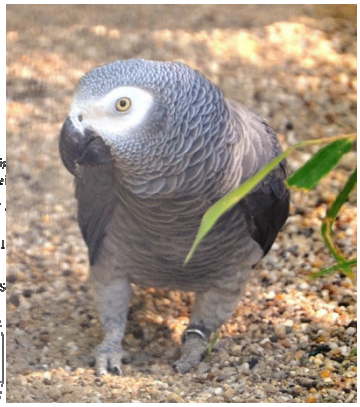
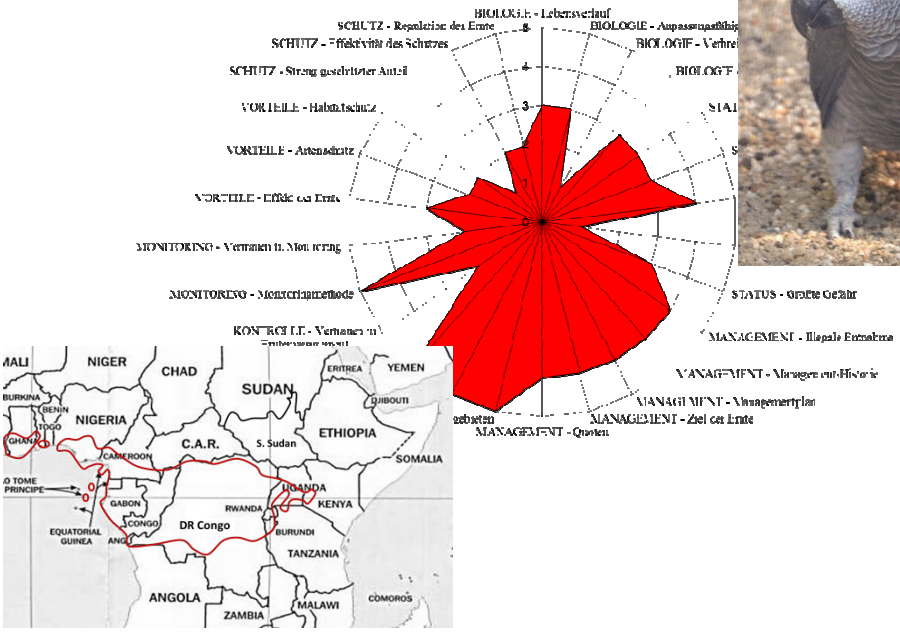
Non-detriment Findings in CITES (NDFs)





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Agriculture, Forestry, Environment and Water Management

Version 1.2 (2014)

lebensministerium.at

Table of Content

Version remarks

Version 1.1:

In Version 1.1 the information of the publication "Leaman and Oldfield (2014)" was included in chapter 3.5. Other chapters remain unaffected by this addition. There was no update of the other information in this publication.

Version 1.2:

In Version 1.2 chapter 4. was extended by some explanations and the subchapter "NDF with insufficient data". The wording was changed in some cases.

List of abbreviations

AC	Animals Committee
CBD	Convention on Biological Diversity
CIRCABC	Communication and Information Resource Centre for Administrations, Businesses and Citizens
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP	Conference of the Parties (in this document also refers to CITES)
DR	Democratic Republic
DRFC	Direction de Gestion Faunique et de Chasse (DR of the Congo)
EC	European Community
ETIS	Elephant Trade Information System
EU	European Union
IOC	Intergovernmental Oceanographic Commission
ISSC-MAP	International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants
IUCN	International Union for Conservation of Nature and Natural Resources
MA	Management Authority
MEP	Maximum Estimated Production
MPSG	Medicinal Plant Specialist Group
MSY	Maximum Sustainable Yield
NDF	Non-Detriment Finding
Notif.	Notification

PC	Plants Committee
pers. Komm.	personal comment
Prop.	Proposition
Res. Conf.	Resolution of the Conference of the Parties (CITES)
Rev.	Revision
SA	Scientific Authority
SRG	Scientific Review Group
TRAFFIC	Trade Records Analysis of Flora and Fauna in Commerce
ü. NHN	above the base height level
UN	United Nations
UNEP	United Nations Environment Programme
UNODC	United Nations Office on Drugs and Crimes
[w]	Weblink (the source provided can be found in the list of weblinks)
WCC	World Conservation Congress
WCMC	World Conservation Monitoring Centre

Definitions

Positive decision:
According to an international agreement a finding of non-detriment is referred to as a positive Non-detriment Finding (NDF) if the trade in a species does not pose a risk to that species (see CoP15 Doc.16.2.2 Annex A-C12; p. 7).

Regulation:
For shorthand purposes, the "Regulation (EC) no. 338/97 (last amended by Regulation (EU) no. 750/2013)" is always referred to as "Regulation" without any added number in this publication.

Convention:
The "Convention on International Trade in Endangered Species of Wild Fauna and Flora" is always referred to as "Convention" without any addition in this publication.

The internet sources given in this publication have been selected by the author to his best knowledge, but no responsibility is accepted for their content.

Acknowledgements

I would like to express my gratitude to the representatives of the authorities who took the time to answer my questions and to Pierre Nikoyagize who helped me with the French correspondence. I wish to thank also the persons and institutions that made available their pictures. Lastly, I would like to say thank you to Andreas Ranner (Provincial Government of Burgenland), Ulrich Schepp (Federal Agency for Nature Conservation - Bundesamt für Naturschutz) and Professor Michael Kiehn (University of Vienna) for their constructive comments on the draft.

1. Introduction

In 1960 the International Union for Conservation of Nature and Natural Resources (IUCN) ascertained that global species trading constitutes a threat to several species. Therefore, the Union at its Seventh General Assembly meeting requested that each country should adopt import restrictions attuned to the export regulations of the countries of origin (IUCN 1960). However, as, without an international framework, this is hardly feasible for individual countries, an international convention for the protection of endangered species was requested at the Eighth General Assembly meeting (IUCN 1964). The future name of the "Convention on International Trade in Endangered Species of Wild Fauna and Flora" (CITES), which was signed at Washington, D.C., on 3 March 1973 and entered into force on 1 July 1975 (Wijnstekers 2011, 34 pp.), is derived from this resolution. Article IV of the Convention regulates the trade in species listed in Appendix II. A permit for the export of any specimen of these species shall only be granted if trade will not be detrimental to the survival of that species. Provided that certain standards are met and that no over-utilisation of the resource takes place, trade is not to be prohibited, but only to be regulated and monitored. This basic idea of CITES therefore paraphrases the idea of sustainable use as presented by the Brundtland Commission in 1987 (UN 1987). The scientific reviews as to whether or not trade endangers a species are the "non-detriment findings" (NDFs) (Res. Conf.16.7). The making of such reviews in practice is more difficult than describing their conduct in theory, so first important indicators were presented in 1992 and the wish for some concrete assistance was expressed (Res. Conf.8.6). Following a resolution on the role of the "Scientific Authority" (SA) (Res. Conf.10.3), the idea was seized by the IUCN and in 2002 the Guidance by Rosser and Haywood was published. After that, both the "Plants Committee" (PC) and the "Animals Committee" (AC) noted that, though not applicable in each and every case, the Addis Abeba Principles and Guidelines (Secretariat of the CBD 2004) should nevertheless be taken into account in NDFs. During the subsequent period more persons and groups of persons presented supplements and amendments (CITES Secretariat 2013a[w]). Therefore several methods and procedures for the making of an NDF exist (AC25 Doc.13).

The biological concept behind all considerations on the conduct of an NDF is the maximum sustainable yield, or MSY (Townsend *et al.* 2009). A population of a species cannot grow infinitely, an important reason being the intraspecific competition for limited resources. With

the size of a population also its growth rate changes. Basically, we assume that the growth rate is highest for a medium population size, but there are deviations from this rule for different organisms and groups of organisms (cf. Sibly and Hone 2002, Sibly *et al.* 2005). This maximum growth can be harvested without posing a threat to the maintenance of the population – the maximum sustainable yield (Townsend *et al.* 2009). The two rules commonly used to ensure that the maximum sustainable yield is not exceeded are fixed-quota harvesting and/or a specified harvest effort (e.g. fixed number of hunting days). However, there are a few things which we have to bear in mind when moving theory into practice. For example, the concept of the maximum sustainable yield does not take into account that a population is not composed of identical specimens and that environmental changes occur (Townsend *et al.* 2009). Moreover, a distinction has to be made as to whether the specimen stays in the habitat or is removed from it, dead or alive (Leader-Williams 2002). Nevertheless the concept of the MSY is widely applied, as control and implementation are relatively simple.

Complete and reliable data on all relevant fields, as needed for the determination of the MSY, are rarely available. NDFs are therefore often a type of risk analysis for a species assessing whether sustainable utilisation exists. Ultimately, the question is how serious the threat of complete over-exploitation of a population or of its extinction is. As CITES requires concrete decisions, it is also a weighing up between the level of risk and the availability of information. The higher the risk, the better and more comprehensive the information has to be. If the risk is relatively low, conducting a review is possible with little information (CoP15 Doc.16.2.2). In this context, the assessment of the risk depends also on the definition of the risk to the stock. On a two-dimensional scale one end stands for the opinion that harvesting would not involve a threat to the species only if, over short or long periods, it does not cause any impacts on the population (e.g. harvesting of a certain portion of the leaves of a tree). The other end represents the view that harvesting is sustainable where a population, in spite of marked impacts, has enough specimens to recover over the medium or long term (e.g. harvesting of tropical timber) (AC25 Inf.2). Due to the nature of risk assessment each review involves a certain degree of uncertainty which the method has to cope with.

This publication presents the different methodologies and guidelines and provides assistance in the practical conduct of an NDF. For this purpose, first the vital differences between

CITES and the EU Regulation (EC) no. 338/97 are explained (*2. Implementation of CITES in the EU*). Moreover, the different guidelines for the conduct of an NDF are listed and summarised in a summary table (*3. Guidelines for the making of NDFs*).

In the next step a practical guidance on how to conduct the NDF is provided and illustrated in a diagram (*4. Practical guidance to assist in the making of an NDF).*

For a better understanding of the practical implementation and the requirements, eight different case studies are addressed at the end. (*5. Case studies).* They focus on the reviews which have to be carried out in connection with imports.

2. Implementation of CITES in the EU

The EU is presently (as of: November 2013) not yet a member of CITES. The legal basis enabling the EU to accede to the Convention, the Gabarone Amendment, enters into force on 29 November 2013 (Notif. 2013/045). The EU will therefore probably become a Party to the Convention in the near future. The EU adopted a regulation for the implementation of CITES, Regulation (EC) no. 338/97 of the Council (last amended by Regulation (EU) no. 750/2013). The Regulation is strongly oriented towards CITES, but includes a few changes. However, in accordance with CITES Article XIV all of them constitute stricter regulations.

The Regulation sets out the terms and conditions for the introduction into and the export from the Community of the European Union (Articles 4 and 5). In this context, certificates and permits issued by an EU Member State are valid throughout the Community (Art. 11). This does not affect stricter rules applying in individual EU Member States. For EU Member States the Regulation involves four important modifications with respect to the application of CITES.

The changes relate to:

- a partly modified listing of the species in the Annexes to the Regulation *(1);*
- a harmonisation with other EU Member States *(2);*
- a stronger enforcement mechanism *(3);*
- changed conditions for the issuing of permits *(4).*

(1): In principle, the EU used the listing of the species in the CITES Appendices. But to avoid confusion, they are marked using letters instead of figures. However, due to the implementation of the Flora-Fauna-Habitat Directive and the Birds Directive a few modifications have been made especially as regards European species. As only stricter regulations are possible, the only available options are to list additional species in an Annex or to assign species to a higher management category than under CITES. Exempted from this rule are species for which the EU Member States expressed a reservation concerning CITES. The criteria for entry into one of the Annexes are set out in Article 3.

(2): If a Member State refuses to grant a permit, the other Member States have to accept this rejection, provided that it was made in accordance with the provisions of the Regulation (Art. 6). However, each Member State can decide differently if new evidence has become available or the circumstances have significantly changed. Such a decision has to be notified to the

Commission without delay, which then consults the other Member States (Art. 6). This procedure ensures uniform implementation of the Regulation throughout the EU.

(3): Article 16 lists the infringements for which sanctions have to be imposed. Member States are themselves responsible for determining the punishment. In Austria, the relevant provisions are set out in the Species Trade Act ("Artenhandelsgesetz 2009", abbr. "ArtHG 2009").

(4): The change which is of the greatest significance in respect of the present document pertains to the provisions and conditions for the granting of permits. For example, the introduction of species listed in Annex B requires also an import permit, for which an NDF is needed (Art. 4.2). Furthermore, the EU has the Scientific Review Group (SRG), which checks the applications for permits. Its opinions are binding on all Member States. However, the Scientific Authority (SA) of each Member State can request a further appraisal if the data situation has changed (Art. 4.6).

Detailed information on the legal regulations concerning the trade in fauna and flora in the EU can be found in "European Commission and TRAFFIC" (2013).

3. Guidelines for the making of NDFs

3.1. IUCN Guidance

Unless otherwise stated, information provided in this chapter is derived from Rosser and Haywood (2002).

In 2002 IUCN published a guidance document to allow a uniform and more easily comparable assessment of the facts in all CITES member countries. This Guidance is still the standard reference for the making of NDFs and is presented below. For special cases and certain details, however, a few changes have been made which are explained in the following chapters.

In the Guidance, Rosser and Haywood (2002) describe a two-step system which provides for two reviews: In the first review clearly positive findings are identified in a simplified and time-saving process.

For animals (reference: species), a review can lead to a positive (non-detriment) finding only if

- there is only well regulated trade in specimens from captive breeding;
- there is only well regulated trade in animal products whose harvest does not involve the killing of the animal and if the impacts and the scale of the harvest can be readily quantified;
- there is only a well regulated management (e.g. trophy hunting) and the impacts and the scale of the harvest can be readily quantified.

For plants (reference: population), a review can lead to a positive finding only if

- there is only well regulated trade in artificially propagated plants;
- there is only well regulated trade in parts of plants whose harvesting is not lethal to the plant (fruits, flowers, seeds, or leaves) and impacts and scale of the harvest can be readily quantified.

Where a wild collected specimen is killed in the course of harvesting, e.g. in the harvesting of wood, the first review can, except in the case of the well regulated management in animals, not lead to a positive finding. If the first review produces a negative opinion, the second review has to be conducted.

The second review provides a more differentiated picture of the risk potential involved in trade. It comprises seven categories with altogether 26 indicators which are checked at least

for each species and each country, but, where applicable, also for populations or sub-populations. There is a five-step scale for each indicator, with the first level reflecting a low risk potential and the fifth one a high risk potential. If the data available for an indicator may be poor or uncertain, this indicator will always be assigned to the fifth level.

The seven categories are:

- Biological characteristics
- National status
- Harvest management
- Control of harvest
- Monitoring of harvest
- Incentives and benefits from harvesting
- Protection from harvest

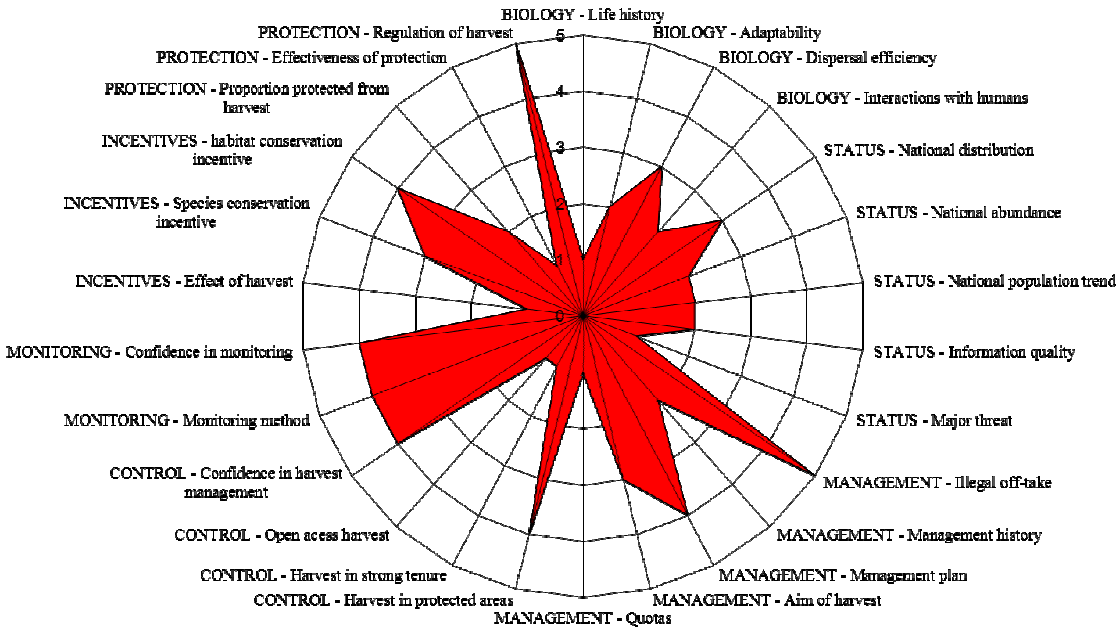

Figure 1: Exemplary graphical NDF evaluation
Graphical representation of an NDF for animals (*Python curtus* for Indonesia). The data have been taken from an example by Rosser and Haywood (2002) with specific changes from Kasterine *et al.* (2012) which were made due to the change in the taxonomic classification of the species *P. curtus* recognised by CITES in 2004.

