CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Fifty-ninth meeting of the Standing Committee
Doha (Qatar), 12 March 2010

Interpretation and implementation of the Convention

Compliance and enforcement

Review of Significant Trade

REVIEW OF RECOMMENDATIONS TO SUSPEND TRADE MADE MORE THAN TWO YEARS AGO

1. This document has been prepared by the Secretariat.

Introduction

2. In the context of the implementation of Resolution Conf. 12.8 (Rev. CoP13) on *Review of Significant Trade in specimens of Appendix-II species*, the Standing Committee has recommended that Parties do not accept imports of specimens of a number of species from certain States, until recommendations of the Animals and Plants Committees made under this Resolution are implemented by those States. A list of such recommendations currently in force, together with their date of application and, in a small number of cases, any limited exceptions to the recommendation, can be found in Notification to the Parties No. 2009/003 of 3 February 2009.

3. Paragraph v) of the Resolution states that:

> *the Standing Committee, in consultation with the Secretariat and the Chairman of the Animals or Plants Committee, shall review recommendations to suspend trade that have been in place for longer than two years and, if appropriate, take measures to address the situation.*

4. In accordance with this paragraph, the Secretariat commissioned a study to review such recommendations to suspend trade established prior to September 2003 and presented this at the 57th meeting of the Committee (SC57, Geneva, July 2008).

5. At SC57, at its 58th meeting (SC58, Geneva, July 2009) and by postal procedure, the Committee conditionally withdrew a number of recommendations to suspend trade. In paragraphs 6 to 8 below, the Secretariat provides details of the current situation regarding the conditional withdrawal of these recommendations. Full background on each case can be found in documents SC57 Doc. 29.2 and SC58 Doc. 21.3 (Rev. 1).

6. Democratic Republic of the Congo

   a) *Stigmochelys pardalis*

      i) **Recommendations of the Standing Committee**: At SC57, the SC agreed to withdraw its recommendation to Parties not to accept imports of specimens of *G. pardalis* from the Democratic Republic of the Congo if the Management Authority confirmed to the Secretariat that it would not issue export permits for this species until it had established a process for making non-detriment findings to the satisfaction of the Secretariat and Chair of the Animals Committee.

ii) The Secretariat wrote to the Democratic Republic of Congo on 1 September 2008 to advise them of the decision of the Standing Committee but at the time of writing no reply had been received.

b) *Poicephalus robustus*

i) **Recommendations of the Standing Committee**: At SC57, the SC agreed to withdraw its recommendation to Parties not to accept imports of specimens of *P. robustus* from the Democratic Republic of the Congo if the Management Authority established a cautious export quota in consultation with the Secretariat and the Chair of the AC.

ii) The Secretariat wrote to the Democratic Republic of the Congo on 1 September 2008 to advise them of the decision of the Standing Committee but at the time of writing no reply had been received.

7. Madagascar

a) *Calumma* spp. and *Furcifer* spp. (except *F. lateralis, F. oustaleti, F. pardalis* and *F. verrucosus*)

i) **Recommendations of the Standing Committee**: At SC58, the SC agreed to withdraw its recommendation to Parties not to accept imports of specimens of *Calumma andringitraensis*, *C. boettgeri*, *C. brevicornis*, *C. fallax*, *C. gallus*, *C. gastrotaenia*, *C. glawi*, *C. globifer*, *C. guillaumeti*, *C. malthe*, *C. marojezensis*, *C. nasuta*, *C. oshaughnessyi*, *C. parsonii*, *C. vencesi*, *Furcifer antimena*, *F. bifidus, F. campani*, *F. minor*, *F. petteri*, *F. rhinoceratus* and *F. willsii* from Madagascar if the Management Authority:

A. established conservative annual export quota for wild specimens intended for trade, based on estimates of sustainable offtake and scientific information;

B. forwarded the quota details to the Secretariat (including zero quotas) and provide information and data used by the Scientific Authority to determine that the quantities would not be detrimental to the survival of the species in the wild;

C. The Secretariat after consultation with the Animals Committee should publish the quota agreed by the Animals Committee (including any zero quotas). No export should occur until the agreed quotas have been published on the Secretariat's website[1].

D. ensured that specimens produced from captive-production systems were distinguished in trade from genuine wild-harvested specimens, that separate export quotas were established and notified to the Secretariat;

E. conducted a status assessment, including an evaluation of threats to the species; developed and implemented an internationally agreed standard population monitoring programme for the species; and advised the Secretariat of the details of the assessment and the programme; and

F. based any changes to the conservative annual export quota for wild-taken specimens on the results of the assessment and monitoring programme.

ii) The Secretariat wrote to Madagascar on 6 August 2009 to advise them of the decision of the Standing Committee but no reply had been received at the time of writing.

b) *Coracopsis vasa*

i) **Recommendations of the Standing Committee:** At SC57 the SC agreed to withdraw its recommendation to Parties not to accept imports of specimens of *C. vasa* from Madagascar, if the Management Authority establishes a cautious export quota in consultation with the Secretariat and the Chair of the Animals Committee.

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[1] *If the Animals Committee agrees by consensus (intersessionally) with the proposal from Madagascar, then the quotas would be posted on the CITES website. If the Animals Committee needs further information or clarification to reach consensus, those issues would be taken up following further consultation with Madagascar at the next Animals Committee meeting.*

ii) The Secretariat wrote to Madagascar on 1 September 2008 to advise them of the decision of the Standing Committee at the time of writing, no reply had been received.

c) *Phelsuma* spp. (except *P. laticauda*, *P. lineata*, *P. madagascariensis* and *P. quadriocellata*)

i) **Recommendations of the Standing Committee**: At SC58, the SC agreed to withdraw its recommendation to Parties not to accept imports of specimens of *Phelsuma abbotti*, *P. barbouri*, *P. breviceps*, *P. cepediana*, *P. dubia*, *P. guttata*, *P. klemmeri*, *P. modesta*, *P. mutabilis*, *P. pusilla*, *P. seippi* and *P. standingi* from Madagascar if the Management Authority:

A. established conservative annual export quota for wild specimens intended for trade, based on estimates of sustainable offtake and scientific information;

B. forwarded the quota details to the Secretariat (including zero quotas) and provide information and data used by the Scientific Authority to determine that the quantities would not be detrimental to the survival of the species in the wild;

C. The Secretariat after consultation with the Animals Committee should publish the quota agreed by the Animals Committee (including any zero quotas). No export should occur until the agreed quotas have been published on the Secretariat's website[2];

D. ensured that specimens produced from captive-production systems were distinguished in trade from genuine wild-harvested specimens, that separate export quotas were established and notified to the Secretariat;

E. conducted a status assessment, including an evaluation of threats to the species; developed and implemented an internationally agreed standard population monitoring programme for the species; and advised the Secretariat of the details of the assessment and the programme; and

F. based any changes to the conservative annual export quota for wild-taken specimens on the results of the assessment and monitoring programme.

ii) The Secretariat wrote to Madagascar on 6 August 2009 to advise them of the decision of the Standing Committee but no reply had been received at the time of writing.

8. United Republic of Tanzania

a) *Agapornis fischeri*

i) **Recommendations of the Standing Committee:** On 25 May 2009, by postal procedure, the Standing Committee agreed to withdraw its recommendation to the Parties to suspend imports of specimens of *A. fischeri* from the United Republic of Tanzania once the Secretariat was satisfied, in consultation with the Chair of the Animals Committee that the United Republic of Tanzania had:

A. Provided the results of its ongoing population survey of the species;

B. Explained how these will be used as a basis for making non-detriment findings;

C. Established a cautious export quota for 2009; and

D. Explained how future quotas will be adjusted as necessary to ensure that the level of trade is sustainable.

ii) The Secretariat wrote to the United Republic of Tanzania on 20 June 2009 to advise them of the decision of the Standing Committee but no reply had been received at the time of writing.

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[2] *If the Animals Committee agrees by consensus (intersessionally) with the proposal from Madagascar, then the quotas would be posted on the CITES website. If the Animals Committee needs further information or clarification to reach consensus, those issues would be taken up following further consultation with Madagascar at the next Animals Committee meeting.*

b) *Poicephalus cryptoxanthu*s

i) **Recommendations of the Standing Committee**: The Standing Committee agreed to withdraw its recommendation to Parties not to accept imports of specimens of *P. cryptoxanthus* from the United Republic of Tanzania if the Management Authority confirmed that, if it lifted its export moratorium a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee.

ii) On 27 July 2009, the United Republic of Tanzania requested that a zero voluntary export quota for *P. cryptoxanthus* be included in the CITES website and confirmed that, if it lifted its export moratorium, a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee. Parties were advised in Notification to the Parties No. 2009/032 that the Standing Committee had withdrawn its recommendation to Parties not to accept imports of specimens of *P. cryptoxanthus* from the United Republic of Tanzania.

c) *Poicephalus meyer*i

i) **Recommendations of the Standing Committee**: The Standing Committee agreed to withdraw its recommendation to Parties not to accept imports of specimens of *P. meyeri* from the United Republic of Tanzania if the Management Authority confirmed that, if it lifted its export moratorium a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee.

ii) On 27 July 2009, the United Republic of Tanzania requested that a zero voluntary export quota for *P. meyeri* be included in the CITES website and confirmed that, if it lifted its export moratorium, a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee. Parties were advised in Notification to the Parties No. 2009/032 that the Standing Committee had withdrawn its recommendation to Parties not to accept imports of specimens of *P. meyeri* from the United Republic of Tanzania.

d) *Poicephalus rufiventris*

i) **Recommendations of the Standing Committee**: The Standing Committee agreed to withdraw its recommendation to Parties not to accept imports of specimens of *P. rufiventris* from the United Republic of Tanzania if the Management Authority confirmed that, if it lifted its export moratorium a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee.

ii) On 27 July 2009, the United Republic of Tanzania requested that a zero voluntary export quota for *P. rufiventris* be included in the CITES website and confirmed that, if it lifted its export moratorium, a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee. Parties were advised in Notification to the Parties No. 2009/032 that the Standing Committee had withdrawn its recommendation to Parties not to accept imports of specimens of *P. rufiventris* from the United Republic of Tanzania.

e) *Tauraco fischeri*

i) **Recommendations of the Standing Committee**: The Standing Committee agreed to withdraw its recommendation to Parties not to accept imports of specimens of *T. fischeri* from the United Republic of Tanzania if the Management Authority confirmed that, if it lifted its export moratorium a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee.

ii) On 27 July 2009, the United Republic of Tanzania requested that a zero voluntary export quota for *T. fischeri* be included in the CITES website and confirmed that, if it lifted its export moratorium, a cautious export quota would be established in consultation with the Secretariat and the Chair of the Animals Committee. Parties were advised in Notification to the Parties No. 2009/032 that the Standing Committee had withdrawn its recommendation to Parties not to accept imports of specimens of *T. fischeri* from the United Republic of Tanzania.

9. In order to further the implementation of paragraph v) of Resolution Conf. 12.8 (Rev. CoP13) as mentioned in paragraph 3 above, the Secretariat commissioned a detailed study of more recent cases where the

Standing Committee had recommended that Parties not accept imports of specimens of species from certain States. This completes the review of all such recommendations by the Committee until the end of July 2008.

10. The full text of this study can be found in the Annex to the present document. On the basis of this report, the Secretariat has discussed these cases with the Chairs of the Animals Committee and prepared summary recommendations found in paragraphs 11 to 23 below.

11. Armenia: *Falco cherrug*

a) **Original concerns and recommendations of the Animals Committee**

At its 21st meeting (Geneva, May 2005), the Animals Committee formulated the following recommendations to the range States where a species had been recognised as of 'possible concern':

Within three months (by November 2005)

Provide detailed information to the Secretariat on the following:

i) Confirmation that no exports of *Falco cherrug* are permitted, or, if this is not the case:

ii) Provide justification for and details of the scientific basis by which, it has been established that the quantities of *F. cherrug* exported were not detrimental to the survival of the species and in compliance with Article IV, paragraphs 2 (a) and 3;

iii) Provide information on the distribution and conservation status of *F. cherrug*, explaining when the status was established and by what methodology the information was obtained; and

iv) Provide information on the number of captive-breeding operations for *F. cherrug* in the country and the controls in place to differentiate between captive-bred and wild-caught specimens to ensure that the authorized exports of specimens of wild origin are not augmented by falsely declared 'captive-bred' specimens.

b) **Summary of Management Authority's response**

The Secretariat wrote to the Permanent Mission of the Republic of Armenia to the United Nations Office and other International Organizations on 17 August 2005 and 31 October 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat**

Armenia became Party to CITES on 21 January 2009. According to the information compiled by the UNEP-WCMC, harvest, trade and captive breeding of *F. cherrug* are prohibited in Armenia, and no legal trade has ever been reported from the country.

d) **Recommendations of the Secretariat and Chair of the Animals Committee**

The requirements of Article IV do not currently seem applicable to Armenia and the original recommendations no longer seem relevant. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of *F. cherrug* from Armenia. The Chair of the Animals Committee is of the view that should Armenia wish to export specimens of this species, it should advise the Secretariat of the measures it has taken to comply with the recommendations of the Animals Committee, and the Secretariat shall, in consultation with the Chair of the Animals Committee, determine whether the recommendations have been implemented and report to the Standing Committee accordingly.

12. Bahrain: *Falco cherrug*

a) **Original concerns and recommendations of the Animals Committee**

Same as paragraph 11 a) above.

b) **Summary of Management Authority's response:**

The Secretariat wrote to Bahrain on 17 August 2005 and 31 October 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat**

Bahrain is not a Party to CITES. Some trade from Bahrain, mostly involving captive-bred specimens, has been reported by importers. However, information on the basis for making non-detriment findings in relation to comparable documentation issued by the competent authorities in Bahrain under Article X of the Convention and information on captive-breeding operations have not been made available.

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

The concerns that led to the original suspension for Bahrain have not been addressed. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee maintain its recommendation to Parties to suspend trade in specimens of *F. cherrug* from Bahrain.

13. Grenada: *Strombus gigas*

a) **Original concerns and recommendations of the Animals Committee**

At the 19th meeting of the Animals Committee (AC19, Geneva, August 2003) Grenada was included among countries of Category (ii) – 'species of possible concern' (see document AC19 WG3 Doc. 1) and was given the following recommendations:

Long-term actions to be taken within 24 months

a) apply adaptive management procedures to ensure that further decisions about harvesting and management of the species concerned will be based on the monitoring of the impact of previous harvesting and other factors.

b) give serious consideration to the recommendations of the June 2003 IQCI meeting and commit specifically to those recommendations on:

   i) development of a regional management regime, including cooperative quota setting,

   ii) law enforcement capacity and effectiveness; and

   iii) population assessments and other research relating to the management of queen conch

b) **Summary of Management Authority's response**

The Secretariat wrote to Grenada on 30 April 2003, 15 and 28 August 2003 and 20 February 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat:**

The status of the species in Grenada is poorly known, and no information was found regarding its management in the country. Hardly any commercial export of *S. gigas* has been reported between 1998 and 2008 and the limited information available suggests that fishing levels are on a small scale.

d) **Recommendations of the Secretariat and Chair of the Animals Committee**

Although there does not appear to be significant levels of fishing for this species in Grenada, information on the implementation of the Animals Committee recommendations has not been provided by Grenada and the concerns that led to the original suspension have not been addressed. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing

Committee maintain its recommendation to Parties to suspend trade in specimens of *Strombus gigas* from Grenada.

14. Haiti: *Strombus gigas*

a) **Original concerns and recommendations of the Animals Committee**

At AC19, Haiti was included among countries of Category (i) – 'species of urgent concern' (see AC19 summary record), which were given the following recommendations:

1. Short-term actions to be taken within 6 months

   i) Establish a voluntary moratorium on the commercial harvest (excluding legal harvest in territorial waters of the Parties concerned) and the international trade of *Strombus gigas* within four weeks of this recommendation being made (upon communication by the AC to the Parties);

   ii) Identify areas to be designated for commercial fisheries;

   iii) Undertake density studies in these designated areas;

   iv) Identify and analyse trends in available landing data;

   v) Establish a standardized minimum meat weight that corresponds to adult specimens of unprocessed and processed meat;

   vi) Based on the results of the density studies, the analysis of landing trends and standardized meat weight establish cautious catch and export quotas in consultation with the Secretariat; and

   vii) Demonstrate that items 2a) and 2b) below have been initiated.

2. Long-term actions for implementation to be taken within 18 months

   a) design and implement a fishery data collection programme. This programme is designed to collect catch and effort data and shall include 1) a system of permits and licenses for commercial harvesters and exporters and 2) regular reporting of landing and export data;

   b) Design and implement a long-term population monitoring programme for the designated commercial fishing areas. This programme should provide reliable estimates of adult and juveniles densities within commercial fishing areas, at a minimum; and

   c) Give serious consideration to the recommendations of the June 2003 IQCI meeting and commit specifically to those recommendations on:

      i) development of a regional management regime, including cooperative quota setting;

      ii) law enforcement capacity and effectiveness; and

      iii) population assessments and other research relating to the management of queen conch

b) **Summary of Management Authority's response**

The Secretariat wrote to Haiti on 30 April 2003, 15 and 28 August 2003, 22 September 2003, 2 September 2005 and 20 February 2006. Haiti responded on 5 and 31 January 2006 stating that a project proposal to undertake a study of the species had been put to the Caribbean Regional Fisheries Mechanism Secretariat, but no further information about this request or the envisaged study has been received.

c) **Comments of the Secretariat**

Haiti is not a Party to CITES. The status of the species in Haiti is poorly known and in 2003 the Animals Committee was concerned about the effects of international trade on the species in the waters of this country. Limited trade in *S. gigas* from Haiti has been reported after the trade suspension recommendation was put in place in 2004. Although Haiti has expressed a willingness to implement the recommendations of the Animals Committee, it does not appear that any action has been taken.

d) **Recommendations of the Secretariat and Chair of the Animals Committee**

Although ongoing trade in this species in Haiti appears to be limited, it does not appear that the original concerns of the Animals Committee have been addressed or their recommendations implemented. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee maintain its recommendation to Parties to suspend trade in specimens of *S. gigas* from Haiti.

15. Iraq: *Falco cherrug*

a) **Original concerns and recommendations of the Animals Committee**

Same as paragraph 11 a) above.

b) **Summary of Management Authority's response**

The Secretariat wrote to the Permanent Mission of Iraq to the United Nations Office and other International Organizations on 17 August 2005 and 31 October 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat**

The status of the species in Iraq is unclear. Iraq is not a Party to CITES, and no imports have been reported by Parties to CITES.

d) **Recommendations of the Secretariat and Chair of the Animals Committee**

According to the Annex to there does not seem to be a policy of authorizing capture and trade in *F. cherrug* and no trade from Iraq has been reported over the period 1998-2008. Consequently, the application of requirements similar to those of Article IV in comparable documentation issued by the competent authorities in Iraq under Article X of the Convention do not currently seem applicable and the original recommendations no longer seem relevant. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of *F. cherrug* from Iraq. The Chair of the Animals Committee is of the view that should Iraq wish to export this species it should advise the Secretariat of the measures it has taken to comply with the recommendations of the Animals Committee, and the Secretariat shall, in consultation with the Chair of the Animals Committee, determine whether the recommendations have been implemented and report to the Standing Committee accordingly.

16. Kazakhstan: *Saiga tatarica*

a) **Original concerns and recommendations of the Animals Committee**:

At the 16th meeting of the Animals Committee (AC16, Shepherdstown, 2000), the following recommendations were formed for *Saiga tatarica* from Kazakhstan:

Primary recommendations

The Management Authority of Kazakhstan should provide the Secretariat with detailed information on: i) the distribution and abundance of this species in its country; ii) the justification, or the scientific basis by which it has established that the quantities currently exported will not be detrimental to the survival of the species; and iii) the justification, or scientific basis by which it has

decided to increase the annual harvest of 30,000 antelopes (that applied for the period 1991-1996) to 40,000 animals in 1998.

Secondary recommendations

The Management Authority of Kazakhstan, in collaboration with the Secretariat and the Animals Committee, should develop a system to securely register or mark parts of *Saiga tatarica* to identify specimens that are taken legally and stock-piled for export" (document AC Doc. 16.7.1).

b) **Summary of Management Authority's response**

Kazakhstan has provided information on the population size of *S. tatarica* on its territory. Populations are reported to have increased or stabilized, although poaching and illegal trade remain a threat. In 2003, in document AC19 Doc. 8.6, it was reported that Kazakhstan had voluntarily suspended exports. No trade from Kazakhstan has been reported since 2003 and Kazakhstan has indicated that the harvesting, capture, collection, purchase or sale of saiga antelopes from the wild has been prohibited from 2005 until 2011. The Annex to the present document reports that stocks of horns of saiga antelope for export did not to exist in Kazakhstan at present.

c) **Comments of the Secretariat**

Kazakhstan has provided information to address the initial concerns of the Animals Committee and the status of the species appears to have improved. Since the initial recommendations were formed, Kazahkstan signed in 2006 the Memorandum of Understanding concerning the Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*), including a Medium-Term International Work Programme for the *S. tatarica* (2007-2011). Very good progress has been achieved in implementing Decisions 13.27 to 13.35 by Kazakhstan. However, it is unclear whether trade will resume in 2011. Therefore, continued conservation action and adequate management of the trade remain particularly important.

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

As trade is not currently permitted and none has been reported since 2003, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of Saiga tatarica from Kazakhstan. The Chair of the Animals Committee is of the view that should Kazakhstan wish to resume export of specimens of this species, it should advise the Secretariat of the measures it has taken to comply with the recommendations of the Animals Committee, and the Secretariat shall, in consultation with the Chair of the Animals Committee, determine whether the recommendations have been implemented and report to the Standing Committee accordingly.

17. Lao People's Democratic Republic: *Naja* spp.

a) **Original concerns and recommendations of the Animals Committee**

At AC16, *Naja* spp. was reviewed and the genus was identified in Lao People's Democratic Republic as 'potentially at risk'. At its 18th meeting (San José, April 2002), the Animals Committee agreed to recommend to the AC that *Naja* spp. from Lao People's Democratic Republic be included in Category 1 and that Lao People's Democratic Republic should receive the following recommendation: The Management Authority should not issue export permits until it has established a cautious export quota and provided a satisfactory scientific basis for this quota to the Secretariat (AC18 summary record).

b) **Summary of Management Authority's response**

The Secretariat wrote to the Embassy of Lao People's Democratic Republic in Paris on 14 March 2001 but at the time of writing no reply had been received.

c) **Comments of the Secretariat**

Although it has been a Party to CITES since 2004, Lao People's Democratic Republic has never submitted an annual report. As the status of the species in Lao People's Democratic Republic is not known, it is not clear what impact any trade would have on the status of the species. Data reported by importers indicate that trade occurred in 2005 and 2006, after the recommendation to suspension trade in this species from Lao People's Democratic Republic was put in place.

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

As trade from Lao People's Democratic Republic has been reported relatively recently, and information on the basis for making non-detriment findings has not been made available by Lao People's Democratic Republic, the concerns that led to the original suspension have not been addressed. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee keeps its recommendation to Parties to suspend trade in specimens of *Naja* spp from the Lao People's Democratic Republic and in view of the fact that the country joined CITES after the initial recommendations were made, the Secretariat recontact Lao People's Democratic Republic in order to obtain further information about progress with their implementation.

18. Madagascar: Cycadaceae, Stangeriaceae and Zamiaceae

a) **Original concerns and recommendations of the Plants Committee**

At PC14, the Plants Committee categorized cycads from Madagascar, Mozambique and Viet Nam as 'of urgent concern' and formulated recommendations which were sent to Madagascar on 3 September 2004. (see document SC54 Doc. 42). The recommendations for Madagascar were as follows:

Within six months (by March 2005):

i) The Management Authority should report to the Secretariat how the Scientific Authority makes non-detriment findings to allow exports of wild-harvested specimens of *Cycas thouarsii*; and

ii) The Management Authority should liaise with the CITES Secretariat to ensure the implementation of the provisions of Article IV through the action plan for a country-based Review of Significant Trade for Madagascar.

b) **Summary of Management Authority's response**

The Secretariat has written to Madagascar about this matter on 4 February 2003, 12 January 2004, 3 September 2004 and 18 December 2006. No information has been received by the Secretariat from Madagascar regarding the implementation of the recommendations by the Plants Committee.

c) **Comments of the Secretariat**

The report from UNEP-WCMC in the Annex to the present document indicates that in recent years hardly any trade has been reported in *C. thouarsii* (the only species from these families which occurs in the country). In these circumstances, the provisions of Article IV of the Convention do not currently appear to be applicable and the original recommendations of the Plants Committee no longer relevant.

d) **Recommendations of the Secretariat and Chair of the Plants Committee**

The Secretariat, in consultation with the Chair of the Plants Committee, therefore recommends that the Standing Committee withdraw its recommendation to Parties to suspension trade in all specimens of Cycadaceae, Stangeriaceae and Zamiaceae species from Madagascar.

19. Mauritania: *Falco cherrug*

a) **Original concerns and recommendations of the Animals Committee**

Same as paragraph 11 a) above.

b) **Summary of Management Authority's response**

The Secretariat wrote to Mauritania on 17 August 2005 and 31 October 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat**

The species is a vagrant in Mauritania where it occurs in very small numbers. According to the information compiled by UNEP-WCMC, trade is not permitted, no wild trade has ever been reported and no trade at all has been reported since 2002.

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

The requirements of Article IV do not currently seem applicable for Mauritania and the original recommendation no longer appears to be relevant. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of *F. cherrug* from Mauritania.

20. Mozambique: Cycadaceae, Stangeriaceae and Zamiaceae

a) **Original concerns and recommendations of the Plants Committee**

At PC14, the Plants Committee categorized cycads and stangenias (Cycadaceae, Stangeriaceae and Zamiaceae) from Mozambique as 'of urgent concern' and formulated a recommendation which was sent to Mozambique on 3 September 2004. (see document SC54 Doc. 42)**.** The recommendation for Mozambique was as follows:

Within six months (by March 2005):

The Management Authority should provide the CITES Secretariat with information on the measures that are in place or were taken to monitor and regulate trade in cycads.

b) **Summary of Management Authority's response**

The Secretariat wrote to Mozambique about this matter on 4 February 2003, 12 December 2003, 3 September 2004 and 10 November 2006. No information has been received by the Secretariat from Mozambique regarding the implementation of the recommendations by the Plants Committee.

c) **Comments of the Secretariat**

In light of the report from UNEP-WCMC in the Annex to the present document, and considering the lack of response from Mozambique the Secretariat considers that its Management Authority should respond to the recommendation of the Plants Committee which will only be pertinent to *Cycas thouarsii* as the only species of Appendix-II cycads that occurs in Mozambique.

d) **Recommendations of the Secretariat and Chair of the Plants Committee:**

The Secretariat, in consultation with the Chair of the Plants Committee, therefore proposes that the Standing Committee recommend that all Parties maintain the suspension of trade in all specimens of Cycadaceae, Stangeriaceae and Zamiaceae from Mozambique until that Party demonstrates compliance with Article IV, paragraphs 2 (a) and 3, for these species and provides full and detailed information to the Secretariat regarding compliance with the recommendations of the Plants Committee.

