

WORLD TRADE IN CROCODILIAN SKINS, 1999-2001

Prepared as part of the International
Alligator and Crocodile Trade Study

by

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Introduction

UNEP-WCMC has previously produced nine reports for the International Alligator and Crocodile Trade Study (IACCTS) that have examined the international trade in crocodylian skins from 1980 to 2000. 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 these reports by detailed analysis of information for the years up to 2001. It also attempts to identify problem areas and to recommend, where possible, workable solutions.

As in the IACCTS report for 2002, this report presents information on trade levels in both 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 2001. A list of annual reports for 1999-2001 that had been received at UNEP-WCMC at the time of writing is given in Table 1. In order to be comparable with previous IACCTS reports, all trade in whole skins and sides of crocodylian species has been analysed. Two sides are 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 to 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 the previous reports covering the years 1995-2000, 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 continues to be the biggest problem in conducting trade studies using CITES annual report data. As a result of measures taken by the CITES Standing Committee (see IACCTS 2002 report), several Parties have provided their missing annual reports and in addition, UNEP-WCMC now has access to export permits sent by Parties to the CITES Secretariat for confirmation of their validity. However several major trading countries, notably Japan and Thailand, have failed to report trade occurring later than 1999.

As noted in previous IACCTS reports, a further problem with annual reports is the basis on which they are compiled. CITES Notification to the Parties No. 2002/022 of 9 April 2002 states that "As far as possible, the data in the report should record the actual trade that took place, i.e. the quantity of specimens that entered or left the country. If it is not possible to report the actual exports and re-exports, the data on such trade should come from each permit and certificate issued. The report should state clearly whether the data used for the records of imports and exports/re-exports are based on permits/certificates issued or on actual trade." However, reporting simply on the basis of permits issued may lead to considerable 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. The majority of Parties still fail to provide any details concerning the basis on which their annual reports are compiled.

A further problem concerns the way in which annual reports are compiled. The guidelines attached to CITES Notification to the Parties No. 2002/022 recommend in paragraph g) of Section 2 that "The report should include a record of each shipment of each species". Reporting in this manner, particularly if details of export permit numbers are provided, allows very accurate cross-checking of data and the tracking of potential errors in reporting. In recent years, only Switzerland has failed to report in this way, however for the year 2000 only, France also reported compiled data. It should be noted that these two countries are significant importers of crocodylian skins.

All annual reports for the years up to 2001 should have been submitted by 31 October 2002 but, at the time of writing (May 2003), several reports that might contain important crocodylian trade data have still not been submitted. These include Argentina (2001), Guatemala (2001), Malawi (2000), Nicaragua (2001), Paraguay (2001), Thailand (2000 and 2001), Venezuela (2001), Viet Nam (2001) and Zambia (2000) amongst the producer countries, and Canada (2000 and 2001), Japan (2000 and 2001) and Thailand (2000 and 2001) amongst the major consumers. The potential effect of such omissions has been commented upon during the analysis.

Table 1. CITES annual reports for 1999-2001 available for analysis

| Country | 1999 | 2000 | 2001 |
|--------------------------|------|------|------|
| Algeria | * | - | - |
| Antigua and Barbuda | * | * | * |
| Argentina | * | * | - |
| Australia | * | * | * |
| Austria | * | * | * |
| Bahamas | * | * | * |
| Bangladesh | * | * | * |
| Barbados | * | * | * |
| Belarus | * | - | - |
| Belgium | * | * | * |
| Belize | * | - | - |
| Benin | * | - | - |
| Bolivia | * | * | * |
| Botswana | * | * | * |
| Brazil | * | * | * |
| Brunei Darussalam | * | * | * |
| Bulgaria | * | * | * |
| Burkina Faso | * | * | * |
| Cambodia | * | * | * |
| Cameroon | * | * | * |
| Canada | * | - | - |
| Central African Republic | * | - | - |
| Chad | * | * | * |
| Chile | * | * | * |
| China | * | * | * |
| Colombia | * | * | * |
| Comores | * | * | * |
| Congo | * | * | * |
| Costa Rica | * | * | * |
| Côte d'Ivoire | * | * | * |
| Croatia | - | * | - |
| Cuba | * | * | * |
| Cyprus | * | - | - |

| Country | 1999 | 2000 | 2001 |
|----------------------------------|------|------|------|
| Czech Republic | * | * | * |
| Democratic Republic of the Congo | * | * | - |
| Denmark | * | * | * |
| Dominica | * | * | * |
| Dominican Republic | * | * | * |
| Ecuador | * | part | * |
| Egypt | * | * | - |
| El Salvador | * | * | * |
| Equatorial Guinea | * | * | - |
| Eritrea | * | * | - |
| Estonia | * | * | * |
| Ethiopia | * | * | * |
| Finland | * | * | * |
| France | * | * | * |
| Gabon | - | * | * |
| Gambia | * | * | - |
| Georgia | * | * | * |
| Germany | * | * | * |
| Ghana | * | * | * |
| Greece | * | * | * |
| Guatemala | * | * | - |
| Guinea | * | * | * |
| Guyana | * | * | * |
| Honduras | * | * | * |
| Hong Kong | * | * | * |
| Hungary | * | * | * |
| India | * | * | * |
| Indonesia | * | * | * |
| Iran | * | * | * |
| Ireland (non-Party) | * | * | * |
| Israel | * | * | * |
| Italy | * | * | * |
| Jamaica | * | * | * |
| Japan | * | - | - |
| Jordan | * | * | * |
| Kazakhstan | - | * | part |
| Kenya | * | * | * |
| Latvia | * | * | * |
| Liechtenstein | * | * | * |
| Luxembourg | * | * | * |
| Macao | * | * | * |
| Madagascar | * | * | * |
| Malawi | * | - | * |
| Malaysia | * | * | * |
| Mali | * | * | * |
| Malta | * | * | * |
| Mauritius | * | * | - |
| Mexico | * | * | * |
| Monaco | * | - | * |
| Mongolia | * | * | * |
| Morocco | * | * | * |
| Mozambique | * | * | * |

| Country | 1999 | 2000 | 2001 |
|----------------------------------|------|------|------|
| Myanmar | * | * | * |
| Namibia | * | * | * |
| Nepal | * | * | * |
| Netherlands | * | * | * |
| 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 | * | * | * |
| Seychelles | * | - | - |
| Sierra Leone | * | * | |
| Singapore | * | * | * |
| Slovakia | * | * | * |
| Slovenia | | * | |
| South Africa | * | * | * |
| Spain | * | * | * |
| Sri Lanka | * | - | - |
| Sudan | * | - | - |
| Suriname | * | * | * |
| Swaziland | | * | * |
| Sweden | * | * | * |
| Switzerland | * | * | * |
| Thailand | * | - | - |
| Togo | * | - | * |
| Trinidad and Tobago | * | * | * |
| Tunisia | * | * | * |
| Turkey | * | * | * |
| Uganda | * | * | * |
| United Arab Emirates | * | * | * |
| United Kingdom | * | * | * |
| United Republic of Tanzania | * | * | * |
| United States of America | * | * | * |
| Uruguay | * | * | * |
| Uzbekistan | * | * | * |

| Country | 1999 | 2000 | 2001 |
|-----------|------|------|------|
| Vanuatu | * | * | * |
| Venezuela | * | * | - |
| Viet Nam | * | * | - |
| Yemen | * | * | * |
| Zambia | * | - | * |
| Zimbabwe | * | * | * |

part = partial report

The accuracy of the data provided in CITES annual reports is another limitation. In previous IACTS reports it has been noted that alligator skins had 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. Considerable effort has been put in during the compilation of this report to clear up such inconsistencies by close cross matching of imports with the original export permit information and the results are discussed in the various species accounts.

