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

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RANCHING AND TRADE IN RANCHED SPECIMENS OF SPECIES TRANSFERRED FROM APPENDIX I TO APPENDIX II

The attached information document has been submitted by the Secretariat at the request of the IUCN/SSC Crocodile Specialist Group in relation to agenda item 12.*

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IUCN • Species Survival Commission

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1. Purpose

This document has been prepared by the IUCN/SSC Crocodile Specialist Group (CSG) to inform the 29th meeting of the CITES Animals Committee in its consideration of Decision 15.51 (document AC25 Doc. 12). This information document is based on the long-term experience of the CSG in collaborating with range States to formulate and apply ranching of crocodilians as a management regime that confers conservation benefits on the wild resources.

2. Introduction

The situation with ranching, as it is applied by CITES, is inherently confusing. Ranching is widely viewed (and applied) as a management regime that confers conservation benefits on Appendix-II listed species. However, the protocols for trade in ranched specimens vary, depending on the mechanism by which the species became listed in Appendix II.

Ranching is one of many ways populations of species in Appendix II can be used in isolation or combination even if they have been transferred to Appendix II from Appendix I, pursuant to Resolution 9.24 (Rev CoP15), so they can be used commercially.

However, if species have been transferred from Appendix I to Appendix II pursuant to Resolution Conf 11.16 (Rev. CoP15: *Ranching and trade in ranched specimens of species transferred from Appendix I to Appendix II*) ranching is the only permitted form of wild harvest that can be used, and then subject to specific regulation and reporting requirements that are more stringent than those required for other Appendix-II species subject to trade by other forms of wild harvest which may also include ranching.

The concept of ranching was first explored in the context of sea turtles, and both ranching resolutions [*viz*. Resolution Conf. 11.16 (Rev CoP15) and Resolution Conf 9.20 (Rev.) on *Guidelines for ranching sea turtles*] reflect particular precautionary concerns and safeguards the Parties saw fit to apply to sea turtles. It is of interest that no proposal for trade in sea turtles (either through ranching or captive breeding) has been approved by the Parties. So for sea turtles, the concept of production through ranching has taken very significant resources to advance, but remains largely untested.

In contrast, the potential of ranching, as the Parties embodied in the primary ranching resolution (Resolution Conf. 11.16 Rev CoP15) proved to be a very successful strategy for combining the use of wild crocodilian populations with conservation benefits. The Parties have seen fit to approve crocodilian ranching proposals many times. A 2004 review of ranching with crocodilians (document AC22 Inf.2) summarises many lessons learned, and examines reporting requirements of Resolution Conf. 11.16 (Rev. CoP15) that are neither used nor required with crocodilians. That is, many precautionary guidelines included to ensure ranching of sea turtles did not result in illegal use and trade, when tested with crocodilians, have proved to be of dubious value.

3. The biological theory behind ranching.

a) Ranching refers to a wild harvest production system in which young life stages, typically eggs and/or juveniles (not adults), are harvested from the wild and raised in a controlled environment, for commercial purposes.

b) Due to high levels of natural mortality on eggs and juveniles, the harvest is assumed to be focussed on a natural surplus – individuals that would die anyway. Depending on the species and its survival rates in the

wild, the harvest can be compensated for by releasing raised animals back to the wild, when they are larger and have higher probabilities of surviving.

c) Notwithstanding various assumptions, if 1000 wild eggs result in 50 adults in 3 years time in the wild (95% mortality from eggs to adulthood), releasing 50 raised adults from a ranching program that had collected 1000 eggs (5% of eggs collected) should compensate for the harvest and be *not detrimental* to the wild population (if the released animals survived as well or better than wild ones of the same age and size). If 100 raised adults from the ranching program were released (10% of eggs collected) it would double natural recruitment rate and constitute a potential *conservation advantage* – boosting the wild population.

d) If the eggs harvested in a ranching program were restricted to those with a 100% probability of dying (*eg* early nests where survival may be minimal due to destruction of nests by females nesting later and/or nests in flood prone areas and/or nests in predator prone areas), or when adults renest if their eggs are lost, or if hatchling survival rates are a function of hatchling abundance (density-dependent survival), the impact of ranching may be too minor to measure (*not detrimental*). Populations subject to these harvest regimes do not require compensation in terms of a return back to the wild of raised individuals. Any return of captive-raised individuals back to the wild should only be required if it is *biologically justified*, and not for *cosmetic purposes* (because releasing captive raised animals back to the wild entails some obvious risks).

e) The distinction between achieving *non-detriment,* and seeking a *conservation advantage* over and above this, is important for understanding how "ranching" evolved in CITES.