21. Russian Federation: *Saiga tatarica*

a) **Original concerns and recommendations of the Animals Committee**

At AC16 the Animals Committee made the following recommendations were formed for *S. tatarica* from the Russian Federation:

Primary recommendation

The Management Authority of the Russian Federation should provide the Secretariat with detailed information on: i) the distribution and abundance of this species in its country; and ii) the justification, or the scientific basis by which it has established that the quantities currently exported will not be detrimental to the survival of the species.

Secondary recommendation

The Management Authority of the Russian Federation, in collaboration with the Secretariat and the Animals Committee, should develop a system to securely register or mark parts of *Saiga tatarica* to identify specimens that are taken legally and stockpiled for export.

b) **Summary of Management Authority's response**

The populations of the species in the Russian Federation were reported to have stabilized, although populations remain relatively low and poaching and illegal trade remain a threat. According to document AC19 Doc. 8.6, the Russian Federation voluntarily suspended exports in 2003 and no trade has been reported since 2004.

c) **Comments of the Secretariat**

While the Russian Federation has made considerable steps towards conservation and management of their saiga populations, it does not appear to have provided information on the distribution and abundance of this species on its territory or information on the basis on which non-detriment findings are made. Illegal trade remains a concern for this species and given the extensive declines in population which have occurred, continued conservation action and adequate management of the trade remain extremely important. However, very good progress has been achieved in implementing Decisions 13.27 to 13.35 and the Russian Federation signed in 2009 the Memorandum of Understanding concerning the Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*), including a Medium-Term International Work Programme for *S. tatarica* (2007-2011).

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

Legal trade does not currently seem permitted or to have taken place since 2004, therefore the requirements of Article IV do not seem to be currently applicable and the original recommendations are no longer be relevant, although it is not known when trade might resume. The Secretariat and the Chair of the Animals Committee recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of *Saiga tatarica* from the Russian Federation. The Chair of the Animals Committee is of the view that should the Russian Federation wish to resume export of specimens of this species it should advise the Secretariat of the measures it has taken to comply with the recommendations of the Animals Committee, and the Secretariat shall, in consultation with the Chair of the Animals Committee, determine whether the recommendations have been implemented and report to the Standing Committee accordingly.

22. Tajikistan: *Falco cherrug*

a) **Original concerns and recommendations of the Animals Committee**

Same as paragraph 11 a) above.

b) **Summary of Management Authority's response**

The Secretariat wrote to Tajikistan on 17 August 2005 and 31 October 2006 but no reply had been received at the time of writing.

c) **Comments of the Secretariat**

Tajikistan is not a Party to CITES. *F. cherrug* is widespread but sparsely distributed in Tajikistan and the breeding population is thought to be very small. According to the information compiled by UNEP-WCMC, *F. cherrug* is included in Tajikistan's Red Data Book and is therefore legally protected. No trade in *F. cherrug* from Tajikistan has been reported by importing countries since 2003. Information on the basis for making non-detriment findings and information on captive-breeding operations have not been made available.

d) **Recommendations of the Secretariat and the Chair of the Animals Committee**

As the species is apparently protected in Tajikistan and no trade has been reported since 2003, the application of requirements similar to those of Article IV in comparable documentation issued by the competent authorities in Iraq under Article X of the Convention do not currently seem applicable and the original recommendations no longer seem relevant. The Secretariat and the Chair of the Animals Committee therefore recommend that the Standing Committee withdraw its recommendation to Parties to suspend trade in specimens of *F. cherrug* from Tajikistan.

23. Viet Nam: Cycadaceae spp., Stangeriaceae spp. and Zamiaceae spp.

a) **Original concerns and recommendations of the Plants Committee**

At PC14, the Plants Committee categorized cycads and stangenias (Cycadaceae, Stangeriaceae and Zamiaceae) from Viet Nam as 'of urgent concern' and formulated recommendations which were sent to this Party on 3 September 2004 (see document SC54 Doc. 42)**.** The recommendations for Viet Nam were as follows:

Within three months (by December 2004):

a) The Management Authority should clarify to the CITES Secretariat how its Scientific Authority determines that levels of export of wild-collected specimens of cycads are not detrimental to the wild populations concerned, and are exported in accordance with Article IV of the Convention; and

b) The Management Authority should clarify to the CITES Secretariat how it ensures that wild harvested cycads that are exported are correctly identify to the species level, and what control mechanisms or procedures it has in place in this regard.

Within 12 months (by September 2005):

The Management Authority of Viet Nam should collaborate with the Management Authority of China to enhance the monitoring of trade in cycads between these two countries in order to ensure full compliance with Article IV of the Convention. The Management Authority of Viet Nam should provide to the CITES Secretariat a report on the outcomes of this collaboration.

b) **Summary of Management Authority's response**

In response to a letter of the Secretariat dated 10 November 2006, the Management Authority of Viet Nam responded on 18 December 2006. It explained that only Cycadaceae spp. occur in Viet Nam and that, since 1999, only artificially propagated cycads have been exported. The Management Authority of Viet Nam stated that it has worked closely with the Management Authority of China regarding the management of trade in cycads and the border controls but no further information was provided. The Management Authority states that it has complied with the provisions of Article IV and that current export of cycads from Viet Nam is not detrimental to the populations in the wild. Viet Nam apologized for the lack of earlier responses and it explained that the Management Authority had had several changes in its organization. Finally, the Management Authority of Viet Nam requests that the country be removed from the list of suspensions of trade in cycads.

c) **Comments of the Secretariat**

The Management Authority of Viet Nam has shown willingness to comply with the recommendations that the Plants Committee directed to it, although its response does not provide the requested report on the outcomes of collaboration with the Management Authority of China to enhance the monitoring of trade in cycads between these two countries in order to ensure full compliance with Article IV of the Convention.

On 5 November 2009, the Management Authority of Viet Nam submitted to the Secretariat a project proposal under Resolution Conf. 12.2 on *Procedure for approval of externally funded projects*; the project is entitled 'Non-detriment findings for cycads in Viet Nam'. The Secretariat has provided comments on the proposal and will be communicating with Viet Nam in the case that external funds are provided.

The Secretariat notes that some progress has been made in Viet Nam regarding the original concerns of the Plants Committee. However, in the light of the communications with the Management Authority and of the report of UNEP-WCMC in the Annex to this document, it seems that there is still scope for improvement.

d) **Recommendations of the Secretariat and Chair of the Plants Committee**

The Secretariat, in consultation with the Chair of the Plants Committee, therefore proposes that the Standing Committee recommend that all Parties maintain the suspension of trade in all specimens of Cycadaceae spp., Stangeriaceae spp. and Zamiaceae spp from Viet Nam until the recommendations of the Plants Committee have been fully complied with.

24. The Standing Committee is invited to note the information in paragraphs 6 to 10 of the present document and adopt the recommendations made by the Secretariat and the Chairs of the Animals and Plants Committees in paragraphs 11 to 23.

Report on Standing Committee recommendations to suspend trade made more than two years ago through the Review of Significant Trade

CITES Project No. S-346

Prepared for the CITES Secretariat by

United Nations Environment Programme
World Conservation Monitoring Centre*

* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

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The UNEP World Conservation Monitoring Centre (UNEP-WCMC), based in Cambridge, UK, is the specialist biodiversity information and assessment centre of the United Nations Environment Programme (UNEP), run cooperatively with WCMC 2000, a UK charity. The Centre's mission is to evaluate and highlight the many values of biodiversity and put authoritative biodiversity knowledge at the centre of decision-making. Through the analysis and synthesis of global biodiversity knowledge the Centre provides authoritative, strategic and timely information for conventions, countries and organisations to use in the development and implementation of their policies and decisions.

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CITATION

UNEP-WCMC (2010). Report on Standing Committee recommendations to suspend trade made more than two years ago through the Review of Significant Trade.

PREPARED FOR

CITES Secretariat, Geneva, Switzerland.

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Contents

1. Introduction

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The conditions for trade in Appendix II species are laid out in Article IV of the Convention. On the basis of concerns regarding the effective implementation of Article IV, paragraphs 2 (a), 3 and 6 (a) of CITES, a process was established to identify and review significant trade in species listed in Appendix II of the Convention and to determine any appropriate action needed. Specifically, Resolution Conf. 12.8 (Rev. CoP13) "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)."

The Review of Significant Trade process involves a number of stages, including the formulation of recommendations directed to range States of species under consideration. Paragraph s) of Resolution Conf. 12.8 (Rev. CoP13) states that "when the Secretariat, having consulted with the Chairman of the Animals or Plants Committee, is not satisfied that a range State has implemented the recommendations made by the Animals or Plants Committee in accordance with paragraph n) or o), it should recommend to the Standing Committee appropriate action, which may include, as a last resort, a suspension of trade in the affected species with that State. On the basis of the report of the Secretariat, the Standing Committee shall decide on appropriate action and make recommendations to the State concerned, or to all Parties."

In addition, Paragraph u) of Resolution Conf. 12.8 (Rev. CoP13) states that "a recommendation to suspend trade in the affected species with the State concerned should be withdrawn only when that State demonstrates to the satisfaction of the Standing Committee, through the Secretariat, compliance with Article IV, paragraph 2 (a), 3 or 6 (a)."

To assist the CITES Secretariat in preparation of documents and the Standing Committee with their decision-making, UNEP-WCMC was commissioned to compile reviews for taxa that have been subject to trade suspensions for more than two years on the basis of recommendations formulated through the Review of Significant Trade. The taxa/country combinations reviewed in this report are:

Animals

- *Saiga tatarica*: Kazakhstan and the Russian Federation
- *Falco cherrug*: Armenia, Bahrain, Iraq, Mauritania and Tajikistan
- *Naja* spp.: Lao People's Democratic Republic
- *Strombus gigas*: Grenada and Haiti

Plants

- Cycadaceae spp., Stangeriaceae spp. and Zamiaceae spp.: Madagascar, Mozambique and Viet Nam

The reviews are organised by taxon, with information on each country under review contained within each taxon report. The only exception is the review of the plant

families Cycadaceae spp., Stangeriaceae spp. and Zamiaceae spp. in which the three taxa are reviewed together for each country.

2. Methodology

Each taxon/country review provides the following information: history of the CITES Review of Significant Trade process; current distribution, conservation status, population trends and threats; recent trade, including CITES trade data and illegal trade; and management of the taxa in each range State, including any relevant legislation.

CITES trade data are provided for the period 1998-2008. Data were downloaded on 30 November 2009. Unless otherwise specified, trade tables include all direct trade (i.e. excluding re-export data) in the taxa under review, and include all sources, terms and units reported in trade. Trade volumes are provided as reported by both exporters and importers. Re-export data are noted separately, where appropriate.

Several countries reviewed are not currently party to CITES (Bahrain, Haiti, Iraq and Tajikistan) or were not a Party for the duration of the period reviewed (e.g. Armenia became a Party in 2009, Grenada in 1999, Kazakhstan in 2000, and Lao People's Democratic Republic in 2004), and hence were not required to submit CITES Annual and Biennial reports for the entire period. For this reason, available trade data may not provide a complete picture of international trade and, for some years, only data provided by importers are available. A list of annual reports received from each range State, along with the date each became a Party to CITES, is provided (Table 1).

Table 1. Overview of annual report submission by range States under review

	Entry into force of CITES	1998	1999	2000	2001	2002	2003	2004	2005	206	2007	2008
Armenia	21/01/2009	-	-	-	-	-	-	-	-	-	-	-
Bahrain	Non-Party	-	-	-	-	-	-	-	-	-	-	-
Grenada	28/11/1999	-	x	✓n	✓n	✓n	x	x	x	x	x	x
Haiti	Non-Party	-	-	-	-	-	-	-	-	-	-	-
Iraq	Non-Party	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	19/04/2000	-	-	(p)	(p)	✓	✓	x	✓	✓	✓	x
Lao PDR	30/05/2004	-	-	-	-	-	-	x	x	x	x	x
Madagascar	18/11/1975	✓	p	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mauritania	11/06/1998	x	x	x	x	x	x	x	x	x	x	x
Mozambique	23/06/1981	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Russian Federation	13/01/1992	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	x
Tajikistan	Non-Party	-	-	-	-	-	-	-	-	-	-	-
Viet Nam	20/04/1994	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x

Key: ✓: annual report received; ✓n: country reported "no trade"; - State not party to CITES in year indicated; p: permits received; (p): incomplete report, permits received; x: no annual report has been submitted to date.

Biennial reports to CITES from each range State for the last three reporting periods (2003-04, 2005-06, and 2007-08) were consulted for any information on confiscations/seizures. A list of biennial reports received from each range State, along with the date each became a Party to CITES, is provided (Table 2).

Table 2. Overview of biennial report submission by range States under review

	Entry into force of CITES	2003-2004	2005-2006	2007-2008
Armenia	21/01/2009	-	-	-
Bahrain	Non-Party	-	-	-
Grenada	28/11/1999	x	x	x
Haiti	Non-Party	-	-	-
Iraq	Non-Party	-	-	-
Kazakhstan	19/04/2000	x	x	x
Lao PDR	30/05/2004	-	x	x
Madagascar	18/11/1975	✓	x	x
Mauritania	11/06/1998	x	✓	x
Mozambique	23/06/1981	✓	✓	x
Russian Federation	13/01/1992	x	✓	x
Tajikistan	Non-Party	-	-	-
Viet Nam	20/04/1994	✓	✓	x

Key: ✓: biennial report received; - State not party to CITES in year indicated; x: no biennial report has been submitted to date.

The CITES Management and Scientific Authorities (or non-Party equivalents) for each range State were contacted by post and, where possible, by email and fax in the last week of September 2009. Authorities were asked to provide information on conservation status, trade and management of each taxon, including the basis for making non-detriment findings and any specific issues relating to the formulation of the suspensions. Where possible, national experts were also contacted to provide additional country-specific information.

3. Species reviews

Saiga tatarica (Linnaeus, 1766): Kazakhstan and the Russian Federation

A. Summary

Kazakhstan: The recommendation to suspend trade in *Saiga tatarica* was formed because Kazakhstan did not provide information on (i) the distribution and abundance of this species in its country (ii) the basis for the formulation of non-detriment findings and (iii) the justification for the increase in the permitted annual harvest in 1998 compared with those of 1991 to 1996. Additionally, a secondary recommendation called for the development of a system to securely register or mark parts of *S. tatarica* to identify specimens that are legally taken and stockpiled for export. Furthermore the Standing Committee recommended that Kazakhstan should participate in the development of a regional conservation strategy for this species. In 2007, the Standing Committee amended its existing recommendation to Parties not to accept imports of specimens of *S. tatarica* from Kazakhstan in order to allow the export of live specimens from breeding facilities for conservation purposes.

Since the initial recommendation was formed, Kazahkstan signed (in 2006) the Memorandum of Understanding concerning the Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*), including a *Medium-Term International Work Programme for the Saiga antelope* (2007-2011). Additionally a number of CITES Decisions have been directed to range States and the Secretariat concluded that "very good progress has been achieved in implementing Decisions 13.27 to 13.35."

Kazakhstan has provided information on the population size of *S. tatarica* in their country. Populations are reported to have increased or stabilised, although poaching and illegal trade remain a threat.

In 2003 it was reported that Kazakhstan had voluntarily suspended exports (AC19 Doc. 8.6). No trade from Kazakhstan has been reported since 2003 and Kazakhstan has indicated that the harvesting, capture collection, purchase or selling of Saiga antelopes from the wild has been prohibited from 2005 until 2011 (with the exception of harvesting or capture for purely scientific purposes). It was reported that stocks of horns of Saiga antelope for export did not to exist in Kazakhstan at present.

Kazakhstan appears to have provided information to address the initial concerns of the Animals Committee and the status of the species appears to have improved. Furthermore, as trade is not currently permitted and none has been reported since 2003, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant. However, it is unclear whether trade will resume in 2011, illegal trade remains a threat and given the overall unfavourable status of the species, continued conservation action and adequate management of the trade remain particularly important.

Russian Federation: The recommendation to suspend trade was formed because the Russian Federation did not provide information on the distribution and abundance of this species in its country nor information for the basis on which non-detriment findings are made. Additionally, a secondary recommendation called for the development of a system to securely register or mark parts of *Saiga tatarica* to identify specimens that are legally taken and stockpiled for export. In 2007, the Standing

Committee amended its existing recommendation to Parties not to accept imports of specimens of *S. tatarica* from the Russian Federation in order to allow the export of live specimens from breeding facilities for conservation purposes.

Since the initial recommendations were formed, the Russian Federation signed (in 2009) the Memorandum of Understanding concerning the Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*), including a *Medium-Term International Work Programme for the Saiga antelope* (2007-2011). Additionally a number of CITES Decisions have been directed to range States and the Secretariat concluded that "very good progress has been achieved in implementing Decisions 13.27 to 13.35."

The populations of the species in the Russian Federation were reported to have stabilised, although populations remain relatively low and poaching and illegal trade remain a threat. Low level trade was reported from the Russian Federation 1998-2008, and none was reported since 2004. In 2003 it was reported that the Russian Federation had voluntarily suspended exports (AC19 Doc. 8.6).

While the Russian Federation has made considerable steps towards conservation and management of their Saiga populations, it does not appear to have provided information on the distribution and abundance of this species in its country nor information for the basis on which non-detriment findings are made, therefore the concerns that led to the original suspension have not been addressed. However, as trade does not currently seem permitted, the requirements of Article IV may not be currently applicable and the original recommendation may no longer be relevant, although it is not known when trade might resume. Illegal trade remains a threat and given the unfavourable status of the species, continued conservation action and adequate management of the trade remain particularly important.

B. Background

The Saiga antelope *(Saiga tatarica)* was listed in CITES Appendix II on 16/02/1995. Import suspensions have been in place for **Kazakhstan** and the **Russian Federation** since 10/08/2001.

Selection of the species and reasons for selection:
S. tatarica was first suggested for inclusion in the Review of Significant Trade at the 14th Meeting of the Animals Committee (Caracas, Venezuela, 1998), "on the basis of population concerns" (AC14 Summary Record). The Scientific Authority of the United States recommended that the species be included in the Review of Significant Trade (Doc.Ac.14.14.7), based on a report produced by the Environmental Investigation Agency which drew attention to the high levels of exploitation and international trade in *S. tatarica*, a strong indication of a large illegal trade, and indications that current management of the species was insufficient to ensure that trade was sustainable (Doc.Ac.14.14.7 [Annex]).

At the 15th Meeting of the Animals Committee (Antananarivo, Madagascar, 1999), *S. tatarica* was selected for inclusion in the CITES Significant Trade Review process, under category d(i) of Decision 10.79 (AC15 Doc.15.14.4.1). The following justification was given in the Working Group Report (Proceedings of the Animals Committee 15th Meeting, Annex 6): "Poaching a major problem. **Kazakhstan** population a concern.

Need scientific basis for quotas (export and domestic use). SCI will provide trophy-hunting information. Clear that species is in decline, due to international (legal and illegal) trade for traditional medicine."

At the 11th Conference of the Parties (Gilgiri, Kenya, 2000), *S. tatarica* was noted amongst the species included in the Review of Significant Trade (CoP 11 Doc.41.1 Annex 1).

Concerns of the Animals Committee and the recommendations formulated by them:

At the 16th Meeting of the Animals Committee (Shepherdstown, USA, 2000), the Secretariat presented the primary and secondary recommendations made by the Animals Committee (AC Doc. 16.7.1). These recommendations were communicated to the Parties concerned after consultation with the Chairman of the Animals Committee.

Kazakhstan:

"Primary Recommendations

The Management Authority of Kazakhstan should provide the Secretariat with detailed information on: i) the distribution and abundance of this species in its country; ii) the justification, or the scientific basis by which it has established that the quantities currently exported will not be detrimental to the survival of the species; and iii) the justification, or scientific basis by which it has decided to increase the annual harvest of 30,000 antelopes [that applied for the period 1991-1996] to 40,000 animals in 1998.

Secondary Recommendations

The Management Authority of Kazakhstan, in collaboration with the Secretariat and the Animals Committee, should develop a system to securely register or mark parts of *Saiga tatarica* to identify specimens that are taken legally and stock-piled for export" (AC Doc. 16.7.1).

Russian Federation:

"Primary Recommendations

The Management Authority of the Russian Federation should provide the Secretariat with detailed information on: i) the distribution and abundance of this species in its country; and ii) the justification, or the scientific basis by which it has established that the quantities currently exported will not be detrimental to the survival of the species.

Secondary Recommendation

The Management Authority of the Russian Federation, in collaboration with the Secretariat and the Animals Committee, should develop a system to securely register or mark parts of *Saiga tatarica* to identify specimens that are taken legally and stockpiled for export" (AC Doc. 16.7.1).

The response of the range States concerned:

In 2001, it was reported at the 45th Meeting of the Standing Committee (Paris, France, June 2001) and the 17th Meeting of the Animals Committee (Hanoi, Viet Nam, July-August 2001), that primary recommendations had been sent to range States, and that

the 90 day deadline for responding had expired in both instances.

Kazakhstan: No response was received from Kazakhstan (SC45 Doc. 12 Annex 1, AC17 Doc. 7.1).

Russian Federation: It was reported that: "The Management Authority of the Russian Federation has informed the Secretariat of its concern over the status of this species and recent declines. It has proposed that an international meeting be organized in the Russian Federation, presumably involving other range States, to address this issue in a comprehensive manner, and has requested the Secretariat to support this meeting. The Secretariat is willing to support this initiative and tried to provide support in 2000 for a meeting on this subject, organized by an international NGO. This meeting did not take place and a further initiative has to be developed. The Secretariat remains willing to help to secure funding for the meeting and with other aspects. No information has been provided about the development of a registration and marking system but this issue can be addressed during the proposed meeting" (SC45 Doc. 12 Annex 1, AC17 Doc. 7.1).

The subsequent actions/recommendations of the Standing Committee:
The Secretariat proposed that the Standing Committee recommended to all Parties that "i) until the outstanding information is provided, no imports of specimens of these species be accepted from **Kazakhstan**, and that ii) **Kazakhstan** should participate in the development of a regional conservation strategy for this species (as proposed by the Russian Federation)" and that "no imports of specimens of this species be accepted from the **Russian Federation** until the actions recommended have been implemented" (SC45 Doc. 12 Annex 1, AC17 Doc. 7.1).

The Standing Committee subsequently accepted the Secretariat's recommendations (SC45 Summary Report), and Parties were informed of the import suspension in Notification No. 2001/056 of 10 April 2001.

The response of the range State concerned:
Kazakhstan and the **Russian Federation** were reported to have voluntarily suspended exports (AC19 Doc. 8.6).

The subsequent actions/recommendations of the Animals Committee:
S. tatarica was discussed at the 19th Meeting of the Animals Committee (Geneva, Switzerland, 2003). It was reported that a workshop held under the auspices of both CITES and the Convention on Migratory Species was held in May 2002 (Elista, Kalmykia, Russian Federation), resulting in a draft MoU between the range States, including an Action Plan for the species' conservation, restoration, and sustainable use (AC19 Doc. 8.6, AC19 WG8 Doc. 1). The Working Group at AC19 raised concerns that "The [action] plan is excellent- but has no strict timeframes, it is unclear who is responsible and by when, and will be costly to implement" (AC19 WG8 Doc. 1). The Secretariat noted that there was poaching for meat and domestic use as well as illegal trade in horn. The Working Group agreed that the "issues around Saiga should be sent as a matter of urgency to the Standing Committee, for action and follow-up" and that the AC Chairman and Secretariat should evaluate the recommendations in the Action Plan that concern CITES, and send them to the Standing Committee as a matter of priority for action as appropriate (AC19 WG8 Doc. 1).

The subsequent actions/recommendations at the Conference of the Parties:

At the 13th Conference of the Parties (Bangkok, Thailand, 2004), Ireland, on behalf of the European Community, drew attention to the conservation of *S. tatarica* being a matter of urgent concern, with ongoing population declines owing to overexploitation for domestic and international trade and habitat degradation (CoP13 Doc. 32). The Secretariat concurred with the view that the CITES community should act collectively and decisively to improve the situation. Concern was raised that "China seems to have continued to import large quantities of Saiga horn from **Kazakhstan** after the recommended trade suspension." Ireland produced a number of draft decisions directed to Parties, range States, the Standing Committee and the Secretariat (CoP13 Doc. 32), leading to the adoption of Decisions 13.27 to 13.35.

The following Decisions were directed towards all range States, including **Kazakhstan** and the **Russian Federation**:

> "13.29 All relevant range States are urged to complete their internal consultations and processes, making the necessary arrangements with the Secretariat of the Convention on Migratory Species (CMS), to sign as soon as practicable the 'Memorandum of Understanding concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope *(Saiga tatarica tatarica)*' drafted at the workshop in Elista, Kalmykia, in May 2002, and to implement the Saiga Action Plan in order to restore the habitat and populations of the Saiga antelope, and enhance transboundary and international cooperation through *inter alia* a regional conservation and management strategy."
>
> "13.31 All Saiga range States should address the problems they have in implementing CITES and ensure the conservation and management of *Saiga tatarica* in close cooperation with the Secretariat, other countries, other competent authorities, intergovernmental organizations, and non-governmental organizations."
>
> "13.33 All range States should report on the activities outlined above, through the Secretariat, to the Standing Committee at each of its meetings between its 53rd meeting and the 14th meeting of the Conference of the Parties."

The subsequent actions/recommendations of the Standing Committee:

At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006), implementation of Decisions 13.27 to 13.35 was reviewed (SC54 Doc. 29). The Secretariat reported that "At the time of writing (August 2006), only **Kazakhstan** had submitted a report in compliance with Decisions 13.27 and 13.33."

At this meeting, the Secretariat noted that **Kazakhstan** had provided information on counts of *S. tatarica* in their country, as well as information relating to the prohibition of harvest, except for scientific purposes (SC54 Doc. 29).

In 2007, the Standing Committee amended its existing recommendation to Parties not to accept imports of specimens of *S. tatarica* from **Kazakhstan** and the **Russian Federation** in order to allow the export from these two range States of live specimens from breeding facilities for conservation purposes (SC54 Summary Record). Parties were informed of this change in Notification No. 2007/004 of 22 January 2007 – subsequently replaced by Notification No. 2009/003 of 3 February 2009.

