

**REVIEW OF SIGNIFICANT TRADE**  
**ANALYSIS OF TRADE TRENDS**  
**WITH NOTES ON THE CONSERVATION STATUS OF**  
**SELECTED SPECIES**

**Volume 2. Animals**

Prepared for the  
CITES Animals Committee, CITES Secretariat



by the  
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## EXECUTIVE SUMMARY

The present document, produced by UNEP-WCMC on behalf of the CITES Secretariat as part of the process of Review of Significant Trade – Phase V, contains a summary of annual report submitted by the Parties to CITES. The analysis of data, based on 1.3 million records of trade in Appendix-II animal species, considers the gross level of exports from the wild reported between 1992 and 2002. In order to facilitate the work of the Animals Committee in the onerous task of sifting of the vast amount of data available, a preliminary analysis was conducted of the slope and variance of the trends of trade over time, in conjunction with information on global and national conservation status (as reported in the scientific literature), to identify those species whose levels of trade appear to deserve the most attention.

The list of potential candidates proposed to the Animals Committee for consideration in the Significant Trade process Phase V emerging from this analysis is presented (Table 1). Information on the status of species that appeared as likely candidates according to the analysis of their trade, but that were recommended as candidates on the grounds of their conservation status is also presented. Complete summaries of gross trade for all the species traded in the period in question are also provided in this report.

In total, 32 species and 1 genus were identified as possible candidates for inclusion in the Significant Trade process. The reasoning behind species selection is provided in the main report and Annex documents.

**Table 1. Species highlighted for possible inclusion in Significant Trade process Phase V**

<b>TAXON GROUP</b>	<b>SPECIES</b>
<b>MAMMALS</b>	<i>Delphinapterus leucas</i>
	<i>Monodon monoceros</i>
	<i>Pseudalopex culpaeus</i>
	<i>Pseudalopex griseus</i>
	<i>Vulpes zerda</i>
	<i>Conepatus humboldtii</i>
	<i>Prionailurus bengalensis</i>
	<i>Arctocephalus pusillus</i>
	<i>Equus zebra hartmannae</i>
	<b>BIRDS</b>
<i>Brotogeris versicolurus</i>	
<i>Poicephalus gularis</i>	
<i>Poicephalus robustus</i>	
<i>Poicephalus senegalus</i>	
<i>Psittacus erithacus</i>	
<i>Psittinus cyanurus</i>	
<b>Otus scops (Togo only)</b>	
<i>Gracula religiosa</i>	
<b>REPTILES</b>	
	<i>Indotestudo elongata</i>
	<i>Phelsuma comorensis</i>
	<i>Phelsuma dubia</i>
	<i>Phelsuma v-nigra</i>
	<i>Uromastyx spp.</i>
	<i>Bradypodion xenorhinum</i>
	<i>Chamaeleo bitaeniatus</i>
	<i>Chamaeleo hoehnelii</i>
	<i>Furcifer cephalolepis</i>
<b>INVERTEBRATES</b>	<i>Tridacna crocea</i>
	<i>Tridacna derasa</i>
	<i>Tridacna maxima</i>
	<i>Tridacna squamosa</i>
	<i>Hippopus hippopus</i>

## INTRODUCTION

Resolution Conf. 12.8 'Review of Significant Trade in specimens of Appendix-II species' directs the Animals and Plants Committees, in cooperation with the Secretariat and experts, and in consultation with range States, to review the biological, trade and other relevant information on Appendix-II species subject to significant levels of trade, to identify problems and solutions concerning the implementation of Article IV, paragraphs 2 (a), 3 and 6 (a) of the Convention. As part of this procedure the Secretariat requested UNEP-WCMC to produce a summary from the CITES Trade database of annual report statistics of trade in Appendix-II species.

The volume of information that needs to be included in this type of reports is very large, which has made the selection process by the Animals Committee increasingly onerous. Consequently, UNEP-WCMC has included in this volume some additional analytical sections to supplement the usual tables of CITES trade statistics (see METHODOLOGY section), and produced a list of potential candidates for selection emerging from this analysis, to assist the Committee in the selection process.

In total, 32 species and 1 genus were identified as possible candidates for inclusion in the Significant Trade process. The reasoning behind species selection is provided in the main report and Annex documents. The list of potential candidates emerging from this analysis is presented (Table 1).

The report is structured as follows:

**Sections 1** identifies potential candidate species for review by the Animals Committee (whether or not such species have been the subject of a previous review).

**Section 2** brings to the attention of the Animals Committee, countries where there have been recent and significant increases in trade across one or more animal groups.

**Section 3** brings to the attention of the Animals Committee, wild collected specimens that are being exported in significant numbers from countries that are not known range states for the species involved in the trade.

**Section 4** (see separate Excel spreadsheets) includes comprehensive tables of recorded level of exports for Appendix-II animal species over the eleven most recent years (1992-2002).

## METHODOLOGY

### 1. Selection of Data

This report includes a summary from the CITES Trade database of annual report statistics for Appendix-II animal species over the eleven most recent years (1992-2002) for specimens recorded from wild sources<sup>1</sup>.

Preliminary analysis of the data showed that the levels trade in some species can be highly variable, with relatively high volumes being traded in some years, and little or no trade being reported in other years. Thus, in order to represent more accurately trade in these and other species, data was analysed for the period of 1992 to 2002. Following a detailed examination of the data, UNEP-WCMC determined that re-export data for wild collected specimens did not add new information to the analysis of the species for review<sup>2</sup>. Therefore, to simplify the data presented, only the data concerning direct exports was considered for the purposes of this document. Further information on the data processing protocols used are provided in the CITES Trade Database User Manual, available from UNEP-WCMC.

