WORLD TRADE IN CROCODILIAN SKINS, 1992-1993

Prepared under contract to the International Alligator and Crocodile Trade Study

by the

World Conservation Monitoring Centre

April 1996

WORLD CONSERVATION MONITORING CENTRE

The **World Conservation Monitoring Centre**, provides information services on the conservation and sustainable use of species and ecosystems and supports others in the development of their own information systems.

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Lorraine Collins and Richard Luxmoore

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Introduction

The data used in this report have largely been obtained from the WCMC *CITES Trade Database*. WCMC maintains this database on behalf of the CITES Secretariat.

To date, three reports have been prepared for the International Alligator and Crocodile Trade Study. These have examined the international trade in crocodilian skins from 1980 to 1991. The present report is intended to analyze new information for the years 1992 and 1993, retaining information from previous years for comparative purposes. Originally, this latest report (fourth edition) was aiming to discuss and tabulate the 1992 data and to update the existing trade statistics for 1991. It has been decided, however, to forgo an extensive update of the 1991 data as a large number of 1993 CITES annual reports have been received. Where new data for 1991 differ significantly from what has previously been recorded for 1991, the figures have, of course, been modified.

Following on from previous studies and due to the extent of the trade in caimans, this report presents information on trade levels in both classic skins (alligator and true crocodiles) and caimans. A brief commentary on the Universal Tagging System for crocodiles has also been included in this report.

Methods

This updated report is based on an analysis of the annual reports submitted by the Parties to CITES for the years 1992 to 1993. A list of annual reports received at the time of writing is given in Table 1. In order to be comparable with previous IACTS reports, all trade in whole skins and sides of crocodilian species was analyzed. One skin was taken to comprise two sides. Trade reported in units of weight, area or length was excluded. Where the number of skins reported by the importing country was different from the number reported by the exporting country, the higher of the two quantities was used. Gross exports from all countries were summed to show the gross world trade. Net imports, taken as the positive difference between gross imports and gross exports, were summed to give the net world trade. Where the number of re-exported skins (of specific crocodilian populations) is greater than the number of skins directly exported, and if there is no record of the skins having being previously reported in trade, these skins have been included in the figures given in this report. The quantity of skins originating in the major source countries within the range of each species was estimated by calculating net world trade for each reported country of origin (or export, where no origin was declared). This was slightly different from previous IACTS studies which used gross trade; however, many countries re-export substantial quantities of skins and so the net trade was considered to give a more reliable estimate of the total quantity of skins in trade.

There are few instances where countries which are major sources or destinations of crocodiles have yet to submit a 1993 annual report to WCMC. If there is the possibility that this will drastically alter the statistics, this will be commented upon during the analysis. It is however, possible to obtain most of the statistics, because even if the exporter has not submitted an annual report, the importer most likely has, and vice versa.

The difficulties of calculating net trade in *Caiman* skins are discussed in the relevant section of the report. It was not possible to fully examine exports of manufactured products (wallets, watchstraps, handbags, pairs of shoes, leather items, belts and garments) of this species fully for the following reason. Since the end of 1993, WTMU has not been required to computerise the records of re-exports of manufactured products of Appendix II and III species under the terms of its contract with the CITES Secretariat. Annual reports which arrived after WTMU was no longer required to enter these data will not show up in the statistics. As it is fairly common for annual reports to be submitted very late, data on products contained in the annual reports as early as 1991 may not have been

computerised. Basically therefore, there is very little information on trade in re-exported products from 1993 onwards; in many cases 1991 or 1992 was the last year for which comments can be made. *CITES Notification to the Parties No. 788* on Annual Reports (10/03/94), states that, "as information on trade in manufactured products is of limited use, it is recommended that records of trade in manufactured specimens of species in Appendices II and III be summarized".

Table 1. CITES annual reports for 1988-1993 available in the database for this analysis.

Country	1988	1989	1990	1991	1992	1993
Algeria	*	*				
Argentina	*	*		*	*	*
Australia	*	*	*	*	*	E
Austria	*	*		*	*	*
Bahamas	*	*				*
Bangladesh				*	*	*
Belgium	*	*	*	*	*	*
Belize				*	*	*
Benin				*	*	*
Bermuda	*	*	*	*		
Bolivia	*				*	*
Botswana	*	*	*	*	*	*
Brazil		*	*	*	*	*
Brunei Darussalam					*	*
Bulgaria				*	*	*
Burkina Faso				*	*	*
Burundi				*	*	*
Cameroon	*	*	*	*		
Canada	*	*	*	*	*	
Cayman Is	*	*	*	*		
Central African Rep	*	*				
Chad				*	*	*
Chile	*	*	*	*	*	*
China	*	*	*	*	*	*
Colombia	*	*	*	*	*	*
Congo	*	*	*	*	*	*
Costa Rica	*	*		*		
Cuba				*	*	*
Cyprus					*	*
Czech Republic				*	*	*
Denmark	*	*	*	*	*	*
Dominican Republic		*	*	*	*	*
Ecuador	*	*	*	*	*	
Egypt					*	
El Salvador				*	*	*
Estonia						*
Ethiopia			*	*	*	*
Finland	*	*	*	*	*	
France	*	*	*	*	*	*
Gabon		*	*	*	*	
Gambia				*	*	*
Germany	*	*	*	*	*	*
Ghana	*	*	*	*	*	*

Table 1. continued

Country	1988	1989	1990	1991	1992	1993
Greece	*	*		*	*	*
Greenland	*	*	*	*	*	
Guatemala		*	*			
Guinea	*	*		*	*	
Guyana	*			*	*	
Hong Kong	*	*	*	*	*	
Hungary	*	*	*	*	*	*
India	*	*	*	*	*	*
Indonesia	*	*	*	*	*	*
Iran	*		*	*	*	*
Ireland	*	*	*	*		
Israel		*	*	*	*	*
Italy	*	*	*	*	*	*
Japan	*	*	*	*	*	*
Jordan	*	*	*			
Kenya	*	*	*	*	*	*
Korea Rep. of						*
Liberia	*					
Liechtenstein	*	*	*	*	*	*
Luxembourg	*	*	*	*	*	*
Madagascar	*	*		*	*	*
Malawi	*	*		*	*	*
Malaysia	*	*	*	*	*	*
Mali				*	*	*
Malta	*	*	*	*	*	*
Mauritius	*	*	*	*	*	
Mexico				*	*	*
Monaco	*	*	*	*	*	
Morocco	*	*	*	*	*	*
Mozambique	*	*	*	*	*	*
Namibia					*	*
Nepal	*	*	*	*	*	
Netherlands	*	*	*	*	*	
New Zealand		*	*	*	*	*
Nicaragua	*	*	*	*	*	*
Niger	*	*		*	*	*
Nigeria	*	*				
Norway	*	*	*	*	*	*
Pakistan	*	*	*	*	*	*
Panama	*	*	*	*	*	*
Papua New Guinea	*	*	*		*	*
Paraguay	*	*	*	*	*	*
Peru				*	*	*
Philippines		*		*	*	*
Poland				*	*	*
Portugal	*	*	*	*	*	*
Rwanda		*				
Senegal	*	*		*	*	*
Seychelles				*	*	*
Singapore	*	*	*	*	*	*
Slovak Republic				*	*	*

Table 1. continued

Country	1988	1989	1990	1991	1992	1993
South Africa	*	*	*	*	*	*
Spain	*	*	*	*	*	*
Sri Lanka	*	*	*	*	*	*
St Lucia	*			*	*	*
Sudan		*	*	*	*	
Suriname	*	*	*	*	*	*
Sweden	*	*	*	*	*	*
Switzerland	*	*	*	*	*	*
Tanzania	*	*	*	*	*	*
Thailand			*	part	*	*
Togo	*	*	*	*	*	*
Trinidad & Tobago	*	*	*	*	*	*
Tunisia	*	*	*	*	*	*
Uganda				*	*	*
United Kingdom	*	*	*	*	*	*
United Arab Emirates					*	*
Uruguay	*			*	*	*
USA	*	*	*	*	*	*
Russian Federation	*	*		*	*	*
Vanuatu		*	*		*	*
Venezuela	*	*	*	*	*	*
Zaire	*	*	*	*	*	*
Zambia	*			*	*	
Zimbabwe	*	*	*	*	*	

Part partial report
E Exports only

Crocodylus acutus American Crocodile

No trade has been reported in *C. acutus* since 1989. The 59 skins recorded in 1989 and the single skin recorded in 1988, were reported as exports by Switzerland as pre-Convention stock or originating in Argentina, a country outside the range of the species. No skins originating from range countries have been recorded since 1987 (Table 2).

Table 2. Minimum world trade in *Crocodylus acutus* skins

	1983	1984	1985	1986	1987	1988	1989	1990-1993
Gross	599	106	573	27	4	1	59	0
Net	599	106	573	27	4	1	59	0

Table 3. Minimum gross trade in *Crocodylus acutus* skins reported as exported from or originating in countries in which the species occurs

Origin	1983	1984	1985	1986	1987	1988-1993
Belize			1			
Guatemala			1		1	
Mexico	1	1	521	1		
Unknown	8				3	

Crocodylus cataphractus African Sharp-nosed or Slender-snouted Crocodile

Table 4. Minimum world trade in *Crocodylus cataphractus* skins

	1986	1987	1988	1989	1990	1991	1992	1993
Gross	11	149	1193	570	544	464	76	0
Net		149	1193	570	544	464	76	0

Table 5. Minimum net trade in *Crocodylus cataphractus* skins reported as exported from or originating in countries in which the species occurs

Origin	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Congo	2030		9		1193	559	554	459	76	0
Gabon			1							
Nigeria				149		11				
Sierra Leone			1							
Zaire		57								
Unknown		2								

The population of *C. cataphractus* in Congo was transferred back from Appendix II to Appendix I in 1992. The population had, from 1987-1991, been subject to an annual quota of 600. In 1991 and 1992 exports were reported as 464 and 76 respectively. All of the skins were imported by France and the only country of export was Congo. In 1993 zero trade was reported.

Crocodylus johnsoni Australian Freshwater Crocodile

Table 6. Minimum world trade in *C. johnsoni* skins

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross	624	157			833	1281	904	993	895	1872	3983
Net	624	157			824	1274	794	988	884	1863	3661

The first recent exports of skins of *C. johnsoni* were authorised in 1987, net exports have risen from 884 in 1991 to a peak of 3661 skins in 1993. Singapore was the largest importer of skins in 1990, 1991 and 1992, the percentage of gross trade being 60%, 85% and 90% respectively. Exports to Japan have declined over this period, imports accounting for 13% of gross trade in 1991, 8.5% in 1992 and 0.1% in 1993. In 1993, Singapore reported re-exporting 320 skins to the Republic of Korea, making it the second largest importing country of *C. johnsoni* skins in that year.

Crocodylus moreletii Morelet's Crocodile

A total of 28 *C. moreletii* skins were reported between 1988 and 1991, almost all as illegal imports to the USA from Mexico or Honduras. One skin, originating from Guatemala, was reported to have been imported by the United States in 1992.