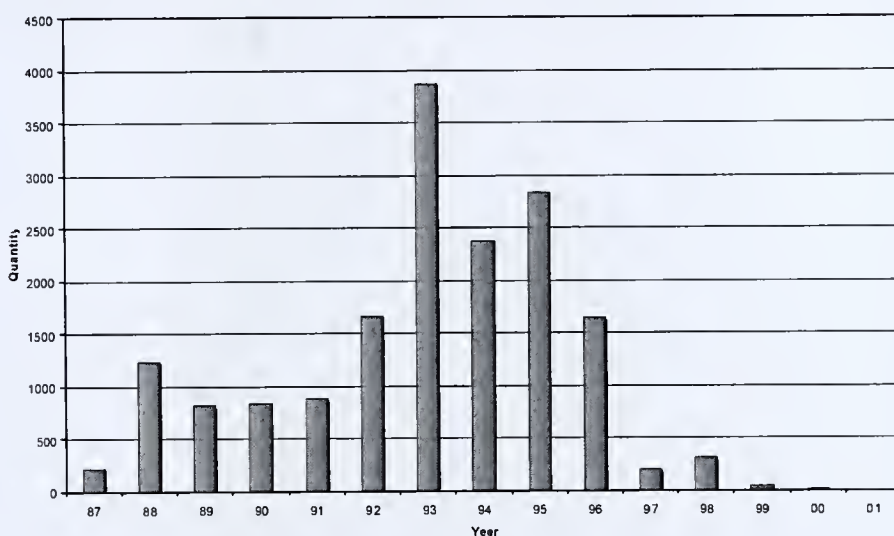
Species accounts

Crocodylus acutus American Crocodile

The first trade in this species since 1989 occurred in 2001 when two shipments, each of 50 skins from captive-bred animals, were exported from Colombia to France. Both importer and exporter reported the trade. It should be noted that Colombia has two farms registered with CITES for production of this species.

Crocodylus johnsoni Australian Freshwater Crocodile

Figure 1. Australian exports of *Crocodylus johnsoni* 1987 - 2001



As shown in Figure 1, exports from Australia peaked at 3875 in 1993, remained high between 1994 and 1996 but have since fallen to insignificant levels. No trade in skins of this species was reported in 2001.

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. The following year 193 skins were exported to France and Hong Kong but exports in 1999 amounted to just two skins going to Italy. In 2000 a total of 1228 skins were exported, all but eight of them going to Japan, and in 2001 Mexico reported exporting 3643 skins, again mostly to Japan with smaller quantities going to Germany, 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.

Exporters

1. Range States

Botswana: although Botswana reported exports of over 9000 skins between 1992 and 1994, there were no commercial exports of skins between 1997 and 2000. In 2001 South Africa reported importing 152 skins from captive-bred individuals. This transaction was not reported by Botswana but the CITES Management Authority of South Africa provided the information that the Botswana export permit indicated that skins bore the tag numbers 972 – 1124.

Congo: as previously noted in the IACTS report 2002, small numbers of skins were exported to France during the 1980s but there have been no commercial exports reported since 1989.

Ethiopia: this country is an intermittent exporter. Exports of 926 skins to Singapore occurred in 2000 and a total of 42 (20 to Japan and 22 to the United Kingdom) were exported in 2001. The source of the skins was described as 'D', captive-bred for commercial purposes, in both 2000 and 2001 however the breeding operation is not currently registered with the CITES Secretariat.

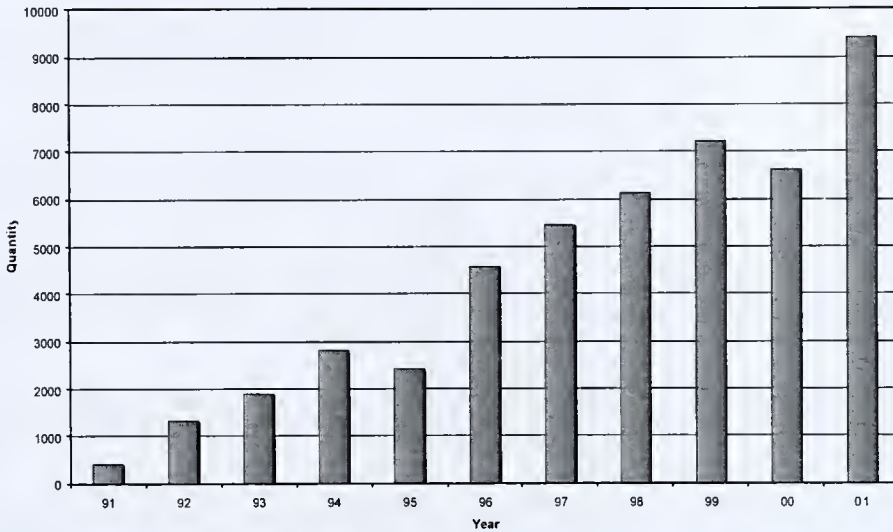
Guinea: as previously noted in the IACTS report 2002, Guinea has not reported exporting skins since 1991, nor have there been any reported imports from that country. Spain reported seizing 100 skins from Guinea in 1995.

Kenya: in 1999 Kenya reported exporting a total of 3350 skins of which 550 went to Colombia, 1250 to France, 1000 to Singapore and 550 to the United States of America. Reported imports were fewer and it is possible that the quantities reported by Kenya included both back skins and belly skins, in particular 500 of those going to the United States of America which were described as 'hornbacks'. In 2000 Kenya reported exporting 1500 belly skins to France and 1960 belly skins to Singapore. They also reported exporting 2350 'hornbacks' to Singapore that were reported by the importer as 'back skins'. More recent information from Kenya has confirmed that they were indeed backskins and not hornbacks. For the purposes of this report we have assumed that Kenya is incorrectly reporting back skins as hornbacks. In 2001 Kenya reported exporting 4250 skins - 2350 to Singapore, 400 to Italy and 1500 to France. The shipments to Italy and Singapore corresponded exactly with the imports reported by those countries however France reported importing only 963 skins. Cross matching of export permit numbers would suggest that Kenya reports on the basis of permits issued and that the real quantity involved was that reported by France.

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

Madagascar: in 1999 Madagascar reported exporting 7207 skins, mostly to France and Italy. In 2000 a further 6606 skins were exported, again with France and Italy as the major importers but 1100 skins going to Singapore. This was not confirmed by the Singapore reports for 2000 or 2001 so the transaction may not have taken place. No skins of wild origin were reported in 2000, most (85 per cent) being from ranching operations and the remainder captive-bred. Madagascar reported exporting 9408 skins in 2001, all but eight of which went to France and Italy. Five hundred of the skins were reported to be of wild origin, in line with the quota for that country. Figure 2 shows exports of skins from Madagascar and indicates a steady growth of exports since 1999.