### 2. Conversion of Units

Green and Shirley (1999)<sup>3</sup> estimate the mean mass of traded pieces of **live** coral as  $206.1 \pm 13.1\text{g}$ . These mean values were used to convert between trade reported in kg to an equivalent in pieces. However, the 95 per cent confidence limits for the average weight of a piece of **raw** coral reported by Green and Shirley (1999) are wider than those for live coral (i.e.,  $580\text{g} \pm 121\text{g}$ ) and the total mass traded is best treated as an estimation. The mean value for raw coral was used to convert between trade reported in pieces to an equivalent in kg.

Other units of trade that were converted in order to standardise the data and facilitate the analysis are listed below.

#### Units of trade converted, and Units used in this report.

Converted from	Converted to
Grammes; Milligrammes	Kilogrammes (kg)
Millilitres	Litres (l)
pairs	whole values
sides	whole skins
Centimetres	Metres (m)
cm <sup>2</sup> / ft <sup>2</sup>	m <sup>2</sup>
cm <sup>3</sup>	m <sup>3</sup>

<sup>1</sup> Included with wild collected specimens are those specimens recorded without a source or with record source unknown (U) but which, on examination of the data, appeared most likely to be from wild sources.

<sup>2</sup> In general terms, including re-export data in the report would have added a great deal of records from major *entrepot* States (e.g. Singapore, Italy, France, Thailand, etc.). These records often also bring into the equation stock-pile material. For the purposes of the significant trade review, it was considered that these type of data do not add useful information to the analysis. Instead, only data about source countries was included (whether reported by the exporting or the importing country).

<sup>3</sup> Green, E. and F. Shirley, 1999. *The global trade in coral*. WCMC Biodiversity Series no. 9

### 3. Analysis of Data

The analysis of data is based on 1.3 million records of trade in Appendix-II animal species. In order to facilitate the work of the Animals Committee in the onerous task of sifting of the vast amount of data available, a preliminary analysis was conducted of the slope (i.e. overall trends of trade volumes throughout the period in question) and spread (i.e. variability in the levels of volume observed in the period in question) of the data for each species. The criteria used for this analysis is explained below.

The quantitative analysis of trade data was subsequently complemented with information on both global (i.e. IUCN/SSC) and national conservation status (as reported in the scientific literature and other relevant sources) for the species whose trade appeared to follow concerning patterns, in order to identify those species whose levels of trade appear to deserve the most attention.

Data for 2002 have been included in the full data tables (see Section 4 - Excel spreadsheet), but were excluded in the statistical analysis because, as of 9 January 2003, only 50% of Annual Reports to CITES for 2002 had been received by UNEP-WCMC and included in the CITES Trade database.

#### 3.1. Statistics: Slope

Slope is the vertical distance divided by the horizontal distance between any two points on the line. Thus, for a series of data the slope represents the average rate of change along the regression line. A positive slope represents a general increase in the levels of trade, while a negative slope signifies an overall decrease in such levels. For the purpose of the analysis conducted here, a species whose trade shows a large slope (be it positive or negative) was generally assumed to be in greater need of attention than a species for which trade has been fairly stable (small slope). In the particular case of large negative slopes (i.e. fairly sharp declines in levels of trade), it was assumed in the first instance that the observed decline in trade could be the result of a decline of the species in the wild. The validity of these assumptions was later tested through the analysis of reports on the global and national conservation status of the species in question.

Because the value for the slope is an expression of the rate of change in the specific volumes of trade experienced by a given taxon, for the purpose of comparisons among taxa, the value of the slope was divided by the mean<sup>4</sup> level of trade for that taxon over the period of analysis. This was done to allow a proper comparison between species traded at different levels. In the rest of the text, any mention of 'slope' therefore refers to the measure of slope divided by mean.

Following examination of the slopes shown by all species within the period of analysis cut-off thresholds of  $\pm 0.15$ . That is to say, values below  $+0.15$  and above  $-0.15$  were considered small slopes, while values higher than  $+0.15$  and lower than  $-0.15$  were considered large slopes and therefore given priority as potential candidates for selection – see selection protocol, below.

##### 3.1.1. Statistics: Spread

As explained earlier, preliminary analysis of the data showed that the levels trade in some species can be highly variable, with relatively high volumes being traded in some years, and little or no trade being reported in other years. It was considered that a species showing high variation in levels of trade over the period of analysis need more attention than those showing fairly constant trade levels. Many measures of spread exist but the most appropriate when comparing across groups with different means was considered to be the coefficient of variation (CV). The CV is used to compare the amount of variation in data sets (i.e. among taxa) with different means where direct comparisons of the standard deviations (a more common measure of spread) are difficult to make,

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<sup>4</sup> That is to say the sum of the total volume of trade over the decade and divided by ten or less in the case of those species that have been listed in the CITES Appendices for less than ten years

as they are confounded by differences in scale. The CV is calculated as the standard deviation divided by the mean.

Following examination of the coefficients of variation shown by all species within the period of analysis, a cut-off value of +2 was used to select candidate taxa. Thus, taxa whose levels of trade showed a coefficient of variation higher than +2 (i.e. trade level are highly variable) were considered as potential candidates for selection – see selection protocol below.

