

## Interpretation and Implementation of the Convention

## NEW CRITERIA FOR AMENDMENT OF APPENDICES I AND II

1. With the adoption of Resolution Conf. 8.20 (attached as Doc. 9.41 Annex 1), the Conference of the Parties at its eighth meeting initiated a process to revise the criteria for amending the appendices. Following the procedures outlined in this Resolution, the Standing Committee at its 28th meeting (Lausanne, 22–25 June 1992) drew up the terms of reference for the work to be done, and asked the Secretariat to contract IUCN to carry it out. IUCN convened a meeting of technical experts (London, 9–11 November 1992) that prepared a first draft of the new criteria, to be discussed by the Standing Committee at its 29th meeting.
2. At its 29th meeting (Washington, DC, 1–5 March 1993) the Standing Committee extensively discussed the document presented by IUCN. IUCN was requested to submit a revised draft of the criteria, taking into account the suggestions made by the Standing Committee. The Standing Committee also agreed to send a letter to the Parties asking for their views on the draft criteria in general, and on some specific aspects of it. This draft and the accompanying letter were sent to the Parties for comments with Notification to the Parties No. 736 of 20 April 1993.
3. From 30 August to 3 September 1993, the members and alternate members of the Plants and Animals Committees and the members of the Standing Committee met in Brussels to prepare a draft resolution on the new criteria. The joint meeting of the Committees used, as its basic reference material, the draft criteria prepared by IUCN as amended at the 29th meeting of the Standing Committee, IUCN's evaluation process and the comments submitted by Parties and by governmental and non-governmental organizations.  
The resulting draft resolution was, also, circulated to the Parties for comment (Notification to the Parties No. 773 of 15 October 1993).
4. At the request of the Chairman of the Standing Committee, the Secretariat analyzed the comments received, and prepared two working documents for consideration by the Standing Committee at its thirty-first meeting (Geneva, 21–25 March, 1994):
  - The first working document (Doc. SC.31.2.1) summarized the comments received from the Parties and international non-governmental organizations before 15 February 1994, and also contained comments from the Secretariat.
  - The second working document (Doc. SC.31.2.2) was a revised draft resolution, incorporating proposed changes judged appropriate.
5. The Standing Committee considered and amended these working documents. It decided that the following documents should be distributed to the Parties for consideration at the ninth meeting of the Conference of the Parties:
  - Doc. 9.41 Annex 2 is based on the text of the draft resolution distributed with Notification to the Parties No. 773 and includes:
    - summaries of the comments received from Parties, governmental and international non-governmental organizations, included at the appropriate places in the text in "Small print";
    - comments by the Secretariat, included in "*Italics*";
    - comments from the Standing Committee in "SMALL CAPITALS";
    - the explanations why some proposed changes were not included in the new draft resolution.
  - Doc. 9.41 Annex 3 is a revised draft resolution proposed by the Standing Committee, with the changed parts (as compared to the draft resolution distributed with Notification to the Parties No. 773) printed in "*Italics*". The changes are those judged to be appropriate taking into account the views expressed at the joint meeting of the Committees, past agreements of the Conference of the Parties, the discussions at the 31st meeting of the Standing Committee and the need to be logical and consistent in approach.  
Please note that, owing to the changes proposed, the numbering of Annexes and paragraphs may differ between the two documents. Therefore, references in Doc. 9.41 Annex 2 to other parts of that document or its annexes, only relate to that document, not to Doc. 9.41 Annex 3. References in Doc. 9.41 Annex 3 similarly only relate to itself, not to Doc. 9.41 Annex 2.
6. The Standing Committee also requested the Animals Committee and the Plants Committee to carry out a validation of the quantitative aspects of the criteria. The conclusions of these Committees will be included in Doc. 9.41 Annex 4, but will only be available after the meetings of the Plants and Animals Committees (16–20 May, 1994; respectively in China and Mexico).
7. A number of Parties made some general comments on the draft criteria, which are cited below.  
Canada suggested that, when the draft resolution is put to the Parties, it be accompanied by more explanatory information on the technical criteria in Annex 1. Those who attended the Brussels meeting learned that each of the criteria A–E was intended to address a particular aspect of the biology of threatened populations. The criteria appear less arbitrary when that is understood.  
China noted the obvious difference in financial resources between the developed countries and developing countries. These resources are needed for monitoring and reviewing key species in trade. This should be taken into account in case of uncertainty, and not result in strict controls.  
Germany commented that the criteria have become more practical and easier to implement but that unfortunately the 'Precautionary Principle' has not been taken into consideration as it should have been, in particular regarding the listing of higher taxa in Appendix II.  
The criteria still require fundamental knowledge, such as data on critical population sizes, which can not be provided for most invertebrates, migrating animal taxa (migrating fish) and plants. Germany added that the new criteria do not consider the biological fact that a species can also become ecologically extinct, so that it is no longer in a position to fulfil the role it usually played in the ecosystem. An example is the trade in frog legs from South–East Asia. 'The principle of causality' has again not been taken into consideration. It should be the

obligation of the user of an animal or plant resource to justify its utilization.

New Zealand expressed concern that the new criteria may deter Pacific nations from listing new species or even deter non-party countries from joining CITES. The South Pacific (Oceania) region contains many small island States whose resources are limited. Many species may be threatened, but little is known about trade impact and biological status.

The United States saw in good conscience, still far too many problems to accept the draft which came out of Brussels. They recommended that the Brussels paper be tabled as a working document and a reference for further work, not as a proposed resolution. The preference of the United States remained for development of revised criteria targeting things in the Berne criteria proven to be inadequate, rather than their complete rejection and replacement with an all-new, unproven, controversial, and flawed construct.....

The United States added that the draft resolution was focused almost exclusively from the narrow scope of biological extinction, rather than the broader scope more

consistent with the text of the Convention relating to ecological extinction or even commercial extinction. Also many advances in conservation biology had not been taken into consideration in the draft. Also the draft omitted consideration of (1) the loss of genetic diversity; (2) measures of abundance or population status other than counting the number of mature individuals; (3) the role of the species in its ecosystem; (4) ecological extinction; (5) allowance for other criteria for inclusion under Article II 2.(b) than similarity of appearance; and (6) the unrealistic workload burden of these criteria on the Secretariat, the permanent Committees, and the Parties.

8. The Governments of Japan and the United States of America are thanked for their financial contributions provided to support the process of development of the draft of the New Criteria for Amendment of Appendices I and II. Directorate General XI of the Commission of the European Union is thanked for providing meeting rooms and simultaneous interpretation during the Joint Meeting of the Committees in Brussels (30 August to 3 September 1993).

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Doc. 9.41 Annex 1

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RESOLUTION OF THE CONFERENCE OF THE PARTIES

Conf. 8.20

Development of New Criteria for Amendment of the Appendices

NOTING that the appendices to the Convention now include a very large number of species, many of which may not be threatened by commercial trade;

NOTING also that certain species may not be appropriately listed in the appendices;

NOTING further the failure of mechanisms approved by the Conference of the Parties to delete from the appendices or to transfer between appendices inappropriately listed species;

CONSCIOUS of the growing feeling amongst many Parties that the present composition of the appendices may not be enhancing conservation of some wild fauna and flora;

BELIEVING that, to some extent, the difficulties arise from a lack of appropriate criteria to define the term "threatened with extinction" in Article II;

RECOGNIZING that trade in wildlife products can be beneficial to the conservation of wild fauna and flora;

CONVINCED that the criteria adopted at the first meeting of the Conference of the Parties (Berne, 1976) (Resolutions Conf. 1.1 and Conf. 1.2) do not provide an adequate basis for amending the appendices;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

DIRECTS the Standing Committee to undertake, with the assistance of the Secretariat, a revision of the criteria for amending the appendices, for consideration at the ninth meeting of the Conference of the Parties, by:

- a) drawing up the terms of reference for the work to be done;
- b) seeking the expertise of IUCN and other organizations and individuals as appropriate; and
- c) arranging for a common meeting of the Plants and Animals Committees at which a draft resolution on such criteria shall be prepared; and

DECIDES that the following consultation procedure shall be followed prior to the ninth meeting of the Conference of the Parties:

- a) the Secretariat shall distribute the draft resolution to the Parties at least 300 days prior to the meeting;
- b) the Parties are invited to comment on the draft, to the Secretariat, in order to allow the Standing Committee to prepare a revised draft; and
- c) the revised draft shall be circulated to the Parties at least 150 days prior to the meeting.

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Doc. 9.41 Annex 2

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DRAFT RESOLUTION OF THE CONFERENCE OF THE PARTIES

Adopted by the Joint Committee on the Criteria for Amendment of Appendices I and II, in Brussels (Belgium) in September 1993 and Annotated by the Secretariat

Explanatory Note:

This document is based on the text of the draft resolution distributed with Notification to the Parties No. 773 and includes:

- Summaries of the comments received from Parties and governmental and international non-governmental

organizations are included at the appropriate places in the text in "Small print".

Comments were received with varying degrees of detail from the following 22 countries.

Australia (AU)  
Brazil (BR)  
Canada (CA)  
Chile (CL)  
China (CN)  
Denmark (DK)  
Ethiopia (ET)  
France (FR)  
Germany (DE)  
Japan (JP)  
Republic of Korea (KR)  
Netherlands (NL)  
Monaco (MC)  
New Zealand (NZ)  
Norway (NO)  
Philippines (PH)  
Saint Vincent and the Grenadines (VC)  
Spain (ES)  
Switzerland (CH)  
Thailand (TH)  
United States of America (US)  
United Kingdom (GB)

Comments by Ghana and Peru were received too late and were not included.

Comments were also received from the following organizations:

IUCN/Environmental Law Centre  
TRAFFIC International  
WWF (World Wide Fund For Nature)  
ICCAT (International Commission for the Conservation of Atlantic Tunas)  
EIA (Environmental Investigation Agency)

- Comments by the Secretariat are included in "*Italics*".
- Comments from the Standing Committee (SC) are included in "SMALL CAPITALS".
- The explanations why some proposed changes were not included in the new draft resolution.

Please note that, owing to changes proposed, the numbering of Annexes and paragraphs may differ from those in Annex 3. Therefore, references in the present Annex to other parts of it, only relate to the present Annex, not to document Doc. 9. 41 Annex 3.

#### Criteria for Amendment of Appendices I and II

RECALLING that the Conference of the Parties at its eighth meeting, held in Kyoto, Japan, in March 1992, was convinced that the criteria adopted at the first meeting of the Conference of the Parties (Berne, 1976) (Resolutions Conf. 1.1 and Conf. 1.2) did not provide an adequate basis for amending the appendices, and directed the Standing Committee to undertake, with the assistance of the Secretariat, a revision of the criteria for amending the appendices (Resolution Conf. 8.20);

NOTING that this review was carried out in consultation with the Parties and on the basis of initial technical work carried out by IUCN in collaboration with other experts;

NOTING further that all aspects of this review were addressed by a joint meeting of the Plants and Animals Committees in association with the Standing Committee, held in Brussels in September 1993;

CONSIDERING the fundamental principles in paragraphs 1 and 2 of Article II of the Convention, which specify the species to be included in Appendices I and II;

RECALLING that to qualify for inclusion in Appendix I a species must meet biological and trade criteria;

US: the Convention does not require biological criteria; delete.

*Secretariat:* the use of the word "RECALLING" suggests reference to the Convention text. Therefore, it is probably better to use "RECOGNIZING".

Addition GB: "RECOGNIZING the usefulness of the IUCN Red List of Threatened Animals in helping to determine which species may be threatened with extinction".

DK, ELC: also mention the use of Red Data Books, simply as sources of basic information.

*Secretariat:* there is no reference to the Red List or Red Data Books in this draft resolution, and therefore they should not be mentioned in the preamble.

RECALLING that Article II, paragraph 2.(a), provides for the inclusion in Appendix II of species which may become threatened with extinction, in order to avoid utilization incompatible with their survival;

RECOGNIZING that for the proper implementation of this provision it is necessary to adopt appropriate criteria, considering both biological and trade factors;

US: delete; link between biological and trade criteria not needed.

*Secretariat:* some linkage is required, otherwise every species in trade would qualify for inclusion in Appendix II.

RECALLING that paragraph 2.(b) of Article II provides only for the inclusion in Appendix II of species which must be subject to regulation in order that trade in specimens of certain species included in Appendix II in accordance with Article II, paragraph 2.(a), may be brought under effective control;

CONSIDERING, however, that this provision should also apply where there is a need to bring under effective control trade in specimens of species included in Appendix I;

Addition ES: NOTING etc. with reference to the ICCAT Resolution regarding co-operation with CITES.

*Secretariat:* there is no reason for referring to one organization when there is already a general reference to the role of these organizations.

RECOGNIZING that the range States of a species subject to an amendment proposal should be consulted following the procedures recommended by the Conference of the Parties, and that the intergovernmental bodies having a function in relation to that species should be consulted as well;

NOTING the competence of certain intergovernmental organizations in relation to the management of marine species;

NO: ... relevant intergovernmental ... species in a scientific and ecological context;.

*Secretariat:* current text is sufficiently clear.

RECALLING that the international trade in marine species is under the purview of the Convention;

NO: delete, not relevant to emphasize.

Secretariat: *perhaps more appropriate to replace "marine" with "all".*

SC: REPLACE "MARINE SPECIES" WITH "WILD FAUNA AND FLORA".

EMPHASIZING the importance of Resolution Conf. 3.4, adopted at the third meeting of the Conference of the Parties (New Delhi, 1981), regarding the need to provide to developing countries technical assistance in matters relating to the Convention;

RECALLING that the Conference of the Parties recognized in Resolution Conf. 8.3, adopted at the eighth meeting of the Conference of the Parties (Kyoto, 1992), that commercial trade may be beneficial to the conservation of species and ecosystems and/or to the development of local people when carried out at levels that are not detrimental to the survival of the species in question;

US: no relation with listing criteria, delete.

Secretariat: *agrees that the paragraph can be deleted, because there is no need to include in the preamble reference to elements which are taken care of in Annex 4.*

RECOGNIZING as a precautionary principle that, in the case of uncertainty, the Parties shall {...} when considering proposals for amendment of Appendices I and II;

US: replace {...} with: "include the species in the more restrictive appendix or otherwise provide the species the greater protection".

Secretariat: *the phrase "act conservatively" is present elsewhere in this document (Annex 4, A. 1.). But automatically placing a species in the more restrictive appendix may not always be the appropriate measure [cf. Resolution Conf. 5. 14, b) iii)]. It is suggested to replace it with: "act in the best interest of the conservation of the species".*

#### THE CONFERENCE OF THE PARTIES TO THE CONVENTION

ADOPTS the following Annexes as an integral part of this Resolution:

Annex 1: Biological criteria for {the inclusion of species in} Appendix I

Secretariat: *{...} should be deleted to make this consistent with a) below and Annex 1.*

Annex 2: Criteria for the inclusion of species in Appendix II

Annex 3: Criteria for special cases

Secretariat: *see comments in Annex 3.*

Annex 4: Precautionary measures

Annex 5: Definitions and notes; and

Annex 6: Format for proposals to amend the appendices;

RESOLVES that, when considering proposals to amend Appendices I and II, the following applies:

a) any species that is or may be affected by trade should be included in Appendix I if it meets at least one of the biological criteria listed in Annex 1;

Addition DE: a species may also be included in Appendix I if it is or may be affected by trade, but the available data are insufficient to determine whether or not one or more of the biological criteria listed in Annex 1 are met.

Secretariat: *the biological criteria listed in Annex 1, together with the precautionary measures, are sufficiently diverse to allow for the listing in Appendix I of any species requiring such protection.*

b) a species "is or may be affected by trade" if it is:

i) known to be in trade; or

ii) probably in trade, but conclusive evidence is lacking; or

iii) {likely to} enter trade in the near future;

NZ, US, TRAFFIC,  
WWF: {...} should be "may".

CH: iii) not acceptable; proof of trade volume should be required.

Secretariat: *some comments suggest making this criterion more loose, others want to delete it. It is suggested to maintain "likely to".*

TH: asks for more clear definition, in particular regarding "near future".

US: delete "in the near future".

Secretariat: *it is suggested to delete "in the near future". The likelihood of a species entering trade will always have to be indicated over a short period, because the "level of certainty" decreases as the "future projection" increases. There is always the possibility to list a species at a future meeting of the Conference of the Parties.*

Addition DE: iv) [or] could re-enter trade if it were downlisted from Appendix I.

Secretariat: *this paragraph deals with the listing of a species; DE's concern is taken care of in Annex 4.*

c) any species that meets the criteria for Appendix II listed in Annex 2 should be included in Appendix II in accordance with Article II, paragraph 2.(a);

Secretariat: *see also comments at beginning of Annex 3.*

DE: similar suggestion as under a).

Secretariat: *similar comment.*

d) species should be included in Appendix II under the provisions of Article II, paragraph 2.(b), if they satisfy the relevant criteria listed in Annex 3;

Secretariat: *see also comments at beginning of Annex 3.*

e) species should be included in more than one appendix at the same time and higher taxa should be included in the appendices only if the species or higher taxa concerned satisfy the relevant criteria listed in Annex 3;

f) species of which all specimens in trade have been bred in captivity or artificially propagated should not be included in the appendices if there is no probability of trade taking place in specimens of wild origin [US, CA: unless qualify under II 2.(b)];

Secretariat: *this suggestion is redundant, covered by Annex 3 (new 2b).*

FR: delete, current regime is better.

Secretariat: *is not aware of a "current regime".*

g) any species included in Appendix I that does not meet the criteria listed in Annex 1 should (US: only) be (NO: removed from the appendices or) transferred to Appendix II (NO: as appropriate) in accordance with the relevant precautionary measures listed in Annex 4;

Secretariat: *suggestion by US is appropriate, but it is better to include "only" after "Appendix I". Suggestion of NO is redundant, because Annex 4, A. 3.) does not allow the deletion of a species from Appendix I without its inclusion in Appendix II.*

Alternative DE: any species included in Appendix I for which sufficient data are available to demonstrate that it

does meet any of the criteria listed in Annex 1 should be transferred to Appendix II in accordance with the relevant precautionary measures listed in Annex 4;

*Secretariat:* concern of DE is covered by Annex 4.

h) any species included in Appendix II in accordance with Article II, paragraph 2.(a), that does not meet the criteria listed in Annex 2 should be deleted; and species included in accordance with Article II, paragraph 2.(b), because they look like the species subject to the deletion, or for a related reason, should also be deleted;

US: objects to this automatic linkage because (a) it requires annotation of the appendices and (b) a species once listed under II 2.(b) may now qualify under II 2.(a).

Alternative US: any species included in Appendix II that does not meet either the criteria listed in Annex 2 or the requirements of Article II 2.(b) may be deleted from the appendices, but only in accordance with the relevant precautionary measures listed in Annex 4;

*Secretariat:* h) appropriately links the need for deleting Article II 2.(b) species when the species with which they were associated is deleted because it does not meet the criteria of Annex 2. The concern of US may be taken care of by including after both "deleted" the reference to the relevant precautionary measures.