Only the category "Biological characteristics", which comprises four indicators, is specific for animals and plants, respectively. All other indicators apply to animals and plants alike. The checklist with the individual indicators for each category can be found in Annex 2**.** The results, indication of the level for each indicator, can then be graphed, the usual form of presentation being a filled radar diagram (Figure 1). The graphical form of presentation serves above all to make results clear and easy to grasp. This makes sense only if all queried

indicators are examined. However, the scale of evaluation and the type of representation were not mentioned in subsequent guidance documents.

Download Guidance (as of: November 2013):
http://data.iucn.org/themes/ssc/our_work/wildlife_trade/citescop13/CITES/guidance.htm

3.2. NDF Workshop

Unless otherwise stated, information from this chapter is derived from the summary documents PC18 Doc.14.1 and CoP15 Doc.16.2.2.

In 2008 an international workshop on NDFs was convened in Cancun, where the application of the IUCN Guidance was discussed and changes for the practical implementation were proposed. One has to bear in mind that the results of the workshop relate to NDFs for exports, but the basic concepts can also be applied to NDFs for the import. For the workshop a model format for use in the examples was laid down. In the present publication this model is taken into account in the optimum case studies. (*5. Case studies*).
During the workshop additional indicators were discussed which are to be considered either generally or only in specific cases. They are outlined below. The new indicators are organised according to the structure of the IUCN Guidance, but there are also some new categories. For the new indicators there is no five-step scale of evaluation any longer; the relevant assessments are in the discretion of the person in charge.

General indicators

Before making an NDF it has to be verified whether the identity of the species is clear and whether the application data are plausible or can be correct. Where this precondition is not met, making an NDF does not make sense. Furthermore, the NDF must not be reduced to international trade but has to consider the whole impact. This includes harvest for the internal market (or self-supply) and all other factors that may increase the mortality of a population. It is important to verify the independence of the information. In case of doubt data from both users and conservationists should therefore be considered. For legal and practical reasons the review whether trade involves a risk to the species is frequently limited to the populations of one country. However, also potential impacts on other populations should be taken into account, especially in the case of fish stocks and migratory animal species of a wide range

(such as birds). The international status of a species may therefore be of relevance, too. But also a possible well regulated, sustainable exploitation has to be taken into account, as the latter can have a positive effect (cf. Hutton 2002).

Biological characteristics

Apart from the biological characteristics listed in the IUCN Guidance, there are also other indicators which may have a bearing. One crucial issue is the role which a species is playing in an ecosystem and the consequences which its removal would have. For two reasons this question is deliberately left out in the IUCN Guidance: On the one hand, in case of a narrow interpretation this has no direct impact on the threat to a species. On the other hand, the question cannot be answered for the great majority of species because the necessary information is not available (Leader-Williams 2002). For plants, the general regenerative capacity was already listed as an indicator in the IUCN Guidance. But also the regeneration of the harvested structure (for example leaves) is of great importance for plants. Also the 'ability' of a species to repopulate an area is a factor; in the case of animals this also has to do with a species' range of action. As a general rule, the biological data are above all important for the crucial life history stages. In this context, a life history stage is critical for an organism if harvesting has particularly marked impacts. For example, the level of natural mortality or habitat specialisation may be particularly high at a certain life history stage (McGough and Khayota 2008, Sant and Vasconcelos 2008).

National status

In addition to the significant data describing the size and the distribution of a population or a species, also the structure within a population plays an important role. The probability that a population would survive is strongly influenced by its age structure, sex ratio and genetic diversity.

Harvest management and trade

Some indicators relate to harvest management and trade. They may be formulated either generally or in a specific manner. In a general formulation the question is in which way the species is managed and what is its conservation status. More specific indicators build on this information.

The first question is whether participation in the harvest is regulated by any type of licenses. Also the time and nature of harvesting are important. For example, it is of great significance at which life history stage a specimen of the species is harvested and whether there are restrictions concerning its size or sex. There may also be restrictions on harvesting periods and harvest areas or gear restrictions. Another factor having a bearing on the classification of the harvest is whether the specimen is killed or removed from the habitat or stays in the habitat. In a further step it must be checked whether the harvest harms other specimens or species (example: harvesting of wood).

The trade statistics then provides an overview of the type and volume of the products of a species that are traded. Attention has to be paid to the value which the specific product has in trade and to the level of demand compared to supply. Especially in the case of supply one has to consider whether a population is exploited by several countries or by just one country, which is of importance particularly for marine species.

Other factors

Apart from the above-mentioned indicators, other factors also need to be taken into account when determining the threat to a population or species. They include habitat degradation / loss, pollution and the impact of invasive species. Factors which can only to a limited extent be directly influenced, such as diseases, weather incidents and the consequences of climate change, are of significance, too.

NDF for specimens not derived from the wild

The actual subject of an NDF is wild-taken specimens and their products. However, also specimens not derived from a natural source (e.g. captive breeding, artificial propagation, introduction from outside their native range) give rise to questions which are associated with an NDF. Moreover, in the EU captive-bred or artificially propagated Annex A species are subject to the provisions for Annex B (EU Regulation Art. 7.1(a)). Some indicators are identical there (e.g. the check of application data and the management), others are not of relevance. A few specific indicators are used in addition. Two important issues are the origin of the founder stock and the effect which this trade has on *in situ* conservation, as this has direct bearing also on wild populations (cf. Res. Conf. 11.11 Rev.15). The influence can be both positive, if the stress on wild populations is reduced, or negative, if the stress increases, for instance: if wild taken. Also the site of the facilities (loss of habitat), the design of the

facilities, and the treatment of the specimens (e.g. pest control) are important factors. In some cases (e.g. non native species) the species could be hazardous if they escape the facility. In general, it is of high significance how easily the species and specimens can be identified and distinguished from wild-taken specimens (CoP16 Inf.11).

Website of the workshop (as of: November 2013):
http://www.conabio.gob.mx/institucion/cooperacion_internacional/TallerNDF/taller_ndf.html

3.3. EU Guidelines

Unless otherwise stated, information from this chapter is derived from EU (2013a).

The EU compiled Guidelines in which the tasks of the SAs and the SRG are explained and outlined in greater detail. This document lists the categories and indicators which have to be considered in the making of an NDF. However, it is important to realize that not all indicators are of relevance in each and every review, as this list relates to the Annex A and Annex B species as well as to export and import. Moreover, it applies both to SAs and to the SRG. The indicators are presented in Table 1:.

Table 1: NDF indicators from the EU Guidelines
Indicators from the EU Guidelines which have to be considered in an NDF, sorted by category.

Category	*Indicators*		
Species characteristics	Life history characteristics	Distribution	Habitat adaptability
	Migration	Risk of mortality after capture and before export	
Biological status	Abundance	Present distribution (and distribution among range states)	
	Trend	Quality of data	
Harvest characteristics	Types of harvest	Volumes	Quality of data
	Trend	Segment of population (age, sex etc.)	
Management regime	Land types	Tenure	Effectiveness
	% harvested vs. effectively protected	Aims	
Conservation benefits	Species/habitat	Other conservation benefits	Local benefits
	Other benefits		
Monitoring programmes	Population	Offtake	Feedback
Current or expected anticipated trade levels	Past trade history	Voluntary export quotas	Demand in the EU
	Level of demand for replacement specimens (of those species with a poor survival rate)		

The Guidelines mention also a few issues which deal with the additional factors of nature conservation that should be considered in the import decision. However, we would like to point out that these are examples only and do not constitute a complete list.

- Advice from the AC and the PC
- Serious concerns about the veracity of statements on the export permit
- Implausible claims concerning the length of time that the specimens are said to have been in a third country prior to re-export
- Unrealistic claims relating to breeding or artificial propagation and/or discrepancies in details

Download of the EU Guidelines for SA and SRG (as of: November 2013):
http://ec.europa.eu/environment/cites/pdf/srg/guidelines.pdf

3.4. Guidelines of the CoP16

Unless otherwise stated, information from this chapter is derived from Res. Conf.16.7.

At the 16th meeting of the Conference of the Parties (CoP16) a resolution, Res. Conf.16.7, was adopted which summarises the requirements of an NDF in an official CITES document. It is pointed out distinctly that, due to the great variety of taxa, considerations have to be very flexible. The unambiguous identification of a species prior to a review is therefore of great importance. The Resolution lists eight basic factors which may play a role:

- Species biology and life-history characteristics
- Species range
- Population structure, status and trends
- Threats
- Historical and current species-specific levels and patterns of harvest and mortality (types of harvest)
- Adaptive management strategies *(1)*
- Monitoring
- Conservation status

(1): In response to uncertainties, the management actions must also provide new insights and have to be regularly adapted on the basis of this new information ("lessons learned"). Harvest-related data, for example, have to be stored and evaluated at regular intervals, and actions have to be modified and adapted accordingly (see CoP16 Inf.11). This procedure should be laid down also in the management plan. Adaptive management can also be very successfully handled by local population groups living in a corresponding area (WCC-2012-Res-092).

The existence of adaptive management actions and a monitoring constitute the core of an NDF and are particularly important for the assessment of facts and circumstances. In addition to the different relevance of indicators in different taxa, attention has to be paid also to differences concerning the origin. For specimens not derived from wild harvests requirements can be less rigorous than for specimens of wild origin.

3.5. Enhanced methods

There is a specific methodology for the sustainable use of medicinal and aromatic plants, the ISSC-MAP (MPSG 2007). The basic indicators remain the same in this methodology, but in the management sector the factors to be considered are referred to more explicitly. Management processes must be precisely defined and reasonably practicable and, moreover, have to take account of specific areas. It is important also that these plans have to be checked and revised at regular intervals, as basic political and biological conditions can change rapidly. Therefore the monitoring must comprise all aspects laid down in the management plan.

Leaman and Oldfield (2014) prepared a NDF guidance for perennial plants which was based on the pre-existing guidance. They define nine steps, organized in four groups. In the first group (step 1–3) the need of a NDF is evaluated. Therefore the identity of the species, the artificial propagation compliance and existing NDFs are checked. The steps of the second group (step 4–7) evaluate the risks and impacts. In this process the conservation status, intrinsic biological risks and the impact of the harvest are checked. In all steps the risk severity is rated. In the third group (step 8) the management is evaluated on the background of the results in the second group. The process is finished by the fourth group (step 9) with the decision or advice.
The idea of the first three steps is to shorten the process and to get a result in a time-saving manner. If that´s not possible all following steps have to be conducted. There are checklists for each step to control and document the process.

Expert authorities criticise the approach for being rather costly and time-consuming while not providing assistance in the taking of management measures, as it is above all a risk analysis. Another method was elaborated by the example of agarwood, as agarwood-producing species are economically important and require complex management. The review is conducted in seven categories (PC17 Inf. 4):

- Taxonomic level of the review (genus, species group or species)
- Review of export quotas (local and national)
- Estimate values for fundamental scientific and management criteria. They include *inter alia* the number of specimens, potential and actual species range and the quality of the habitat.

- Data from industry participants (e.g. number of harvesting enterprises, trade dynamics, present harvesting areas and number of parties involved)
- Data which allow drawing conclusions on trade (e.g. price development, quality of the agarwood, compliance with quotas and the participation of foreign harvesting enterprises)
- Estimation of the sustainable export volume considering illegal trade
- Development of management actions

Download checklists of the publication “Leaman and Oldfield (2014)” (as of: February 2014): http://www.bfn.de/0302_wa.html

3.6. Summary of the indicators

The guidelines presented above lead to a table with altogether 86 indicators (*Annex 1*), but it will in no case be necessary to examine all of them at a time. A similar, though not identical list was compiled by Schippmann (2008). Optimally, most of the aspects should be considered in an NDF. In practical life, however, there is often not enough time for this "optimal review". Therefore the most important indicators have been marked in light-grey in the table; they are indispensable and have to be considered even in a "minimum review". The minimum factors are:

- Correctness of the application data (plausibility of the data provided)
- National distribution and abundance
- Management plan and quotas (taking into account the conservation status)
- Monitoring (method, areas covered and confidence in monitoring)
- Trade statistics (allows drawing conclusions on the dynamics of trade)

The more complex a case is, the more indicators need to be considered. Important biological characteristics describing an organism's way of life are needed to enable an evaluation of the population, the harvest and the relation between the two. Which characteristics are needed depends on the organism; in the case of corals for example the growth rate is important. For the list of the minimum factors attention has to be paid to the fact that a check for SRG opinions (*4.2. Opinions from the SRG*) or a clearly positive finding (*4.3. Interpretation of trade data*) can considerably shorten and simplify the process. The methodological difference and scope between optimum and minimum have to be taken into account and are also illustrated in the present publication.

4. Practical guidance to assist in the making of an NDF

The way of making NDFs which is described in this chapter aims at achieving a result in as time-saving a manner as possible. The six steps of operation are therefore designed to avoid unnecessary work and to obtain a well-founded, easily justifiable result within a short time. To begin with, there are three central questions which may shorten the review process:

1. Are the application data plausible?
   (Can produce only a quick negative decision)
2. Is there an up-to-date SRG opinion which can be followed?
   (Can produce a quick positive or a quick negative decision)
3. Is the result clearly positive?
   (Can produce only a quick positive decision)

Correct application data and a valid export permit do not automatically mean that trade in a particular species is sustainable according to the requirements of the EU Regulation, but missing or incorrect application data is a reason to stop the process and a negative opinion can be delivered at this early point. If an up-to-date SRG opinion is available, the finding can be either negative or positive. If, for a particular species, the SRG agrees on "no opinion", the further procedure depends on the option given in the advice from the SRG (*4.2. Opinions from the SRG*). Clearly positive decisions are made according to the criteria set out by Rosser and Haywood (2002) (*3.1. IUCN Guidance*). If none of these three questions produces a quick result, a complete review has to be conducted. In this case data have to be retrieved from literature and the authorities of the exporting nation and experts have to be contacted to collect the key facts before a decision can be made. The relevance of individual factors that go beyond the factors of the minimum review has to be determined for the individual case. The procedure is illustrated in Figure 2 and below the individual steps are explained in greater detail. For each step, sources where information required can be retrieved are given under "Sources of information".

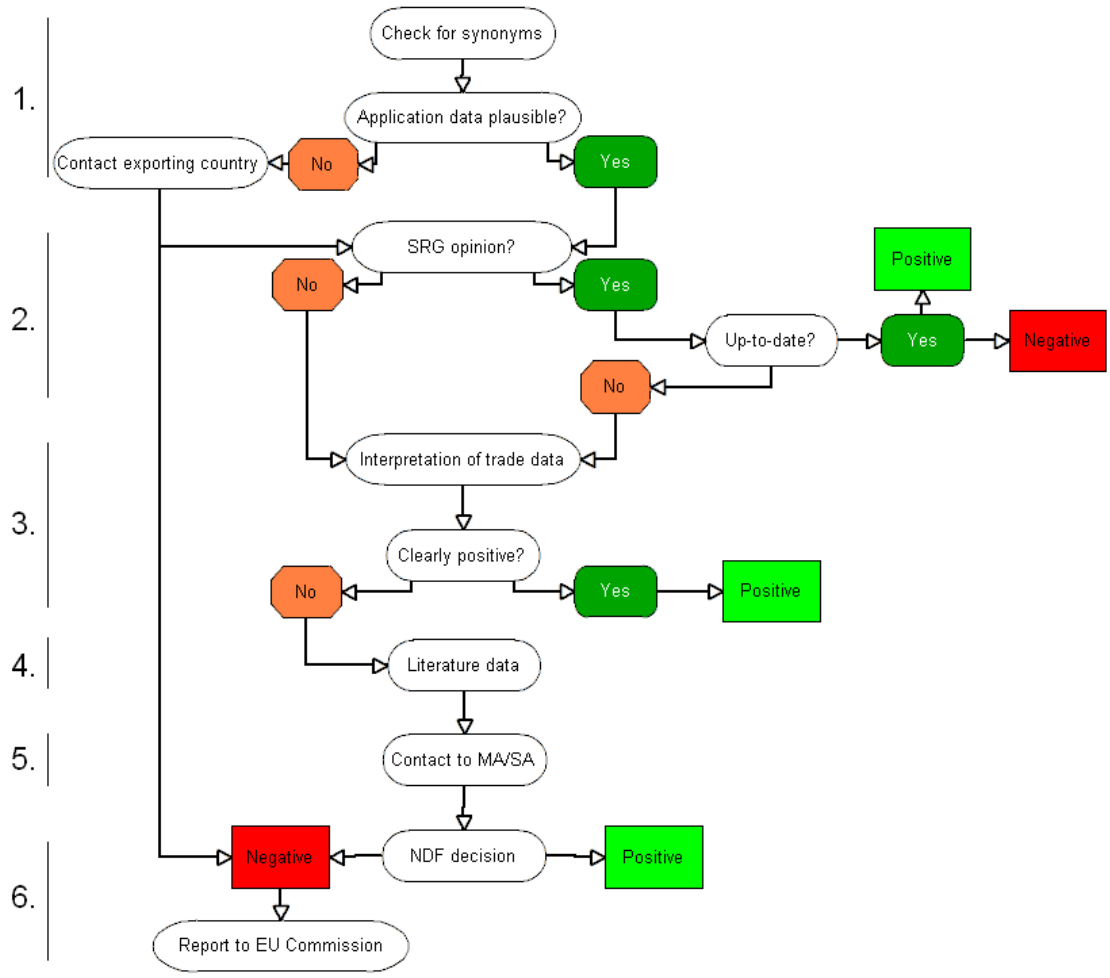

Figure 2: Overview chart illustrating the process of making an NDF in the practice
Assistance in the practical implementation of an NDF and in the final decision-making process. The process is divided into six levels (figures on the left side of the graphics). The numbering indicates also the number of the sub-chapter of the 4th chapter under which explanations on the relevant level are provided.