#### **4. Protocol for the selection of potential candidates for review**

Species were selected as possible candidates for review of significant trade based on the analysis of trade data, as well as information on the global and national conservation status, following using the following protocol:

- 1) Automatic selection of taxa: Species were initially selected on the basis of their trends of trade (slope) and variability of trade (spread), following an automatic decision-making process described in Figure 1. If the species was listed in the *2003 IUCN Red List of Threatened Species*<sup>5</sup>, the global threat status was taken into consideration at this stage. Species selected as potential candidates which have been considered in Phase IV of the Significant Trade Review are indicated in the appropriate section (below) but were excluded from further examination in this report.
- 2) Manual selection of taxa: Recorded trade levels of all species were individually examined, and those not selected by the automatic selection process but for which it was thought that trade was significant were also selected as potential candidates in the first instance e.g. taxa that may have been subjected to fairly high levels of trade for one or two years only, and for which measures of slope and/or spread are therefore not good indicators, or traded in relatively high volumes in 2002 according to the data available to date for that year. A more detailed analysis of trade records (e.g. examining trends for each range State, or seeking to explain negative slopes as a consequence of increasing trade in captive bred specimens) was also conducted for selected borderline cases and for species not initially selected for review when UNEP-WCMC staff, familiar with the data, thought they may be possible candidates for the significant trade review process, to consider their inclusion in the list of candidates.
- 3) Conservation status: Information on the global and national conservation status (across the known distribution range of the species) were compiled and analysed for all species selected under steps 1 and 2, above. Final recommendation of candidate species selected under steps 1 and 2 was made on the basis of the status of the populations reported in the literature. A final list identifying possible candidates for review was produced and reasons for the exclusion of likely candidates are also provided (tables 2 to 9). Fact sheets with the conservation status information used are also included in this report (see Annexes A to D).

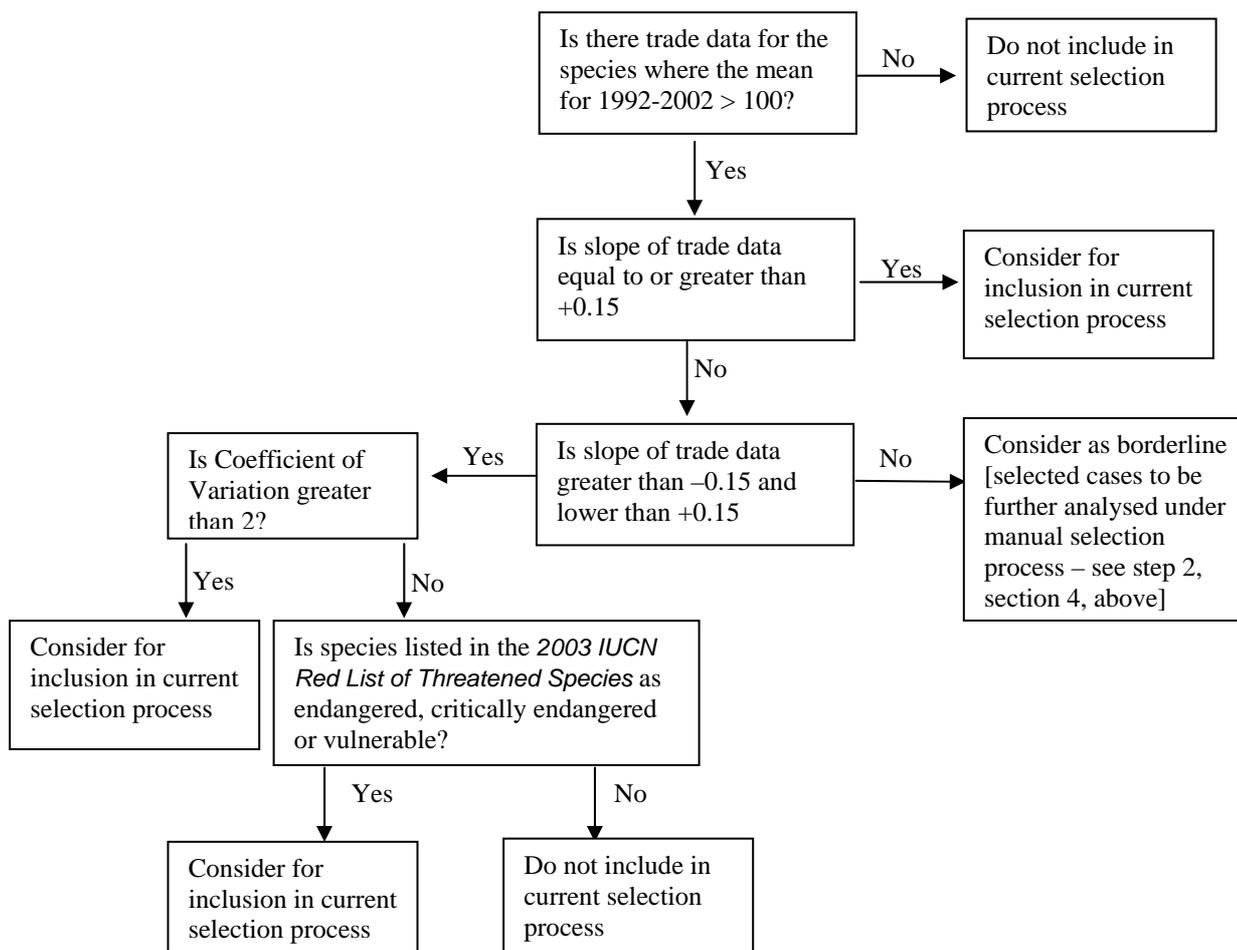
Section 2 identifies countries where there have been recent and significant increases in trade across one or more animal groups (i.e. mammals, birds, reptiles, amphibian, fish and invertebrates). The species listed in Section 2 were identified following the first step in selection of candidates.