Alternative DE: any species included in Appendix II in accordance with Article II, paragraph 2.(a), for which sufficient data are available to demonstrate that it does not meet any of the criteria listed in Annex 2 should be deleted; and species included ...

*Secretariat:* DE concern is covered by Annex 4.

i) such proposals {should have been} presented in the format in Annex 6, unless otherwise specified; and

JP, NL: for {...} "should be".

*Secretariat:* the above text should be read in association with RESOLVES etc. above. To avoid any confusion it is suggested to move this paragraph below as a separate RESOLVES.

SC: AWARE THAT IT MIGHT NOT ALWAYS BE POSSIBLE TO OBTAIN ALL RELEVANT INFORMATION TO SUPPORT A PROPOSAL FOR THE INCLUSION OF A SPECIES IN THE CITES APPENDICES, AGREED TO INSERT AFTER "SHOULD BE" THE WORDS "BASED ON THE BEST INFORMATION AVAILABLE AND".

j) the views, if any, of intergovernmental organizations with competence for the management of the species concerned (NO: and reflecting the full scope of the organizations' commission) should be taken [fully (US: delete)] into account;

*Secretariat:* the suggestion by NO is redundant, because it adds nothing to this paragraph. The deletion of "fully" is supported.

RESOLVES that, to monitor the effectiveness of protection offered by the Convention, the status of species included in Appendices I and II should be regularly reviewed by the range States and proponents, subject to the availability of funds;

There is a general agreement that both appendices should be reviewed, with only priority for Appendix I (GB), by special experts (FR), a special committee (CH), or by the Animals and Plants Committees (AU).

*Secretariat:* taking into account the terms of reference of the Animals and Plants Committees (Resolution Conf. 6.1, Annex 2 and 3) it is suggested to add,

after "proponents", the phrase "in collaboration with the Animals Committee or the Plants Committee".

Addition DE: RESOLVES that the contents of Annexes 1 through 6 be fully reviewed before the 10th meeting of the Conference of the Parties, especially with regard to the scientific validity of the criteria, levels and definitions, and their applicability to different groups of organisms;.

*Secretariat:* – any Resolution is always subject to possible revision at a future meeting of the Conference of the Parties;

– it would not be appropriate to review these annexes before the 10th meeting of the Conference of the Parties as this will be the first occasion to evaluate proposals based on them (if adopted at the 9th meeting of the Conference of the Parties);

– if there is to be a review of the Resolution in future, it should be clear who will conduct it and who will pay for it.

URGES Parties and co-operating organizations to provide financial and technical assistance, when requested, in the preparation of proposals to amend the appendices, the development of management programmes, and the review of the effectiveness of the inclusion of species in the appendices. Parties should be open to using other available international mechanisms and instruments for these purposes in the broader context of biodiversity; and

DECIDES that the Resolutions listed hereunder shall be repealed:

US: indicates that any repeal proposal should be carefully co-ordinated with the process of consolidation of Resolutions. Resolution Conf. 7.14 has not been incorporated in this draft and Resolution Conf. 5.14 b) is also pertinent.

*Secretariat:* this document is part of the consolidation process. Resolution Conf. 7.14 exists to deal with proposals for transfer from Appendix I to Appendix II, in cases where it is not possible to demonstrate the recovery of a population as required by the Berne criteria. But the draft new criteria do not require the demonstration of a recovery. Therefore, if they are adopted, Resolution Conf. 7.14 will be redundant. Resolution Conf. 5.14. b) is not dealt with here because some relevant elements are part of the consolidated resolution on plant issues.

- a) Resolution Conf. 1.1 (Berne, 1976) – Criteria for the addition of species and other taxa to Appendices I and II and for the transfer of species and other taxa from Appendix II to Appendix I;
- b) Resolution Conf. 1.2 (Berne, 1976) – Criteria for the deletion of species and other taxa from Appendices I and II;
- c) Resolution Conf. 2.17 (San José, 1979) – Format for proposals to amend Appendix I or II;
- d) Resolution Conf. 2.19 (San José, 1979) – Criteria for addition of extremely rare species to Appendix I;
- e) Resolution Conf. 2.20 (San José, 1979) – The use of the subspecies as a taxonomic unit in the appendices;
- f) Resolution Conf. 2.21 (San José, 1979) – Species thought to be extinct;
- g) Resolution Conf. 2.22 (San José, 1979) – Trade in feral species;
- h) Resolution Conf. 2.23 (San José, 1979) – Special criteria for the deletion of species and other taxa

- included in Appendix I or II without application of the Berne criteria for addition;
- i) Resolution Conf. 3.20 (New Delhi, 1981) – Ten-year review of the appendices;
- j) Resolution Conf. 4.26 (Gaborone, 1983) – Ten-year review of the appendices;

- k) Resolution Conf. 7.14 (Lausanne, 1989) – Special criteria for the transfer of taxa from Appendix I to Appendix II; and
- l) Resolution Conf. 8.20 (Kyoto, 1992) – Development of new criteria for amendment of the appendices.

## Annex 1

### Biological Criteria for Appendix I

SC: SEE NOTE IN DOC. 9.41 ANNEX 3.

*Secretariat:* While the Parties have been reviewing the draft resolution, IUCN has continued its own process of evaluation and consolidation of its "categories of threat". Based on the results of this process, IUCN has proposed a number of changes to Annex 1, of which the most important one is the increase of the quantitative values against which to judge the threat of extinction. Following discussions with IUCN, the Secretariat has proposed a new text of Annex 1, also incorporating relevant comments from the Parties.

DE: A and B not applicable to plants; the criteria are too much tailor-made for vertebrates.

*Secretariat:* a species needs only to qualify under ONE of the five options. Also, tests carried out by the Royal Botanic Gardens, Kew, indicated that a number of plants species did qualify for inclusion in Appendix I under criterion A or B.

KR: the criteria should not apply to marine species.

*Secretariat:* CITES applies to all species.

GB: "Criteria for inclusion of species in Appendix I" as alternative for title.

*Secretariat:* the present title should be maintained, to be consistent with the text of the main draft resolution, where the trade criterion is contained in paragraph b).

(NO, ICCAT: With the understanding given by the definitions and notes in Annex 5, a) species is considered to be threatened with extinction if it meets at least one of the following criteria\*.

*Secretariat:* addition is redundant. All Annexes are an integral part of this draft resolution.

A. Estimated size of the wild population is so small<sup>1</sup> that there is a high risk of extinction.

*Secretariat:* In discussions with IUCN it was suggested to increase the numerical value in this criterion from 'less than 250' to 'less than 5000' mature individuals. In adopting this proposal, it is more appropriate to amend the first line of criterion B to include such numerical reference there. A can be merged with B ii) below, where reference can be made to very small sub-populations with less than 250 mature individuals.

Alternative US: "The estimated size, density, integrity or distribution of the wild population is so small that there is a likelihood of extinction". As a minimum in paragraph A, we recommend replacing "high risk" with "significant risk" or better simply "risk".

*Secretariat:* the word "high" can be deleted.

B. The wild population, though more abundant<sup>2</sup> than in criterion A, is characterized by:

- i) an observed, inferred or projected ~~continuing~~ decline in the number of {mature} individuals or the area and quality of habitat+; and

*Secretariat:* the word "continuing" is deleted; see explanation in Annex 5. To make this text consistent with that of criterion E, it is necessary to include a qualification for decline in the text. Also, the 'and' should be changed into 'or'.

+ AU add: needed to avoid extinction.

+ US add: to a level where further loss jeopardizes the existence of the population;

*Secretariat:* agrees with the suggestion of AU because it provides an additional qualification for the term "habitat".

FR: delete {...}

*Secretariat:* it was decided to base the definition of population on the number of mature individuals (Annex 5). Deletion of the word "mature", or replacement by other text, can only be considered after changing the definition.

- ii) either:

*Secretariat:* because of the changes proposed to B i), a), b) & c) will have to be changed into ii), iii) and iv).

- a) severe fragmentation, with each sub-population meeting criterion A; or

*Secretariat:* the word severe is deleted; see definition of fragmentation in Annex 5.

Criterion A being proposed for deletion, it is suggested to amend the last part of this criterion and to include a reference to the numerical values mentioned in the former A.

SC: AGREED TO THE DELETION OF "SEVERE" AND TO THE DELETION OF "FRAGMENTATION, WITH".

- b) a majority of individuals being concentrated in one sub-population.

Addition US: c) large short-term fluctuations in per capita population productivity (births minus deaths); or.

*Secretariat:* this criterion is only relevant when the number of deaths is more than the number of births, which is covered by B i) of this Annex. However, if the Secretariat understands correctly the intent of the US, concern is expressed about populations which may show a large fluctuation in the number of mature individuals (e.g. butterflies) over a short period of one or two years. An additional criterion is proposed.

Addition US: d) high vulnerability of the population during one or more life-history phases, including vulnerability to exploitation due to extensive movement or migratory paths.

Secretariat: *the reference to life–history phases could better be separated from the migratory aspect, and added to b) above. An additional criterion for migratory species is proposed.*

C. Area of distribution of the species (AU: in the wild) is so small<sup>3</sup> that there is a high risk of extinction.

Secretariat: *agrees with AU; the word "high" should also be deleted (see A above).*

*In the discussions with IUCN it was suggested that the numerical value in this criterion be increased from 'less than 500 km<sup>2</sup>' to 'less than 10,000 km<sup>2</sup>'. In adopting this proposal it is more appropriate to amend the first line of criterion D to incorporate the numerical value there, and to merge C with D i).*

D. The wild population has a restricted area of distribution<sup>4</sup> and is characterized by **any {two}** of the following:

US: delete {...}; even in the absence of fragmentation, a threatened population characterized by significant decline should qualify for Appendix I.

Secretariat: *agrees with the US.*

i) {severe} fragmentation or extreme concentration;

Secretariat: *"severe" is deleted, see definition of fragmentation (Annex 5). It is also suggested to include the numerical value for very small populations (as contained in criterion C) after fragmentation, and to reword the reference to extreme concentration. The definition of 'extreme concentration' can then be deleted from Annex 5.*

ii) an observed, inferred or projected ~~continuing~~ decline in

Secretariat: *the word "continuing" is deleted, see explanation in Annex 5.*

- the area of distribution; or
- the number of sub–populations; or
- the number of mature individuals; or

Alternative FR:–either the total population size or any other indicator permitting absolute or relative inference of the status of the population; or.

Secretariat: *it was decided to base the definition of population on the number of mature individuals (Annex 5). Deletion of the word "mature", or replacement by other text, can only be considered after changing the definition.*

- the area, extent or quality of habitat; or

Addition US: –reproductive effort and recruitment;.

Secretariat: *not sure what "reproductive effort" refers to, but the ultimate result (recruitment) is covered by "number of mature specimens" (above).*

iii) extreme and rapid fluctuations in the area of distribution or the number of sub–populations.

E. A marked ~~continuing~~ decline [NZ, AU, EIA, TRAFFIC, JP: (a clear downward trend at a rate that could lead to the extinction of the species unless halted)] in the number<sup>5</sup> of {mature individuals} in the wild, which has been **either**:

Secretariat: *see explanation in Annex 5.*

FR: delete {...}.

Secretariat: *it was decided to base the definition of population on the number of mature individuals (Annex 5). Deletion of the word "mature", or replacement by other text, can only be considered after changing the definition.*

i) observed as ongoing or as having occurred in the [recent (US: delete)] past (but with a {high} potential to resume); or

Secretariat: *"recent" should be maintained; there is no purpose in considering changes that happened 50 or 100 years ago; deletion of "high" is supported.*

US, NZ, TRAFFIC,  
WWF: delete {...}.

Secretariat: *acceptable suggestions in view of the strong decline.*

GB: delete E. Only difference with Appendix II criteria is that "decline could be expected to lead to the extinction of the species".

Secretariat: *proposed changes to criterion E make this remark redundant.*

KR: proposes addition of the following to explain that E should not apply to fisheries.

This paragraph should not be applied to certain marine species, in particular target species for fisheries, taking into account the following:

–populations of marine species with one–year life cycle like anchovies or squids could fluctuate considerably in the number of mature individuals even without catching. Their decline by over 50% in total number could happen easily within two generations due to natural changes of marine environmental and biological circumstances;

–many marine species, e.g. sardine, herring, horse mackerel, mackerel, cod, Alaska pollack, tuna, etc. have also been observed to have significant fluctuations in numbers such as a decrease of more than 50% over 5 years or within two generations without catching.

Secretariat: *see comments on proposal DE at end of Annex 3.*

ii) inferred or projected on the basis of:

- a continuing decline in area or quality of habitat; or

CH: CITES is not dealing with habitat protection.

Secretariat: *that is true, but the reference here is appropriate because the specimens are or may be in trade.*

- levels of exploitation {(provided there are not other explanations for the change)}; or

DE, US: delete {...}.

US: ibidem, but add "index of abundance" as parameter.

Secretariat: *text should be maintained, since it could apply to e.g. controlled culling operations.*

- threats such as the effects of introduced species, pathogens, competitors, parasites (FR:, predators), hybridization and the effects of pollutants.

Secretariat: *no need for additions since the list is not exhaustive; besides it is biologically inappropriate to add predators.*

Addition CH: a paragraph taking into account age and sex pyramid of the populations.

Secretariat: *it was decided to base the definition of population on the number of mature individuals (Annex 5). Deletion of the word "mature", or replacement by other text, can only be considered after changing the definition.*

F. The status of the species is such that the species is likely to satisfy one or more of the above criteria within the period between {two meetings} of the Conference of the Parties **if**:

US: confusing, needs clarification.

Alternatives for {...} range from three meetings to ten years.

NO: delete, not based on biological criteria.

*Secretariat: the purpose of this criterion is to allow a species to be included in Appendix I if there is proof that, for whatever reason, it may qualify under any of the criteria A to E within a few years. The time span chosen is not clear. "between two meetings" means that a proponent is certain that a species has to be proposed for inclusion at (e.g.) the 9th meeting of the Conference of the Parties, because it will certainly qualify before the 10th meeting of the Conference of the Parties will take place. The Secretariat proposes an alternative text which clarifies the intent and makes the two additional requirements (below) superfluous.*

- current levels of protection and/or management are severely reduced; **or**
- exploitation begins or increases.

Addition WWF: G. the wild population, though no longer declining and perhaps even recovering, has been severely depleted in the past and is likely to decline once again if international trade is resumed.

*Secretariat: phrased in this way it could result in the inclusion of species which may still be abundant. The relevant species are covered by E i).*

Addition DE: G. The species has been listed on Appendix II for five years or more, but trade has not been successfully controlled to the point where it is compatible with survival; the species should remain on Appendix I until the defects in the previous arrangements for managing the trade have been rectified. A subsequent transfer to Appendix II should be in accordance with the provisions of Annex 4.

*Secretariat: this is not a biological criterion. It refers to downlisting, and is covered by Annex 4.*

\* The vulnerability of a species to threats of extinction depends on its biological characteristics, and the following numerical values, relating to notes in the above criteria, are only presented as examples that have been found to be appropriate to many species.

<sup>1</sup> less than 250 mature individuals

<sup>2</sup> 250–2500 mature individuals

<sup>3</sup> less than 100 km<sup>2</sup>

<sup>4</sup> less than 500 km<sup>2</sup>

<sup>5</sup> a decrease by more than 50% in total within five years or two generations.

*Secretariat: 5 is moved to E i).*

*New numerical values have been suggested following discussions with IUCN.*

Alternative NL: The vulnerability of a species to threats of extinction depends on its biological characteristics, such as body size, trophic level and life cycle. This makes it impossible to give numerical values for population size or area of distribution that are applicable to all taxa. However, no species with a population of fewer than 1000 mature individuals should ever appear in international trade, nor should a species showing a decline of more than 33% of its total population of mature individuals within five years or two generations, whichever is the longest.

*Secretariat: the last part is more an indication of limits to trade, not a biological criterion. However the first part is an improvement of the introductory text to the section on numerical values.*

#### General:

No one is really happy with the quantitative values.

Deletion is suggested by NZ, US, GB, WWF, EIA; ES: not applicable to marine species; FR: 10 times increase for 1, 2, 3 and 4; not applicable to plants and marine species.

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## Annex 2

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*Secretariat: see comments in Annex 3.*

### Criteria for the Inclusion of Species in Appendix II in Accordance with Article II, Paragraph 2.(a)

GB: these criteria do not work, revise completely.

FR: delete all and replace with: "a species should be included in Appendix II when it is subject to trade".

DE: too restrictive, because of deletion of biological criteria adopted in Brussels.

US: both paragraphs A and B of this Annex are confusing.

*Secretariat: no comments regarding remarks of GB, FR, DE and US.*

US: there may be species that are appropriately included in Appendix II whose trade is being effectively regulated according to the requirements of the Convention. If such a species were stable due to the implementation of the Convention, this annex as drafted could preclude its retention.

*Secretariat: covered by Annex 4, A 4.*

(NO: With the understanding given by the definitions and notes in Annex 5, A a) species should be included in Appendix II in order to avoid utilization incompatible with its survival when [either of (KR, CA, JP: delete)] the following criteria is met:

*Secretariat: suggestion NO is redundant. Suggestion by KR, CA and JP would make this Annex too restrictive.*

SC: AGREED TO DELETE THE REFERENCE TO INCOMPATIBLE UTILIZATION.

A. The population is known, inferred or projected {to have reached a level at which}, unless trade in the species is subject to strict regulation, it would meet the criteria listed in B; or

WWF,  
TRAFFIC: "to be of such a status that" for {...}; to avoid a decline requirement.