Crocodylus niloticus Nile Crocodile

Table 7. Minimum world trade in *C. niloticus*

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross	34879	6510	10533	19507	23548	31253	46480	43306	56284	85055	114438
Net	28983	6115	9378	18480	22974	27526	41097	39701	46324	71038	95358

Note: the following countries' Annual Reports for 1993 were not entered into the WCMC *CITES Database* at the time of writing this report: Cameroon, Guinea, Guinea-Bissau, Nigeria, Sudan, Somalia, Zambia. All trade statistics involving these countries, have therefore, been derived from import records. The Zimbabwe 1993 Annual Report is also not available, therefore, the CFAZ 1993 figures have been be used to describe gross and net exports from Zimbabwe. With regard to the quantities reported as imports, the importers' annual report data have been used. This is further commented upon in the following section.

Minimum net trade in *C. niloticus* has risen from 6115 in 1984 to 95,358 in 1993 (Table 7). The 1993 CFAZ Report on ranching (Crocodile Farming Association of Zimbabwe), gives a gross export figure of: 31,836 belly skins, 5,182 backskins and 18,520 hornbacks and in summary states that 50,356 skins were exported in 1993 bearing unique serial numbers. This is 3751 less than the net trade figure derived from CITES import records in 1993 (54,107 skins); these were mainly reported by Singapore and Japan. At the time of writing, the Zimbabwe 1993 CITES Annual Report has not been received. The discrepancy in the volume of skins reported to be in trade may be as result of Zimbabwe having differentiated between the type of skins exported, the importers not having done so. For example:

Importing Country	Reported skin imports of *C. niloticus* from Zimbabwe, 1993 (net trade: Gross imports minus re-exports	CFAZ Reported skin exports to country specified, 1993			
		Belly skins	Back skins	Horn Backs	Combined Total
Japan	18442	9955	1771	4675	18413
Singapore	28712	20443	3757	11794	35994

The majority of skins in 1993 derived from the ranching programme in Zimbabwe. According to Chris Foot, the executive manager of the Crocodile Farmers Association, Zimbabwe earned 2.69 million US dollars in 1994 from the export of 40,000 crocodile skins and 30 tonnes of crocodile meat. The exports, which are expected to increase further in 1995, were mainly destined for the Far East (Anon., 1995d).

In 1991, net exports from populations other than Zimbabwe's only accounted for 8989 skins. In 1992, this rose to 27,568 and has continued to rise to 44,001 in 1993 (Table 8). This is due largely to the increase in exports from South Africa, Zambia, Botswana and Mozambique, whose net exports have grown consistently over the period. In 1993, net exports from these countries accounted for 26,407 of the total Appendix II skins traded. The majority of the remaining 1993 skins (17,594 in total) were exported by Kenya, Uganda, Mozambique and Malawi (see Table 8).

Minimum net trade in skins from South Africa has risen sharply (5296 in 1990 to 13,982 in 1993) since the population was transferred to Appendix II in 1992. The quota of 1000, agreed to under

Resolution Conf. 7.14, is a utilization quota to allow hatchlings from Natal Parks Board Utilization programme to be raised for their skins. This quota has, on occasion, been misconstrued as an export quota. The population was maintained in Appendix II, with a ranching programme, under Resolution Conf. 3.15 and 8.22 in 1995 and it is expected that the number of skins exported will continue to increase.

Skin exports from Madagascar have increased gradually to 1810 in 1993 since their decline to 885 in 1990. Skins from Ethiopia have also seen an increase in 1993, the majority being imported by Japan and the Republic of Korea.

Skins from Israel appeared in the CITES Statistics for the first time in 1993, when minimum net exports were 1055. Two farms, the Gan-Shmuel Crocodile Farm and the Fazael Crocodile Farm, both registered captive breeding programmes, were established in 1988 and 1991 respectively. The manager of the latter commented that "the farm intends to produce 11,250 skins over the period 1992-1996" (Luxmoore, 1992). Israel reported these skins as Appendix 1, originating from Kenya and Zimbabwe.

Namibia's population is in Appendix I. In 1992 and 1993, 162 and 543 skins respectively, were reported in trade. As of 1992, there were thought to be two commercial farms in Namibia, the original stock being imported from Botswana (Luxmoore, 1992). These captive-bred skins were imported by Spain and incorrectly reported as Appendix II. Spain may have reported the skins as Appendix II because the original stock originated from Botswana. These were not reported by Namibia. In 1993, Namibia reported exporting 543 captive-bred Appendix I skins. Thus it appears that the trade of captive-bred non-native skins from a country where the indigenous population is in Appendix I, causes some confusion as to how the origin should be reported.

Most of the Appendix II exports have been within the agreed quotas but there were some exceptions. In 1991, Sudan had a quota of zero skins, but 700 skins were imported by Germany and 153 were imported by Japan (re-exports from Italy). In response to an enquiry by the Secretariat, evidence was provided that the 700 skins were actually from the Sudan's 1990 export quota (Anon., 1994a). In 1992, a quota of 8000 skins was granted to Sudan to enable the export of a stockpile of skins. The skins were tagged, documented and exported under the supervision of an independent observer. In total, 7900 skins were exported to Egypt and on 11 July 1992 the inclusion of the population in Appendix I entered into force. The skins imported by Egypt could not be re-exported after 11 July 1992, and because of the small local market for crocodile skin products, most of the skins are stored in depots (Anon., 1994a). There are no data on exports from Sudan in 1993 and at the time of writing Sudan has not submitted an annual report.

In 1993, skins from Uganda appeared in the CITES trade statistics for the first time since the suspension of skin exports in 1974. In 1992, Uganda's population was transferred to Appendix II, subject to export quotas. The quota of 2500 was exceeded by 1519 skins in 1993; the 4019 skins were all exported to Hong Kong. However, as no skins were exported in 1992, it is possible that the skins produced in 1992 were not traded until the following year. There is believed to be one commercial crocodile farm in Uganda (Luxmoore, 1992).

Table 8. Minimum net trade in *C. niloticus* skins reported as exported from or originating in countries in which the species occurs
* Ranching programme accepted (see for the years in which ranching was accepted for the different populations)

Origin	1985	1986	1987	1988	1989	1990	1991	1992	1993
Appendix I populations									
Botswana*	4	10							
Ethiopia*					1				
Côte d'Ivoire							3		
Ghana								2	1
Guinea							28		
Guinea Bissau					45				
Mali					1843				
Namibia								162	543
Nigeria	3				1	4			1
Somalia									App. I
South Africa*				1905	4562	5296	3070		
Unknown			10	1	7	5	60	1	1
Appendix II populations									
Botswana		10	65	68	1890	882	719	1034	3414
Cameroon				3	2		4		6
Congo		332	649	150	150	10			
Ethiopia						2075	7	6	751
Kenya			150	1400	2550	2296	650	875	4021
Madagascar	4	676	3610	3177	4928	885	989	1459	1810
Malawi		503	572	1829	2603	1070	2389	266	2036
Mozambique				795	1707	590	484	3057	4366
Somalia							76		
South Africa								8641	13982
Sudan	2045	3453	3153	2526	6460	6629	854	7910	?
Tanzania		763	1724	2316	1754	1555	982	84	475
Uganda									4019
Zambia	890	2954	3231	3738	2354	2296	1140	3346	8575
Zimbabwe	5332	7217	7925	11607	14127	16678	34869	43932	50356
TOTAL App. II	8271	15,908	21,079	27,609	38,525	34,966	43,163	70,880	94,357

Table 9. Export quotas, excluding hunting trophies, for populations of *Crocodylus niloticus* transferred to Appendix II under the special criteria set out in Resolutions Conf. 5.21 and 7.14

* ranching programme accepted W = Wild R = Ranched I = Population transferred to Appendix I N= Wild nuisance specimens

T = Trophy ~ quota established by country concerned, not adopted by CITES ( )= Stockpile export quota

		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Botswana	W		2000	2000	2000	*	*	*	*	*	*	*	*
Cameroon	W	20	100	100	100	0	0	I	I	I	I	I	I
Congo	W	1000	150	150	150	0	0	I	I	I	I	I	I
Ethiopia	W					70	70	70	*	*	*	*	*
	R					9300	8800	8800			8600~	8600~	8600~
Kenya	W	150	1000	1000	1000				*	*	*	*	*
	R		4000	4000	4000	5000	6000	8000	8000	8000			
Madagascar	W	1000	1000	3784	1000			N 100	N 100	N 100	N 200	N 200	N 200
	R						2000	3000	4000	4300	4500	5000	5000
Malawi	W	500	700	700	700	*	*	*	*	*	200~	200~	200~
	R		200	1000	1600						3000~	3000~	3000~
Mozambique	W	1000	1000	1000	1000	*	*	*	*	*	*	*	*
	R				3000								
Somalia	W					500	500	500			I	I	I
South Africa	R							1000	1000	1000	*	*	*
Sudan	W	5000	5000	5000	5000	5040	0	(8000) I	I	I	I	I	I
Tanzania	W	1000	2000	2000	2000	1000	1000	N 400	N 200	N 200	N+T 1100	N+T 1100	
	R						4000	*	*	*			
Uganda	R							2500	2500	2500	2500	2500	2500
Zambia	W	2000	2000	2000	2000	*	*	*	*	*	*	*	*
	R		1350	3600	6200								

Table 10. Net imports of *C. niloticus* skins to major importing countries
* net exporter in this year

Importer	1985	1986	1987	1988	1989	1990	1991	1992	1993
Austria	196	148	151	468	1210	142	71	40	33
Argentina							275		
Australia							1	198	288
Belgium	595	195	3	1003	4012	3943	3	4	3
China									2192
Egypt								7900	
France	7217	10543	19770	17390	25352	18186	28304	8982	5451
Germany	23	426	303	349	*	1810	996	433	389
Hong Kong							87	317	6485
Italy	112	555	1609	4539	3188	1574	2943	1162	8225
Japan	284	1592	896	1456	4716	12831	7475	20949	25008*
Korea Rep.								69	1858
Singapore							6761	31957	52851*
Spain	*	273	*	62	*	6	5	173	283
Switzerland	242	1712	15	770	2206	307	1391		6
Thailand									210
UK				632	*	10	132	4	140
USA	207	9	6	108	284	85	112	820	320

* The figures given for Singapore and Japan have been derived from their records of import. As described in the second paragraph of this section, page 7, these figures have been inflated because of reporting inconsistencies.

Table 10 shows the major importing countries of *C. niloticus* and the volume of skins imported. Table 10.1 provides a breakdown of these imports, showing the major source countries. In 1991, the main importing country was France which took 49% of total world exports, the second largest importer was Japan which received 12% and the third largest, Singapore, received 11%. Most of the remaining skins were imported by other European countries, notably Italy, Germany and Switzerland (Table 10).

In 1993, a totally different picture emerged. France only imported 5451 skins, a drop in imports of over 22,000 skins. Singapore became the principal destination of *C. niloticus* skins, their imports having risen from 6761 in 1991 to over 52,000 in 1993. Japan was still the second largest importer, the volume of their imports rising sharply, from 7475 in 1991 to over 25,000 in 1993. A few new importing countries became noticeable since 1992, this includes Hong Kong, whose imports rose from 87 in 1991 to 6485 in 1993; the majority being from Uganda and Zimbabwe, making them the fourth largest importer, and the Republic of Korea, which imported 1858 skins in 1993, mostly from Zimbabwe.

