reported in the Japanese Customs data as originating from Tanzania between January and April of that year, only 17kg were authorized with proper export permits (Lwezaula, in. litt.). Subsequent letters concerning other trade received no response.

OTHER INDIAN OCEAN AND EAST AFRICAN COUNTRIES

Tortoiseshell

The Indian Ocean, in 1977, was reported in the Japanese Customs data as supplying 68kg of tortoiseshell (Appendix 2). This trade probably represents green sea turtles captured on the high seas.

OCEANIA AND PACIFIC COUNTRIES

AUSTRALIA

Bekko

A total of 5,565kg of bekko was imported from Australia during the period examined. All the trade took place between 1970 and 1977, with imports ranging from 192kg in 1977 to 1,654kg in 1970 (Appendix 1). CITES became effective in late 1976 in Australia and is directly responsible for the curtailment of trade after 1977.

The dealers' data does not report any trade from Australia, and no average weight of bekko per animal was available for imports of bekko from Australia.

Tortoiseshell

A mere 6kg was imported in 1978, the only reported trade in tortoiseshell from Australia in the Japanese Customs data (Appendix 2).

FIJI

Bekko

With the exceptions of 1970 and 1971, Fiji has annually supplied bekko to Japan, according to Japanese Customs statistics (Appendix 1). Altogether, 4,319kg were received, with trade volumes fluctuating between a low of 82kg in 1977 and a high of 607kg in 1973. Over the last five years, more than 240kg were imported annually and trade volumes seem to have increased slightly -- by about 10% -- over the earlier period (Figure 111). The importance of Fiji, a non-Party to CITES, as a source of bekko to the Japanese traders is likely to increase in the near future if CITES controls are more effectively implemented in source countries which have joined the Convention.

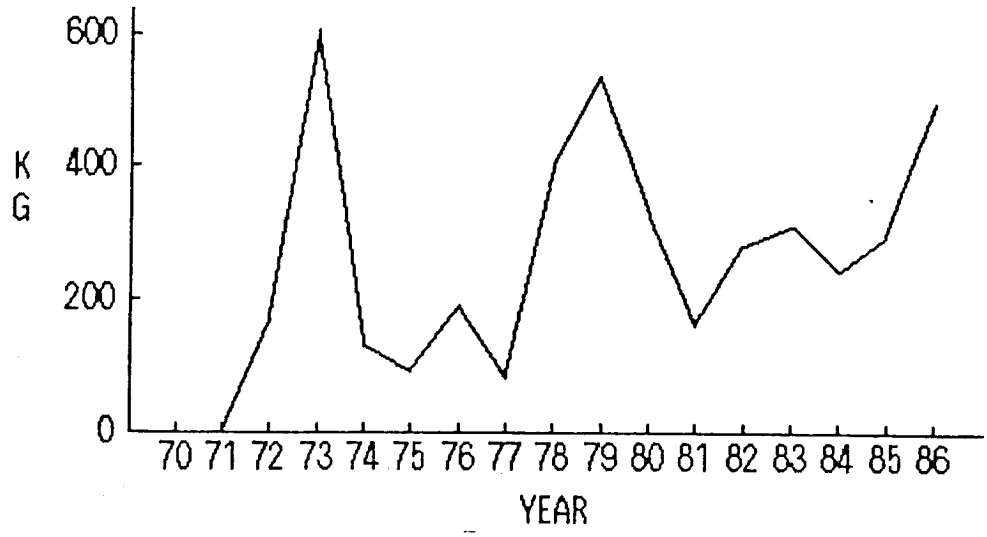

Figure 111: Japanese Imports of Bekko from Fiji 1970-1986
Source: Japanese Customs Data

With the exception of 1986, dealers' data correlated very poorly with Customs statistics (Figure 112).

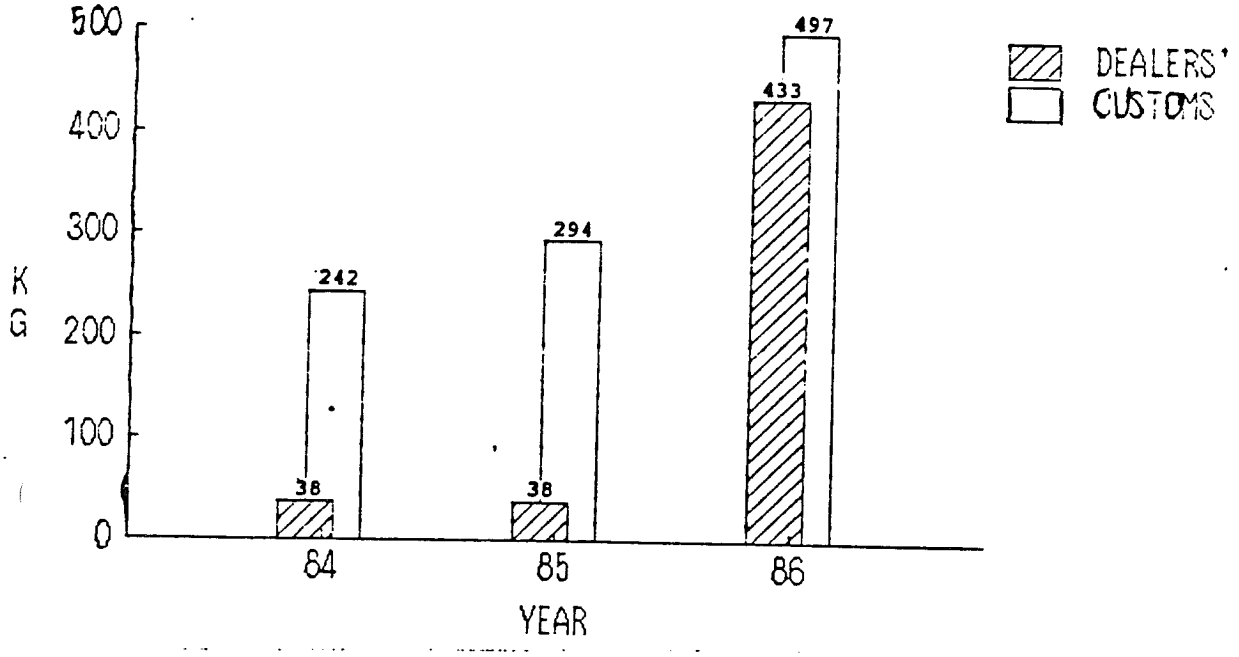

Figure 112: Comparison of Dealer's Data for Fiji with Customs Statistics

The only average weight of bekko per hawksbill for imports from Fiji in the dealers' data, 0.70kg, was based on a very small 20kg shipment (Table 1). Another source estimated the average weight of bekko per animal in trade from Fiji at 1.01kg, which is at considerable variance with the figure from dealers' data.

Using these figures, it is estimated that from 4,200 to over 6,000 hawksbills were harvested to sustain Fiji's bekko trade to Japan (Figure 113).