The subsequent actions/recommendations at the Conference of the Parties:
At the 14th Conference of the Parties (The Hague, Netherlands, 2007), the Secretariat reported on progress made with regard to Decisions 13.27 to 13.35 (CoP14 Doc. 56).

Kazakhstan: In September 2006, Kazakhstan was reported to have signed the Memorandum of Understanding (MoU) concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*) (CoP14 Doc. 56).

Russian Federation: It was noted that "The Russian Federation is thereby the only range State of *Saiga tatarica tatarica* that has not signed the MoU" (CoP14 Doc. 56).

At a meeting of the signatories to the MoU (Almaty, Kazakhstan, 2006), a Medium-Term International Work Programme for the *S. tatarica* (2007-2011) was endorsed. Overall, the Secretariat concluded that "very good progress has been achieved in implementing Decisions 13.27 to 13.35." The Secretariat proposed a number of draft decisions, which were then adopted (Decisions 14.91 to 14.97). These included the following directed to all range States:

> "14.91 All range States of *Saiga tatarica* should fully implement the measures directed to them that are contained in the *Medium-Term International Work Programme for the saiga antelope (2007-2011)*, developed in support of the Memorandum of Understanding (MoU) concerning 'Conservation, Restoration and Sustainable Use of the Saiga Antelope *(Saiga tatarica tatarica)*' and its *Saiga Action Plan*.
> 14.92 The **Russian Federation** should, as soon as possible, sign the MoU concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope *(Saiga tatarica tatarica)* and implement its *Saiga Action Plan*.
> 14.93 All range States of *Saiga tatarica* should provide information on the measures and activities they undertook to implement the *Medium-Term International Work Programme for the saiga antelope (2007-2011)* in their biennial reports for the periods 2007-2008 and 2009-2010."

The Medium-Term International Work Programme (2007-2011) contains measures directed to all range States regarding implementation, anti-poaching, sustainable use and trade, human factors, awareness, mapping distribution, protected areas, monitoring and captive breeding, as well as some population-specific measures (CMS, 2006b).

The subsequent actions/recommendations of the Animals Committee:
At the 23rd Meeting of the Animals Committee (Geneva, Switzerland, 2008), the selection of species for the Review of Significant Trade following CoP14 was discussed, and it was recommended that *S. tatarica* should not be retained, but that the Secretariat should correspond with China regarding some outstanding issues (AC23 Summary Record).

The subsequent actions/recommendations at the Conference of the Parties:
S. tatarica will be discussed at the 15th Conference of the Parties (Doha, Quatar, 2010), where it is expected that range States will report on progress towards implementation of the Medium-Term International Work Programme (2007-2011). The Secretariat has proposed some draft decisions concerning the conservation of and trade in *S. tatarica*

(CoP15 Doc. 47 Annex), which it recommends the Parties adopt. These include the following draft revised decisions directed to range States:

> "14.91. All range States of *Saiga tatarica* should fully implement the measures directed to them that are contained in the *Medium-Term International Work Programme for the saiga antelope (2007-2011)*, developed in support of the Memorandum of Understanding (MoU) concerning 'Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*)' and its *Saiga Action Plan*.
> 14.93. All range States of *Saiga tatarica* should provide information on the measures and activities they undertook to implement the *Medium-Term International Work Programme for the saiga antelope (2007-2011)* in their biennial reports for the period 2009-2010."

C. Species characteristics

Taxonomic note: The Saiga antelope is a nomadic herding antelope of the Eurasian deserts and semi-deserts (Bekenov *et al.,* 1998; Mallon, 2008).

Wilson and Reeder (2005) recognised two species, the Steppe Saiga *Saiga tatarica* (from Kazakhstan, the Russian Federation and seasonally, Uzbekistan) and the Mongolian Saiga *Saiga borealis*, a Pleistocene mammoth-steppe Saiga which includes the living subspecies *Saiga borealis mongolica* (from Mongolia). Other authors assign both extant saigas to *Saiga tatarica*, recognising them as the subspecies *Saiga tatarica tatarica* and *Saiga tatarica mongolica* (Bekenov *et al.,* 1998; Kholodova *et al.,* 2006; Mallon, 2008).

In a recent analysis of mitochondrial DNA (mtDNA), Kholodova *et al.* (2006) reported that whilst the designation of the Mongolian population as a subspecies had been controversial, their results "show a slight but clear distinction between *S. t. mongolica* and *S. t. tatarica*, supporting the current designation of *S. t. mongolica* as a subspecies rather than a separate species."

For the purpose of this report, the name *S. tatarica* is used according to the current CITES standard reference for nomenclature (Wilson and Reeder, 2005) which excludes the Mongolian population (*Saiga borealis mongolica)*. However, some of the literature referred to may recognise only one species *Saiga tatarica* that includes the Mongolian populations. It should also be noted that, prior to 2007, the CITES standard reference for nomenclature also recognised just one species *Saiga tatarica*.

i) Biology:

S. tatarica form groups of tens to hundreds of animals, but may concentrate in groups of thousands, particularly during calving and migration (Bekenov *et al.,* 1998). They generally spend winter months (November to March) in the desert zones, migrating northwards to spend summer (June to September) in the semi-desert. Births occur in May, with the location of calving areas moving from one year to the next depending on conditions (Bekenov *et al.,* 1998).

Fertility rates were reported to be high, with females giving birth in their first year of life, and routinely twinning thereafter (Bekenov *et al.,* 1998). Mortality rates were also reported to be high, particularly in years of drought and harsh winters (Bekenov *et al.,* 1998). The short generation time and high frequency of twinning in *S. tatarica* was

reported to lead to a high potential for population growth (Kühl *et al.,* 2009b); in years with a favourable climate, the population may increase by up to 60% in a single year (Chan *et al.,* 1995; in: Mallon, 2008). The main factors impacting on *S. tatarica* populations were reported to include climate, parasites and diseases, predators, and anthropogenic factors (such as poaching, hunting and agriculture) (Bekenov *et al.*, 1998; Robinson and Milner-Gulland, 2003).

ii) Distribution:

Historically, *S. tatarica* occurred across the steppes and semi-desert regions of south-eastern Europe and Central Asia, from the Precaspian steppes to Mongolia and western China (Bekenov *et al.,* 1998; Mallon, 2008). Today, its remaining populations occur in **Kazakhstan** and the **Russian Federation**, although in winter, some animals reach Uzbekistan (Mallon, 2008) and northern Turkmenistan (Bekenov *et al*., 1998; Mallon, 2008).

Kazakhstan: *S. tatarica* is currently reduced to three distinct populations in Kazakhstan (Ural and Ustiurt in western Kazakhstan, and Betpak-dala in central Kazakhstan) (Bekenov *et al.,* 1998; Milner-Gulland *et al.,* 2001; Mallon, 2008).

Russian Federation: *S. tatarica* is currently reduced to one population in the Russian Federation (Autonomous Republic of Kalmykia) (Bekenov *et al.,* 1998; Milner-Gulland *et al.,* 2001; Mallon, 2008).

iii) Population status and trends:

The Saiga antelope (including *Saiga borealis*) was classified as Critically Endangered in the IUCN Red List, as its population has shown an observed decline of over 80% over the last 10 years, the decline is continuing, and severely skewed sex ratios are leading to reproductive collapse (Mallon, 2008).

Population censuses revealed that all four *S. tatarica* populations in **Kazakhstan** and **Russian Federation** declined between 1998 and 2000 (Milner-Gulland *et al.,* 2001, Table 3). By 2002, the global population was estimated at 50,000 individuals, 5% of its size 10 years previously (Sharp, 2002; in: Milner-Gulland *et al.,* 2003), and by 2003, the global population estimate had further declined to c. 36,000 animals (IUCN, 2004; in: Kholodova *et al.,* 2006). It should be noted that these estimates may include the taxon that is now recognised by CITES as *Saiga borealis*.

Whilst *S. tatarica* populations are known to be affected by climatic variability and disease (Bekenov *et al.,* 1998), the most likely explanation for the dramatic decline was reported to be severe and ongoing poaching pressure (Milner-Gulland *et al.,* 2001; 2003). Reproductive ecology and herd behaviour were found to have changed fundamentally since the recent sharp decline in *S. tatarica* numbers (Kühl, 2008; Kühl *et al.,* 2009b). The reproductive collapse was thought to have been caused by a catastrophic drop in the number of adult males, probably due to selective poaching for their horns (Milner-Gulland *et al.,* 2001; Milner-Gulland *et al.,* 2003; Fry, 2004).

Table 3. Population estimates for *Saiga tatarica* 1980-2000. Source: Milner-Gulland *et al.* (2001).

	Russian Federation		Kazakhstan		
Year	**Kalmykia**	**Ural**	**Ustiurt**	**Betpak-dala**	**Total**
1980	380,000	120,000	170,000	400,000	1,070,000
1981	430,000	160,000	190,000	470,000	1,251,000
1982	385,000	180,000	190,000	480,000	1,236,000
1983	280,000	150,000	180,000	440,000	1,050,000
1984	265,000	40,000	190,000	340,000	835,000
1985	222,000	50,000	190,000	400,000	862,000
1986	200,000	70,000	150,000	250,000	670,000
1987	143,000	100,000	140,000	300,000	683,000
1988	157,000	90,000	207,000	368,000	824,000
1989	150,000	135,000	265,000	323,000	873,000
1990	160,000	138,000	202,000	361,000	861,000
1991	168,000	236,000	232,000	357,000	993,000
1992	152,000	298,000	254,000	375,000	1,079,000
1993	148,000	250,000	216,000	510,000	1,124,000
1994	142,000	274,000	254,000	282,000	952,000
1995	220,000	-	-	212,000	-
1996	196,000	-	214,000	248,000	-
1997	259,000	-	-	-	-
1998	150,000	104,000	246,000	120,000	620,000
1999	55,000	84,000	200,000	64,000	403,000
2000	26,000	17,500	116,000	15,000	178,000

Kazakhstan: The greatest population declines 1980-2000 were observed in the Betpak-dala population (Milner-Gulland *et al.,* 2001, Table 3), an area of high human population where *S. tatarica* is accessible to humans, and hunting for meat and for sale in provincial towns is a key component of many people's livelihoods (Robinson, 2000 in: Milner-Gulland *et al.*, 2001).

In national reports submitted to the Convention on Migratory Species (CMS, 2006a, CITES CoP14 Doc.56 Annex 5), it was indicated that the previous severe decline in the global *S. tatarica* population had stabilised since 2002, with an increasing population of c. 40,000 in Kazakhstan.

The Management Authority of Kazakhstan reported that "counts of Saiga antelopes in 2005 showed a population of 39,616 animals and that the prognosis for 2006 was 45,000 to 50,000 animals, corresponding to an annual increase of 10 to 15%." (SC54 Doc. 29).

Aerial counts carried out in April 2009 gave an estimated total population of 81,000 in Kazakhstan: 45,200 in Betpak-dala; 9,200 in Ustiurt; and 26,600 in Ural (Saiga Conservation Alliance, 2009b). In comparison with the previous year, the number and range of the Betpak-dala and Ural sub-populations was reported to have increased, while the numbers of the Ustiurt sub-population were reported to have remained constant (Saiga Conservation Alliance, 2009b). Michael Brombacher and Dr. Sergey Sklyarenko (*in litt.* 23 December 2009) noted that the conservation situation with the species generally is good and numbers are increasing, at least for the main population of Betpak-dala.

Russian Federation: In 2004, there were estimated to be fewer than 18,000 animals in Kalmykia (Bukreeva, 2005; Mallon, 2008).

In national reports submitted to the Convention on Migratory Species (CMS, 2006a, CITES CoP14 Doc.56 Annex 5), it was reported that *S. tatarica* in the Russian Federation had a stable population of 15-20,000.

However, regarding population estimates in both **Kazakhstan** and the **Russian Federation**, it was noted that:

> "The extensive area of distribution, large differences between seasonal ranges, the Saiga's nomadic way of life, and natural population fluctuations make accurate population estimates difficult to obtain and obscure population trends. The effective population size is in all cases smaller than quoted figures due to skewed sex ratios resulting from overhunting of males for their horns. Some recent estimates indicate encouraging increases but the extent to which these reflect real population growth, or sampling bias caused by changes in census methodology or in underlying Saiga distribution and behaviour is currently not clear" (CMS, 2006a, CITES CoP14 Doc.56 Annex 5).

McConville *et al.* (2008) noted that as current survey methods (aerial surveys) only provide an annual population estimate, with no measure of uncertainty, there may be problems interpreting *S. tatarica* population trends, hence limiting range States' ability to monitor progress towards the conservation goals agreed in the MoU of the CMS. They found that where there is low population density and small group sizes, population estimates may substantially underestimate true population size and be less precise (McConville *et al.*, 2008).

iv) Threats:

The major threats to *S. tatarica* populations were reported to be uncontrolled illegal hunting for horns and meat (Bekenov *et al.*, 1998; Milner-Gulland *et al.*, 2003; Abaturov, 2007; Mallon, 2008), as well as destruction of key habitats and traditional migration routes, and a recent increase in steppe fires (Abaturov, 2007; Mallon, 2008). Agricultural abandonment was reported to be a problem in some areas, as cattle-grazing had formerly maintained the grass species preferred by *S. tatarica*, which are now being replaced by less palatable species (Mallon, 2008). Severe winters were also reported to cause mass mortality in some years (Bekenov *et al.*, 1998; Mallon, 2008).

Horns of adult males have long been valued in Traditional Chinese Medicine, which has led to heavy poaching (Bekenov *et al.*, 1998; Milner-Gulland *et al.*, 2001; 2003; Kang, 2005; Li *et al.*, 2007). Recent political changes have also led to economic hardship in *S. tatarica* range States, together with a reduction in funding and infrastructure for *S. tatarica* management (Milner-Gulland *et al.*, 2001; Robinson and Milner-Gulland, 2003; Kühl *et al.*, 2009a).

In a study of *S. tatarica* poaching behaviour in rural communities of the **Russian Federation**, **Kazakhstan** and Uzbekistan, Kühl *et al.* (2009a) provided the following information on use of *S. tatarica* products:

> "Most Saiga hunting was reportedly aimed towards the sale of horns rather than the sale of meat or subsistence provision […]. Males are more than twice as valuable as a Saiga female due to the sexual dimorphism of the species, but primarily because of the horn (assuming that the average horn weighs 125 g) (Li *et al.,* 2007). Almost all horns were reportedly sold for export. […] However, meat was also actively traded within villages […] Numerous respondents suggested that meat demand had increased in the last few years. In the pre-Caspian, Saiga meat was referred to as 'the meat of the poor' who could not afford more expensive meat from domestic animals."

Kühl *et al.* (2009a) found that poaching was not a common livelihood activity 2003–2006, with only a small proportion of a village generally involved on a regular basis. However, there were considerable differences between regions depending on *S. tatarica* migratory behaviour and range size.

Kazakhstan: In their national report to the CMS, Kazakhstan reported that hunting for meat and horns were the main threats to *S. tatarica*, which they classified as medium level threats (CMS, 2006a).

Robinson and Milner-Gulland (2003) reported that in Kazakhstan, the collapse of the state led to the end of hunting controls and increased poverty, leading to widespread poaching and dramatic declines in *S. tatarica* populations.

Kühl *et al.* (2009a) found that in the Betpak-dala *S. tatarica* population, where *S. tatarica* densities have reportedly been low since 2002, the Ulanbel community had ceased regular poaching activity. In the Ustiurt *S. tatarica* population, where until very recently *S. tatarica* populations had been relatively high, a small number of the Bosoi community were found to practice organised commercial hunting (Kühl *et al.,* 2009a). Whilst poaching was generally found to be an unpopular livelihood activity linked directly to poverty and unemployment, in Bosoi, an exceptionally organised group of nine regular poachers were reported to derive at least two-thirds of their household income from wildlife poaching (Kühl *et al.,* 2009a).

Russian Federation: In their national report to the CMS, the Russian Federation listed predation as a very high level threat and climate and fragmentation as high level threats, with other factors regarded as medium or low level threats (CMS, 2006a).

Kühl *et al.* (2009a) found that in the pre-Caspian *S. tatarica* population, where *S. tatarica* have a small migratory range and there are few economic barriers to poaching, villagers practised predominately small-scale subsistence hunting.

D. Management of and trade in the species

i) Trade levels:

Kazakhstan: All reported trade in *S. tatarica* from Kazakhstan between 1998 and 2003 involved wild-sourced specimens (Table 4), with horns and horn products traded for commercial purposes, and bones, teeth and specimens traded for scientific purposes. Trophies were imported as either hunting trophies (purpose 'H') or as personal possessions (purpose 'P'). No trade was reported 2004-2008.

Some re-exports of specimens originating in Kazakhstan were reported via a third party over the period 1998- 2005 (Annex 1).

No export quotas have ever been published for this species/country combination.

"Hunting for meat" and "hunting for horns/trade" were listed as the main threats to *S. tatarica* in Kazakhstan's National report for the *S. tatarica* MoU and Action Plan (Bekenov and Grachev, 2006), however, there was no reported international trade in meat from Kazakhstan 1998-2007.

Russian Federation: Trade reported from the Russian Federation was low over the period 1998-2008 (Table 5), and none of the trade was for commercial purposes. Live animals were exported for zoos, circuses and travelling exhibitions, captive-breeding and scientific purposes, hunting trophies and personal possessions. No trade was reported 2005-2008. Prior to this, levels of trade were higher, for example, in 1996, the Russian Federation reported the export of 5,400 kg of wild-sourced horns as commercial trade.

Some specimens originating in Russian Federation were reported as re-exports via a third party over the period 1998- 2008. These were mostly pre-Convention specimens (Annex 1), all of which were reported for commercial purposes.

No export quotas have ever been published for this species/country combination.

Table 4. Direct trade in *Saiga tatarica* from *Kazakhstan, 1998-2008.
(CITES suspension has been in place since 10 April 2001, amended on 22 January 2007 to exempt the export of live specimens from breeding facilities for conservation purposes)

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	*2004	2005	2006	2007	*2008	Total
Saiga tatarica	W	bones	Importers	30											30
			Exporter												
		horns (kg)	Importers					3000							3000
			Exporter				19000		7500						26500
		specimens (ml)	Importers	6000											6000
			Exporter												
		teeth	Importers	2000											2000
			Exporter												
		trophies	Importers	1	1										2
			Exporter												

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database
*Kazakhstan did not submit a 2004 or 2008 annual report to CITES.

Table 5. Direct trade in *Saiga tatarica* originating in the Russian Federation.
(CITES suspension has been in place since 10 April 2001, amended on 22 January 2007 to exempt the export of live specimens from breeding facilities for conservation purposes)

Taxon	Source	Term	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	*2006	2007	*2008	Total
Saiga tatarica	F	live	Importers							2					2
			Exporter						2						2
	O	skeletons	Importers												
			Exporter	4											4
	W	horn carvings	Importers							1					1
			Exporter												
		horns	Importers												
			Exporter			2									2
		live	Importers		40										40
			Exporter		40		26								66
		specimens	Importers		30										30
			Exporter	30			26								56
		trophies	Importers			1		1							2
			Exporter		2										2

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database.
* The Russian Federation has not yet submitted a 2006 or 2008 annual report to CITES.

The e-bulletin *Saiga News* listed many examples of poaching and international smuggling of *S. tatarica* horns (e.g. Saiga Conservation Alliance, 2009a-g). For example, it was reported that:

> "In total 165 Saiga horns were detained at the Harbin customs area in 2006-2007, according to documents presented by Chinese customs officers at a Russian-Chinese customs meeting on the problems of smuggling of wild animal and plant species on 16 October 2007. These are relatively small volumes in comparison with those detained at customs in Xinjiang-Uigur autonomous district (Chinese-Kazakh border and Chinese-Kyrghyz border). The counter-smuggling department of the customs office in Urumqi confiscated 5,386 kg of Saiga horns from 1999 to 2007. The largest batch of horns confiscated was at the Kazakh border on 26 November 2001, and constituted 1,793 kg of smuggled Saiga horns (approximately 4,482 individuals)" (Saiga Conservation Alliance, 2009c).

TRAFFIC highlighted eleven instances of seizures involving *S. tatarica* between 1997 and 2009 (TRAFFIC, 2009). These included the following seizure in 2007, specifically relating to populations of the **Russian Federation**:

> "On 18 January 2007, at the Kharol settlement in Primorsky Kray, police stopped a car and seized an amount of animal derivatives prepared for illegal transportation through the Russian–Chinese border. These included: 531 horns of Saiga Antelope *Saiga tatarica* (CITES II)... The case was prosecuted and all commodities and the car were confiscated."

A 2006 report by the CMS Secretariat stated that "A recent seizure of 36 [*S. tatarica*] horns provides some evidence that Mongolia is becoming a transit route for the illegal horn trade from **Kazakhstan**. Two or three people poaching on the Mongolian population were caught in 2005" (CMS, 2006a). Illegal smuggling of *S. tatarica* horns through Mongolia was also reported by TRAFFIC (2009).

A survey of 195 pharmacies in four provinces of China showed that every province surveyed had pharmacies selling *S. tatarica* horn or its derivatives, with >50% of pharmacies sampled selling *S. tatarica* horn and/or its derivates in three of the four provinces surveyed (Li *et al.,* 2007). No legal exports of *S. tatarica* horn and its derivates have been permitted by the range States since 2004, and China has had no wild *S. tatarica* since the 1960s, so possible sources of these horns are farmed animals, stockpiles imported before 2004, and illegal imports (Li *et al.,* 2007). Li *et al.* (2007) found evidence of illegal trade from both the **Russian Federation** and **Kazakhstan,** although cross border trade was generally reported to be lower in the last few years due to enhanced enforcement of measures to tackle illegal wildlife trade and engagement of CITES (although much of the trade may have been pushed underground).

RSPB (2009) stated that "In 2008, the Association for the Conservation of Biodiversity in Kazakhstan established two mobile anti-poaching units, to complement the Kazakhstan government's anti-poaching efforts across the vast Kazakh steppes. Recently, the aerial anti-poaching unit spotted a poacher trying to evade arrest on a motorbike with five dead Saiga antelope. He was caught and the video footage of his attempted escape and capture will provide vital evidence in the forthcoming trial. Arrests are being made, but the number of poachers being caught is rising. So far this

year the 12 Government + 2 ACBK anti-poaching units have discovered 17 cases of poaching, compared with eight in all of 2008".

ii) Legal protection and management:

The density of protected areas throughout the arid zones of Eurasia is low (Kühl, 2008). Some protected areas exist within *S. tatarica*'s range, but the distance between summer and winter ranges of the various populations hinders full protected area coverage (Mallon, 2008).

Several authors suggested that management should focus more on understanding the dynamics of *S. tatarica* populations (Gordon *et al.*, 2004; Abaturov, 2007), strengthening anti-poaching measures at a national level (Milner-Gulland *et al.*, 2001; Mallon, 2008), and addressing the underlying socio-economic issues in rural communities which contribute to poaching (Kühl *et al.*, 2009).

Both **Kazakhstan** and the **Russian Federation** have signed the Memorandum of Understanding (MoU) under the Convention on Migratory Species (CMS), concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope. The MoU came into effect in 2006 and signatories endorsed a Medium Term International Work Programme (2007-2011) to support implementation of the MoU and Action Plan, with the long-term vision "To restore Saiga populations to the point that sustainable use can again be envisioned" and the overall goal "To halt, and where possible reverse, the decline of Saiga populations in the next 5 years" (CMS, 2006b).

The Medium Term International Work Programme (2007-2011) included goals to encourage **Kazakhstan** and the **Russian Federation** to undertake action to comply with CITES recommendations and to enact and implement adequate CITES legislation; carry out annual population counts and monitoring of *S. tatarica* populations; and to expand and enhance the national protected area networks, with emphasis on protecting key areas (birthing and rutting) and migratory corridors (CMS, 2006b).

In a recent summary report on progress towards the CMS MoU over the period November 2008-June 2009, Milner-Gulland (2009) reported that:

> "There has been good progress for Saiga conservation in this reporting period […] There are many ongoing activities in the field of public awareness in all the range states and in China, and some progress is also being made on Saiga monitoring, although more investment is required if we are properly to evaluate the achievement of the goal of the MTWP [Medium Term Work Programme] (stable or increasing populations within five years). […] However, the indications are that the status of all populations except Ustiurt is favourable, suggesting that Ustiurt should be a high priority focus for urgent conservation action.
>
> Important information about the status of the little-studied Ural population in **Kazakhstan** has been published, suggesting that the population is doing well. Anti-poaching efforts have been ramped up in all the range states, as evidenced by the successful detection and prosecution of Saiga poachers in the last few months, which will hopefully have a deterrent effect in the future."

Kazakhstan: *S. tatarica* is legally protected in all its range countries, including Kazakhstan, with no licences issued for hunting since 2004 (Li *et al.,* 2007). However, existing laws need better enforcement (CMS, 2006a; Mallon, 2008).

In 2006, Kazakhstan signed the Memorandum of Understanding (MoU) under the Convention on Migratory Species (CMS), concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*) (CMS, 2006b).

In document SC54 Doc. 29, it was noted that "Kazakhstan reported that the preservation of the Saiga antelope had become a national priority. The Committee on Forestry and Hunting of the Ministry of Agriculture has developed a programme for preserving the Saiga antelope covering 2005 to 2007, which was adopted by the Government in March 2005. The protection measures, scientific work and monitoring of Saiga antelopes provided for in the programme have been financed from the State's budget. Penalties for illegal trade in Saiga antelope parts and derivatives have been strengthened. Since September 2005 and until 2011, the harvesting or capture of Saiga antelopes from the wild, as well as the collection, purchase or selling of its horns and other products has been prohibited, with the exception of harvesting or capture for purely scientific purposes. The cooperation between the Committee and Customs and boundary control services has been enhanced to improve controls at international airports, railway stations and seaports, and to close any channels of illegal import to or export from Kazakhstan. Stocks of horns of Saiga antelope for export were reported not to exist at present."

Michael Brombacher and Dr. Sergey Sklyarenko (*in litt.* 23 December 2009) noted that the government's ungulate species conservation included protected area development and anti-poaching measures, and that enforcment of this programme generally is good.

The programme is supported by the Altyn Dala Conservation Initiative (ADCI), a programme to conserve steppe and semi-desert ecosystems and their key species in Central Kazakhstan. This initiative is a partnership of various organisation including the Committee of Forestry and Hunting of the Ministry of Agriculture of the Republic of Kazakhstan and the Ministry of Environment Protection of the Republic of Kazakhstan. ADCI focuses on an area of about 55 million hectare, which includes the range of the Betpak Dala population of the migrating Saiga Antelope (Michael Brombacher and Dr. Sergey Sklyarenko, *in litt.* 23 December 2009).

