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

Twenty-eighth meeting of the Animals Committee
Tel Aviv (Israel), 30 August-3 September 2015

Interpretation and implementation of the Convention

Species trade and conservation

TORTOISES AND FRESHWATER TURTLES (TESTUDINES SPP.) (DECISION 16.111)

1. This document has been prepared by the Secretariat.

2. At its 16th meeting (CoP16, Bangkok, 2013), the Conference of the Parties adopted several interconnected Decisions on *Tortoises and freshwater turtles* (Testudines spp.), including the following:

Directed to the Secretariat

16.109 Subject to external funding, the Secretariat shall contract independent consultants to undertake a study, taking into account the findings of the Cancún workshop on non-detriment findings and other pertinent sources of information, to identify and discuss factors that are of particular relevance to make non-detriment findings for tortoises and freshwater turtles. These factors should include, but not be limited to, tortoise and turtle population status and dynamics, trade dynamics, production systems, and trade in parts and derivatives. This study should provide guidance to make non-detriment findings for tortoises and freshwater turtles.

16.110 The Secretariat shall make the results of the study referred to in Decision 16.109 available to the Animals Committee for consideration, if possible, at its 27th meeting.

Directed to the Animals Committee

16.111 The Animals Committee shall review the study undertaken in accordance with Decision 16.109 and make recommendations, as appropriate and, if possible, at its 27th meeting for consideration by the Standing Committee and the Parties.

Directed to the Standing Committee

16.112 The Standing Committee shall review the study undertaken in accordance with Decision 16.109 and the Animals Committee recommendations, and make its own recommendations, as appropriate, for communication to the Parties or for consideration at the 17th meeting of the Conference of the Parties.

3. At its 27th meeting (AC27, Veracruz, April 2014), the Secretariat introduced document AC27 Doc.20, explaining that it was not yet in a position to provide the study mentioned in Decision 16.109, but had engaged in discussions with IUCN to undertake the study within the available resources. The Animals Committee took note of this, and established an intersessional working group on tortoises and freshwater turtles to work on tasks directed to the Committee in Decision 16.111.

The membership was decided as follows:

Co-Chairs: AC Chair (Ms. Caceres) and the representative of Asia (Mr. Soemorumekso)

Parties: Canada, Indonesia and the United States of America; and

IGOs and NGOs: IUCN - International Union for Conservation of Nature, Conservation International, Humane Society International, Pet Industry Joint Advisory Council, Species Survival Network, Swan International and TRAFFIC International.

4. Following AC27, the Secretariat, with generous funding from Switzerland and the European Union, was able to contract IUCN and the Tortoise and Freshwater Turtle Specialist Group of the Species Survival Commission of IUCN (IUCN/SSC) to undertake the study mentioned in Decision 16.109.

5. Pursuant to Decision 16.109, the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group produced a guide for CITES Scientific and Management Authorities on non-detriment findings and trade management for tortoises and freshwater turtles. The executive summary of study can be found in the Annex 1 to this document and the complete study is available as Annex 2.

6. A first draft of the study was circulated to the working group on tortoises and freshwater turtles in the course of June 2015, and the preliminary comments of its members were incorporated in the study attached.

Recommendations

7. Pursuant to Decision 16.111, the Animals Committee is invited to review the study undertaken in accordance with Decision 16.109 and make recommendations, as appropriate, for consideration by the Standing Committee and the Parties. The Animal Committee working group on tortoises and freshwater turtles may wish to provide its comments and findings in this regard.

Non-Detriment Findings and Trade Management for Tortoises and Freshwater Turtles a guide for CITES Scientific and Management Authorities

Prepared by IUCN SSC's Tortoise & Freshwater Turtle Specialist Group

EXECUTIVE SUMMARY

The present report results from Decision 16.109, which instructed the CITES Secretariat to commission a study, taking into account the findings of the Cancún workshop on non-detriment findings and other pertinent sources of information, to identify and discuss factors that are of particular relevance to make non-detriment findings for tortoises and freshwater turtles. These factors should include, but not be limited to, tortoise and turtle population status and dynamics, trade dynamics, production systems, and trade in parts and derivatives. This study aims to provide guidance to inform the making of non-detriment findings for tortoises and freshwater turtles. It is primarily aimed at informing Scientific Authority (SA) members, but should also be useful to Management Authorities (MAs) and others. This report builds on the process proposed by the Reptile and Amphibian Working Group at the Cancún NDF Workshop and follows the sequence of topics used in the nine-step NDF process developed for Perennial Plants.

