

Plenary Presentation 2

THE CITES-IUCN CHECKLIST AS AN EXAMPLE OF A METHOD FOR MAKING NDFS, AND THE PRINCIPLES THAT WERE DEEMED IMPORTANT

Background Paper prepared for the International Expert Workshop on CITES Non-Detriment Findings

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TOR:

“To prepare a background document on the IUCN Checklist (general description, progress since its publication, how it has been used by Parties and some of the problems, if any, encountered by Scientific Authorities while using it to formulate NDFs). And principles”.....

This document aims to provide a brief introduction to the rationale for development of the Guidance for CITES Scientific Authorities Checklist to assist in making non-detriment findings for Appendix II Exports (comp Rosser and Haywood 2002), the so-called “IUCN checklist” (hereafter referred to as the IUCN checklist). This document provides a description of the checklist, and of the principles on which it was based. It also discusses levels of uptake of the checklist and issues for future consideration.

RATIONALE

A review of the use of incentives measures in CITES examined the recommendations made under the Review of Significant Trade and noted that a number of countries were having difficulty making non-detriment findings (IUCN 2000). Yet, the requirement for a non-detriment finding to show that the trade is from a sustainable harvest is central to the functioning of CITES (Wijnstekers 2006). Thus the so-called “IUCN non-detriment checklist” was developed to provide some basic guidance to assist Scientific Authorities in making non-detriment findings (Rosser and Hayward 2000). The checklist was the product of two workshops that brought together representatives from CITES Parties, NGOs and experts from the Species Survival Commission. The checklist was designed and tested by workshop participants to identify questions and issues that could help Scientific Authorities to determine whether or not harvest for an export was likely to be sustainable and to encourage the development of regular monitoring and adaptive management. The checklist was not developed to replace any more robust systems already in place, but rather to act as a starting point to encourage Parties that needed assistance, to identify some of the core aspects to consider in making their non-detriment findings.

In short, the checklist development was guided by following:

- Appendix II species should be the main focus of the guidance;
- Qualitative data categories should be used due to the difficulty of developing hard criteria for sustainable use across a range of taxa (see Allen and Edwards 1995);
- Any guidance should be pragmatic, thus checklists should be reasonably short;
- The checklist should be simple, highlighting accessible data, so as to encourage increasing monitoring of particular types of data;
- The checklist should aim to develop adaptive management based on adequate monitoring and feedback;
- Any unanswered questions in the checklist should highlight where management regimes or information collection required improvement;
- The checklist should be viewed as an early stage in an evolving process and in future it was felt that there may be merit in developing more quantitative categories;
- The relevance of the individual checklist questions could vary from region to region and SA staff should be encouraged to focus on parts of the checklist that they found useful for their region or country;

- The checklist could promote enhanced communication and co-operation between the national SA and MA by identifying data needs and the basis for decision-making;
- The checklist could promote enhanced links with, and access to data in, scientific institutions in country and abroad by highlighting points on which data was needed;
- The checklist could promote improved co-operation between importer and exporter nations by articulating the basis for decisions and highlighting lack of data;
- The checklist could act as framework to facilitate capacity transfer.

DESCRIPTION OF THE IUCN CHECKLIST

General description

The Checklist consists of two tables to be completed for each species that is exported:

IUCN Checklist Table 1 is used to collect data on the type of harvest, the level of harvest, the demographic segment removed from the population and the economic drivers of that harvest.

IUCN Checklist Table 2 is used to collect information on the biological characteristics and status of the taxa in question; as well as on harvest management measures and incentives for conservation. All this information can then be assessed to determine the likelihood that a given level of trade will be non-detrimental. Therefore, the first two sections of Table 2 were designed so that basic information about species life history and distribution could be gleaned from general references and national records. Such information on the biological or life history characteristics of the species can help to indicate its likely resilience to harvest; whilst information on national status and distribution of the taxon may help to indicate sensitivity to given levels of harvest. Thus, such information can provide an early warning system, particularly for species that are subject to harvests in the absence of formally compiled information to assess impacts of harvests. The remaining sections of Table 2 focus on the actual harvesting to assess the likely impact of the management schemes in place or to pinpoint what additional management is needed.