McGowan and Hay (2008) described three general principles which are to be considered in the evaluation of all the data for an NDF and in the final decision:

1. Application of the precautionary approach *(1)*.
2. Realistic assessment of data gaps.
3. Use of lessons learned in preceding reviews *(2)*.

(1): Within CITES, the precautionary approach is explicitly mentioned as an aspect justifying the listing of species in the Appendices (Res. Conf.9.24 Rev.16) and constitutes a fundamental principle in the EU. The precautionary approach requires Parties to act in the best interest of the conservation of the species concerned in case of uncertainty and to adopt

measures that are proportionate to the anticipated risks to the species (Res. Conf.9.24 Rev.16). Attention should be paid to the fact that sustainable trade may be beneficial to the conservation of the species. Furthermore, the Parties to CITES committed themselves in their Strategic Vision 2008 - 2020 to the "United Nations Millennium Development Goals" (Res. Conf.16.3). Provided good management and trade by local communities, the precautionary approach therefore may also be an argument in favour of trade (see CoP13 Inf. 44).

(2): In cases where a review on an application with the same species/country combination has already been conducted, using the available data is highly reasonable and can significantly shorten a review process. Therefore this issue is also indicated in the Checklist (Annex 3). Below, we will assume that no comparable review has been conducted so far.

4.1. Check for synonyms and verification of application data

If necessary, a check for synonyms has to be conducted to clarify the exact identity of a species. CITES documents sometimes use synonyms and before starting the review it has to be clarified exactly for which species it should be conducted. The use of synonyms or incorrect names in CITES documents can have three important reasons:

- The scientific standard has changed but has not yet been recognised or added to its documents by CITES.
- Taxonomic changes have been recognised by CITES and are incorporated, but are handled differently by Member States.
- Orthographic mistakes in CITES documents which are reproduced.

After the identity of the species has been clarified, it is necessary to check the plausibility of the application data. Striking elements may among other things be the country of origin (e.g. not in the species range), the duration of stay in a re-export country, or the type of commodity. In case of any uncertainties the authorities involved have to be contacted to resolve the problems. If there is a sufficient explanation, the process will continue with the opinions from the SRG. If the problem cannot be resolved satisfactorily, the process can be stopped with a negative decision.

Sources of information

Taxonomic websites (as of: November 2013):

http://www.speciesplus.net (*database of CITES species*)

http://www.itis.gov/; http://www.theplantlist.org/ (*database of all species, respectively of the plants*)

CITES authorities of the Member States (as of: November 2013):

http://www.cites.org

4.2. Opinions from the SRG

Where an opinion from the competent EU bodies or from the CITES Secretariat is available, a review can be completed very quickly. The CITES Secretariat can advise that a permit for imports from a country should not be granted; such advice may relate to specific species but also to the entire CITES-relevant trade. Usually such a recommendation is a consequence of non-compliance with CITES obligations. This explanation can be followed and the review can be finalised with a negative decision.

The more common option inside the EU is that the SRG studied the trade in a species-country combination and published a positive or negative opinion for it. Provided the opinion is up-to date, it can be followed and the review can be finalised. If the opinion is not followed, the process needs to be continued and the new results have to be notified to the Commission (*4.6. NDF decision*). Whether an opinion is still up-to-date cannot be judged by means of benchmarks but has to be evaluated for each individual case. The circumstances which lead to the opinion of the SRG can change relatively quickly, for example due to amendments of the law or the introduction of quotas or management plans, but they may also stay the same for a very long time. Information concerning changes may for example be derived from the trade statistics or from new population data from regular monitoring. Via the "Communication and Information Resource Centre for Administrations, Businesses and Citizens" (CIRCABC) the "Summaries of Conclusions" of the SRG meetings can be retrieved; short versions are available on the SRG website. With these summaries and the underlying documents, the reasoning for the decisions can be tracked. This can make it easier to assess if the opinion is up-to-date.

The SRG can also agree on "No opinion". Three different reasons can lead to a "No opinion" decision (EU 2013b):

I. No or no significant trade is anticipated.
II. Insufficient data on which to issue a confident opinion exist.
III. Only insignificant trade is anticipated which, however, may nevertheless have significant impacts on the species. All applications have to be referred to the SRG.

Which one of the three criteria applies is stated with the relevant opinion. With the exception of option III, there are thus no instructions from the SRG and a review has to be conducted.

Sources of information

Trade restrictions of the EU and of CITES (as of: November 2013):

http://www.speciesplus.net *(CITES Species Database)*

http://ec.europa.eu/environment/cites/links_national_en.htm (*opinions from the SRG*)

https://circabc.europa.eu/ *(Communication and Information Resource Centre of the European Commission)*

www.zeet.de (*individual decisions concerning the import of protected animal species*)

4.3. Interpretation of trade data

The trade data provide an overview of the common commodities and trade trends. However, for an evaluation and interpretation of the figures, information about the biology of species and the management is needed. In general, the criteria for a clearly positive, non-detrimental trade set out in the IUCN Guidance are used for this purpose. (*3.1. IUCN Guidance*), but to assess the quality of the trade and/or whether or not harvesting will be lethal to the organism, further data are needed. It is important to have information relating to ecological and biological criteria because not only a direct harvest-related mortality of the organism has to be considered, but also the impacts which the harvest may have later on. Depending on biological and ecological factors, these future impacts can vary greatly.

In the IUCN Guidance an inventory is made to arrive at an unambiguously positive finding. However, as it is of importance to put this current state in a context, the trade data of past years have to be considered. Where such a trend analysis is to be conducted data from the ten preceding years should be used wherever possible (see below). In case of great fluctuations, also longer periods may be appropriate.

Even if a finding is not clearly positive, trade data can be used to determine the trend of past years and to calculate their realization together with the quotas. In addition, data on the origin of items traded and on the intention of trade provide information about which indicators are of importance and should be reviewed. Trade data are also of relevance if it comes to assess the impact of trade on the population in a comparison with the population data.

An overview of the entire trade in a given species which was undertaken by a particular country is provided by the Net Tabulations, which summarize the trade over one year. A detailed list of the individual trading activities, including origin and purpose of use as reported by the importing and exporting countries, is provided by the Comparative

Tabulations. In the Gross Tabulations also a country's re-exports are taken into account; they reflect the total volume of trade undertaken by a country. This is important in cases where an item traded is processed by a country other than the country of origin and then exported to again another final consumer.

However, one has to bear in mind that the last year for which comprehensive and reliable trade data are available is usually two years before the current year. Moreover, trade data are sometimes difficult to interpret as even slight differences in the reported import and export information lead to a lack of correlation although the data relate to the same trading activity (see UNEP-WCMC 2010).

Sources of information

CITES Trade Database (as of: November 2013):
http://www.unep-wcmc-apps.org/citestrade/trade.cfm

Trade quotas (as of: November 2013):
http://www.cites.org (*quotas notified to CITES*)
http://www.speciesplus.net *(CITES Species Database)*

4.4. Literature data

Initial information on relevant indicators can be collected from literature and websites. A great deal of information is meanwhile available online and there are quite some good, freely accessible databases. However, certain data, in particularly those relating to indicators going beyond the minimum review, can only be obtained from recent publications. The required additional indicators result from the four key issues which are investigated in minimum reviews (national status, trade statistics, management, monitoring). For an optimal review a big portion of the indicators (Annex 1) listed should be considered. If there are difficulties in the interpretation of the data it could be helpful to generate reference data from different countries.

For a multitude of species the information from UNEP-WCMC and from the IUCN Red List provide a good overview of the major data. Also the applications for listing with CITES may contain some of the information required. Applications submitted from 2000 onward are particularly useful in this respect because they are more up-to-date and more comprehensive. There are specific databases for certain groups of species. Under "Sources of information"

only selected opportunities to obtain information are listed. In addition to the IUCN "Experts Group" also the publications from TRAFFIC are important, as they deal specifically with the trade in species.

One of the most difficult indicators is usually the assessment of illegal trade. Data from UNODC and Interpol, but also from "Transparency International", may be useful, as in some areas there is a connection between the extent of corruption and illegal trade, for example in the field of timber trade (Goncalves *et al*. 2012).

Sources of information

General (as of: November 2013):

http://www.speciesplus.net

(*Database of the UNEP with information on species and trade regulations)*

http://www.iucnredlist.org/ (*IUCN, Red List species*)

http://eol.org/ (*Encyclopaedia of Life*)

http://animaldiversity.ummz.umich.edu/ (*Animals database of the University of Michigan*)

http://www.cites.org (*Applications for CITES listing and national two-year reports*)

http://ec.europa.eu/environment/cites/reports_en.htm *(Data/Reports from the SRG)*

https://circabc.europa.eu/ *(Communication and Information Centre of the European Commission)*

Special groups of species *(Species group, type of operator)* (as of: November 2013):

http://www.itto.int/ (*tropical timber; intergovernmental organization*)

http://www.pfaf.org/user/plantsearch.aspx (*crops; enterprises*)

http://vertebrates.si.edu/msw/mswCFApp/msw/index.cfm (*mammals, museum*)

http://www.birdlife.org/datazone/home (*birds; non-governmental organization*)

http://research.amnh.org/vz/herpetology/amphibia/index.php (*amphibians; museum*)

http://www.reptile-database.org/ (*reptiles; private, Community*)

http://www.marinespecies.org/index.php (*marine species; organised Community*)

http://www.iobis.org/ (*marine species; intergovernmental organization*)

http://www.fishbase.org/search.php (*fish; non-profit research organization*)

http://bugguide.net (*arthropods; university*)

http://iucn.org/about/work/programmes/species/who_we_are/ssc_specialist_groups_and_red_list_authorities_directory/ (*Overview of the IUCN Expert Groups*)

http://www.traffic.org/publications_species/ (*publications from TRAFFIC*)

4.5. Contact to the authorities of the country of origin

Not the entire information can be obtained from literature search; especially data concerning management and monitoring often have to be collected directly from the authorities and/or from experts from the country of origin. If there is still insufficient data the options are limited (see NDF with insufficient data).

Sources of information

CITES authorities of the Member States (as of: November 2013):
http://www.cites.org

4.6. NDF decision

When taking the NDF decision one has to consider that the objective of CITES is not to prevent utilisation, but to avert over-utilisation. It is therefore necessary to assess whether there is a risk of over-utilisation and whether sufficient management and monitoring are in place to eliminate this risk. There are no thresholds for this assessment; the entirety of the data must be considered. There are several indications showing that a species is overexploited; they were described by Leader-Williams (2002):

- If the population density has declined below half its unharvested density and is continuing to decline (can be determined only if good population data are available);
- If harvesting rates are so high that even inaccurate population estimates show clearly that harvesting is not sustainable;
- If enough is known about the biology and the population dynamics of a species to show that harvesting rates are too high.

However, these indicators can be used only if excellent data about populations are available or the volume of removal is very high. As this is rarely the case, also management and monitoring are of significance. By considering them one can assess whether harvesting adapts to the population, thus ensuring sustainable use. Even in a small population sustainable harvesting is possible, provided that reasonable actions are taken. In the final evaluation, the precautionary approach must be taken into account. The working group “Aquatic invertebrates” of the NDF Workshop in Cancun recommends a positive NDF decision if population trends, despite harvests, are at least stable or measures have been set in place to achieve this. Any risks that have been identified should be mitigated and addressed (Roberts and Fleming 2008).

The SA has to inform the EU Commission promptly of any negative decision (outcome of the NDF) and the reason for this decision (Regulation (EC) no. 338/97 Art. 6). The Commission shall convey the information about the decision to the other Member States and shall consult the SRG, which will publish its opinion (European Commission and TRAFFIC 2013). The legal conditions which have to be met for the opinion from the SRG and the Commission are set out in Article 4(6) of the Regulation. In case of an earlier negative opinion, the SA has to inform the Commission also about a positive decision.

Should a decision be negative because the export documents proved to be insufficient or incorrect, also the exporting nation should be informed (European Commission and TRAFFIC 2013).

NDF with insufficient data

If the collected data is insufficient the possible options are limited. The best option would be to collect own data in the field, this is only in rare cases a realistic option. It is possible to make a reasonable decision with some information missing. In some cases doubtful information can be confirmed or concluded by additional biological information about the species. If the accessible data does not allow a justified decision the precautionary approach suggest a negative opinion.

Sources of information

Contact addresses in the EU (as of: November 2013):

http://ec.europa.eu/environment/cites/contact_en.htm (*EU Commission*)

http://ec.europa.eu/environment/cites/links_national_en.htm (*national institutions*)

5. Case studies

All case studies presented in this chapter are of a general nature and are not based on a specific application. Therefore only the synonyms and possible opinions of the CITES Secretariat and the SRG are given in step one. In the conclusion, potential commodities and origins are considered. Furthermore, the *Psittacus erithacus* case study from Uganda does not consider Regulation (EC) No 318/2007 currently prohibiting the import of wild birds into the EU.

Corallus caninus LINNAEUS from Guyana

1. Synonyms and trade restrictions

Synonyms: *Boa aurantiaca*, *Boa canina*, *Boa exigua*, *Boa hipnale*, *Boa thalassina*, *Chrysenis batesii*, *Xiphosoma araramboya*, *Xiphosoma canina* (UNEP-WCMC 2013a[W]).

The *Corallus caninus* species was divided into two species, *C. batesii* and *C. caninus.* Yet this does not have a direct impact on the population in Guyana, as it will remain in the *C. caninus* taxon (UNEP-WCMC 2013a).

C. caninus is listed under the "Boidae spp." taxon for all countries of origin in Appendix II to CITES and Annex B to the EU Regulation.

Currently, the CITES Secretariat does not give any recommendation on a trade restriction. In 1997, the SRG issued a positive opinion for *C. caninus* and all range states, yet changed it in 2013 for Guyana for lack of data into "no opinion" according to Criterion II. (UNEP-WCMC 2013a[W]).

2. National distribution and abundance

C. caninus occurs in Guyana at a height of up to 200 m above sea level and lives exclusively in trees (Henderson *et al.* 2009, Uetz 2013[W]). According to estimations, density in the species'

ranges in Peru accounts for one individual per 2.7 km² (Schulte 1988). In 1993, it was assumed that the species occurs all over Guyana, with the exception of the northernmost parts of the country (Henderson 1993). In more recent studies, *C. caninus* was, however, not found in Iwokrama, Surama (both located in central Guyana) (Bicknell *et al.* 2011) and in the Rewa Head area (Southern Guyana) (Pickles *et al.* 2009). More accurate data or estimations are not available for Guyana.

3. Trade statistics

Of the *C. caninus* species, only live individuals are exported which all originated from the wild in the period from 2002 to 2012. In 2003, the quota of 880 individuals was markedly exceeded (Table 2) which can be partly explained by trade activities in late 2002 (UNEP-WCMC 2013a). In the ensuing period between 2002 and 2008, exports fluctuated between 566 and 836 individuals. Over the last years, just 500 individuals were exported which is why the trend is to be regarded as slightly declining (UNEP-WCMC 2013b[w]).

Table 2: Export volume and quotas for Corallus caninus from Guyana
Export data and quotas for live animals of the *C. caninus* species from Guyana. The trade data are derived from UNEP-WCMC (2013b[w]), with the 2012 data not yet being reliable (UNEP-WCMC 2010), and the quotas are derived from the CITES Secretariat (2013b[w]).

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Export	566	1,096	882	716	534	836	795	463	473	495	0
Quota	880	880	880	880	880	880	880	880	880	880	880

4. Management plan and quotas

For the capture – with the exception of self-supply – and export of wild animals, a permit is required (UNEP-WCMC 2013a). Furthermore, Guyana laid down a quota for *C. caninus* which was at a constant level of 880 live individuals in the years 2002 to 2012 (CITES Secretariat 2013b[w]). There are no data available as to how this quota is calculated and if there is any further management.

5. Monitoring

There are no data available on monitoring.

6. Conclusion

Assessing *Corallus caninus* has proven to be relatively difficult, as only very few data are available. For these reasons, the SRG withdrew its positive opinion, and consequently there is

no clearly positive finding. In the research on this snake, it soon becomes evident that it is popular for keeping in terraria. Thus, there is detailed information on the conditions under which the animals are to be kept, but only little information on the species in the wild. There is no monitoring or significant management apart from the quotas. Given this lack of data, further factors must be considered which include reproduction biology parameters in this case. Also in this respect, little information is available. Yet it is assumed that the species produces 5-12 offspring on average and is able to breed each year (Kivit and Wiseman 2000). The maximum known age given for this species is 18.6 years (Tacutu *et al.* 2013[w]). Thus, the annual removal of maximum 880 individuals does probably not affect the species while there is a relatively high extent of uncertainty. In the Convention (Article IV) as well as in the EU Regulation (Art. 4.2) is it clearly expressed that trade does not adversely affect the population. On account of the poor data situation, this view cannot be upheld completely which is why a negative opinion is issued. The most concerning aspect is that the species is not found at sites at which it still occurred in 1993. Even though it was not specifically this species which experts had been looking for, it cannot be excluded that it has already become extinct at a local level. Thus, there is a relatively high risk coupled with high levels of uncertainty. As soon as up-to-date population or distribution data are available for Guyana, the data could, however, be used for proving that the measures are sufficient and that the quota ensures sustainable harvest.