Section 3 identifies prominent cases of trade reported in wild collected specimens that are being exported in relatively high numbers from countries that are not known range states for the species involved in the trade. The species listed in Section 3 were identified following comparison of trade data with species distribution data maintained on the Species database at UNEP-WCMC (see [www.unep-wcmc.org](http://www.unep-wcmc.org) or [www.cites.org](http://www.cites.org)).

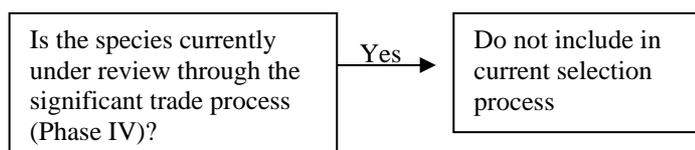
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<sup>5</sup> IUCN 2003. *2003 IUCN Red List of Threatened Species*. [www.redlist.org](http://www.redlist.org)

**Figure 1: Flow chart for selection of candidate species for consideration in the Significant Trade Review Process**



**If the species has been considered for inclusion in current selection process:**



## SECTION 1: SPECIES IDENTIFIED AS CANDIDATES FOR REVIEW OF SIGNIFICANT TRADE

### SECTION 1A: MAMMALS

Table 2 lists those mammal species that were selected for detailed review. Information sheets on the mammal species listed in Table 2 are provided in Annex A.

**Table 2: Mammal species selected for review**

FAMILY	SPECIES	COMMENT
PTEROPODIDAE	<i>Pteropus vampyrus</i>	<b>Not recommended for review.</b> Populations in Philippines are declining but there is no reported trade for this country. Widespread but declining in Malaysia but not due to trade. Most of the trade is coming out of Indonesia but levels of trade have been low since 1997 and the Indonesian trade is within its quota. No information on status in Indonesia but given that trade has been low since 1997 and within the quotas the species is not considered a priority for review.
MONODONTIDAE	<i>Delphinapterus leucas</i>	<b>Recommended for review.</b> Trade has been relatively low since 1999. However, populations appear to be declining and are thought to be negatively affected by trade as well as other threats.
MONODONTIDAE	<i>Monodon monoceros</i>	<b>Recommended for review.</b> Levels of trade from Canada and Greenland appear to be stable. However, despite the Animals Committee's recommendation in 1995, a comprehensive survey has still not been done and the impact of current levels of trade on populations is uncertain.
CANIDAE	<i>Pseudalopex culpaeus</i>	<b>Recommended for review.</b> Argentina is the main exporter and exports have been increasing with relatively high levels in 2002. No recent population estimates seem to be available, and this species is considered endangered in Argentina.
CANIDAE	<i>Pseudalopex griseus</i>	<b>Recommended for review.</b> There are no recent population estimates in any range state. Although it is said to be widespread in Argentina, the main exporter of this species, it is classified as endangered. Given the high levels of recent trade from Argentina and an apparent increase in trade in 2002 the species is recommended for review.
URSIDAE	<i>Ursus arctos</i>	<b>Not recommended for review.</b> Romanian exports have remained below the quota, as have exports from Turkey and Uzbekistan. Levels of trade from Canada, Romania and the Russian Federation do not appear too high given the population size in these countries.
URSIDAE	<i>Ursus maritimus</i>	<b>Not recommended for review.</b> This species is considered globally to be as low risk. Canada is exporting similar quantities every year, but population sizes in Canada appear large and stable.
MUSTELIDAE	<i>Conepatus humboldtii</i>	<b>Recommended for review.</b> Conflicting information regarding status in Argentina but globally this species is not considered to be threatened. Traded in high numbers as skins but not possible to determine whether these levels are sustainable. Recommended for review because of uncertainty over population status in Argentina.
FELIDAE	<i>Caracal caracal</i>	<b>Not recommended for review.</b> South Africa and Namibia are the main exporters but these are the countries in which the Caracal is most abundant, with an expanding range. Moreover, Caracals are classified as problem animals in these countries. Ethiopia and Mozambique are not exceeding their quotas.

FAMILY	SPECIES	COMMENT
FELIDAE	<i>Panthera leo</i>	<b>Not recommended for review.</b> South Africa, Tanzania and Zimbabwe are the main exporters for this species and show relatively high but stable levels of trade over time. These are the countries in which the lion is most abundant. Ethiopia is not exceeding its quotas.
FELIDAE	<i>Prionailurus bengalensis</i>	<b>Recommended for review.</b> China is the main exporter with very high levels of trade. Although China is the centre of the leopard cat's range, no information on national status is available so given the high levels of trade the species is recommended for review.
OTARIIDAE	<i>Arctocephalus pusillus</i>	<b>Recommended for review.</b> Namibia is the main exporter, with relatively stable levels of trade over time but a relatively large and sudden increase in 2002. Although Namibia's population is large, a review is recommended to determine sustainability of the trade.
EQUIDAE	<i>Equus zebra hartmannae</i>	<b>Recommended for review.</b> Constant and relatively high level of trade from Namibia and lower levels from South Africa. Namibia has a widespread population but South Africa has a very small population. Suggested for review to determine whether current levels of trade are sustainable from these two countries.

Following a review of all data the following one additional mammal species was selected for a more detailed review.

FAMILY	SPECIES	COMMENT
CANIDAE	<i>Vulpes zerda</i>	<b>Recommended for review.</b> Sudan has been the only country exporting this species recently. Fennecs are rare and being intensively hunted. Given the lack of information on the status in any range state the species is recommended for review.

Table 3 lists those mammal species that were also selected using the automatic selection process but which were excluded after further examination.