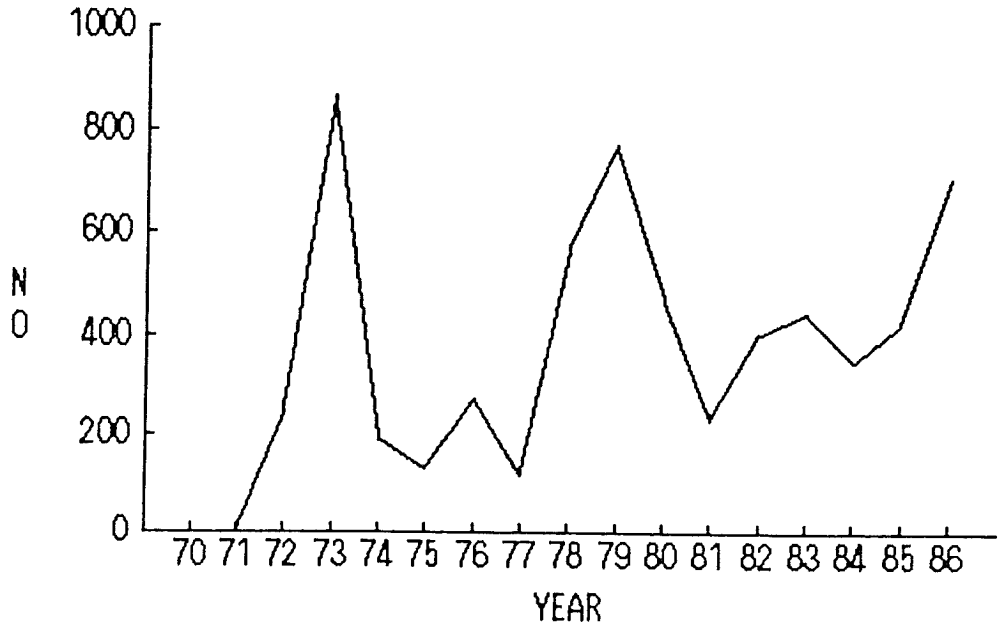

Figure 113: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from Fiji 1970-1986
Source: Japanese Customs Data Calculated at 0.70kg and 1.01kg per Hawksbill

Tortoiseshell

A total of 101kg of tortoiseshell was received from Fiji in only one year, 1972, according to Japanese Customs statistics (Appendix 2).

SOLOMON ISLANDS

Bekko

A total of 16,551kg of bekko were imported from the Solomon Islands between 1970 to 1986 (Appendix 1). Annual trade volumes ranged from a low of 336kg in 1981 to a high of 1,793kg in 1986. As a non-Party to CITES, the Solomon Islands is an increasingly important source of bekko to Japanese traders and, significantly, imports have exceeded 1,000kg annually since 1982, except for 1983 when 992kg were received (Figure 114).

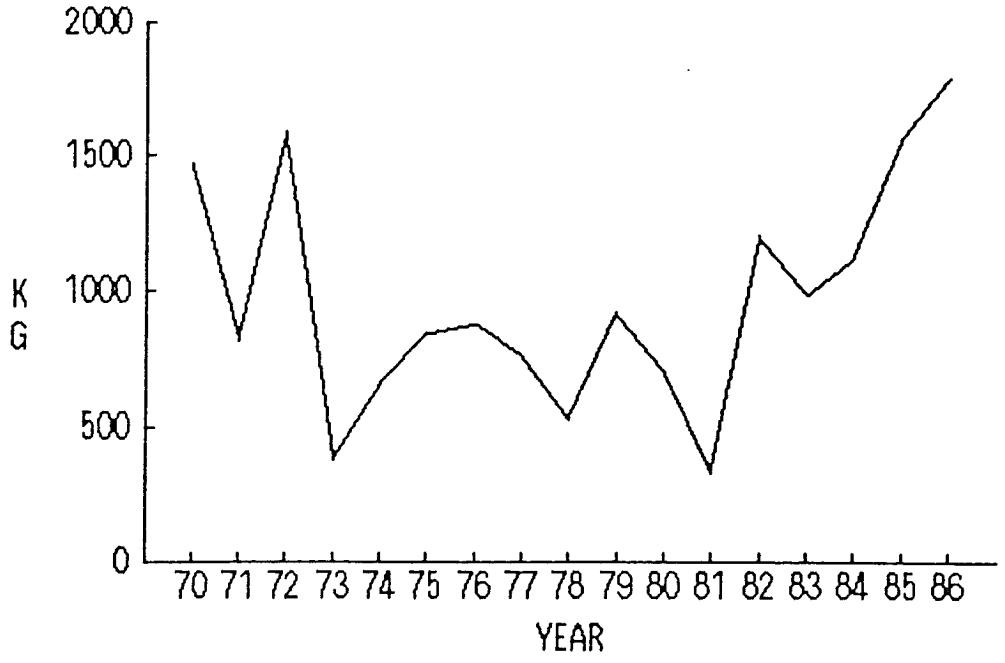

Figure 114: Japanese Imports of Bekko from the Solomon Islands 1970-1986
Source: Japanese Customs Statistics

Overall, the dealers' data correlated poorly with Customs statistics particularly in 1985 and 1986 (Figure 115).

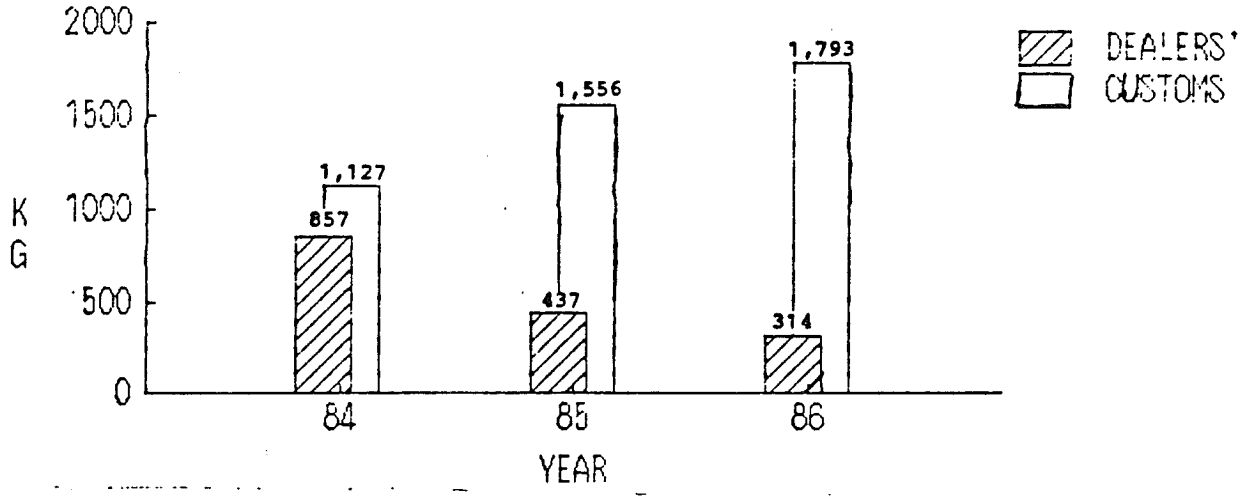

Figure 115: Comparison of Dealer's Data for the Solomon Islands with Customs Statistics

Although the dealers also reported trade in 1984, data on average weight of bekko per animal were only available for 1985 and 1986, when the average was calculated at 0.91kg overall (Table 1). This figure, based on a rather small sampling of 128kg, was considerably lower than the 1.12kg figure given by

another experienced dealer based on earlier imports. On the basis of these data, it is estimated that the trade from the Solomon Islands represented between 14,700 and 18,200 hawksbills since 1970 (Figure 116).

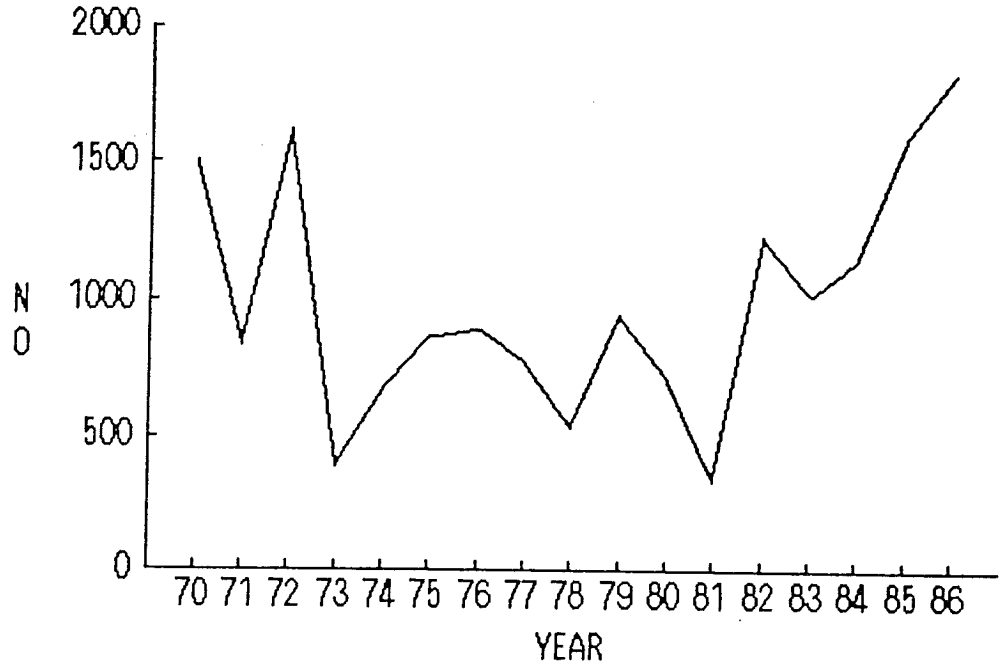

Figure 116: Estimated Number of Hawksbills Represented by Japanese Imports of Bekko from the Solomon Islands 1970-1986
Source: Japanese Customs Data Calculated at 0.91kg and 1.12kg per Hawksbill