Table 10.1. Trade in *C. niloticus* skins, giving main source countries, principal destination countries, and the number of skins imported from 1991-1993

	1991		1992		1993	
Main importers	Sources	net imports	Sources	net imports	Sources	net imports
Singapore	Guinea	28	Kenya	600	Botswana	743
	Zimbabwe	6733	Madagascar	50	Israel	1055
			South Africa	1320	Kenya	262
			Zambia	2260	Madagascar	515
			Zimbabwe	27727	Mozambique	3159
					South Africa	10012
					Zambia	8379
					Zimbabwe	28712
Japan	Malawi	500	Madagascar	100	Botswana	1522
	Mexico	100	Malawi	198	Ethiopia	427
	Namibia	1842	Mozambique	66	Malawi	732
	Sudan	153	South Africa	5084	South Africa	3964
	Somalia	76	Zambia	216	Zimbabwe	18442
	South Africa	753	Zimbabwe	14691		
	Zimbabwe	4112				
Italy	Kenya	910	Kenya	260	Kenya	4170
	Malawi	300	Malawi	67	Malawi	400
	South Africa	597	South Africa	572	South Africa	3647
	Zimbabwe	1135	Zimbabwe	259		
Hong Kong	Zimbabwe	86	Botswana	201	Uganda	4019
			Zimbabwe	108	Zimbabwe	2464
France	Botswana	645	Madagascar	1309	Madagascar	1295
	Kenya	372	Mozambique	2129	Malawi	900
	Madagascar	989	South Africa	1476	Mozambique	1202
	Malawi	1571	Zambia	800	South Africa	210
	Mozambique	484	Zimbabwe	3205	Tanzania	453
	Tanzania	936			Zimbabwe	1391
	South Africa	1222				
	Zambia	750				
	Zimbabwe	21233				

* The figures given for Singapore and Japan have been derived from their records of import. As described in the second paragraph of this section, page 7, these figures have been inflated because of reporting inconsistencies.

Crocodylus novaeguineae New Guinea Crocodile

Table 11. Minimum world trade in *C. novaeguineae* skins

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross	34539	49097	43599	40830	41725	57451	62260	36036	30954	31651
Net	29156	43027	33938	37890	34728	42993	47674	32165	26408	22503

Minimum net trade in skins of *C. novaeguineae* rose from 27,325 in 1983 to a peak of 47,674 in 1990 and has since declined to 22,503 skins in 1993. As mentioned in the previous IACTS Report, the 1991 figures for gross and net world trade were lower than expected, and it was thought that this might have been due to the unavailability of the Papua New Guinea annual report. With additional 1991 data provided by importers (the PNG 1991 Annual Report still unavailable), gross exports for 1991 rose by 3645. The main farming operation, Mainland Holdings Pty, holds 82% of the farmed stock of *C. novaeguineae* in Papua New Guinea. Due to the drop in skins prices, Mainland Holdings has decreased the proportion of *C. novaeguineae* in favour of increased stocks of *C. porosus* in case of further instability in the market for the former's skins (Fernandez and Luxmoore, 1995).

Table 12. Minimum net trade in *C. novaeguineae* skins reported as exported from or originating in countries in which the species occurs

Origin	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Indonesia	6975	7632	17331	5494	1227	10053	14314	19128	9776	8304	6085
Malaysia			115								
PNG	29471	21987	27916	29465	32071	24397	27062	29682	22346	13856	19131
Unknown	1106	592		3	59	426	85	1	173	84	2195

The majority of the skins traded from 1991-1993 were reported to have originated in Papua New Guinea (Table 12), although the number of skins exported from both Papua New Guinea and Indonesia have declined in this period. Net exports of skins reported to have come from unknown countries of origin on the other hand, have risen from 173 in 1991 to 2195 in 1993; in 1993, these skins were reported by Singapore as re-exports to the Republic of Korea (1758) and to China (437).

It is difficult to ascertain the volume of world trade in *C. novaeguineae* skins because in both 1992 and 1993 the number of re-exported skins of Indonesian origin is far greater than the number of skins which were directly exported. This is quite common and indeed all the net trade figures given in this report incorporate skins which were re-exported with no record of the skins having previously been reported in trade. It is worth noting this here because the discrepancy in the numbers is quite significant. The net trade figures for 1992 and 1993, in Table 11 above, include the re-exported skins, in the event that they were not reported as direct exports/imports.

Table 12 shows the net trade figures to be 8304 and 6805 in 1992 and 1993 respectively. However, the net export figures for skins originating in Indonesia, discounting the re-exports, are as low as 1601 in 1992 and 2995 in 1993.

The export quota for Indonesian skins was increased from 20,000 in 1988 to 25,000 in 1991. In January 1994, Indonesia took the decision to impose a moratorium on the export of *C. novaeguineae*, following a recommendation of the Animals Committee in relation to species subject to significant trade levels. The Management Authority of Indonesia has been requested to send the CITES Secretariat, a copy of the new regulations established under Act No. 5 of 1990 to enforce the management programme (Anon., 1995b).

Net exports from Taiwan totalled 3465 in 1992. These were all exported to Japan. No country of origin was given for these skins and from the CITES data it appears that Taiwan only imported 186 skins from 1991-1993, the majority being from Papua New Guinea.

As can be seen from the summary below, net imports to Japan amounted to 26,237, 20,568 and 12,900 from 1991 to 1993. The majority of these skins were direct imports from Papua New Guinea: 18,910 (1991), 13,358 (1992), 16,197 (1993). France, once the largest importer (1989), is no longer a significant importer of *C. novaeguineae* skins. In 1989 gross imports totalled 16,316 but in 1993 gross imports only amounted to 595 skins. In 1990 Japan became the most important destination for skins. Their imports increased by over 50% to 31,405 but have since declined to a gross figure of 18,244 skins for 1993. Singapore was the third largest importer in 1991, with a gross figure of 3695 and is the only county whose imports have remained fairly consistent.

Summary of the major importers of *C. novaeguineae* skins and the volumes traded

	1991 imports		**1992 imports**		**1993 imports**	
Country	Net	Gross	Net	Gross	Net	Gross
Japan	26237	27211	20568	20669	12900	18244
Singapore	2198	3695	2191	3349	1536	3949
France	1392	2805	0	567	382	595
Korea (Rep.)	544	544	70	70	6771	6771
Hong Kong	656	675	3526	4252	283	301
Taiwan	1	1	0	32	151	153
China	0	2	0	0	437	442

Crocodylus porosus Saltwater Crocodile

Table 13. Minimum world trade in *C. porosus* skins

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross	7169	6431	8062	8183	7684	11303	17677	15838	15755	14140	20590
Net	5398	5358	6497	5752	7166	10042	15928	13036	14590	12648	18781

Minimum net trade in skins of *C. porosus* has increased from 5398 in 1983 to 18,781 in 1993. Papua New Guinea is still the major source of these skins, net trade having grown from 6910 in 1990 to 8529 in 1993, although there was a decline in 1992. Mainland Holdings Pty, the main farming operation in Papua New guinea, holds 85% of the farmed stock of *C. porosus* in the country. It has increased the proportion of *C. porosus* to *C. novaeguineae* on the farm as a result of the drop in skin prices and instability in the market for *C. novaeguineae* skins (Fernandez and Luxmoore, 1995).

Australia has become the second major source of skins, net exports increasing from 2655 in 1990 to 6561, with a larger increase in net exports from 1992 to 1993 (see Table 14). There has been an overall reduction in the numbers of skins from Indonesia, Malaysia and Thailand and an increase in net imports of skins from unknown countries of origin; in 1983 and 1993, there were 529 and 384 skins reported in this way. The latter skins were all re-exported from Singapore to China. In contrast, during the entire period 1984-1992 only 130 skins were reported as origin unknown.

There are a couple of interesting transactions of skins from non-range states; in 1992 Japan reported importing 484 skins from Taiwan, 186 of these were reported to be wild and in 1993 Colombia reported exporting 1000 captive-bred skins to China, no country of origin was given for these skins and there are no recorded exports to or imports by Colombia of skins or live animals during the period 1988-1993.

In Papua New Guinea, February 1992, Labe Mesa from South Sea Foods Pty Ltd was convicted of illegal possession of 4 Freshwater Crocodile skins. The same company, on 21 February 1992 was fined for attempting to export freshwater crocodile skins, acquired illegally by an unauthorised buyer and possession of 16 illegal skins (13 were oversized - over 51 cm belly width) (Anon., 1992e).

Table 14. Minimum net trade in *C. porosus* skins reported as exported from or originating in countries in which the species occurs

Origin	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Australia		100	98	400	499	1324	2634	2655	2865	3749	6561
Indonesia	345	200	1094	851	949	2670	4224	2095	2279	1354	1721
Malaysia	56							446	222	127	0
Papua New Guinea	4562	5239	5005	3910	6506	5758	8204	6910	8170	5347	8529
Philippines							1				
Singapore	3	74	74	948	71	57			645	1570	439
Thailand			300	14	400	450		450	350		t
Unknown	529	46		2	6			2	58	16	384

Table 15. Export quotas for the Indonesian population of *Crocodylus porosus* transferred to Appendix II under the special criteria set out in Resolutions Conf. 5.21 and 7.14

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Wild	2000	2000	4000	4000	3000	3000	2700	1500	1500	5000	6000	6000
Ranched					2000	3000	7000	7000	7000	1500	1500	1500

Indonesia's, population of *C. porosus* was transferred to Appendix II in 1985 under a quota system, the quotas being shown in Table 15. In 1992, 1476 wild skins were exported from Indonesia, this is within the agreed quota; only 10 skins had no recorded source and the rest were captive-bred. In 1993, the reporting is fairly poor, with many skins having no recorded source or the source having been recorded as unknown, only 322 skins in trade were reported as wild. Although the 1995-1997 export quotas for Irian Jaya were agreed at the 9th Meeting of the Conference of the Parties, the Indonesia Management Authority informed the Chairman of the IUCN/SSC Crocodile Specialist Group, in June 1994, that it intended to impose a voluntary moratorium on exports of crocodile skins until the management procedures it was developing were in place (Anon., 1994b).

Table 16. Net imports of *C. porosus* skins to major importing countries
* Net exporter in this year

Importer	1985	1986	1987	1988	1989	1990	1991	1992	1993
China									1500
France	2531	4107	3437	2835	5425	1989	5946	4110	4601
Italy	*	*	134	*	*	*	21	2	156
Japan	3132	1346	3210	6347	8729	9853	7320	6897	8849
Panama									233
Singapore	231	*	*	335	192	*	*	*	1370
Switzerland	216	195	305	259	108	750	17	54	*
UK	362			*	26	22	0	*	2
USA				211	530	52	2	330	987

Japan has been the largest importer of skins since 1988, net imports increasing steadily from 7320 in 1990 to 8849 in 1993. France was the next most important destination, however, its net imports have decreased from 5946 in 1991 to 4601 in 1993 (Table 16). Switzerland increased its imports seven-fold from 1989 to 1990, but in 1991 net imports declined to 17; in the same year Switzerland imported 1391 skins of *C. niloticus* (Table 10), which could account for this reduction. Switzerland became a net exporter of *C. porosus* skins (220) in 1993. From 1990-1992 Singapore was a net exporter of skins (Table 14) but in 1993 net imports totalled 1370, most of the skins being imported from Australia. Singapore re-exported most of the skins which originated from Indonesian and Papua New Guinea to Japan, France and China, whilst only re-exporting approximately 10% of the Australian skins; practically all to France. Singapore held a reservation on this species until 1989 and so did not report trade before then. An analysis of a WCMC CITES Comparative tabulation (compares reported imports against reported exports) shows that Singapore is recording the trade.