**Table 3: Mammal species initially selected but subsequently EXCLUDED as possible candidates for review**

SPECIES	COMMENT
<i>Saguinus midas</i>	On closer examination of the data the species was thought not to be a candidate for review
<i>Cebus apella</i>	On closer examination of the data the species was thought not to be a candidate for review
<i>Manis javanica</i>	Included in Significant Trade Review Phase IV
<i>Balaenoptera acutorostrata</i>	Selected because of high coefficient of variability but on examination of the trade data and IUCN status the species was thought not to be a candidate for review
<i>Canis lupus</i>	It was considered that Canada and the United States have adequate management controls in place for this species
<i>Ursus americanus</i>	It was considered that Canada and the United States have adequate management controls in place for this species
<i>Lontra canadensis</i>	It was considered that Canada and the United States have adequate management controls in place for this species
<i>Lynx canadensis</i>	It was considered that Canada and the United States have adequate management controls in place for this species
<i>Lynx rufus</i>	It was considered that Canada and the United States have adequate management controls in place for this species
<i>Loxodonta africana</i>	Extensive work is already underway on the conservation and management of this species, and trade volumes include stockpiles
<i>Pecari tajacu</i>	Included in Significant Trade Review Phase IV
<i>Tayassu pecari</i>	Included in Significant Trade Review Phase IV
<i>Hippopotamus amphibius</i>	Included in Significant Trade Review Phase IV
<i>Lama guanicoe</i>	Extensive work is already underway on the conservation and management of this species
<i>Vicugna vicugna</i>	Included in Significant Trade Review Phase IV
<i>Moschus chrysogaster</i>	Included in Significant Trade Review Phase IV
<i>Moschus moschiferus</i>	Included in Significant Trade Review Phase IV
<i>Damaliscus pygargus pygargus</i>	It was considered that South Africa has adequate management controls in place for this species
<i>Saiga tatarica</i>	Included in Significant Trade Review Phase IV

## SECTION 1B: BIRDS

Table 4 lists those bird species that were selected for detailed review. Information sheets on the bird species listed in Table 4 are provided in Annex B.

**Table 4: Bird species selected for review**

FAMILY	SPECIES	COMMENT
PSITTACIDAE	<i>Amazona dufresniana</i>	<b>Recommended for review.</b> Considered to be declining. Trade is fairly low but has increased in the last 2 years for Guyana. Little information about population status there, thus although within quota should be looked at further.
PSITTACIDAE	<i>Brotogeris sanctithomae</i>	<b>Not recommended for review.</b> Fluctuating trade from Peru. No population information seems to be available, but internal trade may also be a significant factor. Given the low numbers traded and that it occurs in a number of countries which are not trading it, it does not appear to be necessary to review this species at this time.
PSITTACIDAE	<i>Brotogeris versicolurus</i>	<b>Recommended for review.</b> Little trade from Peru but has fluctuated over the last 5 years. Decline in recent years possibly due to increased demand internally or decreasing population. May require further attention. Recommended for possible review.
PSITTACIDAE	<i>Forpus passerinus</i>	<b>Not recommended for review.</b> Relatively high levels of trade from Suriname but well within quota and decreasing. As species is thought to be fairly common there, it is not recommended for review.
PSITTACIDAE	<i>Psittinus cyanurus</i>	<b>Recommended for review.</b> Trade is within quotas. However it is restricted to a range which is under considerable pressure from human population expansion, and may well be in decline. The species does not appear to cope well with the stress associated with capture for trade.
STRIGIDAE	<i>Otus leucotis</i>	<b>Not recommended for review.</b> A very widespread species, ranging from uncommon to common. Relatively high trade observed only in Togo, where it is said to be a “not uncommon resident”. This level of trade does seem fairly high but given the widespread distribution of this bird and lack of trade from elsewhere, it is not considered a priority candidate for review.
STRIGIDAE	<i>Otus scops</i>	<b>Recommended for review, for Togo only.</b> Widespread species. Relatively high trade observed only in Togo, and the species is reported as being “uncommon” in this country.
EMBERIZIDAE	<i>Paroaria capitata</i>	<b>Not recommended for review.</b> No population information for Paraguay but there have been high trade levels and a lack of quota in the past. However, Paraguay has imposed a moratorium on export of wildlife.
EMBERIZIDAE	<i>Paroaria coronata</i>	<b>Not recommended for review.</b> There appears to be little information on population levels. Trade is low with the exception of Paraguay but Paraguay has imposed a moratorium on export of wildlife therefore not recommended for review at this time.
STURNIDAE	<i>Gracula religiosa</i>	<b>Recommended for review.</b> Relatively high trade from Myanmar, Malaysia and Vietnam. There appears to be considerable internal trade as well as illegal international trade. For Malaysia, trade is above the quota. Although cited as common in Malaysia and not immediately threatened by habitat destruction, information on the status of the population does not appear to be available.

Following a review of all data the following bird species were also selected for a more detailed review.

FAMILY	SPECIES	COMMENT
PSITTACIDAE	<i>Poicephalus</i> spp. <sup>6</sup>	The only species <b>recommended for review</b> : <i>Poicephalus gulielmi</i> <i>Poicephalus robustus</i> <i>Poicephalus senegalus</i> See individual fact sheets (Annex B) for rationale followed.
PSITTACIDAE	<i>Psittacus erithacus</i>	<b>Recommended for review.</b> Relatively high levels of trade, which appear to be above the quotas, for Cameroon, Congo and Côte d'Ivoire. The species seems to be in decline over much of its range.
RAMPHASTIDAE	<i>Ramphastos toco</i>	<b>Not recommended for review.</b> A widespread and adaptable species with little trade (within quotas for Guyana) over the past years. Paraguay began exporting the species in 2002 and originally set a quota of 1046 for 2003. This country has imposed a moratorium on export of wildlife.
MUSCICAPIDAE	<i>Leiothrix argentauris</i>	<b>Not recommended for review.</b> Common in many areas of its range. Zero trade since 2001.
MUSCICAPIDAE	<i>Leiothrix lutea</i>	<b>Not recommended for review.</b> Minimal trade since 2001 and a fairly common species in China where trade was high in the past.