OTHER OCEANIA AND PACIFIC COUNTRIES

Bekko

In 1973, 181kg of bekko were received from Papua New Guinea, and, in 1980, a mere 33kg were imported from Vanuatu (Appendix 1). Otherwise no other imports were received from Oceania, according to Japanese Customs statistics.

However, in the dealers' data small quantities, 25kg in 1984 and 12kg in 1985, were imported from Vanuatu (Appendix 8).

Tortoiseshell

American Samoa was identified in the Japanese Customs data as supplying 42kg of tortoiseshell to Japan in 1978 (Appendix 2).

EUROPE AND WEST AFRICAN COUNTRIES

BELGIUM

Bekko

In 1981, Japan imported 203kg from Belgium, the only instance of trade reported in Japanese Customs Statistics since 1970 (Appendix 1). One Japanese dealer estimated the average weight of bekko per animal to be 1.10kg for this trade (Table 1). If so, Japan's imports from Belgium would have comprised 185 hawksbills.

Sea Turtle Skins

A large quantity of sea turtle skins totalling 3,283kg, was imported from Belgium in 1976 (Appendix 5). Since then, there has been no subsequent trade from Belgium reported in the Japanese Customs data.

Sea Turtle Leather

In 1979, 875kg of sea turtle leather were received from Belgium (Appendix 6).

CAPE VERDE

Bekko

The bekko trade originating in Cape Verde was minor and erratic, totalling only 458kg over an eight year period from 1976 to 1983, with no trade at all in 1978 and 1979 (Appendix 1). Cape Verde is not a CITES Party.

FEDERAL REPUBLIC of GERMANY

Bekko

A single shipment of 226kg of bekko was received from F.R. Germany in 1984 (Appendix 1). The German government has confirmed that the export was never authorized by her CITES Management Authority (Kolodziejcok, *in. litt.*). A Japanese importer provided an average weight per animal of 1.13kg for this trade (Table 1). Accordingly, it represented 200 hawksbills.

Sea Turtle Skin

A small shipment of 120kg of sea turtle leather was reported in the Japanese Customs data as originating in F.R. Germany in 1976 (Appendix 5).

FRANCE

Bekko

In 1979, one year after CITES became effective in France, 18kg of bekko were imported into Japan (Appendix 1). However, France had a reservation on the hawksbill at the time so it is unlikely that this trade was in violation of the Convention.

Worked Tortoiseshell

A 360kg shipment was received from France in 1982, according to Japanese Customs statistics (Appendix 4). France had a reservation on the green sea turtle at the time, the species this trade is believed to represent.

Sea Turtle Skins

Japanese Customs statistics indicate a single shipment of 480kg of sea turtle skins was received from France in 1979 (Appendix 5). If these were green sea turtles skins, France's reservation would have allowed for their export. However, the olive ridley was the species involved, the trade would have violated CITES regulations.

MOROCCO

Worked Tortoiseshell

A single instance of trade in worked tortoiseshell from Morocco was recorded in the Japanese Customs data for 1984, amounting to only 10kg (Appendix 4).

NETHERLANDS

Bekko

The Netherlands was traditionally the only European country which regularly supplied bekko to Japan. Between 1970 and 1983, a total of 14,258kg of bekko were reported in the Japanese Customs data as originating in the Netherlands (Appendix 1). Annual import volumes in the data fluctuated considerably, ranging from a low of 193kg in 1975 to a high of 3,549kg in 1979 (Figure 117). This trend most likely reflects the opportunistic nature of the Dutch trade, which was dependent upon sources elsewhere, primarily in the Caribbean, for stocks of bekko. Since 1984, no trade has been reported, indicating that CITES controls, which became effective in the Netherlands that year, have successfully halted the trade.

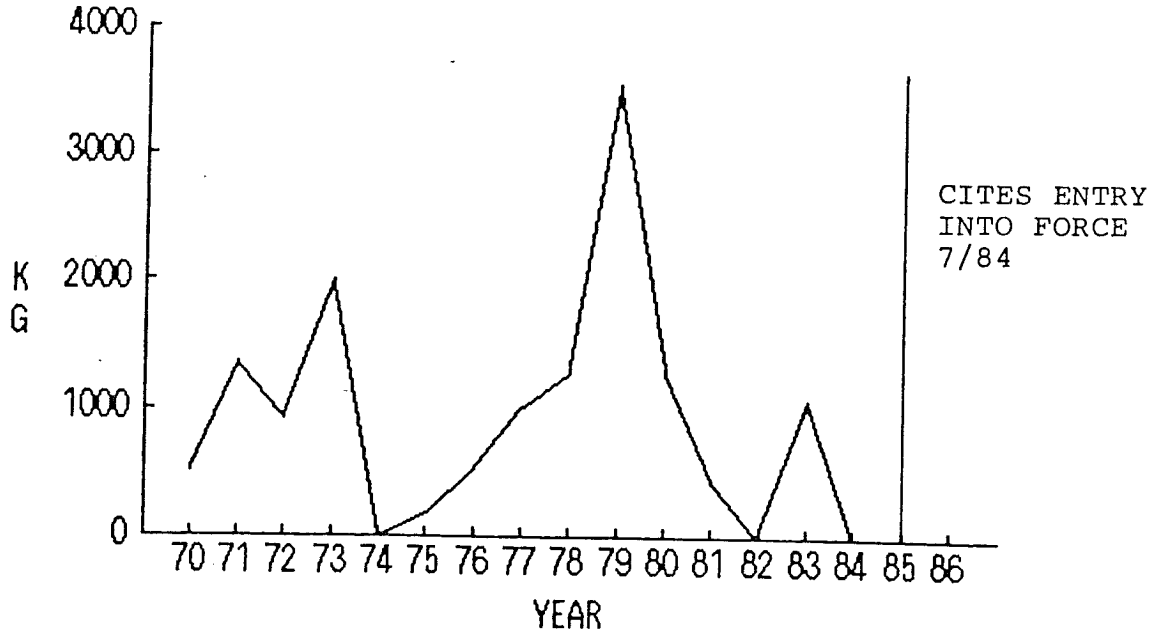

Figure 117: Japanese Imports of Bekko from the Netherlands 1970-1986
Source: Japanese Customs Statistics

One Japanese importer familiar with the Dutch trade estimated the average weight of bekko per animal at 1.20kg (Table 1). If this figure is representative of trade for the entire period examined, an estimated 11,900 hawksbills would have been required.

PORTUGAL

Bekko

Until a large shipment of bekko weighing 459kg was imported in 1986, imports from Portugal occurred only in 1976 and 1977 and these together totalled only 143kg (Appendix 1). The trade in 1986 occurred at least five years after Portugal ratified CITES and probably represents illegal exportation under the terms of the Convention.

The dealers' data also reported an import of 460kg in 1986 (Appendix 8). An average weight of 1.02kg per hawksbill was given for bekko imports from Portugal by one experienced Japanese dealer (Table 1). If this figure is applied to all trade received from Portugal, Japanese imports comprised 590 hawksbills.