Crocodylus siamensis Siamese Crocodile

Table 17. Minimum world trade in *C. siamensis* skins

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross		800	351	663	981	2050	1715	2808	1400	102	23
Net		800	351	605	981	2050	1713	2808	1400	102	23

Exports of *C. siamensis* from Thailand grew from 0 in 1983 to nearly 3000 in 1990. In 1989 all were said to derive from the Samutprakan Crocodile Farm and all were imported to Japan, with the exception of 400 in 1988 and 600 in 1989, the latter being imported by Italy. Output from the farm was said to be 2700 in 1989 (Luxmoore, 1992). Japan was again the largest importer of skins in 1990, accounting for 85% of gross trade. Italy and the US imported the remaining skins. Since Thailand has not submitted an annual report for 1989, all the trade was recorded by the importing countries for that year. There was little reported trade in *C. siamensis* in 1992 and 1993. All imports in 1991 and 1992 were reported by Japan. In 1993, of the 23 skins exported by Thailand, 19 were imported by Singapore, 2 were imported by Japan and the remaining two were re-exported from Italy to Austria. Thailand reported the skins exported to Singapore in 1993 as being for educational purposes.

Alligator mississippiensis American Alligator

Most skins of *Alligator mississippiensis* which enter world trade are exported from the USA to Europe for tanning and many are subsequently reimported to the USA. Since neither of the usual measures of CITES trade (gross or net world trade) give an accurate estimate of the total production of skins, it is better to use gross exports from the USA.

Gross exports from the USA have risen from 20,000 in 1984 to 218,000 in 1993 (Table 18). Gross US exports in the years 1990 to 1991, 1991 to 1992, and 1992 to 1993, grew by 14%, 9% and 26% respectively. (Previous percentage growth figures for 1988-89, 1989-90 and 1990-1991 were 33%, 62% and 8.5%). It can be seen therefore, that although the volume of skins exported continues to rise, the rapid growth seen in the period 1988-1990 is not so evident. The skins originate mainly from Louisiana and Florida, from a combination of wild harvest, ranching and captive breeding.

Table 18. Exports of *Alligator mississippiensis* skins

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross US exports	21519	20718	33278	45184	51838	77810	125483	146829	160986	218477
Gross world trade	32388	29467	43843	57458	66707	100511	150962	183213	222911	291345
Net world trade	12968	13228	23907	33078	38705	61586	114735	133866	150620	195889

Table 19. Principal destinations of US exports of *A. mississippiensis* skins. The percentage of gross US exports is shown in brackets

Country	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
France	9236	9051	12947	28610	22989	38221	57211	42558	64920	82535
	(43%)	(43%)	(39%)	(63%)	(44%)	(49%)	(45%)	(29%)	(40%)	(37%)
Italy	5393	5590	12708	9455	19953	25546	37503	62712	31124	36588
	(25%)	(27%)	(38%)	(21%)	(38%)	(32%)	(30%)	(43%)	(19%)	(17%)
Japan								22240	38842	52309
								(15%)	(24%)	(24%)
Switzerland								11491	20696	21515
								(8%)	(13%)	(10%)

As in most of the previous years, France is the major destination of skins, importing 37% of gross exports from the USA in 1993 (Table 19). In 1991, however, Italy imported a greater number of skins than France. In 1992, Japan replaced Italy as the second largest importer, importing 5% and 7% more; Japan's gross imports having risen from 22,240 in 1991 to 52, 309 in 1993. Gross imports to Switzerland have almost doubled over the period, from 11,491 to 21,515.

Israel exported 827, 986 and 1495 captive-bred skins from 1991 to 1993. No country of origin of these skins was provided and all were imported by France. An initial stock of 120 *Alligator mississippiensis* were obtained by a farm in Israel from Florida farms in 1981 (Luxmoore, 1992).

Table 19.1, lists additional countries whose imports of US skins have risen over the period 1991-1993. The quantities imported by these countries may not be very large at present but the figures have been included in this section for comparison in future IACTS studies. The percentage of gross US exports imported to the countries listed in Table 19 shown below the country trade figure. Some skins are subsequently re-exported to the USA after tanning, but over 60% of the skins are retained in France, Japan, Italy and Switzerland (Table 19.2).

Table 19.1. Additional destinations to which the volume of imports of *A. mississippiensis* have increased over the period 1991 to 1993

Country	1991	1992	1993
Argentina		571	
Chile		80	2571
Colombia		437	3475
Hong Kong	1179	1151	4931
The Republic of Korea	23	432	3013
Mexico	76	1127	1050

Table 19.2

Summary of the major trade in *A. mississippiensis* skins

	1991	1992	1993
GROSS US EXPORTS	146829	160986	218477
Gross imports to FR of US skins	42558	64920	82535
Gross exports from FR of US skins	10179	21765	27847
Skins retained in France	**32379**	**43155**	**54688**
Gross imports to JP of US skins	22240	38842	52309
Gross exports from JP of US skins	983	1186	4370
Skins retained in Japan	**21257**	**37656**	**47939**
Gross imports to IT of US skins	62712	31124	36588
Gross exports from IT of US skins	14570	13289	16272
Skins retained in Italy	**48142**	**17835**	**20316**
Gross imports to CH of US skins	11491	20696	21515
Gross exports from CH of US skins	4917	6970	4669
Skins retained in Switzerland	**6574**	**13726**	**16846**
Total retained by above countries	**108,352**	**112,372**	**139,789**
Percentage of US exports	**(74%)**	**(70%)**	**(64%)**

Caiman crocodilus Spectacled Caiman

As stated in previous IACTS studies, the calculation of trade in *Caiman crocodilus* skins is much more difficult than for other species of crocodilian because of the great variety of methods of reporting. Trade may be reported in any one of three subspecies and as either skins or sides. There are several instances where the same trade has been recorded as "skins" by the exporter and "sides" by the importer (or vice versa). Thus although the normal practice is to divide the number of sides by two to obtain the number of skins, this cannot be relied on to reflect the trade accurately. Total net trade calculated as above (and therefore subject to these limitations) has varied from a minimum of 0.3 to a maximum of 1.3 million (1985) during the period 1983 to 1993. Net exports from 1989 to 1993 have grown from 293,929 to 648,856 (see Table 20).

The majority of skins between 1991 and 1993 originated from Colombia and Venezuela. Colombia's net exports have continued to grow from 129,521 in 1990 to 477,606 in 1993. On the other hand, skins from Venezuela have declined from 117,687 to 87,314 in the same period. Imports of Venezuelan skins to Switzerland and Japan, both major importers of Venezuelan skins, have declined as their imports of Colombian skins have risen. As can be seen in Table 25, Japan imported 99% of its skins from Venezuela in 1991, 67% in 1992 and 42% in 1993. Switzerland imported 63% of caiman skins from Venezuela in 1991, 50% in 1991 (although the absolute number had increased) and just 17% in 1993.

Skins from unknown countries of origin were the third largest source in 1992 and 1993 (Table 20). Up until 1989 many thousands of skins were reported to have been derived from unknown countries of origin. The numbers fell in 1990 and 1991 but rose again to 47,549 in 1992 and 44,378 in 1993. All of the skins reported in this way were re-exported skins from Singapore. The 1992 skins were re-exported mainly to the Republic of Korea and Taiwan, with the majority being exported to the former (39,160 skins). Of the total number of re-exported skins, 1780 were reported by Singapore as wild, 45,436 as pre-Convention and 307 with no source at all. Of the 1993 skins, 36,717 were exported to the Republic of Korea, 6168 were exported to Taiwan and 1488 to Japan. Singapore reported the skins to Japan as wild and the remaining as pre-Convention. The Republic of Korea became a Party to CITES on the 07/10/93. Singapore's reservation on the species was withdrawn on 1 February 1992.

Nicaragua was the third largest source of skins in 1990 and 1991. Presumably this resulted from the introduction of management programmes and the setting of export quotas (WCMC *et al.*, 1993). By 1993, Nicaragua was the fourth largest source of skins, although net trade had declined from 24,720 in 1991 to 14,121 in 1993. The main importers of Nicaraguan skins in 1991, in order of importance, were Germany, Italy, Singapore and Taiwan, however, in both 1992 and 1993 Italy imported no Nicaraguan skins (see Table 24). In 1992 Singapore's imports of Nicaraguan skins fell by over half and in 1993 Singapore increased its total skin imports from Colombia to 96% (from 63% in 1991) (Table 25).

Many source countries' net exports of Caiman skins have declined. Skins from Paraguay, previously one of the major sources, dropped from 11,725 in 1989 to zero in 1991, but in 1992 net trade amounted to 5806, the majority of which were re-exported from Switzerland to France (5634). There has been an export ban on skins of caiman from Paraguay since 14/05/92 (CITES Notification 225). Direct imports of skins from this population and re-exported skins from Thailand, Taiwan, Singapore and the Republic Korea have been banned from import into the EU since 14/05/92 under *COM import ban art. 10.1.b ist indent*. On 2 September 1992, over 50,000 Spectacled Caiman *Caiman crocodilus* skins were seized by police from a tannery in Luque, near Asuncion, Paraguay (Anon., 1992f).

On 28 December 1992, Customs in Uruguay seized 85,370 Caiman skins at the port of Montevideo. The shipment which originated from Colombia (and possibly Venezuela) was worth an estimated $1 million. They had been stored in a container at Aruba, transferred to Curacao in the Netherlands Antilles and were bound for Singapore. There was no permit with the shipment (Anon. 1993e). In Bolivia, the De-centralized Technical Unit of the Centre for the Development of Forestry announced that they would auction or burn 3900 seized wildlife hides. *Caiman crocodilus yacare* hides were to be included in the 3522 seizures to be auctioned (Anon. 1992d).

The volume of skins exported by Bolivia has also declined, from 11,039 in 1990 to four in 1993. In 1992, 2696 skins were re-exported by France to Switzerland. Bolivian *Caiman crocodilus yacare* skins have been banned from import into the European Union since 10/07/91 (*COM import ban art. 10.1.b ist indent*). Net exports of Caiman skins from Guyana decreased from 10,503 in 1990 to 2886 in 1993. This is presumably as a result of the temporary suspension of wildlife trade, imposed on 13/05/93 (CEC- 06/93).