Quintessence:

- As regards reptiles and amphibians, it must be considered that biological characteristics can yield an either highly positive or highly negative impact (Van Dijk and Oldfield 2008).
  - negative: late sexual maturity, few offspring, habitat specialization
  - positive: high natural mortality rate, high number of offspring, good adaptation to biotopes altered by humans
- If the data available for one area are poor, it is – up to a certain extent – possible to draw conclusions on the basis of other data. If population data are lacking completely and if there is substantial trade, this is no longer possible.

Galaxea fascicularis LINNAEUS from Indonesia

1. Synonyms and trade restrictions

Synonyms: *Anthophyllum hystrix*, *Galaxea aspera*, *Galaxea cespitosa*, *Galaxea hexagonalis*, *Galaxea hystrix*, *Galaxea lawisiana*, *Madrepora cuspidata*, *Madrepora divergens*, *Madrepora fascicularis*, *Madrepora organum*, *Sarcinula ellisii*, *Sarcinula fascicularis*, *Sarcinula hexagonalis*, *Sarcinula irregularis* (UNEP-WCMC 2013a[W]).

Galaxea fascicularis is listed under the "Scleractinia spp." taxon for all countries of origin in Appendix II to CITES and Annex B to the EU Regulation.

The SRG issued a positive opinion on *G. fascicularis* from Indonesia on 14 September 2007, and there are no trade recommendations on the part of the CITES Secretariat (UNEP-WCMC 2013a[W]). Identification of the *Galaxea* genus is admissible on the basis of the genus level alone, even if identification of an exact nature should be carried out (Notif. 2013/035).

2. National distribution and abundance

There are no exact estimations as to the population. Yet the species is abundant in its range, occurs in many different habitats and possibly represents the dominant species in coastal fringing reefs. Thus, a large *de-facto* population is assumed. As its habitat has been destroyed, it is, however, assumed that the population is declining (Hoeksema *et al.* 2008[W]).

On the Indonesian territory, the species occurs in the North of Java, the Celebes Sea, the Banda Sea, the Flores Sea and in the adjoining Pacific Ocean (Best *et al.* 1989, IOC 2013[W]). In the Bunaken National Park, the species is highly abundant (in 85% of the 39 examined points) and even occurs there partly very frequently (average rank: 1.91; rank 2 = 11–30% coverage) (Turak and DeVantier 2003). In many Indonesian areas, there is a strong impact on corals due to disruptive fishery (Turak and DeVantier 2003). It is difficult to give accurate information on the population of corals, as the individual is hard to define. The IUCN defines one colony as one individual (IUCN 2013a).

3. Trade statistics

G. fascicularis is mainly traded for keeping in fish tanks which means that primarily live corals are exported and that the trade with raw corals is of secondary importance (Hoeksema *et al.* 2008[W]). The main exporter of this species is Indonesia. The individuals originate from the wild as well as from maricultures not fulfilling the CITES criteria for breeding in captivity. These exports which are labelled with the "F" code have been listed as such in the trade data base since 2007 (UNEP-WCMC 2013b[W]); for them, a "Maximum Estimated Production" (MEP) designation is provided by Indonesia (UNEP-WCMC 2013b). As opposed to subsequent years, a separate quota was notified for that to the CITES Secretariat in 2007 (CITES-Secretariat 2013b[W]). As a rule, Indonesia exported between 15,000 and 20,000 live *G. fascicularis* annually, except for 2010 when just under 32,000 live *G. fascicularis* were exported (UNEP-WCMC 2013b[W]). The exact unit in this respect is unclear. In 2010, the quota for the export of corals from the wild was markedly exceeded. In 2008 and 2009, a slight exceedance was witnessed, also after deducting the number of corals from maricultures.

Table 3: Export volume and quotas for *Galaxea fascicularis* from Indonesia
Export data and quota for the *G. fascicularis* species from Indonesia. The quotas for wild individuals as of 2008 exclusively refer to individuals from the wild. In the years before, also maricultures may be included (UNEP-WCMC 2013b). Missing units are also not listed in the trade table. The trade data are derived from UNEP-WCMC (2013b[W]), with the 2012 data not yet being reliable (UNEP-WCMC 2010), and the quotas come from the CITES Secretariat (2013b[W]).

Commodity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Carvings	0	0	0	18	0	0	0	0	0	0	0
Live (kg)	15	0	0	0	0	0	0	0	0	0	0
Live	13,282	17,339	15,532	17,022	18,206	19,767	19,355	20,449	31,899	15,425	0
Raw coral	1,028	1,086	836	223	19	324	1,821	1,734	1,946	1,278	0
Quota; unit, wild	13,500	17,550	17,550	17,550	17,550	17,550	16,200	17,460	17,460	14,550	11,000
Quote; unit, mariculture	-	-	200	300	-	2,465	-	-	-	-	-

4. Management plan and quotas

In Indonesia, there was a quota for *G. fascicularis* from the wild for each of the last ten years. In three years, i.e. in 2004, 2005 and 2007, there was also a quota for individuals from mariculture (CITES Secretariat 2013b[W]). In 2008, the MEP accounted for 10,696 pieces (Timotius *et al.* 2009). At approx. 17,500 pieces, the quota for individuals from the wild remained relatively constant and was, however, decreased step-by-step in 2011 and 2012 to currently 11,000 pieces. The quota is laid down by the "Directorate General of Forest

Protection and Nature Conservation"; the underlying criteria, however, lack clarity (UNEP-WCMC 2013b).

5. Monitoring

There are no data as to whether there is monitoring apart from export control.

6. Conclusion

As for many coral species, it is relatively difficult to assess the species, as accurate population figures are lacking. However, there is a positive opinion by the SRG, which is considered as up-to-date, as no new substantial data are available. In the year after the estimation by the SRG, a large *de-facto* population size was assumed, even if it is assumed that stocks are declining. There is no more accurate information from a later year, and the quota was last reduced by approx. 1/3. These data have led to the estimation that no new data are available which would lead to a revision of the SRG opinion.

Further review would also result in a positive opinion which would have to be mainly based on conclusions as no accurate data are available. There is a relatively large range of the species in Indonesia and it was proven on the basis of random samples that there is a large abundance of *G. fascicularis* within the Indonesian range as well and that there is an at least partial frequency of the species. This corroborates the IUCN assumption that there is a large *de-facto* population size. The species being largely abundant in protected areas, it is protected from habitat destruction to a certain extent. There is a quota-based restriction which also responds to the assumed reduction of the population. As regards corals, the growth speeds exhibited by the respective species/genus should also be taken into account. Considering the fact that it is a coral, *Galaxea* is a relatively fast-growing genus (Timotius *et al.* 2009) which has a favourable impact on the decision. The problem with corals is also that certain threats have to be considered which do not result from trade. Yet also this factor does not represent a major problem with *G. fascicularis*, as the species is described to be relatively resilient with regard to coral bleaching (Marshall and Baird 2000) and sedimentation (Philipp and Fabricius 2003). Thus, a positive decision can be issued also in the event of further review.

Quintessence:

- With regard to corals, the IUCN defines one colony as one individual. Unchained fragments are deemed as propagation events (IUCN 2013a).

- All coral species are subject to threats apart from trade which have to be taken into consideration (e.g. coral bleaching, habitat destruction).
- If only rough estimates of the national population size are available, data can be corroborated by results from individual areas.

***Loxodonta africana* BLUMENBACH from Botswana**

1. Synonyms and trade restrictions

Synonyms: *Loxodonta cyclotis* (UNEP-WCMC 2013a[W]).

The populations of *Loxodonta africana* from Botswana, Namibia, South Africa and Zimbabwe are listed in Appendix II to CITES and Annex B to the EU Regulation. The allowed trade commodities are respectively listed in Footnote 6. The populations of all other range states are listed in Appendix I to CITES and Annex A to the EU Regulation.

The SRG issued a positive opinion for *L. africana* from Botswana on 23 February 2012, and the CITES Secretariat has not given any recommendations (UNEP-WCMC 2013a[W]). In Article 57 of Regulation (EC) No 865/2006 (last amended by Implementing Regulation (EU) No 792/2012) it is laid down for Annex A and B household items, including hunting trophies, that only a valid export or import permit is required.

2. National distribution and abundance

Botswana is an important range state of the *L. africana* species which occurs in the North ("Northern Range" and "Tuli Block") of the country (CoP11 Prop.11.21, Blanc 2008[W]). For the year 2012, 118,737 individuals were definitively verified, as well as 10,254 probable and 10,254 possible individuals. This means that the population has significantly declined when compared to the 2007 survey (133,464 definitively verified individuals), yet the data are not comparable in statistical terms (Elephant Database 2013[W]). Thus, it is difficult to determine a current trend, but probably the population will become stable (Chase 2011). The Botswana population is rated as "least concern" (IUCN 2013b).

3. Trade statistics

Botswana is an exporter of *L. africana* trophies of various kinds. These are either generally labelled as trophies or separately listed, such as e.g. skull, skin, ears. These respective exports are, partly markedly, below 100 pieces per year. The only exception is constituted by the export of skin, feet (respectively below 200 pieces) and trophies (below 325 pieces) (UNEP-WCMC 2013b[w]). Also tusks and pieces of ivory are exported as trophies. These are listed separately. The exports in this context account for between 100 and 450 pieces annually. As a rule, Botswana does not trade with major quantities of ivory. As regards trade statistics (Table 4), large quantities of ivory (ivory and tusks) were, however, exported in 2008 and 2009. In 2008, a one-time export of ivory on stock was approved to China and Japan (CoP15 Doc.44.1 Annex), with the export to Japan being listed for the year 2009 (UNEP-WCMC 2013b[w]).

4. Management plan and quotas

The population of *L. africana* in Botswana is listed in Appendix II which enables trade activities. For the purpose of regulation, there are two quotas in Botswana – one for trophies, including tusks, of a certain number of animals, and a quota for ivory, excluding trophies, which has, however, been set to zero. Between 2002 and 2009, the trophy quota has risen continuously from 210 to 400 individuals; since then, it has been constant at 400 animals respectively 800 tusks (Table 4) (CITES Secretariat 2013b[w]). As a rule, only bulls are allowed to be trophy-hunted, and the quota never exceeds the estimated annual rate of increase of 5% (CoP11 Prop.11.21, CoP16 Doc.53.1). Based on the quantity of exported tusks it can be concluded that the quota has not been fully complied with in the last years (CITES Secretariat 2013b[w]). Besides animals being shot by trophy hunters, there is also management of "problem animals". Animals representing a threat to human life and/or property are shot as well (CoP11 Prop.11.21).

In the last two ETIS reports it was laid down that there is good law enforcement in Botswana in general and good law enforcement pertaining to ivory in particular. Yet data suggest an increase of illegal trade in Botswana (CoP15 Doc.44.1 Annex, CoP16 Doc. 53.2.2 (Rev.1)).

In the North of Botswana, there are several protected areas in which African elephants occur: Chobe National Park, Nxai Pan National Park, Makgadikgadi Pan Game Reserve, Moremi Game Reserve and the Tuli Game Reserve (Elephant Database 2013[w]).

Table 4: Export volume and quotas for *Loxodonta africana* from Botswana
Export data and quotas for the *L. africana* species from Botswana. Missing units are also not listed in the trade table. The trade data are derived from UNEP-WCMC (2013b[w]), with the 2012 data not yet being reliable (UNEP-WCMC 2010). For ease of reference, trade commodities exhibiting very small quantities (e.g. live) are not listed. The quotas come from the CITES Secretariat (2013b[w]), with the tusk quota applying to various trophies for quota/2 individuals.

Commodity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bones	0	0	0	0	13	0	5	12	5	16	0
Carvings	0	0	0	0	0	4	0	3	24	1	0
Derivatives	0	0	0	0	0	0	0	0	14	0	0
Ears	8	56	6	4	97	8	13	19	39	68	0
Feet	4	58	1	14	107	12	20	63	85	179	0
Genitals	0	0	0	0	0	0	0	3	17	4	0
Ivory (kg)	0	0	0	0	0	0	0	16,682	0	0	0
Ivory carvings	4	6	0	0	8	0	0	94	12	0	0
Ivory (pieces)	0	0	0	0	0	0	0	2	4	100	0
Leather products (large)	11	6	39	0	0	0	21	2	10	8	0
Leather products (small)	1	41	0	0	5	0	38	4	20	22	0
Skin (pieces)	5	92	20	6	85	0	13	121	113	174	0
Skin	3	4	0	1	104	0	1	24	67	1	0
Skull	0	0	0	0	2	0	1	6	2	12	0
Tail	2	7	1	1	17	5	2	18	31	34	0
Teeth	0	2	1	0	0	0	9	1	2	10	0
Trophies	117	55	179	109	153	187	18	248	325	157	0
Tusks (kg)	0	0	0	0	0	0	0	26,686	0	0	0
Tusks	291	256	110	303	449	412	6.355	127	200	2	0
Quota; tusks	420	420	420	420	540	600	660	800	800	800	800
Quota; ivory (excluding trophies)	-	-	-	-	-	0	0	0	0	0	0

5. Monitoring

Botswana conducts monitoring in the framework of the two international programmes ETIS and "Monitoring the Illegal Killing of Elephants" (MIKE). Monitoring data are also forwarded to the respective bodies and are accessible by the general public.

6. Conclusion

For *Loxodonta africana* from Botswana, the SRG issued a positive opinion in February 2012 which can be deemed as up-to-date. As, at this point in time, complete population data for the review year 2012 were presumably not yet available, but the 2007 data were used, a short and

comparative review of the 2012 figures makes sense. While a decline can be witnessed compared to the 2007 survey, the data are not fully comparable, and it is assumed that the population will reach stable levels. As nothing has changed about the remaining data situation, the SRG opinion can be confirmed at this stage of the review and a sound and positive decision for the import of trophies can be reached.

Also in the event of a possible further assessment a positive decision will be reached, as the population is stable and as there is efficient management based on the population size as well as a monitoring system. Thus, the criteria laid down in the IUCN Guideline for reaching a clearly positive decision are complied with, i.e. well-regulated management with a well-quantifiable scope and a well-quantifiable impact. If, like in this case, good management is in place, trophy-hunting can even yield a positive impact on the protection of species (cf. Dickson *et al.* 2009, UNEP-WCMC 2013c).

Quintessence:

- For household items, including hunting trophies, only a valid import or export confirmation is required.
- The clearly positive finding with regard to trophy-hunting is subject to more supporting information, as the key data cannot be deducted from the trade table. As regards the other options, the origin and the nature of the trade commodity already constitute the key data.

Psittacus erithacus LINNAEUS from Uganda

1. Synonyms and trade restrictions

No synonyms are known, and there is no recommendation or rating.

Psittacus erithacus is listed under the "Psittaciformes spp." taxon for all countries of origin in Appendix II to CITES and Annex B to the EU Regulation.

2. National distribution and abundance

In Uganda, *P. erithacus* is mainly abundant in the area around Lake Victoria (including the Mabira Forest) and on its islands. Furthermore, the species is found in two forest reservations, Budongo and Kalinzu, as well as in two national parks, Bwindi and Kibale (Amuno *et al.* 2007). In the Mabira Forest, the population is estimated at 342 individuals and at 714 individuals in the Budongo Forest (Amuno *et al.* 2007). In the remaining parts of Uganda, the species is rare (AC22 Doc.10.2 Annex1).

3. Trade statistics

Table 5: Export volume and quotas for *Psittacus erithacus* from Uganda
Data on exports of live individuals of the *P. erithacus* species from Indonesia. The trade data are derived from UNEP-WCMC (2013b[W]), with the 2012 data not yet being reliable (UNEP-WCMC 2010). Currently, Uganda has not fixed any quotas for this species.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Export	39	5	6	11	2	1	0	1	3	0	0
Quota	-	-	-	-	-	-	-	-	-	-	-

On account of the low trade level (Table 5), trade is rated as "least concern" (AC22 Doc10.2 Annex1). It is assumed that this low number of animals can be safely removed from the wild also without management and monitoring. Between 2000 and 2009, all exported individuals originated from the wild and were mainly traded under a "personal" purpose. Yet also commercial exports have been registered. In 2010, exported individuals came from captive breeding. For 2011 and 2012, no exports have been registered (UNEP-WCMC 2013b[W]).

Within Uganda, there is, however, a pet market for Grey Parrots (AC22 Doc.10.2 Annex1, McGowan 2008). There are no numbers about the magnitude of this internal trade.

4. Management plan and quotas

In Uganda, there is no fully-fledged management plan or active management for *P. erithacus*. In Uganda, catching the species is subject to a special permit which does, however, not regulate trade (Game (Preservation and Control) Act 1959, Chapter 198, First Schedule). While international commercial trade is at a low level, it is still existent. Thus, it must be assumed that permits for catching the animals are issued every now and then.

5. Monitoring

There is no monitoring of Grey Parrots in Uganda (McGowan 2008).

6. Conclusion

Currently, the import of wild birds into the EU is prohibited (Regulation (EC) No 318/2007). The assessment is thus based on the premise that this situation may change. Accordingly, there is no SRG opinion. The criteria for a clearly positive opinion are not complied with. The species population in Uganda is not very large and there is no management or monitoring scheme in place. Still, the trade level is very low as well, and the three individuals which were exported in 2010 came from captive breeding. The export of single individuals is thus probably not harmful for the population. As a certain degree of uncertainty remains, it makes sense to conduct a more in-depth review in this case. In the event of an export of a larger number of individuals, a negative opinion should be issued, as there are no sufficient measures to ensure harvest sustainability. It is hard to determine the level from which onwards a potentially positive opinion becomes negative. This also depends on the circumstances accompanying the specific application. This is why it is important to identify the exact origin of the individuals.