OTHER EUROPEAN AND WEST AFRICAN COUNTRIES

Bekko

Between 1972 and 1976, the United Kingdom provided a total of 688kg of bekko to Japan, according to Japanese Customs data (Appendix 1). This trade was completely halted when the U.K. implemented CITES in late 1976.

A single import from Spain in 1985, totalling 178kg, was reported in the Japanese Customs statistics (Appendix 1). This trade occurred before Spain joined CITES. One Japanese dealer estimated the average weight of bekko per animal at 1.05kg (Table 1), indicating that the shipment comprised 170 hawksbills.

Tortoiseshell

Nigeria supplied 87kg of tortoiseshell to Japan in 1970, according to Japanese Customs statistics (Appendix 2).

Worked Bekko

Between 1970 and 1986, only 76kg of worked bekko were received from all European countries together. These imports came from Spain, Italy, France and the United Kingdom, which ended by 1980 (Appendix 3).

Worked Tortoiseshell

Between 1970 and 1986, Switzerland in 1972 and Italy between 1978 and 1985 were reported in the Japanese Customs data as supplying a total of 47kg of worked tortoiseshell. This trade was very minor. Between 1982 and 1985, the Italian trade was actually less than 1kg (Appendix 4).

Sea Turtle Leather

Between 1976 and 1986, Japanese Customs data indicate 31kg of sea turtle leather were obtained from the Netherlands and Italy (Appendix 6).

NORTH AMERICAN COUNTRIES

U.S.A.

Bekko

Very irregular trade, totalling 181kg since 1971, has been received from the U.S. (Appendix 1). The import of 66kg in 1977 and 22kg in 1983 could have violated U.S. CITES regulations as the trade occurred after the Convention came into effect.

Tortoiseshell

Between 1973 and 1974, a total of 147kg of tortoiseshell was received from the U.S. Then, in 1978, two years after CITES came into effect in the U.S., another 66kg were imported (Appendix 2).

Worked Bekko

A mere 2kg was reportedly received in 1978, according to Japanese Customs statistics (Appendix 3). This probably represents one or two stuffed hawksbill specimens.

Worked Tortoiseshell

In 1973, a total of 72kg of worked tortoiseshell was received from the U.S., according to Japanese Customs data (Appendix 4).

Sea Turtle Skins

In 1976, the U.S. supplied 1,676kg of sea turtle skins to Japan. No trade has since been reported in Japanese Customs data (Appendix 5).

CANADA

Bekko

Only one import totalling 40kg was reported as originating from Canada, according to Japanese Customs data (Appendix 1). This trade occurred in 1982, seven years after CITES had come into effect.

CONCLUSION AND RECOMMENDATIONS

Data presented in this report indicate that Japan's trade in sea turtles and sea turtle products has consumed well over two million hawksbill, green, and olive ridley sea turtles since 1970. Imports of hawksbill sea turtles during the period examined included more than 600,000 adults for the bekko trade and approximately 577,000 sub-adults as stuffed specimens. Between 1970 and 1986, the trade in stuffed green sea turtles comprised 380,000 to 400,000 adult and juvenile animals. Since 1976, a minimum of 38,000 adult green sea turtles have been imported for the raw skin trade and imports of olive ridley sea turtle skin and leather has involved an estimated 492,000 animals.

The scale of the Japanese trade is unequalled anywhere in the world. Nevertheless, the figures presented above underestimate the actual number of sea turtles imported into Japan for several reasons. First, Japanese Customs statistics for imports of sea turtle skins and leather have only been available since 1976. If data for the years 1970 to 1975 could be added, the estimated number of olive ridley and green sea turtles in trade would surely increase substantially. Secondly, trade in sea turtle skins from the Cayman Islands is not included in the above calculations because reliable figures for the average weight of skins from captive-reared green sea turtles were not obtained. As trade volumes reported in the Japanese Custom statistics from the Cayman Islands were relatively high, a considerable number of animals were certainly involved. Thirdly, since average weight figures for the amount of tortoiseshell a single green sea turtle would produce were not obtained, the number of animals consumed by Japan's trade in tortoiseshell remains unknown. Finally, quantified data concerning the trade in meat are not available, so it is not possible to extrapolate the numbers of sea turtles involved in that trade.

Sea turtles in the form of bekko, stuffed specimens, skins and leather form the bulk of the Japanese trade. While it is arguable that some of these sea turtle commodities are by-products of other sea turtle items in trade, the only apparent overlap involves the green sea turtle trade, in which imports of tortoiseshell, skins, and meat could conceivably be derived from a single animal. The green sea turtle meat imported from Indonesia was probably a by-product of the skin or stuffed specimen trade; the Indonesian export of green sea turtle carcasses for stuffing were said to be a by-product of the Balinese meat trade (Yogi, pers. comm.); and certainly some of the imports of tortoiseshell and skins from captive-reared stocks in the Cayman Islands were derived from the same animals. However, these instances represent limited exceptions. Most green sea turtles are

imported into Japan as stuffed specimens or skins, commodities which are mutually exclusive. The same can be said of hawksbills traded in the form of bekko or stuffed specimens: a single animal could not possibly yield both commodities. The olive ridley sea turtle appears to be the only species where trade is focused upon a single commodity: skin.

Consequently, the Japanese industries which depend upon hawksbill and green sea turtles for imports of bekko, tortoiseshell, skins and leather are in direct competition with importers of stuffed specimens. As sea turtle resources diminish, friction between these industries is expected to become more acute. Regardless of the Japanese government's policy to maintain reservations and allow trade in sea turtle products, the fact remains that the survival of Japan's sea turtle industries is inextricably linked to the ability of sea turtle populations to sustain current levels of exploitation. The only long-term solution is to place exploitation upon a basis of sustainable utilization which can be justified with sound biological data, to halt harvest from those populations which are deemed depleted or stressed, and to implement conservation and legal trade through effective management policies.

Importing nations must play a key role in this effort, but the Japanese government currently lacks a coherent policy for regulating her sea turtle industries. The present view within MITI, the Japanese government body which has the authority to set trade controls, is unequivocally myopic: industries exploiting the same resource are regulated without reference to one another. For example, both the importers of bekko and stuffed specimens depend upon the hawksbill sea turtle, but while the government has set an annual 30-tonne import quota on bekko, a similar quota for stuffed hawksbills is less specific, and neither quota is based upon biological data or assessed in relation to the other. Put more precisely, the impact of Japan's trade in stuffed hawksbills on her traditional bekko industry is a key issue which the government has avoided due to the potentially devisive effect the resulting debate would have. The government has continually and consciously separated its regulatory policies for the two industries, as if the two hands were not eating out of the same pot. In framing the current policy, socioeconomic factors have taken precedence over the biological and conservation issues facing sea turtles.

Increasingly critical international opinion coupled with serious declines in many sea turtle populations make a reassessment of Japan's sea turtle trade policies essential, even from the standpoint of protecting her sea turtle industries. Japanese authorities can no longer ignore immutable biological realities and will have to make administrative decisions which will further limit or curtail specific sea turtle industries. The bekko industry feels particularly vulnerable without any identifiable substitute at hand. It is arguable that the stuffed sea turtle trade, which relies overwhelmingly upon sub-adult non-breeding animals, is effectively eliminating

the future breeding potential of many hawksbill populations. If so, this could spell increasing doom for both industries. The only encouraging sign is that imports of stuffed hawksbills have dropped substantially over the last few years.

On the other hand, the bekko industry's demand for shells of large animals means that exploitation is focused upon the breeding elements of hawksbill populations. Even though no quantitative data is currently available to prove the point, it is probable that breeding females comprise a disproportionate number of Japan's imports. In many countries, intensive harvests occur during the breeding season, when laying females are particularly vulnerable. The long-term impact of constant elimination of adult females in any discreet population will be devastating.

Recommendations

Domestic and international laws provide means by which sea turtle populations may be returned to their former abundance. However, the continued violation of these laws, by Japan in particular, continues to seriously impact sea turtle populations and to undermine the future of people who have historically depended upon them for their livelihood and sustenance. Taken together with other threats, many scientists believe, international trade is likely to cause the commercial, if not biological, extinction of these species. This disturbing trend may be reversed if Japan takes the following initial actions:

1) Japan should meet all of her requirements under CITES with respect to her sea turtle trade. Specifically, Japan should implement the recommendations of Conf. Resolution 4.25 (Trade in reservation species). In this regard, imports of sea turtle products from CITES Parties which are not issuing CITES export documents for their legal export should cease and all trade should be reported in the Japanese CITES annual report.