The main objectives of ADCI are:

- To establish a network of protected areas and corridors to conserve the migration routes and habitats of Saiga and other target species.
- To address the main threats to the future viability of the Betpak Dala population of Saiga as well as other target species and their habitats including poaching and habitat conversion and fragmentation.
- To identify and put in place key enabling conditions such as the genuine involvement of local communities and other relevant stakeholders, as well as ensuring tangible contributions to peoples livelihoods and rural development.
- To raise awareness and understanding for steppe and Saiga conservation nationally and internationally.

- To gather baseline understanding of the Kazakh steppe and semi-desert ecosystems and their species in order to inform the planning and implementation of this conservation measures.

(Michael Brombacher and Dr. Sergey Sklyarenko, *in litt.* 23 December 2009)

In October and November 2009, 20 Saiga antelopes were captured and released with GPS-satellite tags to monitor their migration (RSPB, 2009).

Russian Federation: *S. tatarica* is legally protected in all its range countries, including the Russian Federation, with no licences issued for hunting since 2004 (Li *et al.*, 2007). However, existing laws need better enforcement (CMS, 2006a; Mallon, 2008).

The Russian Federation signed the CMS MoU concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*) in June 2009 (CMS, 2009; Saiga Conservation Alliance, 2009h).

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Falco cherrug (JE Gray, 1834): Armenia, Bahrain, Iraq, Mauritania and Tajikistan

A. Summary

The recommendation to suspend trade was formed because Armenia, Bahrain, Iraq, Mauritania and Tajikistan did not provide information to confirm that exports of *F. cherrug* were not permitted, or, if this was not the case, to provide: justification for and details of the basis of making non-detriment findings; information on the distribution and conservation status of *F. cherrug*; and information on the number of captive-breeding operations for *F. cherrug* in the country and the controls in place to differentiate between captive-bred and wild-caught specimens.

Armenia: *F. cherrug* is rare in Armenia, though it may possibly breed. Its distribution, population and population trends are poorly known, and hunting and human persecution were reported as threats in the country. However, Armenia became Party to CITES in 2009, harvest, trade and captive breeding are legally prohibited, and no trade has ever been reported from the country. Therefore, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant.

Bahrain: The species is a scarce passage-migrant in Bahrain with no recent records in the country. Bahrain is not a Party to CITES, although some trade from Bahrain, mostly involving captive-bred birds as personal possessions, has been reported by importers. As information on the basis for making non-detriment findings and information on captive-breeding operations have not been made available, it is not possible to assess the impact of the trade on the populations of the species, and the concerns that led to the original suspension have not been addressed.

Iraq: A small population of *F. cherrug* breeds in Iraq, and it is also a rare passage migrant and winter visitor. *F. cherrug* is regularly monitored and although the status of the species is unclear, surveys over the last five years suggest there has been a decline. Illegal harvesting and trade, including for illegal export, have been reported. Iraq is not a Party to CITES, and no imports have been reported by Parties to CITES.

Information on the basis for making non-detriment findings and on captive-breeding operations has not been made available. However, given that no exports are permitted and no trade has been reported from the country, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant. However, illegal trade remains a threat.

Mauritania: The country is significantly further west than the main range of *F. cherrug*, and the species only occurs as a visitor in very small numbers or as a vagrant. The Management and Scientific Authority of CITES of Mauritania stated that: *F. cherrug* has never been the subject of any trade in Mauritania and referred to the revised law on the Code of Hunting. The only trade reported was in five live captive bred birds that were moved out of and back into Mauritania for personal purposes in 2002.

Information on the basis for making non-detriment findings and on captive-breeding operations has not been made available. However, given the species is a vagrant, trade is not permitted, no wild trade has ever been reported and no trade at all has been reported since 2002, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant.

Tajikistan: *F. cherrug* is widespread but sparsely distributed in Tajikistan. Although many birds occur on passage in the country, the breeding population is thought to be very small. Illegal trapping for falconry was reported to be a threat.

F. cherrug is included in Tajikistan's Red Data Book and is therefore legally protected. Tajikistan is not a Party to CITES. Importers have reported low level seizures of birds from Tajikistan, and some re-exports. No trade has been reported by importers since 2003.

Information on the basis for making non-detriment findings and information on captive-breeding operations have not been made available. However, as the species is apparently protected, and no trade has been reported since 2003 (i.e. including several years prior to the suspension), the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant. However, illegal trade remains a threat.

B. Background

Falco cherrug was listed in CITES Appendix II on 28 June 1979. Import suspensions for the species have been in place for **Armenia, Bahrain** (a non-party)**, Iraq** (a non-party)**, Mauritania** and **Tajikistan** (a non-party) since 22 January 2007.

Selection of the species and reasons for selection:
At the 19th Meeting of the Animals Committee (Geneva, Switzerland, 2003), a detailed review of *Falco cherrug* prepared by the Environmental Research and Wildlife Development Agency (ERWDA) was presented by the United Arab Emirates (UAE) (the final version is contained within document AC20 Doc. 8.1, Annex 2). It noted that "Trade in the species has increased and there are serious concerns about the species' status in the wild. [….] The UAE found that fewer than 10% of saker falcons have proper CITES permits. Many countries have established quotas without any attention to the status of the species' populations in the wild" (AC19 WG8 Doc. 1). The UAE requested the Committee review *F. cherrug* in compliance with Resolution Conf. 12.8, paragraph c) (AC19 Summary Report).

The Working Group of the Animals Committee (AC19 Summary report) agreed by consensus:

a) "This is a serious conservation issue, and should be addressed as a matter of urgency.
b) As per Resolution Conf. 12.8 paragraph c), this species should go forward as an exceptional case and enter the Significant Trade Review process immediately.
c) This is an issue both of illegal trade and of Article IV/non-detriment findings, and as such it both belongs in the Significant Trade Review, and should be dealt with as regards illegal trade.
d) The issue should go forward, through the AC Chairman and the Secretariat, to the Standing Committee."

Concerns of the Animals Committee and their recommendations:
Following AC19, range States that have breeding populations were contacted by the Secretariat regarding the status of the implementation of Article IV for the exportation of specimens of *F. cherrug*, and asked to comment upon the report of the UAE that had been the basis for the selection of the species by the Animals Committee. Range States had 60 days to reply. By 13th February 2004, comments had been received from the Czech Republic, Ethiopia, Hungary, Israel, Malta, Tunisia and the United Arab Emirates. These responses were available

to the Working Group at the 20th Meeting of the Animals Committee (Johannesburg, South Africa, 2004) (AC20 Doc 8.1, Annex 1).

At the 20th Meeting the Animals Committee, range States were identified where the species could be eliminated from the review in compliance with paragraph f) of the Resolution. It was agreed that the Animals Committee should refer all the range States that have not responded to the initial information request for further action by the Secretariat in accordance with paragraph g) of Resolution Conf. 12.8. The Working Group also agreed that none of the Parties that sent in responses should be kept in the process.

Following the meeting and in accordance with paragraphs g) to j), the Secretariat provisionally categorized the species and transmitted this to the relevant range States.

At the 21st Meeting of the Animals Committee (Geneva, Switzerland, 2005), in compliance with paragraphs k) to o) of Resolution Conf. 12.8 (Rev. CoP13), the Animals Committee was invited to review the preliminary categorization proposed by the Secretariat (as presented in document AC 21 Doc. 10.1.1), eliminate range States where the species was of least concern, and formulate, in consultation with the Secretariat, recommendations for the remaining ones.

The species was categorized as 'of possible concern' for 26 range States, including **Armenia**, **Bahrain**, **Iraq**, **Mauritania** and **Tajikistan** (document AC 21 Summary record; Notification No. 2006/061 of 14 November 2006**).** The recommendations for 'Species of possible concern' were (Notification No. 2006/061):

"Within three months (by November 2005)
Provide detailed information to the Secretariat on the following:
a) Confirmation that no exports of *F. cherrug* are permitted, or, if this is not the case:
b) Provide justification for and details of the scientific basis by which, it has been established that the quantities of *F. cherrug* exported were not detrimental to the survival of the species and in compliance with Article IV, paragraphs 2(a) and 3;
c) Provide information on the distribution and conservation status of *F. cherrug*, explaining when the status was established and by what methodology the information was obtained; and
d) Provide information on the number of captive-breeding operations for *F. cherrug* in the country and the controls in place to differentiate between captive-bred and wild-caught specimens to ensure that the authorized exports of specimens of wild origin are not augmented by falsely declared 'captive-bred' specimens."

Parties were also requested to inform the Secretariat if an export permit for specimens of *F. cherrug* from one of these countries was presented to them.

Responses of the range States concerned:
The recommendations above were sent to **Armenia**, **Bahrain**, **Iraq**, **Mauritania** and **Tajikistan** on 16 and 17 August 2005 (SC54 Doc. 42). No information was received by the Secretariat from these countries (54th Meeting of the Standing Committee, Geneva, Switzerland, 2006, SC54 Doc. 42)

Subsequent actions/recommendations of the Standing Committee:
At the 54th Meeting of the Standing Committee (Geneva, Switzerland, October 2006, SC54 Doc. 42), the Secretariat, in consultation with the Chairman of the Animals Committee, determined

that range States **Armenia, Bahrain, Iraq, Mauritania** and **Tajikistan** had not implemented the recommendations for *F. cherrug*.

The Secretariat noted, however, that deadlines for responding were relatively short, that exports of wild specimens of *F. cherrug* from these range States have been very low or nonexistent, and that **Bahrain** and **Tajikistan** are not Party to CITES. Consequently, the Secretariat proposed that the Standing Committee recommend that all Parties suspend trade in *F. cherrug* from the range States mentioned above with effect from 1 January 2007 if they have not provided the Secretariat with information regarding their implementation of the recommendations by that date (SC54 Doc. 42). This recommendation was adopted by the Committee (SC54 Summary record).

Responses of the range States concerned:
The Secretariat had not received the requested information from **Armenia, Bahrain, Iraq, Mauritania** and **Tajikistan** by 1 January 2007, 55th Meeting of the Standing Committee (The Hague, Netherlands, 2007,) (SC55 Doc. 17).

Subsequent actions:
The Secretariat issued Notification to the Parties No. 2007/04 of 22 January 2007, conveying the Standing Committee's recommendation to all Parties to suspend imports of specimens of *F. cherrug* from **Armenia, Bahrain, Iraq, Mauritania** and **Tajikistan.**

C. Species characteristics

i) Biology:
The Saker falcon *F. cherrug* is a large, powerful falcon that inhabits open dry country with cliffs or scattered tall trees and, in the breeding season, a good supply of small rodents. It especially favours forest-steppe, steppe, sub-desert, plains and grassland, often in remote hilly areas (Ferguson-Lees and Christie, 2001).

F. cherrug predominantly preys on small to medium-sized diurnal rodents and sousliks (*Spermophilus* spp.). Birds, and to a lesser extent reptiles and insects, also feature in its diet (Middle East Falcon Research Group, MEFRG, 2009).

F. cherrug nests on cliffs, trees, human artefacts, such as electricity pylons and buildings, and occasionally on the ground. It is territorial, defending exclusive nesting areas, which are often reoccupied in consecutive years. The breeding season begins with egg laying in March or April, and the typical clutch size is usually four or five eggs. *F. cherrug* can breed at two years old, but many birds may not be able to establish themselves in a breeding territory until they are several years older (MEFRG, 2009).

F. cherrug is a partial migrant; virtually the entire population (except the southernmost) leaves breeding areas in September-October to winter further south (Ferguson-Lees and Christie, 2001).

ii) Current distribution:
F. cherrug occurs in a wide range across the Palearctic region from eastern Europe to western China (BirdLife International, 2009a). Almost all Sakers, except for those in the most southern parts of the breeding range, winter in the Middle East and north-east Africa south to Kenya, with a few west to Tunisia, and in southern parts of Asian breeding range, extending to Pakistan north-west India, Nepal and central China (Ferguson-Lees and Christie, 2001).

According to Barton (2002), the historical range of *F. cherrug* has been reduced and fragmented, and is shrinking. It has been reduced to two populations: the western-central European and Siberian-Mongolian populations. East Ukraine, Central Kazakhstan and Chinese populations have disappeared or are severely exploited, while the most rapid declines have been in European and Kazakhstan populations (Barton, 2002).

Armenia: The current distribution is rather poorly known. *F. cherrug* was thought to occur in the north, north-east, south and central parts of the country (Adamian and Klem, 1997; Luba Balyan *in litt.* 21 October 2009). Adamian and Klem (1999) described its occurrence in the north-east at Gilli Marsh, and from Lake Kari south to Ooranots place, and further south along the Araks River near Meghri, but it is not known whether this is the species' current or historical range.

Bahrain: *F. cherrug* is considered to be a scarce passage migrant (Anon., 2006a; Nightingale and Hill, 1993).

Iraq: Omar Fadil (*in litt.* 21 October 2009) reported that recent Nature Iraq surveys indicated a few pairs still had breeding activity at some middle elevation locations in the east and north-west in steppe desert. Between early October and late February, the species disperses widely over Iraqi open steppes and Badeya, and in December birds of the wintering race wander over eastern open arid lands (O. Fadil *in litt.* 21 October 2009).

Mauritania: This country is significantly further west than the main winter or passage migrant range of *F. cherrug* (BirdLife International, 2009a; Ferguson-Lees and Christie, 2001). The species occurs in very small numbers or is a vagrant (BirdLife International, 2009a; Ferguson-Lees and Christie, 2001).

Tajikistan: The current distribution of *F. cherrug* is unknown. Eugene Potapov (*in litt.* 28 October 2009) reported that no surveys for the species had been carried out in Tajikistan.

The Middle East Falcon Research Group (2009) described the species as widely, but sparsely distributed across the country. BirdLife International (2009b) reported that *F. cherrug* occured at all 18 of BirdLife's Important Bird Areas in Tajikistan: resident at 10 sites, breeding at six sites, as well as wintering (one site) and on passage (one site), based on information dated 2000-2005. However, E. Potapov (*in litt.* 28 October 2009) pointed out that according to the old literature (Abdusalyamov, 1964, 1971; Ivanov, 1940; Potapov, 1959, 1966), *F. cherrug* had never been recorded as 'widespread' in Tajikistan and this had been his own experience.

Recent observations indicated that *F. cherrug* currently has a very restricted breeding range in the country. E. Potapov (*in litt.* 28 October 2009) reported that Askar Isabekov who started the Birds of Tajikistan project (Isabekov, undated), surveying and documenting birds in the country, recently checked the Varzob valley, Tavildara, Takob, Muminobad, Nurek, Lower Pyadj, Karatag valley, Khodja-obi-garm, Baldjuvon, Muminobad, Iskanderkul, Zeravshan, Iskander-darja valley, Khanaka, Vakhsh -stretch from Nurek to Baypaza, Hovaling, Baddzuvon, Romit valley, Khatalon district, Chilu Chor Chamsha in the breeding season. Isabekov did not record any *F. cherrug* in these places. Raffael Ayé (*in litt.*, 26 October 2009) reported that he had only recorded *F. cherrug* twice in the last three years in Tajikistan.

iii) Population status and trends:

F. cherrug was listed as Endangered in the 2009 IUCN Red List. It qualified as Endangered because it had undergone a very rapid population decline, particularly in the central Asian breeding ground (BirdLife International, 2009a).

Armenia: In his overview of *F. cherrug* breeding estimates in Europe, V. Ananian (in Dixon, 2007) reported that possibly the species may breed in western Armenia near the border with Turkey, where there are more or less suitable habitats and a good population of sousliks.

According to Adamian and Klem (1999), between 1977 and 1995, the species was regularly seen in all seasons of the year, although nesting was not confirmed. However, the Armenian Society for the Protection of Birds noted that the species had only been recorded as single individuals and considered it to be extremely rare (L. Balyan *in litt.* 21 October 2009).

Over the last decade, sightings of the species have been less frequent and mostly during autumn/winter. However, overall, data on the species are very sparse and not sufficient to provide a trend estimate, according to the Armenian Society for the Protection of Birds (L. Balyan *in litt.* 21 October 2009).

Bahrain: Nightingale and Hill (1993) described *F. cherrug* as a scarce passage migrant, although their coverage was chiefly up to 1989. Hirschfeld (1995) gave no records of the species in his detailed study of bird migration patterns in Bahrain, 1990-1992. *F. cherrug* was listed as a passage migrant in the 2006 systematic list of birds in Bahrain (Anon., 2006a). However, Howard King (*in litt.*, 10 October 2009) stated that only very old records of wild *F. cherrug* sightings dating back to 1971 were available. Although there have been numerous *F. cherrug* sightings since, these have always turned out to be falconers' birds, according to H. King (*in litt*. 10 October 2009).

Iraq: In his review of *F. cherrug* breeding population estimates in Asia, Dixon (2009) estimated a current breeding population of 0-50 pairs, based on guesswork. The only recent records were those provided by Nature Iraq surveys, which have been carried out over the last five years and indicate very small numbers. These surveys indicated that a few pairs still breed and it is also a rare winter visitor and passage migrant (O. Fadil *in litt*., 21 October 2009). Richard Porter (*in litt.* 9 October 2009) considered the species' current status in the country to be unclear.

ERWDA (2003) reported a population estimate of 60 pairs. Dixon (2009) considered the most recent 15 year trend in population to be unknown. However, R. Porter (*in litt.* 9 October 2009) pointed out that Nature Iraq bird surveys carried out over the last five years suggested there had been a serious decline. Nature Iraq reported the species was formerly a common resident breeder and winter visitor, but their surveys indicated that it is now rare (O. Fadil, *in litt.* 21 October 2009).

Mauritania: *F. cherrug* occurs in very small numbers or is a vagrant (BirdLife International, 2009a; Ferguson-Lees and Christie, 2001). It was reported as a rare visitor by Lamarche (1988), mainly on passage in September and October on the coast and inland. The species was also listed as a winter (non-breeding) visitor in the 2007 African Bird Club checklist of the birds of Mauritania (Dowsett, 2007).

Tajikistan: At the 1998 Falcon and Houbara Conference, Dr Rustam Mouratov reported that 26 pairs of *F. cherrug* breed and at least 100 birds migrate through the north in autumn (Fox, 1999). Dixon (2009) gave a range of 10-100 breeding pairs, which he described as a guess.

In their Important Bird Area accounts, BirdLife International (2009b) reported 24-79 birds present in the breeding season in Tajikistan, based on records dated 2000-2005. However when researching the data on the species in 2003, E. Potapov (*in litt.* 28 October 2009) could only find documented information on four nests, although there were numerous records of birds on migration. Safarov (2003) gave just two breeding locations of *F. cherrug*. R. Ayé (*in litt.* 26 October 2009) considered the species to be currently very rare in the country. E. Potapov (*in litt.* 28 October 2009) reported that there was not enough suitable habitat in Tajikistan to support a good population of the species.

iv) Threats:

According to BirdLife International (2009a), in Europe *F. cherrug* "has suffered mainly from the loss and degradation of steppes and dry grasslands through agricultural intensification, plantation establishment and declines in sheep pastoralism, causing a decline in prey species; offtake for falconry is also a problem which has caused local extinctions […]. Elsewhere declines are mainly attributable to offtake for falconry, although human persecution, pesticide use and agrochemical deployment play a lesser part" (BirdLife International, 2009a).

Estimates of *F. cherrug* trapped annually for Middle East falconers were given by ERWDA (2003): 4,000 in Saudi Arabia, 1,000 in Qatar, and 500-1,000 in each of **Bahrain**, Kuwait, and United Arab Emirates. Allowing for a 5% mortality factor, the above figures indicate a total of 6,825-8,400 *F. cherrug* trapped from the wild each year (ERWDA, 2003). Dixon (2009) considered there to be no reliable data on the number of wild *F. cherrug* used each year, but that the figure was likely to fall within the range of estimates produced previously of 1,500-8,400 birds. The number trapped in the wild is likely to be 5-10% higher because mortality rates are high as birds are smuggled across international borders (Dixon, 2009).

Armenia: The Armenian Society for the Protection of Birds reported the predominant threat to be hunting and human persecution for taxidermy purposes, and for possible sale to falconers. Another potential factor causing decline was reported to be pesticide use in central parts of the country (L. Balyan *in litt.* 21 October 2009). Adamian and Klem (1999) reported that the use of poisoned bait to control rodent populations was implicated in poisoning *F. cherrug*.

Bahrain: *F. cherrug* is the most commonly used species in falconry in Bahrain according to H. King (*in litt.* 10 October 2009). Nightingale and Hill (1993) reported that this species was the favourite of Arab falconers.

Nightingale and Hill (1993) noted that in autumn, wild birds may be trapped by falconers from the Arabian Gulf. Ecosystems in Bahrain are still under serious threat from fast urbanization, poor land management and inadequate capacity needed for environmental protection enforcement (Anon., 2002a).

Iraq: Omar Fadil (*in litt.* 24 October 2009) reported the main areas to be witnessing greatest illegal harvesting and trading of *F. cherrug*, based on Nature Iraq surveys and Falconry Society of Iraq hunting profiles:

"**North** – a few individuals from Erbil in the north harvest falcon species including saker, so creating a high risk to Iraq's breeding population of the species.
East – the Iraq Falconry Society in Diyala governorate reported recently that saker trapping had declined there after recent coalition force field actions resulting in the limitation of hunting groups.
Central and West – the Iraq Falconry Society in Salah Aldin and Al Anbar governorate indicated that the saker trapping season has started with many local groups camping in the area.
South – effective saker trapping in Wasit, Mayssan and Basra southern governorate has been reported by the Iraq Falconry Society of Basra."

Nature Iraq (2009) reported that unregulated hunting and harvesting of threatened species had driven some species to the brink of extinction. Trade in endangered species, including birds of prey, has a long history in Iraq. Other significant threats are that many of Iraq's most important wildlife sites are threatened with rampant, uncontrolled development or face the threat of further degradation (Nature Iraq, 2009).

Mauritania: Threats to biodiversity generally were reported to include increased fragmentation of natural habitats; desertification and droughts; overhunting; and potential negative impacts of the new oil, iron ore, and natural gas exploration – causing pollution and impacts from the migration of human populations to the coast and productive centres (Biodiversity Analysis and Technical Support for USAID/Africa, 2007). No information on threats specific to *Falco cherrug* was found.

Tajikistan: According to M. Roustain (*in litt.* in Dixon, 2009), in the 1990s, falcon trapping by locals and foreigners was widely practiced, mainly targeting autumn passage birds, though some young were also taken from nests. E. Potapov (*in litt.* 28 October 2009) reported that in the 1990s and since 2000, illegal trapping and trafficking had been commonplace in the Pyanj river valley; he considered that illegal trapping was probably widespread in Tajikistan. R. Ayé (*in litt.* 9 November 2009) reported that he was not aware of professional or targeted trapping of *F. cherrug* in Tajikistan, and that local people generally were not able to differentiate between raptor species. Nevertheless, he stated that there was a general awareness of the value of some raptors in Arabia, and that young boys often tried to trap raptors as a result.

Illegal hunting of rare species was identified as a major threat to biodiversity (Safarov and Novikov, 2003). Other reported threats included road network development over the last 50 years, which has resulted in partial and even complete fragmentation of ecosystems, and also the spread of agriculture and the excessive use of pesticides during 1960s-80s (Safarov and Novikov, 2003).

D. Management of and trade in the species

i) Trade levels:

No export quotas have been published by Armenia, Bahrain, Iraq, Mauritania, or Tajikistan for *F. cherrug*.

Armenia: Armenia became a Party to CITES on 21 January 2009 so has not been required to submit annual reports. Trade in *F. cherrug* from Armenia has never been recorded by importers, since the species was listed in CITES Appendix II in 1979.

No data are available on trade according to L. Balyan (*in litt.* 21 October 2009).

Bahrain: Bahrain is not a Party to CITES and is therefore not required to submit annual reports, hence trade data were only available from importers. Over the period 1998-2008, importing countries reported the import of 25 live *F. cherrug* from Bahrain, mainly captive-bred birds (Table 6). All birds were imported as personal possessions. No trade was reported in 2007 or 2008 following the suspension.

Table 6. Direct trade in *Falco cherrug* from Bahrain as reported by importers, 1998-2008. (CITES Suspension has been in place since 22 January 2007.)

Taxon	Source	Term	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Falco cherrug	C	live						3	2	3	12			20
	U	live						1						1
	W	live						3			1			4

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database

Iraq: Iraq is not a Party to CITES and is therefore not required to submit annual reports, hence trade data were only available from importers. No trade in *F. cherrug* from Iraq was reported over the period 1998-2008.

The re-export to Qatar of one wild-sourced bird originating in Iraq was reported by Saudi Arabia as a personal possession in 2004.

Omar Fadil (*in litt.* 24 October 2009) reported widespread trapping for illegal trade in *F. cherrug*. It was reported that the biggest and most effective *F. cherrug* smuggling from Iraq to the Kingdom of Saudi Arabia and Syria was based in the centre and west of the country (according to the Iraq Falconry Society in Salah Aldin and Al Anbar governorate, in: O. Fadil *in litt.* 24 October 2009). In the south, it was reported that effective and widespread trading from Basra was mainly to Arabian Gulf countries and started from there (O. Fadil *in litt.*, 24 October 2009). Korsh Ararat (*in litt.* 18 October 2009) reported that in 2008, a man caught in Erbil Airport wanted to send a live bird (which was taken nearby) to a man in United Arab Emirates.

Mauritania: Over the period 1998-2008, reported trade in *F. cherrug* from Mauritania comprised the movement of five live, captive-bred birds to the United Arab Emirates and back to Mauritania as personal possessions in 2002. Mauritania became a Party to CITES on 11 June 1998. It did not submit any annual reports to CITES between 2002 and 2008.

The CITES Management and Scientific Authority for Mauritania reported that *F. cherrug* had never been the subject of any trade in Mauritania and that animal trade had never figured in the practices, traditions and customs of the Mauritanians (Cheikh Ould Sidi Mohamed *in litt.* 21 October 2009).

Tajikistan: Tajikistan is not a Party to CITES and is therefore not required to submit annual reports, hence trade data were only available from importers. Trade from Tajikistan in *F. cherrug* reported by importers comprised the seizure by the United Arab Emirates of five live birds imported as personal possessions in 2003.

Re-exports of live *F. cherrug* originating in Tajikistan were reported by the Russian Federation (15 birds) and Ukraine (5 birds) for commercial purposes in 2000.

Safarov (2003) reported that 50-70 birds of prey (*F. cherrug*, *Falco peregrinus* and *Circaetus gallicus*) were illegally killed or exported from Tajikistan annually.

In 2007, Russian customs reported several trafficking incidents where falcons were attempted to be smuggled from Russia to Tajikistan, according to E. Potapov (*in litt.* 28 October 2009). At least one of the falcons was *F. cherrug* as a photograph of the bird was shown on the official Russian customs web page (Anon, 2007).

ii) Legal protection and management:

Armenia: *F. cherrug* is listed in the National Red Data Book – the Red Book of Armenia Animals (Movsesian and Ayrumian, 1987). The species was also reported to be protected by the RA [Republic of Armenia] Law on Fauna (2001), through which harvest, trade and captive breeding are legally prohibited (Anon., 2001; L. Balyan *in litt.* 21 October 2009).