Table 2 was designed as an aid to summarising the compiled data and interpreting the implications, allowing the results to be presented graphically in an easily visualised circular radar plot. Each question or topic on Table 2 allows five possible responses signifying different levels of confidence, that the harvest is likely to be non-detrimental (ranging from high through medium, low, and none to uncertain levels). These responses attract purely qualitative answers; although the answers can be underpinned by quantitative data. The scoring system was designed so that the "uncertainty response" flags the greatest concern and emphasises the need for more research to improve the knowledge-base for assessing the likelihood that the harvest is sustainable. As knowledge improve, so quota setting will become increasingly robust. Once the scores from 1 to 5 have been assigned to each question, the scores can be used to illustrate the results graphically by generating radar plots in which the greatest area of central colour suggests the greatest concern that the harvest may be detrimental. The system was designed so that it could be used for comparative purposes over time.

PRINCIPLES ON WHICH THE IUCN CHECKLIST WAS BASED:

The checklist was based on an understanding derived from the fundamental principles of CITES (Article IV paragraphs 2 & 3) and from the Guidance to Scientific Authorities (Resolution Conf. 10.3), which allowed workshop participants to derive the following guidance for exports of Appendix II species:

"export for international trade is not detrimental when it is part of a harvest, the sum of which is sustainable, in that it does not result in unplanned range reduction, or long-term population decline, or otherwise change the population in way that might be expected to lead to the species being eligible for inclusion in Appendix I".

To underpin this guidance the following data were deemed important:

IUCN checklist Table 1. Harvest Characteristics

The harvest characteristics must be quantified and recorded to examine trends; assess actual harvest levels against quotas and understand impacts on segments of the population with different reproductive value. In addition the harvest for CITES purposes must be set in the context of harvest for domestic trade and also levels of illegal harvest. Although, this will necessarily be an estimate, it is vital that this element of trade is not overlooked.

IUCN Checklist Table 2

Biological characteristics:

In assessing the impact of harvest, it is important to consider the biological characteristics of the species, its sensitivity to harvesting or its regeneration potential; its ecological adaptability, habitat preferences and dispersal efficiency and its ability to tolerate human disturbance.

Status

For the SA to determine the status of a species within their national jurisdiction, they require information on its national distribution; national abundance; national population trend; and on the major threats that the species faces. The SA can use a variety of data sources such as international compilations of species data; traditional knowledge, local censuses and local atlas projects and even extrapolations based on similar species; but should assess the quality of the information and where necessary, prioritise steps to improve data quality.

Management

Information about the management of local harvests can help the Scientific Authority to assess the effectiveness of that management and thus its chances of producing a non-detrimental harvest. Factors that will be important include knowledge about the aim of the harvest; the history of the harvest, whether there is a written management plan that involves stakeholders; information on the basis for any harvest regulations and whether or not there is an illegal harvest.

Control

The checklist encourages SA staff to consider what proportion of the national population of the species is under effective harvest control from exploitation. The "Control" section of the questionnaire encourages an assessment of the percentage of the harvest that occurs in State protected areas, in areas with strong tenure and in areas with open access. It also prompts SA staff to consider their confidence in the control of the harvest, given concerns about so-called "paper parks" and problems of land challenges and illegal settlement.

Monitoring

Monitoring is key to any management regime and this section encourages the SA to record both their methods (direct population monitoring; indices of population numbers; indices of harvest; local knowledge and trade monitoring) and confidence in that monitoring.

Incentives

Whilst harvests generally remove individuals from the population (or parts), the overall population impacts may be mitigated by the generation of incentives to support conservation of that species or of its habitat. In this section, the SA is encouraged to consider the balance of costs and benefits of the harvests, considering the effect of harvest compared with other threats; and whether there are either species or habitat conservation incentives from harvesting/trade.

Protection

Finally and perhaps most importantly, the SA must consider what proportion of the species' range or population is protected from harvest; how effective is that strict protection; and how effective is the regulation of harvest effort?