Figure 2. Exports of *Crocodylus niloticus* skins from Madagascar 1991 - 2001



Malawi: France reported importing 170 skins in 1999, corresponding with that reported by the exporter. Malawi failed to provide a report for 2000 but again the only reported imports were by France - 360 skins of wild origin. In 2001 Malawi reported exporting a total of 1256 skins, all but 92 of which were of farmed origin, mostly to Japan and Mexico. France reported importing a further 160 skins but the Malawi export permit number would suggest the original date of export as being in 2000, thus making the total figure for that year to be 520.

Mozambique: In 1999 Mozambique reported exporting 1175 skins to Singapore, however cross checking against the Singapore annual report suggests that 183 of these were back skins and that one permit for 182 skins was not used so the likely total was 813 ranched specimens. In 2000 Mozambique reported exporting 468 skins to Singapore and 250 to the United States of America, all from ranched animals. The annual reports of the importing countries confirmed these amounts. In 2001 Mozambique reported exporting a further 477 skins to Singapore; this too was confirmed by the importer.

Namibia: 115 skins were reported as exports in 1999 and 100 in 2000, all reported to be from captive-bred stock. South Africa was the reported destination of all but 50 of these. No further trade was reported in 2001. Namibia has one crocodile ranching operation registered with the CITES Secretariat.

Nigeria: as previously noted in the IACTS report 2002, 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: 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 of 27,641 skins in 1999, 29,942 in 2000 and 33,359 in 2001 indicating a steady expansion of the trade. Almost all of the skins were reported to be from captive-bred animals. South Africa is also a major re-exporter of skins produced in Zambia and Zimbabwe.

Sudan: the only recorded commercial trade was in 1992 when Egypt apparently imported 7900 skins.

Togo: 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 with the reported import of 508 skins by Italy. Of these, eight were from ranched animals, 300 from animals bred in captivity and 200 from the wild. In 2001 Uganda reported exporting 900 skins, again to Italy, the trade being confirmed by the importer. Uganda reported that 600 of the skins were from captive-bred animals and 300 of wild origin whereas Italy reported them all as captive-bred.

United Republic of Tanzania: exports have been increasing steadily since 1997 when Tanzania reported exporting 275 skins to France. Reported exports subsequently have been 777 in 1998, 827 in 1999, 1302 in 2000 and 1589 in 2001, all of wild origin. For the period 1997-1999 France was the only destination reported by Tanzania, however in 2000 Tanzania also reported exporting to Singapore, South Africa and Zimbabwe and in 2001 Singapore was the major importer taking 75 per cent of the production. The remainder went to France.

Zambia: the Zambian annual reports for 1998 and 1999 showed serious errors and considerable work has been carried out by UNEP-WCMC to correct these wherever possible. It is believed that exports amounted to around 21,950 skins, the majority arising from ranching operations according to information from importing countries. No report was submitted by Zambia for 2000 so the total figure of 19,906 for that year has been derived from data reported by the importing countries less the shipments known to have been exported by Zambia in 1999. This may be a slight underestimate as no information is available for Japan however this did not use to be a regular destination for direct exports of Zambian skins. The 2001 annual report of Zambia shows exports of 20,900 skins mostly to Singapore with smaller quantities going to Italy, Japan and South Africa.

Zimbabwe: for the IACTS 2002 report a detailed analysis of Zimbabwe annual report data for the previous ten years was undertaken to try to discover why they differed so markedly from the information provided by the Crocodile Farmers Association of Zimbabwe (CFAZ). It was found that part of the problem was simply that back skins were not being differentiated from belly skins and hornbacks but that the main reason was the use of multiple permits. For example, the CFAZ would report exporting 1000 hornbacks on permits 'a, b and c', 1000 belly skins on permits 'a, b and c' and 1000 back skins on permits 'a, b and c', i.e. a total of 2000 skins and 1000 back strips. Unfortunately the compiler of the Zimbabwe annual report has interpreted the data to mean 3000 skins on permit 'a', 3000 skins on permit 'b' and a further 3000 skins on permit 'c', thus suggesting a total four and one half times the actual number. The annual report data in the CITES Trade Database for the past three years has been amended, wherever possible, to reflect the actuality in these instances.

Further study was carried out on the data provided in the Zimbabwe annual report for 2001 and any errors corrected before the data were entered into the CITES Trade Database. The corrected annual report shows exports of 76,952 skins, a very close match to the 76,656 skins reported by CFAZ although the reported destinations did not always correspond. Of these skins, 43 per cent went to Singapore, 37 per cent to France and 17 per cent to Japan.

2. Other countries

Brazil: reported exporting 720 skins in 1999, mostly to France, Mexico and the United States of America and in 2000 a further 1477 skins were exported, all but 10 going to the United States of America. In 2001 exports amounted to just 50 skins going to Italy. These transactions were confirmed by the annual report data provided by the importing countries.

Israel: France reported importing 552 skins in 1999 and Israel has subsequently confirmed this. Israel reported exporting 1611 skins to France in 2000, however only 811 of these were confirmed by France and were imported in 2001. In 2001 Israel reported exporting 5298 skins, again to France, but analysis of the French annual report discloses that Israel did not differentiate between skins and back strips and the real quantity exported was 2289 skins.

Mauritius: reported exporting 226 skins to France and Zimbabwe in 1999 and a further 30 to Zimbabwe in 2000. No report has been received from Mauritius for 2001 but the data available since 1991 suggests there is some small level of production.

Table 2. Reported trade in *Crocodylus niloticus* skins, 1996-2001

| Country | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Botswana | 347 | 337 | 0 | 0 | 0 | 152 |
| Brazil | 14 | 1 | 2082 | 720 | 1477 | 50 |
| Ethiopia | 0 | 0 | 0 | 0 | 926 | 42 |
| Israel | 944* | 0 | 0 | 552* | 811* | 2289* |
| Kenya | 3000 | 1445 | 400 | 3350 | 3460 | 3713 |
| Madagascar | 4589 | 5464 | 6520 | 7207 | 6606 | 9408 |
| Malawi | 636 | 600* | 200* | 170 | 520* | 1256 |
| Mauritius | 60 | 48 | 59 | 266 | 30 | 0 |
| Mozambique | 523 | 1430 | 810 | 813 | 718 | 477 |
| Namibia | 210 | 120 | 53 | 115 | 100 | 0 |
| South Africa | >12,500* | 13,573 | 8863 | 27,641 | 29,942 | 33,359 |
| Uganda | 0 | 0 | 0 | 0 | 508* | 900 |
| U.R. Tanzania | 1186 | 275 | 777 | 827 | 1302 | 1589 |
| Zambia | 5,224 | 12,238* | 14,299 | 23,448 | 19,906* | 20,900 |
| Zimbabwe | 38,295♦ | 54,037 (46,456♦) | 45,654 (40,720♦) | 68,230 (63,064♦) | 85,112 (82,168♦) | 76,952 (76,656♦) |
| Total | > 67,528 | 89,568 | 79,717 | 133,339 | 151,418 | 151,087 |

Key: * Figure derived 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 2001.