2) Any trade in captive-bred specimens must meet the standards of Conf. Resolution 2.12. In this respect, stuffed sea turtle specimens exported from Indonesia with captive bred certificates do not meet the CITES standards. All future shipments of sea turtle products from Indonesia under the captive-bred exemption should be rejected, until compliance with Conf. Resolution 2.12 can be demonstrated and documented.

3) Current Japanese reservations on hawksbill, green, and olive ridley sea turtles should be reviewed and dropped at the earliest opportunity. In the interim, existing reservations should be more specifically defined to limit trade in sea turtle products. For example, trade in hawksbill sea

turtles could be limited to bekko only, olive ridleys to skin, and so on.

4) It is very important that current reservations not lead to non-traditional patterns of consumption. For example, the development of a sea turtle meat market in Japan would be counterproductive and should be avoided.

5) Sea turtle industries which depend upon the same resource, for example the bekko industry and the stuffed sea turtle importers, should be regulated with reference to each other, not separately, as they are now. In setting any quotas, preference should be given to traditional uses. In respect to current hawksbill trade, for instance, preference should be given to bekko over stuffed hawksbills.

6) Existing quotas and regulatory policies should be re-examined for sustainability against available biological data, trade patterns and other sources of information. Guidance from sea turtle specialists, in particular the IUCN/SSC Sea Turtle Specialist Group, should be sought and followed whenever possible.

7) Where government policy fails to place sea turtle exploitation on a sound basis, Japan's sea turtle industries themselves should take the initiative to act with restraint to protect the resource. The Japanese ivory industry is an internationally recognized example of an industry taking responsible action when faced with a similar situation. Illegal trade into Japan has virtually disappeared and considerable funds have been raised to support the CITES Secretariat's special Ivory Unit and other elephant conservation programmes. Japan's sea turtle industries should act in an equally responsible way.

8) The Japanese bekko industry should continue to monitor shell weights in order to expand the data base presented in Table 1 of this report. The importers of sea turtle skins and leather should also collect quantitative data on the average weight of skin sets.

9) Where possible, consuming industries should replace the current use of sea turtle materials with other materials not involving Appendix I species. In this respect, the importers and manufacturers of sea turtle skins and leather products are just one part of a larger reptile skin industry. Substitute utilization of non-endangered species, particularly Appendix II or captive-bred species, should be encouraged whereever possible.

10) The sea turtle industry, government officials, and conservationists should continue to work together to find appropriate solutions to sea turtle conservation and trade problems.

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Appendix 1: Japanese Imports of Bekko 1970~1986
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America/Caribbean																		
Panama	10,744	11,981	8,389	8,990	9,350	9,313	5,885	4,450	6,505	4,810	3,360	3,011	2,243	3,889	4,259	1,500	–	98,679
Cuba	5,435	5,946	5,100	8,100	6,245	6,100	6,975	3,984	6,600	3,725	7,338	2,650	6,933	5,017	4,200	7,816	5,688	97,852
Cayman Islands	–	–	78	936	963	1,083	3,096	3,863	6,321	6,110	2,505	3,022	2,258	–	115	–	–	30,350
Haiti	1,415	1,415	1,303	2,390	678	831	1,094	1,173	959	1,689	1,020	892	1,188	1,788	1,988	2,203	2,767	24,793
Nicaragua	798	1,060	1,316	994	2,646	1,632	1,446	1,573	1,014	949	7	475	417	–	–	192	–	14,519
Jamaica	600	943	1,852	2,521	222	286	343	683	128	559	695	419	1,499	709	474	170	2,182	14,285
Honduras	–	–	–	316	–	38	–	71	9	9	1,132	481	636	1,886	2,463	2,217	–	9,258
Bahamas	127	109	1,474	580	218	449	532	922	1,018	1,886	767	29	728	–	–	–	–	8,839
B. Honduras/Belize	97	82	–	28	276	–	12	40	–	314	258	–	702	538	–	1,195	2,231	5,773
Dominican Republic	–	–	62	4	11	31	113	507	–	219	534	357	872	248	636	203	569	4,366
Puerto Rico (USA)	974	700	498	341	45	165	262	264	–	18	–	–	–	–	–	–	–	3,267
St. Lucia	–	–	–	345	288	332	–	489	349	152	143	267	270	362	–	–	–	2,997
Costa Rica	360	189	387	265	175	515	170	260	47	89	–	234	79	5	–	–	–	2,775
St. Vincent	–	–	–	243	250	191	130	230	144	–	–	–	36	108	242	191	470	2,235
Barbados	398	338	337	344	310	31	13	–	23	–	9	–	11	–	–	–	116	1,930
French W. Indies	266	–	–	–	–	122	152	198	276	123	196	231	215	–	–	–	–	1,779
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	–	–	–	329	544	208	–	1,081
Com. of Dominica	–	–	–	6	–	–	126	–	–	114	90	60	39	40	–	174	219	868
Antigua Barbuda	–	–	–	–	–	–	–	–	–	–	–	–	–	49	286	221	293	849
Grenada	–	–	–	499	–	132	–	59	–	–	9	7	–	–	–	–	–	706

Appendix 1: Japanese Imports of Bekko 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America/Caribbean (Cont.)																		
Turks & Caicos	149	85	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	234
Venezuela	–	–	–	171	–	–	–	–	–	–	–	–	–	–	–	–	9	180
Colombia	–	26	–	37	58	45	–	–	–	–	–	–	–	–	–	–	–	166
N. West Indies	68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	68
Leeward/Westward	45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	45
Mexico	–	–	–	8	–	–	–	–	–	–	–	–	–	36	–	–	–	44
L. A./Carib. Total	21,476	22,874	20,796	27,118	21,735	21,296	20,349	18,766	23,393	20,766	18,063	12,135	18,126	15,004	15,207	16,290	14,544	327,938
L. A./Carib. Total (%)	58.1	64.3	49.8	37.0	63.5	59.1	49.2	42.9	57.7	32.7	58.6	60.6	68.4	59.1	49.5	48.5	52.8	51.1
Asia																		
Indonesia	736	3,010	7,197	20,302	2,693	4,328	6,464	10,114	5,659	19,071	4,811	1,579	2,032	3,605	6,604	5,534	1,740	105,479
Singapore	4,844	1,274	3,942	7,578	967	2,320	2,850	4,080	1,799	2,417	364	522	724	1,471	1,865	2,808	4,586	44,411
Philippines	976	583	3,285	4,467	4,621	1,288	2,369	3,313	1,416	3,539	2,514	1,439	1,376	232	1,227	276	–	32,921
Hong Kong	–	39	968	2,124	15	243	–	163	89	945	–	104	–	–	–	–	–	4,690
Malaysia	1,063	1,106	108	56	–	–	–	45	–	–	–	–	196	349	74	–	–	2,997
Taiwan	–	–	–	469	–	130	25	–	150	1,323	50	–	–	50	23	–	–	2,220
Thailand	20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	20
Asia Total	7,639	6,012	15,500	34,996	8,296	8,309	11,708	17,715	9,113	27,295	7,739	3,644	4,328	5,707	9,793	8,618	6,326	192,738
Asia (%)	20.7	16.9	37.1	47.8	24.2	23.0	28.3	40.5	22.5	42.9	25.1	18.2	16.3	22.5	31.9	25.6	23.0	30.0