Using Tables 1 and 2 to make a decision on the Non-detriment finding

By assessing all these factors listed in Tables 1 and 2, the SA should then be in a better position to decide whether or not the harvest for trade is likely to be non-detrimental to the survival of the species. Documents available on the web prepared by Canada and Australia illustrate how data can be compiled to support a non-detriment finding using the checklist (Austin and Fraser.2004 and DEWR 2007)

ADDIS ABABA PRINCIPLES

The IUCN Checklist was developed before CITES adopted Resolution Conf 13.2 (rev, CoP14) which urges CITES Parties to take account of the Addis Ababa Principles and Guidelines for Sustainable Use of Biodiversity, when adopting non-detriment finding making processes. However, Annex 2 of this resolution, compiled by the Plants and Animals Committees, suggests that while six of the principles are already covered by the checklist, a further four principles may be considered in further taxa-specific guidelines:

“This for instance, refers to practical Principles 1, 2, 4, 7, 9 and 12, elements of which are incorporated in the Checklist to assist in making non-detriment findings for Appendix-II exports (see Table 1 for a summary of the Addis Principles).

4. It is recognized that the Addis Ababa Principles and Guidelines are, on a case-by-case basis, relevant to the work of CITES (in addition to the Principles referred to in paragraph 3, e.g. Principles 5, 6, 8, 11), and may be considered for possible development of further taxa-specific NDF guidelines”.

Table 1. Annex 1 of Res. Conf 13.2 (Rev CoP14): Sustainable Use of Biodiversity Addis Ababa Principles and Guidelines

Summary

The *Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity* consist of 14 interdependent practical principles, operational guidelines and a few instruments for their implementation that govern the uses of components of biodiversity to ensure the sustainability of such uses. The principles provide a framework to assist Governments, resource managers, indigenous and local communities, the private sector and other stakeholders on how to ensure that their use of the components of biodiversity will not lead to the long-term decline of biological diversity. The principles are intended to be of general relevance, although not all principles will apply equally to all situations, nor will they apply with equal rigour. Their application will vary according to the biodiversity being used, the conditions under which they are being used, and the institutional and cultural context in which the use is taking place.

Sustainability of use of biodiversity components will be enhanced if the following practical principles and related operational guidelines are applied:

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|------------------------------|---|
| Practical principle 1 | Supportive policies, laws, and institutions are in place at all levels of governance and there are effective linkages between these levels. |
| Practical principle 2 | Recognizing the need for a governing framework consistent with international / national laws, local users of biodiversity components should be sufficiently empowered and supported by rights to be responsible and accountable for use of the resources concerned. |
| Practical principle 3 | International, national policies, laws and regulations that distort markets which contribute to habitat degradation or otherwise generate perverse incentives that undermine conservation and sustainable use of biodiversity, should be identified and removed or mitigated. |
| Practical principle 4 | Adaptive management should be practiced, based on:
a) Science and traditional and local knowledge;
b) Iterative, timely and transparent feedback derived from monitoring the use, environmental, socio-economic impacts, and the status of the resource being used; and
c) Adjusting management based on timely feedback from the monitoring procedures. |

- Practical principle 5 Sustainable use management goals and practices should avoid or minimize adverse impacts on ecosystem services, structure and functions as well as other components of ecosystems.
- Practical principle 6 Interdisciplinary research into all aspects of the use and conservation of biological diversity should be promoted and supported.
- Practical principle 7** The spatial and temporal scale of management should be compatible with the ecological and socio-economic scales of the use and its impact.
- Practical principle 8 There should be arrangements for international cooperation where multinational decision-making and coordination are needed.
- Practical principle 9** An interdisciplinary, participatory approach should be applied at the appropriate levels of management and governance related to the use.
- Practical principle 10 International, national policies should take into account:
a) Current and potential values derived from the use of biological diversity;
b) Intrinsic and other non-economic values of biological diversity; and
c) Market forces affecting the values and use.
- Practical principle 11 Users of biodiversity components should seek to minimize waste and adverse environmental impact and optimize benefits from uses.
- Practical principle 12** The needs of indigenous and local communities who live with and are affected by the use and conservation of biological diversity, along with their contributions to its conservation and sustainable use, should be reflected in the equitable distribution of the benefits from the use of those resources.
- Practical principle 13 The costs of management and conservation of biological diversity should be internalized within the area of management and reflected in the distribution of the benefits from the use.
- Practical principle 14 Education and public awareness programmes on conservation and sustainable use should be implemented and more effective methods of communications should be developed between and among stakeholders and managers.