If a higher number of individuals is exported the origin of which is specified as “captive breeding”, the export authorities should be contacted. As there is domestic trade in Uganda, the exact origin of the exported animals and of the founder population of the breed must be controlled.

Quintessence:

- A low trade level is often associated with a low potential for damage. If there are any doubts in this regard, it makes sense to conduct an optimal review to be able to arrive at a sufficient impact assessment.

***Strombus gigas* LINNAEUS from Colombia**

1. Synonyms and trade restrictions

Strombus gigas is considered as a synonym of *Lobatus gigas* LINNAEUS; yet in CITES the species is still listed as *Strombus gigas* (Encyclopedia of Life 2013[W]).

S. gigas is listed in Appendix II to CITES and Annex B to the EU Regulation for all countries of origin.

The SRG issued a positive opinion for *S. gigas* from Colombia on 14 September 2007, and the CITES Secretariat has not given any recommendations (UNEP-WCMC 2013a[W]).

2. National distribution and abundance

S. gigas is known to occur at various sites in Colombia at which the species is fished: Quitasueño, Serrana, Serranilla, Roncador and the de la Guajira Peninsula (AC19 Doc. 8.3 (Rev.1)). Yet stocks differ significantly from site to site. Close to Roncador, density accounts for 33.7 individuals per hectare, while at the Quitasueño bank it is merely 2.4 ind./ha. At the Serrana bank, however, density accounts for 317.5 ind./ha. Considering this estimation, it must be taken into account that at a density of below 56 ind./ha no propagation was observed and that reproduction is stable only from a density of 200 ind./ha (Stoner and Ray-Culp 2000). In general, there is a declining population trend, which does, however, not necessarily apply to individual populations (AC19 Doc. 8.3 (Rev.1), Office of Protected Resources 2013[W]).

3. Trade statistics

The single most important trade commodity as regards *S. gigas* is snail meat which is not only exported but also consumed domestically. In addition, the snails' pearls, and – in different variations – the snails' shells are traded. The quantities of snail meat exported from Colombia vary considerably. Accordingly, no meat was exported in 2006 and 2007, whereas in 2004,

just less than 150,000 kg were exported. While, for the period from 2002 to 2012, export levels were between these two extreme values, they also exhibited fluctuations. In 2011, only 7,280 kg of meat were exported anymore, and, also of other trade commodities, only very few quantities were traded (Table 6) (UNEP-WCMC 2013b[w]).

Table 6: Export volume and quotas for *Strombus gigas* from Colombia
Export data and quotas for the *S. gigas* species from Colombia. Missing units are also not listed in the trade table. The trade data are derived from UNEP-WCMC (2013b[w]), with the 2012 data not yet being reliable (UNEP-WCMC 2010), and the quotas come from the CITES Secretariat (2013b[w]).

Commodity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bodies	0	0	0	0	0	0	0	17	98	121	0
Carvings	0	0	0	0	337	155	48	0	0	0	0
Derivatives (kg)	188	0	0	0	0	0	0	0	0	0	0
Derivatives	689	1,898	0	465	0	251	192	0	140	0	0
Meat (kg)	79,133	122,301	149,854	29,280	0	0	71,761	90,340	69,041	7,280	0
Pearls	626	1,963	1,643	1,603	0	0	0	0	0	0	0
Snails	229	2,079	1,430	919	60	338	255	5	0	121	0
Specimen	0	630	302	0	0	0	0	0	0	0	0
Not specified	0	0	0	0	354	0	0	0	0	0	0
Quota; kg, snail	9,000	9,000	9,000	-	-	-	-	-	-	-	0
Quota; kg, meat	158,000	148,000	148,000	29,386	75,000	-	112,000	-	100,800	14,849	-
Quota, pearls	-	-	-	-	-	-	-	-	-	642	-

4. Management plan and quotas

Snail fishery is restricted by way of several measures. Accordingly, harvest in Quitasueño, Serranilla and Roncador is currently banned and only allowed at the Serrana bank and at the Guajira peninsula. Besides, the fishery season for this species is closed from 1 July to 31 October (AC19 Doc. 8.3 (Rev.1)). Since the 1990s, quotas have been laid down by Colombia for this species. In the period from 2002 to 2012, there were quotas for snails, pearls and meat, while there was no quota which was valid for the entire period. In this process, the meat quota decreased from 2002 onwards from 158,000 kg to 14,849 kg in 2011 (CITES Secretariat 2013b[w]). The quota is fixed on the basis of stock surveys. Here, the quota applicable for one year is also valid for snails which were fished between November and December of the previous year but not exported (Theile 2001, AC19 Doc. 8.3 (Rev.1)). On top of quotas, there is also a regulation of harvest by limiting the number of vessels and equipment and by fixing a minimum animal size (Theile 2001, AC19 Doc. 8.3 (Rev.1)).

5. Monitoring

Catch figures and harvest effort data are collected and centrally evaluated in order to ensure sustainability (AC19 Doc. 8.3 (Rev.1)).

6. Conclusion

There is a positive opinion issued by the SRG in 2007. Looking at the trade statistics, it becomes evident that a renewed review is, however, useful, as, in 2006 and 2007, no snail meat was exported and also the export of the remaining trade commodities was negligible. However, after 2007, larger quantities were exported again. For trade with *S. gigas,* the criteria for a clearly positive trade have not been fully complied with and a review has to be conducted.

The population data at hand are from 2000 and thus lack topicality. Yet they show that at one site, i.e. the Serrana bank, a stable population is still available which can be harvested in a sustainable manner. Colombia has a management scheme in place which is constituted by the introduction of quotas and by a restriction of harvest effort which is brought about by fixing harvest seasons and a limitation of vessels. The quotas are fixed on the basis of stock surveys, with, however, no current figures being available. Data on catch figures and harvest effort are collected centrally in order to control harvest. While the decline in exports and quotas suggest a population decrease, it also means, vice versa, that management, monitoring and control mechanisms in Colombia working properly. Upon the existence of a valid export permit, it is thus possible to issue a positive decision.

Quintessence:

- For species exhibiting a highly variable trade dynamics, it must be considered at which point in time statements and opinions have been made.
- It is not possible to have up-to-date data for all species. Older population data do not pose a problem, provided that there is a regime in place which ensures effective control.

***Dalbergia cochinchinensis* PIERRE from Thailand**

1. Synonyms and trade restrictions

Synonyms: *Dalbergia cambodiana* (Asian Regional Workshop 1998).

Dalbergia cochinchinensis is listed in Appendix II to CITES and Annex B to the EU Regulation for all countries of origin. To date, there are no recommendations for this species.

2. National distribution and abundance

In Thailand, there is fragmented occurrence of *D. cochinchinensis* in the Northeast on an area of 567 km², and in higher densities on 126 km² of protected areas (CoP16 Prop.60). Exact distribution data are available the publication of which is currently not desired (personal comment by D. Sripotar, 5 August 2013).

The stock is estimated at overall 80,000 – 100,000 trees, with a timber stock of 63,500 m³ (CoP16 Prop.60). According to an IUCN rating from 1998, the species is rated as "vulnerable" (Asian Regional Workshop 1998), yet there are indications that populations will decline further and constitute an endangered species (CoP16 Prop.60).

3. Trade statistics

The main trade commodities derived from *D. cochinchinensis* are logs and sawn timber. There are other timber products as well, yet they play a minor role (CoP16 Prop.60). As the species was listed in CITES no earlier than at the CoP16, no data are yet available in the CITES trade database. This is why there are no data available for traded quantities. In Thailand, trade with timber derived from the wild is, however, prohibited. It is assumed that no *D. cochinchinensis* trees are available on private land anymore. As of yet, there are no plantations, but it should be mentioned that these are subsidised by the Thai government (CoP16 Prop.60).

4. Management plan and quotas

In Thailand, the species is listed in the "Thai Forest Act, B.E. 2484" under Category A, which means that there is a full ban of any felling of this species. Timber derived from confiscations was sold until 2007, when such activities were abandoned (CoP16 Prop.60). Within the next three years, there will be a research project on *D. cochinchinensis* on the basis of which a strategy will be devised (personal comment by D. Sripotar, 5 August 2013).

There have been experiments with plantings on plantations covering an estimated number of 20,000 trees, yet these are not yet commercially viable (CoP16 Prop.60).

5. Monitoring

There is no exact monitoring of this species in Thailand (CoP16 Prop.60).

6. Conclusion

This species being newly listed, there is to date no recommendation on the part of the SRG, and, as with many tropical woods, trade is not rated as clearly positive. Yet in the future, *D. cochinchinensis* could become one of the few tropical woods complying with the criteria required for a clearly positive finding.

As with many newly listed species, there is the problem that either no management or monitoring exists as of yet or that the latters' effectiveness is hard to evaluate. Yet in the case of *D. cochinchinensis*, it is possible to make a few general estimations. With an estimated 63,500 m³, the occurrence of the species in the wild is rather low and sustainable exploitation is only possible for minor quantities. Thus, import of woods originating from the wild cannot be supported and a negative decision can be issued. Yet it is important that no valid export documents are issued for such on the part of Thailand. Currently, the harvesting of plantations is not yet commercially viable, yet could become relevant in the future. This is why currently any application specifying the product's origin as being from plantations must be checked on a highly critical note, as it can be assumed that the information is incorrect.

For future applications submitted by plantations, it is, as for all tropical woods, not so much the origin of the founder population, but rather the previous utilisation of the plantation area which is significant. Provided that there is proper control of the wood's origin and exploitation of an appropriate area, it is however, possible, to issue a positive decision in this regard.

Quintessence:

- Newly listed species may pose a problem, as data are partly not available or management measures have not yet been tried and reviewed. Yet the applications submitted for the listing of a given species provide sound information allowing for an estimation of the situation, possibly in consultation with the exporting countries.

Pericopsis elata (HARMS) MEEUWEN from the Democratic Republic of the Congo

1. Synonyms and trade restrictions

Synonyms: *Afrormosia elata* (UNEP-WCMC 2013a[W]).

Pericopsis elata is listed in Appendix II to CITES and Annex B to the EU Regulation for all countries of origin.

For the import of *P. elata* from the DR of the Congo, no recommendation has been given by the CITES Secretariat. On 30 November 2009, the SRG issued a positive opinion for import, after it had published one positive and two negative opinions within the preceding year (UNEP-WCMC 2013a[W]). On 12 September 2013, the positive opinion was confirmed.

2. National distribution and abundance

There is fragmented occurrence of the species in the North of the DR of the Congo, covering a distribution area of overall 33,650,000 ha in the provinces of Equateur and Orientale (Dickson *et al.* 2005). In this context, the quantity of timber suitable for harvest is estimated at 22,713,750 – 33,650,000 m³. In spite of big uncertainties, it is assumed that there are at least 10 million m³ which are suitable for exploitation (Dickson *et al.* 2005).

3. Trade statistics

Between 2003 and 2007, exports of *P. elata* from the DR of the Congo rose from 3,651 m³ to 21,193 m³. After that, exports declined again and accounted for 5,596 m³ in 2011 (Table 7). In this regard, exports only cover logs, sawn timber and veneer timber (UNEP-WCMC 2013b[W]).

Table 7: Export volume and quotas for *Pericopsis elata* from the DR of the Congo
Export data and quotas for the *P. elata* species from the DR of the Congo. Missing units are also not listed in the trade table. The trade data are derived from UNEP-WCMC (2013b[W]), with the 2012 data not yet being reliable (UNEP-WCMC 2010), and the quotas come from the CITES Secretariat (2013b[W]).

Commodity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Timber (m^3)	0	3,651	4,648	6,932	15,086	21,193	19,352	12,833	6,330	5,596	0
Logs	0	0	0	0	0	0	140	0	0	0	0
Sawn timber	0	0	0	0	0	0	0	0	21	0	0
Quota; timber (m^3)	-	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	25,000

4. Management plan and quotas

There are a number of legal measures in place which are designed to regulate harvest and ensure sustainability. Before a harvesting company is allowed to use the required permit, it must evaluate such permit for one year and set up the required infrastructure over the period of three years. In addition, one or two trees must be planted for each tree harvested (PC14 Doc. 9.2.2 Annex 3). In the DR of the Congo, only trees may be harvested which exhibit a diameter of 60 cm or more (Anglaaere 2008[W]). As an additional measure, quotas have again been introduced for the export of *P. elata* since 2003. This quota accounted for 50,000 m^3 and was subsequently reduced to 50 % in 2012 and 2013 (CITES Secretariat 2013b[W]). However, no detailed management plan is available.

5. Monitoring

There is no biological monitoring in place. Trade is monitored by the national authorities (customs authorities, border police) and by an external service provider (Société Générale de Surveillance) (personal comment by L. Muamba Kanda, 6 August 2013).

6. Conclusion

The positive opinion issued by the SRG is to be considered as up-to-date which allows for seamless review completion. An opinion which has been issued only recently does not require any further considerations, as it can be assumed that all current information was duly considered. The following conclusions start from the assumption that the SRG opinion is not up-to-date.

While there is no exact management plan and monitoring scheme for the species, there are, however, measures aimed at regulating harvest and export. Accordingly, also a new planting scheme was laid down for each tree felled in addition to the fixing of quotas and a minimum diameter. Although the population is fragmented and big uncertainties remain, there is a reliable population estimation from 2005 starting from the assumption that there is a relatively large population in the DR of the Congo. On the basis of these data and provided that valid export documents are available, a positive decision can be issued.

Yet when researching the data, it soon becomes evident that the problems are not of a theoretical nature, but are constituted by practical implementation and/or the political situation and illegal trade. Thus, the factors used for the cursory examination in this case do not suffice and a more in-depth review should be carried out also considering additional factors. This is clearly a very complex case.

Quintessence:

- As far as the trade with timber, and, in particular, the trade with tropical woods is concerned, the harvest regime has a strong impact on sustainability assessments.
- SRG opinions may change fast and in multiple ways. This is also an indication that a more in-depth review could be useful.

Vanda javierae D.TIU EX FESSEL & LÜCKEL from the Philippines

1. Synonyms and trade restrictions

Agoo *et al.* (2004[w]) list *Vanga lamellata* LINDL. as a possible synonym, while it is assumed that this name is a spelling mistake and that it should actually be *Vanda lamellata* LINDL.

Vanda javierae is listed under the "Orchidaceae spp." taxon in Appendix II to CITES and Annex B to the EU Regulation for all countries of origin. All *Vanda* species are listed in Appendix II and/or Annex B.

There is no recommendation or rating. The EU Regulation and CITES are not applicable for hybridized individuals of the *Vanda* genus which can be easily identified as artificially propagated and do not feature any traces of collection in the wild. If these criteria are not met, permits are required (CITES #11, Regulation (EC) 338/97 #12).

2. National distribution and abundance

The species only occurs in lowland rainforests on the Calayan Island and in the province of Cagayan. Exact population figures are not available, yet the population is assumed to be on the decline (Agoo *et al.* 2004[w]).

3. Trade statistics

From the Philippines, only individuals from artificial production are exported. In this process, the number of traded individuals is not very high, yet fluctuates significantly over the years (Table 8). Accordingly, in 2004, 2008 and 2009, there were no considerable export activities, while, in other years, no exports at all or very few exports, i.e. less than three individuals, were registered in the database (UNEP-WCMC 2013b[w]).

Table 8: Export volume and quotas for *Vanda javierae* from the Philippines
Data on exports of live individuals of the *V. javierae* species from the Philippines. The trade data are derived from UNEP-WCMC (2013b[w]), with the 2012 data not yet being reliable (UNEP-WCMC 2010). As of yet, the Philippines have not laid down any quotas for this species.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Export	1	2	64	0	0	3	20	53	0	0	0
Quota	-	-	-	-	-	-	-	-	-	-	-

4. Management plan and quotas

As a CITES-listed species, *V. javierae* is protected according to the "Republic Act 9147 (Wildlife Resources Conservation Act)" (2001) Section 23, and wild populations must not be harvested for commercial purposes (trade). Thus, no quota is laid down by the Philippines (CITES Secretariat 2013b[w]). Within the species' range, there are no protected areas (Agoo *et al.* 2004[w]).

5. Monitoring

There is no information on monitoring of this species.

6. Artificial production

As many orchids from the Philippines, the *V. javierae* orchid is artificially regrown in bottles and thus produced in larger quantities (Cootes 2012). In this process, propagation takes places by way of embryonic and tissue cultivations grown in special laboratories (Nagpala 2007).

7. Conclusion

Even if there is no recommendation on the part of the SRG, review can be completed relatively fast in this case. The species has been traded by the Philippines since 1991, yet never in large quantities. With 64 live individuals, the highest export figures were accounted for in 2004 (UNEP-WCMC 2013b[w]). Although no quota has been fixed and there is no management or monitoring, the trade with plants from the wild is prohibited. Thus, the criteria for clearly positive trade are met, as there is only well-regulated trade with individuals from artificial production. Difficulties may arise, however, if it is no longer possible to clearly prove that the individuals originate from artificial propagation. This is why permits may be required for re-export although such have not been required during import.

In addition, however, also the criteria underlying artificial production are considered in this case study. Yet for orchids, there are no restrictions which could lead to a negative finding, even if we must assume that the founder stocks have been removed from the wild. Yet it must

be ensured that there is no trade with wild individuals which are marked as individuals from artificial production.