- CA: last part should read "it could become threatened with extinction" as a clear reference point to focus the debate on population status.
- Secretariat: *agrees, that a change is needed, both to remove the implication of decline and to improve the grammar. A new text is proposed which will probably also take care of some of the concerns mentioned under B.*
- CA: a second alternative for the last part is: "it would fall below the size and distribution required to play its role in the ecosystem".
- Secretariat: *the text of the Convention makes a clear distinction between requirements for listing of a species in the appendices and the requirements for the issuance of permits. Listing of species is covered by the text of Article II. The reference to the role of the species in its ecosystem is contained in Article IV, paragraph 3. The Scientific Authority should monitor whether a species is maintained at its appropriate level. When it is not, the granting of export permits should be limited.*
- SC: AGREED TO BRING THIS TEXT MORE IN CONFORMITY WITH THE TEXT OF THE CONVENTION. IT ALSO AGREED TO CHANGE THE SEQUENCE OF THE TWO CRITERIA IN THIS ANNEX.
- B. The number of specimens taken from the wild and entering international trade has, or {may} have, a [significant (DE: delete)] detrimental impact on the status of the species; and either
- CA: "will likely" for "may", to make the text more strict.
- Secretariat: *agrees with DE and CA; when the detrimental impact does not have to be significant, the proof of it should be more solid.*
- US: Under Article II of the Convention, Appendix-II species are those that may become threatened with extinction if their trade is not regulated. However, paragraph B 1) of this annex restricts Appendix-II species to those that are experiencing a significant detrimental impact on their status.
- This annex would require the application of biological criteria to species proposed for inclusion in Appendix II; this requirement may go beyond the text of the Convention. We believe, however, that the treaty and Resolution Conf. 1.1 have biological considerations for this appendix.
- Secretariat: *such species qualify under A.*
- US: the decline requirements of this annex are biologically inappropriate, and contradictory to the purpose and spirit of the Convention. This annex as drafted appears to imply that only those species that are not being utilized sustainably should be included in Appendix II; such species are more likely potential candidates for Appendix I. We consider Appendix II appropriate for species at risk whose sustainable use depends upon the international system provided by CITES.
- Secretariat: *the amended text of A might take care of the US concern.*
- EIA: "and either" into "or"; concerned about biological requirements.
- Secretariat: *it does not seem appropriate to give B 1) and 2) the same status.*
- JP: delete "either".
- Secretariat: *this change would create confusion, because then it is not clear whether the choice is [(B + 1)] versus [(B + 2)] or [(B + 1)] versus 2).*
- NL: "and either" into "because either".
- WWF: "and either" into "as indicated by any of the following".
- Secretariat: *the alternatives of NL and WWF have more or less the same meaning, but the original text should be maintained in order to keep it logical when reading paragraph B in conjunction with the subparagraphs 2) and iii).*
- SC: AGREED TO INSERT THE WORDS "IT IS KNOWN, INFERRED OR PROJECTED THAT" AT THE BEGINNING OF THIS CRITERION.
- 1) The population is known, inferred or projected to be in ~~continuing~~ decline because of factors such as: habitat alteration, reduction in geographical extent and/or range area, the effects of predators, diseases, parasites, competition, hybridization or pollutants; or
- Secretariat: *the text should be made consistent with the last part of Annex 1, E ii) second indent.*
- CH: habitat consideration not for CITES.
- Secretariat: *that is true, but the reference here is appropriate because the specimens are or may be in trade.*
- 2) The average number of specimens taken from the wild population each year fulfils, or may be expected to fulfil, one of the following conditions:
- i) over an extended period, exceeds the level that can be continued in perpetuity; or
- NO: add after "perpetuity" "given unchanged ecological conditions".
- Secretariat: *given the possibility that the ecological conditions will change, and that such change will affect the "level" mentioned in this criterion, the proposed text should not be added.*
- ii) over an extended period, exceeds the intrinsic rate of increase of the species; or
- CH, ES: want to combine i) and ii).
- WWF: delete ii).
- Secretariat: *i) and ii) are very similar. It is suggested to maintain i). Consequently the "one" in 2) should be replaced by "either".*
- DE: interprets i) and ii) as permission for 100% surplus harvest. Therefore suggests: "does not exceed 50% of" to replace "exceeds".
- Secretariat: *the criteria do not give permission, they indicate what is of concern. If a harvest comes from the surplus it is sustainable.*
- US: subparagraphs i) and ii) apply to the majority of commercially exploited fish stocks, most of which are considered not likely to be threatened with extinction, but many of which are vulnerable to over-exploitation.
- Subparagraph iii) however is useful and could be retained.
- Secretariat: *i) and ii) could also be applied to commercial fisheries species. The phrase "over an extended period" would allow for possible fluctuations in the population size due to controlled exploitation of fish stocks. In addition, the preamble contains sufficient references to the need for consultation of relevant international organizations.*
- iii) reduces the species to a level at which {it is vulnerable to other influences on its survival}.

CA: suggest to change {...} into "its survival would be threatened by other influences"; a species is "...vulnerable to other influences..." at any population level.

Secretariat: *agrees with suggestion of CA.*

Addition DE: C.The species is significantly traded (typically 1000 specimens per year) and appears to be at least locally affected by utilization for international trade.

Secretariat: *trade in 100,000 sparrows or queleas does not justify their inclusion in Appendix II.*

Addition DE: *D.Inclusion on Appendix II is considered the most effective way of collecting data on the levels of trade, for the purpose of subsequent determination of whether or not the species meets criterion A or B.*

Secretariat: *the Convention has no provisions for the inclusion of a species just for the purpose of finding out if it might qualify under A or B.*

Addition DE: E.The criterion A or B has previously been met for the species, and retaining the species on Appendix II is considered desirable in order to ensure that levels of trade do not revert to unsustainable levels, and/or to ensure that trade data are collected so that the status of the species with respect to criteria A and B can be kept under review.

Secretariat: *this is taken care of under Annex 4, A 4.*

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### Annex 3

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#### Criteria for special cases

##### Appendix II [Article II 2.(b)]

GB: should be in Annex 2.

Secretariat: *this annex is a mixture of criteria and rules for special cases. The suggestion by GB seems appropriate.*

*The following changes are suggested:*

- *the criteria for the listing of species under Article II 2.(b) will be placed in a separate Annex 2b.*
- *the current Annex 2 will become 2a.*
- *the title of this Annex 3 will be changed into "Special Cases".*
- *relevant changes in references to these Annexes will be made in the main part of this draft resolution.*

Species should be included in Appendix II in accordance with Article II, paragraph 2.(b), {if they are in trade and} if they satisfy one of the following criteria:

DE, AU, US, EIA,  
TRAFFIC, WWF: DELETE {...}.

Secretariat: *is of the opinion that Article II 2.(b) should be interpreted as referring to look-alike specimens which are in trade. However, it will not strongly object to the deletion of the {...} phrase.*

i) the specimens {primarily in demand} closely resemble specimens of a species included in Appendix II under the provisions of Article II, paragraph 2.(a), or in Appendix I, such that a non-expert, with reasonable effort, is unlikely to be able to distinguish between them;  
or

DK: wants reference to parts and derivatives.

Secretariat: *are covered by the definition of "specimen" in Article I.*

DE, AU, TRAFFIC,  
WWF: delete {...}.

Secretariat: *see comment above.*

ii) the species is a member of a taxon of which most of the species are included in Appendix II under the provisions of Article II, paragraph 2.(a), or in Appendix I, and the remaining species must be included to bring trade in specimens of the others under effective control.

NO: delete ii); do not use taxonomic relationship to replace scientific criteria.

Secretariat: *to ensure effective control of monkeys listed in accordance with Article II 2.(a), the Primates could be included in accordance with II 2.(b), to make the task of enforcement easier for Customs officers.*

Addition TRAFFIC,  
WWF: iii) the species has a clear ecological relationship with species included in Appendix II under the provisions of Article II 2.(a) or in Appendix I, and Appendix II listing would assist the conservation of such species.

Secretariat: *the need to conserve those species which are essential for the survival of others is very important. The example mentioned by the proponents (Amazona aestiva and Quebracho, the nesting-tree) is clear. However, more strict control of trade in specimens of Quebracho will not improve or support the control of trade in specimens of Amazona aestiva. And that is what Article II 2.(b) is all about.*

*But if such a species is in trade and meets the criteria of Annex 1, 2a or 2b, it may be included. It is therefore suggested to include this element in Annex 6, in the paragraph 2. on Biological Parameters in the Supporting Statement.*

*See also comments of Secretariat on the second alternative for criterion A in Annex 2, proposed by CA.*

US, DE: want to maintain the possibility to include species in Appendix I because of difficulty in identification.

##### Split-listing

TRAFFIC: move to principle part of the draft resolution.

Listing of a species in more than one appendix should be avoided in general in view of the enforcement problems it creates. When split-listing does occur, this should generally be on the basis of national or continental populations, rather than subspecies. {For marine species outside the jurisdiction of any State}, listing in the appendices should use the terms used in other existing international agreements, if any, to define the population. If no such international agreement exists, then the appendices should define the population by region or by geographic co-ordinates. Taxonomic names below the species level should not be used in the appendices unless the taxon in

question is highly distinctive and the use of the name would not give rise to enforcement problems.

NO: "In cases where this is not possible" for {...}.

Secretariat: suggests deletion of "marine".

FR: suggest much shorter text.

#### Higher Taxa

GB, TRAFFIC: delete 1. and 2.; covered by look-alike.

Secretariat: agrees with the suggestion of GB and TRAFFIC; 1. and 2. may be deleted.

1. {If all but a few} species in a large higher taxon are, or should be, included in Appendix I, the few remaining species should be included in Appendix II.

AU: better in Appendix I.

Secretariat: not possible. The text of the Convention does not provide for such an inclusion.

GB: "If most of the" for {...}, to be consistent with look-alike ii).

2. {If all but a few} species in a large higher taxon are, or should be, included in Appendix II, possibly with some species in Appendix I, the few remaining species should be included in Appendix II.

3. If all species of a higher taxon are included in Appendix I or II, they should be included under the name of the higher taxon. If some species in a higher taxon are included in Appendix I or II and all the rest in the other appendix, the latter species should be included under the name of the higher taxon, with an appropriate annotation.

NZ, WWF: replace all with: genera should be listed if some of their species are threatened and identification of individual species within the genus is difficult. The same should apply to listing any smaller taxa within large ones.

Secretariat: covered by the text of (new) Annex 2b.

Addition DE: 4.If a higher taxon is included in Appendix I, but some species do not meet the criteria for inclusion in Appendix I, then it is only necessary to list in Appendix I (with an appropriate annotation to the Appendix I listing) those species for which one or more Parties have expressed an interest in trading.

Secretariat: inappropriate.

Addition DE: 5.If the collection of biological data on species within a higher taxon, and the elaboration of management measures required to ensure that trade in them is sustainable, are not likely to be achieved in the future, and no Party has expressed

a strong interest in continuing trade, then the higher taxon may be included in Appendix I even if no evaluation of the individual species in the taxon with respect to the biological criteria for Appendix I has been conducted, and even if not all species in the taxon are known to be of trade interest.

Secretariat: the text of the Convention does not provide any basis for this procedure. Furthermore the text proposed by DE clearly goes against the criteria for the inclusion of species in Appendix I in this draft resolution, and it seems to be aimed at prohibition of trade. Both additions 4. and 5. appear to be designed to introduce aspects of reverse listing. This approach has not been accepted by the Parties.

Addition DE: In the case of marine species the management of which is under the competence of a recognized intergovernmental organization, and especially in the case of highly migratory species listed in Annex A of the United Nations Convention on the Law of the Sea, species should normally be listed in the appendices in a manner which most effectively supports the management measures of the competent organizations:

- if the competent organization has set a zero level of commercial take for the species concerned, then the species should be listed on Appendix I unless the zero-take measure is not expected to remain in effect longer than the time between two meetings of the Conference of the Parties;
- a marine species may also be included in Appendix I if in the judgement of the Parties the management programme of the competent organization is demonstrably inadequate to ensure that offtakes are sustainable and to conserve the species in accordance with the standards of Article IV 3., or has demonstrably failed in this regard. It should be retained on Appendix I until the deficiencies have been remedied.

AU: does not exclude the possibility to develop special criteria for marine species.

Secretariat: CITES applies to all animal and plant species. The fact that other treaties may deal with the same species is recognized and provisions have been made for them to be consulted regarding amendment proposals. CITES does not need to establish special criteria regarding such species. The Conference of the Parties takes its decisions on the basis of the information provided in an amendment proposal and the results of the consultation procedure.

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## Annex 4

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### Precautionary measures

SC: AGREED TO REPLACE ALL USES OF "SHOULD" IN THIS ANNEX WITH "SHALL" TO CLEARLY REFLECT THAT THE CONFERENCE OF THE PARTIES MUST FOLLOW THESE PRECAUTIONARY MEASURES WHEN ACCEPTING AN AMENDMENT PROPOSAL.

A. When transferring a species from Appendix I to Appendix II or deleting a species from Appendix II or increasing a quota, the Parties should take into account the following:

1. In the case of uncertainty as to the impact of a change in the trade regime on the conservation of a species, the Parties should act conservatively.

TRAFFIC: delete, covered by D.

Secretariat: the interpretation by TRAFFIC is correct.

The following is suggested:

- to combine D and A 1. into a new A;
- to place the remaining subparagraphs (A 2.–5.) in a new paragraph B. For reasons of clarity it is also suggested to arrange the subparagraphs in a new sequence: 3., 2., 5., 4.;
- to change old B into C and old C into D;

- to include the amendment proposed in the Secretariat's comments at the end of the preamble in document Doc. 9.41 Annex 2;
- the new text of A also takes account of the remarks by GB and US (below).

GB: add "in the best interest of the species".

US: "place the species in the more restrictive appendix" for "act conservatively".

2. Species in Appendix I that do not meet the criteria in Annex 1 may be transferred to Appendix II (NO add: "if they meet the criteria given in Annex 2, and") in accordance with one of the following options:

Secretariat: *suggestion of NO should be read in relation with the remark under 3. below. This would strongly weaken the precautionary measures.*

JP: some words are much too binding on Parties. In 2. a., b. and c. change "approve" into "recommend"; in 2. b. and c. change "as integral part of" into "with regard to".

Secretariat: *maintain original text to ensure effective implementation of quotas; they must be incorporated in the appendices.*

- a. without any export quotas approved by the Conference of the Parties, [DE, TRAFFIC, WWF add: "if there is no significant (trade in and) risk to the status of species, and"] if the Conference is reasonably satisfied with:

Secretariat: *the concerns are covered by i) and ii) below.*

- i) implementation by the range State(s) of the requirements of the treaty, in particular Article IV; and

AU: "Convention" to replace "treaty".

Secretariat: *agrees.*

- ii) appropriate compliance and enforcement controls; or

Secretariat: *this text is not clear; an alternative is proposed.*

- b. with an export quota approved by the Conference of the Parties as an integral part of the amendment, based on management measures described in the supporting statement in the amendment proposal; or

- c. with an export quota approved by the Conference of the Parties for a specified period of time as an integral part of the amendment, based on management measures described in the supporting statement in the amendment proposal; or

AU: combine b. and c.

Secretariat: *paragraphs b. and c. require the choice of an option; therefore the options should not be combined.*

- d. with submission of a ranching proposal consistent with applicable Resolutions of the Conference of the Parties.

Addition DE (from

Berne Criteria): In each case, the results of at least one recent well-documented scientifically conducted population survey must be available before a species can be transferred from Appendix I to Appendix II.

Secretariat: *this should be incorporated in Annex 6, paragraph 2.1; the Parties will decide on the basis of the information presented to them.*

Addition

TRAFFIC: Species particularly severely depleted in the past, even if recovering or stable, should only be transferred from Appendix I to Appendix II under the conditions of paragraph A 2.c. or A 2.b. above.

Secretariat: *the Parties should decide on a case-by-case basis. Sufficient safeguards are provided by a., b. and c. above.*

Addition WWF: Species in Appendix I should not be downlisted to Appendix II if there is a likelihood of significant trade unless there is a management programme and control system in place to ensure that trade will not have any detrimental effects.

Secretariat: *the Parties should decide on a case-by-case basis.*

3. No species listed in Appendix I should be removed from the appendices unless it has been first transferred to Appendix II, with monitoring of any impact of trade on the species for at least two intervals between meetings of the Conference of the Parties.

GB: move to operative part.

Secretariat: *all elements of the precautionary measures should be kept in the same Annex.*

NO: delete from the appendices if the criteria are not met.

Secretariat: *see above under 2.*

4. No species should be deleted from Appendix II if such deletion would be likely to result in it qualifying for inclusion in the appendices in the near future.

AU: 5 years.

Secretariat: *delete "in the near future".*

SC: AGREED TO MAINTAIN "IN THE NEAR FUTURE".

5. No proposal for transfer of a species from Appendix I to Appendix II with an export quota should be considered from a Party that has entered a reservation for the species in question, unless that Party agrees to remove the reservation within six months of the adoption of the amendment.

US: 90 days, this should coincide with entry into force.

Secretariat: *agrees; if a Party can enter a reservation within 90 days, it should also be able to withdraw it in the same time.*

B. The following review procedures should apply when a species is transferred to Appendix II pursuant to paragraphs A 2.b. and A 2.c. above:

1. Where a Party becomes aware of problems in compliance with the management measures and export quotas of another Party, the Secretariat shall be informed and, if the Secretariat fails to resolve the matter satisfactorily, it shall inform the Standing Committee which may, after consultation with the Party concerned, recommend to all Parties that they suspend trade with that Party in specimens of CITES-listed species, and/or request the Depositary Government to prepare a proposal to transfer the population back to Appendix I.

2. If, on review of a quota and its supporting management measures, the Animals or Plants Committee encounters any problems with compliance or potential detriment to a species, the relevant Committee shall request the Depositary Government to prepare a proposal for the appropriate remedial action.

AU: (PC or AC → SC → Secretariat → Depositary Government).

*Secretariat: it is logical to involve the Standing Committee. However, the Depositary Government is a member of the Standing Committee, and therefore there is no need to involve the Secretariat.*

C. If the proponent Party wishes to renew a quota established pursuant to paragraph A 2.c. above, it shall submit an appropriate proposal for consideration at the next meeting of the Conference of the Parties. In anticipation of there being no such proposal submitted, the Depositary Government shall submit a proposal for consideration at the next meeting of the Conference of the Parties to transfer the species back to Appendix I.

AU: proposes automatic zero quota; each Party has the sovereign right to determine whether or not to trade (and export) its wildlife; default listing in Appendix I is not appropriate when Party stops trade.

*Secretariat: some amendments to this text are suggested, because a Party may also wish to change the level of the quota. It agrees with the suggestion of AU.*

D. When transferring a species from Appendix II to Appendix I, including a species in Appendix I or II, or decreasing a quota, in the case of uncertainty as to the impact of a change in the trade regime on the conservation of the species in question, the Conference of the Parties should act cautiously, {to favour a higher level of protection}

JP: "considering whether the change is beneficial for the survival of the species" for {...}.

*Secretariat: see comments at the beginning of this Annex.*

E. Species that are regarded as possibly extinct should not be deleted from Appendix I, (FR: delete rest) if they may be affected by trade in the event of their rediscovery; these species should be annotated in the appendices as "p.e." (i.e. possibly extinct).

TRAFFIC: move to principle part of the draft resolution.

*Secretariat: all elements of the precautionary measures should be kept in the same Annex.*

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## Annex 5

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### Definitions and notes

*Secretariat: we received an interesting variety of comments regarding the definitions of "continuing decline".*

*The following is suggested (e.g. AU, NZ, JP, EIA, TRAFFIC)*

- 1. Only one definition: Decline;*
- 2. Change "continuing decline" to "decline" everywhere in the text;*
- 3. It was also suggested to change the text of Annex 1, E, by inserting after "marked decline" the explanatory text "a clear downward trend at a rate that could lead to the extinction of the species unless halted". However, any decline will ultimately result in extinction, unless halted. That criterion E was proposed for species with a very strong decline in a short period. In order to avoid any further confusion, and to comply with the intent of this criterion it is necessary to qualify the decline in that criterion.*

SC: AGREED TO THIS AND TO SOME FURTHER AMENDMENTS OF THE DEFINITION PROPOSED.

