

WORLD TRADE IN CROCODILIAN SKINS, 2002-2004

Prepared as part of the International
Alligator and Crocodile Trade Study

by

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Contents

| | |
|--|-----------|
| INTRODUCTION | 1 |
| METHODS | 1 |
| LIMITATIONS OF DATA | 1 |
| SPECIES ACCOUNTS | 5 |
| <i>CROCODYLUS ACUTUS</i> AMERICAN CROCODILE | 5 |
| <i>CROCODYLUS JOHNSONI</i> AUSTRALIAN FRESHWATER CROCODILE | 6 |
| <i>CROCODYLUS MORELETII</i> MORELET'S CROCODILE | 6 |
| <i>CROCODYLUS NILOTICUS</i> NILE CROCODILE | 6 |
| <i>CROCODYLUS NOVAEGUINEAE NOVAEGUINEAE</i> NEW GUINEA CROCODILE | 10 |
| <i>CROCODYLUS POROSUS</i> SALTWATER CROCODILE | 11 |
| <i>CROCODYLUS RHOMBIFER</i> CUBAN CROCODILE | 11 |
| <i>CROCODYLUS SIAMENSIS</i> SIAMESE CROCODILE | 12 |
| <i>CROCODYLUS SIAMENSIS/POROSUS</i> CROCODILE HYBRID | 12 |
| <i>OSTEOLAEMUS TETRASPIS</i> WEST AFRICAN DWARF CROCODILE | 13 |
| <i>ALLIGATOR MISSISSIPPIENSIS</i> AMERICAN ALLIGATOR | 13 |
| <i>CAIMAN CROCODYLUS CROCODYLUS</i> SPECTACLED CAIMAN | 14 |
| <i>CAIMAN CROCODYLUS FUSCUS</i> BROWN CAIMAN | 15 |
| <i>CAIMAN LATIROSTRIS</i> BROAD-SNOUTED CAIMAN | 17 |
| <i>CAIMAN YACARE</i> YACARÉ | 17 |
| OTHER SPECIES | 18 |
| TRADE IN LIVE ANIMALS | 18 |
| TRADE IN OTHER BY-PRODUCTS | 20 |
| DECLARED DOLLAR VALUE | 23 |
| INFRACTIONS OF CITES | 24 |
| DISCUSSION AND RECOMMENDATIONS | 24 |

List of Figures

| | |
|--|----|
| Figure 1. Australian exports of <i>Crocodylus johnsoni</i> 1988 - 2003 | 6 |
| Figure 2. Exports of <i>Crocodylus niloticus</i> skins from Madagascar 1992 - 2004 | 7 |
| Figure 3. Gross exports of <i>A. mississippiensis</i> skins from the United States of America 1986-2004..... | 13 |
| Figure 4. Reported source of alligator skins from the United States of America 1997-2004 | 14 |
| Figure 5. Exports of <i>Caiman crocodilus crocodilus</i> skins from Venezuela 1985-2004 | 15 |
| Figure 6. Exports of <i>Caiman crocodilus fuscus</i> from Colombia 1990-2004 | 16 |
| Figure 7. Global exports of crocodilian meat 1988 – 2004..... | 22 |
| Figure 8. Comparison of exports of meat of <i>Alligator mississippiensis</i> and <i>Crocodylus niloticus</i> | 23 |

List of Tables

| | |
|---|----|
| Table 1. CITES annual reports for 2002-2004 available for analysis..... | 2 |
| Table 2. Reported trade in <i>Crocodylus niloticus</i> skins, 1997-2004 | 9 |
| Table 3. Reported trade in <i>Crocodylus novaeguineae novaeguineae</i> skins, 1996-2004..... | 10 |
| Table 4. Reported trade in <i>Crocodylus porosus</i> skins, 1997-2004 | 11 |
| Table 5. Exports of <i>Alligator mississippiensis</i> reported by USA 1986-2004 | 13 |
| Table 6. Reported trade in <i>Caiman crocodilus fuscus</i> skins, 1995-2004..... | 15 |
| Table 7. Reported trade in <i>Caiman yacare</i> skins, 1992-2004..... | 17 |
| Table 8. South Africa's imports of live <i>Crocodylus niloticus</i> 1997-2004 | 20 |
| Table 9. China's imports of live <i>Crocodylus siamensis</i> 1997-2004 | 20 |
| Table 10. Reported US dollar value of <i>Alligator mississippiensis</i> skins 1997-2004 | 24 |
| Table 11. Reported US dollar value of Colombian <i>Caiman crocodilus fuscus</i> skins 1997-2004 | 24 |
| Table 12. Reported trade in crocodilian skins 1996-2004 | 25 |

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Introduction

This is the thirteenth report produced by UNEP-WCMC for the International Alligator and Crocodile Trade Study (IACTS) and examines the international trade in crocodylian skins from 1980 to 2004. As in the previous reports, the data used in this report have been obtained from the *CITES Trade Database* that UNEP-WCMC maintains on behalf of the CITES Secretariat, with additional information provided by the Crocodile Farmers Association of Zimbabwe. The present report is intended to update the earlier reports by detailed analysis of information for the years up to 2004. It also attempts to identify problem areas and to recommend, where possible, workable solutions.

As in the IACTS reports for 2001 - 2003, this report presents information on trade levels in classic skins (alligators and true crocodiles) and caimans and also trade in other products such as live animals and meat.

Methods

This report is based on an analysis of the annual reports submitted by the Parties to CITES for all years up to 2004, and if applicable, 2005. A list of annual reports for 2002-2004 that had been received at UNEP-WCMC 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 crocodylian species has been analysed with two sides being considered to be equivalent to one skin. Trade in skins reported in units of weight, area, length or sub-units such as 'tails' has been mainly excluded. Wherever possible, data reported by the producer countries have been used in preference to that reported by importing countries because small differences in the manner of reporting, or the time lag between export and import, may lead to double-counting and thus an overestimation of trade volume. However where producer countries have failed to submit annual report data on exports of crocodylians, importers' data have been used. Many of the transactions have been analysed at the export permit level. As with previous reports that covered the years 1995-2003, re-export trade has not been included in the estimation of annual production.

Limitations of data

Late submission or complete failure to submit CITES annual reports continue to be the biggest problems in conducting trade studies using CITES annual report data. In the IACTS 2002 report we drew attention to measures taken by the CITES Standing Committee that resulted in many Parties providing their missing reports however the situation appears to slipped back since then.

A further problem with annual reports is the basis on which they are compiled. According to CITES Notification to the Parties No. 2002/022 of 9 April 2002 (now replaced by No. 2006/030 of 2 May 2006), Parties may report on the basis of the permits and certificates they have issued if they are unable to report on the actual number of specimens that entered or left the country. However, reporting on the basis of permits issued may lead to overestimates of trade volume as permits are frequently issued for quantities in excess of those actually traded and indeed, some of the permits may not even be used. Despite frequent reminders from the CITES Secretariat, the majority of Parties still fail to provide any details concerning the basis on which their annual reports are compiled and although UNEP-WCMC has access to the export permits routinely sent by several Parties to the CITES Secretariat, few of these are currently from crocodylian exporting countries.

Most CITES annual reports are compiled on a shipment-by-shipment basis and many include the exporters' permit numbers. This allows for very accurate cross-checking of data, particularly where an export may be reported in one year and the import of the same shipment reported the following year, and enables potential reporting or typographical errors to be traced. In recent years only Switzerland, a significant importer of crocodylian skins, has failed to report in this way.

All annual reports for the years up to 2004 should have been submitted by 31 October 2005 but, at the time of writing (June 2006), several reports that might contain important data have still not been received by the CITES Secretariat. These include Honduras (2002), Kenya (2003), Malawi (2002), Nicaragua (2004), Panama (2002), Uganda (2002, 2003 and 2004), Venezuela (2004) and Viet Nam (2003, 2004). The potential effect of such omissions has been commented upon during the analysis. However Japan, a major importer of crocodylian skins that has consistently failed to report on time, has now caught up with its backlog of reports thus allowing better estimation of trade involving major exporters that have failed to submit reports.

Table 1. CITES annual reports for 2002-2004 available for analysis

| Country | 2002 | 2003 | 2004 |
|----------------------------------|------|------|------|
| Algeria | * | * | * |
| Antigua and Barbuda | * | * | - |
| Argentina | * | * | * |
| Australia | * | * | * |
| Austria | * | * | * |
| Azerbaijan | * | * | * |
| Bahamas | * | - | - |
| Bangladesh | * | * | * |
| Barbados | * | * | * |
| Belarus | * | * | * |
| Belgium | * | * | * |
| Belize | * | * | - |
| Benin | * | - | * |
| Bermuda | * | - | - |
| Bhutan | | * | - |
| Bolivia | * | * | * |
| Botswana | * | * | - |
| Brazil | * | * | * |
| Brunei Darussalam | * | * | - |
| Bulgaria | * | * | * |
| Burkina Faso | * | * | * |
| Burundi | * | * | * |
| Cambodia | * | * | * |
| Cameroon | * | - | - |
| Canada | * | * | * |
| Central African Republic | * | * | - |
| Chad | * | * | * |
| Chile | * | * | * |
| China | * | * | * |
| Colombia | * | * | * |
| Comores | - | - | - |
| Congo | * | * | - |
| Costa Rica | * | * | * |
| Côte d'Ivoire | * | * | * |
| Croatia | * | * | * |
| Cuba | * | * | * |
| Cyprus | * | * | * |
| Czech Republic | * | * | * |
| Democratic Republic of the Congo | * | * | * |
| Denmark | * | * | * |
| Djibouti | * | - | - |
| Dominica | * | - | - |
| Dominican Republic | * | - | - |