PROGRESS SINCE PUBLICATION OF THE CHECKLIST

Following publication of the checklist, many parties requested training from the Secretariat at CoP 12 in 2002. Since then, the checklist has been mentioned in a paper on making non-detriment findings for mahogany (Oldfield 2004) which fed into an International workshop on non-detriment guidelines for mahogany (Anon 2008). And the checklist was also referred to in recent guidance on making non-detriment findings for agarwood (TRAFFIC 2008). At PC15, the regional report from Oceania noted that the checklist had been used as part of a regional training session (Leach 2005). It has also been used during training workshops in South Africa, where it provided a stimulus for discussion of factors to be considered in making non-detriment findings (TESA pers comm.). The checklist has also been used in teaching sessions for Master's courses at both the International University of Andalusia, Baeza and the Durrell Institute of Conservation and Ecology (DICE), where standardising interpretation of qualitative categories was found to be challenging and it was also noted that judgement was still required at the end of the process to determine whether or not the export was likely to be detrimental.

In response to Notification: No. 2007/032 requesting information from the Parties on their use of the checklist, five parties provided comments. These comments on the checklist together with comments from other sources are compiled in Table 2. In response to the Notification, four parties reported using the checklist as a reference tool or in training sessions. A fifth response indicated that the UK did not use the checklist, as an importing country and

with guidance from the European Union Scientific Review Group (EU SRG), but that it will test the checklist for forthcoming exports of the European Eel. However, a comparison of the topics listed in the IUCN checklist and in the EU SRG guidance indicates a high level of agreement (see Table 3).

Table 2. Points raised by those who have used the IUCN checklist

	Challenges (Cons)	In Favour (Pros)
Too qualitative	Lack of quantitative descriptors (students)	Can be applicable across taxa & stimulates discussion
	Comparative scales not clear (students)	
	Does not provide a definitive answer (students)	Requires staff to think about issues
Radar Plots	Radar plot not useful (USA) too complex (others)	Can provide visual context
Too complex	Conversations with SA staff	
Training Tool		Useful as a training tool (USA); TRAFFIC SA
		Scientific Authority for flora refer to, and use the concepts of the checklist in training and carrying out projects with range states (UK)
		Useful as a training discussion tool TRAFFIC ESA-SA
Checklist/ reference tool		Used as a reference tool and all elements checked when making NDF (CA). Canada is using Table 1 (Summary of harvest regime) and Table 2 (factors affecting management of the harvesting regime) provided in the IUCN checklist as an aid when compiling expert information from relevant jurisdictions. The information, compiled at the national level, informs on potential risk, and provides guidance to make an NDF. The resulting NDF is a succinct document that summarizes the management of the species in Canada and explains the rationale for the NDF decision.
		Used as a reference to check factors have been assessed (USA)
		Used as a reference tool – practically all the elements are used in the “Guide for Issuing Licences” (CUBA)
		We use it mainly as an importing country in case of problematical imports. It is a very usable guide for considering if non-detriment finding was met. (CZR)
Not all questions applicable to all taxa/ mgmt types etc.	Some of the questions do not apply to the nature of management including wildlife in our country (e.g., incentives and benefits from harvest). Some questions do not apply to certain taxa (CA). The CITES NDF Expert Workshop will be a good opportunity to identify these gaps, provide additional guidance, and make suggestions regarding the need for additional or adapted questions in the checklist.	