Indonesia: exports in 1999 amounted to 6754 skins and increased to 7215 skins in 2000. This figure increased again in 2001 to 9946 with almost 90 per cent coming from ranched stock. The main destinations were Japan and Singapore.

Papua New Guinea: in 1999 Papua New Guinea reported exporting 15,617 skins and a further 16,018 in 2000. In 2001 this increased to 20,688 skins, the majority going to Japan with smaller quantities being imported by Australia and Singapore. In 1999 wild-collected skins accounted for 77 per cent of the production. This increased to 83 per cent in 2000 and to 93 per cent in 2001.

Table 3. Reported trade in *Crocodylus novaeguineae novaeguineae* skins, 1996-2000

| Country | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Indonesia | 0 | 100 | 8506 | 6574 | 7215 | 9946 |
| Papua New Guinea | 14,234 | 32,912 | 16,985 | 15,617 | 16,018 | 20,688 |
| Total | 14,234 | 33,012 | 25,491 | 22,191 | 23,233 | 30,634 |

***Crocodylus porosus* Saltwater Crocodile**

Australia: exports of 5048 skins were reported in 1999, a decrease from the previous year apparently caused by reduced quality. The number increased to 14,094 in 2000 and fell back to 11,849 in 2001. The reported destinations were mainly France, Japan and Singapore and there are indications that a greater percentage of the skins are now coming from farms rather than ranching operations..

Indonesia: exports of 1087 skins to Japan and Singapore were reported in 1999 and 3172 skins and 1500 backskins to the same destinations in 2000. A further 3456 skins were exported in 2001, again to Japan and Singapore. The source of the majority of skins exported in 2001 was reported as ranching..

Malaysia: only 120 skins were reported as exports by Malaysia in 1999, 27 in 2000 and 75 in 2001 however the sole importer, Singapore, reported importing 440 skins in 1999 (although it is believed that 120 of these were back skins), 559 in 2000 and 675 in 2001.

Papua New Guinea reported exporting 9396 skins in 1999, a further and 8336 in 2000 and 10,676 in 2001, mostly to Japan. The proportion of skins reported as coming from captive-breeding operations decreased from 75 per cent in 1999 to 77 per cent in 2000 and again to 73 per cent in 2001.

Singapore reported commercial exports of 60 skins from registered captive-breeding operations in 1999, 438 in 2000 and 762 in 2001 indicating a clear expansion of the industry.

Thailand: there is no available evidence to show any exports of skins of this species since 1997 however both Thailand and Japan, previously the major importer, have not as yet submitted annual reports for 2000 or 2001.

Table 4. Reported trade in *Crocodylus porosus* skins, 1997-2001

| Country | 1997 | 1998 | 1999 | 2000 | 2001 |
|------------------|---------------|---------------|---------------|---------------|---------------|
| Australia | 8777 | 9896 | 5048 | 14,094 | 11,849 |
| Indonesia | 150 | 3141 | 1087 | 3172 | 3397 |
| Malaysia | 120* | 320* | 320* | 559* | 675* |
| Papua New Guinea | 8771 | 10,255 | 9396 | 8336 | 10,676 |
| Singapore | 296 | 211 | 60 | 438 | 762 |
| Thailand | 440 | 300 | 60 | ? | ? |
| Total | 18,554 | 24,123 | 15,971 | 26,899 | 27,359 |

Key: * Figure derived from import data

***Crocodylus rhombifer* Cuban Crocodile**

No trade has been reported for this species since 1998.

***Crocodylus siamensis* Siamese Crocodile**

The only exporter of this species is Thailand who reported exports of 5459 skins in 1999, mostly to Japan and the Republic of Korea. No report has been received from either Thailand or Japan for 2000 but exports must have been in excess of 4945 as indicated by the reports of Hong Kong, the Republic of Korea and Singapore, the most important of these being the Republic of Korea. In the absence of reports from Japan, the Republic of Korea and Thailand itself, no real estimation can be made for 2001. Importers do report importing 2104 skins with the main destination being Italy.

***Crocodylus siamensis/porosus* Crocodile Hybrid**

No international trade in skins of this hybrid species has been reported, although Thailand does export a small quantity of manufactured items annually.

***Osteolaemus tetraspis* West African Dwarf Crocodile**

There is no international trade in skins of this 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

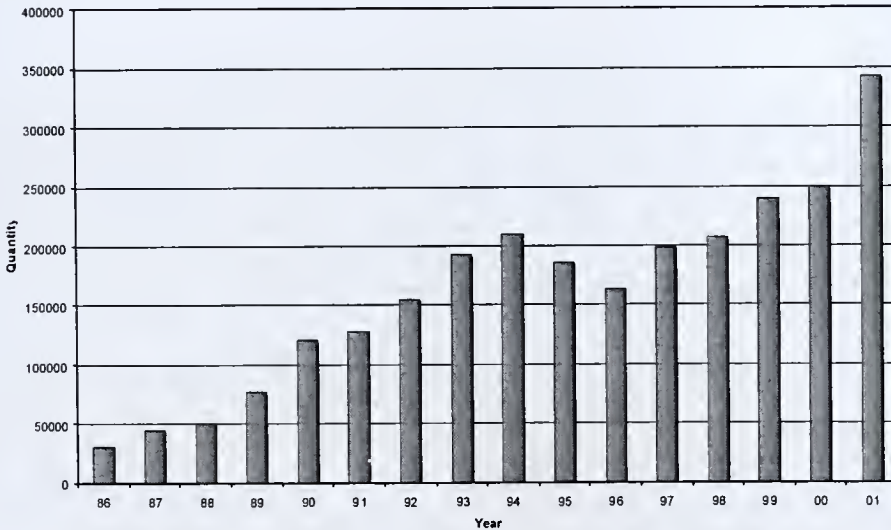
As in the IACTS reports for 1995 onwards, only gross export data reported by the United States of America have been used for this analysis as it has been demonstrated previously that using data reported by importing countries can lead to a significant overestimate of trade volume.

Figure 3 shows reported exports between 1986 and 2001 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.

Table 5. Exports of *Alligator mississippiensis* reported by USA 1986-2001

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

Figure 3. Gross exports of *A. mississippiensis* skins from the United States of America 1986-2001



The principal market for American alligator skins is France and this continued to be the case in 2001 with nearly 180,000 going there. Italy continued to be an important destination, taking 63,396 skins, a similar figure to that for 2000 while exports to Singapore increased from around 30,000 skins in 2000 to 63,207. Another important importer was Germany who took 24,692 skins. These four countries accounted for 95 per cent of the trade.