| Country | 2002 | 2003 | 2004 |
|-------------------|------|------|------|
| Ecuador | - | - | * |
| Egypt | * | * | * |
| El Salvador | * | * | * |
| Equatorial Guinea | * | * | * |
| Eritrea | * | - | - |
| Estonia | * | * | * |
| Ethiopia | * | * | * |
| Finland | * | * | * |
| France | * | * | * |
| Gabon | * | * | * |
| Gambia | * | * | * |
| Georgia | * | * | - |
| Germany | * | * | * |
| Ghana | * | * | * |
| Greece | * | * | * |
| Greenland | * | * | - |
| Grenada | * | - | - |
| Guatemala | * | * | - |
| Guinea | * | * | - |
| Guinea Bissau | * | * | - |
| Guyana | * | * | * |
| Honduras | - | * | * |
| Hong Kong, SAR | * | * | * |
| Hungary | * | * | * |
| Iceland | * | * | * |
| India | * | * | * |
| Indonesia | * | * | * |
| Iran | * | * | * |
| Ireland | * | * | * |
| Israel | * | * | * |
| Italy | * | * | * |
| Jamaica | * | * | * |
| Japan | * | * | * |
| Jordan | * | * | * |
| Kazakhstan | * | * | - |
| Kenya | * | - | * |
| Kuwait | | * | * |
| Latvia | * | * | * |
| Liberia | * | * | * |
| Liechtenstein | * | * | * |
| Lithuania | | * | * |
| Luxembourg | * | * | * |
| Macao, SAR | * | * | * |
| Macedonia | * | * | * |
| Madagascar | * | * | * |
| Malawi | - | * | * |
| Malaysia | * | * | * |
| Mali | * | * | * |
| Malta | * | * | * |
| Mauritius | * | * | * |
| Mexico | * | * | * |
| Moldova | * | * | * |
| Monaco | * | * | * |
| Mongolia | - | - | - |
| Morocco | * | * | * |
| Mozambique | * | * | * |
| Myanmar | * | * | * |

| Country | 2002 | 2003 | 2004 |
|----------------------------------|------|------|------|
| Namibia | * | * | * |
| Nepal | * | * | - |
| Netherlands | * | * | * |
| New Caledonia | * | * | * |
| New Zealand | * | * | * |
| Nicaragua | * | * | - |
| Niger | * | * | - |
| Nigeria | * | * | * |
| Norway | * | * | * |
| Pakistan | * | * | * |
| Panama | - | * | * |
| Papua New Guinea | * | * | * |
| Paraguay | * | * | - |
| Peru | * | * | * |
| Philippines | * | * | * |
| Poland | * | * | * |
| Portugal | * | * | * |
| Qatar | * | * | * |
| Republic of Korea | * | * | * |
| Romania | * | * | * |
| Russian Federation | * | * | * |
| Rwanda | * | - | - |
| Saint Kitts and Nevis | * | * | * |
| Saint Lucia | * | * | * |
| Saint Vincent and the Grenadines | * | * | * |
| Saudi Arabia | - | * | * |
| Senegal | * | * | * |
| Serbia and Montenegro | * | * | * |
| Seychelles | * | - | - |
| Sierra Leone | * | * | * |
| Singapore | * | * | * |
| Slovakia | * | * | * |
| Slovenia | * | * | * |
| South Africa | * | * | * |
| Spain | * | * | * |
| Sri Lanka | * | * | * |
| Sudan | * | * | * |
| Suriname | * | * | * |
| Swaziland | * | * | * |
| Sweden | * | * | * |
| Switzerland | * | * | * |
| Thailand | * | * | * |
| Togo | * | * | * |
| Trinidad and Tobago | * | * | * |
| Tunisia | * | * | * |
| Turkey | * | * | * |
| Uganda | - | - | - |
| Ukraine | * | * | - |
| United Arab Emirates | * | * | * |
| United Kingdom | * | * | * |
| United Republic of Tanzania | * | * | * |
| United States of America | * | * | * |
| Uruguay | * | * | * |
| Uzbekistan | * | * | * |
| Vanuatu | * | * | - |
| Venezuela | * | * | - |
| Viet Nam | * | - | - |

| Country | 2002 | 2003 | 2004 |
|----------|------|------|------|
| Yemen | * | * | * |
| Zambia | * | * | * |
| Zimbabwe | * | * | * |

* = report available; - = report not received; no symbol denotes country not party to CITES

The accuracy of the data provided in CITES annual reports is a further limitation to perfect analysis. In previous IACTS reports it has been noted that skins have been reported as live animals, skin pieces such as back strips, necks, flanks and tails have been reported as whole skins and, in the case of the Zimbabwe annual reports, mixed shipments of belly skins, hornbacks and backskins on multiple permits have been confused to the extent that the reported exports on those permits were overestimated by 450 per cent. Possibly the greatest cause of confusion are “backskins” that are frequently reported simply as “skins”. Considerable effort has again been made during the compilation of this report to clear up these inconsistencies by close cross matching of imports with the original export permit information and the results are discussed in the various species accounts.

Species accounts

Crocodylus acutus American crocodile

The first recorded trade in this species since 1989 was two shipments, each of 50 skins from captive-bred animals, exported from Colombia to France in 2001. Both the importer and the exporter reported this trade. No further trade was reported as occurring in 2002, however France reported importing 130 skins (two shipments) from registered captive-breeding operations in Colombia in 2003. Colombia has two farms registered with CITES for production of this species and confirmed the exports to France. A further 30 skins were reported as exports to France by Colombia in 2004. Honduras has one registered farm producing this species and it appears the first reported import was of 500 skins by Japan in 2003. This was followed by an export of 197 skins to Panama in 2004 that were apparently subsequently re-exported back to Honduras.

Crocodylus johnsoni Australian freshwater crocodile

Figure 1. Australian exports of *Crocodylus johnsoni* 1988 - 2003

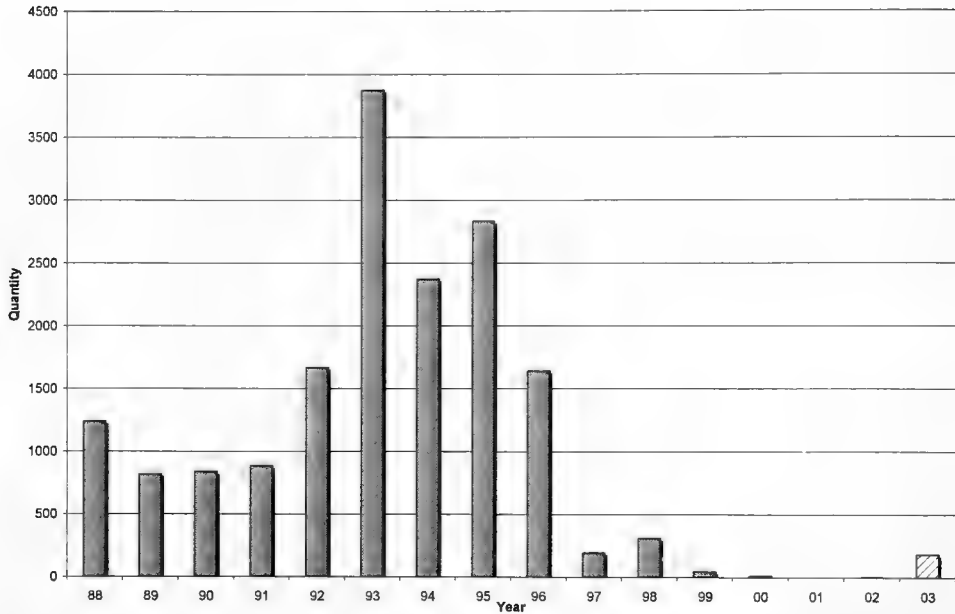


Figure 1 shows that exports from Australia peaked at 3875 in 1993, remained high between 1994 and 1996 but have since fallen to insignificant levels. No direct exports in skins of this species was reported in 2001 or 2004 and only two, exported to Japan, in 2002. Japan reported the import of 184 skins in 2003 but the format of the export permit numbers would suggest the trade was in manufactured products rather than whole skins. In 2004 Singapore reported re-exporting 1581 of the skins exported by Australia in 1994 and 1995 to China.

Crocodylus moreletii Morelet's Crocodile

Mexico has three captive-breeding operations for this species registered with the CITES Secretariat. Exports began in 1997 with 146 skins going to France, Italy and Panama. This was followed by exports of 193 skins in 1998 and a further two in 1999. In 2000 exports increased to 1228 skins and again to 3643 in 2001. Exports then decreased to 1588 skins in 2002, to 1037 in 2003 and further to 609 in 2004. Japan has been the main importer since 2002 with lesser quantities going to France, Italy and Spain.

Crocodylus niloticus Nile crocodile

The major analysis of the data for this species, based on available permit numbers that was initiated with the IACTS 2002 report has continued with the aim of eliminating misinterpretation caused by the variety of terms used to describe the skins. For the purposes of this report, bellies, skins and hornbacks have been treated as representing entire skins. A summary of the trade data from 1997-2003 can be found in Table 2.

Exporters

1. Range States

Botswana: although Botswana reported exports of over 9000 skins between 1992 and 1994, there have been no commercial exports of skins between 1997 and 2004 apart from 152 skins from captive-bred individuals that South Africa reported importing in 2001.

Central African Republic: apart from an import of 35 skins reported by France in 1986 there have been no commercial exports.

Congo: small numbers of skins were exported to France during the 1980s but there have been no commercial exports reported since 1989.