Table 3. A comparison of issues covered by the IUCN Checklist and EU SRG Guidance

IUCN NDF checklist	EU SRG Guidance http://ec.europa.eu/environment/cites/pdf/srg/guidelines.pdf
Table 1 Harvest characteristics	Harvest characteristics
<ul style="list-style-type: none"> • Harvest type • Demographic segment of population • Relative harvest volume • Regulated/ unregulated 	<ul style="list-style-type: none"> • Types • Volumes • Segment of population • Trends • Data quality
Table 2	
Biological characteristics	Species characteristics
<ul style="list-style-type: none"> • Life history/ Life form • Ecological adaptability or Niche breadth/ Regeneration Potential • Dispersal efficiency • Human tolerance/ Habitat preference 	<ul style="list-style-type: none"> • Life history characteristics • Distribution • Habitat adaptability • Migratory/shared • Risk of mortality after capture and before export (for species where trade is primarily in live specimens)
National Status	Biological status
<ul style="list-style-type: none"> • National distribution • National abundance • National population trend • Information quality • Major threat 	<ul style="list-style-type: none"> • Abundance • Present distribution • Trend • Quality of data
Harvest Management	Management Regime
<ul style="list-style-type: none"> • Illegal harvest or trade • Management history • Management plan • Aim of harvest • Quotas & their basis 	<ul style="list-style-type: none"> • Land types • Tenure • Effectiveness • % harvested vs. effectively protected
Control of Harvest	
<ul style="list-style-type: none"> • % Harvest in state PA • % Harvest in areas of strong tenure • % harvest in open access areas • Confidence in harvest management 	
Monitoring of Harvest	Monitoring programmes
<ul style="list-style-type: none"> • Monitoring method • Confidence in monitoring 	<ul style="list-style-type: none"> • Population • Off take (including market make-up and demand) • Feedback
Incentives and benefits from Harvest	Conservation benefits
<ul style="list-style-type: none"> • Effect of harvest compared with other threats • Species conservation incentive from harvesting/trade • Habitat conservation incentive from harvesting trade 	<ul style="list-style-type: none"> • Species/habitat • Other conservation benefits • Local benefits • Other benefits
Protection from Harvest	

<ul style="list-style-type: none"> • Proportion of range or population protected from harvest 	
<ul style="list-style-type: none"> • Confidence in effectiveness of strict protection measures 	
<ul style="list-style-type: none"> • Effectiveness of Regulation of harvest effort 	
	Current or expected anticipated trade levels (imports of Annex B species only)
	<ul style="list-style-type: none"> • Past trade history
	<ul style="list-style-type: none"> • Existence of any voluntary export quotas set by exporting countries
	<ul style="list-style-type: none"> • Predicted or perceived demand in the European Community
	<ul style="list-style-type: none"> • Level of demand for replacement specimens of those species with a poor survival rate in captivity

CONCLUSIONS REGARDING THE IUCN CHECKLIST

Overall, the IUCN checklist is valued by some Parties as a checklist to ensure that relevant points have been considered in compiling the necessary information to consider when making a non-detriment finding. Indeed, the EU SRG guidance covers many of the same topics and documents prepared for the governments of Canada and Australia illustrate how data can be compiled to support a non-detriment finding using the checklist (Austin and Fraser 2004 and DEWR 2007). The checklist has also been useful as a training tool to stimulate discussion of the importance of the different aspects to be covered in making non-detriment findings.

The main principles to be followed in making non-detriment findings that emerged from the two workshops that developed the checklist were that: harvests for trade should be considered as part of the total national harvest, and that harvest should not result in unplanned range or population reductions or reduce the taxon to a level at which it might be eligible for inclusion in Appendix I. Thus, harvests for purposes other than trade; unregulated illegal harvests; removal through bycatch; and capture and transport mortality also need to be considered when setting harvest and quota levels. Meanwhile, the level of harvest that a species can sustain depends on its biological characteristics, on the characteristics of its habitat, on the nature and selectivity of the harvest, on the management regime, including tenure and the proportion of the species' range protected, and on the confidence in implementation of the various management measures.