#### Continuing decline

A continuing decline is a clear downward trend measured over at least five years or one generation, (JP two generations), whichever is the shorter. In the case of population estimates and changes in habitat, a continuing decline will transcend (i.e. be over and above) normal fluctuations. Normal fluctuations are found in those species, populations and habitats that are characterised by regular or irregular cycles in abundance or extent. Where evidence of continuing decline is sought, it is necessary to have evidence for believing that an observed decline is not simply part of such a normal fluctuation. Population declines that are the result of a harvesting programme that reduces the population to a planned level are not covered by the term "continuing decline".

US: is uncomfortable with this automatic exemption.

*Secretariat: the concern of the US is understandable. It is suggested to include after "planned level": ", not detrimental to the survival of the species,".*

ET: which characteristics of measurement will be used?

#### Marked decline

A marked decline is a clear downward trend in the number of mature individuals in a population at a rate that could be expected to lead to the extinction of the species. For the purposes of the biological criteria, the decline rate must take into account the pattern of normal fluctuations found in populations characterized by regular or irregular cycles of abundance or extent. Evidence of a decline must demonstrate that the decrease is not part of a normal fluctuation. Population declines that are the result of harvesting programmes that reduce populations to planned or predetermined levels are not covered by this definition.

#### Distribution area

The total area occupied by a species. For example, if the population of a species consists of three sub-populations each occupying 150 km<sup>2</sup>, its distribution would equal 450 km<sup>2</sup>.

US: suggested that the total should not be the sum of the fragments. For this definition, each fragment should be treated separately.

CH, FR add: for a migratory species the area of distribution covers the total range of migration.

*Secretariat: an alternative is proposed for Area of Distribution (like this it is consistent with text elsewhere) taking into account comments of CH and FR.*

#### Extended period

The meaning of the term extended period will vary according to the biological characteristics of the species. Selection of the period will depend upon the observed

pattern of natural fluctuations in the abundance of the species and on whether the number of specimens removed from the wild is consistent with a planned harvesting programme that is based on these natural fluctuations.

#### Extreme concentration

Extreme concentration occurs when no more than two (FR: or more) sub-populations occur in a limited area, as envisaged in criterion D i) of the biological criteria for Appendix I.

*Secretariat: is this defining D i) or is D i) defining this? An alternative is suggested. The definition can be deleted if the proposed alternative to section D i) of Annex 1 is accepted.*

#### Extreme and rapid fluctuations

Extreme and rapid fluctuations occur in a number of species, and can be defined as variations in total number of more than {an order of magnitude} on either side of the mean population size.

FR: what about insects (pupae, eggs), annual plants.

US: delete {...} and make the definition more general; no alternative proposed.

*Secretariat: criterion D iii) in Annex 1 refers to fluctuations in the area of distribution or the number of sub-populations, not to the size of the population. This definition can be deleted.*

#### Mature individuals

Mature individuals refers to the number of individuals in the wild that are physiologically capable of reproduction. Where the population is characterized by normal or extreme fluctuations, the minimum number should be used. (Note: This measure is intended to estimate the number of individuals capable of reproduction and should therefore exclude, for example, plants that have lost their pollinators or animals that are behaviourally or otherwise reproductively suppressed. Reproducing units within a clone should be counted as individuals.)

TH: needs better defining to include plants that have strong vegetative reproduction.

*Secretariat: specimens that for some reason do not reproduce may still be "capable" of doing so. It is suggested*

*to replace this word with "actually reproducing"; the text "estimate ... therefore" is then superfluous.*

#### Population

For this and the following two definitions, FR proposes the scientific definition and deletion of "mature".

Population is defined as the total number of mature individuals in the species.

US: is confused about the use of "population" in the text; in Annex 1, "size of population" and "number of mature individuals" are used separately.

*Secretariat: both phrases have the same meaning.*

FR: wants elements regarding the population structure included.

Alternative AU: Unless otherwise warranted and justified in the proposal, population is defined as the total number of mature individuals of a species.

*Secretariat: suggestion of AU is accepted.*

#### Severe fragmentation

Severe fragmentation refers to the case where most mature individuals within a taxon are found in small and relatively isolated sub-populations. {This results in an increased} probability that these small sub-populations will become extinct.

FR: "which increases the" for {...}.

*Secretariat: the word "severe" suggest a fragmentation into numerous sub-populations, which need not always be the case. It is therefore suggested to delete the word "severe".*

#### Sub-populations

Sub-populations are defined as separate groups of mature individuals in a population, between which there is little exchange.

#### Possibly extinct

A species is regarded as possibly extinct when it has not been observed for at least 50 years despite repeated surveys.

*Secretariat: suggests to add "throughout its known historical range".*

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## Annex 6

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### Proposed Proposal Format

US: the draft proposal appears to require highly technical information that is either unavailable or is not available to many range States. This draft proposal format would require a large administrative burden that most Parties can not comply with, and it may become an obstacle to new amendments. This could result in many species that could benefit from CITES protection being excluded or misclassified, even if the range State(s) or importing State(s) felt the species could benefit from a listing or revised listing, based on the best available information.

We recommend significantly scaling back the text of the proposal format, so as not to give the incorrect effect that only proposals containing all of the indicated information could be given the consideration of the Conference of the Parties.

SC: BY AGREEING TO INCLUDE THE REFERENCE TO "BASED ON THE BEST AVAILABLE INFORMATION" IN THE NEW "RESOLVES" IN DOCUMENT DOC. 9.41 ANNEX 2 OF THIS DOCUMENT, THE

STANDING COMMITTEE HAS RECOGNIZED THAT A PROPOSAL IS NOT REQUIRED TO CONTAIN DETAILED INFORMATION ON ALL OF THE POINTS INDICATED. FURTHERMORE, IT IS THE CONFERENCE OF THE PARTIES THAT WILL DECIDE WHETHER THE INFORMATION PRESENTED BY A PROPONENT OR PROPONENTS IS SUFFICIENT TO JUSTIFY THE PROPOSAL.

THE STANDING COMMITTEE ALSO AGREED TO DELETE THE FIRST PART OF THIS ANNEX, SO THAT ANNEX 6 WILL ONLY CONTAIN THE ANNOTATED PROPOSAL FORMAT.

#### A. Proposal

#### B. Proponent

#### C. Supporting Statement

##### 1. Taxonomy

##### 1.1 Class

##### 1.2 Order

##### 1.3 Family

- 1.4 Genus, species or subspecies, including author and year
- 1.5 Scientific synonyms, when applicable
- 1.6 Common name(s), when applicable
- 1.7 Code number(s), when applicable
2. Biological Parameters
  - 2.1 Population status
  - 2.2 Population trends
  - 2.3 Distribution
  - 2.4 Habitat availability
  - 2.5 Geographic trends
  - 2.6 Threats
3. Utilization and Trade
  - 3.1 National utilization
  - 3.2 Legal international trade
  - 3.3 Illegal trade
  - 3.4 Actual or potential trade impacts
  - 3.5 Captive breeding or artificial propagation (outside country of origin)
4. Conservation and Management

- 4.1 Legal status
  - 4.1.1 National
  - 4.1.2 International
- 4.2 Species management
  - 4.2.1 Population monitoring
  - 4.2.2 Habitat conservation
  - 4.2.3 Management measures
- 4.3 Control measures
  - 4.3.1 International trade
  - 4.3.2 Domestic measures
5. Information on Similar Species
  - 5.1 Similarity in appearance
  - 5.2 Nature of specimens in trade
  - 5.3 Appendix listing
6. Other Comments
  - 6.1 Range States
  - 6.2 Intergovernmental organizations (where applicable)
7. Additional Remarks
8. References

#### Annotated Proposal Format

The following {material} provides {additional} information and instructions for the submission of a proposal to amend the appendices and the appropriate supporting statement. Proponents should be guided by the need to provide to the Conference of the Parties sufficient information, of sufficient quality and in sufficient detail, to allow the Conference to judge the proposal against the criteria established for the proposed action.

*Secretariat:* some editorial changes are proposed: to delete {...} and to insert "(to the extent available)" after "sufficient detail".

#### A. Proposal

The proponent should indicate the specific action being proposed and the relevant criteria against which the proposal is to be judged.

AU: provision should be made for a brief statement summarising what the proponent attempts to achieve with the listing.

SC: AGREED TO INSERT 'THE INTENT OF' AFTER 'INDICATE'.

- Inclusion in Appendix I
- Inclusion in Appendix II
  - in accordance with Article II 2.(a)
  - in accordance with Article II 2.(b)
    - for reasons of look-alike problems (in this case, the name of the similar species already included in the appendices should be given in section C 7. Additional Remarks)
    - for other reasons (such as those referred to in Annex 3 to this Resolution)
- Transfer from Appendix I to Appendix II in accordance with a precautionary measure specified in Annex 4 to this Resolution
- Deletion from Appendix II
- Other action (provide explanation)

#### B. Proponent

The proponent can only be a Party to the Convention, in accordance with Article XV of the Convention.

#### C. Supporting Statement

##### 1. Taxonomy

The proponent should provide sufficient information to allow the Conference of the Parties to identify clearly the taxon that is the subject of the proposal.

1.1, 1.2, 1.3, 1.4

Scientific name

If the species concerned is included in one of the standard lists of names or taxonomic references adopted by the Conference of the Parties, the name provided by that reference should be entered here. If the species concerned is not included in one of the adopted standard references, the proponent should provide references as to the source of the name used.

1.5, 1.6

Scientific synonyms and common names

The proponent should provide information on other scientific names or synonyms under which the species concerned may be known currently, especially if these names are used in the trade in the species.

TH: local names should also be included.

*Secretariat:* is covered by the reference to common names.

1.7 Code numbers

If the species concerned is already included in the appendices, refer to the code numbers in the CITES Identification Manual.

##### 2. Biological Parameters

AU: more logical sequence is: 3, 4, 1, 2, 5, 6.

SC: AGREED.

- 2.1 Population status
- 2.2 Population trends
- 2.3 Distribution
- 2.4 Habitat availability
- 2.5 Geographic trends

Secretariat: *in the comments received on the draft criteria distributed with Notification to the Parties No. 773, several suggested the inclusion of a criterion related to the role of the species in its ecosystem. However, the Convention does not provide for this (see fifth Secretariat's comments in Annex 2 of document Doc. 9.41 Annex 2). The Secretariat suggested that this aspect should be included as a separate point in the proposal format.*

SC: AGREED TO INCLUDE THIS REFERENCE HERE.

## 2.6 Threats

The information required in this section is a summary of the principal results of surveys, literature searches and other studies. The references used must be listed in section 8. of the proposal. It is understood that the quality of information available will vary a lot. But these instructions indicate the type of information that is required.

### 2.1 Population status

DE: requirement for at least one population study before downlisting can be considered (referred by Secretariat to this Annex, originally proposed by DE for Annex 4).

SC: NO NEED FOR SUCH A SPECIAL REQUIREMENT. IF THE INFORMATION IS AVAILABLE IT SHOULD BE INCLUDED HERE. IF NOT, THE CONFERENCE OF THE PARTIES WILL DECIDE, TAKING INTO ACCOUNT THE REQUIREMENTS LAID DOWN IN THE PRECAUTIONARY MEASURES.

Give an estimate of the total population or number of mature individuals with: i) date and nature of census; and ii) justification for any inferences made about total population size and/or number of mature individuals. Give the number of sub-populations, where possible their estimated size, and the date and method of census.

CH: suggests inclusion of information on the size of the population in captivity. Non-commercial captive breeding should be encouraged and supported, not be made unattractive by stringent legislation.

SC: AGREED THAT IT IS IMPORTANT TO HAVE SUCH INFORMATION INCLUDED HERE, IF AVAILABLE.

### 2.2 Population trends

Basic, quantitative and referenced information should be provided on whether the population of the species is increasing, stable or declining. The period over which the trend, if any, has been measured should be indicated. If the species naturally undergoes marked fluctuations in population size, information should be provided to demonstrate that the trend transcends natural fluctuations. If generation-time has been used in estimating the trend, state how the generation-time has been estimated.

## 2.3 Distribution

Give an estimate of the current range of the species, and specify the references used. Specify the types of habitats occupied and, if possible, the extent of each habitat type over the range of the species. If possible, provide information to indicate whether or not the distribution of the species is continuous and, if it is not, indicate to what degree it is fragmented.

### 2.4 Habitat availability

Give information on the nature, rate and extent of habitat loss and/or degradation, if possible with information from at least three points in time, and give the basis for future projections.

### 2.5 Geographic trends

Give data on the nature, rate and extent of decline in range area or number of sub-populations, if possible with information from at least three points in time. Give data on the degree and periodicity of fluctuations in range area or number of sub-populations, if possible with information from at least three points in time.

### 2.6 Threats

Specify the nature, intensity and extent of threats (e.g. habitat loss and/or degradation; exploitation; effects of introduced species, competitors, pathogens, parasites; etc), if possible with information from at least three points in time, and give basis for future projections.

## 3. Utilization and Trade

AU: some of the information required under sections 3 and 4 (particularly 3.3 and 3.5) is likely to be beyond the capacity of proponent range State to provide. Further consideration needs to be given to the type of information that is required, particularly information on illegal trade and captive-breeding activities beyond the jurisdiction of the proponent Party. Proponents of species of higher taxa with extensive geopolitical distributions should be advised that equally extensive consultation with other range States will benefit the overall quality of the proposal.

### 3.1 National utilization

Give data on the level of exploitation, indicating trends if possible. Specify the purposes of exploitation. Provide details of harvest methods. Assess the importance of the offtake and the relationship between national and international trade.

Provide details of any stockpiles known to exist, and the measures that might be taken to dispose of them.

Where applicable, provide details of commercial captive-breeding or artificial propagation operations for the species in question, including the size of captive stock, production, and the extent to which these operations are either contributing to a conservation programme or meeting a demand that would otherwise be met by specimens from the wild.

### 3.2 Legal international trade

Quantify the level of international trade, identifying the source of statistics used (e.g. Customs statistics, CITES annual report data, FAO data, industry reports, etc.) Provide justification for inferences made about trade levels. Provide information about the nature of the trade (e.g. primarily for commercial purposes, primarily live specimens, primarily parts and derivatives, primarily of captive-bred or artificially propagated specimens, etc.) and about how the proposed amendment is expected to affect the nature of the trade.

### 3.3 Illegal trade

To the extent possible, quantify the level of illegal trade, including national and international trade, and provide details of the nature of this trade. Assess the relative importance of this trade as it relates to legal offtake for national use or legal international trade. Provide information on how the proposed amendment is expected to affect the nature of the trade.

### 3.4 Actual or potential trade impacts

Comment on the actual or potential trade impacts of the proposed amendment on the species in question, and on the reason for believing that trade might become a threat to the survival of the species in question, or on whether trade may be beneficial to the survival of the species in question. Where applicable, include information on the actual or potential ecological impacts of the change in trade controls.

### 3.5 Captive breeding or artificial propagation (outside country of origin)

Provide information on the extent of captive breeding or artificial propagation outside the country or countries of origin.

CH: see remarks made under 2.1.

SC: FOLLOWING AN EXTENSIVE DISCUSSION ON THIS POINT AND ON 2.1, AGREED TO INSERT "FOR COMMERCIAL PURPOSES" AFTER "PROPAGATION" AND "TO THE EXTENT POSSIBLE" BEFORE "PROVIDE".

## 4. Conservation and Management

### 4.1 Legal status

#### 4.1.1 National

Provide details of legislation relating to the conservation of the species, either specifically (such as endangered species legislation) or generally (such as legislation on wildlife and accompanying regulations). Indicate the nature of legal protection (i.e. is the species totally protected, or classified as a game species, etc). Provide an assessment of the effectiveness of this legislation in ensuring the protection and/or wise management of the species.

Provide similar information relating to legislation governing the management of trade in the species in question. Provide an assessment of the effectiveness of this legislation in controlling illegal trade in the species.

Addition FR: provide similar information on the conservation of the habitat of the species.

SC: AGREED TO INSERT "INCLUDING ITS HABITAT," AFTER "SPECIES," IN THE FIRST LINE OF THE FIRST PARAGRAPH.

### 4.1.2 International

In preparing proposals to amend the appendices relating to marine species, consult in advance with the competent intergovernmental organizations responsible for the conservation and management of the species, and take their views fully into account.

Provide details of international instruments relating to the species in question, including the nature of the protection afforded by such instruments. Provide an assessment of the effectiveness of these instruments in ensuring the protection and/or wise management of the species.

Provide similar information relating to international instruments relating to the management of trade in the species in question. Provide an assessment of the effectiveness of these instruments in controlling illegal trade in the species.

## 4.2 Species management

### 4.2.1 Population monitoring

Provide details of programmes in place in the range State(s) to monitor the status of wild populations and the sustainability of offtake from the wild. Such programmes might be under the auspices of government or through non-governmental organizations or scientific institutions. Indicate the extent to which non-governmental monitoring programmes link to governmental decision-making.

### 4.2.2 Habitat conservation

Provide details of programmes in place in the range State(s) to protect the habitat of the species in question, both inside and outside protected areas. Provide details about the nature of the protection offered by the programmes in question.

### 4.2.3 Management measures

Provide details of programmes in place in the range State(s) to manage populations of the species in question (e.g. controlled harvest from the wild, captive breeding or artificial propagation, reintroduction, ranching, quota systems, etc.). Include, where appropriate, details such as planned harvest rates, planned population sizes, mechanisms for ensuring that the advice of those responsible for management of the species is taken into account, mechanisms and criteria for the establishment of quotas, etc.

Where applicable, provide details of any mechanisms used to ensure a return from utilization of the species in

question to conservation and/or management programmes (e.g. pricing schemes, community ownership plans, export tariffs, etc.).

#### 4.3 Control measures

##### 4.3.1 International trade

Provide information regarding measures in place, in addition to CITES, to control the movement of specimens of the species in question across international borders. Include information about marking schemes in place, if any.

##### 4.3.2 Domestic measures

Provide information regarding controls in the range State(s) aimed at ensuring a sustainable harvest from the wild of the species in question. Include information on education, compliance and enforcement activities as appropriate and an assessment of the effectiveness of the programmes.

#### 5. Information on Similar Species

Give the names of species of which specimens in trade look very similar, state how they may be distinguished, and explain whether or not it is reasonable to expect an informed non-expert to be able to make a firm identification. Outline measures that would need to be taken to handle potential difficulties in distinguishing between specimens of this and similar species.

If the proposed amendment would be likely to lead to an increase in trade in the species concerned, explain why this would not result in unsustainable trade in similar species.

#### 6. Other Comments

Provide details of the consultation undertaken to secure comments on the proposal from the range State(s) of the species, either through direct contact or via the CITES Secretariat. Comments received from each country should be provided. Where comments were sought but not received in sufficient time to enable their inclusion in the supporting statement, this should be noted.

In cases of consultation with Parties via the CITES Secretariat, information from range States and non-range States should be separated.

In the case of species that are also managed through other international agreements or intergovernmental bodies, provide details of the consultations undertaken to obtain the comments of those organizations or bodies, and indicate how those comments have been addressed in the supporting statement. Where comments were sought but not received in sufficient time to enable their inclusion in the supporting statement this should be noted.