Table 5 lists those bird species that were also selected using the automatic selection process but which were excluded from the detailed review process.

**Table 5: Bird species initially selected but then EXCLUDED as possible candidates for review**

SPECIES	COMMENT
<i>Falco cherrug</i>	Selected for Significant Trade Review at AC19
<i>Grus canadensis</i>	The majority of the trade is coming from Canada and it was considered that there are adequate management controls in place for this species.
<i>Neopsittacus musschenbroekii</i>	The trade is in decline and thought not to pose a risk to the species in the wild.
<i>Platycercus eximius</i>	The majority of the trade is coming from New Zealand where the species is introduced.
<i>Tauraco livingstonii</i>	On closer examination of the data the species was thought not to be a candidate for review.
<i>Tauraco persa</i>	Included in Significant Trade Review Phase IV
<i>Chalcostigma olivaceum</i>	Selected because of high coefficient of variation but on examination of the trade data and IUCN status the species was considered not to be a candidate for review

<sup>6</sup> Several *Poicephalus* species were selected using the automatic selection process. Therefore a general review of data and conservation status information was conducted for the whole genus.

## SECTION 1C: REPTILES AND AMPHIBIANS

Table 6 lists those reptile species that were selected for detailed review. Information sheets on the species listed in Table 6 are provided in Annex C. No amphibian species were selected.

**Table 6: Reptile species selected for review.**

FAMILY	SPECIES	COMMENT
EMYDIDAE	<i>Callagur borneoensis</i>	<b>Recommended for review.</b> This species is a critically endangered and reported exports total over 15000 live specimens since 1997.
TESTUDINIDAE	<i>Geochelone denticulata</i>	<b>Not recommended for review.</b> Trade appears relatively stable and within quota limits set by the two main exporting countries.
TESTUDINIDAE	<i>Geochelone sulcata</i>	<b>Not recommended for review.</b> Trade in wild specimens has decreased in recent years and exports of captive-bred specimens from El Salvador have been increasing.
TESTUDINIDAE	<i>Indotestudo elongata</i>	<b>Recommended for review.</b> Reports from Malaysia suggest that the species is scarce, quotas may have been exceeded by a small amount, and status is unknown in Laos.
TESTUDINIDAE	<i>Indotestudo forstenii</i>	<b>Not recommended for review.</b> Trade levels from Indonesia have stabilised since 1997 and have remained under quota
TESTUDINIDAE	<i>Manouria emys</i>	<b>Not recommended for review.</b> Trade levels appear to be fairly stable since the late 1990s and quota limits do not appear to be exceeded.
TESTUDINIDAE	<i>Testudo horsfieldii</i>	<b>Not recommended for review.</b> Trade appears to be within quotas.
GEKKONIDAE	<i>Phelsuma comorensis</i>	<b>Recommended for review.</b> Recent trade from the Comoros, where its range is restricted, has been reported.
GEKKONIDAE	<i>Phelsuma dubia</i>	<b>Recommended for review.</b> Trade volumes have increased in recent years as a result of imports from Comoros and increased exports from the United Republic of Tanzania.
GEKKONIDAE	<i>Phelsuma v-nigra</i>	<b>Recommended for review.</b> The species has a very restricted range and trade started in 2000 with over 10000 exported so far.
AGAMIDAE	<i>Uromastyx</i> spp. <sup>7</sup>	<b>Genus recommended for review.</b> There has been a general increase in trade across the genus
CHAMAELEONIDAE	<i>Bradypodion xenorhinus</i>	<b>Recommended for review.</b> Uganda began exporting the species in recent years and the species appears to have a restricted range.
CHAMAELEONIDAE	<i>Chamaeleo bitaeniatus</i>	<b>Recommended for review.</b> It appears that the United Republic of Tanzania have exceeded their quotas for several of the years between 1998 and 2002, and Uganda has begun exporting the species.
CHAMAELEONIDAE	<i>Chamaeleo calypttratus</i>	<b>Not recommended for review.</b> Although trade shows a marked increase in trade from the Yemen between 1999 and 2001, the bulk of the trade is in animals bred in captivity in the Czech Republic, Slovakia, El Salvador and Ukraine.
CHAMAELEONIDAE	<i>Chamaeleo cristatus</i>	<b>Not recommended for review.</b> Trade appears to be fairly stable.
CHAMAELEONIDAE	<i>Chamaeleo hoehnelii</i>	<b>Recommended for review.</b> The species has a restricted range in the main exporting country, Uganda, and there have been 2688 exported from Uganda since 2000.

<sup>7</sup> Several *Uromastyx* species were selected using the flowchart methodology but a decision was taken to look at trade for the whole genus

FAMILY	SPECIES	COMMENT
CHAMAELEONIDAE	<i>Furcifer cephalolepis</i>	<b>Recommended for review.</b> The species has a very restricted range and trade started in 2000 with over 8000 reported as exports in three years.
CORDYLIDAE	<i>Cordylus vittifer</i>	<b>Not recommended for review.</b> Exports from Mozambique are within quota. Initial look at the data suggested Mozambique was over quota for 2002 (1599 reported) however further investigation revealed this was due to a year-end reporting issue.