Non-Detriment Findings (NDFs) are an integral part of the management of international trade in wild-collected specimens of species listed in CITES Appendix I or II, as well as specimens from some captive production systems and other sources. In recent years, the extent and quality of NDFs has come under greater scrutiny, under the Review of Significant Trade process and beyond. The NDF process and the information used in it were outlined in Res. Conf. 16.7. An NDF process is effectively a finding of sustainability, or in other words a risk assessment whether a proposed export will be detrimental to the survival of the species and/or its ecological role.

The NDF must review the status, biology and trade of the species that is considered for export; verification of the export specimens as belonging to that species is therefore essential. Internet and literature sources to identify turtles, as well as contacts for expert consultation, are provided in the Annex. Names used in the NDF and on permits must conform to the Standard Reference for turtle nomenclature (Fritz & Havaš, 2007).

Applicable laws, regulations, exclusions and previously-made NDFs regarding acquisition and production system should be reviewed. CITES export permits should only be issued for CITES-listed specimens that were acquired or produced in accordance with national laws and regulations. Determining that collection from the wild is legal, or that specimens originate from genuine captive production systems, is a shared responsibility of SA and MA.

The following factors should be considered:

- CITES Appendix;
- National or local legislation prohibiting or regulating offtake from the wild;
- Seasonal closures;
- Protected areas and other areas closed to collection;
- Permitted and prohibited methods of capture;
- Size and weight limits: minimum and/or maximum size limits for collection;
- Harvest and/or export quota;
- Captive breeding and aquaculture laws and regulations;
- Legal origin of breeding stock in captive breeding facilities, following Res. Conf. 10.16 (Rev);
- Correct application of source codes W, R, C, D, or F, following Res.Conf. 12.03(Rev.);

- Registration details of the captive breeding facility;

- Documented ability of the species to breed successfully in captivity, or be reared in ranching operations;

- Research permits for shipments of scientific specimens or samples.

Turtles produced through captive breeding tend to be characterized by uniform size, shape and colouration, an absence of visible ectoparasites such as ticks or leeches, little or no incidences of injuries, scars, or physical wear and polishing of the shell. Captive-bred turtles tend to be alert, bright-eyed, relatively heavy in weight, and usually are not very shy.

Collection and trade of turtle species that are considered to be of conservation concern represent elevated risks to their population. Species assessed in the IUCN Red List or in National Red Lists as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Data Deficient (DD), or not included in the IUCN Red List at present (implicitly Not Evaluated, [NE]) warrant a detailed NDF evaluating the threats impacting the species, including the potential impacts of trade. It can not be assumed that trade in specimens from populations of species assessed as Least Concern (LC) or Near Threatened (NT) represents low risk to that population and is therefore non-detrimental by default.

To evaluate the potential intrinsic risks of wild turtle offtake, the NDF should indicate what proportion of the population is subject to exploitation, and the capacity of the species to recover from offtake. The offtake for export must be considered as part of the total offtake, and this total offtake should remain below the species' recovery capacity.

Turtles have evolved not only a unique body design, with a bony shell providing effective protection against many natural predators, but also a remarkable life history strategy characterized by slow growth and late maturity (usually on the order of 10-15 years), longevity (typically living for six or more decades, and generation times often at 25-30 years) and successful reproduction throughout life without senility, relatively modest annual reproductive output (one to over 100 eggs per mature female per year, depending on species), very low survivorship of eggs and juveniles, but increasingly high average annual survivorship of subadults and adults. In short, the key to turtle life history is to reach maturity, live for a long time, and produce a modest number of eggs each year, so that over a lifetime enough eggs are produced to ensure that a few will successfully hatch and some of these will survive to adulthood (TFTSG, 2011).

The NDF should indicate the life stage (age, size, etc.) of the turtles being collected and exported, and their significance for the population's capacity to recover. Offtake of eggs and hatchlings is less likely to be detrimental than removal of adults from a turtle population.

To evaluate the impacts of wild offtake on individual specimens taken, the NDF should describe the effect of offtake on the individuals traded; in the case of turtles this will be removal of the entire specimen from the population. If the NDF concerns the export of turtle eggs, hatchlings or ranched individuals, the impact of obtaining the eggs on the survival of the wild parent animals should be considered.