4. Ranching and sea turtles.

a) The conservation of sea turtles became a major international priority in the 1960's, when it was realised that the unrestricted use of sea turtles, for domestic and international trade, was demonstrably unsustainable in many areas (the same situation existed for crocodilians).

b) Prior to CITES coming into force (1975), the concept of "farming" both sea turtles and crocodiles for commercial purposes was being experimented with by governments and the private sector in different parts of the world. Where depleted wild populations could no longer supply international demand, production through captive breeding and ranching programs had the potential to both satisfy market demand and boost wild populations through restocking.

c) The listing of commercially important sea turtle and crocodilian species on Appendix I of CITES in 1975 clearly stopped ranching initiatives contributing to international trade, because ranching involves a *wild harvest*. Commercial production through *captive breeding* under Article VII para 4 became the only available option for pioneering ventures, but for sea turtles, commercial scale production through captive breeding was obviously problematic. Long ages to maturity (10+ years) combined with complex registration procedures (now in Resolution Conf 10.16 Rev.) requiring demonstration of F_2 generation through captive breeding (with progeny from previous ranched eggs not considered F_1), meant a 30+ year investment before any income from trade could be realized – an obvious and significant barrier to commercial farming.

d) Although no one seriously considered the collection of relatively small numbers of wild eggs for ranching to be a serious threat biologically, the wild populations as a whole would need to be transferred from Appendix I to Appendix II under the then Berne Criteria (Resolution Conf. 1.1 and 1.2), replaced by Resolution Conf. 9.24 (Rev. CoP15)

e) At CoP3 (New Dehli, 1981), Parties, adopted an innovative compromise position with ranching of sea turtles, by agreeing to Resolution Conf. 3.15. It allowed a transfer of the wild population from Appendix I to Appendix II, without having to comply with the Berne Criteria, if, *inter alia*, the following important conditions were met (Resolution Conf. 3.15, recommends, para b):

   *i) the operation must be **primarily beneficial** to the conservation of the local population (i.e., where applicable, contribute to its increase in the wild); and*

   *ii) the products of the operation must be **adequately identified and documented** to ensure that they can be readily distinguished from products of Appendix I populations.*

f) The Parties included additional conditions and safeguards in Resolution Conf 3.15, such as early submission of proposals (330 days rather than 180 days before a CoP), and strict trade control and reporting requirements.

g) Resolution Conf. 3.15 was adopted as an alternative mechanism to the Bern Criteria for transferring species from Appendix I to Appendix II, specifically to capture use programs that could be shown to be *primarily beneficial to the conservation of the local population*. Since its inception, the ranching concept has been refined over time, *eg* Resolutions Conf. 5.16, 6.22, 9.20 (Rev), 10.18, 11.16 (Rev CoP15).

h) Sea turtle ranching was arguably the primary motivation for Resolution Conf. 3.15 [now Resolution Conf. 11.16 (Rev. CoP15)] and guidelines were finally agreed for ranching sea turtles 15 years later, *viz*. Resolution Conf. 9.20 (Rev). But no population of sea turtles has ever been transferred to Appendix II pursuant to either Resolution.

i) This is partly because the requirement of Resolution Conf 9.20 (Rev.) to demonstrate a *conservation benefit* for transferring a sea turtle from Appendix I to Appendix II for ranching, was *more* strict than the precautionary measures in Annex 4 of Resolution 9.24 (Rev. CoP15), that only require demonstrating *non-detriment*. So any Party wanting to transfer its population of sea turtles to Appendix II, in order to exploit the population through ranching could use Resolution Conf 9.24. In this regard, the guidelines for ranching sea turtles in Resolution Conf. 9.20 (Rev.) were a disincentive for pursuing a *conservation advantage*, as against *non-detriment.* Thus with sea turtles, the intention of the Parties to foster ranching of sea turtles, was never realised.