Ethiopia: is an intermittent exporter and the crocodile breeding operation is not currently registered with the CITES Secretariat. The only importer appears to be the United Kingdom who reported importing 220 skins in 2002. In 2003 Ethiopia reported exports of 1354 skins and a further 446 in 2004.

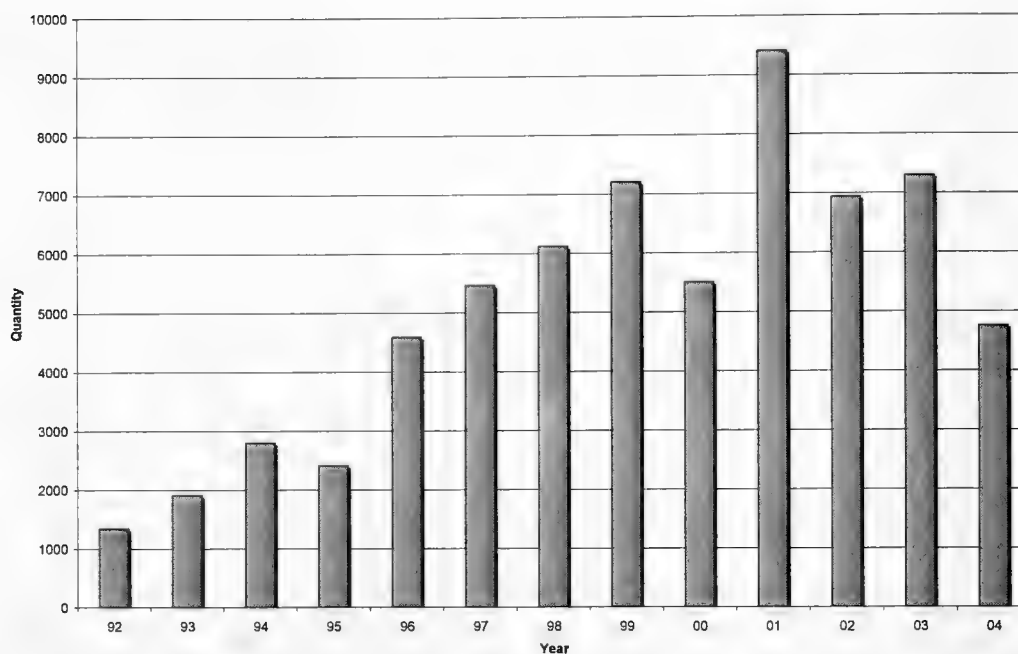
Guinea: Guinea has not reported exporting skins since 1991, nor have there been any reported imports from that country apart from a seizure of 100 skins reported by Spain in 1995.

Kenya: Singapore reported importing 1687 skins from Kenya in 2003 (no report has been received from Kenya for that year) and Kenya reported exports of 2850 skins in 2004. All trade was in ranched material.

Liberia: a few commercial exports to France, amounting to almost 1500 skins, were reported between 1981 and 1984 but none since.

Madagascar: Madagascar's exports since 1992 are shown in Figure 2 and indicate a steady increase until 2001. Reported exports then dropped to 6936 skins of which 500 were reported to be from the wild in 2002, and then increased slightly in 2003 to 7300, of which 700 were from the wild. Reported exports fell further to 4760 in 2004, of which 2110 were reportedly captive-bred, 2150 ranched and 500 from the wild. It should be noted that Madagascar had a quota of 7600 skins from ranched animals and 500 skins from wild nuisance animals in 2002, 2003 and 2004.

Figure 2. Exports of *Crocodylus niloticus* skins from Madagascar 1992 - 2004



Malawi: In 2003 Malawi reported exporting a total of 301 skins, to France, Singapore and Zimbabwe, and a further 20 to France in 2004. However France reported the import of 80 skins in 2004 on a Malawi export permit not reported by Malawi in either year so it seems likely that Malawi's true export figure was 100 skin in 2004. All skins were reported to be of wild origin.

Mozambique: In 2003 Mozambique reported exporting 3160 skins, mostly going to South Africa with a few (338) going to Singapore, all but 195 from ranched animals. The annual reports of the importing countries confirmed most of these shipments. The 2004 report from Mozambique only indicates exports of 2000 back skins to Singapore in that year and there are no reports from importers to indicate to the contrary.

Namibia: No exports of skins have been reported since 2000. Namibia has one crocodile ranching operation registered with the CITES Secretariat.

Nigeria: as noted in previous IACTS reports, Italy reported importing 10,304 skins from Nigeria in 1981 and a further nine in 1983. No further commercial shipments have been reported although seizures of items from tourists returning from that country occur regularly.

Somalia: as noted in previous IACTS reports, a total of 2189 skins were reported as imports by Italy and Japan in 1980 and 1981 but no further commercial shipments have been reported since.

South Africa: reported exports up to 2002 indicated a steady expansion of the trade from 29,698 skins for in 2000, 33,335 in 2001 and 45,755 in 2002. Reported exports decreased to 31,321 in 2003 and increased again to 35,760 in 2004. Almost all of the skins were reported to be from captive-bred animals. It should be noted that South Africa has been a major re-exporter of skins produced in Zambia and Zimbabwe.

Sudan: as previously reported in IACTS 2004, the only recorded commercial trade involving Sudan was in 1992 when Egypt reported importing 7900 skins. However, there have been no records of re-exports of Sudanese crocodile skins by Egypt and it seems likely that they may have actually been skins of Nile monitor, *Varanus niloticus*, and misreported by Egypt.

Togo: as noted in previous IACTS reports, no trade in skins has been reported since the early 1980s when 6377 were exported to France between 1982 and 1983.

Uganda: The first trade since 1994 began in 2000 and continued in 2001 with a total export of 1408 skins, all to Italy. Italy reported importing a further two skins in 2002 but none in 2003. In 2004 the Republic of Korea reported importing 300 skins from captive-bred animals. Uganda has not yet submitted reports for 2002, 2003 or 2004.

United Republic of Tanzania: although commercial exports increased steadily between 1997, when Tanzania reported exporting 275 skins, and 2001 when 1498 were reported being exported, commercial trade appears to have stabilised with totals of 1359 in 2002, 1439 in 2003 and 1067 in 2004, all from wild origin. Serious doubt has emerged that Tanzania has included all of their crocodile export data in their latest annual reports so these figures have been taken from the reports of the importing countries, notably France and Singapore.

Zambia: In 2002, Zambia reported exports of 22,259 skins, a further 28,019 in 2003 and 26,353 in 2004. All of appear to be from ranching operations. Singapore and Japan were the main destinations, with Spain and South Africa taking lesser amounts.

Zimbabwe: In 2003 CFAZ reported exporting 73,707 skins, a slight decrease from the year before. The CITES M.A. recorded a similar figure (70,378) for that year, which may suggest an improvement in reporting as comparisons for earlier years had shown significant discrepancies. In 2004 the Management Authority reported exports of 60,185 skins and CFAZ 68,263. Comparison between the two datasets indicates that the Management Authority have failed to report some 30 shipments reported by CFAZ that can be confirmed by data from the importing countries. In table 2 we have used the CFAZ figure to calculate the total number of skins.

2. Other countries

Brazil: Brazil reported exporting one skin to the United States in 2003 and a further 44 in 2004.

Israel: reported exporting 699 skins to France in 2002, a figure confirmed by the importer, No further exports were reported for 2003 or 2004.

Mauritius: first reported exporting skins (30) from captive-bred individuals in 2000. This gradually increased to 93 in 2001, 178 in 2002, 118 in 2003 and 400 in 2004. The importers have been Madagascar, Singapore and Zimbabwe.

Table 2. Reported trade in *Crocodylus niloticus* skins, 1997-2004

| Country | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------|------|------|------|------|-------|------|-------|------|
| Botswana | 337 | 0 | 0 | 0 | 152 | 0 | 0 | 0 |
| Brazil | 1 | 2082 | 720 | 1477 | 50 | 0 | 1 | 44 |
| Ethiopia | 0 | 0 | 0 | 926 | 42 | 203 | 1354 | 446 |
| Israel | 0 | 0 | 552* | 811* | 2289* | 699 | 0 | 0 |
| Kenya | 1445 | 400 | 3350 | 3460 | 3713* | 2317 | 1687* | 2850 |
| Madagascar | 5464 | 6520 | 7207 | 5506 | 9408 | 6936 | 7300 | 4760 |
| Malawi | 600* | 200* | 170 | 360* | 1256 | 120* | 301 | 100* |

| | | | | | | | | |
|--------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| Mauritius | 48 | 59 | 266 | 30 | 93 | 178 | 118 | 400 |
| Mozambique | 1430 | 810 | 813 | 718 | 477 | 293 | 3160 | 0 |
| Namibia | 120 | 53 | 115 | 100 | 0 | 0 | 0 | 0 |
| South Africa | 13,573 | 8863 | 27,641 | 29,968 | 33,335 | 45,755 | 31,321 | 35,760 |
| Uganda | 0 | 0 | 0 | 508* | 900 | 2* | 0 | 300* |
| U.R.Tanzania | 275 | 777 | 827 | 1302 | 1498 | 1259* | 1439* | 1067* |
| Zambia | 12,238* | 14,299 | 23,448 | 19,906* | 20,887 | 22,259 | 28,019 | 26,353 |
| Zimbabwe | 54,037 (46,456♦) | 45,654 (40,720♦) | 68,230 (63,064♦) | 74,567* (82,168♦) | 59,096* (76,657♦) | 69,075* (79,932♦) | 70,378 (73,707♦) | 60,185 (68,263♦) |
| Total | 89,568 | 79,717 | 133,339 | 147,240 | 150,757 | 159,953 | 148,407 | 140,343 |

Key: * Figure derived partly or in full from import data

♦ Data supplied by CFAZ

Crocodylus novaeguineae novaeguineae New Guinea crocodile

Table 3 shows the total number of skins of this species exported by the main producers, Indonesia and Papua New Guinea, between 1996 and 2004.