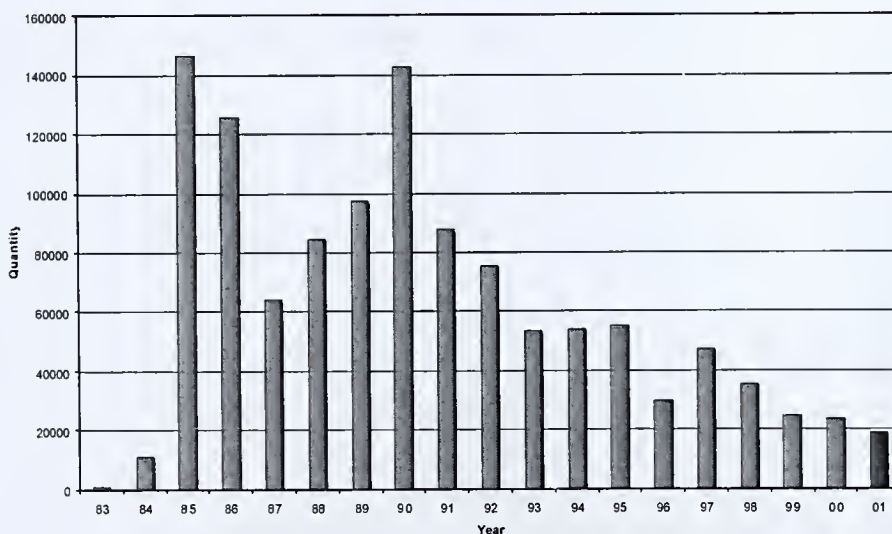
The IACTS report for 1998-1999 noted that the proportion of captive-bred animals involved in the trade continued to fluctuate between 60 per cent and 80 per cent and this was also the case in both 2000 and 2001. For 2000 it was 72 per cent, a slight increase over the 66 and 70 per cent for the two previous years, and in 2001 it was 61 per cent. However, as pointed out in the previous IACTS report, it is likely that many these animals were from ranching operations and that the compilers of the CITES annual report of the United States of America were using the code 'C' for ranched animals rather than the more correct 'R'. This code was first used in the annual report of 1998 and in 1999 accounted for less than three per cent of the skins while in 2000 it only accounted for 7.6 per cent. In 2001 13 per cent of the skins were reported to be from ranched stock, 13 per cent had the source code 'F' whilst skins of wild origin accounted for the remaining 13 per cent.

This species is also bred in captivity in Israel who reported exporting 690 skins to France in 1999. France only reported importing 425 of these. In 2000 Israel exported a further 233 skins that were reported by France as an import in 2001. Only six skins were exported, again to France, in 2001. No other importers have recorded trade from this source.

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 1999 Venezuela exported 24,640 skins mainly to Europe and Thailand and the figure for 2000 was similar at 23,655 mainly to Europe and Japan. No annual report has been received from Venezuela for 2001 and importer's data indicate that at least 19,214 skins were exported. This is probably an under estimate as no information is available for Japan. The quantity of skins exported annually from Venezuela is shown in Figure 4 below. The CITES Management Authority of Guyana has confirmed exports of skins of this species in 2001. One hundred were reported by Italy, and a further 295 by Mexico. There were also exports from captive-breeding operations in Brazil that amounted to 4004 skins in 1999 and 6500 in 2000, but none in 2001. Colombia also exports small quantities amounting to 3927 in 1999, 8000 in 2000 and 5900 in 2001.

Figure 4. Exports of *Caiman crocodilus crocodilus* skins from Venezuela 1983-2001



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. Data for Colombia was estimated in the IACTS 2002 report as no report had been received from that country. Subsequently the Colombian reports for both 2000 and 2001 have been received and the estimated figure of 814,000 proved to be only 10,000 skins short of the actual figure. In 2001, exports dropped by 125,000 to just short of 700,000. Exports from Colombia between 1990 and 2001 are shown in Figure 5.

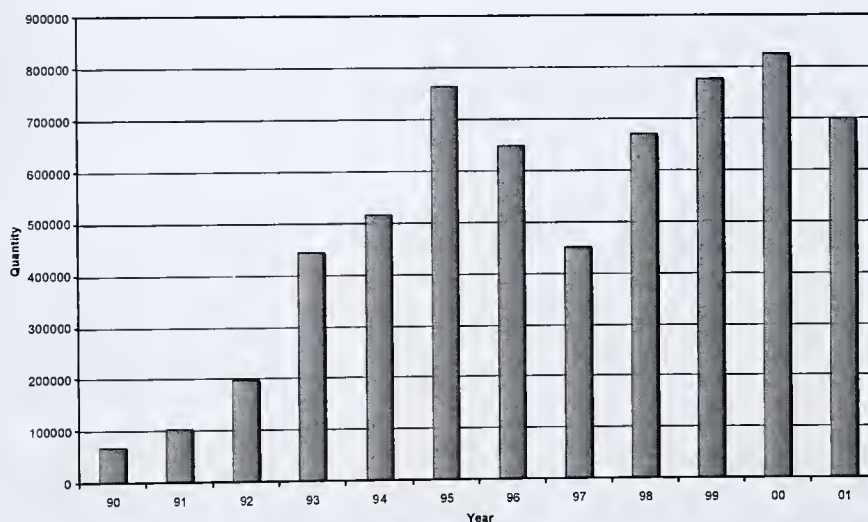
Details of the countries reportedly exporting this species from 1994 to 2000 are shown in Table 6.

Table 6. Reported trade in *Caiman crocodilus fuscus* skins, 1994-2001

| Exporter | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Brazil | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Colombia | 514,792 | 764,358 | 646,832 | 451,307 | 669,269 | 777,529 | 824,303 | 698,413 |
| Costa Rica | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 |
| Cuba | 0 | 12 | 302 | 500 | 5 | 2 | 0 | 0 |
| El Salvador | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guatemala | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Honduras | 0 | 2,000 | 5,656 | 22,000 | 18,104 | 0 | 0 | 0 |
| Nicaragua | 8441 | 4328 | 3795 | 1246 | 3927 | 250 | 6440 | 0 |
| Panama | 0 | 0 | 0 | 0 | 0 | 10 | 10,250 | 11,700 |
| Total | 523,295 | 770,609 | 656,585 | 475,053 | 691,348 | 777,791 | 840,993 | 710,113 |

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 has been received from Nicaragua for 2001 and no trade has been reported by importing countries so it is possible there were no exports that year. As noted in IACTS 2002, Panama clearly distinguishes between exports and re-exports in its annual report so we can be confident that the 10 skins reported in 1999, the 10,250 skins reported in 2000 and 11,700 in 2001 are genuine.

Figure 5. Exports of *Caiman crocodilus fuscus* from Colombia 1990-2001



Singapore has been the major destination of Colombia's skin production and this trend continued in 2001 with exports of almost 316,000, almost the same as in 2000. Most of the skins are re-exported, particularly to China and the republic of Korea. Colombia's exports to Italy, Japan, Mexico, Thailand

and particularly the United States of America showed a marked decrease in 2001 while those to France, Germany, Panama and Spain showed little change.

Caiman latirostris Broad-snouted Caiman

The Argentine population of this species was transferred from CITES Appendix I to Appendix II in 1997. The first skins from ranched animals were reported by Italy in 2001, a shipment of 80 from Argentina.

Caiman yacare Yacaré

Table 7 shows the fluctuations in exports of *C. yacare* skins from the major producing countries between 1992 and 2001. Trade data for earlier years was presented in the IACTS report 2000 and 2002.