Table 7 lists those reptile and amphibian species that were also selected using the automatic selection process, but which were excluded from the detailed review process.

**Table 7: Reptile and Amphibian species initially selected but then EXCLUDED as possible candidates for review**

SPECIES	COMMENT
<i>Geochelone carbonaria</i>	Selected because of high coefficient of variation but on examination of the trade data and IUCN status the species was thought not to be a candidate for review
<i>Malacochersus tornieri</i>	There is work already being carried out by the Animals Committee on this species after a request by the Kenyan Authorities for assistance with conservation and management of the species.
<i>Pyxis arachnoides</i>	Included in the Madagascar country review process.
<i>Pyxis planicauda</i>	Included in the Madagascar country review process.
<i>Testudo hermanni</i>	Selected because of high coefficient of variation but on examination of the trade data and IUCN status the species was thought not to be a candidate for review
<i>Lissemys punctata</i>	Included in Significant Trade Review Phase IV
<i>Alligator mississippiensis</i>	It was considered that the United States has adequate management controls in place for this trade
<i>Caiman crocodilus crocodilus</i>	The majority of trade is exported by Venezuela and trade is now at relatively low levels.
<i>Caiman crocodilus fuscus</i>	Most trade is now in farmed specimens from Colombia. There has been a decrease in specimens being reported as wild-sourced.
<i>Caiman yacare</i>	The majority of the trade is from Bolivia and Paraguay. The CITES Secretariat are closely monitoring the situation in Paraguay.
<i>Palaeosuchus palpebrosus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Palaeosuchus trigonatus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Crocodylus niloticus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Bradypodion tavetanus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Chamaeleo africanus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Chamaeleo deremensis</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Chamaeleo pfefferi</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Chamaeleo rudis</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Chamaeleo werneri</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Cordylus pustulatus</i>	On closer examination of the data, the species was not considered to be a candidate for review.

SPECIES	COMMENT
<i>Cordylus rhodesianus</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Cordylus warreni</i>	On closer examination of the data, the species was not considered to be a candidate for review.
<i>Tupinambis merianae</i>	Trade shows a sudden increase following the recent split in the genus. There has been an increase in exports from Paraguay in recent years. However, the CITES Secretariat are closely monitoring the situation in Paraguay.
<i>Tupinambis rufescens</i>	There had been previous review and trade levels are not as high as in the early 1990s. There has been an increase in exports from Paraguay in recent years. However, the CITES Secretariat are closely monitoring the situation in Paraguay.
<i>Tupinambis teguixin</i>	There have been previous reviews, and trade levels are not as high as in the early 1990s.
<i>Varanus doreanus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Varanus exanthematicus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Varanus salvator</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Python molurus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Python regius</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Python reticulatus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Naja naja</i>	Included in Significant Trade Review Phase IV
<i>Dendrobates reticulatus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Epipedobates pictus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Epipedobates trivittatus</i>	On closer examination of the data the species was not considered to be a candidate for review.
<i>Hoplobatrachus tigerinus</i>	Reported trade from non-Range State. See Section 3 for further discussion on this species.
<i>Mantella</i> spp. <sup>8</sup>	Included in the Madagascar country review process

<sup>8</sup> 11 species selected for review

## SECTION 1D: FISH AND INVERTEBRATES

Table 8 lists those invertebrate species that were selected for detailed review. Information sheets on the invertebrate species listed in Table 8 are provided in Annex D.

**Table 8: Invertebrate species selected for review (no Fish species were selected)**

FAMILY	SPECIES	COMMENT
TRIDACNIDAE	Tridacnidae spp. <sup>9</sup>	
	Includes <i>Tridacna</i> and <i>Hippopus</i> species	The only species <b>selected for review</b> : <i>Tridacna crocea</i> <i>Tridacna derasa</i> <i>Tridacna maxima</i> <i>Tridacna squamosa</i> <i>Hippopus hippopus</i> See individual fact sheets (Annex D) for rationale followed.

Table 9 lists those reptile and amphibian species that were also selected using the automatic selection process but which were excluded from the detailed review process.

**Table 9: Fish and Invertebrate species initially selected but then EXCLUDED as possible candidates for review**

SPECIES	COMMENT
<i>Acipenser baerii</i>	Included in Significant Trade Review Phase IV
<i>Acipenser fulvescens</i>	Included in Significant Trade Review Phase IV
<i>Acipenser gueldenstaedtii</i>	Included in Significant Trade Review Phase IV
<i>Acipenser nudiiventris</i>	Included in Significant Trade Review Phase IV
<i>Acipenser oxyrinchus</i>	The majority of the trade is from Canada and it was considered that there are adequate management controls in place for this species.
<i>Acipenser persicus</i>	The majority of the trade is from the Islamic Republic of Iran and it was considered that there are adequate management controls in place for this species.
<i>Acipenser ruthenus</i>	Included in Significant Trade Review Phase IV
<i>Acipenser schrenckii</i>	Included in Significant Trade Review Phase IV
<i>Acipenser stellatus</i>	Included in Significant Trade Review Phase IV
<i>Acipenser transmontanus</i>	The majority of the trade is coming from United States and it was considered that there are adequate management controls in place for this species.
<i>Huso dauricus</i>	Included in Significant Trade Review Phase IV
<i>Huso huso</i>	Included in Significant Trade Review Phase IV
<i>Polyodon spathula</i>	Included in Significant Trade Review Phase IV
<i>Arapaima gigas</i>	Selected because of high coefficient of variation, but on examination of the trade data and IUCN status the species was considered not to be a candidate for review.
<i>Ornithoptera priamus poseidon</i>	On closer examination of the data the species was not considered to be a candidate for review
<i>Ornithoptera rothschildi</i>	Included in Significant Trade Review Phase IV
<i>Trogonoptera brookiana</i>	On closer examination of the trade data the species was not considered to be a candidate for review
<i>Trogonoptera brookiana albescens</i>	On closer examination of the data the species was not considered to be a candidate for review
<i>Troides helena</i>	On closer examination of the data the species was not considered to be a candidate for review

<sup>9</sup> Several species from the family Tridacnidae were selected using the flowchart methodology but a decision was taken to look at trade for the whole family.