Quintessence:

- For orchids of the *Cymbidium*, *Dendrobium*, *Phalaenopsis* and *Vanda* genera, no permits are required, provided that they are artificially-propagated hybrids clearly not originating from the wild. If such cannot be determined without any doubt, a permit is required.
- In the event of artificial propagation or regrowing, very often a clearly positive finding can be determined. If there are any doubts, the factors regarding artificial production may be considered.

Optimal review for *Psittacus erithacus* from Uganda

1. Species identity

1.1. Scientific and common names

No synonyms are known. Meanwhile, BirdLife divides *P. erithacus* into two species (*P. erithacus* and *P. timneh*), with *P. timneh* only occurring in West Africa (BirdLife 2013[W]). Within CITES, they are still frequently listed as sub-species.

Common names: Grey Parrot (English); Graupapagei, Jako (German); Loro yaco, Yaco (Spanish); Jacko, Jacquot, Perroquet Gris, Perroquet Jaco (French) (UNEP-WCMC 2013a[W]).

1.2. Trade restrictions

There is no recommendation or rating restricting trade (Regulation (EC) No 318/2007 is not considered). *P. erithacus* is listed in Appendix II and/or Annex B.

2. Biological data

2.1. Biological characteristics

2.1.1. Summary of key biological data

P. erithacus is a sociable bird living in large flocks of up to 1,000 individuals, with smaller groups of up to 30 individuals being formed for the purpose of foraging (Juniper and Parr 1998, World Parrot Trust 2013[W]). As a rule, the bird nests alone and above water, with two to three eggs being laid. The breeding season varies in the animal's range and is linked to the dry season (Juniper and Parr 1998, BirdLife International 2013[W]). Experts estimate that within one year some 15-30% of a population breed, with breeding success accounting for 0.4 nestlings per nest on average (AC22 Doc.10.2 Annex 1). The species feeds on fruits and nuts, with a link of the range to the distribution of palm trees of the *Elaeis* genus being stated (McGowan 2008).

2.1.2. Habitat type

The Grey Parrot lives mainly in forests (Bennun *et al.* 1996), preferring moist lowland forests, yet it may also occur at an altitude of 2,200 m above the base height level, especially in the Eastern part of its range (McGowan 2008). It occurs in different habitats, e.g. rainforests, mangroves and wooden savannahs, and will presumably disappear once the forest is subject to major change (Juniper and Parr 1998, Amuno *et al.* 2007). The species also occurs on

cultivated land and in gardens, yet these populations are probably not able to maintain themselves (BirdLife International 2013[W]).

2.1.3. Role of species in ecosystem

For this species, there are no specific studies, yet it is known that it is a fruit-eating parrot and the range of which even seems to be linked to several palm-tree species (Amuno *et al.* 2007, McGowan 2008). An important ecosystem function of this species could thus, as for many fruit-eating birds, be the dispersal of seeds (cf. Sekercioglu 2006).

3. National status

3.1. National distribution

In Uganda, *P. erithacus* occurs mainly in the area surrounding Lake Victoria and its islands. Furthermore, existence of the species has been proven in two forest reservations, Budongo and Kalinzu, and in two national parks, Bwindi and Kibale. These protected areas are all located at the border to the DR of the Congo (Amuno *et al.* 2007). Distribution in Africa is displayed in Figure 3.

Figure 3: Range of *Psittacus erithacus*
The African range of the *P. erithacus* species is displayed in red. The range of *P. timneh* has not been considered. Range according to BirdLife (2013[W]).

3.2. National and international population sizes

According to the IUCN, *P. erithacus* is rated as "vulnerable" (BirdLife International 2012[w]), and a global population of 0.56 –12.7 million (BirdLife International 2012[w]), respectively 0.68 –13 million (McGowan 2008) individuals, is assumed. Density varies considerably within the range and within different habitats and accounts for 0.15–6.0 birds/km² (BirdLife International 2012[w]), or 0.15 birds per km² up to 2 breeding pairs per km² (AC22 Doc.10.2 Annex 1).

In Uganda, the Grey Parrot used to be relatively abundant, in particular on the coast and on the islands of Lake Victoria. In 2006, it was not possible to arrive at a uniform conclusion whether the species also breeds in Uganda (AC22 Doc.10.2 Annex 1). Yet one year later, Amuno *et al.* (2007) described a nest in Budongo. Outside the Mabira Forest, the species is rare (AC22 Doc.10.2 Annex 1), yet according to a study, the population in the Mabira Forest was estimated at merely 342 individuals. In the second area under investigation, the Budongo Forest, the population was estimated at 714 individuals (Amuno *et al.* 2007). The authors point to the fact that the population in Ugandan forests is small and fragmented. Thus, the species is potentially endangered in Uganda (Carswell *et al.* 2005).

3.3. Population trend

According to the IUCN, the global population is on the decline (BirdLife International 2012[w]), as it is assumed that partly 21% of the wild population are harvested annually. Also for Uganda, it is assumed that the population is on the decline (BirdLife International 2013[w]).

3.4. Main threat

The main threats for Grey Parrots are harvest and habitat loss (McGowan 2008). Harvest is conducted for the purpose of consumption (national) and particularly of being kept as pets (international), with the parrots being popular especially in Europe, the U.S. and the Middle East (AC22 Doc.10.2 Annex 1).

4. Harvest management

4.1. Illegal harvest

It is relatively difficult to estimate illegal-trade figures, as there is brisk illegal and often non-declared trade between the range states which adds up to the basic problems. Accordingly, there are estimations that many Grey Parrots from captivity in Uganda actually originate from the DR of the Congo. In general, it is assumed that there is a high level of illegal trade (AC22 Doc.10.2 Annex 1).

4.2. Management history

In the past, trade with *P. erithacus* took place in almost all range states without management. While there has been and still is legislation in some countries to protect the species, there has been no management (AC22 Doc.10.2 Annex 1).

4.3. Management plan

In Uganda, there is no real management plan or active management for *P. erithacus*. There is only a low level of international trade, but within Uganda, there is a pet market for Grey Parrots (AC22 Doc.10.2 Annex 1, McGowan 2008).

This is why there is no adaptive and practical management process, regular review or why there are no designated areas. Thus, also no harvest target has been laid down.

4.4. Quotas

Uganda has not laid down any trade quotas.

4.5. Harvest method

Based on capture for the international pet market, the birds are captured in live traps which are highly unselective (McGowan 2008). It is estimated that mortality after catch and before export accounts for 15–66%. In this respect, no exact figures are available for Uganda (McGowan 2008).

4.6. Limitation of harvest participants

There is no known limitation of harvest participants.

5. Control of harvest

5.1. Harvest in protected areas or open access

While the major part of the populations occurs in protected areas (*8. Protection from harvest*), it is unclear where the traded individuals come from. In addition, there is the frequent problem in rainforest areas that they are hard to monitor and that the situation thus actually corresponds to open access.

5.2. Exploitation of one population by several states

Basically, the species is widely distributed and thus it may happen that one population is exploited by several states. However, the Ugandan population is relatively small and fragmented (Amuno *et al.* 2007) which is why this factor presumably plays a minor role.

5.4. Confidence in harvest management

There is no management (*4. Harvest management*).

6. Monitoring of harvest

6.1. Monitoring method used

As in almost all range states, there is no monitoring in Uganda (McGowan 2008).

7. Incentives and benefits from harvesting

7.1. Utilisation as compared to other threats

The *P. erithacus* species is primarily endangered by non-sustainable harvest and habitat loss. Coupled with harvest, this has negative implications.

7.2. Incentives for species and habitat conservation

A sustainable and well-monitored regime harbours incentives for the local population to protect the species and the habitat in order to ensure sustainable harvest and the income linked to it.

8. Protection from harvest

8.1. Protection status

In Uganda, catching the species is subject to a special permit, which does, however, not regulate trade (Game (Preservation and Control) Act 1959, Chapter 198, First Schedule). As there are trade activities, it can be assumed that such permits are actually granted.

8.2. Protected habitat share

There are two national parks and four forest reserves ("Central Forest Reserve") in which populations of *P. erithacus* occur. Amuno *et al.* (2007) specify only one population – on the Lake Victoria islands – not occurring in a protected area. However, some of the protected areas are rather small, in particular the Mpanga Forest Reserve. Basically, the habitat is on the decline also in Uganda.

8.3. Effectiveness of protection measures

Legal trade is well under control, and the low level of trade (Table 5) suggests that existing legislation can actually be enforced. Yet illegal trade poses a problem in nearly all range states.

8.4. Regulation of harvest effort

There is no regulation of harvest effort of any kind.

9. Trade data

9.1. Trade history

Almost the entire international trade refers to trade with live animals. In the 1980s and the early 1990s, some 56,000 individuals were exported every year. In 1993, this figure dwindled enormously to 31,000 per year, which is, in particular, due to the ban on imports of wild birds in the U.S. In the ensuing years, the number of exported animals rose again, with the major share being exported to Europe (AC22 Doc10.2 Annex 1). In 2003, the 1992 export levels were approximately reached again (UNEP-WCMC 2013b[w]) in the wake of which, in 2006, global exports collapsed again. After a brief surge in 2009, they decreased again, to 26,000 and 12,000 animals, respectively, in the years 2010 and 2011 (UNEP-WCMC 2013b[w]). These changes are due to the EU bans on the import of wild birds which were first limited in time due to avian flu and then introduced for an indefinite period of time. The major share of traded birds is derived from the *P. erithacus* species as we define it today and only a small share of it is derived from the *P. timneh* species (BirdLife 2013[w]).

9.2. Trade statistics

Due to low trade levels (Table 5), trade is rated as "least concern" (AC22 Doc10.2 Annex1). It is assumed that this low number of animals can be safely removed also without management and monitoring. Yet this estimation will have to change, if a higher number of individuals is exported. While until 2009 all exported animals originated from the wild, the individuals exported in 2010 were from captivity. For 2011 and 2012, no exports were registered (UNEP-WCMC 2013b[w]).

9.3. Quota compliance

Uganda has not laid down any quotas.

9.4. Supply vs. demand

There is strong demand for Grey Parrots as pets and thus also brisk trade. There is also a certain level of supply, the sustainable exploitation of which remains, however, elusive (AC22 Doc10.2 Annex 1).

10. Further indicators

On top of the points already mentioned, the remaining indicators (*Annex 1*) do not play a major role. There is no information about a threat by invasive species or by the species being invasive elsewhere. However, habitat degradation and pollution play a major role, as they

constitute a circumstance accompanying habitat destruction or land conversions and contribute to further fragmentation.

11. Conclusions

Due to the EU ban on the import of wild birds which was adopted on account of health reasons there is no recommendation issued by the SRG. Furthermore, no clearly positive finding can be given. At the NDF workshop, the group of ornithologists stated that an important factor when assessing a population is to provide evidence that young birds fledge in the wild. Yet this evidence does not suffice in order to certify sustainable trade (McGowan 2008). In the available studies, this evidence is not clearly provided for Uganda, even if Amuno *et al.* (2007) have identified a grey-parrot nest in the Budongo forest reserve at the border to the DR of the Congo. As the population is fairly small, the birds' high mortality rate between catch and export (15–66%) as well as the unselective trapping method considerably affect the population. As there is no monitoring in place, there is also the danger that a considerable impact is only recognised once the critical population size has already gone below. Thus, a negative finding should be issued if there is a lack of information on the exact origin of individuals from the wild. The import of a wide variety of individuals from the wild should be generally banned, as the population in Uganda is too small for this. The last individuals exported by Uganda came from breeding facilities. Here, it should be checked to the extent possible where the founder population of this breeding facility originates from in order to be able to assess the level of sustainability.

For ease of reference, a graphical evaluation was carried out as described by Rosser and Haywood (2002) (Figure 4). As regards the figures, it must be considered that the assignment of numerical values is partly subjective and leads to simplifications on account of the categories used. Thus, the figures are useful to obtain an overview; yet for the purpose of assessment, exact data are required.

For the graphical evaluation of *P. erithacus*, three things are particularly striking: the lack of active management, the lack of monitoring and the uncertainty as to where harvest takes place. Except for the population trend, the other indicators are within a positive range.

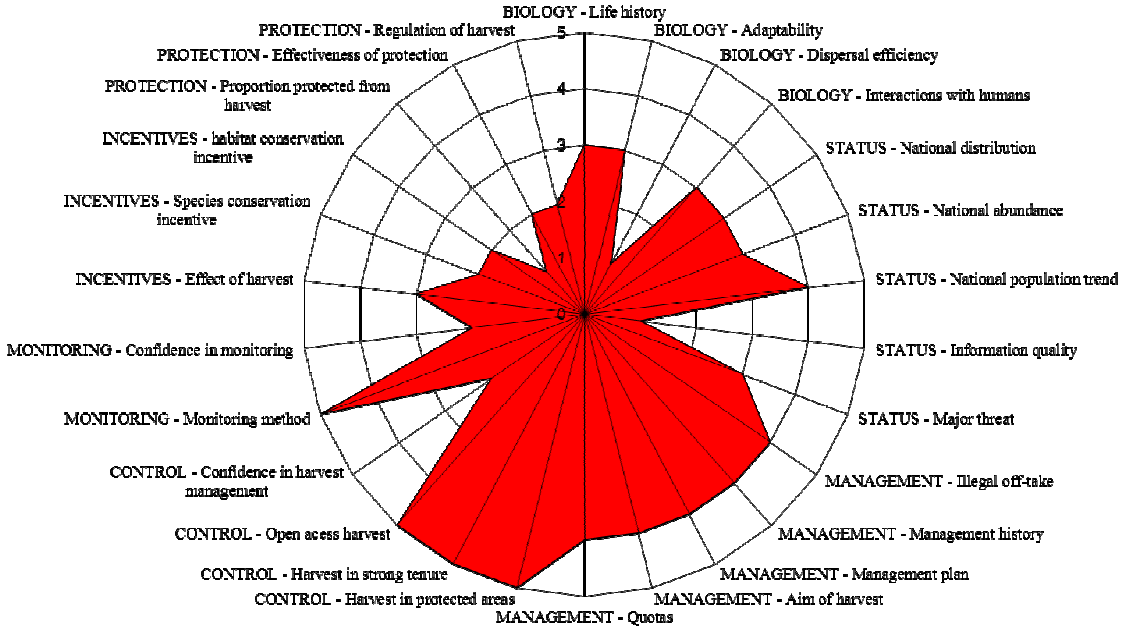

Figure 4: Graphical NDF evaluation of *Psittacus erithacus*
Graphical evaluation as described in the IUCN Guideline by Rosser und Haywood (2002). The evaluation was carried out for *Psittacus erithacus* from Uganda.

Quintessence:

- For birds, a key population criterion is stated, i.e. that evidence must be provided that young birds are fledging. This does, however, not constitute evidence of sustainable trade (McGowan 2008).
- Providing evidence for the exact origin of an individual may be of high significance, particularly in complex cases.

Optimal review for *Pericopsis elata* from the DR of the Congo

1. Species identity

1.1. Scientific and common names

Synonyms: *Afrormosia elata* (UNEP-WCMC 2013a[W]).

Common names: Afrormosia, Kokrodua, Assamela (German); African teak (English); afrormosia, teca africana (Spanish); assamela; Teck d'Afrique (French); afrormosia, bohalala, ole (DR of the Congo) (Bourland *et al.* 2012, UNEP-WCMC 2013a[W]).

1.2. Trade restrictions

There is no recommendation on the part of the CITES Secretariat for the import of *P. elata* from the DR of the Congo. On 30 November 2009, the SRG issued a positive opinion with regard to import which was confirmed on 12 September 2013 (UNEP-WCMC 2013a[W]). *P. elata* is listed in Appendix II and/or Annex B.

2. Biological data

2.1. Biological characteristics

2.1.1. Summary of key biological data

P. elata is a tree that can potentially reach a height of 45–50 m and a diameter of up to 150 cm. The first 30–35 m are branchless (Anglaaere 2008[W]). Tree growth can be very fast, provided that conditions are favourable (Anglaaere 2008[W]), while Dei-Amoah and Cardoso (2008) observed that growth speed increases as the trees ages and that it heavily depends on the available amount of light.

One problem occurring with this species is that natural regeneration in the closed forest is exceptionally poor (CoP8 Prop.93, PC14 Doc.9.2.2 Annex 3). In particular during the first week, Bourland *et al.* (2012) determined a high mortality rate under natural conditions. In Ghana, the species blossoms in April and May, with fruits being formed between August and November (dry season). Seed dispersal effectiveness is very poor and generally takes place at 35 m around the mother tree; yet seeds may also be dispersed much farther away in extreme cases on account of the wind (PC14 Doc. 9.2.2 Annex 3, Anglaaere 2008[W]). Swaine and Whitmore (1988) rate the species as a genuine pioneer tree which is promoted by gaps in the canopy. This type of regeneration results in aggregated occurrence within the range. Being a legume, *P. elata* features nitrogen-fixating bacteria in the root tubercles (Anglaaere 2008[W]).

2.1.2. Habitat type

The species primarily grows in semi-deciduous forests with an annual precipitation between 1,000 and 1,500 mm (CoP8 Prop.93, PC14 Doc. 9.2.2 Annex 3). This pioneer tree grows in valleys, on slopes as well as in lowland areas which are often swampy. The species seems to be particularly abundant alongside rivers (PC14 Doc. 9.2.2 Annex 3, Betti 2008). Good regeneration only takes place on clayey soil containing low levels of aluminium and larger amounts of absorbable phosphorus (Boyemba 2011).