It was reported to occur in the following protected areas: Khosrov Forest State Reserve, Lake Sevan National Park, Lake Arpi National Park and Arevik National Park (L. Balyan *in litt.* 21 October 2009).

According to the Armenian Society for the Protection of Birds (L. Balyan *in litt.* 21 October 2009) there is no species monitoring scheme established and/or practiced in the country and count data are fragmentary. This was confirmed in the National Report 1 of the Armenian Biodiversity Strategy and Action Plan (2002) which stated that "Systematic monitoring of biodiversity is not currently conducted in Armenia, and at present, monitoring is not even conducted in protected areas, as a result of lack of resources and of qualified staff to undertake systematic surveys" (Anon., 2002b).

National Report 1 of the Armenian Biodiversity Strategy and Action Plan stated that "An effective monitoring system will require country-wide co-ordination, permanent survey sites, and availability of the necessary technical abilities, staffing, equipment and communication systems" (Anon., 2002b).

Bahrain: Decree (2) 1995 and its amendments, with respect to the Protection of Wildlife, outlined the overall framework of the national policy for the conservation of wildlife forcing legislative regulations and identifying the responsibilities of the competent authority (Anon., 2006b). Although there was no indication whether this legislation covers *F. cherrug*, Anon. (2006b) reported that the illegal import and cross-boundary transfer of threatened species, particularly falcons, was reported to be strictly regulated in Bahrain. Bahrain is investigating the adoption of CITES.

No records of the species from protected areas were located.

The future long term vision of Bahrain's National Biodiversity and Action Plan is to conduct large-scaled continuous monitoring programs identifying the components of local biodiversity and evaluating their current status (Anon., 2006b). Work has been undertaken at Al-Areen Wildlife Park and Reserve on the captive breeding of species including *F. cherrug*, with the aim of supporting falconry in Bahrain (Anon., 2006b).

Iraq: Mudhafar A. Salim (*in litt.* 22 October 2009) noted that there was currently no legislation dedicated to bird protection issues in Iraq. However, he reported that although the hunting or trading in illegally caught falcons, including *F. cherrug* was 'formally' forbidden in Iraq, there

was a need to activate this regulation on the ground. This will demand long-term advocacy work with the related government bodies, which is one of Nature Iraq's goals (M.A. Salim *in litt.* 22 October 2009).

O. Fadil (*in litt.* 24 October 2009) reported that recently the Iraqi police in western and central hunting areas had been instructed to arrest anybody practicing *F. cherrug* hunting without authorized permission or valid ID produced by the Governorate Council and forwarded by the Falconry Society in the governorate.

Iraqis specialized in *F. cherrug* hunting and trading were reported to make their own local legislation preventing any intrusions. Hunting activities were reported to be carried out after serious co-ordination with other hunting trips at both national and international levels, (O. Fadil *in litt*. 24 October 2009).

No records of the species from protected areas were located.

Nature Iraq has been carrying out bird surveys, including *F. cherrug,* in Iraq for the last five years (R. Porter *in litt.* 9 October 2009) and they are planning to continue their bird surveys. Nature Iraq's Key Biodiversity Area Project, working in coordination with Iraq's Ministry of the Environment, was reported to conduct surveys and monitor Key Biodiversity Areas in Northern Iraq, Kurdistan and Iraq's Southern Mesopotamian Marshlands (Anon., 2008).

According to M.A. Salim (*in litt.* 22 October 2009), the Ministry of Environment in Iraq is planning to join CITES and is already working in the CBD convention. Nature Iraq is pushing for this action and is offering their help to the Ministry of Environment in Iraq.

Mauritania: The CITES Management and Scientific Authority for Mauritania stated that the Government of Mauritania revised the law on the Code of Hunting and adopted Decree of Application in 2008. A Mobile Squad of the Environment charged with controlling hunting and poaching has been set up (Cheikh Ould Sidi Mohamed *in litt.* 21 October 2009).

CITES control offices have been opened in airports and ports of the country (Cheikh Ould Sidi Mohamed, CITES MA/SA of Mauritania *in litt.* 21 October 2009).

No records of the species from protected areas were located.

Tajikistan: *F. cherrug* is included in Tajikistan's National Red Data Book (Abdusalyomov, 1988) and so is legally protected (Safarov and Novikov, 2003). Wildlife in Tajikistan is protected by the Law on Nature Protection (1994) and Law on Animal World Conservation and Use (1994) (Safarov and Novikov, 2003). This law aims to help provide sustainable nature resource management (Safarovand Novikov, 2003).

The occurrence of *F. cherrug* in protected areas is uncertain.

No population monitoring was reported to be taking place in Tajikistan (Safarov, 2003). E. Podapov (*in litt.* 28 October 2009) did not consider there to be are any effective practical conservation measures for *F. cherrug* in the country.

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Naja spp.: Lao People's Democratic Republic (*N. atra*, *N. kaouthia*, *N. siamensis*)

A. Summary

The recommendation to suspend trade was formed because Lao People's Democratic Republic did not provide any information on the basis for making Article IV non-detriment findings for export of the genus.

The status of the three species that occur is poorly known and two were considered to be 'potentially at risk', therefore it is not clear what impact any trade would have on the status of the species. Although it has been a Party to CITES since 2004, Lao PDR has never submitted an annual report. Data reported by importers indicate that trade occurred in 2005 and 2006, after the CITES trade suspension was put in place.

As the status of the genus is poorly known, trade from Lao has been reported relatively recently, and information on the basis for making non-detriment findings has not been made available by Lao PDR, the concerns that led to the original suspension have not been addressed.

B. Background

Eleven species of *Naja* are currently listed in CITES Appendix II, three of which are thought to occur in Lao People's Democratic Republic, *Naja atra, N. kaouthia* and *N. siamensis*. These three species were listed in CITES Appendix II on 18/01/1990, under the name *Naja naja* as they were then recognised. *N. kaouthia* was previously listed in Appendix III by India in 13/02/1984, also under the name *Naja naja*.

An import suspension has been in place for *Naja* spp. from Lao PDR since 30/04/2004. Lao PDR became a Party to CITES in 2004.

Selection of the species and reasons for selection:

Naja spp. was first suggested for inclusion in the Review of Significant Trade at the 14th Meeting of the Animals Committee (Caracas, Venezuela, 1998), "on the basis of population concerns" (AC14 Summary Record). Specifically, high and increasing levels of trade in wild *Naja naja sputatrix* were noted over the period 1984-1996, consisting mainly of skins and live specimens from Thailand, China and Indonesia (Doc. AC.14.14.5). At the 15th Meeting of the Animals Committee (Antananarivo, Madagascar, 1999), the Chairman referred delegates to document Doc. AC.15.14-inf and reminded them that *Naja* spp. had not yet been reviewed in detail (AC15 Proceedings). At the 11th Conference of the Parties (Gilgiri, Kenya, 2000), *Naja* spp. was again listed amongst the species included in the Review of Significant Trade (CoP11 Doc. 11.41.1.).

Concerns of the Animals Committee and the recommendations formulated by them:

At the 16th Meeting of the Animals Committee (Shepherdstown, USA, 2000), *Naja* spp. was reviewed and a copy of the review was sent to all range States (Doc. AC. 16.7.3 Annex). In reference to *Naja* spp. in Lao PDR, *N. kaouthia* and *N. siamensis* were identified as "potentially at risk, particularly from trade (Stuart, 1999)." However, it was reported that "exports from Lao PDR and Thailand decreased during the eight

year period [1991-1998] and probably did not constitute a threat to the *Naja* populations in those countries" (Doc. AC. 16.7.3 Annex).

A working group discussed the review and recommended that all *Naja* spp. should be placed in Category 2 (species for which it is unclear from the available information whether Article IV is being fully implemented), except for *N. sagittifera* which should be placed in Category 3 (species for which trade is evidently not a problem) (AC16 Proceedings).

The response of the range State concerned:
At the 18th Meeting of the Animals Committee (San José, Costa Rica, 2002), it was reported that the CITES Secretariat sent a letter to Lao PDR in March 2001, giving six weeks to provide a satisfactory response as to the basis for making Article IV non-detriment findings for export of the species, but no response was received (AC18 Summary Record).

The subsequent actions/recommendations of the Animals Committee:
A Working Group at the 18th Meeting of the Animals Committee agreed to recommend to the AC that *Naja* spp. from Lao PDR be included in Category 1 (species for which Article IV of the Convention is not being fully implemented), and that "those countries where the species is included in Category 1 or 2 should receive the following recommendation: The Management Authority should not issue export permits until it has established a cautious export quota and provided a satisfactory scientific basis for this quota to the Secretariat" (AC18 Summary Record).

The response of the range State concerned:
Following discussion at AC18 (above), a letter was sent to Lao PDR, but no response was received (AC19 Summary Record).

The subsequent actions/recommendations of the Standing Committee:
At the 50th Meeting of the Standing Committee (Geneva, Switzerland, 2004), the Secretariat proposed that the Standing Committee recommend to all Parties that, until the actions recommended had been implemented, no imports of specimens of *Naja* spp. be accepted from Lao PDR, no matter where they originate (SC50 Doc.23 Annex). The Standing Committee approved the recommendation (SC50 Summary Report), and Parties were informed of the import suspension in Notification No. 2004/028 of 30 April 2004.

The subsequent actions/recommendations of the Animals Committee:
At the 21st Meeting of the Animals Committee (Geneva, Switzerland, 2005), the status of reviews for species selected for the Review of Significant Trade following CoP11 was assessed (AC21 Doc. 10.1.1[Rev.1]). The Animals Committee reported that they had reviewed information on the conservation of and trade in all species (leading to the categorisation of species from the different range States and formulation of recommendations) and that it had completed its tasks under the relevant Resolution for *Naja* spp. (AC21 Doc. 10.1.1[Rev.1]).

C. Species characteristics

Taxonomic note: The taxonomy of the Asiatic cobra species complex has long remained controversial, in part because of the extreme variability in pattern and

coloration even within populations (Wüster, 1996; Wüster *et al.,* 1997; Teynié and David, 2007). Previously all Laotian specimens of the genus *Naja* Laurenti, 1768 were referred to in the literature and recognised by CITES as *Naja naja* (Linnaeus, 1758). Since CITES CoP12 in 2002, 11 species of the genus *Naja* have been recognised by CITES (Wüster 1996; Slowinski and Wüster, 2000), three of which are likely to occur in Lao PDR.

i) Biology:

Asiatic cobras (genus *Naja*) are medium-sized venomous snakes inhabiting forest, grassland and cultivated areas across Asia (Wüster, 1998).

N. atra

No information was found on this species' habitat preferences.

N. kaouthia

N. kaouthia was reported to occur in disturbed evergreen forest near human habitation, up to 600m (Stuart, 1999). In India, it was reported to be common in rice fields and plantations and to adapt well to human presence, unless persecuted excessively (Wüster, 1998).

N. siamensis

The species has been recorded in deciduous dipterocarp forest in central Lao PDR (Chan-ard *et al.,* 2000) and at the border between forest and a large marsh in the far south of the country (Teynié and David, 2007). In general, the species was reported to survive well in agricultural areas, such as in rice fields, and in or near human settlements (Wüster *et al.,* 1997).

ii) Distribution:

N. atra

Range maps indicate the occurrence of *N. atra* in southern China, Taiwan, Province of China, northern Viet Nam and northeast Lao PDR (Wüster *et al.,* 1995; Wüster, 1996). Wüster *et al*. (1995) noted that the precise distribution limits of *Naja atra* in Laos, southwestern China, central Vietnam and parts of Burma were unclear. The species was not included in Stuart's (1999) list of reptiles occurring in Lao PDR and no other information was found on this species' occurrence in Lao PDR.

N. kaouthia

N. kaouthia was reported to occur in southern Viet Nam, Cambodia, Thailand, northern Malaysia, southern China, Myanmar, Bangladesh, eastern India, and probably southern Lao PDR, Bhutan and southern Nepal (Wüster *et al.,* 1995; Wüster, 1996; Wüster, 1998). Within Lao PDR, specimens have been collected in and around Vientiane (Chan-ard *et al.,* 2000; J. Deuve unpublished in: Teynié and David, 2007) and near Taveng in the vicinity of the border town Ban Lak 20, Bolikhamsai province (in 1996) (Chan-ard *et al.,* 2000). Stuart (1999) reported that its range centred in the Annamite foothills, but it probably occurs throughout Lao PDR.

N. siamensis

N. siamensis was redescribed by Wüster *et al.* (1997) and reported to have a wide distribution across Indochina, occurring throughout northern, central and eastern Thailand, Cambodia and South Viet Nam (Wüster *et al.,* 1997; Teynié and David, 2007). Wüster *et al*. (1995) noted that the precise distribution limits of *Naja siamensis* in Laos,

southwestern China, central Viet Nam and parts of Burma were unclear. Wüster *et al. (*1997) reported that "there are no verified records from Laos, but the species almost certainly occurs at least in the lowlands of the Mekong drainage, along the Thai border."

Chan-ard *et al.* (2000) provided the first photographic record of the presence of *Naja siamensis* in Lao PDR: a single adult was encountered in Dong Phou Vieng National Biodiversity Conservation Area (NBCA), Savannakhet Province, central Lao PDR, in 1997. This specimen is thought to have been captured in a nearby village and was being held in captivity in Ban Tad Hai village, Muang Phin District, awaiting sale to Vietnamese traders (Chan-ard *et al.,* 2000).

A second specimen was collected in 2005 from Xépian National Biodiversity and Conservation Area, Champasak Province, southern Lao PDR (about 250 km southeast of the previous location), extending the known distribution of the species (Teynié and David, 2007). This was the first specimen of *N. siamensis* in Lao PDR to have been collected and deposited in a collection (Teynié and David, 2007). Based on some unpublished notes containing detailed descriptions of 11 *Naja* specimens collected in Lao PDR 1960-1962 (Deuve, 1985), Teynié and David (2007) concluded that:

> "Naja siamensis is now known from at least four localities in Laos (from north to south: Vientiane and its vicinity; Thakhek, Khammuan Province; Muang Phin District, Savannakhet Province; and Xépian NBCA, Champasak Province. One may suspect that Naja siamensis occurs throughout the lowlands of the Mekong Valley. However, it is unclear to us why a snake species as conspicuous as can be a cobra remains so rarely observed."

iii) Population status and trends:

N. atra

No information on the population status or trends was found for *N. atra* in Lao PDR.

N. kaouthia

N. kaouthia was classified as 'Potentially At Risk' in Lao PDR (Stuart, 1999).

N. siamensis

N. siamensis was classified as 'Potentially At Risk' in Lao PDR (Stuart, 1999). Wüster *et al.* (1997) reported that it was relatively common in many areas throughout its wide range judging by its importance in snakebite statistics (however, at the time of this assessment, the species' occurrence in Lao PDR was not confirmed).

iv) Threats:

Species of the genus *Naja* are medically and toxinologically important (Wüster, 1996; Wüster, 1998; Teynié and David, 2007). The greatest threat to herpetofauna in Lao PDR in general was reported to be harvest for domestic consumption, internal trade and for unregulated export (Stuart, 1999).

N. atra

No information on threats was found for *N. atra*.

N. kaouthia

Stuart (1999) reported that for *N. kaouthia* in Lao PDR, threats were unclear, but they may be heavily traded. No further information on threats was found for *N. kaouthia*.

N. siamensis

N. siamensis was described as one of the Asian cobras which was commonly imported for herpetoculturists (Wüster *et al.*, 1997). Stuart (1999) reported that for *N. siamensis* in Lao PDR, threats were unclear, but they may be heavily traded.

Wüster *et al.* (1997) provided the following information on threats to *N. siamensis*, however they were not specific to Lao PDR (as the species' occurrence in this country was not confirmed at the time):

> "it is subject to severe human predation, both as a result of being killed on sight by many agricultural workers reluctant to share their fields with spitting cobras, and also for the very substantial 'jungle food' and traditional medicine trade. Since rice fields and similar habitats can be efficiently searched for snakes, many local populations are likely to have gone extinct, or will do so in the near future."

D. Management of and trade in the species

i) Trade levels:

Lao PDR became a Party to CITES on 30 May 2004, and no annual reports have been received from Lao PDR to date (as of 30 November 2009).

Without exporter data, importer data can be used to provide insight into the trade in *Naja* spp. from Lao PDR. However, due to the taxonomic confusion and uncertainty surrounding the genus, trade is often reported as *Naja naja*, rather than using the names of the 11 species currently recognised by CITES.

According to importers, wild-sourced trade from Lao PDR was reported in 2005 and 2006, after the trade suspension formed in 2004 (Table 7) e.g. trade in 2,400 live, wild-sourced *Naja* spp. was reported in 2005. All of the live specimens in trade and eight bodies of *Naja* spp. were reported as 'commercial trade', with the remaining wild-sourced trade reported as personal possessions.

In 2005 and 2006, Viet Nam reported re-exporting 3,800 and 1,000 live, wild-sourced specimens, originating in Lao PDR. All re-exports were reported as 'commercial trade'.

No export quotas have been published by Lao PDR for *Naja* spp..

In an investigation into the harvest and trade of reptiles at U Minh Thuong National Park, southern Viet Nam, Stuart (2004) found approximately 40 *N. siamensis* and two *N. kaouthia* for sale at local reptile trade shops. The origin of these specimens was not known but wildlife traders were reported to source reptiles from neighbouring Lao PDR and Cambodia, joining Vietnamese reptiles on trade routes to China (Stuart, 2004).

Table 7. Direct trade in *Naja* spp. from Lao PDR as reported by importers, 1998-2008. (CITES suspension has been in place since 30 April 2004.)

Taxon	Source	Term	Reported by	2004	2005	2006	2007	2008	Total
Naja naja	W	bodies	Importers			12			12
		live	Importers		2400				2400
		skin pieces	Importers			67			67
Naja spp.	I	bodies	Importers	1					1

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database

ii) Legal protection and management:

All wildlife was prohibited from export in Lao PDR (Decree of the Council of Ministers No. 185/CCM, in Relation to the Prohibition of Wildlife Trade, 21 October 1986) (Doc. AC16.7.3).

However, apparently there have been recent policy changes regarding wildlife trade in Lao PDR (Singh, 2008):

> "The regulations issued in 2001 maintained that all sale and purchase of wildlife was illegal (Article 17, MAF 2001). They also designated a minority of 'restricted' species, for which hunting was illegal, while the majority of species were designated as 'managed' or non-protected species that could be hunted for local consumption by villagers. These articles together meant that any hunting for trade was illegal as was any hunting of the protected species. […] In December 2003, the Lao government revised the regulation in response to World Bank pressure to demonstrate its broader commitment to environmental management (MAF 2003). […] In 2004, a conservationist discovered that the article relating to the ban on all wildlife trade was completely omitted in a 2003 revision of the regulations (MAF 2003). This means that only protected wildlife are now subject to a trade ban, given that they are still prohibited from any hunting or use. In contrast, in written law, nonprotected common types of wildlife are no longer subject to any trade restrictions."

Despite this change in the law (of which many Laotians are unaware), conservationists and district officials were reported to continue to assert the illegality of all wildlife trade, and government practice was reported to generally follow the 2001 rather than the 2003 law (Singh, 2008).

It is not clear whether *Naja* spp. are considered to be 'restricted' species.

No information was found on management of *Naja* spp. in Lao PDR.

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Strombus gigas Linnaeus, 1758: Grenada and Haiti

A. Summary

Grenada: The recommendation to suspend trade was formed because no information was provided by Grenada regarding its implementation of recommendations to apply adaptive management procedures and to commit to the recommendations of the International Queen Conch Initiative regarding a regional management regime, law enforcement capacity and effectiveness, and population assessments and other research.

The status of the species in Grenada is poorly known, and no information was found regarding its management in the country, therefore it is not possible to assess the impact of any trade on the status of the species. Grenada has not submitted an annual report to CITES since 2002. Data reported by importers indicate that international trade from Grenada was very low in the years before and after the trade suspension. FAO fisheries data indicate that the species was harvested at a level of between 0.5 and 35 tonnes per year 1998-2007, (possibly for the domestic market, given the low level international trade).

Given the extremely low level of international trade since 1999, it is not clear whether export permits are being issued. However, as the status of the species is poorly known in the country, and information on the implementation of the Animals Committee recommendations has not been provided by Grenada, the concerns that led to the original suspension have not been addressed.

Haiti: The recommendation to suspend trade was formed because Haiti did not implement the actions recommended by the Animals Committee within the agreed time-frames. Short term and long-terms actions were recommended relating to: a voluntary moratorium on harvest and international trade; designated fishery areas; research studies; analysis of trade; establishment of cautious catch and export quotas; a fishery data collection programme; a population monitoring programme; and commitment to specified recommendations of the International Queen Conch Initiative.

The status of the species in Haiti is poorly known and populations seem low. Overfishing was reported to be a serious threat. Haiti is not a Party to CITES. However, data reported by importers indicate that, in the years prior to the suspension, international trade from Haiti was high. Trade in carvings, derivatives, meat and shells was reported after the suspension was put in place in 2004.

Since the recommendation was originally formed, some management measures have been designed and put in place in Haiti, indicating that steps are being taken to address some of the recommendations. However, concern remains with regards to the enforcement of such measures and the status of the population and the potential impact of trade on the species. Further information from Haiti may clarify whether the new regulations introduced in the country address all of the original concerns of the Animals Committee.

B. Background

Strombus gigas was listed in CITES Appendix II on 11/06/1992. It has been selected for the Review of Significant Trade on two separate occasions – 1995 and 2001. Import suspensions have been in place for **Grenada** since 12/05/2006 and for **Haiti** (a non-party) since 30/04/2004.

Selection of the species and reasons for selection:

At the 10th Meeting of the Animals Committee (Beijing, People's Republic of China, 1994), the Secretariat noted that it had "become aware of huge volumes of trade in [*S. gigas*] meat and shells from non-Party states, such as Jamaica, **Haiti** and Netherlands Antilles" and that "It was obvious that the trade could not possibly be sustainable." The Chairman stated that the species was clearly a candidate for the Review of Significant Trade (draft Summary Record, AC12.3.1).

A review of the species was discussed at the 12th Meeting of the Animals Committee (Antigua, Guatemala, 1995). The review suggested that "past, and in some cases, current harvests of this economically important marine resource in the Caribbean region had resulted in some local populations becoming severely depleted", however, the lack of data on the abundance of wild populations meant it was not possible to draw meaningful conclusions from trade data (AC12 Summary Record). The Secretariat advised that it would be visiting several countries in the region in October 1995, and would discuss the issue of trade with the Management Authorities (AC12 Summary Record).

Concerns of the Animals Committee and the recommendations formulated by them:

At the 14th Meeting of the Animals Committee (Caracas, Venezuela, 1998), it was reported that a regional Management Plan had been established for the species, and draft primary recommendations had been circulated among the Animals Committee for comment, with the final recommendations sent to all range States in September 1997, with a deadline of December 1997 (Doc. AC.14.14.3, AC14 Summary Record).

The response of the range States concerned:

Haiti responded to the Secretariat on 9/3/98, and it was reported that:

> "Restrictive measures to protect the species in areas where this species is threatened have already been taken (see Fishery Study of Queen Conch in Haiti, Elizabeth Wood, 1996). The Secretariat has written to Haiti requesting a copy of this report. A temporary fishing ban will be implemented by the end of 1998. Negotiations with the Association of shell exporters are taking place to establish a system of quotas for exported shells. A formal relationship with the Caribbean Fishery Management Council is being sought in order to obtain help for the establishment of a better programme for monitoring this species.
>
> *Strombus gigas* is capture in Haiti only for local consumption of the meat. The export of shells is a secondary activity" (Doc. AC14.14.3).

At its 41st meeting (Geneva, February 1999), the Standing Committee was informed by the Secretariat that all but five range States had provided satisfactory responses (Doc. SC41.9, Doc. AC22 Inf. 4). Consequently, the Standing Committee recommended that

Parties not accept imports of specimens of *S. gigas* from Antigua and Barbuda, Barbados, Dominica, Saint Lucia, and Trinidad and Tobago (SC41 Summary Record).

The subsequent actions/recommendations of the Animals Committee:

At the 17th Meeting of the Animals Committee (Hanoi, Viet Nam, 2001), it was agreed that *S. gigas* would be included in a second Review of Significant Trade (AC17 Summary Record), owing to continuing concern regarding the implementation of Article IV (AC19 Doc. 8.3 [Rev. 1]).

At the 19th Meeting of the Animals Committee (Geneva, Switzerland, 2003), the representative of Central and South America and the Caribbean raised *S. gigas* as an issue of concern for the region (AC21 Doc. 10.1.1[Rev.1]). In a review of the species, it was reported that "the majority of *S. gigas* populations have continued to decline since the species was listed in the Appendices", with recruitment failure a risk to fisheries in some areas, including **Haiti** (AC19 Doc. 8.3 [Rev. 1]). Former deep-water refugia were also reported to be becoming increasingly overfished, due to use of scuba and hookah gear (compressor diving), including those of **Haiti** (AC19 Doc. 8.3 [Rev. 1]).

The review was discussed by a working group which produced a number of recommendations (outlined in AC19 WG3 Doc. 1).

Grenada was included among countries of Category (ii) – 'species of possible concern' (AC19 WG3 Doc. 1) and was given the following recommendations:

"Long-term actions to be taken within 24 months:
All Parties included in Category (ii) shall:
a) apply adaptive management procedures to ensure that further decisions about harvesting and management of the species concerned will be based on the monitoring of the impact of previous harvesting and other factors.
b) give serious consideration to the recommendations of the June 2003 IQCI meeting and commit specifically to those recommendations on
i) development of a regional management regime, including cooperative quota setting,
ii) law enforcement capacity and effectiveness
iii) population assessments and other research relating to the management of Queen Conch."

Haiti was included among countries of Category (i) – 'species of urgent concern' (AC19 WG3 Doc. 1), which were given the following recommendations:

"Short-term actions to be taken within 6 months:
a) Establish a voluntary moratorium on the commercial harvest (excluding legal harvest in territorial waters of the Parties concerned) and the international trade of *Strombus gigas* within four weeks of this recommendation being made (upon communication by the AC to the Parties);
b) Identify areas to be designated for commercial fisheries;
c) Undertake density studies in these designated areas;
d) Identify and analyse trends in available landing data;
e) Establish a standardized minimum meat weight that corresponds to adult specimens of unprocessed and processed meat;

f) Based on the results of the density studies, the analysis of landing trends and standardized meat weight establish cautious catch and export quotas in consultation with the Secretariat;
g) Demonstrate that items 2a) and 2b) below, have been initiated.