Appendix 1: Japanese Imports of Bekko 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Indian Ocean/East Africa																		
Tanzania	2,518	1,921	1,729	2,356	1,688	1,719	2,152	1,474	1,410	5,943	1,202	845	836	168	540	1,032	133	27,666
Kenya	–	38	183	1,744	84	1,169	2,654	2,655	2,850	2,051	463	1,404	572	938	2,111	3,110	400	22,426
Maldives	–	–	–	65	89	340	485	317	567	1,266	167	355	601	406	822	2,225	1,956	9,661
Seychelles	449	275	–	–	136	177	106	523	976	1,027	618	423	472	675	629	61	–	6,547
India	591	769	244	1,193	74	150	194	68	20	–	–	–	–	–	–	–	–	3,303
Ethiopia	573	453	286	500	400	500	–	–	–	–	–	–	–	–	–	–	427	3,139
Somalia	–	–	75	395	320	100	–	–	–	–	–	–	–	–	–	246	645	1,781
Madagascar	64	–	250	570	100	100	60	–	–	–	–	–	–	–	–	–	138	1,282
Mozambique	–	–	–	452	–	–	277	–	–	–	–	–	–	–	–	–	–	729
Reunion	–	–	–	–	–	–	377	–	–	–	–	–	–	–	–	–	–	377
Comoros	–	–	–	–	–	–	–	–	–	–	45	–	–	–	–	–	225	270
Saudi Arabia	–	–	–	–	–	–	–	–	–	110	–	–	–	–	–	–	–	110
Sri Lanka	–	–	–	–	–	–	–	–	–	–	46	–	–	17	–	–	–	63
Ind. Ocean/E. Af. Total	4,195	3,456	2,767	7,275	2,891	4,255	6,305	5,037	5,823	10,397	2,541	3,027	2,481	2,204	4,102	6,674	3,924	77,354
Ind. Ocean/E. Af. (%)	11.3	9.7	6.6	9.9	8.4	11.8	15.2	11.5	14.4	16.4	8.2	15.1	9.4	8.7	13.4	19.9	14.2	12.1
Oceania																		
Solomons	1,469	816	1,590	378	657	846	873	756	528	924	704	336	1,206	992	1,127	1,556	1,793	16,551
Australia	1,654	894	–	397	364	977	1,087	192	–	–	–	–	–	–	–	–	–	5,565
Fiji	–	–	169	607	131	91	189	82	399	539	328	162	280	309	242	294	497	4,319
Papua New Guinea	–	–	–	181	–	–	–	–	–	–	–	–	–	–	–	–	–	181

Appendix 1: Japanese Imports of Bekko 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Oceania (Cont.)																		
Vanuatu	–	–	–	–	–	–	–	–	–	–	33	–	–	–	–	–	–	33
Oceania Total	3,123	1,710	1,759	1,563	1,152	1,914	2,149	1,030	927	1,463	1,065	498	1,486	1,301	1,369	1,850	2,290	26,649
Oceania (%)	8.4	4.8	4.2	2.1	3.4	5.3	5.2	2.4	2.2	2.3	3.5	2.5	5.6	5.1	4.5	5.5	8.3	4.2
Europe/West Africa																		
Netherlands	528	1,370	933	2,014	–	193	536	1,017	1,288	3,549	1,305	448	–	1,077	–	–	–	14,258
United Kingdom	–	–	10	234	149	86	209	–	–	–	–	–	–	–	–	–	–	688
Portugal	–	–	–	–	–	–	55	88	–	–	–	–	–	–	–	–	459	602
Cape Verde	–	–	–	–	–	–	63	–	–	67	117	81	45	85	–	–	–	458
F. R. Germany	–	–	–	–	–	–	–	–	–	–	–	–	–	–	226	–	–	226
Belgium	–	–	–	–	–	–	–	–	–	–	–	203	–	–	–	–	–	203
Spain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	178	–	178
France	–	–	–	–	–	–	–	–	–	18	–	–	–	–	–	–	–	18
Europe/W. Af. Total	528	1,370	943	2,248	149	279	863	1,105	1,288	3,634	1,422	732	45	1,162	226	178	459	16,631
Europe/W. Af. (%)	1.5	3.9	2.3	3.1	0.5	0.8	2.1	2.5	3.2	5.7	4.6	3.7	0.2	4.6	0.7	0.5	1.7	2.6
North America																		
USA	–	153	–	6	–	–	–	–	–	–	–	–	–	22	–	–	–	181
Canada	–	–	–	–	–	–	–	–	–	–	–	–	40	–	–	–	–	40
North America Total	–	153	–	6	–	–	–	–	–	–	–	–	40	22	–	–	–	221
North America (%)	–	0.4	–	0.1	–	–	–	–	–	–	–	–	0.2	0.1	–	–	–	0
Grand Total	36,961	35,575	41,765	73,206	34,223	36,053	41,374	43,653	40,544	63,555	30,830	20,036	26,506	25,400	30,697	33,610	27,543	641,531

Appendix 2: Japanese Imports of Tortoiseshell 1970~1986
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Asia																		
Philippines	32	–	2,793	8,979	12,301	200	791	–	23	157	1,214	20	–	–	–	–	–	26,510
China	915	750	2,950	2,150	1,410	405	1,851	1,331	240	569	405	600	1,210	250	168	–	–	15,204
Singapore	–	–	2,874	5,749	–	75	279	–	45	34	–	100	–	–	–	–	–	9,156
Thailand	700	200	500	–	–	–	–	200	1,550	1,980	1,200	–	–	–	–	–	–	6,330
Taiwan	500	200	34	40	–	–	–	–	–	–	2,300	–	–	–	–	–	–	3,074
Malaysia	1,481	1,560	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3,041
Hong Kong	–	–	–	–	–	16	46	–	–	1,031	–	–	–	–	–	–	–	1,093
Ryukyus	–	930	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	930
Indonesia	–	–	–	80	–	–	–	–	76	92	100	–	–	–	–	–	–	348
Asia Total	3,628	3,640	9,151	16,998	13,711	696	2,967	1,531	1,934	3,863	5,219	720	1,210	250	168	–	–	65,686
Asia (%)	95.0	84.2	82.6	92.9	98.2	57.6	63.3	70.7	55.3	53.0	65.4	46.2	25.3	43.9	11.4	–	–	75.8
Latin America/Caribbean																		
Cayman Islands	–	–	–	409	68	–	906	–	1,179	1,577	535	434	1,904	84	53	–	–	7,149
Cuba	–	–	–	200	–	–	10	–	–	750	225	–	950	–	460	–	–	2,595
Panama	–	–	354	453	–	512	–	–	–	–	452	362	–	–	–	–	–	2,133
Jamaica	–	45	100	–	–	–	–	453	–	–	997	–	–	–	140	–	–	1,735
Haiti	82	568	651	–	–	–	–	–	45	–	–	–	–	–	–	–	–	1,346
St. Lucia	–	–	–	–	–	–	–	–	–	339	95	–	–	–	–	–	–	434
Dominican Republic	–	–	–	–	–	–	–	–	62	–	–	44	–	–	–	–	–	106
Nicaragua	–	–	–	–	66	–	–	–	–	–	–	–	–	–	–	–	–	66

Appendix 2: Japanese Imports of Tortoiseshell 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America/Caribbean (Cont.)																		
Puerto Rico	–	32	–	–	–	–	–	–	25	–	–	–	–	–	–	–	–	57
Bahamas	9	40	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	49
French W. Indies	–	–	–	–	–	–	–	38	–	–	–	–	–	–	–	–	–	38
Leeward/Westward	–	–	18	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18
L. Ame./Carib. Total	91	685	1,123	1,062	134	512	916	491	1,311	2,666	2,304	840	2,854	84	653	–	–	15,726
L. Ame./Carib. (%)	2.4	16	10.1	5.8	1.0	42.4	19.5	22.7	37.5	36.6	28.9	53.8	59.7	14.8	44.1	–	–	18.1
Indian Ocean/East Africa																		
Pakistan	–	–	–	–	–	–	745	–	–	136	330	–	–	133	–	–	–	1,344
Kenya	12	–	–	–	–	–	58	–	–	–	–	–	715	–	429	–	–	1,214
Maldives	–	–	–	–	–	–	–	–	–	414	–	–	–	102	230	–	–	746
Somalia	–	–	600	–	–	–	–	–	–	–	–	–	–	–	–	–	–	600
Seychells	–	–	–	–	–	–	–	54	90	62	126	–	–	–	–	–	–	332
India	–	–	100	208	–	–	–	21	–	–	–	–	–	–	–	–	–	329
Sri Lanka	–	–	–	–	–	–	–	–	–	150	–	–	–	–	–	–	–	150
Indian Ocean	–	–	–	–	–	–	–	68	–	–	–	–	–	–	–	–	–	68
Reunion	–	–	–	–	–	–	–	–	46	–	–	–	–	–	–	–	–	46
Ind. Ocean/Af. Total	12	–	700	208	–	–	803	143	136	762	456	–	715	235	659	–	–	4,829
Ind. Ocean/Af. (%)	0.3	–	6.3	1.1	–	–	17.2	6.6	3.9	10.4	5.7	–	15	41.3	44.5	–	–	5.6