2.1.3. Role of species in ecosystem

No data or surveys are available on the role of the species in the ecosystem.

3. National status

3.1. National distribution

Distribution in Africa is heavily fragmented and scattered; thus there is no closed range (Figure 5). The largest abundance is witnessed in the DR of the Congo, in the Yangambi-Banalia-Kisangani Forest (PC14 Doc. 9.2.2 Annex 3). In the DR of the Congo, *P. elata* occurs only in the North and is divided into at least three separated populations (Figure 5) Distribution covers overall 33,650,000 ha along the Congo River in the two provinces of Equateur and Orientale (Dickson *et al.* 2005).

3.2. National and international population sizes

Due to the scattered population, it is hard to come up with an estimation of the population size. It is assumed that distribution is concentrated in the DR of the Congo and that the North of the country is covered with 15 million hectares of equatorial forest (PC14 Doc. 9.2.2 Annex 3). The amount of *P. elata* timber in the DR of the Congo which is suitable for harvest is estimated at 22,713,750 – 33,650,000 m³. In spite of huge uncertainties, it is assumed that at minimum 10 million m³ can be exploited (Dickson *et al.* 2005). The population structure is reported to be normally distributed for some parts of the DR of the Congo (Boyemba 2011). For Cameroon, a density between 0.02 and 0.66 individuals per hectare is given (Betti 2008) from which results an estimated overall number of 829,000 *P. elata* trunks with a diameter of 20 cm each (Betti 2007).

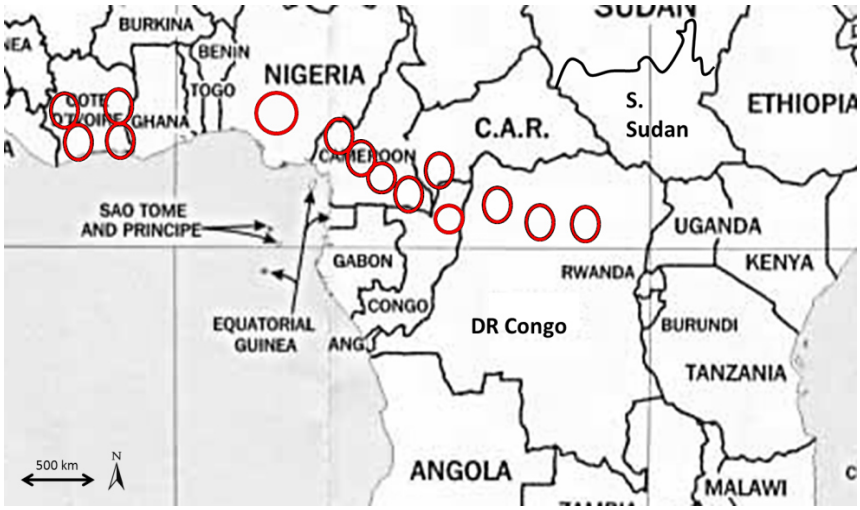

Figure 5: Range of *Pericopsis elata*
The range of *P. elata* in Africa and within the DR of the Congo is displayed in red. The range is represented according to the African Plants Database (2013[w]) and Betti (2008). Distribution in Nigeria is specified with a question mark by the African Plants Database.

3.3. Population trend

There are no data as regards the population trend, yet the estimation is rather negative on account of heavy fragmentation, poor regeneration and the exploitation of medium-sized-to-large trees.

3.4. Main threat

The main threat is constituted by non-sustainable harvest. The IUCN stated that harvest has not been and is not sustainable in any country (African Regional Workshop 1998[w]). However, this estimation dates back from 15 years ago. In this regard, habitat destruction only plays a minor role, as P. *elata* is a pioneer species.

4. Harvest management

4.1. Illegal harvest

Greenpeace Africa and the "Independent Observer of Forestry Control" assume that in the DR of the Congo illegal harvest is the norm rather than the exception. Furthermore, they report that unmarked logs have been observed in many cities and at many timber transfer sites which constitutes a clear violation of applicable legislation (Greenpeace Africa 2013). The German Federal Office for Agriculture and Food rates the DR of the Congo as a high-risk country as regards illegal timber harvest (ITTO 2013). A clear assessment of the scope of illegal trade is not possible. In the biennial CITES report for 2003/2004 (the last report submitted) it is retained under C4 and C6 that there have been no significant confiscations and thus also no

convictions under CITES. Yet it is also stated that the authorities do no exchange any data on this matter (DRFC 2005).

4.2. Management history

Already since the 1990s, the DR of the Congo has been trading with *P. elata*. Yet trade severely plummeted between 2000 and 2002 on account of the civil war (Dickson *et al.* 2005). There is no information on management in the 1990s.

4.3. Management plan

There is a series of legal measures designed to regulate harvest and ensure sustainability. Before a harvest company is allowed to use the required permit, it must have evaluated such permit for one year and must have set up the required infrastructure over the period of three years (PC14 Doc. 9.2.2 Annex 3). Furthermore, one or two trees would have to be planted for every tree felled. Yet in particular for *P. elata* it is retained that this does not happen (PC14 Doc. 9.2.2 Annex 3). While respective laws designed to comply with CITES requirements are in place, they are poorly enforced.

There have also been attempts to plant *P. elata* on plantations which was partly successful in the DR of the Congo (Anglaaere 2008[w]).

There is no management plan and apart from a quota, there are also no management measures (personal comment by L. Muamba Kanda, 6 August 2013). However, in the biennial report for the years 2003 and 2004, the DRFC informs that there are stricter rules for CITES in the areas of trade, ownership, harvest, transport and transit. In addition, it is stated that there is regular review and monitoring (DRFC 2005).

Considering how trees are currently harvested in the DR of the Congo, it is assumed that it will take 30 years until 50% of the harvested volume will be regenerated and will again be commercially exploitable (Boyemba 2011).

4.4. Quotas

Since 2003, the DR of the Congo has again fixed quotas for the export of *P. elata*. Between 2003 and 2011, this quota accounted for 50,000 m³ and was reduced by half in the years 2012 and 2013 (CITES Secretariat 2013b[w]). The quota is calculated on the basis of trade data and stock surveys by the SA, and then confirmed and notified to CITES by the MA (personal comment by L. Muamba Kanda, 6 August 2013).

On top of that, the DRFC stated that the annual production of the species in the DR of the Congo accounts for 652,831 m³ (Dickson *et al.* 2005).

4.5. Harvest method

In the DR of the Congo it is only allowed to fell trees exhibiting a diameter of 60 cm or more (Anglaaere 2008[W]). Other than that, there is no regulation of harvest.

4.6. Limitation of harvest participants

There is no information on a limitation of harvest participants. While it is required to obtain a permit entailing certain requirements, such permit is not checked (Anglaaere 2008[W]).

5. Control of harvest

5.1. Harvest in protected areas or open access

40 million of the overall 125 million ha of the country's forest are state-controlled (PC14 Doc. 9.2.2 Annex 3). Of that, 11.8 million ha are covered by forest permits, while, of that area, only an estimated 8.2 million ha are controlled (PC14 Doc. 9.2.2 Annex 3). The exact share of habitats in which *P. elata* occurs is unknown. Yet there is evidence for the occurrence of the species in the three protected areas of the Biosphere Park of Yangambi, the Rubitele Forest Reserve and the Maïko National Park (Dickson *et al.* 2005). From this it can be concluded that a large part of the forest – at least *de-facto* – constitutes "open access" and that there is a low level of control of these areas.

5.2. Exploitation of one population by several states

Due to the fragmentation of the global population (Figure 5) it can be safely assumed that the population in the DR of the Congo is actually exploited exclusively by the latter.

5.3. Confidence in harvest management

The problems are not constituted by a lack of legal regulations (*4. Harvest management),* but rather by a lack of enforcement and control of these regulations. Dickson *et al.* (2005) state that control is very well possible; as the country's major port of export is the city of Matadi. The road network being poorly developed, the only economically-viable transport route leads via the Congo to Kinshasa and from there via train to Matadi. This is contradicted by the Greenpeace Africa report informing that large amounts of timber on this route are unmarked and thus illegal (Greenpeace Africa 2013).

6. Monitoring of harvest

6.1. Monitoring method used

In the course of a "review of significant trade" for *P. elata*, the DR of the Congo was rated as "possible concern", as not all requirements under Article IV were met. In this context, particular emphasis was laid on the complete lack of monitoring and capacities for the enforcement of regulations (PC14 Doc. 9.2.2 Annex 3). Trade is monitored by the third-party "Société Générale de Surveillance" and by the authorities (customs, border police) of the DR of the Congo (personal comment by L. Muamba Kanda, 6 August 2013).

7. Incentives and benefits from harvesting

7.1. Utilisation as compared to other threats

Harvest is the main factor having led to this species being endangered. Thus, the effect of harvest is to be rated as basically detrimental.

7.2. Incentives for species and habitat conservation

Well-regulated and well-controlled harvest can, however, contribute to species and habitat conservation. A precondition for this is the involvement of the local population in order for it to support regulation measures.

8. Protection from harvest

8.1. Protection status

According to the IUCN, the species is rated as "endangered" (African Regional Workshop 1998[w]). There is no information as to the status of protection in the DR of the Congo.

8.2. Protected habitat share

Overall, 5% of the national territory are protected (personal comment by L. Muamba Kanda, 6 August 2013).

8.3. Effectiveness of protection measures

Due to the lack of verification of compliance, the effectiveness of protection measures must be rated as poor. If enforcement is improved, protection measures could, however, be rather effective.

8.4. Regulation of harvest effort

Harvest is restricted by the requirement that a tree must exhibit a minimum diameter before it is felled (Anglaaere 2008[w]).

9. Trade data

9.1. Trade history

P. elata has been exploited commercially since 1948 and was an important Ghanaian export commodity at the time. The species was heavily exploited by the first export countries, i.e. Ghana and Ivory Coast, causing these countries' export levels to plummet significantly in the early 2000s. Then, the major share of exports originated from Cameroon, Congo and the DR of the Congo, with *P. elata* being one of the four major timbers for export for Congo (Anglaaere 2008[w]). In the DR of the Congo, an export ban was adopted for logs in 1999 which was, however, relaxed later on (PC14 Doc. 9.2.2 Annex 3). Between 2000 and 2002, the export level of *P. elata* in the DR of the Congo was extremely low due to a civil war (Dickson *et al.* 2005).

9.2. Trade statistics

Between 2003 and 2007, exports of *P. elata* from the DR of the Congo rose from 3,651 m³ to 21,193 m³, with a strong increase witnessed between 2005 and 2006. After that, exports declined again and accounted for 5,596 m³ in 2011 (Table 7). In this respect, exports only include logs, sawn timber and veneer timber (UNEP-WCMC 2013b[w]). To date, no export data are available for 2012, as the data from the UNEP-WCMC database are reliable only after two years (UNEP-WCMC 2010).

9.3. Quota compliance

The quota was not reached in any year within the period between 2002 and 2012; for most years, levels were significantly below the quota. At 42%, the highest rate of compliance was reached in 2007. The development of quota compliance is identical to export fluctuations (*9.2.*), as the quota has been the same over a long period of time. Due to a reduction of the quota by half, a higher compliance rate is expected for 2012 (Table 7).

9.4. Supply vs. demand

Over the last years, the DR of the Congo has been the main net exporter among the *P. elata* range states besides Cameroon. Just like the DR of the Congo, Cameroon fails to fully comply with its quota. From this fact, two assumptions can be derived: first that the resource is nearing depletion or that supply exceeds demand. In 2004, the price accounted for some 324 USD per m³ (Anglaaere 2008[w]) which suggests that demand is still there.

10. Further indicators

On top of the factors mentioned above, the other indicators (cf. Annex 1) do not play a substantial role. Habitat degradation only plays a marginal role, as *P. elata* is a pioneer plant and habitat degradation has a rather positive effect up until a certain extent of degradation. There is no information as to other potentially relevant factors such as pollution and invasive species.

11. Conclusions

There is a positive opinion on the part of the SRG dating from 29 September 2013 which is to be considered as up-to-date. Thus, the review can be completed swiftly. The conclusions outlined here have been drawn up independently of said opinion.

It is hard to assess which share of the population is affected by harvest. Based on the Minimum population size (10 million m³), Regeneration period (60 years) and the Current quota (25,000 m³), it can be stated on the basis of a simplified calculation that it is possible that only 15% of the population, respectively 30% (if the previous quota is considered), are affected. Making this comparison of population and harvest data, it becomes evident that sustainable harvest is possible which is also corroborated by the information on annual production provided by the authorities. Yet this must be put in perspective on account of the fragmented and aggregated occurrence of the species, as it is also of the utmost importance to prevent the species from becoming extinct locally at a given patch. In the DR of the Congo, there is legislation requiring that trees may only be felled from a certain diameter and that trees must be planted for each tree felled, with such planting at least partly ensuring compliance with these requirements. Furthermore, it would, however, be extremely useful to introduce local quotas in order to prevent local extinction; yet to date, no pertinent information is available.

Considering the *P. elata* case, it soon becomes evident that the problems do not lay so much in theory, but that they are rather constituted by practical implementation. Accordingly, applicable legislation is apparently not complied with. The non-labelling of logs is a clear indication of the scope of this non-compliance and of the confidence of some timber companies which are obviously convinced that they will not be held accountable for non-compliance. This represents a huge problem which must be solved in the DR of the Congo. Yet trade supervision and the creation of a control system by an external service provider would constitute a viable solution to this problem.

Considering the aforementioned and the CITES idea, a positive opinion must be issued, with, however, exact verification of application data being advisable. Trade *per se* does not have a detrimental impact on the species, and it must not be automatically assumed that all exports originate from illegal sources. Furthermore, it would be to the detriment of CITES enforcement and acceptance if companies abiding by the laws would be punished on account of other companies' conduct. To this end, it must, however, be verified to the extent possible if harvesting and export companies have complied with legislation which is, in the case of *P. elata*, not automatically ensured by the existence of an export permit. If there are any doubts in this regard, it is also possible to issue a negative opinion.

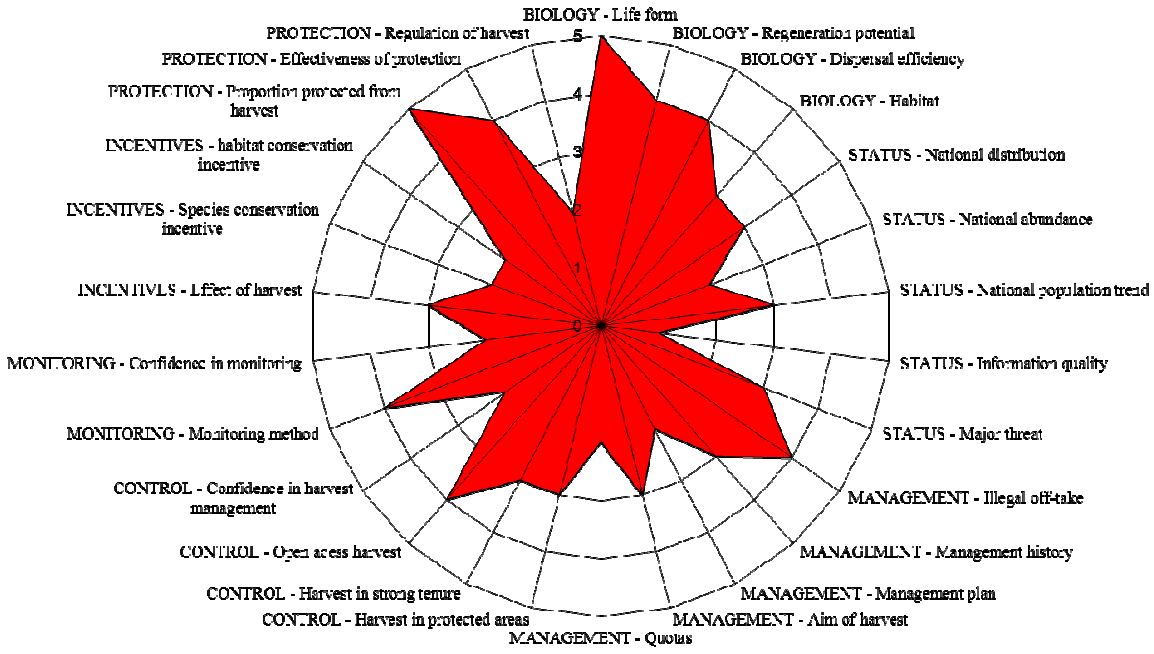

Figure 6: Graphical NDF evaluation of *Pericopsis elata*
Graphical evaluation as described in the IUCN Guideline by Rosser and Haywood (2002). Carried out for *Pericopsis elata* from the Democratic Republic of the Congo.

For ease of reference, a graphical evaluation was carried out as described by Rosser and Haywood (2002) (Figure 6). As regards the figures, it must be considered that the assignment of numerical values is partly subjective and leads to simplifications on account of the categories used. Thus, the figures are very useful to obtain an overview; yet for the purpose of assessment, exact data are required.

As regards *P. elata*, five points strike as negative when taking a look at the overview. The assessment of biological parameters is, as for almost all tropical woods, rather negative.

Furthermore, there is a high level of illegal trade; only exports and harvest from *de-facto* open access are monitored. The strictly protected share of the population is unknown. The remaining indicators do not have a negative impact.

Quintessence:

- If there are huge gaps between the theoretical and practical implementation of management and/or protection, this must be regarded as an additional factor of uncertainty in the course of assessment. Similarly, it makes sense to verify export permits on a critical note.