Under *Lei No. 5197* of January 3 1967 Brazil had prohibited all exports of wildlife. A recent revision of the regulation (*Lei No. 5197*) has permitted the export of Caiman skins produced from ranching operations. In 1989 the Brazilian Government authorized 17 Caiman farms with the proviso that animals must be kept for 6 months before being sold (Luxmoore, 1992). In 1990 legal net trade in skins was 265, the majority being exported to the USA. In 1993 legal trade rose to 7523 with 6000 being exported to Panama and 1506 to Italy; all were reported as captive-bred *Caiman crocodilus yacare*. To date, IBAMA has registered 75 ranching operations that produce skins of *Caiman c. crocodilus* and *C. crocodilus yacare* (Anon., 1994d).

Table 21 shows minimum net imports of *Caiman crocodilus* skins to Europe, Asia and the Americas. As can be seen, Italy, France and Switzerland are the largest of the European importers, although imports to Italy and France have declined from 140,912 and 236,342 respectively in 1986 to 73,758 and 52,152 in 1993. Singapore, Japan and Hong Kong are the principal Asian destinations, with Singapore importing a massive 233,989 skins in 1993, making them the biggest importer in that year. Thailand reports its overseas trade by country of origin rather than country of consignment and it is possible that the skins represent re-exports rather than direct exports from Venezuela or Colombia. CITES statistics record sporadic exports of crocodilian skins to Thailand. There were 14,000 in 1988 and 1098 in 1989 with no exports being recorded again until 1992 and 1993. Table 23 gives the declared counties of origin of skins of Caiman imported to France, 1983-93 and Table 24 gives the same for Italy, 1984-93. Table 25 details the origin of skins imported to other major destinations.

Table 20. Reported countries of origin of *Caiman crocodilus* skins derived from CITES annual reports, 1983-1991

Origin	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Argentina	8262	1668	1200	6000	54226	5654	1110	3831	105		
Bolivia	43500	15325	171457	27352	24182	166164	13915	11039	2768	2724	4
Brazil		835					7	265	30	233	7523
Br Virgin Is			8000								
Colombia	188094	108334	54644	35161	40708	82233	31168	91386	129521	208669	477606
Costa Rica	12				2000						
Ecuador								2			
El Salvador	27982	174947	207644	118602	20066	7375	8268	938	2106	4	106
France	28		4135		1			6			
F. Guiana	7887		489								
Germany	15			197					50		
Guatemala		116234	349685	26288	12851	33341	8587	2513	12	13	
Guyana	1130	72950	108408	41350	47905	76824	49289	10503	6556	6496	2886
Haiti	55										
Honduras		41705	59466		7907	15865	40	2001			799
Hong Kong				6					16		
Indonesia	130			379	267				1		3
Italy	300			50	632			140	194	44	
Japan	13		1940					6			
Korea, Rep.					409						313
Mexico		1			1		2				1300
Nicaragua		1	246	210	863	100	75	15050	24720	21014	14121
Nigeria					187						
Panama	85155	18378	23845	253	66	76	210	353			
PNG						4269			5	7	
Paraguay	909303	700028	212273	143635	45357	53707	11725	642	6		5806
Peru	235			2855							1
Singapore				15867	105393	37413					3659
S. Africa	4	1			183	150					15
Spain			4								
Suriname	39				1		1				
Switzerland		1076									
Taiwan		152		1133	1382						
Thailand			1								
UK	5151		154						759		
USA	3200			635	972		8			28	3013
Venezuela		3487	125566	128095	73990	224650	170347	204206	117687	123594	87314
Vietnam									400		
Zimbabwe		28									
Unknown	85906	79398	113711	58134	24891	86944	2176	41	822	47549	44378
TOTAL	1366401	1334548	1442868	606202	464440	794765	296917	342922	285758	410375	648847

Table 21. Minimum net imports of *Caiman crocodilus* skins to destination countries

Importer	1985	1986	1987	1988	1989	1990	1991	1992	1993	Ave
EUROPE										
Austria	35385	39629	33259	29657	31078	30865	6737	369	3419	23,378
Belgium	2955	0	0	0	0	183	40	552	36	418
Denmark	0	0	28	0	81	0	0	0	0	12
France	275285	140912	42124	88570	7972	22359	51874	96928	52152	86,464
Germany	32160	1478	2082	75	0	1	9908	20625	33028	11,040
Greece	385	429	234	0	0	0	0	0	0	116
Italy	661404	236342	117947	160553	33494	100206	48200	57529	73758	165,493
Netherlands	0	0	897	9	1	0	1	0	2	101
Portugal	0	102	147	234	0	0	110	100	0	77
Spain	13722	25651	16242	4569	0	5582	5254	3229	7444	9,077
Switzerland	105234	40302	45568	66683	50048	21915	55996	94885	29412	56,671
UK	4934	5223	1027	5570	3180	16280	5000	1	263	4,609
TOTAL	1,096,0790	450,439	226,296	266,263	94,695	189,068	183,120	274,324	232,381	256,894
ASIA										
China	0	1	0	0	6	0	105	77	3832	447
Hong Kong	9826	18955	45890	16894	6195	5609	11982	21480	10288	16,347
Japan	155976	206174	160840	217266	103244	103048	38431	23380	43232	116,843
Korea, Rep.	1543	2460	1399	1132	2794	0	4	39287	60448	12,119
Singapore	448	0	2647	7849	15210	23666	24006	16419	233989	36,026
Thailand	0	0	0	14000	1098	0	0	3500	38287	6,321
Taiwan	95	920	0	3747	2324	393	2377	10309	8004	3,130
TOTAL	167,888	228,510	210,803	260,888	130,871	132,716	76,905	114,452	398,070	191,233
AMERICAS										
Canada	10271	9	4696	10586	5034	6214	2745	8216	11303	6,564
USA	70052	30898	29088	72552	19582	6353	16137	3547	8488	28,522
Panama	2876	0	0	0	0	2100	4018	7801	32881	5,520
TOTAL	83,199	30,907	33,784	83,138	24,616	14,667	22,900	19,564	52,672	40,605

Table 22. Imports of crocodile skins (410112/4103.200-209) and crocodile leather (410512 and 410522/4107.210-201) recorded in Thailand Customs statistics (kg)
* January-October only

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	*1990
SKINS														
Colombia											410	10444	17509	31108
PNG										4				
Singapore			1975		817	2422	3956	2387	2912	8384	88029	5415	8215	9486
USA					540									
Venezuela											10013	202997	43297	49654
Other								150					1413	
TOTAL			1975		1357	2422	3956	2537	2912	8388	98452	218856	70434	90248
LEATHER														
Colombia			78	87							15	168	793	1790
Italy			103	15							2			
Panama			90	70										
Singapore	2449	1152	1105	1008	205	190	45	146	86	11	26		645	1755
S. Africa			78	285					8					
USA				65									16	10
Venezuela												226	200	284
TOTAL	2449	1152	1454	1530	205	190	45	146	94	11	43	394	1654	3839

The Thai Customs statistics have a separate category for crocodile skins. These are shown in Table 22. Both skin and leather are reported but skin is by far the greater quantity. Imports rose rapidly from around 2-3 tonnes prior to 1985 to 219t in 1988. In the first ten months of 1990, some 90t were imported. The main sources have been Colombia and Venezuela, suggesting that the skins have been of *Caiman crocodilus* rather than another species of crocodilian.

According to figures published in *Leather*, October 95, which were derived from the Thai Customs Department, 49.84 tons of crocodile skins/93.64 m.bhat, were imported to Thailand in 1991. Zero tons were reported for 1992 and 3.76 tons/m.bhat in 1993. There is no reliable way to convert the trade reported by weight to numbers of skins because much depends on the cut and method of preservation. Dixon *et al.* (1988) estimated that the mean weight of *Caiman crocodilus* skins imported to Japan was 260g and, using this figure, the Thai Customs statistics suggest imports of about 840,000 skins in 1988, 277,000 in 1989, over 362,000 skins in 1990, about 194,759 crocodile skins in 1991, zero skins in 1992 and 14,693 in 1993. The CITES trade statistics do not correlate with these weights at all (see Table 21).

CITES statistics record few exports of crocodilian skins to Thailand, although there were 14,000 in 1988, 1098 in 1989 and 3 in 1990. Between the years 1991 and 1993, Thailand is reported to have had net Caiman skins imports of zero in 1991, 3500 in 1992, and 38,287 in 1993.

Table 23. Declared countries of origin of skins of *Caiman crocodilus* imported to France, 1983-93

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Av
Argentina	461	10861										1,029
Bolivia	274	10240	77935	46795	12998		508					13,523
Colombia	2757	45398		5294		34050		8064	40796	96886	45018	25,297
Unknown	1068	67717		20		3021	18					6,531
El Salvador			5203	4540	6184	360			75			1,487
French Guiana			489									44
Guatemala		9980	43008		142	246	694	120	12	3		4,928
Guyana		34105	34612	16746		9385	544		3148		1494	9,094
Honduras		41705	53150	211	2940	13455						10,133
Panama	3811	181	22500	132			111	173				2,446
Paraguay		140556	10	49966	5691	24720					5634	20,598
South Africa					183	150						30
Venezuela		5086	38379	17208	13986	16822	6096	14002	7844			10,857
Total	8370	365828	275285	140912	42124	102208	9960	24349	51875	96889	52146	88,094

Table 24. Declared countries of origin of skins of *Caiman crocodilus* imported to Italy, 1984-93

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Av
Argentina	1568			37818							3,939
Bolivia	13384	38716	27853	2000	101682						18,364
Brazil						6	4			1506	152
Colombia	15669	2485	835		34641		38274	31820	36734	41121	20,158
Unknown	68	61110	58103								11,928
El Salvador	91833	157575	17707	11905				1512			28,053
Guatemala	76390	263848	6763	7367							35,437
Guyana	34453	67903	5575	1623	13311	16704	1514	196			14,128
Nicaragua			7	5		75	9500	5000			1,459
Paraguay	59052	1071	17344	43854		36					12,136
Peru			2852								285
Venezuela	322	68697	99303	13375	44712	16674	48915	9673	20795	31131	35,360
Total	292738	661404	236342	117947	194346	35478	100193	59966	57529	72252	182,820

Table 25. Summary of the declared countries of origin for additional importers of *Caiman* skins and the percentage of the total number of Caiman skins imported by the countries listed that this represents

Importer	1991			1992			1993		
	No. of Skins	Origin	%	No. of skins	Origin	%	No. of skins	Origin	%
Hong Kong	6005	VE	50	18886	VE	88	8162	CO	79
	5762	CO	48	2567	CO	12	1769	VE	17
	215	NI	2				293	US	3
Japan	38181	VE	99	15642	VE	67	18104	VE	42
				7477	CO	32	16597	CO	38
				226	BR	1	4032	NI	9
							3000	PA	7
							1488	XX	3
Korea (Republic)	4	CO	50	39160	XX	99.75	36717	XX	61
		VE	50	100	GY	0.25	18164	CO	30
							3639	SG	6
							1307	GY	2
							620	VE	1
Singapore	1500	CO	63	12125	CO	74	225284	CO	96
	9000	NI	37	3489	NI	21	8392	VE	3.6
							313	KR	0.1
Switzerland	35320	VE	63	48022	VE	50	27641	CO	94
	15740	CO	28	35182	CO	37	1356	VE	5
	2768	BO	5	6343	GY	7			
	1394	GY	3	2696	BO	3			
				2638	NI	3			
Thailand				3500	CO	100	36987	CO	97
							1300	VE	3
Panama	4018	CO	100	7801	CO	100	26881	CO	82
							6000	BR	18

As described in the method section on page one, WCMC has not been required to computerise the records of re-exports of manufactured products of Appendix II and III species under the terms of its contract with the CITES Secretariat since the end of 1993. Since then, only the data on re-exported manufactured products which have been submitted to WCMC in an easily transferrable electronic format have been entered into the database. The countries which have submitted their annual reports in this way and which are also large exporters of manufactured products are Canada, Germany and Spain.