Appendix 2: Japanese Imports of Tortoiseshell 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Other Countries																		
USA	–	–	–	27	120	–	–	–	66	–	–	–	–	–	–	–	–	213
Fiji	–	–	101	–	–	–	–	–	–	–	–	–	–	–	–	–	–	101
Nigeria	87	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	87
American Samoa	–	–	–	–	–	–	–	–	42	–	–	–	–	–	–	–	–	42
Australia	–	–	–	–	–	–	–	–	6	–	–	–	–	–	–	–	–	6
Other Co. Total	87	–	101	27	120	–	–	–	114	–	–	–	–	–	–	–	–	449
Other Co. (%)	2.3	–	0.9	0.1	0.9	–	–	–	3.3	–	–	–	–	–	–	–	–	0.5
Grand Total	3,818	4,325	11,075	18,295	13,965	1,208	4,686	2,165	3,495	7,291	7,979	1,560	4,779	569	1,480	–	–	86,690

Appendix 3: Japanese Imports of Worked Bekko 1970~1986
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Asia																		
Indonesia	3,757	5,665	19,935	50,204	43,745	39,706	41,988	39,283	30,162	59,457	41,167	30,803	18,835	25,871	20,649	14,121	7,840	493,188
Singapore	962	1,356	9,589	23,151	16,624	6,384	6,790	2,795	10,225	11,786	10,455	540	178	985	–	–	–	101,820
Taiwan	81	280	5,981	8,280	10,923	5,921	570	1,024	597	2,434	794	–	–	–	1	–	–	36,886
Ryukyus	4,384	7,961	3,109	–	–	–	–	–	–	–	–	–	–	–	–	–	–	15,454
Philippines	–	–	–	987	1,965	1,657	1,373	740	727	1,618	936	–	–	–	–	–	–	10,003
Hong Kong	145	–	153	1,917	138	276	370	–	27	39	3	–	–	6	–	–	1,007	4,081
Viet Nam	–	36	1	521	668	24	93	4	–	–	–	–	–	–	11	8	8	1,374
Malaysia	–	–	–	346	–	–	–	–	–	–	–	–	–	–	–	–	–	346
Korea	–	–	–	31	–	–	–	–	–	–	–	–	–	–	–	–	–	31
China	–	–	–	24	–	–	–	–	–	–	–	–	–	–	–	–	–	24
Papua New Guinea	–	–	–	–	–	0	–	–	–	–	–	–	–	–	–	–	–	0
Asia Total	9,329	15,298	38,768	85,461	74,063	53,968	51,184	43,846	41,738	75,334	53,355	31,343	19,013	26,862	20,661	14,129	8,855	663,207
Asia (%)	100	100	100	99.6	100	100	100	99.9	100	99.7	99.5	100	100	100	99.9	99.9	100	99.9
Indian Ocean																		
Maldives	–	–	–	–	–	–	–	–	–	226	270	–	–	–	–	–	–	496
Sri Lanka	–	–	5	180	–	–	–	–	–	–	–	–	–	–	–	–	–	185
India	–	–	–	–	–	–	22	–	–	–	–	–	–	–	–	–	–	22
Seychelles	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8	–	8
Indian Ocean Total	–	–	5	180	–	–	22	–	–	226	270	–	–	–	–	8	–	711
Indian Ocean (%)	–	–	0.1	0.2	–	–	–	–	–	0.3	0.5	–	–	–	–	0.1	–	0.1

Appendix 3: Japanese Imports of Worked Bekko 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America/Caribbean																		
Cayman Islands	–	–	–	202	–	–	–	–	–	–	–	–	–	–	–	–	–	202
Dominican Republic	–	–	–	–	–	–	–	–	–	–	–	–	–	3	28	–	–	31
Brazil	–	–	–	–	–	–	–	–	–	–	16	–	–	–	–	–	–	16
L. A. /Carib. Total	–	–	–	202	–	–	–	–	–	–	16	–	–	3	28	–	–	249
L. A. /Carib. (%)	–	–	–	0.2	–	–	–	–	–	–	0	–	–	0	0.1	–	–	0
Europe																		
Spain	–	–	–	–	–	–	–	42	–	–	–	–	–	–	–	–	–	42
Italy	–	0	16	–	6	0	0	–	–	7	–	–	–	–	–	–	–	29
France	–	1	1	–	1	–	1	–	–	–	–	–	–	–	–	–	–	4
United Kingdom	–	–	–	–	–	–	–	1	0	–	–	–	–	–	–	–	–	1
Europe Total	–	1	17	–	7	0	1	43	0	7	–	–	–	–	–	–	–	76
Europe (%)	–	0	0	–	0	0	0	0.1	0	0	–	–	–	–	–	–	–	0
North America																		
USA	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	2
North America Total	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	2
North America (%)	–	–	–	–	–	–	–	–	0	–	–	–	–	–	–	–	–	0
Grand Total	9,329	15,299	38,790	85,843	74,070	53,968	51,207	43,889	41,740	75,567	53,641	31,343	19,013	26,865	20,689	14,137	8,855	664,245

Appendix 4: Japanese Imports of Worked Tortoiseshell 1970~1986
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Asia																		
Indonesia	936	5,949	21,660	52,546	54,172	41,159	47,206	41,668	25,036	88,584	58,901	43,092	42,355	29,341	43,352	41,138	8,562	645,657
Singapore	191	1,559	16,146	21,064	11,045	7,970	10,270	8,947	24,671	27,381	8,183	–	240	1,336	–	–	–	139,003
Taiwan	96	1,165	6,231	29,986	23,134	7,457	2,004	463	687	1,556	135	–	–	–	–	–	–	72,914
Philippines	–	–	157	1,063	7,226	6,812	1,599	6,693	5,454	9,276	7,919	7,511	1,989	4,072	–	–	–	59,771
Ryukyus	23,261	26,170	8,824	–	–	–	–	–	–	–	–	–	–	–	–	–	–	58,255
Hong Kong	–	–	473	475	–	–	–	–	–	1	2	–	–	–	–	–	2,850	3,801
Thailand	–	–	–	–	238	–	–	–	–	204	–	–	–	–	–	–	–	442
Viet Nam	–	–	–	23	–	–	–	–	–	–	–	–	–	–	–	–	–	23
Malaysia	–	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
Asian Total	24,484	34,843	53,498	105,157	95,815	63,398	61,079	57,771	55,848	127,002	75,140	50,603	44,584	34,749	43,352	41,138	11,412	979,873
Asia (%)	100	100	99.9	99.5	100	100	100	100	100	100	100	100	99.2	100	100	100	100	99.9
Latin America/Caribbean																		
Mexico	–	–	–	310	33	–	–	–	–	–	–	–	–	–	–	–	–	343
Cayman Islands	–	–	–	184	–	–	–	14	–	–	–	–	–	–	–	–	–	198
L. A./Carib. Total	–	–	–	494	33	–	–	14	–	–	–	–	–	–	–	–	–	541
L. A./Carib. (%)	–	–	–	0.4	0.3	–	–	0.2	–	–	–	–	–	–	–	–	–	0.06
Europe/West Africa																		
France	–	–	–	–	–	–	–	–	–		–	–	360	–	–	–	–	360
Switzerland	–	–	31	–	–	–	–	–	–	–	–	–	–	–	–	–	–	31
Italy	–	–	–	–	–	–	–	–	15	–	–	1	0	0	0	0	–	16