Long-term actions for implementation to be taken within 18 months:
a) design and implement a fishery data collection programme. This programme is designed to collect catch and effort data and shall include 1.) a system of permits and licenses for commercial harvesters and exporters, and 2.) regular reporting of landing and export data;
b) Design and implement a long-term population monitoring programme for the designated commercial fishing areas. This programme should provide reliable estimates of adult and juveniles densities within commercial fishing areas, at a minimum.
c) Give serious consideration to the recommendations of the June 2003 IQCI meeting and commit specifically to those recommendations on:
i) development of a regional management regime, including cooperative quota setting,
ii) law enforcement capacity and effectiveness
iii) population assessments and other research relating to the management of Queen Conch."

The Animals Committee adopted the working group's recommendations (AC19 Summary Record).

The subsequent actions/recommendations of the Standing Committee:
Following the 19th Meeting of the Animals Committee, it was stated in Notification No. 2003/057 of 29 September 2003 that "The Secretariat has determined, after consultation with the Chairman of the Animals Committee, that **Haiti** has not implemented the recommended actions within the agreed time-frame. Consequently the Standing Committee recommends to all Parties to suspend the import of all specimens of *Strombus gigas* from **Haiti** until this country demonstrates to the satisfaction of the Standing Committee, through the Secretariat, compliance with Article IV, paragraphs 2 (a), 3 and 6 (a) of the Convention."

In Notification No. 2006/034 of 12 May 2006, the Secretariat reported that it had received no response from **Grenada** regarding their implementation of recommendations and was therefore unable to determine whether **Grenada** complied with the recommendations. Subsequently, the Standing Committee recommended that all Parties suspend the import of specimens of *S. gigas* from **Grenada** until further notice (Notification No. 2006/034).

The subsequent actions/recommendations of the Animals Committee:
In a report submitted at the 22nd Meeting of the Animals Committee (Lima, Peru, 2006), it was reported that a technical workshop on the implementation of recommendations formulated in the context of the Review of Significant Trade had been held in Santo Domingo in 2005 (AC22 Inf. 4). The Secretariat, in consultation with the Chairman of the Animals Committee, determined whether recommendations had been implemented adequately.

Grenada was the only range State not to attend the workshop. It was reported that Grenada "did not provide information on its implementation of the recommendations, and did not respond to the Secretariat's reminders or invitation to attend the Santo Domingo workshop", resulting in the import suspension issued by the Standing Committee in May 2006 (AC22 Inf. 4, see above).

Haiti was reported to have explained at the workshop that "it had not taken any of the short-term or long-term actions, but intended to rectify the situation as soon as possible. The competent Haitian authority informed the Secretariat in January 2006 that, following the workshop, it had organized a number of meetings with local stakeholders, and developed and submitted a project proposal for funding to CFRM on 'Developing Improved Assessment and Management of Queen Conch in Haiti' which would largely address the Animals Committee's recommendations" (AC22 Inf. 4). The competent authority of Haiti also submitted to the Secretariat a new export permit format that better reflected the requirements of the Convention, and requested a temporary respite of the current recommendation to suspend trade, to allow for the exportation of a registered stock of shells that were collected prior to September 2003 (AC22 Inf. 4).

It was noted that "The Standing Committee's recommendation to suspend trade in *S. gigas* from Haiti has been in place for more than two years. According to paragraph v) of Resolution Conf. 12.8 (Rev. CoP13), the Standing Committee, in consultation with the Secretariat and the Chairman of the Animals Committee, should review this recommendation and, if appropriate, take measures to address the situation" (AC22 Inf. 4).

The Secretariat, in consultation with the Chairman of the Animals Committee, determined that all range States excluding **Haiti** and **Grenada** had implemented the recommendations outlined in AC19 WG3 Doc. 1, and could be removed from the Review of Significant Trade (AC22 Doc. 10.1).

The subsequent actions/recommendations of the Standing Committee:
In Notification No. 2006/055 of 31 October 2006 (replacing Notification No. 2003/057 of 29 September 2003), Parties were reminded that there were issues of concern other than those specifically relating to the implementation of Article IV, paragraph 2 (a), 3 or 6 (a), such as illegal fishing and subsequent transfer of *S. gigas* across international borders, occurring in several range States including **Haiti**.

C. Species characteristics

i) Biology:

S. gigas is a commercially-valuable large marine gastropod that commonly inhabits sandy bottoms of shallow waters, up to depths of 100 m, where it grazes on algae and seagrasses (Brownell and Stevely, 1981; Theile, 2001; Acosta, 2006). Copulation and spawning occur during the warmer months of the year with females producing egg masses in clean coral sand, which emerge as larvae after approximately five days (Brownell and Stevely, 1981). *S. gigas* become sexually mature after 3 to 3.5 years, but they are of marketable size by 2.5 years (Brownell and Stevely, 1981). They are particularly vulnerable to overfishing because of their slow growth, their occurrence in shallow waters, their late maturation and the tendency to aggregate in shallow waters for spawning (Theile, 2005).

ii) Distribution:

S. gigas is distributed throughout the Caribbean Sea and the Gulf of Mexico, ranging from Bermuda in the north to Brazil in the south (Wu, 1999; NOAA, 2009).

Grenada: No additional information was found on the distribution of *S. gigas* in Grenada.

Haiti: Badio (2008) listed nine main conch fishing areas in Haiti**:** Dame marie, Anse d'Hainault, Les Irois, l'Ile de la Gonave, Les Arcadins, Rochelois, Les cayes, Fort Liberte and Ile de la tortue.

iii) Population status and trends:

Grenada: No current information was found regarding the population in Grenada. In AC19 Doc 8.3 (Rev. 1), it was reported that **"**Nowadays the greatest fishing efforts are in the northern parts of the island shelf and in the Grenada Grenadines, as populations in the southern parts of the shelf seem overfished and to consist mainly of juveniles (Anon, 1999; Tewfik, 2001). Although biological and catch and effort data were collected in 1997 and 1998, additional data collection is still required before a reliable stock assessment would be possible (Anon, 1999)."

Haiti: Little is known about *S. gigas* resources in Haiti (FAO, 2007). They were reported to be seriously over-exploited in certain localities, but to have viable populations in others (FAO, 2007). Wood (2009) noted that "there are no historical published catch and effort records for Haiti and so no immediate conclusions can be drawn about whether CPUE is stable, increasing or declining. However, fishermen report that it is more difficult to find conch now than it was in the past."

Badio (2007) reported that in 1999, Cuban and Haitian fishermen conducted a visual survey in Haiti's waters and concluded that three of the seven fishing zones in Haiti had viable *S. gigas* populations.

Mean densities of *S. gigas* in Haiti determined by visual surveys were reported to range from 0-160 individuals per ha (Wood, 1995; in: Theile, 2005). Wood (1995 in: AC19 Doc 8.3 Rev. 1) reported that "populations around the Gonaves Islands, Les Arcadines Islands and Les Cayemites Islands were seriously over-fished. Subadult densities at Gonaves Island and Les Arcadines Islands in 1995 were 10.7 individuals/ha, and there were no adults; around Cayemites Island no *S. gigas* was found. The high levels of juvenile harvesting, the need to harvest at greater depths and the difficulties of fishers to find adult Queen Conch were seen as clear evidence of over-fishing. On the Rochelois Bank, low adult densities of 15 individuals/ha were found. Higher densities of 160 individuals/ha were only found off the western end of the southern peninsular close to Dame Marie where fishing is restricted to local fishermen."

A study involving 79 x100m underwater transects to depths of 30m was undertaken by Wood (2009) between 2007 and 2009. A total of 349 *Strombus gigas* were recorded from 79 transects. Populations appeared to be seriously depleted at several sites, with the lowest densities of mature adults (0 – 6 /ha) between Le Mole (north-west) and Petit Goave (west). Higher densities (10 – 35 mature adults/ha) were recorded at sites in the south-west, between Cayemite and Anse d'Hainault (Wood, 2009). Juvenile (thin-

lipped) queen conch were recorded from 62% of the 79 transects and from all of the 12 geographic areas surveyed in 2007 and 2009, indicating that recruitment is occurring. However, density was low, ranging from 2.5 – 80 juveniles/ha with a mean of 38 juveniles/ha (Wood, 2009).

On the basis of these underwater visual surveys, Wood (2009) concluded that populations of *S. gigas* in Haiti are low and are dominated by immature individuals. Populations appear to have declined since the previous survey in 1995.

A questionnaire survey conducted by Wood (2009) found that 70% of 72 conch fishermen interviewed in 2007 reported a decline in conch populations over the previous five years.

iv) Threats:

S. gigas meat is a major food source for inhabitants of the Caribbean coasts and islands, and it has been exploited by subsistence and commercial fisheries for centuries (Brownell and Stevely, 1981; Wu, 1999). Over the past decades, overfishing has led to population depletions and stock collapses in a number of locations (Brownell and Stevely, 1981; Wu, 1999; Theile, 2005).

Grenada: In document AC19 Doc. 8.3 (Rev. 1) it was reported that "The Queen Conch is harvested commercially on the island shelf of Grenada and of the Grenada Grenadines. In recent years, *S. gigas* has been harvested mainly using scuba gear. Around 50 boats are involved in the commercial Queen Conch fishery. According to surveys of the Fisheries Division a large majority of the harvest consists of juveniles. Currently no landing statistics are available (Isaac, *in prep.*). Grenada has traditionally been a supplier of Queen Conch meat to Trinidad; however, the meat is also consumed locally, especially in the tourist industry (Anon., 1999)."

Theile (2005) reported that the main uses of *S. gigas* in Grenada were domestic, with some exports.

Haiti: Overfishing and collection of juveniles were reported to have been identified as serious problems in Haiti (FAO, 2007; Badio, 2008). Wood (2009) noted that over-fishing is assumed to be the major cause of low populations in Haiti, exacerbated by degradation of conch habitats.

Haiti was traditionally one of the largest consumers of *S. gigas* meat in the Caribbean (Brownell and Stevely, 1981). Theile (2005) reported that the main uses of *S. gigas* in Haiti were domestic and export (mostly of shells). Wood (2009) remarked that "conch meat is a staple food in Haiti and in addition it is likely that there is a flourishing illegal export trade."

Badio (2007; 2008) reported that there were also significant external impacts on the fishery, with large amounts of *S. gigas* lost to foreign poachers annually. From a total of 72 fishers surveyed, 72% indicated that "outside fishermen come into Haiti coastal waters to fish for conch. The main countries mentioned as being involved in this activity were the Dominican Republic (41%), Jamaica (31%) and the US (22%)." (Wood, 2009).

Creary *et al.* (2008) reported that seagrass beds in Haiti continued to be threatened by sedimentation and pollution.

D. Management of and trade in the species

i) Trade levels:

Grenada: Grenada became a Party to CITES on 28 November 1999. No trade in *S. gigas* was reported by Grenada between 2000 and 2002, and no annual reports were received between 2003 and 2008. Some trade in *S. gigas* from Grenada in 1998 to 2008 was reported by importers, which consisted of small quantities of shells and meat (Table 8). The only trade reported as 'commercial trade' over this period was the export of one kilogram of meat in 2001. For the majority of exports, the purpose of trade was not reported.

Trade in two shells, both as personal possessions, of *S. gigas* originating in Grenada but re-exported via another trading partner was reported between 1998 and 2008. No re-exports of meat originating in Grenada were reported over this period.

No export quotas have been published for this species/country combination.

While reported trade in *S. gigas* was relatively low 1998-2008, fishery production data from the FAO of stromboid conchs showed continued extraction throughout this period with, for example, a harvest of 28 tonnes reported in 2007 (Table 9).

FAO data on commodity production and trade in 'Univalves' are shown in Table 10 (Univalves are classified as "conch" by the national description of Fishstat (Catarci, 2004)).

Catarci (2004) stated that "it can easily be assumed that 'stromboid conchs nei' or 'conch' data mostly overlap with queen conch data due to:

- the predominance of queen conch landings and trade in comparison to landings and trade of other conchs;
- the geographic provenance of data: traditional queen conch producing countries in the Western Central Atlantic."

Table 8. Direct trade in *Strombus gigas* from Grenada, 1998-2008.
(CITES suspension has been in place since 12 May 2006.)

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Strombus gigas	I	meat (kg)	Importers									11	3		14
			Exporter												
		shells	Importers	2		3	16	1		2		10	3		37
			Exporter												
	U	meat (kg)	Importers				1								1
			Exporter												
	W	meat (kg)	Importers							1					1
			Exporter												
		shells	Importers	41						1		3			45
			Exporter												

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database

Table 9. Total fishery production (in tonnes) of *Strombus* species* in Grenada, 1998-2007.

Country	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
Grenada	Stromboid conchs nei	24	6	<0.5	2	32	35	29	16	2	28	174

*N.B. Strombus conch nei (not otherwise included) refers to *Strombus* spp. There are three conch species that occur in Grenada (*Strombus costatus, Strombus gigas,* and *Strombus raninus*).
Source: FAO 2009, Total Fishery production data from FishStat Plus. Accessed 02 October 2009.

Table 10. Commodity production and trade (in tonnes and US$) for Grenada, 1995-2007.

Commodity	Trade Flow	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Univalves nei, frozen	Export Quantity (tonnes)	.	.	.	.	.	.	.	.	-	1	-	-	-
	Export Value (US$)	.	.	.	.	.	.	.	.	-	$4000	$1000	-	-
Univalves, live, fresh or chilled, nei	Import Quantity (tonnes)	-	22	-	-	-	-	-	-	-	-	-	-	-
	Import Value (US$)	$2000	$43000	-	-	-	-	-	-	-	-	-	-	-

Source: FAO, 2009. FishStat Plus, accessed 19 November 2009.

Haiti: Haiti is not a Party to CITES and is therefore not required to submit annual reports, hence trade data were only available from importers. The majority of trade in *S. gigas* reported from Haiti 1998-2008 consisted of shells and carvings (Table 11). Following the trade suspension in 2003, a marked decrease in reported trade levels in 2004 is evident. However, between 2005 and 2007, wild-sourced derivatives, shells and carvings (and, to a lesser extent, meat) continued to be exported by Haiti. The vast majority of trade was reported as 'commercial', including all wild-sourced trade, except for one shell. The seizure of two shells was reported in 2008.

Commercial trade in *S. gigas* originating in Haiti but re-exported via another trading partner was also reported (see Annex 1). In addition, 10,000 kg of bodies, with origin 'unknown', were re-exported by Haiti in 1999.

Over the period 1998-2007, reported levels of fishery production of Stromboid conchs (including *Strombus gigas and S. raninus*) was 300 tonnes every year, except 1998 and 2002 when it was reported to be 350 tonnes (FAO, 2009, Table 12).

FAO data on commodity production and trade in 'Univalves' are shown in Table 13 (Univalves are classified as "conch" in Fishstat (Catarci, 2004)).

Catarci (2004) stated that "it can easily be assumed that 'stromboid conchs nei' or 'conch' data mostly overlap with queen conch data due to:

- the predominance of queen conch landings and trade in comparison to landings and trade of other conchs;
- the geographic provenance of data: traditional queen conch producing countries in the Western Central Atlantic."

Trade data on imports to the United States are available from the US National Marine Fisheries Service (NMFS). As these data are based on the International Harmonized Commodity Description and Coding System (HS), there is no specific code for *Strombus gigas*. However, data on U.S. imports of conch (live and fresh) from Haiti are available for the years 1997-2003 (Table 14).

S. gigas was reported to be one of the most important fisheries in Haiti, providing employment and income for thousands of fisherman (FAO, 2007). A fishery census conducted in May 2008 showed that there were >300 conch fishermen, 85 boats, 11 exporters of conch shells and meat and about six conch processing plants (Badio, 2008). Wood (2009) found that there may be around 1,000 conch fishermen in the eight areas surveyed.

Table 11. Direct trade in *Strombus gigas* from Haiti as reported by importers, 1998-2008.
(CITES suspension has been in place since 30 April 2004.)

Taxon	Source	Term (Units)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Strombus gigas	C	carvings						4574						4574
	F	meat (kg)					264							264
	I	shells	2			53	13772	8185	1	4	14	13	2	22046
	R	meat (kg)					1074							1074
	U	shells (kg)	1000											1000
		shells		19500	31518	17325								68343
	W	carvings (kg)					3392			149				3541
		carvings				29244	34850	53575		5415				123084
		derivatives (kg)										15000		15000
		meat (kg)			541	1091	6174	7737		57	44			15644
		shells (kg)		10650	5706	5271	6500	37194						65321
		shells	134958	216662	277080	336107	222335	138272		14766	5308			1345488
	no source reported	live (kg)		8.53										8.53

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database.

Table 12. Total fishery production (in tonnes) of *Strombus* species* in Haiti, 1998-2007.

Country	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
Haiti	Stromboid conchs nei	350	300	300	300	350	300	300	300	300	300	3100

*N.B. Strombus conch nei refers to *Strombus* spp. There are two conch species that occur in Haiti (*S. gigas* and *S. raninus*).
Source: FAO 2009, Total Fishery production data from FishStat Plus. Accessed 2 October 2009.

Table 13. Commodity production and trade (in tonnes and US$) for Haiti, 1999-2007.

Commodity	Trade Flow	1999	2000	2001	2002	2003	2004	2005	2006	2007
Univalves, live, fresh or chilled, nei	Export Quantity (tonnes)	2	3	5	2	6	-	-	-	-
	Export Value (US$)	$6000	$12000	$29000	$16000	$42000	-	-	-	-

Source: FAO, 2009. FishStat Plus, accessed 19 November 2009.

Table 14. Imports of Conch (live and fresh in kg) from Haiti by the United States

	1997	1998	1999	2000	2001	2002	2003
Kilograms of conch	225322	(no data)	1800	3421	4609	2361	6457

Source: US Census Bureau data (2009). Accessed on 19 November 2009 from the National Marine Fisheries Service (NMFS) website at: www.st.nmfs.noaa.gov/st1/trade/index.html.

Illegal trade in *S. gigas* shells has been documented. In particular, an 18-month-long investigation conducted jointly by Environment Canada and the U.S. Fish and Wildlife Service found evidence of a smuggling ring unlawfully importing and exporting *S. gigas*. As a result of those investigations, it was announced that:

> "Between September 29, 2003 and December 31, 2006, about 119,978 kilograms (263,593 lbs., street value of more than $2.6 million U.S. dollars) of queen conch had been taken from Caribbean waters and unlawfully imported to the United States and Canada from the Dominican Republic, **Haiti,** Jamaica and Columbia. An analysis prepared by Environment Canada and Florida State Fish and Wildlife experts identified that this weight represents between 798,000 and 1.05 million conch - a staggering number when dealing with an endangered species. Of this nearly 120 metric tonnes that are documented, approximately 27 tonnes were intercepted in Canada and one tonne in the United States. Investigators have learned from documents obtained during search warrants carried out in 2007 that an additional 92 tonnes of illegally imported and/or exported queen conch were sold on the open market in Canada and the U.S. between 2004 and 2006" (Environment Canada, 2007).

In some instances the investigation uncovered illegal shipments of *S. gigas* meat from Haiti that were mislabelled and falsely documented as whelk meat:

- "Between July 2005 and March 2006, Pacific Marine Union Corporation unlawfully imported five shipments of Queen conch meat from Haiti (declared as either "clams" or "whelk") which was subsequently repackaged and relabelled as "whelk meat" (a non-endangered species) and exported to Caribbean Conch, Inc., in Florida. Over 24,000 kilograms (54,000 pounds) of Queen conch meat was unlawfully exported to the United States" (Environment Canada, 2008b).
- "a citizen of Haiti [...] was convicted [...] on one count of unlawfully importing queen conch, [...] from Haiti to the United States, via Canada, without permit.A total of 11,844 pounds of queen conch, valued at approximately $177,660, was unlawfully imported into Canada on five occasions: July 14, 2005; August 3, 2005; September 12, 2005; September 20, 2005; and January 19, 2006. This weight of conch represents between 35,500 and 47,400 individuals taken from the wild" (Environment Canada, 2008a).

There were several reports of unregulated fishing activities by migrant Haitian artisanal fishermen off Navassa Island – a small uninhabited island 50 km southwest of Haiti (Miller *et al.,* 2003; McClellan and Miller, 2005). There was evidence that *S. gigas* were being caught, and possibly being specifically targeted by Haitian fisherman (Miller *et al.,* 2003).

ii) Legal protection and management:

Grenada: In document AC19 Doc. 8.3 (Rev 1) it was reported that "According to the Fisheries (Amendment) Regulations *S. gigas* may not be landed with a shell size of less than 18 cm or a minimum meat weight of 225 g. In addition, all harvested Queen Conch must have a fully flared lip (Isaac, in prep.)."

No other information was found regarding management of *S. gigas* in Grenada.

Haiti: The Ministry of Agriculture of Haiti recently updated the 1978 decree covering fisheries and marine resources, in order to satisfy some CITES recommendations and address the FAO Code of Conduct for Responsible Fisheries (Badio, 2007; 2008). These new regulations were reported to include (Badio, 2008):

- measures to prohibit harvesting of immature *S. gigas* (those with a shell smaller than 180 mm or which do not have a flared lips, or *S. gigas* meat less than 225 g after removing the digestive glands). Since 2004, no person shall take, sell or have in their possession any immature *S. gigas*.
- ban on the use of compressor (hooka), scuba gear and dynamite, to protect deep water breeding stocks and reduce fishing effort
- a closed season from April 1st to September 30th, protecting stocks whilst they are spawning (and coinciding with that of the Dominican Republic, to reduce illegal fishing and export)
- restricted entry to the fishery by specific license requirements for all boats and conch fishermen
- greater enforcement, including increased monitoring and surveillance both inshore and offshore (particularly to detect poaching by foreign fishermen), and all export papers to be approved by the local CITES Management Authority
- greater protection of the marine shoreline, including restoration of mangroves and sea grass beds (a project in SE Haiti has already restored 376 ha of land)

Badio (2007) reported that *S. gigas* was primarily collected by hand while diving, although other common fishing gears and methods included bottom gillnets (folle a lambi), gillnets, compressor (hookah gear), snorkelling scuba and dynamite fishing. In response to a questionnaire survey, fishermen reported using a variety of methods for collecting conch, including hookah, scuba gear, and free diving, with 66% saying they use hookah, which was meant to be prohibited (Wood, 2009).

In 2002, it was reported that law enforcement in Haiti was weak, fishing regulations were widely disregarded due to extensive poverty, and severe over-fishing of *S. gigas* had seriously threatened stocks (Linton *et al.,* 2002). In a national draft management plan presented at the Regional Workshop on the Monitoring and Management of Queen Conch (Jamaica 2006), Haiti reported that problems facing the management of *S. gigas* included financial constraints, education and public awareness, limited surveillance capacity and lack of resources to collect the data that would be required to fully inform management decisions (FAO, 2007; Badio, 2007). In addition, there was considerable variation in the range and types of vessels used, the present status of *S. gigas* populations and the level of sedimentation and water quality (FAO, 2007; Badio, 2007).

Badio (2008) reported that *S. gigas* exporters (of shells and meat) in Haiti had set up an association with the aim to produce conservation guidelines regarding CITES recommendations and also to promote and protect the conch trade industry. This association (the Association des Exportateurs de Lambi – AEL), together with the Direction of Fisheries and Aquaculture of the Ministry of Agriculture in Haiti, was reported to be carrying out the following measures (Badio, 2008):

- conducting public awareness and sensitization of all stakeholders
- identifying *S. gigas* fishing areas and the status of the population

- reviewing the current regulations for *S. gigas*
- addressing socioeconomic issues affecting artisanal fishermen
- assessing the feasibility of mariculture and stock enhancement
- instigating a data collection programme (initiated in 2005)
- a stock assessment project (abundance surveys conducted in May 2007, but project temporarily suspended due to financial constraints)

Since May 2005, the data collection programme was reported to involve monitoring the catch of each fishing boat, as well as measuring a sample of the catch, with 12 new officers employed (Badio, 2008).

Regarding the controls described by Badio (2008), Wood (2009) noted that it is not clear whether they are being enforced and are operating effectively. For example, a data collection programme for monitoring catch was reported to have been initiated in 2005, but results have not been made available as yet and so no conclusions can be drawn about changes in catch and effort (Wood, 2009). Wood (2009) noted that the controls (e.g. regarding minimum size and prohibition of fishing with hookah and scuba gear) in place in Haiti had not apparently been implemented or enforced prior to the start of her study in 2007 because small conch were being collected and hookah and scuba gear widely used.

Wood suggested that "lack of capacity is a major problem, and the practicality of introducing conservation initiatives and enforcing regulations remains a huge challenge".

Creary *et al.* (2008) reported that there were currently no Marine Protected Areas in Haiti.

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Cycadaceae, Stangeriaceae, Zamiaceae: Madagascar

A. Summary

The recommendation to suspend trade was formed in 2006 because Madagascar did not provide information on how it makes non-detriment findings to allow exports of wild-harvested specimens of *Cycas thouarsii*.

There have been no reported exports from Madagascar in wild-collected specimens of *C. thouarsii* since 1999 (apart from seeds, which are exempt from the provisions of the Convention, and four live *Cycas* spp. exported for personal purposes). The only native cycad species *C. thouarsii* was reported to be relatively widespread and fairly common.

Since the recommendations were originally formed, Madagascar has been subject to a country based review which concluded in 2008, when the Animals and Plants Committees recognised the progress that Madagascar had made in implementing its action plan.

Although progress has been made through the country based review of significant trade, information on non-detriment findings specifically for *Cycas thouarsii* has not been provided, therefore the concerns that led to the original suspension have not been addressed. However, given the virtual absence of trade in the species since 1999, the requirements of Article IV do not currently seem applicable and the original recommendation no longer appears to be relevant.

No species of Stangeriaceae or Zamiaceae are native to Madagascar.

B. Background

The families Cycadaceae, Stangeriaceae and Zamiaceae were listed in CITES Appendix II on 4/02/1977 (with the exception of those species listed in Appendix I). The current annotation to the Appendix II listing reads: "All parts and derivatives, except: a) seeds, spores and pollen (including pollinia); b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; and d) fruits and parts and derivatives thereof of artificially propagated plants of the genus Vanilla."

An import suspension has been in place for Madagascar since 18/12/2006.

Selection of the species and reasons for selection:

At the 10th Meeting of the Plants Committee (Shepherdstown, USA, 2000), the families Cycadaceae, Stangeriaceae and Zamiaceae were suggested as 'Priority 1' in the Significant Trade process, on the basis that significant wild trade existed but no significant trade research had been carried out, and the Plants Committee had previously recommended action (PC10 Doc. 10.10.1.1).