The NDF should describe the effects of the removal of a part of the target population of tortoises or freshwater turtles on the remaining turtle population. Robust assessments of collection from the wild require detailed knowledge of offtake rates in relation to population size and recruitment potential, as well as knowledge of distribution, critical habitat availability and life history. Because the overall size or density of a turtle population is usually difficult to survey, monitoring of turtle population trends is most effectively achieved by an indirect survey method, such as catch per unit effort, visual encounter surveys, or by monitoring the average size or weight of collected animals. The prices paid at collector, wholeseller or exporter level are more related to economics than biological status of the exploited population, but can be informative as a method of last resort. Due to the longevity and slow recruitment of turtles, several years of monitoring effort may be needed to demonstrate population trends. For a monitoring program to provide meaningful results to show population trends over time, it is critical that time series of catch-per-unit-effort or average size/weight data are collected from the same area every time. The NDF should take the results of monitoring programs into account to evaluate the risk of export. Where no monitoring results are available, establishing an appropriate monitoring program is recommended.

Turtle populations rarely show indication that the removal of a limited number of individuals benefits the remaining individuals because more resources become available.

NDFs for tortoise and freshwater turtle species should consider whether collection efforts impact the habitat in such a way that it reduces the carrying capacity for the remaining population, precluding its recruitment and recovery to pre-impact levels.

NDFs should be made on the basis of the population and area that is subject to offtake, but also need to assess whether the offtake in a particular part of the range may affect the species' occurrence in another area where offtake does not occur or is not allowed. A review of the normal reported movements of the target species should therefore be included in an NDF. NDFs need to consider the effect of offtake on other wild animal, plant and fungi species because tortoises and freshwater turtles can play significant ecological roles and are not always the sole target species on collection missions

The NDF must assess the risk of export trade impacts in combination with the effects of other impacts on the population, such as subsistence collection, domestic trade, and illegal and unreported trade, including mortality during the period between capture and export, the impacts from habitat degradation and loss, invasive species and other threats, as well as factors that benefit the species' populations.

The NDF should consider what protective and management measures are in effect for the species and population, as effective management reduces the impact on the exploited population and effective conservation measures reduce the risk of national population decline. Where the NDF indicates that a turtle population is at risk, the SA and MA should encourage and facilitate implementation of appropriate management and conservation measures. Possible measures for appropriate and precautionary management of turtle populations include:

- Closed areas, where offtake is permanently prohibited; such areas can serve as 'source' areas whose 'surplus' animals move out into adjoining habitat where collection may be permitted;

- Closed seasons, allowing the population to go through key activities (courtship, mating, hatching, migration, and/or hibernation) with minimal disturbance, increasing the likelihood of effective population dynamics and persistence;

- Rotating closures, where different areas are opened and closed in successive years, with the aim of enabling the population to recover after a period of offtake; their long generation time makes this a less effective management measure for turtles;

- Regulating capture methods, such as allowing certain types of nets, traps and other methods only under license, or banning certain measures outright. Certain capture methods involve high mortality rates of the target species and other, non-target species, and represent high impact and risk to the population and ecosystem;

- Limiting the number of specimens that may be taken, by imposing daily or seasonal capture or possession limits on individual harvesters, by issuing a limited number of collection licenses, and/or by establishing and implementing local or annual quotas;

- Size restrictions, minimum or maximum shell sizes or animal weight above or below which animals may be taken; the effects of removing individuals from different size/age classes have massively different effects on the long-term dynamics of a turtle population. The removal of adults swiftly leads to a population decline, whereas the removal of eggs or hatchlings represents a much less severe impact. The risks of offtake to wild turtle populations are minimized by focusing the trade on hatchling animals. Imposing size limits that ensure that a proportion of mature individuals achieve reproductive age and size before collection is allowed goes some way towards securing recruitment of subsequent generations;

- Nest protection and headstarting may form part of a conservation strategy to recover severely depleted populations, but its long-term effectiveness (and economic viability) to mitigate the impacts of offtake for trade remains unproven, because it requires significant investment of money and labour, and the long-term conservation contribution of such intensive manipulation of animals remains uncertain;

- Alternative Production Systems such as the establishment of well-managed captive breeding facilities or ranching operations can theoretically mitigate the impacts of offtake from wild turtle populations, but their commercial success and conservation effects depend on the biological feasibility of captive

management of the species and consumer acceptance and appreciation of the captive-supplied production versus wild-sourced specimens;

- Public Awareness of offtake regulations among collectors and the general public, backed up with law enforcement and opportunities to report instances of poaching and illegal activity, are essential for responsible, community-wide governance of wildlife resources.

After the compilation of information on the proposed export of turtles, with consideration of the factors discussed in the preceding sections, making the actual non-detriment finding itself, and possible outreach to management or law enforcement authorities, is a matter of applying established process and protocols, and independent of whether it concerns turtles or another species.