6. Final remarks

Sustainability reviews (NDFs) are relatively complex and no fixed rules of procedure have been laid down by the EU and the CITES Secretariat for them so far. There is an attempt to develop a procedure and to specify key indicators in a series of guidelines. Yet there is no general approach which can be applied in all cases without any changes, as the taxa listed in CITES are too different for that and as certain special cases are too complex. Also the list of indicators presented here (Annex 1) is not exhaustive. Yet it provides a good overview of the topics that are potentially relevant. Even if the list of indicators could be extended as regards some details and the different guidelines focus on different priorities, the described indicators which have to be checked in any event are almost always identical. Using the data on the national population, the management plan, monitoring and the trade statistics, many cases can be assessed on a sound basis. In particular with regard to complex cases, but also for species exhibiting an unusual trade dynamics, it is necessary to check more indicators in order to obtain a reliable result. Which indicators are important is determined in the course of the consideration of the four core areas. When conducting the final data assessment, it must be considered that the goal of CITES is to ensure sustainable utilization. It may vary from taxon to taxon which criteria must be met in order to ensure sustainable utilization.

Even if NDF implementation is only significant for Appendix-II species, it is still a central and key CITES tool to control the sustainability of trade. The EU has additionally beefed up this tool by fixing an NDF as a condition for import. Thus, however, also the number of required reviews increased significantly. This is why it has become frequently necessary to save time when conducting an NDF. Thus, the verification of valid SRG opinions and the determination of “clearly positive” findings as described in the IUCN Guidance represent excellent opportunities to speed up the process. This holds particularly true for the clearly positive findings and applications which are handled in this form (type and/or state) for the first time and for which therefore no information or experiences are available.

When conducted thoroughly, NDFs are highly suitable for ensuring the sustainability of trade. Yet there are also problematic areas encountered during reviews. A basic problem is constituted by the fact that population boundaries do not equal political borders. Using several indicators, experts try to tackle this issue, yet this does not change anything about the underlying problem, i.e. that one state cannot be held accountable for the conduct of a

neighbouring state. This issue can, however, not be resolved by the method but only by regional cooperation.

Another problem is constituted by the individual subject areas in which the indicators are reviewed. According to our current concept, sustainability is often described on the basis of the three pillars of sustainability, i.e. environmental, economic and social sustainability. This model starts from the assumption that it is necessary to consider all three pillars in order to enable sustainable development. Already in the IUCN Guidance, however, economic and social aspects are factored out, as it is not laid down in the Convention text that the SA is to submit recommendations on these aspects (Leader-Williams 2002). After that, economic factors have been placed more into the foreground by several authors and do play a role, at least partly (*3.5. Enhanced methods*). Yet the social aspects still do not play a genuine role. But the success of a management scheme may strongly depend on the make-up of the local social structure and on whether certain measures are accepted and supported. Yet in order to be able to *de-facto* implement such measures, an internationally accepted consensus for the assessment of the social aspects is required which has, however, not worked out within CITES so far. Possibilities for implementation have already been found in other Conventions, e.g. the CBD. This goes to show that this approach is basically feasible and that it should be further pursued also in the framework of CITES.

As can be seen from the case studies, it is relatively easy to arrive at an assessment if good population data, e.g. on *Loxodonta africana*, are available. If, however, population data are poor or not available at all, it becomes much harder to arrive at a decision, e.g. in the case of *Corallus caninus*. Thus, the success of a review often heavily depends on the availability of good basic data. If basic scientific data are lacking, experts must rely on estimations in order to assess whether trade is sustainable or not. In this context, uncertainties are, however, markedly higher, and the decision should be carefully reconsidered in such cases.

The transposition of the Convention into an EU Regulation yields a series of positive implications. Yet mention should be made of the fact that extending the necessity of sustainability reviews does not constitute an optimum solution. It has been mentioned already in the IUCN Guidance that the unilateral introduction of import restrictions is not a sound basis for a multilateral agreement (Hutton 2002). The implementation of a second review, after a review conducted by the country of export, is to be considered as a restriction, as, at this point in time, a positive decision has already been reached and any further decision can only provide a confirmation or a restriction. In this context, it should not be discussed whether

an extension of reviews is necessary or not, it should just be indicated that the legal EU regulation currently in place cannot be the goal to be pursued in the longer term. The goal must be to strengthen and support the export authorities, within and outside the EU, in order for them to have the capacities and sustainable exploitation systems needed to meet the requirements laid down in the Convention. Yet it should also be mentioned that, already now, the EU supports different programmes in order to reach this goal. If such is done in a reliable way, it is no longer necessary to have unilateral import restrictions in place.

In closing, mention should be made of the fact that, within the EU, it would be useful to have a database with decisions already made. The additional effort entailed by registering the decisions on a regular basis will pay off once it will be possible to query data from another EU member state which has reached a decision in a similar case. This applies particularly to positive decisions which do not have to be automatically notified to the EU. This makes it theoretically possible that, within a short period of time, the information regarding a similar – not identical – application is queried and evaluated 28 times. Hitherto information on such positive decisions has only been available, with a time delay, via the UNEP-WCMC trade data or via the annual reports. Apart from the time saved, higher transparency as regards the decisions could also lead to an enhanced perception of the Convention in the general public beyond large mammals.

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p. 48: *Pericopsis elata*	© Evan Bowen-Jones/Fauna & Flora International; Fauna and Flora International, Jupiter House (4th Floor) Station Road Cambridge CB1 2JD, United Kingdom; Phone: +44 (0) 1223 571 000 Fax: +44 (0) 1223 461 481 info@fauna-flora.org http://www.fauna-flora.org/
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Annexes

Annex 1: Overview of NDF implementation indicators

Annex 2: Factors affecting management of the harvesting regime

Annex 3: Checklist for CITES applications

Annex 1: Overview of NDF implementation indicators

List of indicators that are potentially relevant for an NDF. Minimum-review indicators are highlighted in light grey. The order in which the indicators are given does not reflect how they are weighted.

Abbreviations in "Check for": B= both; T= Animals; P= Plants; A= Artificial production;
in "References": 1= Rosser and Haywood (2002); 2= EU (2013); 3= Documents of the Cancun workshop; 4= CoP16 Inf.11; 5= ISSC-MAP (MPSG 2007); 6= PC17 Inf.4; 7= Res. Conf.16.7 (Reference 3 is an extension of Reference 1, thus all information given in 1 is also given in 3; Reference 5 was only included in parts which are deemed useful)

Category	***Subcategory***	***Check for***	***Reference(s)***
General considerations			
Species identity		B	3;6
Application data accuracy		B	3
Consideration of entire harvest		B	3
International status and other populations		B	3;7
Biological characteristics			
Life history		T	1;2;7
Ecological adaptability		T	1
Dispersal efficiency		T	1
Migration		T	2
Interaction with humans		T	1
Life form		P	1
Habitat		P	1
Dispersal efficiency		P	1;7
Regeneration potential		P	1;7
Regeneration of harvested structures		P	3
Mortality risk between harvest and export		B	2
Significance for ecosystem		B	3
Repopulation capacity		B	3
Biological parameters in critical life stages		B	3;7
National status			
National distribution		B	1;2;6;7
National abundance		B	1;2;6;7
Potential range		B	6
Habitat quality		B	6
National population trend		B	1;2;7
Population structure (age, gender etc.)		B	3
Genetic diversity /structure		B	3
Quality of information		B	1;2
Main threat		B	1
Harvest management			
Illegal harvest and trade		B	1
Management history		B	1
Management plan or equivalent		B	1;2;5;6;7
	Definition of adaptive and practical management processes	B	5

	Regular revision		B	5
	Specific areas identified		B	5
	Other activities considered		B	5
Aim of harvest in management plan			B	1;2
Quotas			B	1;6
Harvest method			B	2;3;7
	Limitation of harvest participants		B	3
	Harvest date (and frequency)		B	3
	Harvest according to individuals' characteristics		B	3
	Removal of individual from habitat		B	3
	Harvest volume		B	2
Share in population			B	2
Land types			B	2
Ownership			B	2
Control of harvest				
Harvest in protected areas			B	1
% of harvest vs. % actually protected			B	2
Harvest in areas with strong tenure or ownership			B	1
Harvest in areas with open access			B	1
Exploitation of population by several states			B	3
Confidence in harvest management			B	1;2
Monitoring of harvest				
Monitoring method used			B	1;2;5;7
Confidence in harvest monitoring			B	1
Monitoring feedback			B	2
Incentives and benefits from harvesting				
Utilisation as compared to other threats			B	1;7
Incentives for species conservation			B	1;2
Incentives for habitat conservation			B	1;2
Other benefits for nature conservation			B	2
Local benefits			B	2
Protection from harvest				
Protection status			B	3;7
Strictly protected habitat share			B	1
Effectiveness of strict protection measures			B	1
Regulation of harvest effort			B	1
Trade data				
Trade history			B	2;6
Trade statistics			B	3;6
Existence of voluntarily introduced quotas			B	2
Quota compliance			B	6
Industry data			B	2;3;6
	Trade value		B	3
	Supply vs. demand		B	3
	Demand within EU		B	2
	Demand for substitute specimens		B	2

	Number of harvesting companies	B	6
	Number of involved parties	B	6
	Foreign harvesting companies	B	6
Other factors			
Habitat degradation		B	3
Pollution		B	3
Invasive species		B	3
Stochastic impact		B	3
Impact of climate change		B	3
Artificial production			
Origin of stock		A	3
Impact on *in-situ* protection		A	3
Design of premises		A	4
Area of premises		A	4
Procedure		A	4
Verifiability		A	4

Annex 2: Factors affecting management of the harvesting regime

Table 2 from the IUCN Guidance on NDF implementation by Rosser and Haywood (2002). Subdivided into eight subtables corresponding to one category, respectively.

Biological characteristics (Animals only)		
2.1. Life history: What is the species' life history?	High reproductive rate, long-lived	
	High reproductive rate, short-lived	
	Low reproductive rate, long-lived	
	Low reproductive rate, short-lived	
	Uncertain	
2.2. Ecological adaptability: To what extent is the species adaptable (habitat, diet, environmental tolerance etc.)?	Extreme generalist	
	Generalist	
	Specialist	
	Extreme specialist	
	Uncertain	
2.3 Dispersal efficiency: How efficient is the species' dispersal mechanism at key life stages?	Very good	
	Good	
	Average	
	Poor	
	Uncertain	
2.4. Interaction with humans: Is the species tolerant to human activity other than harvest?	No interaction	
	Pest/Commensal	
	Tolerant	
	Sensitive	
	Uncertain	

Biological characteristics (Plants only)		
2.1. Life form: What is the life form of the species?	Annual	
	Biennial	
	Perennial (herbs)	
	Shrub and small trees (max. 12 m)	
	Tree	
2.2. Regeneration potential: What is the regenerative potential of the species concerned?	Fast, vegetative	
	Slow, vegetative	
	Fast, by seeds	
	Slow or irregular, by seeds or spores	
	Uncertain	
2.3. Dispersal efficiency: How efficient is the species' dispersal mechanism?	Very good	
	Good	
	Average	
	Poor	
	Uncertain	
2.4. Habitat: What is the habitat preference of the species?	Disrupted, open	
	Undisrupted, open	
	Pioneer	
	Disrupted forest	
	Climax	

National status: (Animals and plants)		
2.5. National distribution: How is the species distributed nationally?	Widespread, contiguous in country	
	Widespread, fragmented in country	
	Restricted and fragmented	
	Localised	
	Uncertain	
2.6. National abundance: What is the abundance nationally?	Very abundant	
	Common	
	Uncommon	
	Rare	
	Uncertain	
2.7. National population trend: What is the recent population trend?	Increasing	
	Stable	
	Reduced, but stable	
	Reduced and still decreasing	
	Uncertain	
2.8. Quality of information: What type of information is available to describe abundance and trend in the national population?	Quantitative data, recent	
	Good local knowledge	
	Quantitative data, outdated	
	Anecdotal information	
	None	
2.9 Major threats: What major threat is the species facing (underline following: overuse/habitat loss and alteration/invasive species/other) and how severe is it?	None	
	Limited/Reversible	
	Substantial	
	Severe/irreversible	
	Uncertain	

Harvest management: (Animals and plants)		
2.10. Illegal harvest and trade: How significant is the national problem of illegal harvest and trade?	None	
	Small	
	Average	
	Large	
	Uncertain	
2.11. Management history: What is the history of the harvest?	Managed harvest: ongoing with adaptive framework	
	Managed harvest: ongoing but informal	
	Managed harvest: new	
	Unmanaged harvest: ongoing or new	
	Uncertain	
2.12. Management plan or equivalent: Is there a management plant related to the harvest of the species?	Approved and coordinated local and national management plans	
	Approved national/state/provincial management plan(s)	
	Approved local management plan	
	No approved plan: informal unplanned management	
	Uncertain	
2.13.: Aim of harvest regime in management planning: What is harvest aiming to achieve?	Generate conservation benefit	
	Population management/control	
	Maximise economic yield	
	Opportunistic, unselective harvest, or none	
	Uncertain	
2.14 Quotas: Is the harvest based on quotas?	Ongoing national quotas: based on biologically derived local quotas	
	Ongoing quotas: “cautious”, national or local	
	Untried quota: recent and based on biologically derived local quotas	
	Market-driven quota(s), arbitrary quota(s), or no quotas	
	Uncertain	

Control of harvest: (Animals and plants)		
2.15. Harvest in protected areas: What percentage of the legal national harvest occurs in state-controlled reserves?	High	
	Average	
	Low	
	None	
	Uncertain	
2.16. Harvest in areas with strong resource tenure or ownership: What percentage of the legal national harvest occurs outside protected areas, yet in areas with strong local control over resource use?	High	
	Average	
	Low	
	None	
	Uncertain	
2.17. Harvest in areas with open access: What percentage of the legal national harvest occurs in areas where there is no strong local control, with *de facto* or actual open access?	None	
	Low	
	Average	
	High	
	Uncertain	
2.18. Confidence in harvest management: Do budgetary and other factors allow *de-facto* implementation of management plan(s) and harvest controls?	High confidence	
	Average confidence	
	Low confidence	
	No confidence	
	Uncertain	

Monitoring of harvest: (Animals and plants)		
2.19. Monitoring method used: What is the principal method used to monitor the effects of harvest?	Direct population estimates	
	Quantitative indicators	
	Qualitative indicators	
	National monitoring of exports	
	No monitoring or uncertain	
2.20. Confidence in harvest monitoring: Do budgetary and other factors allow for *de-facto* harvest monitoring?	High confidence	
	Average confidence	
	Low confidence	
	No confidence	
	Uncertain	

Incentives and benefits from harvesting: (Animals and plants)		
2.21. Utilisation as compared to other threats: What is the effect of the harvest when observed together with the major threat that has been identified for this species?	Beneficial	
	Neutral	
	Harmful	
	Highly detrimental	
	Uncertain	
2.22. Incentives for species conservation: At the national level, how much conservation benefit to this species is derived from harvesting?	High	
	Average	
	Low	
	None	
	Uncertain	
2.23. Incentives for habitat conservation: At the national level, how much habitat conservation benefit is derived from harvesting?	High	
	Average	
	Low	
	None	
	Uncertain	

Protection from harvest: (Animals and plants)		
2.24. Proportion strictly protected: What percentage of the species' natural range or population is legally excluded from harvest?	> 15%	
	5-15%	
	< 5%	
	None	
	Uncertain	
2.25. Effectiveness of strict protection measures: Do budgetary and other factors create confidence in the effectiveness of strict protection measures?	High confidence	
	Average confidence	
	Low confidence	
	No confidence	
	Uncertain	
2.26. Regulation of harvest effort: How effective are harvest restrictions (related to age, size, season or equipment) for preventing overuse?	Very effective	
	Effective	
	Ineffective	
	None	
	Uncertain	

Annex 3: Checklist for CITES applications

List for the handling of applications for better overview and tracking of the implemented tasks as well as for storage in one's own documents. The used letter codes which shall be entered refer to the codes used in the trade data base (cf. UNEP-WCMC 2010). In terms of content and layout, the list is based on the checklist for CITES applications of the German Federal Agency for Nature Conservation (BfN).

Checklist for CITES applications

Applicant: _____ Country of origin/export: _____

Type/Appendix: _____ Unit(s): _____

Purpose of import: _____ Source code: _____

Checked items	Data	Comment
1. Origin identified/assumed after review:	W [ ], F [ ], C [ ], R [ ]	
2. Is there a SRG decision on this type-country combination? Yes [ ] No [ ] OR: **FIRST APPLICATION [ ]**	[+]/[-] of SRG _____ For W [ ], F [ ], C [ ], R [ ] From: _____	In the case of [-] maybe circumventing import via other origin or re-export!
3. Other trade restriction	Yes [ ] No [ ] From: _____	e.g. Recommendations of CITES Secretariat
4. Review of applications with same type-country-origin patterns has been made:	Yes [ ] No [ ] Result:	Review of applications which have already been handled. A respective database for Austria is in the pipeline.
5. Review of trade data base: http://www.unep-wcmc.org/citestrade/	Yes [ ] No [ ] Result attached as excel file [ ]	
6. CIRCA entry and information available: https://circabc.europa.eu/	Yes [ ] No [ ]	The CIRCA database contains entries and discussions on selected topic areas.
7. Substantial new data/information: (Information sources checked?)	Yes [ ] No [ ]	Please attach or provide supplementary sheet.
8. Result:	Approved [ ] Declined [ ]	