The checklist developers recognized that any guidance needs to be pragmatic. They also recognized that any guidance should aim to encourage the development of monitoring and adaptive management with precautionary harvest levels; but that harvest levels may then become more robust as more data becomes available. They also recognized the variety of information sources available, including traditional and local knowledge, and the need to assess data quality. Finally, they recognized the role of sustainable trade in providing potential incentives for conservation.

OTHER ASSISTANCE TO MAKE NON-DETRIMENT FINDINGS

Other important documents and issues that the present workshop should consider are discussed briefly in the following paragraphs (see Table 4). Comprehensive examples of taxa-based guidance for making non-detriment findings include the reports on making non-detriment findings for humphead wrasse, mahogany and agarwood. These reports take the reader through making detailed inventories of availability and assessing productivity so as to set harvest levels. Another method that extends the checklist approach with more detailed requirements is the International Standard for Sustainable Collection of Wild Medicinal and Aromatic Plants which defines Principles and Criteria and Indicators of compliance (see MPSG 2007).

Other pragmatic methods that can assist in the making of non-detriment findings include the use of rules of thumb such as minimum size limits and indicators of post-reproductive age. Minimum size limits are used to ensure that a proportion of the population is able to reproduce before harvest (CITES advice on fish species such as seahorses; and timber species such as mahogany and agarwood). Whilst indicators of post-reproductive age have also been used to ensure that trophy hunters harvest older males that have completed their period of greatest genetic contribution to the population (black-nosed lions and big-horned sheep (Whitman et al 2004; Coltman et al 2003 respectively)).

A very useful textbook, covering techniques for monitoring exploited species and developing predictive harvest models is provided by Milner-Gulland and Rowcliffe (2007). This text covers both natural and social science methods for obtaining data. In this context, it worth considering rapid questionnaire surveys and interviews which can be used to tap traditional and local knowledge on the status of species or on trends in scale and geographic scope of harvest (Jones et al 2008). In addition, participatory methods can be used at the local level to involve stakeholders in modifying experimental harvests, measuring harvesting impacts, and in taking responsibility for resource management (see ETFERN 2002).

Table 4. Other initiatives and methods that may assist in making NDFs:

Comprehensive inventories	Comprehensive data collection	FAO NDF guidance and Stock assessment model for humphead wrasse (Sadovy 2007); CITES NDF guidance for mahogany and agarwood (Anon 2008; TRAFFIC 2008).
Rules of thumb	Minimum size limits & indicators of post-reproductive status for trophy animals	CITES NDF guidance for Seahorses (Anon 2005); Trophy animals see: Coltman et al 2003; Whitman et al 2004.
Participatory experiments & monitoring	Local collectors/ harvesters involved in designing and undertaking monitoring	See ETFERN 2002 references
Questionnaire surveys of status	Questionnaire and interview surveys with local people	Jones et al 2008

FUTURE CONSIDERATIONS

In developing taxa-based guidance, the workshop may wish to consider some other factors which were not well represented in the IUCN checklist, including:

- the collection of harvest location data;
- the role of the species in the ecosystem;
- the genetic effects of harvests on wild populations (see Allendorf et al 2008);
- the effects of climate change;
- endorsement of non-detriment findings through certification (see Roe 2008); and
- the indicators developed by the Standing Committee working group to develop indicators for the Strategic Vision (see Table 5).

Table 5. Excerpt from SC57 Com. 6 Strategic Vision 2008-2013, Development of Indicators

Document prepared by a working group of the Standing Committee, based on document SC57 Doc. 9.

Objective 1.5 Best available scientific information is the basis for non-detriment findings.

Indicators

- 1.5.1 The number of surveys undertaken by exporting countries of:
 - a) the population status as well as the trends and impact of trade upon Appendix-II species; and
 - b) the status of and trend in Appendix I species and the impact of any recovery plans.
- 1.5.2 The number of Parties that have adopted standard procedures for making non-detriment findings.
- 1.5.3 The number and proportion of annual export quotas based on population surveys.
- 1.5.4 The number of Appendix-II species for which trade is determined to be non-detrimental to the survival of the species as a result of implementing recommendations from the Review of Significant Trade.

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