Indonesia: exports in 2002 amounted to 11,951 skins, decreased to 8826 skins in 2003 and then increased again to 10,481 in 2004. The main destinations in earlier years were Japan and Singapore, however all the 2003 production appears to have gone to Japan. The proportion of wild collected skins increased from 28 per cent of the total in 2002 to 35 per cent in 2003.

Papua New Guinea: exports of 18,798 skins were reported in 2002 and a further 18,482 in 2003. In 2004 trade increased dramatically to 29,315 skins and this is confirmed by data from the importing countries. The majority of the skins were exported to Japan with smaller quantities being imported by Australia, France and Singapore. In 2000 wild-collected skins accounted for 83 per cent of the production, increasing to 93 per cent in 2001 and to 100 per cent in 2002 and 2003. In 2004 only four skins of animals bred in captivity were exported.

Table 3. Reported trade in *Crocodylus novaeguineae novaeguineae* skins, 1996-2004

| Country | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Indonesia | 0 | 100 | 8506 | 6574 | 7215 | 9946 | 11,951 | 8826 | 10,481 |
| Papua New Guinea | 14,234 | 32,912 | 16,985 | 15,617 | 16,018 | 20,688 | 18,798 | 18,482 | 29,315 |
| Total | 14,234 | 33,012 | 25,491 | 22,191 | 23,233 | 30,634 | 30,749 | 27,308 | 39,796 |

Crocodylus porosus Saltwater crocodile

Australia: reported exports in 2002 amounted to 7205 however import country data suggested this figure should have been higher and it is known that there were severe problems with new computer software used to produce the Australian report. Close examination of both importer and exporter data suggest the real figure to be in the region of 10,423. In 2003 Australia reported exports of 14,544 skins and in 2004 12,322 skins. The destinations were mainly France, Japan and Singapore with smaller quantities going to Indonesia, Italy, the Republic of Korea and the United States.

Indonesia: exports of 3277 skins to Japan and Singapore were reported in 2002 and 2732 skins to the same destinations in 2003. In 2004 reported exports increased to 3968. Whereas the majority of skins exported in 2002 were reported to be from animals bred in captivity, most of those exported in 2003 and 2004 were reported to be from ranching operations.

Malaysia: Singapore reported importing 662 skins in 2002 and 618 in 2003, all from registered breeding operations of which Malaysia has five. In 2004 the number of skins had apparently increased to 1450. From the sparse export data available, it appears that Malaysia may have difficulty in collecting the information which may be the result of having three separate CITES Management Authorities responsible for Peninsular Malaysia, Sabah and Sarawak respectively.

Papua New Guinea reported exporting 9332 skins in 2002, a further 8000 in 2003 and 11,043 in 2004. The proportion of wild-sourced skins was reported to be 25 per cent in 2002 but increased to 39 per cent in 2003 and to 42 per cent in 2004.

Singapore reported commercial exports of 584 skins from registered captive-breeding operations in 2002, 470 in 2003 and 1136 in 2004. The sole importer in 2002 and 2003 was Japan but exports also went to Australia, France and Thailand in 2004.

Thailand: reported exporting 805 skins to Japan in 2001 and a further 300 in 2004.

Table 4. Reported trade in *Crocodylus porosus* skins, 1997-2004

| Country | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------|--------|--------|--------|--------|--------|---------|--------|--------|
| Australia | 8777 | 9896 | 5048 | 13,296 | 11,849 | 10,423* | 14,544 | 12,322 |
| Indonesia | 150 | 3141 | 1087 | 3172 | 3397 | 3277 | 2732 | 3968 |
| Malaysia | 120* | 320* | 320* | 559* | 675* | 662* | 618* | 1450* |
| Papua New Guinea | 8771 | 10,255 | 9396 | 8336 | 10,676 | 9332 | 8000 | 11,043 |
| Singapore | 296 | 211 | 60 | 438 | 762 | 584 | 470 | 1136 |
| Thailand | 440 | 300 | 60 | 0 | 805 | 0 | 0 | 300 |
| Total | 18,554 | 24,123 | 15,971 | 25,791 | 28,164 | 24,278 | 26,364 | 30,219 |

Key: * Figure derived from import data

Crocodylus rhombifer Cuban crocodile

No trade has been reported for this species since 1998 apart from one skin reported as a personal import by Denmark in 2004.

***Crocodylus siamensis* Siamese crocodile**

Cambodia: Singapore reported importing 30 skins from Cambodia in 2001, the first reported trade involving that country. The skins were subsequently re-exported to Japan in 2002 but no further trade in skins from that country has been reported. Cambodia has six crocodile farms registered with the CITES Secretariat for the commercial production of this species.

Thailand: has 17 crocodile farms registered with the CITES Secretariat for commercial production. Reported exports were 5459 skins in 1999, 2417 in 2000, 4392 in 2001 and 3580 in 2002. However, reported exports increased dramatically to 10,982 in 2003 and further to 20,105 in 2004. The main importer in both 2003 and 2004 was Japan, with smaller quantities going to China, Germany, France, Hong Kong, Italy and the Republic of Korea.

***Crocodylus siamensis/porosus* Crocodile hybrid**

No international trade in skins of this hybrid species has been reported since 1995 when Thailand exported 250 to Singapore, however Thailand does export meat and a small quantity of manufactured items annually.

Osteolaemus tetraspis West African dwarf crocodile

There is no international trade in skins of this Appendix-I species, however seizures of small numbers of manufactured items, mainly emanating from Nigeria, are reported annually. Unfortunately very few of these seizures are reported to species level so it is impossible to estimate the scale of the problem, or even if it is this species that is involved.

Alligator mississippiensis American alligator

Only gross export data reported by the United States have been used for this analysis as it has been demonstrated previously that using data reported by importing countries can lead to a significant overestimate of trade volume.

Figure 3 shows reported exports between 1986 and 2004 and indicates a steady increase from around 30,000 skins in 1986 to 210,000 in 1994. Exports then appear to have declined to around 160,000 in 1996 and have then increased steadily to a peak of over 340,000 in 2001. Exports fell to 237,840 in 2002 but increased to nearly 343,000 in 2003 and further to nearly 370,000 the following year. The reasons for the high level of exports in 2001, 2003 and 2004 are as yet not understood.

Table 5. Exports of *Alligator mississippiensis* reported by USA 1986-2004

| | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
| 31,235 | 45,177 | 50,303 | 76,963 | 120,419 | 128,447 | 155,264 | 192,286 | 210,236 | 185,929 |
| 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | |
| 163,936 | 198,649 | 206,620 | 239,519 | 248,922 | 343,110 | 237,840 | 341,734 | 368,409 | |

Four countries, France, Germany, Italy and Singapore import 95 per cent of production with smaller quantities being imported by Mexico and Panama.

It has been noted in the IACTS reports since 2003 that the compilers of the CITES annual report of the United States were probably using the code 'C' (bred in captivity) for ranched animals rather than the more correct 'R'. Other codes used are 'F' – animals born in captivity, (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), and 'W' – wild. This appears to have continued in the annual report for 2004 where 58 per cent of exports were reported as coming from captive-bred individuals. A breakdown of the reported source of skins between 1997 and 2004 is shown in Figure 4.

This species is also bred in captivity in Israel who reported exporting 233 skins to France in 2000. Only six skins were exported, again to France, in 2001 and none have been reported subsequently.

Figure 3. Gross exports of *A. mississippiensis* skins from the United States of America 1986-2004