Concerns of the Plants Committee and the recommendations formulated by them:

This suggestion was taken up at the 14th Meeting of the Plants Committee (Windhoek, Namibia, 2004), where recommendations were formulated and then transmitted to range States on 3 September 2004 by the Secretariat (SC54 Doc. 42). The following recommendations were sent to Madagascar:

"Within six months (by March 2005)
a) The Management Authority should report to the Secretariat how the Scientific Authority makes non-detriment findings to allow exports of wild-harvested specimens of *Cycas thouarsii*; and
b) The Management Authority should liaise with the CITES Secretariat to ensure the implementation of the provisions of Article IV through the action plan for a country-based Review of Significant Trade for Madagascar."

The response of the range State concerned:
At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006) it was noted that no information had been received by the Secretariat regarding the implementation of the recommendations (SC54 Doc. 42).

The subsequent actions/recommendations of the Standing Committee:
At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006), the committee adopted the proposal that all Parties suspend trade in all specimens of Cycadaceae, Stangeriaceae and Zamiaceae from Madagascar until that country had demonstrated compliance with Article IV, paragraphs 2 (a) and 3 for these species (SC54 Doc. 42, SC54 Summary Record p. 35). Parties were informed of the suspension in Notification No. 2006/072 of 6 December 2006.

Country based Review of Significant Trade
In 2001, Madagascar was included in the first country based Review of Significant Trade during the 11th Plants Committee meeting (PC13 Doc. 12.2.1). This review concerned all Appendix-II listed animal and plant species in the country and followed the same sequence of events as laid out in Resolution Conf. 12.8. The programme of work should have been conducted throughout 2002, but was delayed owing to difficult working conditions in Madagascar (PC13 Doc. 12.2.1).

Documents PC17 Doc. 8.2 and AC23 Doc. 8.2 outlined actions undertaken in the implementation of the CITES action plan for the reform of trade in wild species in Madagascar (PC17 Summary Record). The procedures manual on management of Madagascar's wild fauna and flora was finalized in January 2006 (PC17 Doc. 8.2), which listed the formalities to be complied in order to harvest, transport, possess or export specimens of wild species. In addition, the government of Madagascar has set up a website http://www.cites-madagascar.gov.mg/ bringing together all the data available on the species of Madagascar, species management, trade, legislation, and also the opinions of the Scientific Authorities.

During the 17th Meeting of the Plants Committee on 15-19th April 2008, it was agreed that the country-based Review of Significant Trade in Madagascar be regarded as completed and that Madagascar was no longer required to submit regular reports under this agenda item (PC17 Summary record).

C. Species characteristics

Only *Cycas thouarsii* occurs in the country (Donaldson, 2003; Hill *et al*., 2007; Sahondra, 2009). No records for Stangeriaceae or Zamiaceae are known from Madagascar (Donaldson, 2003; Hill *et al*., 2007; Sahondra, 2009).

i) Biology:
C. thouarsii occurs as solitary plants or in small groups in open woodland and forest margins,

generally on sand and coral formations, and usually near the coast (Hill, 2004; Whitelock, 2002).

ii) Distribution:

C. thouarsii occurs in Comoros, Kenya, Madagascar, Mozambique, Seychelles and the United Republic of Tanzania (Donaldson, 2003). In Madagascar it is relatively widespread and fairly common, particularly in eastern rainforest (PC14 Doc. 9.2.2 Annex 1).

The CITES Management Authority of Madagascar (Sahondra, 2009), reported that *C. thouarsii* could be found at the following locations:

- **East Madagascar:** Andovoranto (between Ampitabe lagoon and the sea), Ambila (south of Toamasina), Tampolo, Mananjary, Vondrozo, Farafangana (de Laubenfels, 1972).
  Toamasina II, Brickaville, Maroantsetra, Soanierana Ivongo, Manompana, Mananara, Fénérive-Est, Foulpointe (unpublished).
- **West Madagascar:** Nosy-Mitsiou (de Laubenfels, 1972).
  Anjanjavy (unpublished).

iii) Population status and trends:

C. thouarsii was classified as Least Concern in the IUCN Red List (Golding and Hurter, 2003a). The global status of *C. thouarsii* was given as Lower-risk—least concern by Donaldson (2003) and Hill *et al.* (2007).

It was described as 'fairly common' (PC14 Doc. 9.2.2 Annex 1), or 'abundant' (Hill, 2004), in Madagascar. It was also "considered LR-lc because of its success at occupying a diversity of habitats, its good recruitment and its high numbers" (Golding and Hurter, 2003b). No information was available on its population trend in Madagascar.

iv) Threats:

Destruction of rainforest was regarded as the major threat to *C. thouarsii* in Madagascar (PC14 Doc. 9.2.2 Annex 1). Less than 2% of rainforest habitat is conserved in reserves and the majority of *C. thouarsii* populations occur outside reserves (PC14 Doc. 9.2.2 Annex 1). The CITES Management Authority of Madagascar (Sahondra, 2009), reported that threats to the species were unknown.

D. Management of and trade in the species

i) Trade levels:

Over the period 1998-2005 i.e. prior to the trade restriction, exports from Madagascar of wild-sourced specimens of the genus *Cycas* amounted to 230 live plants and 315 kg of seeds. As only one species of Cycadaceae is known to occur in Madagascar, the wild-sourced trade in *Cycas* spp. is likely to be the species *Cycas thouarsii*.

Following the trade suspension in December 2006, reported trade from Madagascar comprised one live, wild-sourced *Cycas thouarisii* in 2008 (Table 15). This transaction was reported only by Madagascar and was not reported by the importer.

No trade in Stangeriaceae or Zamiaceae from Madagascar was reported, and these taxa are not known to occur in Madagascar.

No export quotas have been published by Madagascar for *Cycas thouarsii*.

Some re-exports from Madagascar were also reported. Mauritius reported the re-export of artificially propagated *Cycas circinalis* leaves, originating in Madagascar, in 2004 (520 leaves), 2005 (3,020 leaves) and 2006 (5,705 leaves). No exports of *C. circinalis* have been reported by Madagascar.

Table 15. Direct trade in Cycadaceae spp. from Madagascar, 1998-2008.
(CITES suspension has been in place since 6 December 2006.)

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
**Cycas* spp.	A	live	Importers												
			Exporter					10							10
	W	live	Importers												
			Exporter				4								4
Cycas thouarsii	W	live	Importers	200											200
			Exporter	206	20									1	227
		seeds (kg)	Importers												
			Exporter								315				315

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database
*Only one species (*Cycas thouarsii*) is known to occur in Madagascar.

ii) Legal protection and management:

Collection and export of wildlife products in Madagascar is controlled by several domestic laws and regulations (PC14 Doc. 9.2.2 Annex 1). It was reported that: "Control of harvest is governed by general legislation for forest products (there is currently no legislation that protects individual plant species), under which collection for commercial purposes requires the collector to hold a "Convention de Collecte" issued by the Department of Water and forests in the Ministry of Environment, Water and Forests (who are also the CITES Management Authority). Control of wild harvesting appears to be weak due to a shortage of personnel, poor training and corruption. Collection for subsistence use (usufruct rights) does not in general require any permit." (PC14 Doc 9.2.2 Annex 1).

The CITES Management Authority of Madagascar (Sahondra, 2009), reported that the Scientific Authority of Madagascar had authorised the collection of *C. thouarsii* seeds 2004-2009 (total 16,100 kg and 5,000 pieces); these collections were allocated to four approved officers (Madagascan Flora, Madagascar Palm Seeds, Seeds of Madagascar and Todivelo Richard), and were granted based on the conservation status of the species and the professionalism of the operators. It is not known whether these seeds were collected for export, however, seeds of Appendix II Cycadaceae are exempt from the provisions of CITES.

C. thouarsii occurs on Nosy Mangabe, a protected area in the Baie d'Antongil (Phillipson, 2004; Schatz, 1992).

There is apparently no population monitoring (PC14 Doc. 9.2.2 Annex 1).

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Cycadaceae, Stangeriaceae, Zamiaceae: Mozambique

A. Summary

The recommendation to suspend trade was formed in 2006 because Mozambique did not provide any information on the measures that are in place or have been taken to monitor and regulate trade in cycads, and on seizures of plants crossing the border between South Africa and Mozambique or appearing in trade within the country.

Only one species of Appendix II cycad *Cycas thouarsii* occurs in Mozambique, where it was considered to be Data Deficient in a 2003 assessment. As the status of the species in Mozambique is not known, it is not clear what impact any trade would have on the status of the species. There was trade in this species from Mozambique until 2005, but this trade ceased following the CITES trade suspension in 2006. The Management Authority of Mozambique has indicated that the monitoring system is being improved and implemented for trade in Appendix I species but it was unclear if this also related to Appendix II species and what measures it included.

Information on the measures that are in place or have been taken to monitor and regulate trade in cycads has not been provided by Mozambique, therefore the original concerns of the Plants Committee do not appear to have been addressed.

No species of Appendix II Stangeriaceae or Zamiaceae are native to Mozambique.

B. Background

The families Cycadaceae, Stangeriaceae and Zamiaceae were listed in CITES Appendix II on 4/02/1977 (with the exception of those species listed in Appendix I). The current annotation to the Appendix II listing reads: "All parts and derivatives, except: a) seeds, spores and pollen (including pollinia); b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; and d) fruits and parts and derivatives thereof of artificially propagated plants of the genus Vanilla".

An import suspension has been in place for Mozambique since 06/12/2006.

Selection of the species and reasons for selection:
At the 8th Meeting of the Plants Committee (Pucón, Chile, 1997), the families Cycadaceae, Stangeriaceae and Zamiaceae were included in a list of proposed projects to be included in the Review of Significant Trade 1998-2000 (PC8 Doc. 10.56 Annex 2). At the 10th Meeting of the Plants Committee (Shepherdstown, USA, 2000), taxa were selected for the Review of Significant Trade process, based on previously identified priorities, projects carried out to date, their conservation status and CITES trade data 1994-1999. It was noted that the review of Cycadaceae, Stangeriaceae and Zamiaceae had still not been carried out, and that recent levels of trade in wild plants indicated that this group remained a priority. Therefore, the three families were suggested as 'Priority 1' in the Significant Trade process (PC10 Doc. 10.10.1.1).

Concerns of the Plants Committee and the recommendations formulated by them:
This suggestion was taken up at the 14th Meeting of the Plants Committee (Windhoek, Namibia, 2004), where recommendations were formulated and then transmitted

to range States on 3 September 2004 by the Secretariat (SC54 Doc. 42). The following recommendation was sent to Mozambique:

"Within six months (by March 2005)
The Management Authority should provide the CITES Secretariat with information on the measures that are in place or were taken to monitor and regulate trade in cycads."

"Without timeframe
The Management Authority to provide the CITES Secretariat with information on seizures of plants crossing the border between South Africa and Mozambique or appearing in trade within the country and what steps have been taken to regulate trade."

The response of the range State concerned:
At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006) it was noted that no information had been received by the Secretariat regarding the implementation of the recommendations (SC54 Doc. 42).

The subsequent actions/recommendations of the Standing Committee:
At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006), the committee adopted the proposal that all Parties suspend trade in all specimens of Cycadaceae, Stangeriaceae and Zamiaceae from Mozambique until that country had demonstrated compliance with Article IV, paragraphs 2 (a) and 3 for these species (SC54 Doc. 42, SC54 Summary Record p. 35). Parties were informed of the suspension in Notification No. 2006/072 of 6 December 2006.

C. Species characteristics

Ten species of cycad are reported to occur in Mozambique (Hill *et al.*, 2007), including nine species of *Encephalartos* listed in CITES Appendix I (*E. chimanimaniensis*, *E. ferox*, *E. gratus*, *E. lemboboensis*, *E. manikensis*, *E. munchii*, *E. pterogonus*, *E. turneri* and *E. umbeluziensis*), and *Cycas thouarsii* listed in Appendix II. Donaldson (2003) also listed the Appendix I species *Encephalartos aplanatus*, *E. ngoyanus*, *E. senticosus* and *Stangeria eriopus* as occurring in Mozambique, and Whitelock (2003) listed *E. concinnus* as occurring, but all of these species were excluded by Hill *et al.* (2007).

As the Review of Significant Trade process, through which the Standing Committee suspension was formed, refers to Appendix II-listed species, only *C. thouarsii* is discussed below. No species of Appendix II Stangeriaceae or Zamiaceae are known to occur in Mozambique.

i) Biology:
C. thouarsii occurs as solitary plants or in small groups in open woodland and forest margins, generally on sand and coral formations, and usually near the coast (Hill, 2004; Whitelock, 2002).

ii) Distribution:
C. thouarsii occurs in Comoros, Kenya, Madagascar, Mozambique, Seychelles and United Republic of Tanzania (Donaldson, 2003). In Mozambique, it occurs in Zambezia Province, associated with the Zambezi valley and coastline (Anon., 2002). Stapf (1916) noted that Sir John Kirk "became familiar with it in the delta of the Zambesi, where he observed and collected it on the Luabo distributary, and along the coast between the Kongoni and Melambe

mouths in 1858 and 1859."

iii) Population status and trends:

C. thouarsii was classified as Least Concern in the IUCN Red List (Golding and Hurter, 2003a). The global status of *C. thouarsii* was given as Lower-risk—least concern by Donaldson (2003) and Hill *et al.* (2007), but in Mozambique it was categorized as Data Deficient (Golding and Hurter, 2003b). No information was available on its population trend in Mozambique.

iv) Threats:

No specific threats were found for *C. thouarsii.*

D. Management of and trade in the species

i) Trade levels:

Exports of *Cycas thouarsii* were reported in 2004 and 2005, as commercial trade (purpose 'T'), with the majority going to South Africa. Trade involved both wild and artificially propagated specimens. No exports of cycad were reported in 2006 or 2007 following the recommendation by the Standing Committee to suspend trade (Table 16). No re-exports of cycad (i.e. specimens originating in Mozambique but re-exported via other trading partners) was reported between 1998 and 2008.

Some trade in Appendix I taxa was also reported. Trade in artificially propagated seeds of the Appendix I *Cycas beddomei* was reported by importing countries in 2004 (2350 seeds). This species is only known to occur in India (Hill 2004; Hill *et al*., 2007). Trade in Zamiaceae spp. from Mozambique 1998-2008 involved Appendix I taxa (e.g. *Encephalartos*) and was reported in 2003, 2004, and 2005, primarily artificially propagated specimens.

No trade in Stangeriaceae spp. from Mozambique was reported 1998-2008.

No export quotas have been published by Mozambique for any species of Cycadaceae, Stangeriaceae or Zamiaceae.

Table 16. Direct trade in Cycadaceae spp. from Mozambique, 1998-2008.
(CITES import suspension has been in place since 6 December 2006)

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Cycas thouarsii	A	live	Importers												
			Exporter							3000					3000
	W	live	Importers							2000					2000
			Exporter								3100				3100

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database.

ii) Legal protection and management:

The relevant legislation is the Forestry and Wildlife Law of 1999 (10/99) and Law Regulations of 2002 (12/02) (Sansão Bonito Mahanjane, 2009, Johnstone, 2004), but it is not known whether this establishes any controls on harvesting and trade in Appendix II Cycadaceae. Information on the Appendix I *Encephalartos* is provided in Table 17.

It is not known whether *Cycas thouarsii* occurs in any protected areas.

Table 17. Information on *Encephalartos* provided by CITES Management Authority in Mozambique (Sansão Bonito Mahanjane, 2009)

Trade statistics	Legal protection	Regulation of harvesting and trend	Species management	Basis for non-detriment finding
No trade in wild specimens for commercial purposes	Trade in artificially propagated specimens for commercial purposes, but suspended	Monitoring system in place being improved and implemented	Only permitted harvesting for S, E or N purposes	Trade in artificially propagated specimens for commercial purposes but suspended

No information was found on the management of *C. thouarsii* in Mozambique.

E. References

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Cycadaceae, Stangeriaceae, Zamiaceae: Viet Nam

A. Summary

The original suspension was formed because Viet Nam did not provide information on (i) the basis on which non-detriment findings are made (ii) control mechanisms to ensure that wild-harvested Cycadaceae, Stangeriaceae and Zamiaceae that are exported are correctly identified to the species level and (iii) collaboration with the Management of China to enhance the monitoring of trade in cycads.

At least 25 species are known to occur in Viet Nam, with several others possibly also occurring. Some are endemic to Viet Nam and considered Critically Endangered by IUCN, while others are more widespread and relatively abundant.

Most trade from Viet Nam has involved artificially propagated specimens of the non-native *Cycas revoluta*. Relatively low levels of trade in wild specimens were reported in the years prior to the trade suspension. In 2007 (i.e. after the suspension was formed), trade in *C. revoluta* (919 artificially propagated live plants) and *Cycas* spp. (70 dried plants for scientific purposes) was reported. The CITES Management Authority for Viet Nam noted that trade in wild cycads from the country primarily involved seven species, but that no export permits for wild specimens had been issued since 2005. Exploitation from the wild is only allowed in certain circumstances, and trade in wild specimens is not permitted.

Since the recommendations were formed, Viet Nam has developed a proposal that would provide information to make non-detriment findings, indicating that steps are being taken to address the first recommendation. Several meetings have been held with the Management Authority of China regarding the monitoring of trade in cycads.

As the non-detriment findings proposal has not yet been implemented and no information has been provided by Viet Nam on species level identification of Cycadaceae, the concerns that led to the original suspension have not been addressed. Trade reported at the genus level could possibly involve species that are considered to be Critically Endangered, which underlines the importance of the questions raised when the suspension was formed.

Trade in wild specimens is not currently permitted, suggesting that the requirements of Article IV do not currently seem applicable and the original recommendation may no longer be relevant. However, some trade in the genus level was reported in 2007 and a review of trade in artificially propagated specimens will be undertaken in 2010.

No species of Stangeriaceae or Zamiaceae are native to Viet Nam.

B. Background

The families Cycadaceae, Stangeriaceae and Zamiaceae were listed in CITES Appendix II on 4/02/1977 (with the exception of those species listed in Appendix I). The current annotation to the Appendix II listing reads: "All parts and derivatives, except: a) seeds, spores and pollen (including pollinia); b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; and d) fruits and parts and derivatives thereof of artificially propagated plants of the genus Vanilla".

An import suspension has been in place for Viet Nam since 06/12/2006.

Selection of the species and reasons for selection:

At the 8th Meeting of the Plants Committee (Pucón, Chile, 1997), the families Cycadaceae, Stangeriaceae and Zamiaceae were included in a list of proposed projects to be included in the Review of Significant Trade 1998-2000 (PC8 Doc. 10.56 Annex 2). At the 10th Meeting of the Plants Committee (Shepherdstown, USA, 2000), taxa were selected for the Review of Significant Trade process, based on previously identified priorities, projects carried out to date, their conservation status and CITES trade data 1994-1999. It was noted that the review of Cycadaceae, Stangeriaceae and Zamiaceae had still not been carried out, and that recent levels of trade in wild plants indicated that this group remained a priority. Therefore, the three families were suggested as 'Priority 1' in the Significant Trade process (PC10 Doc. 10.10.1.1).

Concerns of the Plants Committee and the recommendations formulated by them:

This suggestion was taken up at the 14th Meeting of the Plants Committee (Windhoek, Namibia, 2004), where a Working Group confirmed the categorisation of 'species of urgent concern' of all species of Appendix II *Cycas* where there was some doubt as to the taxonomy of species in trade and where the basis for non-detriment findings was not known (e.g. *C. dolichophylla*, *C. elongata*, *C. inermis*, *C. lindstromii*, *C. micholitzii*, *C. multipinnata*, *C. pachypoda*, *C. pectinata* and *C. siamensis*). It was noted that there was commercial export of wild collected *Cycas* plants; that the identification of species in trade was uncertain due to recent changes in *Cycas* taxonomy; and that 15 out of 24 species of *Cycas* were listed as threatened by the IUCN. There was also a large domestic trade in *Cycas*, reports of unregulated trade between Viet Nam and China, and there appeared to be no information on which to base non-detriment findings (PC14 WG 3.2 Doc.1). The following recommendations were formulated and then transmitted to Viet Nam on 3 September 2004 by the Secretariat (SC54 Doc. 42):

"Within three months (by December 2004)

a) The Management Authority should clarify to the CITES Secretariat how its Scientific Authority determines that levels of export of wild-collected specimens of cycads are not detrimental to the wild populations concerned, and are exported in accordance with Article IV of the Convention; and

b) The Management Authority should clarify to the CITES Secretariat how it ensures that wild-harvested cycads that are exported are correctly identify to the species level, and what control mechanisms or procedures it has in place in this regard.

Within 12 months (by September 2005)

The Management Authority of Viet Nam should collaborate with the Management Authority of China to enhance the monitoring of trade in cycads between these two countries in order to ensure full compliance with Article IV of the Convention. The Management Authority of Viet Nam should provide to the CITES Secretariat a report on the outcomes of this collaboration."

The response of the range State concerned:

At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006) it was noted that no information had been received by the Secretariat regarding the implementation of the recommendations (SC54 Doc. 42).

The subsequent actions/recommendations of the Standing Committee:

At the 54th Meeting of the Standing Committee (Geneva, Switzerland, 2006), the committee

adopted the proposal that all Parties suspend trade in all specimens of Cycadaceae, Stangeriaceae and Zamiaceae from Viet Nam until that country had demonstrated compliance with Article IV, paragraphs 2 (a) and 3 for these species (SC54 Doc. 42, SC54 Summary Record p. 35). Parties were informed of the suspension in Notification No. 2006/072 of 6 December 2006.

C. Species characteristics

There are 25 *Cycas* species recorded in Viet Nam (Hill *et al*., 2007). A further two species *C. diannanensis* and *C. segmentifida,* known to occur in China, were annotated as "?N Vietnam" by Hill *et al.* (2007); Osborne *et al.* (2007) and Do Quang Tung (*in litt*. 12 October 2009) reported that whilst there were no definite records of these species in Viet Nam, they may occur across the Chinese border at adjacent sites in Viet Nam. No species of Stangeriaceae or Zamiaceae are native to Viet Nam (Do Quang Tung *in litt*. 12 October 2009; Hill *et al*., 2007).

The CITES Management Authority for Viet Nam (Do Quang Tung *in litt*. 12 October 2009) noted that afforestation, encroachment for cultivation, etc. are causing a gradual reduction in the habitat of cycads.

Cycas aculeata

i) Biology:

The species grows on loam over granite on moderate to steep slopes, in degraded forest, with secondary vegetation consisting of dense bamboo, shrub and grass regrowth (Osborne *et al*., 2007).

ii) Distribution:

Endemic to Viet Nam, known only from the southern slopes of Hai Van Pass, near the coast, in Da Nang Province (Hill *et al*., 2007; Osborne *et al*., 2007).

iii) Population status and trends:

Endangered, with a population estimated to be between 250 and 2,500 plants, occurring over an area possibly as small as 20 km² (Hill *et al*., 2007; Osborne *et al*., 2007). *C. aculeata* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003).

iv) Threats:

Although Whitelock (2002) was unaware of any plants in cultivation, Osborne *et al.* (2007) noted that it had been collected for planting in gardens in a nearby area.

Cycas balansae

i) Biology:

The species grows in loamy soil over acidic rocks, on moist sheltered slopes and in valleys in deep shade, in tall evergreen closed forests, at altitudes below 600 m (Osborne *et al*., 2007).

ii) Distribution:

It occurs in China and Viet Nam. In the latter it is known from Lang Son, Quang Ninh, Thai Nguyen and Vinh Phuc Provinces in the north (Hill *et al*., 2007; Osborne *et al*., 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of about 400 km², where it is locally frequent (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. balansae* was also classified as Near Threatened in the IUCN Red List (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be <30% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
No immediate threats (Osborne *et al.*, 2007). Whitelock (2002) noted that there were a great number of plants in cultivation in Viet Nam and China, but he knew of none outside those countries.

Cycas bifida

i) Biology:
The species grows in low, scrubby, but fairly dense, mixed evergreen forest, and around steep karst limestone outcrops or on loamy soils over shales and metasandstones (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in China and Viet Nam. In the latter it occurs in Cao Bang, Lang Son and Tuyen Quang Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 100 km², where it may be abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. bifida* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt*. 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
The species has been severely reduced in numbers from the combined effects of plant collection and land clearance for agriculture and forestry. However, it is still frequent in many localities and is not considered at risk in the short term (Osborne *et al.*, 2007).

Cycas brachycantha

i) Biology:
The species grows in clefts and crevices of limestone outcrops, with little or no soil, usually on steep slopes under a closed evergreen forest canopy (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring only in Bac Kan Province (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Near threatened, with a population estimated as >10,000 plants, extending over an area of about 50 km², where it is locally frequent (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. brachycantha*

has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be low (Donaldson, 2003).

iv) Threats:
Not presently at risk (Osborne *et al*., 2007). Whitelock (2002) noted that it was sometimes found as a garden plant in Viet Nam, but was not known outside the country.

Cycas chevalieri

i) Biology:
The species grows in tall, closed evergreen forest on sandy loams over schists and granite (Osborne *et al*., 2007).

ii) Distribution:
Endemic to Viet Nam, but may occur in Lao PDR. In Viet Nam it occurs in Ha Tinh, Nghe An, Quang Binh and Quang Tri Provinces (Hill *et al*., 2007; Osborne *et al*., 2007).

iii) Population status and trends:
Near Threatened, with a population estimated as >10,000 plants, extending over an area of about 100 km², where it is locally abundant (Hill *et al*., 2007; Osborne *et al*., 2007). *C. chevalieri* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be < 30% (Donaldson, 2003). Do Quang Tung (*in litt*. 12 October 2009) noted the species was considered Low Risk in the Viet Nam Red Data Book.

iv) Threats:
At least some populations of the species have been exploited for the ornamental plant trade in Hanoi. However, large populations have recently been discovered in well-preserved forest, and it is considered to be less at risk than was first thought (Osborne *et al*., 2007).

Cycas clivicola **subsp.** *lutea*

i) Biology:
The species grows on near-vertical cliff faces of limestone outcrop, with roots in clefts and crevices with little or no soil (Osborne *et al*., 2007).

ii) Distribution:
It occurs in Cambodia, Peninsular Malaysia, Thailand and Viet Nam. In Viet Nam it occurs in An Giang and Kien Giang Provinces in the south (Hill *et al*., 2007; Osborne *et al*., 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of about 1,000 km², where it is widespread and abundant (Hill *et al*., 2007; Osborne *et al*., 2007). The CITES Management Authority for Viet Nam (Do Quang Tung *in litt*. 12 October 2009) stated that the size of the population in Viet Nam is not known. *C. clivicola* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003).

iv) Threats:
The species has been severely reduced in numbers from the combined effects of plant collection and land clearance for agriculture and forestry. However, it is still frequent in many localities and is not considered at risk in the short term (Osborne *et al.*, 2007).