#### 7. Additional Remarks

#### 8. References

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### Doc. 9.41 Annex 3

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## DRAFT RESOLUTION OF THE CONFERENCE OF THE PARTIES

### Explanatory Note:

This document is a revised draft resolution proposed by the Standing Committee. It is based on the draft resolution distributed with Notification to the Parties No. 773. Those parts the Standing Committee has proposed to be changed are printed in "*Italics*". The changes are those judged to be appropriate taking into account the views expressed at the joint meeting of the Committees, past agreements of the Conference of the Parties, the discussions at the 31st

meeting of the Standing Committee and the need to be logical and consistent in approach.

Please note that, owing to the changes proposed, the numbering of Annexes and paragraphs may differ from those in Annex 2. Therefore, references in the present Annex to other parts of it, only relate to the present Annex, not to document Doc. 9.41 Annex 2.

### Criteria for Amendment of Appendices I and II

RECALLING that the Conference of the Parties at its eighth meeting, held in Kyoto, Japan, in March 1992, was convinced that the criteria adopted at the first meeting of the Conference of the Parties (Berne, 1976) (Resolutions Conf. 1.1 and Conf. 1.2) did not provide an adequate basis for amending the appendices, and directed the Standing Committee to undertake, with the assistance of the Secretariat, a revision of the criteria for amending the appendices (Resolution Conf. 8.20);

NOTING that this review was carried out in consultation with the Parties and on the basis of initial technical work carried out by IUCN in collaboration with other experts;

NOTING further that all aspects of this review were addressed by a joint meeting of the Plants and Animals Committees in association with the Standing Committee, held in Brussels in September 1993;

CONSIDERING the fundamental principles in paragraphs 1 and 2 of Article II of the Convention, which specify the species to be included in Appendices I and II;

*RECOGNIZING that to qualify for inclusion in Appendix I a species must meet biological and trade criteria;*

RECALLING that Article II, paragraph 2.(a), provides for the inclusion in Appendix II of species which may become threatened with extinction, in order to avoid utilization incompatible with their survival;

RECOGNIZING that for the proper implementation of this provision it is necessary to adopt appropriate criteria, considering both biological and trade factors;

RECALLING that paragraph 2.(b) of Article II provides only for the inclusion in Appendix II of species which must be subject to regulation in order that trade in specimens of certain species included in Appendix II in accordance with Article II, paragraph 2.(a), may be brought under effective control;

CONSIDERING, however, that this provision should also apply where there is a need to bring under effective control trade in specimens of species included in Appendix I;

RECOGNIZING that the range States of a species subject to an amendment proposal should be consulted following the procedures recommended by the Conference of the Parties, and that the intergovernmental bodies having a function in relation to that species should be consulted as well;

NOTING the competence of certain intergovernmental organizations in relation to the management of marine species;

*RECALLING that the international trade in all wild fauna and flora is under the purview of the Convention;*

EMPHASIZING the importance of Resolution Conf. 3.4, adopted at the third meeting of the Conference of the Parties (New Delhi, 1981), regarding the need to provide to developing countries technical assistance in matters relating to the Convention;

*RECOGNIZING as a precautionary principle that, in the case of uncertainty, the Parties shall act in the best interest of the conservation of the species when considering proposals for amendment of Appendices I and II;*

#### THE CONFERENCE OF THE PARTIES TO THE CONVENTION

ADOPTS the following Annexes as an integral part of this Resolution:

*Annex 1: Biological criteria for Appendix I;*

*Annex 2a: Criteria for the inclusion of species in Appendix II in accordance with Article II, paragraph 2.(a);*

*Annex 2b: Criteria for inclusion of species in Appendix II in accordance with Article II, paragraph 2.(b);*

*Annex 3: Special cases;*

Annex 4: Precautionary measures;

Annex 5: Definitions and notes; and

Annex 6: Format for proposals to amend the appendices;

RESOLVES that, when considering proposals to amend Appendices I and II, the following applies:

- a) any species that is or may be affected by trade should be included in Appendix I if it meets at least one of the biological criteria listed in Annex 1;
- b) a species "is or may be affected by trade" if it is:
  - i) known to be in trade; or
  - ii) probably in trade, but conclusive evidence is lacking; or
  - iii) likely to enter trade;
- c) any species that meets the criteria for Appendix II listed in Annex 2a should be included in Appendix II in accordance with Article II, paragraph 2.(a);
- d) species should be included in Appendix II under the provisions of Article II, paragraph 2.(b), if they satisfy the criteria listed in Annex 2b;
- e) species should be included in more than one appendix at the same time and higher taxa should be included in the appendices only if the species or higher taxa concerned satisfy the relevant criteria listed in Annex 3;
- f) species of which all specimens in trade have been bred in captivity or artificially propagated should not be included in the appendices if there is no probability of trade taking place in specimens of wild origin;
- g) any species included in Appendix I that does not meet the criteria listed in Annex 1 should be transferred to

*Appendix II only in accordance with the relevant precautionary measures listed in Annex 4;*

- h) any species included in Appendix II in accordance with Article II, paragraph 2.(a), that does not meet the criteria listed in Annex 2a should be deleted only in accordance with the relevant precautionary measures listed in Annex 4; and species included in accordance with Article II, paragraph 2.(b), because they look like the species subject to the deletion, or for a related reason, should also be deleted only in accordance with the relevant precautionary measures; and
- i) the views, if any, of intergovernmental organizations with competence for the management of the species concerned should be taken into account;

RESOLVES that proposals to amend Appendices I and II should be based on the best information available and presented in the format in Annex 6, unless otherwise justified;

RESOLVES that, to monitor the effectiveness of protection offered by the Convention, the status of species included in Appendices I and II should be regularly reviewed by the range States and proponents, in collaboration with the Animals Committee or the Plants Committee, subject to the availability of funds;

URGES Parties and co-operating organizations to provide financial and technical assistance, when requested, in the preparation of proposals to amend the appendices, the development of management programmes, and the review of the effectiveness of the inclusion of species in the appendices. Parties should be open to using other available international mechanisms and instruments for these purposes in the broader context of biodiversity; and

DECIDES that the Resolutions listed hereunder shall be repealed:

- a) Resolution Conf. 1.1 (Berne, 1976) – Criteria for the addition of species and other taxa to Appendices I and II and for the transfer of species and other taxa from Appendix II to Appendix I;
- b) Resolution Conf. 1.2 (Berne, 1976) – Criteria for the deletion of species and other taxa from Appendices I and II;
- c) Resolution Conf. 2.17 (San José, 1979) – Format for proposals to amend Appendix I or II;
- d) Resolution Conf. 2.19 (San José, 1979) – Criteria for addition of extremely rare species to Appendix I;
- e) Resolution Conf. 2.20 (San José, 1979) – The use of the subspecies as a taxonomic unit in the appendices;
- f) Resolution Conf. 2.21 (San José, 1979) – Species thought to be extinct;
- g) Resolution Conf. 2.22 (San José, 1979) – Trade in feral species;
- h) Resolution Conf. 2.23 (San José, 1979) – Special criteria for the deletion of species and other taxa included in Appendix I or II without application of the Berne criteria for addition;
- i) Resolution Conf. 3.20 (New Delhi, 1981) – Ten-year review of the appendices;
- j) Resolution Conf. 4.26 (Gaborone, 1983) – Ten-year review of the appendices;
- k) Resolution Conf. 7.14 (Lausanne, 1989) – Special criteria for the transfer of taxa from Appendix I to Appendix II; and
- l) Resolution Conf. 8.20 (Kyoto, 1992) – Development of new criteria for amendment of the appendices.

## Biological Criteria for Appendix I

**Note from the Secretariat:**

Following the instructions of the Standing Committee at its 31st meeting, the Animals and Plants Committees carried out a validation of the biological criteria for Appendix I, as amended following discussions with IUCN (see document Doc. 9.41 Annex 4). To facilitate the discussions by the Conference, the Secretariat has incorporated the changes proposed by the Animals and Plants Committees (Annex 1 to Doc. 9.41 Annex 4) in this annex of the draft resolution. The changes proposed are only small and involve some minor textual changes, the correction of an error and transfer of some text to the notes.

Text deleted is in **Strikeout**

Text included is in **Double underline**

A species is considered to be threatened with extinction if it meets **at least one** of the following criteria\*.

A. The wild population is small<sup>1</sup>, and is characterized by:

- i) an observed, inferred or projected decline<sup>2</sup> (~~at a rate of more than 20% in ten years or three generations, whichever is the longest~~) in the number of mature individuals or the area and quality of habitat needed to avoid extinction; or
- ii) each sub-population being very small<sup>3</sup>; or
- iii) a majority of individuals, during one or more life-history phases, being concentrated in one sub-population; or
- iv) a high vulnerability due to its migratory behaviour; or
- v) large short-term<sup>4</sup> fluctuations in the number of mature individuals.

B. The wild population has a restricted area of distribution<sup>5</sup> and is characterized by any of the following:

- i) fragmentation<sup>6</sup> or occurrence at very few locations;
- ii) an observed, inferred or projected decline in:
  - the area of distribution; or
  - the number of sub-populations; or
  - the number of mature individuals; or
  - the area, extent or quality of habitat;

iii) extreme and rapid fluctuations in the area of distribution or the number of sub-populations.

C. A decline in the number of mature individuals in the wild<sup>7</sup> (~~a decrease of 50% in total within five years or two generations, whichever is the shortest~~), which has been **either**:

- i) observed as ongoing or as having occurred in the recent past (but with a potential to resume); or
- ii) inferred or projected on the basis of:
  - a decline in area or quality of habitat; or
  - levels of exploitation (provided there are not other explanations for the change); or
  - threats such as the effects of introduced species, pathogens, competitors, parasites, hybridization and the effects of pollutants.

D. The status of the species is such that if the species is not included in Appendix I, it is likely to satisfy one or more of the above criteria within a period of three years.

\* The vulnerability of a species to threats of extinction depends on its biological characteristics, such as body size, trophic level and life cycle. This makes it impossible to give numerical values for population size or area of distribution that are applicable to all taxa. The following numerical values, relating to notes in the above criteria, are presented only as examples that have been found to be appropriate to many species.

<sup>1</sup> ~~less~~ fewer than 5000 mature individuals

<sup>2</sup> at a rate of more than 20% in ten years or three generations, whichever is ~~the longest~~ longer

<sup>3</sup> ~~less~~ fewer than 500 mature individuals

<sup>4</sup> less than two years

<sup>5</sup> less than 10,000 km<sup>2</sup>

<sup>6</sup> each subpopulation occurring in an area of less than 500 km<sup>2</sup>

<sup>7</sup> a decrease of 50% in total within ~~five~~ ten years or ~~two~~ three generations, whichever is ~~the shortest~~ longer

## Annex 2a

## Criteria for the Inclusion of Species in Appendix II in Accordance with Article II, Paragraph 2.(a)

A species should be included in Appendix II when either of the following criteria is met:

A. It is known, inferred or projected that the number of specimens taken from the wild and entering international trade has, or is likely to have, a detrimental impact on the status of the species; and **either**

- 1) the wild population is known, inferred or projected to be in decline because of factors such as: habitat alteration, reduction in geographical extent and/or range area, the effects of introduced species, pathogens, competitors, parasites, hybridization and the effects of pollutants; or

2) the average number of specimens taken from the wild population each year fulfils, or may be expected to fulfil, **either** of the following conditions:

- i) over an extended period, exceeds the level that can be continued in perpetuity; or
- ii) reduces the species to a level at which its survival would be threatened by other influences.

B. Unless trade in a species is subject to strict regulation it could become threatened with extinction.

Criteria for the Inclusion of Species in Appendix II in Accordance with Article II, Paragraph 2.(b)

Species should be included in Appendix II in accordance with Article II, paragraph 2.(b), if they satisfy one of the following criteria:

A. the specimens closely resemble specimens of a species included in Appendix II under the provisions of Article II, paragraph 2.(a), or in Appendix I, such that a non-expert, with reasonable effort, is unlikely to be able to distinguish between them; or

B. the species is a member of a taxon of which most of the species are included in Appendix II under the provisions of Article II, paragraph 2.(a), or in Appendix I, and the remaining species must be included to bring trade in specimens of the others under effective control.

Special CasesSplit-Listing

Listing of a species in more than one appendix should be avoided in general in view of the enforcement problems it creates. When split-listing does occur, this should generally be on the basis of national or continental populations, rather than subspecies. For species outside the jurisdiction of any State, listing in the appendices should use the terms used in other relevant international agreements, if any, to define the population. If no such international agreement exists, then the appendices should define the population by region or by geographic co-ordinates. Taxonomic names below the

species level should not be used in the appendices unless the taxon in question is highly distinctive and the use of the name would not give rise to enforcement problems.

Higher Taxa

If all species of a higher taxon are included in Appendix I or II, they should be included under the name of the higher taxon. If some species in a higher taxon are included in Appendix I or II and all the rest in the other appendix, the latter species should be included under the name of the higher taxon, with an appropriate annotation.

Precautionary Measures

A. When considering proposals to amend the appendices, the Parties shall, in the case of uncertainty as to the impact of a change in the trade regime on the conservation of a species, act in the best interest of the conservation of the species.

B. 1. No species listed in Appendix I shall be removed from the appendices unless it has been first transferred to Appendix II, with monitoring of any impact of trade on the species for at least two intervals between meetings of the Conference of the Parties.

2. The transfer of a species from Appendix I to Appendix II shall be in accordance with one of the following options:

a. without any export quotas approved by the Conference of the Parties, if the Conference is reasonably satisfied with:

i) implementation by the range State(s) of the requirements of the Convention, in particular Article IV; and

ii) appropriate enforcement controls and compliance with the requirements of the Convention; or

b. with an export quota approved by the Conference of the Parties as an integral part of the amendment, based on management measures described in the supporting statement in the amendment proposal; or

c. with an export quota approved by the Conference of the Parties for a specified period of time as an integral part of the amendment, based on management measures described in

the supporting statement in the amendment proposal; or

d. with submission of a ranching proposal consistent with applicable Resolutions of the Conference of the Parties.

3. No proposal for transfer of a species from Appendix I to Appendix II with an export quota shall be considered from a Party that has entered a reservation for the species in question, unless that Party agrees to remove the reservation within 90 days of the adoption of the amendment.

4. No species shall be deleted from Appendix II if such deletion would be likely to result in it qualifying for inclusion in the appendices in the near future.

C. The following review procedures shall apply when a species is transferred to Appendix II pursuant to paragraphs B 2.b. and B 2.c. above:

1. Where a Party becomes aware of problems in compliance with the management measures and export quotas of another Party, the Secretariat shall be informed and, if the Secretariat fails to resolve the matter satisfactorily, it shall inform the Standing Committee which may, after consultation with the Party concerned, recommend to all Parties that they suspend trade with that Party in specimens of CITES-listed species, and/or request the Depositary Government to prepare a proposal to transfer the population back to Appendix I.

2. If, on review of a quota and its supporting management measures, the Animals or Plants Committee encounters any problems with compliance or potential detriment to a species, the relevant Committee shall request the Depositary Government to prepare a proposal for appropriate remedial action.

D. If the proponent Party wishes to renew, amend or delete a quota established pursuant to paragraph B 2.c. above, it shall submit an appropriate proposal for consideration at the next meeting of the Conference of the Parties. In anticipation of there being no such proposal submitted, the Depositary Government shall submit a proposal for consideration at the next meeting of the Conference of the Parties to impose a zero quota.

E. Species that are regarded as possibly extinct should not be deleted from Appendix I, if they may be affected by trade in the event of their rediscovery; these species should be annotated in the appendices as "p.e." (i.e. possibly extinct).

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## Annex 5

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### Definitions and Notes

#### Area of distribution

The area of distribution is the total area occupied by a species. For example, if the population of a species consists of three sub-populations each occupying 150 km<sup>2</sup>, its area of distribution would equal 450 km<sup>2</sup>. For a migratory species the area of distribution covers the whole migration route.

#### Decline

A decline is a clear downward trend measured over at least five years or one generation whichever is the shorter. Evidence of a decline must demonstrate that the decrease is not part of a normal fluctuation. A population decline that is the result of a harvesting programme that reduces the population to a planned level, not detrimental to the survival of the species, is not covered by the term "decline".

#### Extended period

The meaning of the term extended period will vary according to the biological characteristics of the species. Selection of the period will depend upon the observed pattern of natural fluctuations in the abundance of the species and on whether the number of specimens removed from the wild is consistent with a planned harvesting programme that is based on these natural fluctuations.

#### Fragmentation

*Fragmentation refers to the case where most mature individuals within a taxon are found in small and relatively isolated sub-populations which increases the probability that these small sub-populations will become extinct.*

#### Mature individuals

Mature individuals are individual animals or plants in the wild that are actually reproducing. Where the population is characterized by normal or extreme fluctuations, the minimum number should be used. (Note: This measure is intended to exclude, for example, plants that have lost their pollinators or animals that are behaviourally or otherwise reproductively suppressed. Reproducing units within a clone should be counted as individuals.)

#### Population

*The population of a species is defined as the total number of mature individuals in the species, unless otherwise warranted and justified in the proposal.*

#### Sub-populations

Sub-populations are separate groups of mature individuals in a population, between which there is little exchange.

#### Possibly extinct

*A species is regarded as possibly extinct when it has not been observed for at least 50 years despite repeated surveys throughout its known historical range.*

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## Annex 6

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### Annotated Proposal Format

The following provides information and instructions for the submission of a proposal to amend the appendices and the appropriate supporting statement. Proponents should be guided by the need to provide to the Conference of the Parties sufficient information, of sufficient quality and in sufficient detail (*to the extent available*), to allow the Conference to judge the proposal against the criteria established for the proposed action.

#### A. Proposal

The proponent should indicate *the intent* of the specific action being proposed and the relevant criteria against which the proposal is to be judged.

Inclusion in Appendix I

Inclusion in Appendix II

in accordance with Article II 2.(a)

in accordance with Article II 2.(b)

for reasons of look-alike problems (in this case, the name of the similar species already included in the appendices should be given in section C 7. Additional Remarks)

for other reasons (such as those referred to in Annex 3 to this Resolution)

Transfer from Appendix I to Appendix II in accordance with a precautionary measure specified in Annex 4 to this Resolution

Deletion from Appendix II

Other action (provide explanation)

#### B. Proponent

The proponent can only be a Party to the Convention, in accordance with Article XV of the Convention.

#### C. Supporting Statement

##### 1. Taxonomy

The proponent should provide sufficient information to allow the Conference of the Parties to identify clearly the taxon that is the subject of the proposal.

1.1, 1.2, 1.3, 1.4

Scientific name

If the species concerned is included in one of the standard lists of names or taxonomic references adopted by the Conference of the Parties, the name

provided by that reference should be entered here. If the species concerned is not included in one of the adopted standard references, the proponent should provide references as to the source of the name used.

#### 1.5, 1.6

##### Scientific synonyms and common names

The proponent should provide information on other scientific names or synonyms under which the species concerned may be known currently, especially if these names are used in the trade in the species.