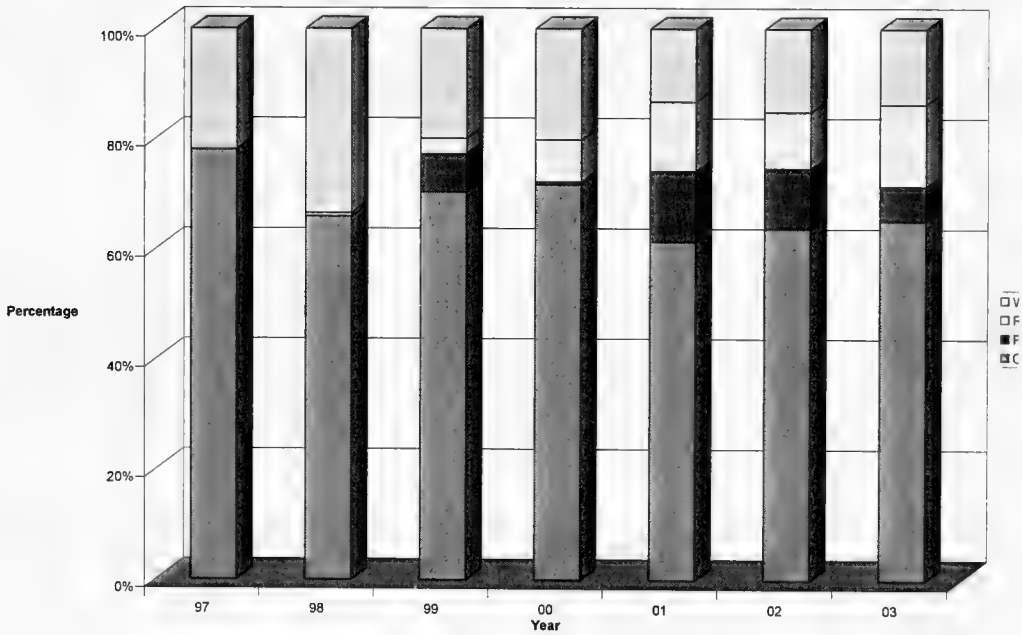
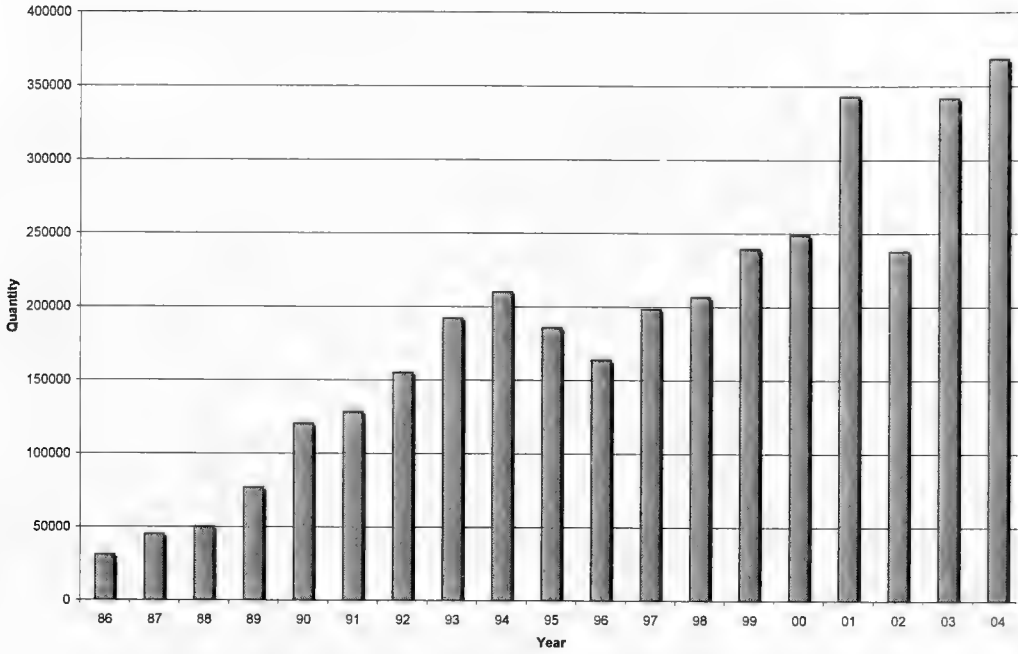


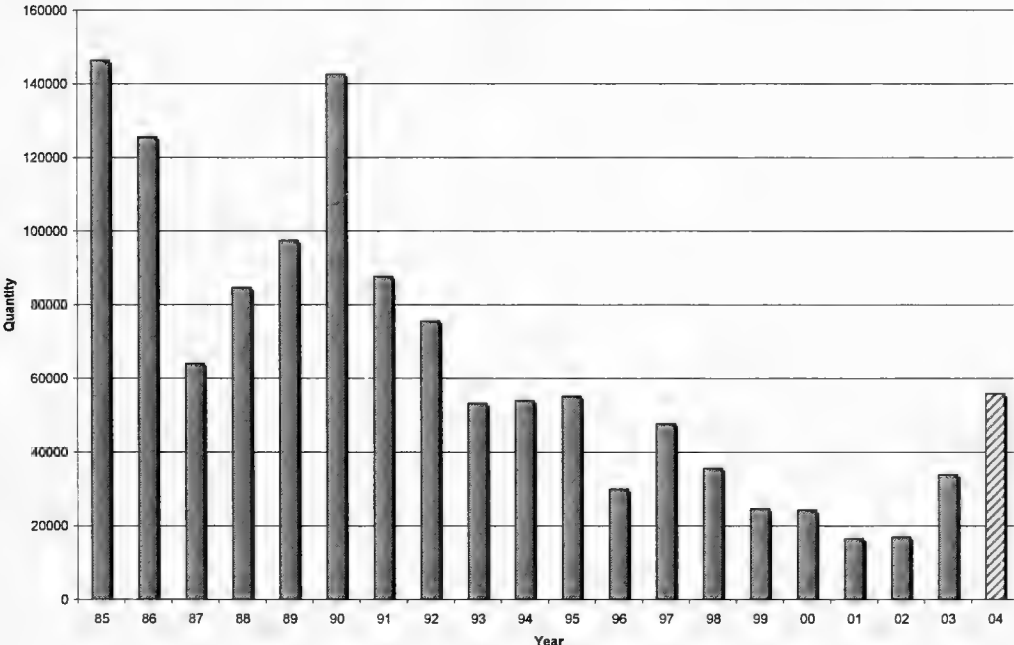
Figure 4. Reported source of alligator skins from the United States of America 1997-2004

Caiman crocodilus crocodilus Spectacled caiman

Venezuela is the main supplier of skins of this species, almost all from wild-collected animals. Exports peaked in the late 1980s and early 1990s with quantities exceeding 100,000 skins in several years. More recently exports have gradually declined, possibly as a result of the farming of massive numbers of *Caiman crocodilus fuscus* in Colombia, but also because of high taxation of the caiman hunting industry. In 2003 Venezuela reported exports of 33,942 skins mainly to Europe, a considerable increase on exports of 2001 and 2002. However, no annual report has been submitted for 2004 and data from importing countries gives a figure of over 53,000 skins in that year. The quantity of skins exported annually from Venezuela is shown in Figure 5 below.

Guyana was the supplier of more than 350,000 skins between 1984 and 1989 but exports dwindled during the 1990s and there are no records of skins being exported between 1998 and 2000. However 395 skins were exported in 2001, to Italy and Mexico, and a further 1000 to Panama in 2002. In 2003 Panama reported importing another 2000 skins and both Guyana and Panama recorded the export of 620 skins in 2004. Colombia also exports small quantities amounting to 692 in 2002, 3000 in 2003 and 6200 in 2004.

Figure 5. Exports of *Caiman crocodilus crocodilus* skins from Venezuela 1985-2004



***Caiman crocodilus fuscus* Brown caiman**

As with *C. crocodilus crocodilus*, the history of the trade in skins of *C. crocodilus fuscus* has been well documented in recent IACTS reports and Colombia remains the major exporter with exports increasing from around 70,000 skins in 1990 to over 820,000 in 2000. In 2001, exports dropped by 125,000 to 698,413 and again to 540,579 in 2002. A very slight increase occurred in 2003 to 552,219 and again to 605,841 in 2004. Exports from Colombia between 1990 and 2004 are shown in Figure 6. Details of the countries reportedly exporting this species from 1994 to 2002 are shown in Table 6.

Table 6. Reported trade in *Caiman crocodilus fuscus* skins, 1995-2004

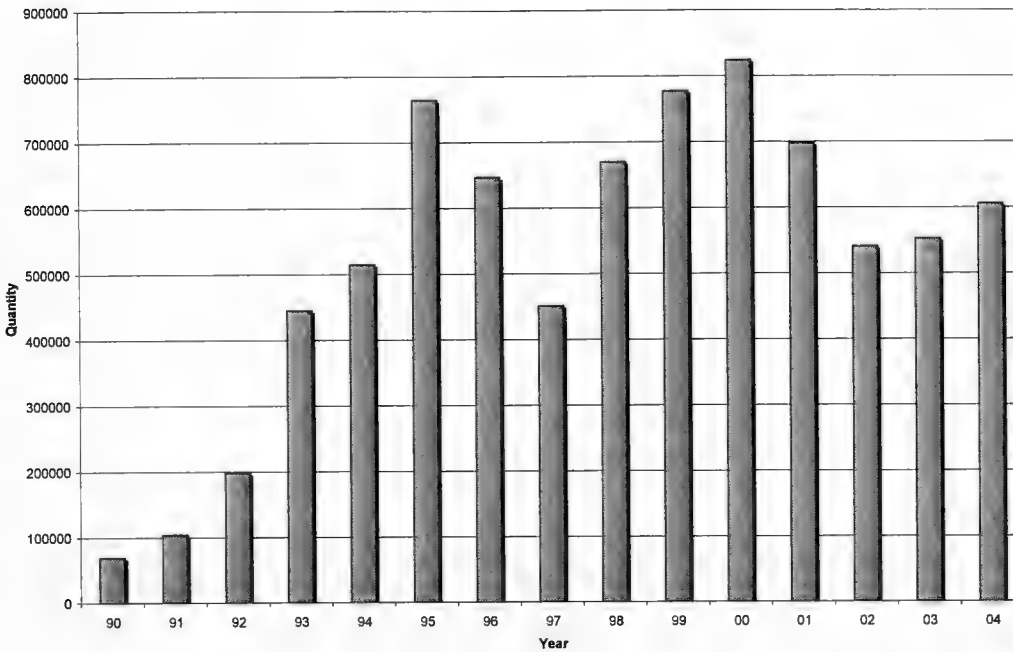
| Exporter | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------|------|------|------|------|------|------|------|------|------|------|
| | | | | | | | | | | |

| | | | | | | | | | | |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Colombia | 764,358 | 646,832 | 451,307 | 669,269 | 777,529 | 824,303 | 698,413 | 540,579 | 552,219 | 605,841 |
| Costa Rica | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cuba | 12 | 302 | 500 | 5 | 2 | 0 | 0 | 0 | 0 | 0 |
| El Salvador | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guatemala | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Honduras | 2,000 | 5,656 | 22,000 | 18,104 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nicaragua | 4328 | 3795 | 1246 | 3927 | 250 | 6440 | 0 | 0 | 0 | 0 |
| Panama | 0 | 0 | 0 | 0 | 10 | 10,250 | 11,700 | 11,047* | 19,840 | 15,850 |
| Total | 770,609 | 656,585 | 475,053 | 691,345 | 777,791 | 840,993 | 710,113 | 551,626 | 572,059 | 621,691 |

Key: * Figure derived from import data.