SPECIES	COMMENT
<i>Troides oblongomaculatus</i>	On closer examination of the data the species was not considered to be a candidate for review
<i>Brachypelmides klaasi</i>	On closer examination of the data the species was not considered to be a candidate for review
<i>Hirudo medicinalis</i>	The majority of the trade is coming from Turkey and it was considered that Turkey has adequate management controls in place for this trade
<i>Strombus gigas</i>	Work is ongoing on the management and conservation of this species.
<b>CORALS</b> Antipatharia spp. and Scleractinia spp.	Corals for several species and genera were selected for inclusion however it was considered that it would be difficult to relate volumes of trade reported to actual populations and their status in the wild. Much of the trade is also reported at Class, Order, Family and Genus level making it a difficult group for the significant trade process.

## SECTION 2: COUNTRY-LEVEL TRADE INFORMATION

As mentioned in Section 1, following the automatic selection process, an initial group of species was selected as possible candidates for review of significant trade. During the second stage of the selection process followed for this report a pattern emerged identifying general increases in bird exports from the **Solomon Islands**, notably for the year 2002. The relevant data of bird exports for 1992-2002 are therefore included in this section, see Table 10.

The Solomon Islands is not a Party to CITES.

**Table 10. Gross exports of wild-sourced Appendix II-listed bird species from the Solomon Islands 1992-2002 (direct exports only)**

Taxon	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<i>Gallus sonneratii</i>	0	0	0	0	0	20	0	0	0	0	0
<i>Cacatua ducorpsii</i>	32	66	1170	685	330	174	514	690	90	360	1714
<i>Cacatua ophthalmica</i>	0	0	0	0	0	0	0	0	0	0	20
<i>Chalcopsitta cardinalis</i>	70	31	490	400	50	30	210	186	0	80	1091
<i>Charmosyna margarethae</i>	0	20	10	0	0	0	0	0	0	40	200
<i>Eclectus roratus</i>	554	619	858	159	160	181	441	244	0	190	1344
<i>Forpus spp.</i>	0	0	0	0	0	0	5	0	0	0	0
<i>Geoffroyus heteroclitus</i>	0	0	361	103	13	0	0	233	0	69	266
<i>Lorius chlorocercus</i>	0	0	1655	212	105	152	346	181	80	130	1370
<i>Platycercus spp.</i>	0	0	0	0	0	7	0	0	0	0	0
<i>Pyrrhura spp.</i>	0	0	0	0	0	3	0	0	0	0	0
<i>Trichoglossus haematodus</i>	0	0	530	120	100	50	80	90	0	20	1180
<i>Trichoglossus ornatus</i>	0	0	0	0	0	0	0	64	0	0	0
<i>Aceros plicatus</i>	0	0	0	2	0	10	63	23	0	0	240
<i>Terpsiphone bourbonnensis</i>	0	0	0	25	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>656</b>	<b>736</b>	<b>5074</b>	<b>1706</b>	<b>758</b>	<b>627</b>	<b>1659</b>	<b>1711</b>	<b>170</b>	<b>889</b>	<b>7425</b>

### SECTION 3: WILD COLLECTED ANIMAL SPECIMENS EXPORTED FROM NON-RANGE STATES

This section presents trade data for several animal species that are apparently in trade in relatively high numbers from non-range States, and possibly warrant investigation although perhaps not under the Significant Trade process.

**Table 11. Appendix II-listed species in trade from non-range state**

Taxon	Exporter	Term	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<i>Ptyas mucosus</i>	Malaysia	Live	0	0	0	0	0	0	0	0	630	7000	10000
<i>Ptyas mucosus</i>	Malaysia	Skins	0	0	0	0	0	140000	318000	0	4926	0	0
<i>Hoplobatrachus tigerinus</i>	Viet Nam	Meat (kg)	0	0	0	88	124540	90977	104223	26010	24005	67010	184986
<i>Hoplobatrachus tigerinus</i>	Viet Nam	Meat	0	0	0	0	0	0	0	0	0	14967	0
<i>Brachypelma albopilosum</i>	Nicaragua	Live	0	0	0	395	2095	2684	1218	1888	1562	664	2629

#### **SECTION 4: GROSS EXPORTS TRADE TABLE (ATTACHED AS AN EXCEL FILES)**

A printable version of the trade data is provided as an attachment to this document (see section 4). This includes: gross exports of mammals, birds, reptiles and amphibians, and fish and invertebrates. A more detailed breakdown of the data is provided in an electronic file. This contains also details of trade on a country-by-country basis for exporting countries.

Please note that small differences may be seen in the volumes of trade reported in the country-by-country tables, compared to the data provided in the summary tables (printable version). This is the result of the electronic protocol used in the CITES Trade Database for the calculations of these reports. The method used follows the precautionary principle and, on finding discrepancies between data reported by importers and data reported by exporters, it will always take the higher total. The selected total is therefore sometimes different when making the summary reports on a country-by-country basis, than when summarising the data for all countries at once. For further information on the decision process followed to estimate global and country-level trade estimates, please refer to the CITES Trade Data User Manual, available from UNEP-WCMC.