Europe is the most important area for the manufacturing of Caiman products. Most of the skins imported to Europe are manufactured into leather goods for use within Europe or for export. Tables 26-28, summarise the reported exports in manufactured products from the three largest exporters, France, Italy and Switzerland. Neither the Swiss 1992/1993 records of export, the French 1992/1993 records of export nor the Italian 1991/1992/1993 records of export are available. The information given for these countries and the years described have been calculated using import records from other Parties.

Table 26. Net exports from Italy, 1991-1993, of the main products manufactured from *Caiman crocodilus* skin from different declared countries of origin

Country of origin	WATCH STRAPS			SHOES			HANDBAGS			ITEMS			GARMENTS			BELTS		
	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
Argentina				1050			40											
Bolivia	58							4		262	16	70				9		
Colombia	1969	9336	6439	3830	13190	10300	2168	781	8	8916	7422	8579	3		10	328		
F. Guiana	188							2		16								
Guatemala	4163			203		80					200	10						
Guyana				2872	1791	34	909	604	10	4855	1693	957	34			247		
Nicaragua			2140		18	30	30	31	3	91	37	672		4		3		
Panama				9	20										12			
Paraguay		18	0	10			85	1		71	3					7		
El Salvador	218			826	34	19	7			77	12	2				453		
Venezuela				39262	23481	26734	622	274	227	14953	6577	13696	533	27	3	446		10
Unknown				130	64	504	71	10		571	453	63						
Total	6,596	9,354	8,579	48,192	38,598	37,701	3,932	1,707	248	29,812	16,413	24,049	570	31	25	1,493	0	10

Table 27. Net exports from France, 1991-1993, of products manufactured from *Caiman crocodilus* skin from different declared countries of origin

Country of origin	WATCHSTRAPS			SHOES			HANDBAGS			ITEMS			GARMENTS			BELTS		
	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
Bolivia							1			1						14		
Chad	370																	
Colombia	24500	3491	12829	4			3			430	348	3873	3			403		
Guatemala										41	108	5				47	70	
Guyana	170657	21712	1904	44			3	1		872	669	781				898		
Honduras	1088									25						10		
Indonesia	600	375								3	8							
PNG										3		1				1		
Paraguay										18	43					75		
El Salvador	686	3339								298	419	25						
Former Soviet Union	84																	
USA	15										9							
Venezuela	33757	22320	5358	13	2		247	8		4465	847	6291	2			393	26	
Viet Nam	200									3								
Unknown	36	44	72			3				2	3	38						
Total	231,993	51,281	20,163	61	2	3	254	9	0	6,161	2,454	11,014	5	0	0	1,841	96	0

From 1990 to 1991 France exported a total of 846,991 watchstraps, 225 pairs of shoes, 418 handbags, 21,462 leather items, 102 garments and 6,639 belts. Total combined exports in all of these commodities have declined over these two years when compared to the period 1989 to 1990.

Table 28. Net export from Switzerland, 1991-1993, of products manufactured from *Caiman crocodilus* skin from different declared countries of origin

Country of origin	WATCHSTRAPS			SHOES			HANDBAGS			ITEMS			GARMENTS			BELTS		
	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993	1991	1992	1993
Bolivia	18777	5744								8913		32						
Cameroon	1005	129										31						
Colombia	24993	29162	19898							2509	1628	24530		1206	10		60	
Guatemala	1957	3468	1759							314		162		50	35	5		
Guyana		24299	24276	10			363				40	11474		955				
Honduras	1683	990								2								
Indonesia	148																	
Italy	113																	
Mali		21																
Nicaragua												183						
Panama	81																	
PNG	10	2																
Paraguay	926	84								25		5		40				
El Salvador	10667		308							59		1849		51				
Venezuela	112275	80763	17902	1042	1	2				808		31403		39	41			
Unknown	350	629	556							115		1						
Total	172,985	145,291	64,699	1,052	1	2	363	0	0	12,745	1,668	69,670	0	2,341	86	5	60	0

Other Species

There has been no reported trade in 1992 and 1993 in skins of the following species:

Crocodylus intermedius Orinoco Crocodile, *Crocodylus palustris* Mugger Crocodile, *Crocodylus rhombifer* Cuban Crocodile, *Gavialis gangeticus* Gharial, *Tomistoma schlegelii* False Gharial.

One skin of *Melanosuchus niger* was reported seized on entry to the USA in 1989. Local trade in black caiman in Amazonia, formerly restricted to dried and salted meat and sold as fish, is expanding to include skins. Recent reports from researchers in the region suggest that the trade in meat now occurs all year round and may involve several hundred tonnes a year. Until recently skins were discarded, but there are reports that buyers in Colombia are requesting that the skins be collected (Anon., 1995e pp. 6). Studies by Ronis da Silviera in Brazil suggest that the impact of this harvest may somewhat mitigated as it is concentrated on sub-adult males found in the more open habitat (Anon., 1995f).

Ecuador's proposal to transfer *M. niger* to Appendix II for ranching was approved at the Ninth Meeting of the Conference of the Parties to CITES (November 1994) subject to two conditions:- a zero quota be established until a management system was in place and that the IUCN/SSC CSG review the system and make recommendations on changes to the export quota. A schedule for the development of a ranch has been approved by the National Directorate of Natural Areas and Wildlife (INEFAN) (Anon., 1995e pp. 14).

Universal Tagging of Crocodile Skins

The purpose of the system for the Universal Tagging of Crocodile skins is to control illegal trade by identifying legal trade in skins and the promotion of crocodile products derived from sustainable use programmes.

At the ninth meeting of the Conference of the Parties to CITES (Fort Lauderdale, Florida, November 1994), *Resolution Conf. 9.22* on the Universal Tagging System for the Identification of Crocodilian skins, was adopted. This replaced *Resolution Conf. 8.14*, which was adopted at the eighth meeting of the Conference of the Parties to CITES, although the basic requirements for tagging skins and monitoring trade remain unchanged.

A number of recommendations were made in *Resolution Conf. 9.22*:

RECOMMENDATIONS

a) the introduction of a universal tagging system for the identification of raw, tanned, and/or finished crocodilian skins by the general application of non-reusable tags to all crocodilian skins entering international trade from the countries of origin;

b) that skins and flanks be individually tagged and that chalecos have attached a tag to each side (flank);

c) that tails, throats, feet, backstrips, and other parts be exported in transparent, sealed containers clearly marked with a tag together with a description of the content and total weight;

d) that the non-reusable tags include, as a minimum, the ISO two-letter code for the country of origin; a unique serial identification number; a standard species code (as provided in Annex 1); and, where appropriate, the year of production or harvest in accordance with the provisions of *Resolutions Conf. 3.15* and *Conf. 8.15* adopted at the third (New Delhi, 1981) and eighth (Kyoto, 1992) meetings of the Conference of the Parties; and further, that such tags have as a minimum the following characteristics: a self-locking mechanism, heat resistance, inertia to chemical and mechanical processing, and alphanumeric information applied by permanent stamping;

e) that the same information as is on the tags be given on the export permit or re-export certificate (or other Convention document) or on a separate sheet, which shall be considered an integral part of the document, carry the same identification number and be validated by the same issuing authority;

f) that, in the event of mismatches of information within such a permit, re-export certificate, or other Convention document, the Management Authority of the importing Party immediately contact its counterpart in the exporting/re-exporting Party to establish whether this was a genuine error arising from the volume of information required by this Resolution, and that, if this is the case, every effort be made to avoid penalizing those involved in such transactions;

g) that Parties establish, where legally possible, a system of registration or licensing, or both, for importers and exporters of crocodilian skins;

h) that all countries permitting re-export of raw, tanned, and/or finished crocodilian skins implement an administrative system for the effective matching of imports and re-exports and, further, ensure that skins and flanks are re-exported with the original tags intact unless the pieces originally imported have been further processed and cut into smaller pieces;

i) that, where the original tags have been lost or removed from raw, tanned, and/or finished skins and flanks, the country of re-export tag each such skin or flank, prior to re-export, with a 're-export tag' meeting all the requirements of paragraph d) above except that the country of origin and standard species codes will not be required; and further, that the same information as is on these tags be given on the re-export certificate together with details of the original permit under which the skins were imported;

j) that, where a re-export contains untagged skins that pre-date the implementation of this Resolution, the Management Authority record this on the re-export certificate;

k) that Parties accept export permits, re-export certificates or other Convention documents for trade in crocodilian skins and parts thereof only if they contain the information referred to in paragraphs c), d), i) or j), as appropriate, and if the related skins and parts thereof are tagged according to the provisions of this Resolution; the only exception to this latter requirement will be where a Party has stocks of existing tags that do not bear the information required in d) but has informed the Secretariat of the number and details of such tags, and plans to discontinue their use. In such cases, this should be stated on the export documentation which, after confirmation by the Secretariat, the Management Authority of the importing Party should accept; and

l) that the Parties and the Secretariat implement a management and tracking system for tags used in trade as outlined in Annex 2 to this Resolution;

Resolution Conf. 9.22 **DIRECTS** the Secretariat, in consultation with the Animals Committee, to monitor the implementation of this Resolution and report its findings with recommendations where appropriate at each meeting of the Conference of the Parties; and **REPEALS** *Resolution Conf. 8.14* (Kyoto, 1992) on the same subject.

Annex 2 of *Resolution Conf. 9.22* contains directions for the Management and Tracking System for tags used in the crocodilian skin trade:

1. The CITES Secretariat should establish, maintain, and amend periodically thereafter, a list of approved sources capable of manufacturing tags that meet the minimum requirements as laid down in paragraph d) of this Resolution; and further, the Secretariat should regularly give notice to the Parties of such sources and each Management Authority should obtain tags to mark crocodilian skins only from these approved sources.

2. Any approved tag manufacturer registered by the Secretariat should first agree, in writing, that it will:

   a) not duplicate any series of tags produced in accordance with this Resolution;

   b) sell such tags only to Management Authorities or, in non-party States, to designated government agencies recognized by the Secretariat in accordance with Resolution Conf. 9.5, or to bodies approved by these agencies; and

   c) report direct and immediately to the Secretariat each order for tags that is fulfilled.

3. When ordering tags from approved sources, Management Authorities should immediately inform the Secretariat of the details of each tag order.

4. Upon request by a Management Authority, the Secretariat should purchase and distribute tags for crocodilian skins, and should recover the full cost, except if external funding becomes available for Parties requiring assistance.

5. The Secretariat should seek additional resources to allow it to computerize the information collected in connection with this Resolution.