Bolivia: it seems that the export reported by Bolivia of 35,000 flanks to Switzerland did not actually take place and there were in fact no exports of this species in that year. The Bolivian annual report for 2000 has not been received by UNEP-WCMC but France reported importing 4116 skins from Bolivia so it would appear there were some exports at least. For 2001 Bolivia reported exporting 28,170 skins from its quota of 50,000, mainly to Italy but with smaller quantities going to France and Germany.

Brazil: exports from captive-breeding operations in Brazil began in 1989 and, apart from 1993 and 1994 when over 50,500 stockpiled skins were exported, mostly to Panama, only a few hundred skins have been exported annually since then. In 1999 Brazil reported exporting 615 skins, all but 15 to Mexico. The United States of America was the destination of most of the 1763 skins exported in 2000 and Italy was the recipient of most of the 978 skins reported as exports by Brazil in 2001. It should be noted that Mexico reported importing 2625 skins in 2001 but it seems likely that the Mexican report was based on permits issued rather than permits used and that the export did not actually take place.

Paraguay: regular exports of wild-collected skins have occurred since 1994. Paraguay failed to set a quota in 1999 and no exports took place. For 2000 Paraguay established a quota of 10,000 skins and reported exports of 9750, mostly to Germany (8000) and Spain (1000). No annual report has been received from Paraguay for 2001 but Germany, Italy and Mexico report imports of 3792 skins. No quota was established for that year.

Table 7. Reported trade in *Caiman yacare* skins, 1992-2001

| Exporter | 1992 | 1993 | 1994 | 1995 | 1996 |
|--------------|------------|-------------|---------------|---------------|-------------|
| Bolivia | 0 | 0 | 0 | 0 | 0 |
| Brazil | 233 | 7034 | 43,573 | 366 | 536 |
| Paraguay | 0 | 3 | 5466 | 17,206 | 725 |
| Total | 233 | 7037 | 49,039 | 17,572 | 1261 |

| Exporter | 1997 | 1998 | 1999 | 2000 | 2001 |
|--------------|---------------|-------------|------------|---------------|---------------|
| Bolivia | 15,961 | 1757 | 0 | 4116* | 28,170 |
| Brazil | 4961 | 295 | 615 | 1763 | 978 |
| Paraguay | 503 | 4445 | 0 | 9750 | 3792* |
| Total | 21,155 | 6497 | 615 | 15,629 | 32,940 |

Key: * Figure derived from import data

Other Species

There has been no reported exports from origin countries between 1999 and 2001 of skins of the following species: *Crocodylus cataphractus*, *C. intermedius*, *C. palustris*, *Alligator sinensis*, *Melanosuchus niger*, *Paleosuchus palpebrosus*, *P. trigonatus*, *Gavialis gangeticus* or *Tomistoma schlegelii*. The United States of America the seizure of one skin of *Crocodylus cataphractus* from France, of unknown origin, in 2000.

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

Apart from 417 reported by the United States of America as exports to Mexico in 1999, possibly for breeding purposes, trade in live animals has not been significant between 1999 and 2001. Denmark and Spain reported combined imports of 100 animals from Israel in 1999 (reported as 285 animals by Israel) and Spain imported a further 50 from Mexico, possibly part of the larger shipment exported by the United States of America. Israel reported exporting a further 100 animals to Spain in 2000 and another 63 in 2001.

Caiman crocodilus

Guatemala reported exporting 2500 captive-bred *C. crocodilus crocodilus* to the United States of America in 1999, 2500 in 1999 and 3300 in 2000 when they also reported exporting 50 *C. yacare* to the same destination. No report has been received from Guatemala for 2001 and it is possible that the import of 600 reported by the United States of America in that year were some of those exported in 2000.

Guyana exports several thousand wild-collected animals each year for the pet industry. The main destinations are Europe, Japan and North America.

Suriname regularly exports several hundred wild-caught animals for the pet industry. As is the case with Guyana, the main destinations are Europe, Japan and North America.

Venezuela exports several thousand live *C. crocodilus crocodilus* annually, most of which used to be destined for the North American pet industry. However only eight were exported to the United States of America in 1999 and none in 2000. In 2001 the United States of America reported importing 770. In 1999 11,000 were exported to Taiwan, Province of China, with a further 4200 in 2000. Lack of a Venezuelan annual report for 2001 means that exports to this destination can not be determined for that year. Thailand was the destination for 6500 in 1999, of which 400 were re-exported to China, and 3000 in 2000. Again, no figure can be reached for 2001. China reported importing 4000 from Thailand in 2000 but it is not known if these were Venezuelan animals or bred in captivity in Thailand. All of the exports to China and Thailand are thought to be for crocodile farming operations.

Crocodilus moreletii

In 1999 Spain reported importing 20 captive-bred animals from Mexico, and a further 100 in 2000. Mexico reported exporting ten to Germany in 2000. Trade in 2001 was minimal

Crocodilus niloticus

Most of the trade in live specimens of this species is usually between crocodile farms, particularly in the range States, Botswana, Mozambique, Namibia and South Africa but also in Reunion and China. Between 1999 and 2001 South Africa reported importing a total of 11,397 animals from Botswana, and a further 3503 from Namibia. Kenya reported exporting 900 to Israel in 1999 but none since. Madagascar reported exporting 1112 captive-bred specimens to Morocco in 1999 and a further 1260 in 2000. Mozambique reported an export of 10,000 ranched animals to Zimbabwe in 1999.

Crocodylus porosus

Apart from 800 animals reported by Thailand as an import from Malaysia in 1999 and 299 reported by Singapore as an export to Thailand, the majority of imports have been by China. In 1999 China reported importing 90 from Myanmar and 800 from Thailand. The following year they imported 65 from Malaysia, 57 from Myanmar (27 via Hong Kong) and 330 from Thailand.

Crocodylus siamensis

As noted in the IACTS report for 2001, imports of this species by China from Thailand showed a remarkable progression from 2128 in 1997 to 28,902 in 1999. The annual report for 1999 from Thailand showed an even higher figure of 44,622. In 2000 China's imports increased further with 21,825 from Thailand and 10,000 from Cambodia. The Cambodian report for that year only showed 7000 exported to China but a further 5230 exported to Viet Nam. That country reported re-exporting 3000 animals from Cambodia to China so it seems likely that this re-export appeared as a direct import from Cambodia in the Chinese annual report. In 2001 Cambodia reported exporting 2500 to China and 5000 to Viet Nam. It also seems likely therefore that some of the 6272 reported as imports by China went via Viet Nam but in the absence of an annual report for 2001 from that country it is impossible to tell. China reported further imports of 9614 from Thailand and appears to be establishing a huge industry for this species.

Paleosuchus palpebrosus

Imports from Guyana of 458 animals in 1999, 174 in 2000 and 341 in 2001 have been reported. The animals all appear to be for the pet industry.