Appendix 4: Japanese Imports of Worked Tortoiseshell 1970~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Morocco	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10	–	–	10
Europe/W. Af. Total	–	–	31	–	–	–	–	–	15	–	–	1	360	0	10	0	–	417
Europe/W. Af. (%)	–	–	0.1	–	–	–	–	–	0	–	–	0	0.8	0	0	0	–	0
North America																		
USA	–	–	–	72	–	–	–	–	–	–	–	–	–	–	–	–	–	72
North America Total	–	–	–	72	–	–	–	–	–	–	–	–	–	–	–	–	–	72
North America (%)	–	–	–	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	0
Indian Ocean/East Africa																		
India	–	–	–	–	–	20	–	–	–	–	–	–	–	–	–	–	–	20
Sri Lanka	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	2
Ind. Ocean/E. Af. Total	–	–	–	–	–	20	–	–	2	–	–	–	–	–	–	–	–	22
Ind. Ocean/E. Af. (%)	–	–	–	–	–	0	–	–	0	–	–	–	–	–	–	–	–	0
Grand Total	24,484	34,843	53,529	105,723	95,848	63,418	61,079	57,785	55,865	127,002	75,140	50,604	44,944	34,749	43,362	41,138	11,412	980,925

Appendix 5: Japanese Imports of Turtle Skins 1976~1986
Source: Japanese Customs Statistics

Country/Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America												
Ecuador	40,275	62,073	40,807	121,399	16,313	8,465	3,376	3,000	8,943	–	33,765	338,416
Cayman Islands	–	36	23,514	14,336	14,778	6,687	–	–	–	–	–	59,351
Mexico	35,231	5,244	1,061	9,075	–	–	–	–	–	–	–	50,611
Panama	–	–	2,546	–	–	–	–	–	5,518	12,836	–	20,900
Nicaragua	883	2,322	640	–	–	–	–	–	–	–	–	3,845
Latin America Total	76,389	69,675	68,568	144,810	31,091	15,152	3,376	3,000	14,461	12,836	33,765	473,123
Latin America (%)	73.0	90.2	72.6	85.6	58.1	60.3	11.8	14.5	51.3	49.1	94.3	71.3
Asia												
Indonesia	–	145	6,261	3,989	4,160	7,585	20,587	14,759	13,737	10,369	2,025	83,617
Philippines	18,610	6,408	3,857	4,300	7,531	–	625	2,988	–	–	–	44,319
Singapore	–	–	9,673	12,261	8,660	–	2,667	–	–	–	–	33,261
Taiwan	–	–	726	–	–	–	–	–	–	–	–	726
Thailand	–	–	–	–	–	–	80	–	–	–	–	80
Asia Total	18,610	6,553	20,517	20,550	20,351	7,585	23,959	17,747	13,737	10,369	2,025	162,003
Asia (%)	17.8	8.5	21.7	12.2	38.0	30.2	84.0	85.5	48.7	39.7	5.7	24.4
Indian Ocean/Africa												
Pakistan	4,648	1,016	5,360	3,248	2,100	2,400	1,200	–	–	2,925	–	22,897
Ind. Ocean/Af. Total	4,648	1,016	5,360	3,248	2,100	2,400	1,200	–	–	2,925	–	22,897
Ind. Ocean/Af. (%)	4.4	1.3	5.7	1.9	3.9	9.5	4.5	–	–	11.2	–	3.5

Appendix 5: Japanese Imports of Turtle Skins 1976~1986 (Cont.)
Source: Japanese Customs Statistics

Country/Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Europe												
Belgium	3,283	–	–	–	–	–	–	–	–	–	–	3,283
France	–	–	–	480	–	–	–	–	–	–	–	480
Europe Total	3,283	–	–	480	–	–	–	–	–	–	–	3,763
Europe (%)	3.1	–	–	0.3	–	–	–	–	–	–	–	0.6
North America												
USA	1,676	–	–	–	–	–	–	–	–	–	–	1,676
N. America Total	1,676	–	–	–	–	–	–	–	–	–	–	1,676
N. America (%)	1.6	–	–	–	–	–	–	–	–	–	–	0.3
Grand Total	104,606	77,244	94,445	169,088	53,542	25,137	28,535	20,747	28,198	26,130	35,790	663,462

Appendix 6: Japanese Imports of Turtle Leather 1976~1986
Source: Japanese Customs Statistics

Country/Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Total
Latin America												
Mexico	11,065	6,835	11,646	22,774	11,506	10,536	8,007	5,180	2,638	1,125	3,772	94,084
B. Honduras/Belize	–	–	–	–	168	–	–	–	–	–	–	168
Latin America Total	11,065	6,835	11,646	22,774	11,674	10,536	8,007	5,180	2,638	1,125	3,772	95,252
Latin America (%)	97.3	97.5	98.7	95.4	96.9	97.5	97.9	99.5	92.2	95.3	100	97.1
Asia												
Singapore	186	145	154	225	373	250	25	26	95	55	–	1,534
Indonesia	–	–	–	–	–	–	144	–	127	–	–	271
Taiwan	–	–	–	–	–	19	–	–	–	–	–	19
Asia Total	186	145	154	225	373	269	169	26	222	55	–	1,824
Asia (%)	1.6	2.1	1.3	0.9	3.1	2.5	2.1	0.5	7.8	4.7	–	1.9
Europe												
Belgium	–	–	–	875	–	–	–	–	–	–	–	875
F. R. Germany	120	–	–	–	–	–	–	–	–	–	–	120
Netherlands	–	28	–	–	–	–	–	–	–	–	–	28
Italy	–	–	3	–	–	–	–	–	–	–	–	3
Europe Total	120	28	3	875	–	–	–	–	–	–	–	1,026
Europe (%)	1.1	0.4	0	3.7	–	–	–	–	–	–	–	1.0
Grand Total	11,371	7,008	11,803	23,874	12,047	10,805	8,176	5,206	2,860	1,180	3,772	98,102

調査表

Appendix 7: Dealers' Data Survey Questionnaire

輸入年月日					
輸出国（原産国）					
船積数量（KG）					
べっ甲の枚数					
濃甲（とんび）の枚数					
亀の数					
一頭当りの平均重量（KG）					
一頭当りの平均の大きさ(CM)					
色					
品質					
輸入申告総額（決済通貨）					
一頭当りの平均価格					

Appendix 8: Japanese Imports of Bekko 1984~1986
Source: Dealers' Data

Country	1984	1985	1986
Latin America/Caribbean			
Antigua Barbuda	381	228	480
Barbados	——	——	117
Belize	1, 628	3, 240	3, 280
Cayman Islands	62	——	——
Cuba	2, 170	6, 087	4, 595
Dominican Republic	672	415	422
Haiti	1, 875	2, 022	2, 435
Honduras	59	186	——
Jamaica	1, 310	171	516
Panama	3, 776	1, 533	920
Puerto Rico	6	——	——
St. Vincent	243	205	484
Trinidad and Tobago	546	387	——
Turks and Caicos	——	——	3
Venezuela	——	——	9
Asia			
Indonesia	2, 811	1, 318	745
Philippines	1, 250	895	64
Singapore	2, 782	2, 907	2, 515
Taiwan	23	——	——
Indian Ocean/East Africa			
Comoros	——	——	226
Ethiopia	——	——	428
Kenya	1, 655	3, 111	400
Madagascar	——	——	234
Maldives	803	1, 656	1, 897

Appendix 8: Japanese Imports of Bekko 1984~1986 (Cont.)
Source: Dealers' Data

Country	1984	1985	1986
Indian Ocean/East Africa(Cont.)			
Oman	456	——	——
Seychelles	629	61	——
Somalia	——	446	745
Tanzania	39	838	——
Oceania			
Fiji	38	38	433
Solomons Islands	857	437	314
Vanuatu	25	12	——
Europe			
Portugal	——	——	460
Grand Total	24,096	26,193	21,722