USEFUL LINKS AND RESOURCES

Identification materials

CITES Identification Guide http://citeswiki.unep-wcmc.org

Species accounts of the *Conservation Biology of Freshwater Turtles and Tortoises* series http://www.iucn-tftsg.org/toc/

Vetter, H. 2004. *Terralog: Turtles of the World Vol.2 – North America*. Edition Chimaira, Frankfurt am Main, and Verlag ACS GmbH, Rodgau. 127 pp. ISBN 3-930612-57-7.

Vetter, H. 2005. *Terralog: Turtles of the World Vol.3 – Central and South America.* Edition Chimaira, Frankfurt am Main, and Verlag ACS GmbH, Rodgau. 129 pp. ISBN 3-930612-82-2.

Vetter, H. 2011. *Terralog: Turtles of the World Vol.1 – Africa, Europe, and Western Asia.* 2nd Edition. Edition Chimaira, Frankfurt am Main. 152 pp. ISBN 978-3-930612-27-7.

Vetter, H., & P.P. van Dijk. 2006. *Terralog 4, Turtles of the World Vol. 4 – East and South Asia*. Edition Chimaira / AQUALOG Verlag ACS GmbH, Frankfurt am Main. 160 pp. ISBN 3-930612-84-4.

Shi, H.T., M. Hou, P. Pritchard, J.J. Peng, Z. Fan, & F. Yin (eds). 2008. Identification Manual for Traded Turtles in China. China Encyclopedia Press, Beijing, China. 168 pp. ISBN 978-7-5000-7937-8. [in Chinese].

Shi, H.T., M. Hou, P. Pritchard, M. Lau, J.C. Wang, Y.-X. Liu, and F. Yeh (eds). 2013. Identification Manual for the Conservation of Turtles in China. Encyclopedia of China Publishing House, Beijing, China. 174 pp. ISBN 978-7-5000-9246-9.

ESIEMO PR China (Endangered Species Import and Export Management Office of the People's Republic of China). 2002a. *Identification Manual for Common Turtles and Tortoises*. China Forestry Publishing House, Beijing, China. 174 pp. ISBN 7-5038-3022-0.

Auliya, M. 2007. *An Identification Guide to the Tortoises and Freshwater Turtles of Brunei Darussalam, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore and Timor Leste*. TRAFFIC Southeast Asia, Petaling Jaya, Malaysia. 100 pp. ISBN 978-983-3393-10-7.

Stuart, Bryan L., Peter Paul van Dijk and Douglas B. Hendrie. 2002 "2001". *Photographic Guide to the Turtles of Thailand, Laos, Vietnam and Cambodia*. Four bilingual versions, Thai/English (ISBN 0-9632064-8-6), Laotian/English (ISBN 0-9632064-7-8),, Vietnamese/English (ISBN 0-9632064-9-4), & Khmer/English (ISBN 0-9632064-6-X); each 84 pp. Wildlife Conservation Society Asia Program, July 2002.

Nomenclature, synonyms and distribution of turtles:

Standard Reference for Nomenclature of turtles:

Fritz, U., & P. Havaš. 2007. Checklist of Chelonians of the World (including the Appendix). *Vertebrate Zoology*, Vol. 57 (2): 149-368. http://www.cites.org/eng/com/NC/2006/E-NC2006-Fa-05.

SpeciesPlus website: http://speciesplus.net/species

Turtle Taxonomy Working Group (TTWG) annual *Checklist*: http://www.iucn-tftsg.org/checklist/ [documenting recent scientific literature on turtle taxonomy, not always consistent with adopted CITES nomenclature].

Details of biology, ecology and status of tortoises and freshwater turtle species:

Species accounts in the Conservation Biology of Freshwater Turtles and Tortoises series: http://www.iucn-tftsg.org/toc-ind/ [87 species published as of February 2015].

IUCN Red List accounts [those published after 2004 usually contain detailed biological and population information]: www.iucnredlist.org

Contact details for expert consultation:

CITES Nomenclature Specialist – Zoology: see the CITES Website -> Animals Committee members: http://www.cites.org/eng/com/ac/member.php

IUCN SSC Tortoise & Freshwater Turtle Specialist Group: http://www.iucn-tftsg.org/contact/

European Studbook Foundation (ESF): http://www.studbooks.eu. List of studbook keepers by species (click on name of species' studbook keeper to email): http://www.studbooks.eu/index.php?option=com_content&view=article&id=244&Itemid=343

American Zoo Association - Animal Programs: https://www.aza.org/animal-programs/ ; email conservation[at]aza.org