Paleosuchus trigonatus

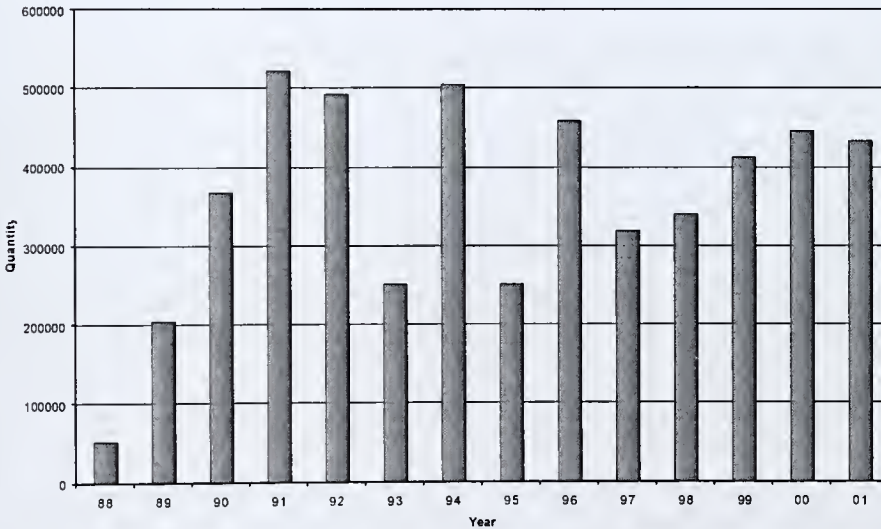
As with *P. palpebrosus*, there is trade in small numbers from Guyana. Imports of 274 were recorded in 1999, 37 in 2000 and 310 in 2001. Although nine countries reported imports in 1999 and three in 2001, only the United States of America did so in 2000.

Trade in other by-products

a. Meat

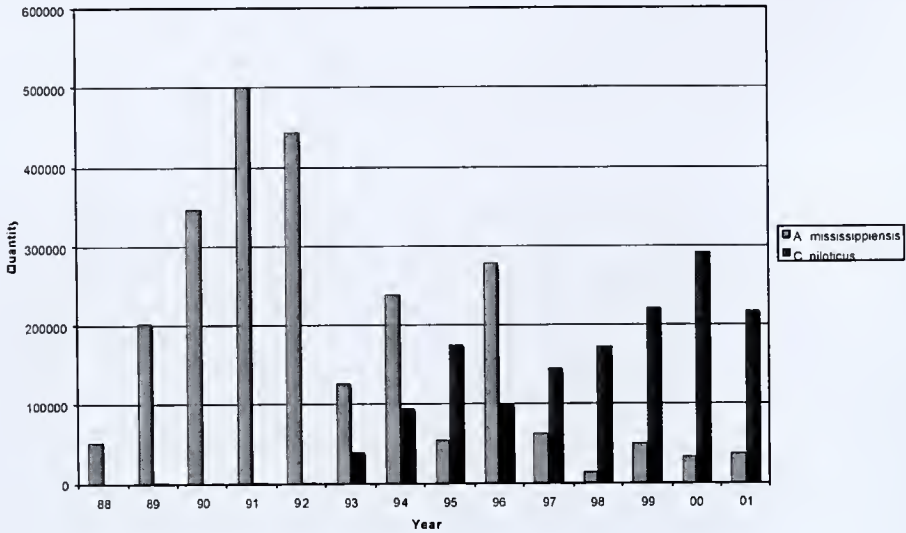
Figure 6 shows total world exports as reported in CITES annual reports from 1988 to 2001 and indicates that over the last 12 years the amount traded globally averages 400 tonnes yearly and over that period has fluctuated between 250 and 500 tonnes. During that time there have been major fluctuations in the countries and species involved. Until 1992 the major supplier was the United States of America exporting *Alligator mississippiensis* meat, particularly to Taiwan, Province of China. Since 1993 however, exports of *Crocodylus niloticus* from South Africa, Zambia and Zimbabwe have increased steadily from less than two tonnes in 1992 to almost 300 tonnes in 2000. Figure 7 compares the exports from North America with those of Africa.

Figure 6. Global exports of crocodylian meat 1988 – 2001



In the IACTS 2002 report it was noted that exports from Indonesia of meat of both *C. novaeguineae* and *C. porosus* appeared to be increasing however it seems no crocodylian meat was exported in 2001. Australia's exports of *C. porosus* increased from 21 tonnes in 1999 to 53 tonnes in 2000 and 57 tonnes in 2001. Papua New Guinea's exports, which are not usually separated by species increased to 90 tonnes in 2001. Importer's data indicate that exports of *C. siamensis* from Thailand amounted to 53 tonnes in 1999, 24 tonnes in 2000 and 31 tonnes in 2001. There have been small exports of meat of *C. moreletii* meat from Mexico to Japan possibly amounting to 4.5 tonnes in 1999 and 432 kg in 2000 but none was reported for 2001. There has apparently been no trade in *Caiman* spp. since 1997.

Figure 7. Comparison of exports of meat of *Alligator mississippiensis* and *Crocodylus niloticus*



b. Teeth

As noted in previous IACTS reports, the main importing country for crocodilian teeth is Australia, whose main supplier is Papua New Guinea and between 1999 and 2001 Papua New Guinea reported exporting over 103,709 teeth of *Crocodylus porosus* to Australia. Reported imports were slightly less at just over 80,000. In 2000 Indonesia exported 10,000 *C. novaeguineae* teeth to Singapore and in 2001 Singapore imported 30,000 *C. porosus* teeth from Malaysia. Singapore also exported 30,000 *C. porosus* teeth to Australia in 2001. These two species are the main ones traded but the United States of America reported exporting 2500 teeth of *Alligator mississippiensis* to Australia in 1999 and Zimbabwe reported exporting 200 *Crocodylus niloticus* teeth to Mauritius in 2000.

Declared dollar value

The IACTS report 2002 noted that although CITES annual reports did not usually contain information concerning the value of the trade or of individual shipments, the United States of America had done so since 1997. This value is not necessarily an accurate figure but is often used by UNEP-WCMC to identify typographic errors in the report, for example where we suspect a decimal point has been omitted. There is great fluctuation amongst the reported values as may be expected, as there is no indication of the size or quality of the skins. Many of the values are clearly nonsensical and may be the result of a typographic error in that field of the report. Table 8 shows the average declared value per skin (in \$US) of exports of *Alligator mississippiensis* and the reported value of re-imports of American skins from Europe, Mexico and Asia, while Table 9 compares the reported average value per skin of Colombian *Caiman crocodilus fuscus* skins imported directly and via Singapore and Europe.

Table 8. Reported US dollar value of *Alligator mississippiensis* skins 1997-2001

| | 1997 | 1998 | 1999 | 2000 | 2001 |
|-------------------|-------|-------|-------|-------|-------|
| Exports from USA | 103.7 | 77.8 | 97.6 | 102.9 | 100.8 |
| Re-imports by USA | 143.0 | 116.3 | 140.0 | 179.4 | 169.5 |

Table 9. Reported US dollar value of Colombian *Caiman crocodilus fuscus* skins 1997-2001

| Exporter/Re-exporter | 1997 | 1998 | 1999 | 2000 | 2001 |
|----------------------|------|------|------|------|------|
| Colombia | 39.3 | 38.6 | 35.6 | 37.4 | 38.3 |
| Singapore | 48.9 | 48.6 | 44.7 | 42.0 | 43.8 |
| Europe | 62.0 | - | 57.3 | - | 27.2 |

Infractions of CITES

As noted in earlier IACTS reports, 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.