6. The Management Authorities of the exporting, re-exporting and importing Parties should provide to the Secretariat, when directed by the Standing Committee or agreed to between the range State and the CITES Secretariat, a copy of each export permit, re-export certificate, or other Convention document for crocodilian skins or flanks immediately after issuance or on receipt, as appropriate.

A number of actions were taken after the adoption of the original resolution (*Resolution Conf. 8.14*). These actions were based on the following:

Resolution Conf. 8.14 **DIRECTS**

a) the Secretariat, in consultation with the Animals Committee, to develop a practical tracking system to monitoring tags used in trade;

b) the Animals Committee, in consultation with the Secretariat, to study the possibilities of a practical uniform marking system for manufactured products of crocodilian skins in commercial trade and to report its findings and recommendations to the next meeting of the Conference of the Parties (ninth meeting of the COP, Fort Lauderdale, Florida November 1994); and

c) the Animals Committee and the Secretariat to evaluate the marking system as recommended in *Resolution Conf. 5.16* (Trade in Ranched Specimens), adopted at the fifth meeting of the COP (Buenos Aires, 1985) and to report their findings and recommendations at the next meeting of the Conference of the Parties (ninth meeting of the COP, Fort Lauderdale, Florida November 1994).

Following on from this, the Animals Committee, at its eighth meeting in Harare, Zimbabwe, in co-operation with the Secretariat prepared a resolution on the *Implementation of Resolution Conf. 8.14 on the Universal Tagging System for the Identification of Crocodilian Skins* (Anon., 1992c). In this, the Animals Committee **urged** the Secretariat, in consultation with the IUCN/SSC Crocodile Specialist Group, to review the implementation of the universal crocodilian tagging system, including information and funding needs associated with the tracking and administering of tags, and to report its findings to the Animals Committee in advance of the ninth meeting of the Conference of the Parties to CITES. The resolution was communicated to the Parties in Notification No. 704 (see Annex 1). It was noted that *Resolution Conf. 8.14* is effectively implemented, without apparent difficulty, for the majority of classic skins in trade. The specific problems encountered with Caiman skins and flanks were thought to have been largely due to the reluctance of the industry to change its present tagging and handling procedures. It was recalled at this meeting, that a main objective of *Resolution Conf. 8.14* was to bring caiman skins under the same level of control as well as to standardize a skin marking system. Representatives from the Venezuelan Management Authority called for the implementation of *Resolution Conf. 8.14* as a valuable protection measure for legal sustainable use, although it would involve significant administrative and financial burdens (Anon., 1993c).

One of the **requests** made in the Animals Committees' Resolution was controversial. Parties were **requested** that, in order to effectively implement *Resolution Conf. 8.14*, all re-exporting Parties possessing stocks of legally acquired untagged skins co-operate with the Secretariat to inventory such stocks and, that prior to re-export, these skins be independently tagged by the relevant Management Authority in collaboration with the Secretariat. The tags used for these skins should be non-reusable; which are distinct from other tags used to identify legal origin (Anon., 1992c). Some Parties expressed concern regarding the status of the Resolution of the Animals Committee on implementation, particularly with regard to this request. The Secretariat recognized that this request might present difficulties in implementation, but consider it important that all crocodile skins and parts thereof (as listed in *Resolution Conf. 9.22*), in international trade be properly tagged. The Secretariat has asked for Parties to inform them of their intentions regarding this issue (Anon., 1993a).

Letters from Switzerland and Singapore were received by the Secretariat describing the difficulties involved in applying the present form of tags to caiman skins and flanks. In particular, the large number of such skins, and problems experienced during processing, particularly during shaving, were cited. In addition, the requirement to inventory and tag stockpiles was thought to exceed the wording of 8.14 (Anon., 1993c).

The Crocodile Specialist Group, Steering Committee, 12-13 March 1993, extensively discussed the problems of implementation of *Resolution Conf. 8.14*. One of the outcomes was the recognition that inventories were needed in the countries thought to hold major stockpiles of untagged skins (Italy, France, Germany, Japan and Singapore). It was suggested that these countries could inform the Secretariat of their willingness to conduct inventories, but that they should ask for additional time to complete them (Anon., 1993b).

Representatives from Japanese traders responded to this request. Regarding the inventory of untagged stockpiles, they stated that they did not believe it was necessary for Japan to inventory the stocks in order to confirm their legality as Japan has followed every CITES regulation precisely in recent years. They foresaw a big and complicated procedure if the Management Authority was required to conduct an inventory, particulary if re-tagging of the stocks is required. They therefore requested CITES and the CSG to approve re-export of untagged stocks acquired legally prior to *Resolution Conf. 8.14*, subject to re-export permits containing full documentation of the country of origin export permits and Japanese import documents. Neither the CITES Secretariat nor the CSG have the authority to reverse the decision of the Parties and it was not therefore possible to grant Japan a special exemption. The representative from Singapore commented that the administrative burden would divert the efforts of developing countries to extra paper work (Anon., 1993b).

The Singapore Reptile Skin Trade Association, in a letter presented at the Crocodile Specialist Group, Steering Committee, 12-13 March 1993, Darwin, Australia, felt that the practical difficulties and administrative burden of inventory and tagging of skins for re-export were unnecessarily onerous and detrimental to trade. Problems cited were: tag loss during tanning, division of whole skins into parts, old tagging systems not meeting the requirements of *Resolution Conf. 8.14* and the burden of providing original tag information on re-exported skin shipments that were assembled from skins of diverse species, countries of origin and years of export (Anon., 1993b).

As a result of the concerns regarding the recommendations made in the Animals Committee's Resolution on the Implementation of the system, the recommendations were reviewed (Anon., 1993c). An amended and simplified version of *Resolution Conf. 8.14* was thus adopted at the next meeting of the Conference of the Parties to CITES- *Resolution Conf. 9.22*.

Regarding the implementation of *Resolution Conf. 9.22*, a list of five manufacturers has been compiled which are able to produce tags that meet the relevant requirements and only these companies should be used. They are: FASTEX in Australia, E.J. Brooks Co. in USA and ALBCO (PVT) Ltd in Zimbabwe, American Castings & Manufacturing Corporation in the United States and GRAFIMET, c.a in Venezuela. (Anon., 1995g). The details of the companies selected were communicated to the Parties in *CITES Notification No. 875*.

Although inventory and tagging of stockpiles is not required under *Resolution Conf 8.14*, the representatives of the Italian Management Authority informed the Eighth Meeting of the Animals Committee, that inventory and tagging of stockpiles was proceeding in Italy (Anon., 1993d).

Control mechanisms in Colombia are well developed and effectively implemented but some problems remain in the realm of tag control and monitoring. Activities are in progress to address these problems (Anon., 1994c).

Papua New Guinea has notified the Secretariat of its implementation of the universal tagging system (since 19/7/93). This is communicated in *CITES Notification No. 759*, 31 August 1993. For other countries it is not clear whether their tags meet the relevant requirements.

In Germany, Internationaler Reptilleder-Verband (IRV) and Reptilartenschutz e V. (the Reptile Species Protection Association) have developed a tag for small leather items. The tag is attached to articles which are manufactured from various reptile skins for which the raw material has been purchased in conformity with international wildlife laws, in particular with CITES. The tag has a printed numerical and alpha-numeric code which contains information that testifies to the legal origin of the product. This information is also computerized. The identification system is administered by the Reptile Species Protection Association, a non-profit association, and is supervised by an advisory committee which work in close association with representatives from the German nature conservation authorities. Before the tags are issued, the original CITES import documents are examined and the legality is checked (Anon., 1993d).

The Nile Crocodile Farmers' Association of Zimbabwe, in conjunction with the Japanese Tanners and Manufacturers of Crocodile Products, introduced a swing tag which is attached to every Nile Crocodile Product manufactured in Japan. This tag is now being used in the Singapore market too. The swing tag is CITES-approved and gives a brief explanation in Japanese (and Chinese in Singapore) of the skin's origin as being from legal farming operations in Zimbabwe. All skins leaving Zimbabwe are individually identified with a uniquely numbered CITES tag. The tag is attached to the tail and once an item is manufactured, the unused tip of the tail with tag attached is placed inside the article (particularly handbags) (CFAZ *in litt.*, 9/10/95).

In 1994, the European Union Member States agreed to implement partly *Resolution Conf. 8.14*. At the 38th CITES Committee meeting in Brussels it was agreed that tagging as foreseen in *Resolution Conf. 8.14* should not be an import requirement, but in case there is a tag on any piece of crocodile skin, its number should be shown on the export or re-export document. This information was communicated by the Commission to EU member states and the CITES Secretariat by telex. (Jelden *in litt.*, 29/09/95).

The following table (Table 29), is by no means comprehensive, it only includes information which was readily available. Most of the details have been taken from *CITES Notification No. 754*, 14 June 1993 "Control of Operations Breeding Appendix-I Species in Captivity". (The Appendix II species are also included). Brazil's information was derived from *CITES Notification No. 781*, 10 March 1994 "Ranching of and Trade in Caimans" (Anon., 1994d).

Table 29. Summary of Crocodile Tagging by species and country, giving the number of breeding establishments using tags (Incomplete data)

Country	Species	Estabs. using tags.	Marking of specimens
Brazil	Caiman crocodilus crocodilus Caiman crocodilus yacare	75	All skins bear security tags of different colours. Each tag has a serial no. of 6 digits, preceded by a letter & the official logo of IBAMA in relief.
China	Alligator sinensis	1	CITES tags for skins.
Israel	Crocodylus niloticus	2	Skins will be tagged in accordance with Resolution Conf. 5.16. Meat & other derivatives will be marked before entering international trade.
Madagascar	Crocodylus niloticus	1	Skins: individually marked tags. (eg. MG-89/0001/rp)
Malaysia	Crocodylus porosus	1	Individually numbered tags.
Mauritius	Crocodylus niloticus	1	CITES tags.
Namibia	Crocodylus niloticus	1	Skins will be tagged.
PNG	Crocodylus porosus Crocodylus novaeguineae	? ?	Deep red tags numbered PG9300001 POR to PG9305000 POR & black tags numbered PG9300001 POR to PG9301000 POR (for confiscated specimens). Deep green tags numbered PG9300001 NOV to PG9315000 NOV & black tags numbered PG9300001 NoV to PG9302000 NOV (for confiscated specimens).
Philippines	Crocodylus porosus	1	Uniform tagging system for skins.
Singapore	Crocodylus porosus Crocodylus siamensis Crocodylus n. novaeguineae C.porosus x C.siamensis C.porosus x C. n.novaeguineae Caiman crocodilus crocodilus Tomistoma schlegelii	4	Plastic tags for skins marked SINGAPORE-CITES SG/year/serial no.
S. Africa	Crocodylus niloticus	13	Skins: Plastic tags bearing the farm name, CITES registration number & a serial number.
Thailand	Crocodylus siamensis Crocodylus porosus C.siamensis x C.porosus Caiman crocodilus Crocodylus novaeguineae Crocodylus rhombifer Alligator sinensis Alligator mississippiensis	5	CITES tags.