No exports have been reported from Honduras since 1998 and it seems likely that the reported exports between 1995 and 1997 were in fact re-exports. Nicaraguan production has fluctuated from year to year and exports in 2000 of 6440 went to Panama and Spain. No report was submitted by Nicaragua for 2001 or 2004 and there were no imports from Nicaragua reported in those years; no exports of skins were recorded in Nicaragua's 2002 report. Although an important entrepôt State, Panama clearly distinguishes between exports and re-exports in its annual report. Exports of 10,250 skins were reported in 2000 and 11,700 in 2001. No report has been received from Panama for 2002 but importers data suggest this was again around 11,000. Exports were reported in both 2003 and 2004 amounting to some 19,840 and 15,850 skins, all from captive-breeding operations.

Figure 6. Exports of *Caiman crocodilus fuscus* from Colombia 1990-2004



Singapore imported 51 per cent of Colombia’s skin production in 2003 and 55 per cent in 2004, a steady annual increase. Most of the skins are then re-exported. The other major importers are the United States and Mexico who imported 12 per cent and 18 per cent respectively in 2004. Direct exports to Thailand have decreased each year from 1997 (30 per cent) to 2004 (6 per cent).

***Caiman latirostris* Broad-snouted caiman**

The Argentine population of this species was transferred from CITES Appendix I to Appendix II in 1997 and the first skins from ranched animals were reported by Argentina in 2001, a shipment of 88 to Italy. A further 90 skins were exported to Italy in 2002, 165 to Italy and Germany in 2003 and 215 mostly to Germany and Japan in 2004.

***Caiman yacare* Yacaré**

Table 7 shows the fluctuations in exports of *C. yacare* skins from the major producing countries between 1992 and 2004. Trade data for earlier years was presented in IACTS reports 2000 and 2002.

Bolivia: reported exports of 28,170 skins in 2001 but the figures increased significantly to 63,725 skins in 2002. Subsequent exports decreased to 43,028 in 2003 and further to 34,878 in 2004.

Brazil: reported exports of 6048 skins in 2002, 12,851 in 2003 and 7004 in 2004. Most of the skins were destined for Mexico with some to the United States of America.

Paraguay: regular exports of wild-collected skins have occurred since 1994. Paraguay reported exports of 2980 skins in 2001, 9038 in 2002 and 4409 in 2003 but voluntarily imposed a moratorium on exports of wildlife in September 2003 as a result of a technical mission from the CITES Secretariat.

Table 7. Reported trade in *Caiman yacare* skins, 1992-2004

| Exporter | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|--------------|------------|-------------|---------------|---------------|-------------|---------------|-------------|
| Bolivia | 0 | 0 | 0 | 0 | 0 | 15,961 | 1757 |
| Brazil | 233 | 7034 | 43,573 | 366 | 536 | 4961 | 295 |
| Paraguay | 0 | 3 | 5466 | 17,206 | 725 | 503 | 4445 |
| Total | 233 | 7037 | 49,039 | 17,572 | 1261 | 21,155 | 6497 |

| Exporter | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | |
|--------------|------------|---------------|---------------|---------------|---------------|---------------|--|
| Bolivia | 0 | 4116* | 28,170 | 63,725 | 43,028 | 34,878 | |
| Brazil | 615 | 1763 | 978 | 6048 | 12,851 | 7004 | |
| Paraguay | 0 | 9750 | 2980 | 9038 | 4409 | 0 | |
| Total | 615 | 15,629 | 32,128 | 78,811 | 60,288 | 41,882 | |

Key: * Figure derived from import data

Other Species

There has been no reported commercial exports from origin countries between 2000 and 2002 of skins of the following species: *Crocodylus cataphractus*, *C. intermedius*, *C. palustris*, *Alligator sinensis*, *Melanosuchus niger*, *Palaeosuchus palpebrosus*, *P. trigonatus*, *Gavialis gangeticus* or *Tomistoma schlegelii*. The United States of America reported the seizure of one skin of *Crocodylus cataphractus* from France, of unknown origin, in 2000, and Gabon exported one skin, two stuffed specimens and four leather items of that species as personal items to France in 2002.

Trade in Live Animals

As noted in previous IACTS reports, the commercial export of live crocodylians outside of their range States poses a potential threat to the natural biological diversity of the importing countries. The effect these alien animals may have on native populations of crocodylians is inestimable should they establish breeding populations, a serious possibility given suitable environmental conditions and habitat. It has also noted that the continued growth of the crocodylian farming industry would probably mean that such exports would continue for the time being.

Live crocodylians are traded for many reasons. Enthusiasts popularly keep young animals as personal pets; circuses and zoos regularly exhibit such creatures, farms and ranches import animals to supplement their gene pool and some are imported in order to strengthen wild populations. This variety of use, and the limited number of possible purpose codes used in CITES annual reports, means that some conclusions drawn from analysis of CITES data are only tentative. For example, the purpose code 'T' which indicates a commercial transaction would apply equally if the animals were destined for either the pet trade or the farming industry. Below we consider the reported trade on a species by species basis.

Alligator mississippiensis

Israel reported exporting nine animals to Spain in 2002 and a further 94 in 2003. Spain similarly reported importing nine animals in 2002 but 105 in 2003. In 2004 Spain reported importing 151 from Israel whereas Israel only reported 94. Another 10 animals were reported by Israel as being exported to Ukraine in both 2003 and 2004. There were limited exports (< 50 per annum) from the United States of America during the period under study, mostly destined for zoos.

Alligator sinensis

China reported exporting 30 to Japan in 2000, 64 to Czech Republic, Denmark and Spain in 2001, 10 to Japan in 2002 and a further 16 to Japan in 2003. The only trade in 2004 was two imported by Canada from the United States. All were captive-bred specimens.

Caiman crocodilus

Guatemala reported exporting 3300 *Caiman crocodilus crocodilus* to the United States in 2000 and 470 *C. c. fuscus* to Spain in 2003. All specimens were reported to have been bred in captivity. In 2002 Guatemala reported exporting 205 hybrid *C. c. crocodilus* x *C. c. fuscus* to the United States.

Guyana reported exporting 4161 animals in 2001, 4298 in 2002, a further 3373 in 2003 and 2797 in 2004, all presumably destined for the pet industry. All were wild-caught and the main destinations were Europe, Japan and North America.

Suriname regularly exports wild-caught animals for the pet industry: 94 in 2001, 420 in 2002, 102 in 2003 and 39 in 2004. The main destinations used to be Europe and North America, however in 2002, 2003 and 2004 most of the animals were destined for the Russian Federation.

Venezuela reported exporting 3000 to Thailand and 4500 to Taiwan, Province of China, in 2000, all of ranched stock. Exports to the latter destination increased to 11,100 in 2001, 10,512 in 2002 and 11,140 in 2003. The United States reported importing animals from Venezuela in 2001 and 2003. China reported importing 4000 live captive-bred specimens of *C. c. crocodilus* from Thailand in 2000 but it is not known if they originated in Venezuela and it has not been possible to confirm the transaction via the annual reports of Thailand.

Caiman yacare

Guatemala reported exporting 50 captive-bred specimens to the United States in 2000 and Paraguay reported exporting 200 wild caught specimens to Canada, who also reported the import, in 2002.

Melanosuchus niger

Fifteen captive-bred specimens were exported from Ecuador to Denmark in 2004.

Palaeosuchus palpebrosus

Guyana has an export quota of 500 live wild specimens annually and reported exporting 352 in 2002, 480 in 2003 and 381 in 2004. The animals all appear to be for the pet industry with the main importing country being the United States. Smaller quantities go to Canada, Europe, Japan, Malaysia, Mexico, the Republic of Korea, the Russian Federation and Ukraine.

Palaeosuchus trigonatus

As with *P. palpebrosus*, Guyana has an export quota of 500 live wild specimens annually and reported exports of 224 in 2002, 354 in 2003 and 210 in 2004. The main importing country was the United States, with smaller quantities going to Canada, Europe, Japan, Malaysia and Thailand.

Crocodylus mindorensis

In 2002 the Philippines reported exporting six animals to Australia for breeding purposes, their source being listed as 'F'. No further trade in this species has been reported.

Crocodylus moreletii

In 2000 Mexico reported exporting 100 captive-bred animals to Spain and a further 10 to Germany.

Four more were reported being exported to Spain in 2001 and in 2003 five were exported to Canada and another 10 to Indonesia. Twelve were exported to Morocco in 2004.

Crocodylus niloticus

South Africa is the main importer of live specimens of this species, importing mainly from the neighbouring range States of Botswana, Mozambique and Namibia. Although 2003 saw the first major import from Kenya, this was not repeated in 2004. Details are shown in Table 8.

Table 8. South Africa's imports of live *Crocodylus niloticus* 1997-2004

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------|------|------|------|------|------|------|------|--------|
| Botswana | 1700 | 2050 | 3827 | 3300 | 3670 | 720 | | 0 |
| Kenya | 0 | 0 | 0 | 0 | 0 | 0 | 4000 | 0 |
| Mozambique | 0 | 4000 | 0 | 49 | 0 | 7000 | 5600 | 25,000 |
| Namibia | 800 | 2150 | 0 | 2603 | 1000 | 1100 | | 1000 |
| Zimbabwe | 0 | 0 | 0 | 0 | 0 | 50 | 6 | 0 |
| Total | 2500 | 8200 | 3827 | 5952 | 4670 | 8870 | 9606 | 26,000 |

The 2005 annual report has already been received from Mozambique and indicates exports of 24,200 animals to South Africa in that year. Zimbabwe reported exporting 120 wild-caught specimens to Mauritius in 2003 and there are exports from South Africa numbering several hundreds to Spain and the Republic of Korea in 2004.