Between 1999 and 2001 CITES annual reports record the seizure of 120 stuffed crocodiles, 64 skulls, 37 crocodylian feet and 6530 manufactured items. Of the more significant items, Portugal reported a seizure of 51 crocodile skins in 1999 but did not report the species or country involved. In 2000 the United States of America reported seizures of 10 back skins of *Crocodylus niloticus* from Zimbabwe and 150 Appendix-I *C. porosus* skins from Singapore, and in 2001 they reported seizures of 2000 skins of *Caiman crocodilus fuscus* from Colombia and a further 399 from Panama. Over the three-year period 24 items of *Osteolaemus tetraspis* were reported as seizures by the United States of America and a further 50 items from Nigeria that may have been of that species. No such seizures were reported by other countries.

Discussion and recommendations

This report covers a period that may mark the beginning of a difficult time for the crocodylian industry. The political situation in Zimbabwe was just beginning to affect that country's crocodile farmers and the pix disease currently affecting American alligator populations had yet to be evident. There was some diversification in 2001 with two different species entering the market involving trade in captive-bred *Crocodylus acutus* and *Caiman latirostris*. There was also the first exports in recent years of wild *Caiman crocodilus crocodilus* skins from Guyana. The overall volume of world trade in classic crocodylian skins and caimans from 1995 to 2001 is summarised in Table 10 and based, wherever possible, on country of export data. As in previous years there are uncertainties over the total figures because of the lack of annual report data from certain key countries and lack of information on permit numbers from others. We have noted this in previous IACTS reports and once again the main species affected is the CITES Appendix-I-listed *Crocodylus siamensis* from Thailand. This time there is also uncertainty over the quantity of caiman exported by Paraguay and Venezuela as a result of missing reports for 2001 from both countries and some of the importers such as Japan and Thailand.

In 2001, exports of *Alligator mississippiensis* from the United States of America increased by a massive 38 per cent over the figure for 2000 and neither the reason for this rise, nor the effect it had on the market, is understood at the present time. Exports of *Crocodylus niloticus* increased steadily up to 2000 but, despite increased exports from most producers, showed no further increase in 2001. This was mainly the result of a downturn in exports by Zimbabwe. The situation with *C. novaeguineae* and *C. porosus* shows small increases each year. As noted above, the situation regarding trade in *C. siamensis* since 1999 is unknown but is likely to be increasing. Trade in caiman skins, particularly *Caiman crocodilus fuscus* from Colombia, increased steadily up to 2000 but then dropped by 15 per cent in 2001. It is not known why this should be the case but it may have been caused by buyers showing a preference for *Alligator mississippiensis*. Overall the total number of skins entering international trade in 2001 appears to have been in excess of 1,300,000 but shows a two per cent decrease over 2000. Classic skins fared better than caiman, increasing by 22 per cent as opposed to a 14 per cent decrease.

Table 10. Reported trade in crocodylian skins 1995-2001

| Species | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <i>Alligator mississippiensis</i> | 185,929 | 163,936 | 198,649 | 206,620 | 239,944 | 249,155 | 343,116 |
| <i>Crocodylus acutus</i> | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| <i>C. johnsoni</i> | 3132 | 1641 | 194 | 309 | 45 | 10 | 0 |
| <i>C. moreletii</i> | 0 | 20 | 146 | 193* | 2 | 1228 | 3643 |
| <i>C. niloticus</i> | 84,987 | >67,528 | 89,568 | 79,717 | 133,339 | 151,408 | 151,087 |
| <i>C. novaeguineae</i> | 19,556 | 14,234 | 33,012 | 25,491 | 22,191 | 23,233 | 30,634 |
| <i>C. porosus</i> | 21,298 | 19,651 | 18,554 | 24,123 | 15,971 | 26,899 | 27,359 |
| <i>C. rhombifer</i> | 99 | 40 | 0 | 2 | 0 | 0 | 0 |
| <i>C. siamensis</i> | 4372 | 3186 | 5452 | 1679 | 5459 | 4945* | 2104* |
| subtotal | 319,373 | 270,236 | 345,575 | 338,134 | 416,951 | 456,878 | 558,043 |

Table 10 cont'd

| Species | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-------------------------------------|------------------|----------------|----------------|------------------|------------------|------------------|------------------|
| <i>Caiman crocodilus crocodilus</i> | 48,390 | 26,346 | 37,084 | 35,580 | 32,571 | 38,155 | 25,509* |
| <i>Caiman crocodilus fuscus</i> | 770,609 | 656,585 | 475,053 | 691,348 | 777,791 | 840,993 | 710,113 |
| <i>Caiman latirostris</i> | 0 | 0 | 0 | 0 | 0 | 0 | 80 |
| <i>Caiman yacare</i> | 17,572 | 1261 | 21,115 | 6497 | 615 | 15,629 | 32,940 |
| subtotal | 836,571 | 684,192 | 533,252 | 733,425 | 810,977 | 894,777 | 768,642 |
| Grand total | 1,155,944 | 954,428 | 878,827 | 1,071,559 | 1,227,928 | 1,351,655 | 1,326,685 |

* = data deficient

Generally there has been an improvement in the reporting of crocodylian trade in 2001 and the main problem remains the few countries that fail to report at all. Switzerland continues to report overall totals rather than on a shipment by shipment basis but they are no longer a major direct importer of skins.

We pointed out in previous IACTS reports that overestimates caused by exports from one year being reported as imports the following year can be largely overcome by only taking exporters' data into account. In the absence of annual reports from producer countries however, the only recourse is to use importers' data. For this to be workable, one needs to know the export permit numbers in order to deduce the year of export and so far only about a dozen Parties have adopted the recommended permit number format that identifies the year of permit issuance (see CITES Resolution Conf. 10.2). However, many importing countries fail to report the parts of the export permit number that identify the year of issuance or exporting country and thus make analysis far more difficult.

Standardisation of the terminology used to describe parts of crocodylian skins has been recommended in the past in order to reduce the danger of double-counting and subsequent overestimation of trade levels. Although the situation continues to improve we continue to recommend this standardisation. Similarly, CITES Parties should pay greater attention to reporting the source of the material, for example it has been remarked upon that ranched animals are often reported as ones bred in captivity. We continue to believe there are too many possible source codes and suggest, for crocodylians, it should be possible for analytical purposes, to combine C, D and F to cover farming operations, and O and U to cover unknown source.

We continue to recommend that those countries allowing large-scale farming operations should establish strict monitoring and management programmes for their wild crocodylian populations as such operations can lead to laundering of wild-collected skins. They certainly remove the pressure on wild populations but also remove the incentive to monitor them.

The following recommendations made in previous IACTS reports remain valid:

- ◆ It is **recommended** that the *CITES Secretariat and the Chairman of the Standing Committee should contact Parties in June of each year to remind them of their reporting obligations under Article XIII, paragraphs 6 and 7.*
- ◆ UNEP-WCMC **recommends** that *Parties adopt the recommendations of Resolution Conf. 10.2 concerning the format of permit numbers as soon as possible.*
- ◆ UNEP-WCMC would **recommend** that *wherever possible, Parties report the actual quantities of skins being traded.*

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