#### 1.7 Code numbers

If the species concerned is already included in the appendices, refer to the code numbers in the CITES Identification Manual.

## 2. Biological Parameters

### 2.1 Distribution

### 2.2 Habitat availability

### 2.3 Population status

### 2.4 Population trends

### 2.5 Geographic trends

### 2.6 *Role of the species in its ecosystem*

### 2.7 Threats

The information required in this section is a summary of the principal results of surveys, literature searches, and other studies. The references used must be listed in section 8. of the proposal. It is understood that the quality of information available will vary a lot. But these instructions indicate the type of information that is required.

#### 2.1 Distribution

Give an estimate of the current range of the species, and specify the references used. Specify the types of habitats occupied and, if possible, the extent of each habitat type over the range of the species. If possible, provide information to indicate whether or not the distribution of the species is continuous and, if it is not, indicate to what degree it is fragmented.

#### 2.2 Habitat availability

Give information on the nature, rate and extent of habitat loss and/or degradation, if possible with information from at least three points in time, and give the basis for future projections.

#### 2.3 Population status

Give an estimate of the total population or number of mature individuals with: i) date and nature of census; and ii) justification for any inferences made about total population size and/or number of mature individuals.

Give the number of sub-populations, where possible their estimated size, and the date and method of census.

*Give an estimate of, or information on, the size of the population in captivity.*

#### 2.4 Population trends

Basic, quantitative and referenced information should be provided on whether the population of the species is increasing, stable or declining. The period over which the trend, if any, has been

measured should be indicated. If the species naturally undergoes marked fluctuations in population size, information should be provided to demonstrate that the trend transcends natural fluctuations. If generation-time has been used in estimating the trend, state how the generation-time has been estimated.

#### 2.5 Geographic trends

Give data on the nature, rate and extent of decline in range area or number of sub-populations, if possible with information from at least three points in time. Give data on the degree and periodicity of fluctuations in range area or number of sub-populations, if possible with information from at least three points in time.

#### 2.6 *Role of the species in its ecosystem*

*Give information about the specific relationship that exists between this species and others living in the same ecosystem. Indicate the possible consequences of depletion of the population of the species proposed for listing, for those depending on or associated with it.*

#### 2.7 Threats

Specify the nature, intensity and extent of threats (e.g. habitat loss and/or degradation; exploitation; effects of introduced species, competitors, pathogens, parasites; etc), if possible with information from at least three points in time, and give basis for future projections.

## 3. Utilization and Trade

### 3.1 National utilization

Give data on the level of exploitation, indicating trends if possible. Specify the purposes of exploitation. Provide details of harvest methods. Assess the importance of the offtake and the relationship between national and international trade.

Provide details of any stockpiles known to exist, and the measures that might be taken to dispose of them.

Where applicable, provide details of commercial captive-breeding or artificial propagation operations for the species in question, including the size of captive stock, production, and the extent to which these operations are either contributing to a conservation programme or meeting a demand that would otherwise be met by specimens from the wild.

### 3.2 Legal international trade

Quantify the level of international trade, identifying the source of statistics used (e.g. Customs statistics, CITES annual report data, FAO data, industry reports, etc.) Provide justification for inferences made about trade levels. Provide information about the nature of the trade (e.g. primarily for commercial purposes, primarily live specimens, primarily parts and derivatives, primarily of captive-bred or artificially propagated specimens, etc.) and about how the proposed amendment is expected to affect the nature of the trade.

### 3.3 Illegal trade

To the extent possible, quantify the level of illegal trade, including national and international trade, and provide details of the nature of this trade. Assess the relative importance of this trade as it

relates to legal offtake for national use or legal international trade. Provide information on how the proposed amendment is expected to affect the nature of the trade.

#### 3.4 Actual or potential trade impacts

Comment on the actual or potential trade impacts of the proposed amendment on the species in question, and on the reason for believing that trade might become a threat to the survival of the species in question, or on whether trade may be beneficial to the survival of the species in question. Where applicable, include information on the actual or potential ecological impacts of the change in trade controls.

#### 3.5 Captive breeding or artificial propagation for commercial purposes (outside country of origin)

*To the extent possible*, provide information on the extent of captive breeding or artificial propagation outside the country or countries of origin.

### 4. Conservation and Management

#### 4.1 Legal status

##### 4.1.1 National

Provide details of legislation relating to the conservation of the species, *including its habitat*, either specifically (such as endangered species legislation) or generally (such as legislation on wildlife and accompanying regulations). Indicate the nature of legal protection (i.e. is the species totally protected, or classified as a game species, etc). Provide an assessment of the effectiveness of this legislation in ensuring the protection and/or wise management of the species.

Provide similar information relating to legislation governing the management of trade in the species in question. Provide an assessment of the effectiveness of this legislation in controlling illegal trade in the species.

##### 4.1.2 International

In preparing proposals to amend the appendices relating to marine species, consult in advance with the competent intergovernmental organizations responsible for the conservation and management of the species, and take their views fully into account.

Provide details of international instruments relating to the species in question, including the nature of the protection afforded by such instruments. Provide an assessment of the effectiveness of these instruments in ensuring the protection and/or wise management of the species.

Provide similar information relating to international instruments relating to the management of trade in the species in question. Provide an assessment of the effectiveness of these instruments in controlling illegal trade in the species.

#### 4.2 Species management

##### 4.2.1 Population monitoring

Provide details of programmes in place in the range State(s) to monitor the status of

wild populations and the sustainability of offtake from the wild. Such programmes might be under the auspices of government or through non-governmental organizations or scientific institutions. Indicate the extent to which non-governmental monitoring programmes link to governmental decision-making.

##### 4.2.2 Habitat conservation

Provide details of programmes in place in the range State(s) to protect the habitat of the species in question, both inside and outside protected areas. Provide details about the nature of the protection offered by the programmes in question.

##### 4.2.3 Management measures

Provide details of programmes in place in the range State(s) to manage populations of the species in question (e.g. controlled harvest from the wild, captive breeding or artificial propagation, reintroduction, ranching, quota systems, etc.). Include, where appropriate, details such as planned harvest rates, planned population sizes, mechanisms for ensuring that the advice of those responsible for management of the species is taken into account, mechanisms and criteria for the establishment of quotas, etc.

Where applicable, provide details of any mechanisms used to ensure a return from utilization of the species in question to conservation and/or management programmes (e.g. pricing schemes, community ownership plans, export tariffs, etc.).

#### 4.3 Control measures

##### 4.3.1 International trade

Provide information regarding measures in place, in addition to CITES, to control the movement of specimens of the species in question across international borders. Include information about marking schemes in place, if any.

##### 4.3.2 Domestic measures

Provide information regarding controls in the range State(s) aimed at ensuring a sustainable harvest from the wild of the species in question. Include information on education, compliance and enforcement activities as appropriate and an assessment of the effectiveness of the programmes.

### 5. Information on Similar Species

Give the names of species of which specimens in trade look very similar, state how they may be distinguished, and explain whether or not it is reasonable to expect an informed non-expert to be able to make a firm identification. Outline measures that would need to be taken to handle potential difficulties in distinguishing between specimens of this and similar species.

If the proposed amendment would be likely to lead to an increase in trade in the species concerned, explain why this would not result in unsustainable trade in similar species.

## 6. Other Comments

Provide details of the consultation undertaken to secure comments on the proposal from the range State(s) of the species, either through direct contact or via the CITES Secretariat. Comments received from each country should be provided. Where comments were sought but not received in sufficient time to enable their inclusion in the supporting statement, this should be noted.

In cases of consultation with Parties via the CITES Secretariat, information from range States and non-range States should be separated.

In the case of species that are also managed through other international agreements or intergovernmental bodies, provide details of the consultations undertaken to obtain the comments of those organizations or bodies, and indicate how those comments have been addressed in the supporting statement. Where comments were sought but not received in sufficient time to enable their inclusion in the supporting statement this should be noted.

## 7. Additional Remarks

## 8. References

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Doc. 9.41 Annex 4

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### Report by the Chairmen of the Animals and Plants Committees

#### INTRODUCTION

At its 31st meeting the Standing Committee extensively discussed a revised draft resolution on the new criteria for amending Appendices I and II (Doc. SC.31.2.1 and Doc. SC.31.2.2). The documents concerned, including the changes proposed to it by the Standing Committee, have already been distributed to the Parties as documents Doc. 9.41 Annex 2 and Annex 3. Although the Standing Committee agreed on most of the contents of these documents, it felt that some aspects, in particular the quantitative values for the biological criteria for Appendix I (Annex 1 of Doc. 9.41 Annex 3) and some of the definitions (Annex 5 of the same document) would require further evaluation. The Standing Committee could not reach a common position on these.

The Standing Committee agreed to the following:

- it charged the Chairmen of the Animals and the Plants Committees to meet with IUCN for a further discussion of the quantitative values;
- a proposal resulting from these discussions should be presented for evaluation and approval to the Animals and Plants Committees at their meetings on 16–20 May 1994, in China and Mexico respectively;
- the Animals and Plants Committees should also carry out a validation of their proposed quantitative values for a number of key species; and
- the Animals and Plants Committees should also include in their considerations the definition of "mature individuals".

Following these instructions, a meeting was held with IUCN, resulting in some proposals for amending Annexes 1 and 5 to document Doc. 9.41 Annex 3. The resulting new text is attached as Annex 1 to Doc. 9.41 Annex 4. IUCN was then requested to test the amended draft resolution with respect to a number of selected animal species (Annex 2 of Doc. 9.41 Annex 4) and the Scientific Authority of the United Kingdom was asked to test them with respect to a number of plant species (Annex 3 of Doc. 9.41 Annex 4). The results of these validations were presented at the May 1994 meetings of the Animals and Plants Committees.

#### CONCLUSIONS

##### Criteria

After having discussed the quantitative values, the Animals and Plants Committees felt that it was important to retain these as an integral part of the criteria for the inclusion of species in Appendix I. Although the quantitative values had been modified following the discussion with IUCN, they nevertheless provide valuable guidance and will greatly assist in the correct interpretation of each of the individual biological criteria for Appendix I. The Committees also felt that it was important to include a definition of "generation time".

Relative to the exercise undertaken by IUCN on behalf of the Animals Committee, the validation process for plants was extensive and involved no fewer than 140 species. The Committees found that, far from being difficult to apply, the new biological criteria were readily applicable to both animals and plants. With regard to the plants it confirmed that most of the Appendix-I taxa tested were correctly listed and that some of those taxa that did not qualify following application of the criteria were already being considered by the Plants Committee to be proposed to the ninth meeting of the Conference of the Parties for transfer from Appendix I to Appendix II. The results of the validation process for selected appendix-listed species of animals were more variable. However, it should be noted that constraints on time and resources restricted application of the revised criteria to a relatively small number of taxa. The Committees also agreed that the amended versions of Annexes 1 and 5 of document Doc. 9.41 Annex 3 provided a good basis for discussions at the ninth meeting of the Conference of the Parties.

The Plants Committee concluded that the new biological criteria were objective, versatile and readily applicable to plants and it endorsed their inclusion as an integral component of the new criteria process.

##### Definitions

"Mature individuals". The Committees felt that it was not necessary to propose any amendment to the definition included in Annex 5 to document Doc. 9.41 Annex 3.

"Generation time". It is proposed to use the following definition of "Generation":

"Generation may be measured as the average age of parents in the population".

## Biological Criteria for Appendix I

A species is considered to be threatened with extinction if it meets **at least one** of the following criteria\*.

A. The wild population is small<sup>1</sup>, and is characterized by:

- i) an observed, inferred or projected decline<sup>2</sup> in the number of mature individuals or the area and quality of habitat needed to avoid extinction; or
- ii) each sub-population being very small<sup>3</sup>; or
- iii) a majority of individuals, during one or more life-history phases, being concentrated in one sub-population; or
- iv) a high vulnerability due to its migratory behaviour; or
- v) large short-term<sup>4</sup> fluctuations in the number of mature individuals.

B. The wild population has a restricted area of distribution<sup>5</sup> and is characterized by any of the following:

- i) fragmentation<sup>6</sup> or occurrence at very few locations;
- ii) an observed, inferred or projected decline in
  - the area of distribution; or
  - the number of sub-populations; or
  - the number of mature individuals; or
  - the area, extent or quality of habitat;
- iii) extreme and rapid fluctuations in the area of distribution or the number of sub-populations.

C. A decline in the number of mature individuals in the wild<sup>7</sup>, which has been **either**:

- i) observed as ongoing or as having occurred in the recent past (but with a potential to resume); or
- ii) inferred or projected on the basis of:

- a decline in area or quality of habitat; or
- levels of exploitation (provided there are not other explanations for the change); or
- threats such as the effects of introduced species, pathogens, competitors, parasites, hybridization and the effects of pollutants.

D. The status of the species is such that if the species is not included in Appendix I, it is likely to satisfy one or more of the above criteria within a period of three years.

\* The vulnerability of a species to threats of extinction depends on its biological characteristics, such as body size, trophic level and life cycle. This makes it impossible to give numerical values for population size or area of distribution that are applicable to all taxa. The following numerical values, relating to notes in the above criteria, are presented only as examples that have been found to be appropriate to many species.

<sup>1</sup> fewer than 5000 mature individuals

<sup>2</sup> at a rate of more than 20% in ten years or three generations, whichever is longer

<sup>3</sup> fewer than 500 mature individuals

<sup>4</sup> less than two years

<sup>5</sup> less than 10,000 km<sup>2</sup>

<sup>6</sup> each subpopulation occurring in an area of less than 500 km<sup>2</sup>

<sup>7</sup> a decrease of 50% in total within 10 years or three generations, whichever is longer

Validation of Proposed New Criteria for Amendment of Appendices I and II  
PRELIMINARY RESULTS FOR 13 SELECTED SPECIES OF ANIMALS

### Introduction

This report presents the results of a validation carried out by IUCN on a selected group of species, using the criteria proposed by the Standing Committee, as amended by the Animals and Plants Committees. It must be emphasized that this exercise was carried out over a very short space of time and that the results are therefore preliminary. This report does not represent IUCN's position on the appropriate placing of the species in the appendices.

### Results

The table below provides a listing of the 13 species that were considered, their current listing, and their potential new listing if the proposed new criteria were applied.

Species	Current Listing	Result
<i>Manis pentadactyla</i>	II	II
<i>Hyaena brunnea</i>	I	not listed

Species	Current Listing	Result
<i>Ovis ammon</i>	II	I
<i>Spheniscus humboldti</i>	I	I
<i>Eos cyanogenia</i>	II	I
<i>Tauraco macrorhynchus</i>	III	stays in III
<i>Kinixys homeana</i>	II	II
<i>Clemmys insculpta</i>	II	I
<i>Rana hexadactyla</i>	II	II
<i>Dyscophus antongilii</i>	I	I
<i>Arapaima gigas</i>	II	not listed
<i>Tridacna gigas</i>	II	II
<i>Papustyla pulcherrima</i>	II	I

For each of these species, on the basis of the data available, it was relatively clear which appendix they would be assigned to if the proposed new criteria were applied. The only exception is *Tridacna gigas*, for which some key information was not available by the deadline for the report. On balance, it seems as if this species would be included in Appendix II, but an Appendix-I listing is not impossible. Of the 13 species, for six of them the listing would remain unchanged. For another four, the result would be a transfer from Appendix II to Appendix I. The remaining three species would be removed from the appendices. For each of these three, this result is based on the fact that they do not meet the biological criteria for Appendix I or the trade criteria for Appendix II. In other words, these species are hardly traded, and at present their conservation problems can not be addressed through CITES. It should be noted that, in this report, the application of Article II, paragraph 2.(b), has not been considered for reasons of shortage of time. However, it is not clear that this would lead to any change in the results. It should also be noted that time did not permit the treatment of all *Ovis ammon* subspecies. For a fuller explanation of the results, see the Species Accounts below.

### Discussion

The majority view among Parties that commented on the previous version of the draft listing criteria was that the levels were set too stringently, thus overly restricting the number of species that could be listed in Appendix I. IUCN, in its previous report on the listing criteria (*New Criteria for Listing Species in the CITES Appendices: Preliminary Results of the Application of the Criteria to a Sample of Species – 23 July 1993*), made it clear (see page 11 of the 23 July 1993 report) that defining the levels at which a species is "threatened with extinction" is, in the final analysis, arbitrary. IUCN stated that "the Parties will need to decide those levels that give the results they want". This report will hopefully assist the Parties in considering the implications of different levels. The levels considered in this report are considerably relaxed over the previous version. The result is that six species (*Ovis ammon*, *Spheniscus humboldti*, *Eos cyanogenia*, *Clemmys insculpta*, *Dyscophus antongillii* and *Papustyla pulcherrima*) would be included in Appendix I; under the previously proposed levels, all would have been in Appendix II.

Much of the push for relaxing the levels has come from concerns that particular high-profile species might not be

listed in Appendix I if the draft criteria were applied. Most of the species treated here can not really be considered high profile. However, for a broader "feel" for how the new levels might work out, it seems likely that many of the species considered in the 23 July 1993 report that are marked with Note 7 in Annexes A–F of that report could qualify for Appendix I under the proposed new levels. There is a danger in setting the levels solely around high-profile species, since this could result in much larger numbers of species being either excluded from, or included in, Appendix I in an inappropriate way.

In carrying out this exercise, IUCN has identified two issues that need to be drawn to the attention of the Parties: the use of the Distribution Criterion (Criterion B); and the effects of using generation times in the Decline Criterion (Criterion C). These are considered below.

The use of Criterion B would allow the listing of four of the species considered in Appendix I: *Spheniscus humboldti*; *Eos cyanogenia*; *Dyscophus antongillii*; and *Papustyla pulcherrima*. The first two of these also qualify under other criteria. The latter two can only be included in Appendix I using criterion B. In the case of *Papustyla pulcherrima*, it is not immediately clear that Appendix-I listing is warranted. Also, it should be noted that many colonial breeders can easily qualify under this criterion, and some of these might not be seriously threatened. *Spheniscus humboldti* is threatened not because of its restricted breeding distribution but because of its rate of decline.

Some readers might be alarmed at the way in which certain species would end up unexpectedly in Appendix I because of their decline rates in relation to their generation times. The species in question are *Ovis ammon* and *Clemmys insculpta*. If *Tridacna gigas* satisfies the criteria for Appendix I, it would also be on this basis. However, these results should not be dismissed too quickly. Clearly, under criterion C it would be relatively easy to include in Appendix I declining species that have long generation times. From a conservation and management perspective, this is appropriate because such species can take many years to recover from population depletion. Species such as *Rana hexadactyla* can recover quickly from severe exploitation but others, such as *Clemmys insculpta*, can not. Criterion C, as currently drafted, provides safeguards for species that are more inherently at risk of unsustainable use.

## SPECIES ACCOUNTS

### CHINESE PANGOLIN *Manis pentadactyla*

#### Introduction

This is a widely distributed species, occurring from India and Nepal east to China and Viet Nam. Like other pangolin species, it is nocturnal, secretive and little-known. It appears to be tolerant of a wide variety of secondary and human-modified habitats. The species is subjected to local-level use, internal trade and international trade. The declared level of international trade has at times been quite high, amounting to several thousand skins a year in the mid 1980s. However, this probably represents only a small proportion of the total level of use.