Crocodylus porosus

China was the main destination for this species in 2000 with 65 reported as exports by Malaysia, 210 by Myanmar and 330 by Thailand. In 2001 Singapore reported exporting 299 to Thailand but trade has declined since then. In 2003 Thailand reported exporting a total of 30 to Japan (20) and the Republic of Korea (10) and in 2004 Bangladesh reported importing 75 from Malaysia.

Crocodylus siamensis

China began importing this species from Thailand in 1997 and from Cambodia in 2000 and, as shown in Table 9, has imported over 220,000 live specimens from Cambodia, Thailand and Viet Nam in the eight-year period to 2004. Imports decreased in 2003 but increased again in 2004. The annual reports for 2003 and 2004 from Viet Nam, an important producer of this species, have not yet been received. Thailand also reported exporting 1000 animals to Viet Nam in 2004. As noted in the section on skins, Cambodia has six crocodile farms, and Thailand 17, registered with the CITES Secretariat for the commercial production of this species

Table 9. China's imports of live *Crocodylus siamensis* 1997-2004

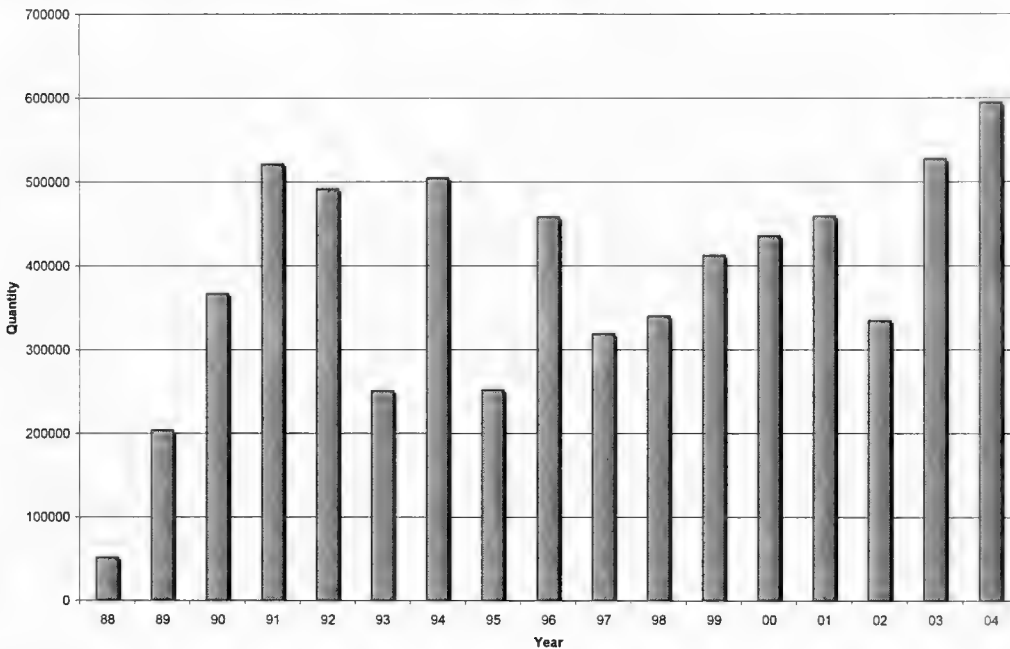
| Exporter | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------------------|------|------|--------|--------|--------|--------|--------|--------|
| Cambodia (direct) | 0 | 0 | 0 | 10,000 | 6272 | 26,746 | 0 | 5000 |
| Cambodia (via Viet Nam) | 0 | 0 | 0 | 3000 | 10,300 | 8333 | 640 | 0 |
| Thailand (direct) | 2128 | 5078 | 44,622 | 26,475 | 12,679 | 10,148 | 17,300 | 30,250 |
| Thailand (via Viet Nam) | 0 | 0 | 0 | 0 | 500 | 750 | 0 | 0 |
| Viet Nam (direct) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 3100 |
| Total | 2128 | 5078 | 44,622 | 39,475 | 29,751 | 45,977 | 18,240 | 38,350 |

Trade in other by-products

a. Meat

Figure 7 shows total world exports as reported in CITES annual reports from 1988 to 2004 and indicates that since 1989 the amount traded globally has averaged almost 400 tonnes yearly and over that period has fluctuated between 250 tonnes in 1989 to 595 tonnes in 2004. Apart from an apparent peak in 1996 and an apparent decrease in 2002, there has been a steady year on year increase since 1995. However, since 1988 there have been major fluctuations in the countries and species involved. Until 1992 the main species in trade was *Alligator mississippiensis* from the United States, particularly to Taiwan, Province of China, Japan, Canada and the United Kingdom. No exports to Taiwan, Province of China, have been reported since 1994 and export levels have fallen since 1995 (see Figure 8) with the main importers currently being Canada, China and Hong Kong. Since 1993, exports of *Crocodylus niloticus* from South Africa, Zambia and Zimbabwe have increased steadily from less than two tonnes in 1992 to a peak of over 380 tonnes in 2004. Initial analysis suggested a decrease to 230 tonnes in 2004, however this was the result of severe under-reporting by Zimbabwe. The figure reported in the Zimbabwe annual report for 2004 was of seven shipments weighing 102 tonnes, while importing countries reported importing 18 shipments weighing 256 tonnes, a figure close to that reported by CFAZ (251 tonnes). The main destinations for the African production are Europe (particularly Belgium, Germany, Netherlands, Switzerland and the United Kingdom), Hong Kong and China, however in 2004 25 tonnes went to Japan. It appears that all of Zambia's production is exported via South Africa. Some imports from Israel and the United Republic of Tanzania have been reported but not since 1996. Figure 8 compares the exports from North America with those of Africa.

Figure 7. Global exports of crocodilian meat 1988 – 2004



Exports from Indonesia of meat of both *Crocodylus novaeguineae* and *C. porosus* appeared to be increasing up to 2000 however since then the only exports appear to have been 666 kg in 2001, 628 kg in 2002, 666 kg in 2003 and none in 2004. All the exports were destined for Hong Kong.

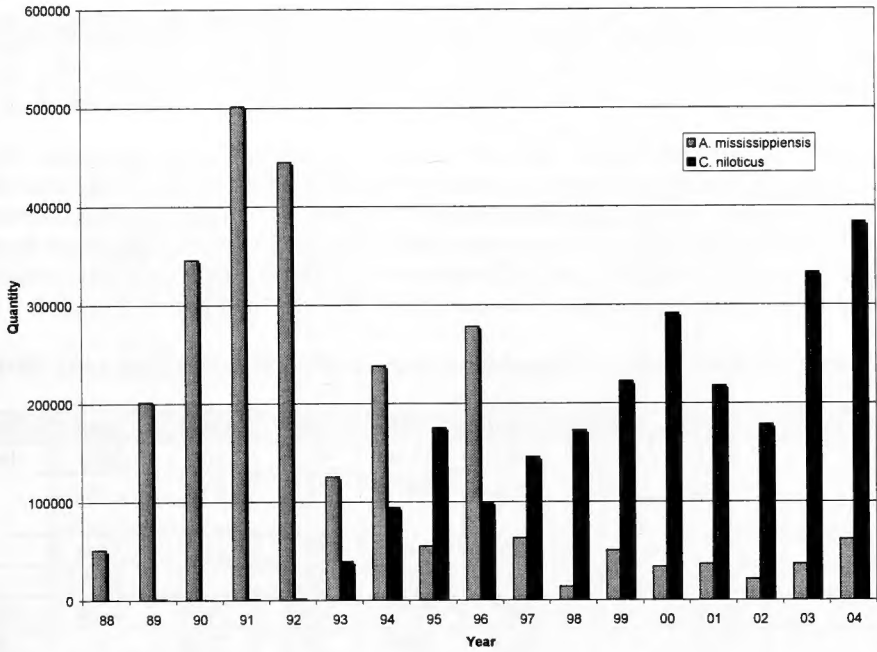
Australia's exports of *Crocodylus porosus* increased from 53 tonnes in 2000 to 57 tonnes in both 2001 and 2002 but then fell slightly to 49 tonnes in 2003 and to just over 13 tonnes in 2004. Although recent problems with the Australian annual reports may suggest that recent data are underestimated, it is possible that the apparent deficit is the result of local consumption. Apart from occasional exports to Europe the main destinations for Australia's production were China, Japan, Malaysia, Hong Kong and Taiwan, Province of China. However no meat was exported to China or Hong Kong in 2004.

Exports of meat from Papua New Guinea are usually of mixed shipments of both *Crocodylus novaeguineae* and *C. porosus*, and have averaged almost 60 tonnes annually between 1996 and 2003. Apart from a few kilograms exported to Belgium in 1996 and Japan in 2002, Australia is the sole importer and reported importing 45 tonnes in 2004.

Thailand is currently the only exporter of *Crocodylus siamensis* and exports have averaged about 35 tonnes annually between 1999 and 2003. In 2004 exports increased to over 68 tonnes. The annual Thailand report describes the product as both 'meat' and 'meat and bone' and the main importing countries are China, Hong Kong, the Republic of Korea and Taiwan, Province of China.