Discussion

The overall volume of world trade in classic crocodilian skins, as summarised in Table 30, has continued to increase. As has been outlined for the individual species, this increase has been due to the development of controlled management programmes in several countries around the world. Particularly for *A. mississippiensis*, in the United States, where skins are derived from a combination of ranched and wild harvest, *C. niloticus*, in Zimbabwe and South Africa, where skins from the latter have been obtained from ranching programmes as recently as 1992 and *C. porosus*, in Papua new Guinea and Australia, again the increase being due to the success of ranching. World trade in skins of *C. novaeguineae*, of which many are derived from wild harvest, are in decline.

In 1993, total minimum net trade amounted to nearly 360,000 skins. The increase in the number of skins traded between 1990 and 1992 was lower than for the period 1987 to 1989, but rose by 85,000 in 1993. This is more than likely as a result of the drop in crocodile skin world prices in 1992. One of the outcomes of the instability in world prices has been the diversification of export products exported and, for example in Thailand, the transformation of farming operations into zoos (Manop Lauprasert, pers. comm., 1995).

Table 30. Minimum net trade in classic crocodilian skins reported in CITES annual reports
* Gross exports from the USA

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Total
*A. mississippiensis**	21519	20718	33278	45184	51838	77810	125483	146829	160986	218477	902,122
C. acutus	106	573	27	4	1	59					770
C. cataphractus	2030			149	1193	570	554	464	76		5036
C. intermedius											0
C. johnsoni	157			824	1274	794	988	884	1863	3661	10,445
C. niloticus	6115	9378	18480	22974	27526	41097	39701	46324	71083	95358	378,036
C. novaeguineae	29156	43027	33938	37890	34728	42993	47674	32165	26408	22503	350,482
C. palustris				3			3				6
C. porosus	5358	6497	5752	7166	10042	15928	13036	14590	12648	18781	109,798
C. moreletii	4	1	1	244	18	4	1				274
C. rhombifer									0	0	0
C. siamensis	800	351	605	981	2050	1713	2808	1400	102	23	10,833
C. gangeticus											0
T. schlegelii											0
Total	65,245	80,545	92,081	115,419	128,670	180,968	230,248	245,082	273,167	358,803	1,767,802

The growth of ranching and captive breeding programmes has increased international competition. The increasing production of *A. mississippiensis* and *C. niloticus* has had marked effects on trade in other classic skins. *C. novaeguineae*, once the main species in trade, was superseded by *A. mississippiensis* in 1987 and *C. niloticus* in 1991. In the United States, Louisiana alone produced 128,300 farmed skins and 23,500 wild skins in 1993. The increase in trade in *C. niloticus* skins has been largely due to the success of the ranching operations in Zimbabwe. Total minimum net exports have grown from around 40,000 in 1990 to 95,000 in 1993; in this year approximately half of the skins derived from Zimbabwe. Skin exports from other countries, particularly Botswana, Kenya, Mozambique, South Africa and Zambia have also risen over this period. In 1992, Uganda's population was transferred to Appendix II, subject to export quotas (2500 skins). This was exceeded in 1993 by 1519 skins, however no skins were traded in 1992. Most of the Appendix II exports have been within agreed quotas.

Minimum net trade in skins of *C. novaeguineae* reached a peak of 47,674 in 1990 and has since declined to 22,503 in 1993. Trade in skins of *C. porosus* declined from nearly 16,000 in 1989 to 12,648 in 1992 bu rose again to 19,000 in 1993. The main producer of these skins is Papua New Guinea. Combined stocks on all farms in Papua New Guinea have declined from a peak of 42,500 to 38,000 in 1994 (15,649 *C. porosus*, 22,444 *C. novaeguineae*. As a result of the deterioration in the price of live *C. porosus*, there has been an increase in the share of grade I and grade II wild skin exports in 1994. The purchasing conditions which have evolved since 1992 in this farm, have thus been targeted towards discouraging trade in *C. novaeguineae* (Fernandez and Luxmoore, 1995).

The import market, as well as the export market has undergone some changes during the period 1991 to 1993. Asia is the principle destination of classic skins. Singapore was the main importer of *C. johnsoni* skins from 1990-1993, importing 90% of all exported skins in 1993; correspondingly, imports to Japan have declined over this period to 0.1% in 1993. Singapore is also the principle destination of *C. niloticus* skins, imports having risen by approximately 45,000 during the period 1991 to 1993. Japan is the second largest importer of *C. niloticus* skins, with imports continuing to rise. France imported 49% of total world exports in 1991 but only 5% (a drop of over 22,000 skins) in 1993. As can be seen in Table 10.1, Singapore only imported skins from two sources in 1991; Guinea and Zimbabwe, but by 1993 Singapore was importing skins from eight source countries.

Japan was the largest importer of *C. novaeguineae* skins over the period 1991-1993. France, once the major destination of these skins (in 1989) was no longer a significant importer. Japan has been the major importer of *C. porosus* skins since 1988, imports rising steadily from 6347 in this year to 8849 in 1993. France is the second most important destination, importing 4601 in 1993. France, Japan, Italy and Switzerland are the main importers of skins *Alligator mississippiensis*.

In 1988, trade in Caiman skins was in the region of 800,000, this declined to a minimum of 285,758 in 1991. However, reported trade in Caiman skins grew to 410,375 in 1992 and 648,847 in 1993. This growth is largely the result of an enormous increase in reported exports from Colombia which more than doubled from 1992 to 1993. Europe (Italy, France, Switzerland) and Asia (Singapore, Japan, Hong Kong) are the major destination of Caiman skins. There is a substantial tanning and manufacturing industry in Europe, particularly Italy, France and Switzerland, and crocodile skin products are re-exported to destinations all around the world.

There have been few reported incidents of illegal trade activities from 1992 to 1993. Where this information was available, it has been included under the relevant species sections. There had been concerns about CITES not being implemented in Italy and Thailand. In 1991, the CITES Standing Committee proposed a CITES Trade Ban with Thailand and in 1992, one with Italy. It was recommended that Parties adopt stricter domestic measures in accordance with Article XIV, paragraph 1 of the Convention. These bans were lifted in April 1992, for Thailand, and in February 1993, for Italy.

International trade in crocodile skins was threatening wild populations in many countries in the 1960s and 1970s. The rapid and increasing growth since the late 1980s has caused problems associated with over-production. The characteristics associated with this growth in the 90s, include; increasing international competition, instability in world skin prices and the reduction of the number of populations of species important in trade. Smaller captive-breeding operations, especially those which trade in the less economically important species, are facing economic problems. In many cases, this has led to bankruptcy and the subsequent closure of farms and selling of stock, the value of which can be much reduced. Other establishments have chosen not to sell their stock, or have been unable to, and have instead converted their establishments into tourist attractions or zoos.

References

Anon. 1992a. CITES Notification to the Parties No. 675. 1992. Italy: Recommendations of the Standing Committee, 30 June 1992.

Anon. 1992b. CITES Notification to the Parties No. 673. 1992. Thailand: Lifting of Recommended Ban on Trade in CITES Specimens, 2 April 1992.

Anon. 1992c. CITES Notification No. 704. 15/09/95. Attachment: Resolution of the Animals Committee on the Implementation of Resolution Conf. 8.14 on the Universal Tagging System for the Identification of Crocodilian Skins.

Anon. 1992d. Dubai and Bolivia dispose of wildlife stocks. *Traffic Bulletin* 13(1): 3.

Anon. 1992e. Seizures and prosecutions. *Traffic Bulletin* 13(1): 36

Anon. 1992f. Seizures and prosecutions. *Traffic Bulletin* 13(2): 78

Anon. 1993a. CITES Notification 748, 07/05/93. Universal tagging System for the Identification of Crocodile Skins.

Anon. 1993b. CSG Newsletter, (12) 1, Jan-March 1993. Universal Tagging of Crocodilian Skins, pp. 5.

Anon. 1993c. CSG Newsletter, (12) 3, July-Sept 1993, pp. 11.

Anon. 1993d. CSG Newsletter, (12) 4, Oct-Dec 1993, pp. 10.

Anon. 1993e. Seizures and prosecutions. *Traffic Bulletin* 13(3): 111

Anon. 1994a. Document Doc. 9.27. Interpretation and Implementation of the Convention. Trade in specimens of species transferred to Appendix II subject to annual quotas. Report of the Secretariat

Anon. 1994b. Document Doc. 9.44 no. 2. Analyses of Proposals to Amend the CITES Appendices IUCN, TRAFFIC, August 1994.

Anon. 1994c. CSG Newsletter (1) 2, April-June 1994, pp. 17.

Anon. 1994d. CITES Notification No. 781. Brazil: Ranching of and Trade in Caimans.

Anon. 1995a. Recommendations of the Animals Committee in relation to species subject to significan levels of trade- Secondary recommendations for non-prioritized species. Geneva, 21-24/03/95.

Anon. 1995b. CITES Standing Committed Document- Doc. Sc. 35.6.2.

Anon. 1995c. Com. 9.12 and Annex. Draft resolution of the Conference of the Parties. Universal Tagging System for the Identification of Crocodilian Skins.

Anon. 1995d. *Leather*, October 1995. pp. 79.

Anon. 1995e. CSG Newsletter, (14) 2, April-June 1995, pp. 6

Anon. 1995f. *Species*. Newsletter of the Species Survival Commission. IUCN - The World Conservation Union. (24) June 1995, pp 60.

Anon. 1995g. CITES Notification No. 875. Implementation of *Resolution Conf. 9.22.*

Ashley, J.D. 1989. Introduction. IACTS Report, pp. 4-10.

CEC 06/93. Annex C2 of council regulation (EEC) No. 3626/82. European Commission, Brussels Belgium.

Dixon, A.M., Milliken, T. and Tokunaga, H. 1988. Japanese imports of crocodile and alligator skins 1970-July 1986. IACTS Report, pp. 67-168.

Jenkins, M. and Broad, S. (Eds) (in press) *International Trade in Reptile Skins:* A Review and Analysis of the main consumer markets.

Fernandez. C and Luxmoore. R. 1995 (in prep). *The Crocodile Industry in Papua New Guinea. Case Study for the Project on Sustainable Utilization for Local, National and Global Benefit.*

Leather, October 1995. Thailand Country Report: Time to Act, pp. 42.

Luxmoore, R.A. 1992. *Directory of Crocodile Farming Operations*, Second Edition. IUCN, Gland Switzerland and Cambridge, UK.

Pani, M. 1991. Reptile skin trade in Italy. TRAFFIC Europe reptile skin trade report.

Resolution Conf. 8.14. (1992) Universal Tagging System for the Identification of Crocodilian Skins.

Resolution Conf. 9.22. (1994) Universal Tagging System for the Identification of Crocodilian Skins.

WCMC, IUCN/SSC, TRAFFIC International. 1993. *Significant trade in Wildlife: A review of selec Animal Species in CITES Appendix II.* Draft report to the CITES Animals Committee, June 1993.

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WORLD CONSERVATION
MONITORING CENTRE

World Conservation Monitoring Centre
219 Huntingdon Road
Cambridge CB3 0DL
United Kingdom

Telephone +44 223 277314
Fax +44 223 277136

IUCN The World Conservation Union

UNEP

WWF

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