Cycas collina

i) Biology:
The species grows on steep slopes of mountain ridges, generally above 400-500 m altitude, in evergreen or partly deciduous forests or woodlands, or bamboo thickets (Osborne *et al.*, 2007). The substrate varies from red clay soils on limestone to sandy loams over sediments (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, where it occurs in Son La Province (Hill *et al.*, 2007; Osborne *et al.*, 2007). It is also expected to occur in similar terrain, perhaps at lower elevations in Lao PDR (Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as 2,500 to 10,000 plants, extending over an area of about 200 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. collina* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003).

iv) Threats:
Although its habitat is continually being reduced by agricultural demands, many populations remain and there is no immediate threat of extinction (Osborne *et al.*, 2007). It is not widely grown in cultivation in Viet Nam (Whitelock, 2002).

Cycas condaoensis

i) Biology:
The species typically grows on stabilised sand dunes, and the habitat ranges from open low shrubland to dense tall shrubland, or woodland (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring only in the Con Dao islands, in Ba Ria-Vung Tau Province (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as 2,500 to 10,000 plants, extending over an area of only 20 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. condaoensis* has not been assessed in the IUCN Red List of Threatened Species.

Donaldson (2003) considered the population to be currently stable, with habitat reduction in the past 30 years estimated to be <20%.

iv) Threats:
Habitat reduction was not currently considered a threat and only its restricted area of occurrence warranted its categorisation as Vulnerable (Osborne *et al.*, 2007). Not known in

cultivation outside Viet Nam (Whitelock, 2002).

Cycas dolichophylla

i) Biology:
The species grows in sheltered sites in deep shade in closed evergreen forest, on loam over limestone, shale, schist or granite substrates (Osborne *et al.*, 2007). In many locations the habitat has been degraded to secondary regrowth and bamboo scrub (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in China and Viet Nam (Hill *et al.*, 2007; Osborne *et al.*, 2007). In the latter it occurs widely in the north in Bac Kan, Cao Bang, Ha Giang, Lai Chau, Lao Cai, Ninh Binh, Son La, Thai Nguyen, Thanh Hoa and Tuyen Quang Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 500 km², where it is locally abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. dolichophylla* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003).

iv) Threats:
The species was not considered to be under threat from habitat destruction throughout its range (Osborne *et al.*, 2007). It was reported to not often be cultivated in Viet Nam and to be rare outside of the country (Whitelock, 2002).

Cycas elongata

i) Biology:
The species grows on east-facing slopes at altitudes from 50 to 200 m, on gritty soils derived from coarse siliceous granite (Osborne *et al.*, 2007). It originally grew in forest and open shrubland but much of this has now been degraded to mixed thorny scrub (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring in a narrow, discontinuous band about 250 km long, from the northernmost part of Ninh Thuan Province, to the west of Can Ranh in Khanh Hoa Province, and in the Song Cau district of Phu Yen Province, to near the Cu Mong Pass at the southern border of Binh Dinh Province (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 100 km², where it is locally abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. elongata* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt*. 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
Populations of the species have been reduced significantly through large-scale clearance for

agriculture and through removal of specimen plants for trade (Osborne *et al.*, 2007). An additional threat is the occasional decapitation of female megasporophyll clusters for use in decoration (Osborne and Hiêp, 2002).

Cycas ferruginea

i) Biology:
The species is restricted, in Viet Nam, to a belt of steep limestone monoliths in the north-east, growing on exposed surfaces with roots in only a little organic detritus in rock crevices (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in China and Viet Nam. In the latter it occurs in the Huu Lien Nature Reserve, Huu Lung district, Lang Son Province, and to the west in the Dong Hy district of Thai Nguyen Province (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >100,000 plants, extending over an area of about 150 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. ferruginea* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 20% (Donaldson, 2003).

iv) Threats:
The species was not considered to be at risk in the short term (Osborne *et al.*, 2007).

Cycas fugax

i) Biology:
The species originally grew in closed, evergreen forest on low hills, but this habitat has been almost completely cleared for tea, *Eucalyptus* and *Acacia* plantations (Osborne *et al.*, 2007). The substrate is an orange-brown alluvial loam (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring only at Lam village, Tram Than municipality, Phu Ninh district, Phu Tho Province in the north, at about 200 m altitude (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Critically Endangered, with a population that has been estimated as 250 to 2,000 plants, extending over an area of about 200 km² (Hill *et al.*, 2007), but these figures may be overestimates (Osborne *et al.*, 2007). *C. fugax* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 80% (Donaldson, 2003).

iv) Threats:
As a consequence of land clearance for agriculture, only a few plants remain in the wild, and *C. fugax* was considered the most threatened species in the country (Osborne *et al.*, 2007). Several plants are in cultivation in villages near the original locality, and specimens are also

known from gardens in Hanoi (Osborne *et al.*, 2007).

Cycas hoabinhensis

i) Biology:
The species grows in sheltered sites on steep limestone outcrops under closed evergreen forest canopy, often in clefts and crevices in bare rock with little or no soil (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring 50-80 km south of Hanoi in Ha Nam, Ha Tay, Hoa Binh and Ninh Binh Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Endangered, with a population estimated as 2,500 to 10,000 plants, extending over an area of about 50 km², where it is locally abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. hoabinhensis* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 50-80% (Donaldson, 2003).

iv) Threats:
The horticultural popularity of this species in Hanoi has placed it at risk (Osborne *et al.*, 2007). Although large numbers remain in the less accessible localities, many of the better-known populations have been severely depleted (Osborne *et al.*, 2007). It is not known in cultivation outside of Viet Nam (Whitelock, 2002).

Cycas inermis

i) Biology:
The species grows in closed evergreen or semi-deciduous forest on well-drained slopes or stony rises over granite, metamorphic or basaltic substrates (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring widely but sporadically on the central and southern near-coastal ranges, with populations in Da Nang, Dong Nai, Khanh Hoa and Quang Nam Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 200 km², where it is locally common (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. inermis* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
The species was reported to be threatened by habitat destruction (Osborne *et al.*, 2007; Whitelock, 2002).

Cycas lindstromii

i) Biology:
The species grows in grasslands and mixed, dry, open forest or woodland, often dominated by *Dipterocarpus tuberculatus* (Osborne *et al.*, 2007). The soil is deep and sandy, arising from siliceous granite outwash and beach dune sands (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring in scattered populations along the south-east coast in Ba Ria-Vung Tau, Binh Thuan, Khanh Hoa and Ninh Thuan Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 200 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. lindstromii* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
The species has been reduced in numbers from the combined effects of plant collection and habitat degradation (Osborne *et al.*, 2007).

Cycas litoralis

i) Biology:
The species grows in full sun or moderate shade amongst littoral scrub, in beach sand or very shallow soil on rocky granitic or limestone headlands (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in Indonesia (Sumatra), Peninsular Malaysia, Myanmar, Thailand and Viet Nam (Hill *et al.*, 2007; Osborne *et al.* 2007). In Viet Nam it occurs only on Phu Quoc island, in Kien Giang Province, in the south (Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of about 1,000 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. litoralis* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be <30% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
Osborne *et al.* (2007) noted that the species "was abundant and widespread in south-east Asia until fairly recently. The plants occur in coastal areas that have experienced rapid growth and development, and numbers have been reducing." It was not clear whether populations on Phu

Quoc island had been affected in this way, but the island is subject to a burgeoning tourist industry, suggesting that this is a likely threat (http://discoverphuquoc.com/).

Cycas micholitzii

i) Biology:
The species grows in low, scrubby, but fairly dense woodland and also some parts of the drier monsoon savannah forests (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in Lao PDR (Newman *et al.*, 2007), and in Viet Nam in the central Annam Highlands region, with populations in Dak Lak, Gia Lai, Kon Tum and Lam Dong Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Vulnerable, with a population estimated as >10,000 plants, extending over an area of about 200 km²; the species is still frequent in many localities (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. micholitzii* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be high, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
There has been a recent demand for wild-collected plants of this species and this, coupled with habitat clearance for agriculture and forestry was thought to have severely depleted numbers in some areas (Osborne *et al.*, 2007).

Cycas multipinnata

i) Biology:
The species grows in closed evergreen forests on steep limestone slopes (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in China and Viet Nam. In the latter it occurs on Chang Re mountain, in the Yen Binh district of Yen Bai Province (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Endangered, with a population estimated as 1,000 to 2,500 plants, extending over an area of about 250 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. multipinnata* was also classified as Endangered in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 50% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
The species has been severely reduced in numbers from the combined effects of plant collection and land clearance for agriculture and forestry (Osborne *et al.*, 2007).

Cycas pachypoda

i) Biology:
The species grows on rocky south-facing slopes on dry gritty soils derived from coarse siliceous granite (Osborne *et al.*, 2007). The habitat was originally low monsoon woodland but has now largely been degraded to open thorn shrubland, as a result of agricultural and fuel-collecting activities (Osborne *et al.*, 2007).

ii) Distribution:
Endemic to Viet Nam, occurring in coastal hills in Binh Thuan and Ninh Thuan Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Vulnerable, with a population estimated as 2,500 to 10,000 plants, extending over an area of only 20 km², but within this area it may be locally abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. pachypoda* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low (Donaldson, 2003).

iv) Threats:
Populations of the species have been reduced significantly through habitat degradation, large-scale clearance for agriculture and removal of specimen plants for trade (Osborne *et al.*, 2007).

Cycas pectinata

i) Biology:
The species grows in medium to tall forest on deep, clay-rich or more fertile soils, usually in moist conditions in moderate to deep shade, however, many plants now exist in degraded habitats in exposed situations (Osborne *et al.*, 2007). It typically occurs between 500 and 800 m altitude, often on limestone, but also on granite or metasediments (Osborne *et al.*, 2007).

ii) Distribution:
It is the most widespread of the Asian cycads, occurring in large numbers over a huge area in Bangladesh, Bhutan, Cambodia, China, India, Lao PDR, Nepal, Thailand and Viet Nam (Hill *et al.*, 2007; Osborne *et al.*, 2007). It is also the most widely distributed species in Viet Nam, occurring in Ba Ria-Vung Tau, Binh, Dinh, Binh Thuan, Da Nang, Dac Lak, Dong Nai, Gia Lai, Khanh Hoa, Kien Giang, Kon Tum, Lam Dong, Ninh Thuan, Phi Yen, Quang Nam and Quang Ngai Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Vulnerable, with a population estimated as >200,000 plants, extending over an area of about 3,000 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. pectinata* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was also considered Vulnerable in the Viet Nam Red Data Book.

iv) Threats:
The species is not considered to be at risk in the short term but it is categorized as Vulnerable because of widespread and continuing loss of habitat (Osborne *et al.*, 2007).

Cycas sexseminifera

i) Biology:
The species grows in crevices of rugged karst limestone monoliths, often on vertical faces with roots in only a little organic detritus (Osborne *et al.*, 2007).

ii) Distribution:
Occurs in China and Viet Nam. In the latter it occurs adjacent to China in Cao Bang Province, and there are disjunct populations south of Hanoi in Ninh Binh and Thanh Hoa Provinces (Hill *et al.*, 2007; Osborne *et al.*, 2007).

iii) Current status:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of 500 km², where it is locally abundant (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. sexseminifera* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be <20% (Donaldson, 2003).

iv) Threats:
There is considerable horticultural demand for this species, both in Viet Nam and in China. However, it is not considered to be at risk in the short term because of the large extant populations (Osborne *et al.*, 2007).

Cycas siamensis

i) Biology:
The species often grows in dense stands, in full sun to light shade, in low open woodland on flat country or low hills, usually at altitudes below 300 m (Osborne *et al.*, 2007). Soils are usually shallow and stony and may be limestone derived or lateritic (Osborne *et al.*, 2007). The localities are subject to wet monsoon cycles interspersed with long, dry periods when many of the trees and shrubs, including the cycads, are deciduous, and where fires are common (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam (Hill *et al.*, 2007; Newman *et al.*, 2007; Osborne *et al.*, 2007). In Viet Nam it occurs in Dac Lak, Kon Tum and Nghe An Provinces (Osborne *et al.*, 2007). Hill *et al.* (2007) also give Gia Lai and Thanh Hoa Provinces as part of the distribution, but this may be following Hiêp and Loc (1999), whose account was based on an earlier concept of the species according to Osborne *et al.* (2007).

iii) Population status and trends:
Globally Vulnerable, with a population estimated as >10,000 plants, extending over an area of at least 1,000 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. siamensis* was also classified as Vulnerable in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be 30-50% (Donaldson, 2003).

iv) Threats:
Although the species occurs over an enormous area in south-east Asia all populations are subject to habitat degradation, inappropriate fire regimes, clearance for agriculture and removal of specimen plants for trade (Osborne *et al.*, 2007).

Cycas simplicipinna

i) Biology:
The species grows in deep shade, in tall, closed evergreen forests, usually in fairly high rainfall areas, and consistently at altitudes above 600 m (Osborne *et al.*, 2007). The plants are usually scattered; dense stands are uncommon (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in Lao PDR, Myanmar, Thailand and Viet Nam (Hill *et al.*, 2007; Newman *et al.*, 2007; Osborne *et al.*, 2007). In Viet Nam it occurs in the western parts of Quang Tri Province (Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of about 1,000 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. simplicipinna* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be <30% (Donaldson, 2003). Do Quang Tung (*in litt.* 12 October 2009) noted the species was considered Endangered in the Viet Nam Red Data Book.

iv) Threats:
Although its habitat is continually being reduced by demands for agricultural land, many populations remain across a wide range and there is no immediate threat of extinction (Osborne *et al.*, 2007).

Cycas tanqingii

i) Biology:
The species grows in understorey to closed rainforest, at altitudes below 800 m (Osborne *et al.*, 2007).

ii) Distribution:
It occurs in south-east Yunnan, China and on a tributary of the Song Da River near the towns of Pa Nam Cum, Management Authority Li Chi and Phong Tho in Lai Chau Province in Viet Nam (Hill *et al.*, 2007; Osborne *et al.*, 2007). It is not well known in Viet Nam because the area in which it grows is a sensitive military zone and entry is restricted (Osborne *et al.*, 2007).

iii) Population status and trends:
Globally Near Threatened, with a population estimated as >10,000 plants, extending over an area of at least 100 km² (Hill *et al.*, 2007; Osborne *et al.*, 2007). *C. tanqingii* was also classified as Near Threatened in the IUCN Red List of Threatened Species (Hill, 2003).

The population was thought to be stable, with habitat reduction in the past 30 years estimated to be <20% (Donaldson, 2003).

iv) Threats:
Osborne *et al.* (2007) reported that there was no immediate threat of extinction.

Cycas tropophylla

i) Biology:
The species grows on near-vertical limestone cliff faces with roots in little or no soil in rock crevices (Osborne *et al*., 2007).

ii) Distribution:
Endemic to Viet Nam, occurring on many of the small islands in Ha Long Bay (Quang Ninh Province), together with the major landmass of Cat Ba island (Haiphong Municipality) and several limestone bluffs on the adjacent mainland areas (Hill *et al.*, 2007; Osborne *et al*., 2007).

iii) Population status and trends:
Near Threatened, with a population estimated as >10,000 plants, extending over an area of 50 km² (Hill *et a*l., 2007; Osborne *et a*l., 2007). *C. tropophylla* has not been assessed in the IUCN Red List of Threatened Species.

The rate of population decline was thought to be low, with habitat reduction in the past 30 years estimated to be <20% (Donaldson, 2003).

iv) Threats:
Osborne *et al.* (2007) reported that there was no immediate threat of extinction.

D. Management of and trade in the species

i) Trade levels:
The majority of direct trade in Cycadaceae spp. from Viet Nam 1998-2007 was in live, artificially propagated plants (Table 18). Most involved the species *Cycas revoluta*, a species not native to Viet Nam.

Since the trade suspension was put in place at the end of 2006, the export of 70 wild-sourced dried plants (*Cycas* spp.*)* was reported by Viet Nam in 2007 for scientific purposes, and the import of 919 live artificially propagated *C. revoluta* from Viet Nam was reported by the Netherlands in 2007 for commercial purposes.

Trade at the higher taxon level (Cycadaceae spp. and *Cycas* spp.) was reported by Viet Nam in 2000, 2003 and 2007 and trade or seizures were reported by importers in 1998, 1999, 2000, 2001, 2002 and 2003.

No trade in Stangeriaceae or Zamiaceae from Viet Nam was reported, and these taxa are not known to occur in Viet Nam.

No export quotas have been published by Viet Nam for any species of Cycadaceae.

According to the CITES Management Authority for Viet Nam, "*Cycas* have been used in Vietnam for many years and are quite common in nurseries […] or feature plants in containers. […] Most of cycas in local market is from garden origin but some of them may come from illegal wild collection" (Do Quang Tung *in litt*. 12 October 2009).

In their proposal for a non-detriment finding assessment for Cycadaceae in Viet Nam

(CITES Management Authority of Viet Nam, 2009), it was reported that:

> "cycad is mostly exploited and artificially propagated for domestic use and export as ornamental plant. A small portion of cycad is also being used for medicinal purpose (Vo & Tran, 2003). All Vietnamese cycads are found in trade, however, the wild harvest trade focus mostly in seven species as *Cycas elongata*, *Cycas lindstromii*, *Cycas micholitzii*, *Cycas pectinata*, *Cycas sexseminifera*, *Cycas pachypoda*, *Cycas miquellii* and trade in artificially specimen focus on the common cycad *Cycas revoluta.* Nevertheless, the cycad export concentrate mostly in wild harvest and native cycads such as Vietnamese endemic one as those 7 species.
>
> Besides the fact that cycads are heavily harvested and traded in Vietnam but, there was only one rapid trade review for cycad that was undertaken in 2003 (IEBR, 2003). The trade and exploitation of cycad is least known even through all cycads are protected under Vietnamese law and CITES (MOST, 2007). Lack of population and trade data led to ineffective management system for cycad which also leads to the reduction of cycad population in the wild."

Osborne *et al*. (2007) also reported that:

> "The growing popularity of Vietnamese cycads for both local use and for export (mainly from north Vietnam to China) has resulted in many cycad populations being exploited by commercial collectors. This, coupled with the additional pressures of habitat loss, has contributed to a sometimes steep reduction in the size of many cycad populations."

The CITES Management Authority (Do Quang Tung *in litt*. 12 October 2009) reported that "Illegal wildlife trade has posed lots of difficulties for the wildlife survival, especially endemic and endangered species. Among the plants that are threatened by trade, cycad is one of the most common and threatened in trade."

Table 18. Direct trade in Cycadaceae spp. from Viet Nam, 1998-2007.
(CITES import suspension have been in place since 6 December 2006)

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	**2008	Total
Cycadaceae spp.	A	live	Importers			622									622
			Exporter												
	I	live	Importers			23	16								39
			Exporter												
	W	extract (g)	Importers						41						41
			Exporter												
		live	Importers			20									20
			Exporter												
Cycas chevalieri	W	dried plants	Importers	5											5
			Exporter	5											5
**Cycas circinalis*	W	live	Importers												
			Exporter	2											2
Cycas lindstromii	W	dried plants	Importers												
			Exporter	5											5
Cycas micholitzii	A	live	Importers												
			Exporter			290									290
	W	dried plants	Importers												
			Exporter	5											5
Cycas pectinata	A	live	Importers			310									310
			Exporter			310		20							330
	W	dried plants	Importers	5											5
			Exporter	5											5
		extract (g)	Importers						40						40
			Exporter												

Taxon	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	**2008	Total
		live	Importers												
			Exporter		45										45
Cycas revoluta	A	live	Importers						2552	1350	1350	800	919		6971
			Exporter			15			77550	4570	2700	1500			86335
	I	live	Importers						3	1					4
			Exporter												
		roots	Importers				3								3
			Exporter												
	W	extract (g)	Importers						44						44
			Exporter												
		live	Importers	500											500
			Exporter			317									317
Cycas spp.	A	live	Importers												
			Exporter			20									20
	I	live	Importers		1		4	1	2						8
			Exporter												
	W	dried plants	Importers	10											10
			Exporter										70		70
		extract (g)	Importers												
			Exporter						242						242
Cycas taiwaniana	W	dried plants	Importers	5											5
			Exporter	5											5

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database.
*These species are not known to occur in Viet Nam (Hill *et al*. 2007)
** Viet Nam has not yet submitted its annual report to CITES for 2008 (as of 30 November 2009).

ii) Legal protection and management:

According to the CITES Management Authority for Viet Nam, the family Cycadaceae is listed in national legislation (Appendix IIA of Decree 32/2006/ND-CP of Government dated 30 March 2006) as rare and precious species 'restricted for commercial purpose'. Exploitation from the wild is only allowed in certain circumtances and trade is prohibited (Do Quang Tung *in litt*. 12 October 2009). The harvesting of wild Cycadaceae requires permission from the Ministry of Agriculture and Rural Development or the Provincial Authority (Do Quang Tung *in litt*. 12 October 2009).

The CITES Management Authority for Viet Nam noted that since 2005 no wild-collected Cycadaceae have been allowed for export, and no export permits for any Cycadaceae specimens have been issued. Do Quang Tung (*in litt*. 12 October 2009) also noted that cycads are widely propagated in Viet Nam, and it is intended to review artificial propagation of several species of *Cycas* species in 2010.

Viet Nam has submitted a proposal to the CITES Secretariat to fund an assessment in Viet Nam that would: review the status of Cycadaceae populations, distribution and conservation status; review the wild harvest and propagation of Cycadaceae for trade purposes; assess and identify the trade chain and outlet of Cycadaceae trade; produce recommendations for the effective trade management and annual trade quota system; and produce recommendation for Cycadaceae conservation (CITES Management Authority of Viet Nam, 2009).

The CITES Management Authority for Viet Nam (Do Quang Tung *in litt*. 12 October 2009) reported that several meetings were held in 1999 and 2006 with the CITES Management Authority of China to develop and implement a programme to improve the regulation of all trade in cycads between the two countries.

Several protected areas hold populations of *Cycas* species**: Ba Ria-Vung Tau Province**: Con Dao National Park (*C. condaoensis*); Binh Chau-Phuoc Buu Nature Reserve (*C. lindstromii*); **Bac Kan Province**: Ba Be National Park (*C. brachycantha*); **Binh Phuoc Province**: Bu Gia Map Nature Reserve (*C. pectinata*); **Da Nang Province**: Son Tra Nature Reserve (*C. inermis*); **Dac Lak Province:** Yok Don Nature Reserve (*C. siamensis*); Nam Ca Nature Reserve (*C. siamensis*); Ho Lac Nature Reserve (*C. micholitzii*); **Dong Nai Province**: Nam Cat Tien National Park (*C. inermis*); **Gia Lai Province**: Kon Cha Rang Nature Reserve (*C. pectinata*); **Ha Tay Province**: Chua Huong Tich Nature Reserve (*C. hoabinhensis*); **Hai Phong Municipality**: Cat Ba National Park (*C. tropophylla*); **Hoa Binh Province**: Thuong Tien Nature Reserve (*C. hoabinhensis*); **Kon Tum Province**: Mom Ray Nature Reserve (*C. micholitzii*); **Lam Dong Province**: Deo Ngoan Muc Nature Reserve (*C. micholitzii*); **Lang Son Province**: Huu Lien Nature Reserve (*C. ferruginea*); **Ninh Binh Province**: Cuc Phuong National Park (*C. balansae*, *C. hoabinhensis*, *C. dolichophylla*, *C. sexseminifera*); **Quang Ninh Province**: Ha Long Bay Nature Reserve (*C. tropophylla*); Bai Tu Long National Park (*C. balansae*); **Thanh Hoa Province**: Ben En National Park (*C. chevalieri*); **Tuyen Quang Province**: Na Hang Nature Reserve (*C. dolichophylla*) (Anon., 2008; Hoang *et al.*, 2008a,b; Osborne *et al.*, 2007; Nguyen Manh Cuong, 2009).

The CITES Management Authority for Viet Nam noted that protected areas account for the main habitat of Cycadaceae in Viet Nam, and that harvesting in protected areas is not permitted (Do Quang Tung *in litt*. 12 October 2009).

The CITES Management Authority also reported that the Forest Protection Department was undertaking a survey program of rare and precious flora, including Cycadaceae (Do Quang

Tung *in litt*. 12 October 2009).

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Annex I: Re-exports of species covered by long-term suspensions.

Table 19. Re-exports of *Saiga tatarica* originating in Kazakhstan, 1998-2008.

Taxon	Exporter (Origin)	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Saiga tatarica	China (Kazakhstan)	W	horn products (kg)	Importers								1920				1920
				Exporter								2340				2340
	Hong Kong (Kazakhstan)	W	horns (kg)	Importers	500					563						1063
				Exporter	500					563.1						1063.1
	Malaysia (Kazakhstan)	W	horns (kg)	Importers		42										42
				Exporter												
	**Russian Fed. (Kazakhstan)	W	horns (kg)	Importers	500											500
				Exporter												
			skins	Importers		2										2
				Exporter												
			skulls	Importers		2										2
				Exporter												
			trophies	Importers	6											6
				Exporter	28	7										35
	Singapore (Kazakhstan)	I	horns (kg)	Importers							45					45
				Exporter												
		W	horns (kg)	Importers												
				Exporter							2019.5	20				2039.5
	United Kingdom (Kazakhstan)	W	bones	Importers												
				Exporter	30											30
			teeth	Importers												
				Exporter	1000											1000

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database as of 30 November 2009.
**The Russian Federation has not yet submitted a 2006 or 2008 annual report to CITES.

Table 20. Re-exports of *Saiga tatarica* originating in the Russian Federation, 1998-2008.

Taxon	Exporter (Origin)	Source	Term (Units)	Reported by	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Saiga tatarica	China (Russian Federation)	W	horns	Importers				3								3
				Exporter												
	Singapore (Russian Federation)	O	horns (kg)	Importers									260			260
				Exporter									289		200	489
	United States (Russian Federation)	O	horns (kg)	Importers								40				40
				Exporter												
		W	bodies	Importers	1											1
				Exporter												

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database as of 30 November 2009.

Table 21: Re-exports of *Strombus gigas* originating in Haiti as reported by importers, 1998-2008.

Taxon	Exporter (Origin)	Source	Term (Units)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Strombus gigas	Greece (Haiti)	W	shells												
	Italy (Haiti)	U	shells												
		W	carvings	12		22		16	12	1316	874				2252
			pearls							4					4
			shells (pairs)												
			shells												
	Philippines (Haiti)	W	carvings								21098	25187			46285
	Spain (Haiti)	W	shells	150											150
	United Kingdom (Haiti)	W	live		200										200
			shells (kg)												
			shells	150		300									450
	United States (Haiti)	W	carvings												
			shells (kg)												
			shells					12695	2000						14695

Source: UNEP-WCMC. UNEP-WCMC CITES Trade Database as of 30 November 2009.