#### Appendix I

- Criterion A It is most unlikely that *Manis pentadactyla* qualifies for Appendix I under this criterion. For such a widely distributed species, the population level is almost certainly greater than 5,000 mature individuals, notwithstanding declines that might have resulted from over-harvesting.
- Criterion B The species does not qualify. Its area of distribution is greater than 10,000 km<sup>2</sup>.

- Criterion C The species has probably declined. However, it is unlikely that this decline amounts to 50% in ten years or three generations. The species could well be too secretive to be harvested at a level that could cause such a high rate of decline.
- Criterion D It is unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

#### Appendix II

*Manis pentadactyla* clearly meets the criteria for Appendix II in that it is probably subjected to unsustainable use, and listing on Appendix II is necessary in order to prevent international trade leading to utilization incompatible with survival.

### BROWN HYAENA *Hyaena brunnea*

#### Introduction

The brown hyaena is restricted to southern Africa, where it occurs mainly in South Africa, Botswana, Namibia and Zimbabwe. It is possibly extinct in Angola and Zambia, although good information is lacking. It occurs in many

protected areas and in commercial farming areas, always at a low density. It is a secretive species that is frequently under-recorded, but it does seem to have declined in its distribution, certainly in the Cape region of South Africa. However, it survives in close proximity to cities in the Transvaal. The species is persecuted in farming areas in the erroneous belief that it is a predator on domestic livestock, but the species survives in arid areas that are unlikely to be targeted for agricultural development. The species has no commercial value, and apart from very small numbers of zoo animals and hunting trophies, it is absent from international trade.

#### Appendix I

Criterion A The wild population could well be less than 5,000 mature individuals. However it is unlikely that:

- i) its rate of decline amounts to 20% in ten years or three generations;
- ii) it is fragmented into subpopulations, each being less than 500 mature individuals;
- iii) the majority of individuals occur in a single subpopulation at any one time;
- iv) it is migratory; and
- v) it experiences large short-term fluctuations in the number of mature individuals. It probably does not qualify under this criterion.

Criterion B The species does not qualify. Its area of distribution is greater than 10,000 km<sup>2</sup>.

Criterion C It is unlikely that the species could satisfy this criterion (i.e. a decline of 50% in ten years or three generations).

Criterion D It is unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

#### Appendix II

The species does not appear to satisfy the criteria for Appendix II, since it is hard to support the view that such a listing is necessary in order to prevent utilization incompatible with survival resulting from international trade.

#### ARGHALI *Ovis ammon*

##### Introduction

This species is widely distributed, ranging from Turkmenistan to Mongolia, south to Afghanistan, northern India, Nepal and western and northern China. It occurs mainly in mountainous and often remote areas, and as a result has a highly disjunct distribution. Several subspecies have been described, some of which are highly endangered. However, sizeable populations survive, at least in Mongolia and possibly elsewhere. The validity of some of the named subspecies has been questioned. Overall, the species would appear to be in decline, though firm quantitative data are lacking from most of the range. The species is highly valuable for trophy specimens, and so appears in international trade. There is probably stronger pressure from local hunting.

#### Appendix I

Criterion A The species does not qualify, since more than 5,000 mature individuals survive. Some subspecies would qualify such as *O. a. ammon*, *O. a. darwini*, *O. a. jubata*, *O. a. adamezsi* (this is possibly the same as *O. a. hodgsoni*, already included in Appendix I), *O. a. karelini* and *O. a. nigrimontana*.

Criterion B The species does not qualify, since it has an area of distribution greater than 10,000 km<sup>2</sup>.

Criterion C Assuming a generation time of 10–15 years, the species could conceivably have declined by 50% in the last 30–45 years, or could be projected to do so in the next 30–45 years. Since the species clearly also satisfies the trade criteria, it could be included in Appendix I under criterion C.

#### Appendix II

If it did not qualify for Appendix I, the species could certainly be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

#### PERUVIAN PENGUIN *Spheniscus humboldti*

##### Introduction

This species breeds in small colonies along the coast of Peru and the northern third of Chile. It appears to have declined significantly over the last 30 years, although population fluctuations occur as a result of El Niño effects. The species might have declined in part as a result of local hunting, commercial overfishing reducing availability of food, and incidental capture in nets. There is some international trade for zoos and private collections.

#### Appendix I

Criterion A The species does not qualify. Its population is greater than 5,000 mature individuals.

Criterion B The species probably qualifies, since its breeding distribution is probably less than 10,000 km<sup>2</sup> and the population is in decline.

Criterion C Assuming a generation time of 15 years, it is certainly possible that the species has declined by 50% in the last 45 years. Since the species also satisfies the trade criteria, it could be included in Appendix I under criteria B and C.

#### Appendix II

If it did not qualify for Appendix I, the species could certainly be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

#### BLACK-WINGED LORY *Eos cyanogenia*

##### Introduction

This species is restricted to the small Indonesian islands of Biak, Manim, Meos Num, Numfor and Supiori. The species has almost certainly declined as a result of loss of forest habitat, though it is still reported to be relatively common on forested areas of Biak. International trade has accelerated since 1987, giving cause for concern for this species, especially in view of its very restricted distribution.

#### Appendix I

Criterion A The species almost certainly satisfies this criterion, since its population is believed to be less than 5,000 mature individuals, and its rate of decline is probably at least 20% during the last 10 years.

Criterion B The species probably satisfies this criterion, since it is likely to have a distribution of less than 10,000 km<sup>2</sup>, and is in decline.

Criterion C Given the number of birds reported in international trade, and the small wild population, a postulated decline of 50% in the last ten years, or a projected decline of 50% in the next ten years, is supportable.

Since the species also clearly satisfies the trade criteria, it could be included in Appendix I under criteria A, B and C.

#### Appendix II

If it did not qualify for Appendix I, the species could certainly be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

RED-TIPPED CRESTED TURACO *Tauraco macrorhynchus*

#### Introduction

This species is widely distributed in the West African forest zone, ranging from Sierra Leone east to the mouth of the Congo/Zaire River. It occurs in both primary and secondary lowland forest, though it is also present in montane areas in Cameroon and Nigeria. It is common in suitable habitat in Cameroon and Gabon, but is apparently less so in countries from Nigeria westwards (including Ghana which has listed the species in Appendix III). This relative scarcity in the west of its range is probably related to the loss of large areas of suitable forest habitat. The species is not thought to be subject to much local-level use, or international trade.

#### Appendix I

- Criterion A The species clearly does not satisfy this criterion, having a population well over 5,000 mature individuals.
- Criterion B The species clearly does not satisfy this criterion, having an area of distribution well over 10,000 km<sup>2</sup>.
- Criterion C The species clearly does not satisfy this criterion, not having declined by 50% in the last ten years or three generations.
- Criterion D It is most unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

#### Appendix II

The species does not appear to satisfy the criteria for Appendix II, since it is hard to support the view that such a listing is necessary in order to prevent utilization incompatible with survival resulting from international trade.

HOME'S HINGED TORTOISE *Kinixys homeana*

#### Introduction

This species is widely distributed in the west and central African forest zone, though its occurrence in Benin and Togo is not clear. It occurs in lowland forest, and its habitat is being lost, especially in the western part of its range. There are very few population data but, overall, the species is not considered to be threatened. The species is hunted for food in much of its range and, in Cameroon, at least, this has resulted in local reductions in population density. The species appears in international trade, possibly at detrimental levels to certain populations. Almost all exports come from Ghana and Togo, though it is not known whether exports from Togo actually originate in that country.

#### Appendix I

- Criterion A The species does not qualify, since its wild population must be greater than 5,000 mature individuals.
- Criterion B The species does not qualify, since its area of distribution is greater than 10,000 km<sup>2</sup>.
- Criterion C The species does not qualify, since its rate of decline is unlikely to have been as much as 50% over the last ten years or three generations.

Criterion D It is unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

#### Appendix II

*Kinixys homeana* clearly meets the criteria for Appendix II in that it is probably subjected to unsustainable use, and listing in Appendix II is necessary in order to prevent international trade leading to utilization incompatible with survival.

NORTH AMERICAN WOOD TURTLE *Clemmys insculpta*

#### Introduction

This species occurs widely in the eastern United States and the southern part of Canada. It has been decreasing for many years, and local populations have been extirpated or are threatened and declining. The major threat is destruction and fragmentation of its favoured habitat: woodland streams. Some populations also appear to have been reduced by collecting. International trade is relatively small-scale, but the species would appear to be in demand in Europe by herpetoculturists, despite being difficult to keep in captivity.

#### Appendix I

- Criterion A The species does not qualify, since almost certainly more than 5,000 mature individuals survive.
- Criterion B The species does not qualify, since its area of distribution is more than 10,000 km<sup>2</sup>.
- Criterion C Assuming generation time to be 40 years, it is probably reasonable to postulate a 50% decline in the last 120 years, and to project such a decline over the next 120 years. Since the species would appear also to satisfy the trade criteria, it could be included in Appendix I under criterion C.

#### Appendix II

If it did not qualify for Appendix I, the species could be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

SIX-FINGERED FROG *Rana hexadactyla*

#### Introduction

This species occurs widely in the Indian subcontinent, in Sri Lanka, southern and eastern India, Nepal and coastal Bangladesh. Few population data are available, but it seems to be less common than some other edible frog species. The species formerly appeared in international trade in large numbers, but the trade has dropped off heavily since 1987. The species is not well-known, but it is believed to be adaptable and to be able to recover numbers quite rapidly following cessation of hunting pressure. The main threat probably comes from pesticides.

#### Appendix I

- Criterion A The species does not qualify, since its population must be well over 5,000 mature individuals.
- Criterion B The species does not qualify, since its area of distribution is greater than 10,000 km<sup>2</sup>.
- Criterion C The species is unlikely to qualify, since its rate of decline is unlikely to have been as much as 50% over the last ten years or three generations, especially since the large drop in international trade levels.

Criterion D It is most unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

#### Appendix II

The species can be included in Appendix II on the basis that such a listing is necessary to prevent utilization incompatible with survival resulting from international trade.

#### MADAGASCAR RED FROG *Dyscophus antongilii*

##### Introduction

This large frog is endemic to Madagascar, where it has a very small distribution in the east of the country, mainly between Maroantsetra and Andevoranto, and further south around Ambatovaky. The species favours swamps, shallow pools and water ditches, and although the status of the species is poorly known, it can be found in large concentrations. It is probably suffering from loss of habitat. The species appeared in the international pet trade prior to its listing in Appendix I in 1987.

##### Appendix I

Criterion A Given that it can occur in large concentrations, the population of this species is probably greater than 5,000 mature individuals.

Criterion B The area of distribution of this species is almost certainly less than 10,000 km<sup>2</sup>. If it is assumed, probably correctly, that the species is in decline, then it would qualify for Appendix I under criterion B (assuming that the trade criteria are also satisfied, which is likely to be the case).

Criteria C It is unlikely that the decline in this species amounts to 50% in ten years or three generations.

##### Appendix II

If it did not qualify for Appendix I, the species could certainly be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

#### PIRARUCU *Arapaima gigas*

##### Introduction

The pirarucu is one of the world's largest species of freshwater fish, occurring throughout the Amazon basin. It is much prized as a source of food, and populations around the few major human settlements have become severely depleted. However, it is still in good numbers through most of its range. Specimens occasionally appear in the live fish trade, but this is thought to have no impact on numbers.

##### Appendix I

Criterion A The species does not qualify, since its population is almost certainly greater than 5,000 mature individuals.

Criterion B The species does not qualify, since its area of distribution is greater than 10,000 km<sup>2</sup>.

Criterion C The species does not qualify, since its overall rate of decline must be less than 50% in 10 years or three generations.

Criterion D It is unlikely that the species could satisfy this criterion (i.e. satisfy any of the above three criteria within three years).

##### Appendix II

The species probably does not meet the criteria for Appendix II since it is hard to maintain that such a listing is

necessary in order to prevent international trade leading to utilization incompatible with survival.

#### GIANT CLAM *Tridacna gigas*

##### Introduction

*Tridacna gigas* is one of the larger species of giant clam. Abundant populations survive only in Australia, the Philippines and the Solomon Islands, though good populations could still occur in Palau, Papua New Guinea, the Marshall Islands, Kiribati, Myanmar and on the west coast of Thailand. The species is considered extinct in Fiji, Guam, New Caledonia and the Northern Marianas, and has been eliminated from most of Japan, the island of Taiwan, Tuvalu, the Federated States of Micronesia and Vanuatu. Stocks have declined dramatically in many areas as a result of excessive harvesting for their meat and shells. Much of the harvest is for the international trade.

##### Appendix I

Criterion A The species does not qualify, since more than 5,000 mature individuals survive.

Criterion B The species does not qualify, since its area of distribution is greater than 10,000 km<sup>2</sup>.

Criterion C The species probably does not quite qualify. The rate of decline has been severe, but probably not as much as 50% in the last three generations. It might be possible to project such a decline over the next three generations, but even this might not be realistic, given the increasing number of mariculture programmes involving this species.

##### Appendix II

The species can certainly be included in Appendix II on the basis that such a listing is necessary to prevent utilization incompatible with survival resulting from international trade.

#### MANUS GREEN TREE SNAIL *Papustyla pulcherrima*

##### Introduction

This species is endemic to the rainforest canopy in Manus Island, northern Papua New Guinea. It appears still to be quite common and shells are collected for the local and international trade. This international trade appears to be quite small and is possibly declining. The main threat to the species is clearly the logging industry, and 11% of the forest area is under a logging concession.

##### Appendix I

Criteria A The species does not qualify, since its wild population is almost certainly greater than 5,000 mature individuals.

Criteria B The species certainly has an area of distribution of less than 10,000 km<sup>2</sup> and since it is likely to be declining due to habitat loss, it would appear to satisfy this criterion. Since it also appears to meet the trade criteria, it could be included in Appendix I under criterion B.

Criteria C The species does not qualify, since its rate of decline must be less than 50% in 10 years or three generations.

##### Appendix II

If it did not qualify for Appendix I, the species could be included in Appendix II on the basis that such a listing would be necessary to prevent utilization incompatible with survival resulting from international trade.

Validation of Proposed New Criteria for the Amendment of Appendices I and II

## PLANTS

Introduction

This report presents the result of validation carried out by the Royal Botanic Gardens, Kew (Scientific Authority for Plants, United Kingdom) on the genus of Asian Slipper Orchids *Paphiopedilum*, a range of species of Cactaceae and species of *Sarracenia* (pitcher plants), all included in Appendix I. These groups were chosen as they offered wide variation in available data and ecological preference, while also being of high trade interest.

The criteria were applied using the best published and unpublished information available on distribution, conservation and trade status, and by consultations with leading experts on the plants concerned. The use of experts with a wide knowledge of the taxa concerned is especially important for plants where there is a dearth of published data. The "educated guess" of an experienced field botanist is often the most accurate source of information available.

The definitions of terms employed in the criteria and recommendations included in the documents were taken into account.

Higher taxon listings and listings on a look-alike basis have not been considered here, in order to increase the transparency of the application of the "biological" and "trade" criteria. This in no way diminishes their importance.

Results

Table 1 gives a summary of the results obtained from validation of both the "biological" and "trade" criteria for Appendix I.

Tables 2–4 give results obtained for taxa tested against the Appendix–I criteria. The "Result" column indicates only under which of the "biological criteria" the taxon qualifies, i.e. the "trade criteria" are not considered. This was done in order to increase the transparency of the application of the biological criteria.

For *Sarracenia* only the results for the species included in Appendix I are presented in table 4. However, the other species of this genus, all included in Appendix II, were tested against the new criteria for Appendix II, and all qualified for inclusion in this appendix under criterion B.

The Appendix–I criteria were easy to apply for the range of taxa tested, although the amount and types of information available for the groups varied. For instance, good recent information on actual population numbers is available for the cacti tested, but not for the genus *Paphiopedilum*, for which, in general, less information is available. However, the difference in types and amount of information was not a barrier to the application of the individual criteria.

It is interesting to note that two species of cacti tested, *Mammillaria plumosa* and *Leuchtenbergia principis*, did not qualify for inclusion in Appendix I in this validation exercise. At the fifth meeting of the Plants Committee, where this validation was discussed, proposals were also presented to transfer these from Appendix I to Appendix II, as part of the Ten-year-review process.

**Table 1: Summary of Results for Appendix-I Criteria**

	Population					Distribution				Decline		D maint. status	Trade Criterion			Result No. qualif. for A-I	
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:				C 50% within 10 yrs/3 gens.			Known in trade	Probably in trade	Likely to enter trade		
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred							
<b>Cactaceae</b> Number of taxa scoring in each category / subcategory	29	27	39	10	0	0	52	48	36	0	11	14	0	9	8	35	48
<b>Result</b> Number of taxa scoring in each category	29					48				25		0	9	8	35		
<b><i>Paphiopedilum</i></b> Number of taxa scoring in each category / subcategory	15	24	27	2	0	0	75	70	73	0	40	57	0	76	0	0	76
<b>Result</b> Number of taxa scoring in each category	12					76				62		0	76	0	0		
<b><i>Sarracenia - A-I</i></b> Number of taxa scoring in each category / subcategory	0	3	3	0	0	0	3	3	3	0	3	3	0	3	0	0	3
<b>Result</b> Number of taxa scoring in each category	0					3				3		0	3	0	0		

NB All numerical values treated as guidelines only.

No. taxa tested in each group: Cacti = 60  
*Paphiopedilum* = 76  
*Sarracenia* = 3

Table 2: Appendix-I Criteria applied to A-I Cactaceae

CACTACEAE	Population					Distribution			Decline		D maint. status	Trade Criterion			Result		
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens. and either			Known in trade	Probably in trade	Likely to enter trade			
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred							
<i>Ariocarpus</i>																	
<i>A. agavoides</i>	-	-	✓	-	-	*	✓	✓ c,d	-	-	* a	-	-	*	-	-	Q B,C
<i>A. bravoanus</i>	*	-	✓	-	-	*	✓	-	-	-	* a,b	-	-	-	-	*	QA,B,C
<i>A. fissuratus</i> <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	N
<i>A. fissuratus</i> var. <i>hintonii</i>	*	✓	✓	-	-	*	✓	✓ c	-	-	* b	-	*	-	-	-	QA,B,C
<i>A. kotschoubeyanus</i>	-	-	-	-	-	*	✓	✓ c,d	-	-	* a,b	-	*	-	-	-	Q B,C
<i>A. retusus</i>	-	-	-	-	-	-	-	✓ d	-	-	-	-	*	-	-	-	N
<i>A. scaphirostris</i>	*	-	✓	✓	-	*	✓	-	-	*	-	-	-	*	-	-	QA,B,C
<i>A. trigonus</i>	-	✓	✓	✓	-	*	✓	✓ c,d	-	-	* a,c	-	-	*	-	-	Q B,C
<i>Astrophytum asterias</i>	*	✓	✓	-	-	*	✓	✓ c,d	-	*	* a,b	-	-	*	-	-	QA,B,C
<i>Aztekium ritteri</i>	-	-	-	-	-	*	✓	✓ c	-	-	-	-	*	-	-	-	Q B
<i>Coryphantha</i>																	
<i>C. minima</i> <sup>2</sup>	*	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	-	*	Q A,B
<i>C. sneedii</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	IK
<i>C. werdermannii</i>	*	-	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	-	*	Q A,B
<i>Discocactus</i>																	
<i>D. bahiensis</i> <sup>3</sup>	*	✓	✓	-	-	*	✓	✓ d	-	*	-	-	-	-	-	*	QA,B,C
<i>D. heptacanthus</i>	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	*	N
<i>D. horstii</i>	*	✓	✓	✓	-	*	✓	✓ c	-	*	-	-	-	-	-	*	QA,B,C

1 = incl. varieties    2 = *Escobaria minima*    3 = incl. *subviridigriseus*

Key    \* Satisfies criterion    ✓ Satisfies subcriterion; annotations specify categories    - Does not satisfy    N Does not qualify    IK Insufficiently known  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 2: Appendix-I Criteria applied to A-I Cactaceae (cont.)