There have been small exports by Mexico of meat of *Crocodylus moreletii* amounting to 432 kg in 2000, 3550 kg in 2002 and 1000 kg in 2003. No trade in meat of this species was reported in 2001 or 2004. Apart from 50 kg reported as an export to Spain in 2002, the sole importer has been Japan.

Figure 8. Comparison of exports of meat of *Alligator mississippiensis* and *Crocodylus niloticus*



b. Teeth

Australia is the most important user of crocodile teeth and between 1999 and 2004 imported nearly 285,000. Most of the teeth were *Crocodylus porosus* from the operations in Malaysia, Papua New Guinea and Singapore. In 2003 Australia imported over 3000 teeth of *Alligator mississippiensis* from the United States, and another 8967 in 2004.

Declared dollar value

Although CITES annual reports do not usually contain information concerning the value of the trade or of individual shipments, the United States has included this information since 1997. This figure is not necessarily accurate but can be used by UNEP-WCMC to identify typographic errors in the report, for example where it is suspected that a decimal point has been omitted. There is great fluctuation amongst the reported values as may be expected and no indication of the size or quality of the skins is provided, indeed for caiman species flanks may have been reported as whole skins to further complicate the issue. Many of the values are nonsensical and may be the result of a typographic error in that field of the report; these have been ignored in the analysis below. Table 10 shows the average declared value per skin (in \$US) of exports of *Alligator mississippiensis* and the reported value of re-imports of these skins from Europe, Mexico and Asia after tanning. Although the original value of exports fluctuates from year to year, the value of the re-imports has been considerably higher, as one would expect.

Table 10. Reported US dollar value of *Alligator mississippiensis* skins 1997-2004

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Exports from USA | 103.7 | 77.8 | 97.6 | 102.9 | 100.8 | 101.4 | 106.4 | 112.5 |
| Re-imports by USA | 143.0 | 116.3 | 140.0 | 179.4 | 169.5 | 108.6 | 124.6 | 144.9 |

Table 11 compares the reported average value per skin of Colombian *Caiman crocodilus fuscus* imported directly from Colombia and via third countries. The source of re-exported skins varies from year to year but the majority are imported directly from Colombia or via Singapore. It is interesting to note that India was first reported as a re-exporter in 2004. The declared value of the direct imports from Colombia increased in both 2001 and 2002 but has dropped back a little since then, while the value of skins from Singapore has fluctuated between \$US 48.9 in 1997 and \$US 39.9 in 2002.

Table 11. Reported US dollar value of Colombian *Caiman crocodilus fuscus* skins 1997-2004

| Exporter/Re-exporter | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------------------|------|------|------|------|------|------|------|------|
| Colombia | 39.3 | 38.6 | 39.7 | 37.4 | 43.5 | 50.7 | 49.9 | 46.8 |
| European Community | 53.2 | 81.3 | 25.2 | 68.5 | 24.7 | 63.8 | - | - |
| Mexico | - | - | 52.4 | 43.5 | 49.1 | 41.5 | 38.0 | - |
| Panama | 52.0 | 27.1 | - | 20.2 | 59.2 | - | 54.4 | - |
| Singapore | 48.9 | 48.6 | 44.7 | 42.5 | 43.8 | 39.9 | 47.8 | 43.4 |
| Switzerland | 24.3 | - | 61.4 | 28.6 | 29.5 | 25.0 | - | 29.5 |
| Thailand | - | 48.6 | 49.4 | 45.8 | 52.2 | 56.5 | 32.6 | 54.0 |

Infractions of CITES

Information on seizures are supposed to be recorded in CITES annual reports but is frequently omitted, perhaps because the relevant authorities involved, i.e. the Customs officers making the seizures and the CITES Management Authorities producing the annual reports seldom liaise closely. Furthermore, the data recorded by Customs rarely allows the goods to be identified at the species level. Most of the seizures that are reported are of tourist items such as dried heads, whole stuffed baby crocodiles, etc. and personal imports of manufactured leather goods. It should be noted that most of the data reflect the diligence of Customs officers inspecting tourist luggage and do not indicate problem areas for the crocodylian industry. In addition, many of the items seized on import are subsequently released to the importer when adequate permits have been obtained.

Of the more significant items reported in recent years, the United States reported seizures of 10 back skins of *Crocodylus niloticus* from Zimbabwe and 150 Appendix-I *C. porosus* skins from Singapore in 2000, 2000 skins of *Caiman crocodilus fuscus* from Colombia and a further 399 from Panama in 2001. The United States also reported seizures of two skulls of *Crocodylus rhombifer* from Cuba, four bodies of *C. siamensis* from Cambodia and eight manufactured items of *Osteolaemus tetraspis* from Equatorial Guinea and Nigeria in 2004. Spain reported the seizure of 300 skins of *Caiman crocodilus fuscus* from Colombia in 2002 and Luxembourg reported a seizure of 650 backskins of *Crocodylus niloticus* from Zimbabwe in 2003. In 2002 the United Kingdom seized a shipment of 10 live *Osteolaemus tetraspis* from Niger.

Discussion and recommendations

The overall volume of world trade in classic crocodylian skins and caimans from 1996 to 2004 is summarised in Table 12 and based, wherever possible, on country of export data. There are

uncertainties regarding the overall total figures because of the lack of annual report data from certain key countries, particularly Kenya, Nicaragua, Uganda and Venezuela. However it is hoped that the estimates made using import country data are sufficient to indicate close approximations to actual exports. Some diversification in the trade began in 2001 with two different species entering the market, captive-bred *Crocodylus acutus* from Colombia and *Caiman latirostris* from Argentina. Trade in these species continued in 2002 and 2003 and the first exports of *C. acutus* from Honduras were reported in 2003. The first exports in recent years of wild *Caiman crocodilus crocodilus* skins from Guyana occurred in 2001 and continued through 2004.

The increase in exports of *Alligator mississippiensis* from the United States of America noticed in 2001 was not sustained the following year and dropped back towards the level seen in the late 1990s. However exports in 2003 and 2004 saw the quantities increase again. The possible reasons for these fluctuations are discussed in the relevant section of this report. Exports of *Crocodylus niloticus* increased steadily up to 2002 with Madagascar, South Africa, Zambia and Zimbabwe being the main suppliers. However, 2003 saw a reduction to the level of 2000, and this trend continued in 2004 with most of the major exporters showing decreased exports. *Crocodylus novaeguineae* from Papua New Guinea appeared to increase in 2004 according to both exporters and importers data, and *C. porosus* trade continued to be stable. Thailand's exports of *C. siamensis*, which had ranged between 1679 and 5459 between 1996 and 2002 showed a sharp increase to almost 11,000 in 2003 and to over 20,000 in 2004. Trade in caiman skins peaked in 2000 but fell by 30 per cent between 2001 and 2002. A slight recovery was observed in 2003 and 2004 as a result of increased exports from Bolivia and Colombia. Overall the total number of skins entering international trade in 2004 appears to have been in excess of 1.3 million, higher than in 2002 and 2003 but still less than in three years before that. This figure may need adjustment when more annual reports are received.

Table 12. Reported trade in crocodylian skins 1996-2004

| Species | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| <i>Alligator mississippiensis</i> | 163,936 | 198,649 | 206,620 | 239,944 | 249,155 | 343,116 | 237,840 | 341,734 | 368,409 |
| <i>Crocodylus acutus</i> | 0 | 0 | 0 | 0 | 0 | 100 | 630 | 830 | 197 |
| <i>C. johnsoni</i> | 1641 | 194 | 309 | 45 | 10 | 0 | 2 | 0 | 0 |
| <i>C. moreletii</i> | 20 | 146 | 193* | 2 | 1228 | 3643 | 1588 | 1037 | 609 |
| <i>C. niloticus</i> | >67,528 | 89,568 | 79,717 | 133,339 | 147,240 | 150,757 | 159,953 | 148,407 | 140,343 |
| <i>C. novaeguineae</i> | 14,234 | 33,012 | 25,491 | 22,191 | 23,233 | 30,634 | 30,749 | 27,308 | 39,796 |
| <i>C. porosus</i> | 19,651 | 18,554 | 24,123 | 15,971 | 25,791 | 28,164 | 24,278 | 26,364 | 30,219 |
| <i>C. rhombifer</i> | 40 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| <i>C. siamensis</i> | 3186 | 5452 | 1679 | 5459 | 2417 | 4422 | 3580 | 10,982 | 20,105 |
| subtotal | 270,236 | 345,575 | 338,134 | 416,951 | 423,283 | 560,836 | 458,620 | 556,662 | 599,680* |

| Species | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------------------------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <i>Caiman crocodilus crocodilus</i> | 26,346 | 37,084 | 35,580 | 32,571 | 38,155 | 25,510* | 22,709 | 34,636 | 55,841* |
| <i>C. crocodilus fuscus</i> | 656,585 | 475,053 | 691,348 | 777,791 | 840,993 | 710,113 | 551,626 | 572,059 | 621,691 |
| <i>C. latirostris</i> | 0 | 0 | 0 | 0 | 0 | 88 | 90 | 165 | 225 |
| <i>C. yacare</i> | 1261 | 21,115 | 6497 | 615 | 15,629 | 32,128 | 78,811 | 60,288 | 41,882 |
| subtotal | 684,192 | 533,252 | 733,425 | 810,977 | 894,777 | 767,839 | 653,236 | 667,148 | 719,639 |
| Grand total | 954,428 | 878,827 | 1,071,559 | 1,227,928 | 1,318,060 | 1,328,675 | 1,111,856 | 1,223,810 | 1,319,319 |

* = data deficient