CACTACEAE	Population					Distribution			Decline		D	Trade Criterion			Result		
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens. and either			Known in trade	Probably in trade	Likely to enter trade			
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred	maint. status						
<i>Discocactus</i> (cont.)																	
<i>D.placentiformis</i>	*	-	✓	-	-	-	*	✓	✓ c,d	-	-	-	-	-	*	-	Q A,B
<i>D.pseudoinsignis</i>	*	-	✓	-	-	-	*	✓	-	-	-	-	-	-	*	-	Q A,B
<i>D.zehntneri</i>	*	✓	✓	-	-	-	*	✓	✓ d	-	-	-	-	-	*	-	Q A,B
<i>Disocactus macdougallii</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
<i>Echinocereus</i>																	
<i>E.ferreirianus</i> var. <i>lindsayi</i>	*	✓	✓	✓	-	-	*	✓	✓ c	-	*	* b	-	-	-	*	Q A,B,C
<i>E.schmollii</i>	*	✓	✓	-	-	-	*	✓	✓ d	-	-	* a	-	-	-	-	Q A,B,C
<i>Leuchtenbergia principis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
<i>Mammillaria</i>																	
<i>M.pectinifera</i>	*	✓	✓	-	-	-	*	✓ c	✓	-	*	* a	-	-	-	N	Q A,B,C
<i>M.plumosa</i>	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	N
<i>M.solisoides</i>	*	✓	✓	-	-	-	*	✓ d	✓	-	*	-	-	-	-	N	Q A,B,C
<i>Melocactus</i>																	
<i>M.conoideus</i>	*	✓	-	✓	-	-	*	✓	✓ d	-	*	* a	-	-	-	*	Q A,B,C
<i>M.deinacanthus</i>	*	✓	✓	-	-	-	*	✓	✓ d	-	-	-	-	-	-	*	Q A,B
<i>M.glaucescens</i>	*	✓	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	*	Q A,B
<i>M.paucispinus</i>	*	✓	✓	✓	-	-	*	✓	✓ c	-	-	-	-	*	-	-	Q A,B

Key \* Satisfies criterion ✓ Satisfies subriterion; annotations specify categories - Does not satisfy N Does not qualify IK Insufficiently known  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 2: Appendix-I Criteria applied to A-I Cactaceae (cont.)

CACTACEAE	Population A < 5000 individuals and one of:					Distribution B < 10 000km <sup>2</sup> and one of:			Decline C 50% within 10 yrs/3 gens. and either		D maint. status	Trade Criterion			Result
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred		Known in trade	Probably in trade	Likely to enter trade	
	<i>Obregonia denegrii</i>	-	-	✓	-	-	*	✓	-	-	-	-	-	*	Q B
<i>Pachycereus militaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	N	
<i>Pelecypora aselliformis</i>	-	✓	-	-	-	*	✓	✓ c	-	-	-	-	*	Q B	
<i>P. strobiliformis</i>	-	✓	✓	-	-	*	✓	✓ a,b,c	-	-	-	-	*	Q B	
<i>Sclerocactus brevihamatus</i> <sup>5</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	IK	
<i>Strombocactus disciformis</i>	-	-	-	-	-	✓	-	-	-	-	-	-	*	N	
<i>Turbincarpus</i>															
<i>T. gautii</i>	-	-	-	-	-	✓	-	-	-	-	-	-	*	N	
<i>T. gielsdorfianus</i>	*	-	✓	-	-	*	✓	-	-	-	-	-	*	Q AB	
<i>T. hoferi</i>	*	-	-	-	-	*	✓	-	-	-	-	-	*	Q AB	
<i>T. horripilus</i>	-	-	-	-	-	*	✓	-	-	-	-	-	*	Q B	
<i>T. laui</i> <sup>4</sup>	-	-	✓	-	-	*	✓	✓ c	-	-	-	-	*	Q B	
<i>T. lophophoroides</i>	*	✓	✓	✓	-	*	✓	-	-	-	-	-	*	Q AB	
<i>T. mandragora</i>	*	-	✓	✓	-	*	✓	-	-	-	-	-	*	Q AB	
<i>T. pseudomacrochele</i>	*	✓	✓	✓	-	*	✓	✓ b,c,d	-	-	-	-	*	Q AB	
<i>T. pseudopectinatus</i>	*	-	-	-	-	*	✓	-	-	-	-	-	*	Q AB	
<i>T. saueri</i>	-	-	-	-	-	*	✓	-	-	-	-	-	*	Q B	

<sup>4</sup> = uncertain taxonomic status, may = *T. knuthianus*

Key \* Satisfies criterion    ✓ Satisfies subriterion; annotations specify categories    - Does not satisfy    N Does not qualify    IK Insufficiently known  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 2: Appendix-I Criteria applied to A-I Cactaceae (cont.)

CACTACEAE	Population A < 5000 individuals and one of:					Distribution B < 10 000km <sup>2</sup> and one of:			Decline C 50% within 10 yrs/3 gens. and either		D	Trade Criterion			Result	
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred	maint. status	Known in trade	Probably in trade	Likely to enter trade		
	<i>Turbinicarpus</i> (cont.)															
<i>T. schmidickeanus</i> <sup>5</sup>	-	-	✓	-	-	*	✓	-	-	-	-	-	-	-	*	Q B
var. <i>gracilis</i>	*	✓	✓	-	-	*	✓	✓ c,d	-	-	-	-	-	-	*	Q A,B
var. <i>klinkerianus</i>	-	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	*	Q B
var. <i>macrochele</i>	-	-	✓	-	-	*	✓	✓ c,d	-	-	* c	-	-	-	*	Q B,C
var. <i>schmidickeanus</i>	-	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	*	Q B
var. <i>schwarzii</i>	*	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	*	Q A,B
<i>T. subterraneus</i> <sup>6</sup>	*	✓	✓	✓	-	*	✓	✓ c	-	*	-	-	-	-	*	Q A,B,C
var. <i>zaragosae</i>	*	✓	✓	-	-	*	✓	✓ c	-	-	-	-	-	-	*	Q A,B
<i>T. swobodae</i>	-	-	✓	-	-	*	✓	-	-	-	-	*	-	-	-	Q B
<i>T. valdezianus</i>	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	*	IK
<i>T. viereckii</i>	-	-	-	-	-	*	-	✓ c	-	-	-	-	-	-	*	Q B
<i>Uebelmannia</i>																
<i>U. buiningii</i>	*	✓	✓	-	-	*	✓	✓ c	-	*	* c	-	*	-	-	Q A,B
<i>U. gummifera</i>	*	✓	✓	-	-	*	✓	✓	-	-	-	-	-	-	-	Q A,B
<i>U. pectinifera</i>	*	✓	✓	-	-	*	✓	✓ c	-	*	-	-	-	-	*	Q A,B

5 = incl. varieties 6 = incl. varieties

Key \* Satisfies criterion ✓ Satisfies subcriterion; annotations specify categories - Does not satisfy N Does not qualify IK Insufficiently known  
Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 3: Appendix-I Criteria for the genus *Paphiopedilum*

<i>Paphiopedilum</i>	Population					Distribution			Decline		D	Trade Criterion			Result		
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens.			Known in trade	Probably in trade	Likely to enter trade			
Taxon		i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.		i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred	maint. status				
<i>P. acmodontum</i>	-	✓	✓	-	-	-	*	✓	✓abcd	-	-	-	-	*	-	-	Q B
<i>P. adductum</i>	-	✓	✓	-	-	-	*	✓	✓abcd	-	*	*b	-	*	-	-	QBC
<i>P. appletonianum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QBC
<i>P. argus</i>	-	-	✓	-	-	-	*	✓	✓abc	-	*	-	-	*	-	-	QBC
<i>P. armeniacum</i>	-	-	-	-	-	-	*	✓	✓abcd	-	*	-	-	*	-	-	QBC
<i>P. barbatum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. barbigerum</i>	-	-	-	-	-	-	*	✓	✓ab	-	-	-	-	*	-	-	QB
<i>P. bellatulum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QBC
<i>P. bougainvilleanum</i>	*	✓	✓	✓	-	-	*	✓	✓abc	-	*	*b	-	*	-	-	Q ABC
<i>P. bullenianum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	QBC
<i>P. callosum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	QBC
-var. <i>sublaeve</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. celebesense</i> <sup>1</sup>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. charlesworthii</i>	-	✓	✓	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QBC
<i>P. ciliolare</i>	-	✓	✓	-	-	-	*	✓	✓bcd	-	-	*b	-	*	-	-	QBC
<i>P. concolor</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QBC
<i>P. dayanum</i>	-	✓	✓	✓	-	-	*	✓	✓abc	-	*	*b	-	*	-	-	QBC
<i>P. delenatii</i>	-	✓	-	-	-	-	*	✓	✓abc	-	*	*b	-	*	-	-	QBC
<i>P. dianthum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. druryi</i>	*	✓	✓	-	-	-	*	✓	✓abcd	-	*	*b	-	*	-	-	QABC
<i>P. emersonii</i>	-	-	-	-	-	-	*	✓	✓abcd	-	-	*b	-	*	-	-	QBC
<i>P. exul</i>	-	-	-	-	-	-	*	✓	✓abcd	-	-	-	-	*	-	-	QB
<i>P. fairrieianum</i>	-	✓	✓	-	-	-	*	✓	✓abcd	-	*	*abc	-	*	-	-	QBC
<i>P. fowliei</i>	-	-	-	-	-	-	*	✓	✓bd	-	*	*b	-	*	-	-	QBC

1 = *P. bullenianum* var. *celebesense*

Key \* Satisfies criterion ✓ Satisfies subcriterion; annotations specify categories - Does not satisfy N Does not qualify  
Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 3: Appendix-I Criteria applied to the genus *Paphiopedilum* (cont.)

<i>Paphiopedilum</i>	Population					Distribution			Decline		D	Trade Criterion			Result		
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens.			Known in trade	Probably in trade	Likely to enter trade			
Taxon		i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.		i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred	maint. status				
<i>P. glanduliferum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*ab	-	*	-	-	Q BC
- var. <i>wilhelminae</i>	*	-	✓	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	Q AB
<i>P. glaucophyllum</i>	-	✓	✓	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	Q BC
<i>P. gratrixianum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	Q BC
<i>P. godefroyae</i> <sup>2</sup>	-	-	-	-	-	-	*	✓	✓acd	-	*	*b	-	*	-	-	Q BC
<i>P. haynaldianum</i>	*	✓	✓	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	Q ABC
<i>P. henryanum</i> <sup>3</sup>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	Q BC
<i>P. hirsutissimum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	Q B
-var. <i>esquirolei</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	Q B
<i>P. hookerae</i>	-	-	-	-	-	-	*	✓	✓bcd	-	*	-	-	*	-	-	Q BC
-var. <i>volonteanum</i>	-	✓	✓	-	-	-	*	✓	✓cd	-	*	*a	-	*	-	-	Q BC
<i>P. insigne</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	Q BC
<i>P. javanicum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*a	-	*	-	-	Q BC
-var. <i>virens</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	Q BC
<i>P. kalopakingii</i>	-	-	-	-	-	-	*	✓	✓acd	-	-	*ab	-	*	-	-	Q BC
<i>P. lawrenceanum</i>	✓	-	-	-	-	-	*	✓	✓cd	-	*	-	-	*	-	-	Q BC
<i>P. liemianum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	Q BC
<i>P. lowii</i>	-	✓	✓	-	-	-	*	✓	✓bcd	-	-	*a	-	*	-	-	Q BC
<i>P. malipoense</i>	✓	-	-	-	-	-	*	✓	✓abcd	-	*	*b	-	*	-	-	Q BC
<i>P. mastersianum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	Q BC
<i>P. micranthum</i>	-	-	-	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	Q BC
<i>P. moquetteanum</i> <sup>4</sup>	-	-	-	-	-	-	*	✓	✓bcd	-	*	*b	-	*	-	-	Q BC

<sup>2</sup> = *P. 'ang thong'* = *P. godefroyae*    <sup>3</sup> = *P. dollii* = *P. henryanum*    <sup>4</sup> = *P. glaucophyllum* var. *moquetteanum*

Key    \* Satisfies criterion    ✓ Satisfies subcriterion; annotations specify categories    - Does not satisfy    N Does not qualify  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 3: Appendix-I Criteria applied to the genus *Paphiopedilum* (cont.)

<i>Paphiopedilum</i>	Population					Distribution			Decline		D maint. status	Trade Criterion			Result		
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens.			Known in trade	Probably in trade	Likely to enter trade			
Taxon		i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.		i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred					
<i>P. niveum</i>	-	✓	-	-	-	-	*	✓	✓abcd	-	*	*b	-	*	-	-	Q BC
<i>P. papuanum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	Q BC
<i>P. parishii</i>	-	✓	-	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	Q BC
<i>P. philippinense</i>	-	✓	-	-	-	-	*	✓	✓cd	-	-	*ab	-	*	-	-	QBC
-var. <i>roebelenii</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. primulinum</i>	*	✓	✓	-	-	-	*	✓	✓bcd	-	*	*b	-	*	-	-	QABC
-var. <i>purpurascens</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	-	-	*	-	-	QB
<i>P. purpuratum</i>	✓	-	-	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	QBC
<i>P. randsii</i>	*	✓	✓	-	-	-	*	✓	✓cd	-	-	*ab	-	*	-	-	QABC
<i>P. rothschildianum</i>	*	✓	✓	-	-	-	*	✓	✓abcd	-	*	*ab	-	*	-	-	QABC
<i>P. sanderianum</i>	*	✓	✓	-	-	-	*	✓	✓abcd	-	*	*b	-	*	-	-	QABC
<i>P. sangii</i>	-	-	✓	-	-	-	*	✓	✓acd	-	-	*b	-	*	-	-	QBC
<i>P. schoseri</i>	-	-	-	-	-	-	*	✓	✓acd	-	-	*b	-	*	-	-	QBC
<i>P. spicerianum</i>	-	✓	✓	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	QBC
<i>P. stonei</i>	*	-	✓	-	-	-	*	✓	✓abcd	-	*	*ab	-	*	-	-	QABC
<i>P. sukhakulii</i>	*	✓	✓	-	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QABC
<i>P. supardii</i>	*	-	✓	-	-	-	*	✓	✓abcd	-	*	*ab	-	*	-	-	QABC
<i>P. superbians</i>	-	✓	✓	-	-	-	*	✓	✓cd	-	*	*ab	-	*	-	-	QBC
<i>P. tigrinum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*b	-	*	-	-	QBC
<i>P. tonsum</i>	-	-	✓	-	-	-	*	✓	✓abcd	-	-	*ab	-	*	-	-	QBC
<i>P. urbanianum</i>	-	-	✓	-	-	-	*	✓	✓abcd	-	-	*ab	-	*	-	-	QBC
<i>P. venustum</i>	-	-	-	-	-	-	*	✓	✓cd	-	-	*ab	-	*	-	-	QBC

Key \* Satisfies criterion ✓ Satisfies subcriterion; annotations specify categories - Does not satisfy N Does not qualify  
Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

**Table 3: Appendix-I Criteria applied to the genus *Paphiopedilum* (cont.)**

Taxon	Population					Distribution			Decline		D maint. status	Trade Criterion			Result	
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens.			Known in trade	Probably in trade	Likely to enter trade		
	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred						
<i>P. victoria-mariae</i>	-	-	-	-	-	*	-	✓cd	-	*	*ab	-	*	-	-	QBC
<i>P. victoria-regina</i>	-	-	-	-	-	*	-	✓cd	-	-	*ab	-	*	-	-	QBC
<i>P. violascens</i>	-	-	-	-	-	-	✓	✓cd	-	-	*a	-	*	-	-	QBC
<i>P. villosum</i>	-	-	-	-	-	✓	-	-	-	-	-	-	*	-	-	QB
-var. <i>annamense</i>	-	-	-	-	-	✓	-	-	-	-	-	-	*	-	-	QB
-var. <i>boxallii</i>	-	-	-	-	-	✓	-	-	-	-	-	-	*	-	-	QB
<i>P. wardii</i>	-	-	-	-	-	*	-	✓cd	-	-	*ab	-	*	-	-	QBC
<i>P. wentworthianum</i>	*	✓	✓	-	-	*	✓	✓cd	-	*	*b	-	*	-	-	QABC

Key \* Satisfies criterion    ✓ Satisfies subcriterion; annotations specify categories    - Does not satisfy    N Does not qualify  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.

Table 4: Appendix-I Criteria applied to *Sarracenia*

	Population					Distribution			Decline		D	Trade Criterion			Result			
	A < 5000 individuals and one of:					B < 10 000km <sup>2</sup> and one of:			C 50% within 10 yrs/3 gens. and either			Known in trade	Probably in trade	Likely to enter trade				
<i>Sarracenia</i>	i. decline	ii. subpop. <500	iii. conc.	iv. migrat.	v. fluct.	i. frag. subpop. <500km <sup>2</sup>	ii. decline	iii. fluct.	i. obsrv'd	ii. inferred	maint. status							
<i>S. alabamensis</i> ssp. <i>alabamensis</i>	-	✓	✓	-	-	-	*	✓		✓	a,b,c,d	-	*	* a	*	-	-	Q BC
<i>S. jonesii</i> ( <i>S. rubra</i> ssp. <i>jonesii</i> )	-	✓	✓	-	-	-	*	✓		✓	a,b,c,d	-	*	* a,b,c	*	-	-	Q BC
<i>S. oreophila</i>	-	✓	✓	-	-	-	*	✓		✓	a,b,c,d	-	*	* a,b,c	*	-	-	Q BC

Key \* Satisfies criterion    ✓ Satisfies subcriterion; annotations specify categories    - Does not satisfy    N Does not qualify  
 Q Qualification for A-I; annotations specify criterion.

NB All numerical values treated as guidelines only.