5. Ranching with crocodilians

a) The principles embodied in Resolution Conf. 11.16 (Rev. CoP15) proved to have particular relevance to the management of crocodilians, which like sea turtles are large, long-lived semi-aquatic reptiles, with long ages to maturity, relatively large clutch sizes, and high mortality rates between the egg and adult life stages.

b) However, the *conservation benefit* with crocodiles was different. With sea turtles, the *conservation benefit* was increased recruitment into the depleted wild populations through releasing “head-started” juveniles, the raising costs of which would be borne by industry. With crocodilians, in addition to rebuilding wild populations in a cost-effective way, the following benefits accrued:

   i) Large crocodilian species are dangerous predators on people and livestock (creating negative values), and the rebuilding of depleted wild populations, which reinstates human-crocodile conflicts is politically unpopular and promotes incentives to eradicate rather than conserve recovering crocodile populations.

   ii) Ranching programs create an avenue through which local people, who have crocodile eggs on their communal lands, can benefit economically by selling the eggs. This creates positive values of crocodiles, and incentives to rebuild recovering wild populations.

   iii) Ranching makes natural wetlands supporting nesting populations of crocodiles more valuable than they would be otherwise, creating incentives to conserve wetlands against competing forms of productive land use.

   iv) Ranching is a “safe” harvest option relative to wild harvest of adults and normally no impact of ranching can be detected.

   v) The creation of industries based on crocodile ranching, promotes capital expenditure and investment, with the sale of skins generating foreign exchange. It increases the political profile of crocodilians as an asset to the community.

c) Zimbabwe (1983) and Australia (1985) both transferred their recovering wild populations of *Crocodylus niloticus* and *Crocodylus porosus* respectively from Appendix I to Appendix II pursuant to Resolution Conf. 3.15 on Ranching. In 1994, Australia expanded its management options beyond ranching, by achieving an unqualified Appendix II listing pursuant to the Berne Criteria (Resolutions Conf. 1.1 and 1.2).

d) Ranching of crocodilians, as an important element of sustainable use management, has spread widely and been sanctioned by the Parties to CITES (Argentina, Australia, Ethiopia, Kenya, Madagascar, Malawi,

Mozambique, Namibia, Papua New Guinea, Indonesia, South Africa, Uganda, United States of America, the United Republic of Tanzania, Zambia and Zimbabwe). In most cases the wild population was transferred to Appendix II specifically for ranching and pursuant to Resolution Conf. 11. 16 (Rev. CoP15) on Ranching, but in others, the population was already on Appendix II, and ranching was adopted as one of many management options available.

e) In Madagascar, where a problem crocodile quota was also in place with the ranching program, the Standing Committee has had to intervene because wild-caught specimens in excess of the problem crocodile quota were being exported as ranched specimens. However, in most locations ranching has proved to be a safe and sustainable form of utilisation, if the investment in infrastructure and technology to successfully raise the ranched stock is in place. Where there is no infrastructure, some States export the eggs and/or hatchlings as a trade item in its own right, to countries where the infrastructure exists.

f) The extensive review of crocodilian ranching programs (document AC22 Inf.2) indicated many of the reporting requirements in Resolution Conf 11.16 (Rev CoP15) were not being strictly complied with, partly because it was impractical to do so. For example, to hold and raise different streams of animals emanating from ranching and captive breeding is problematic and commercially impractical.

6. Key Principles

a) Parties have accepted benefits of trade in Resolution Conf. 8.3 (Rev. CoP13). There are situations where the conservation of a *recovering* Appendix-I species can be increased through management under Appendix II, even if the species' status has not yet reached the thresholds used as a guide to transfer them to Appendix II under Resolution Conf. 9.24 (Rev CoP15). This was the basis for adopting the original ranching resolution (Resolution Conf. 3.15) in 1981.

b) In such situations, Parties have supported a transfer to Appendix II, specifically to capture the *conservation benefits*. Examples are:

   i) A recovering wild population may be reinstating serious real or perceived problems for people, and incentives to continue conserving the recovering population are required;

   ii) Depleted wild populations can be boosted by releasing head-starting juveniles, provided by industry as a by-product of a sustainable use program, thereby increasing the natural rate of increase of a recovering population.

c) Ranching is a safe transition strategy from total protection to managed use. The risk of unsustainable use following a transfer to Appendix II for ranching is greatly reduced. This also allows procedures and practices to be developed, with a biologically safe harvest strategy, before other more sophisticated strategies for using the population (entailing more risk) are employed.

d) In terms of biomass, ranching involves a trivial harvest. For example, in the Northern Territory of Australia the wild population biomass of *C. porosus* may be around 10,000 tonnes, but the annual egg harvest accounts for 5-6 tonnes of eggs per year (0.05-0.06% of population biomass). The impact of the harvest appears to be compensated for completely by density-dependent adjustments in the population.

e) Local people who often own the remote lands where eggs are still found can have their livelihoods improved and be principle beneficiaries of a ranching program.

f) Ranching can provide direct incentives to protect adults and the wetland habitats crocodilians use for nesting, if appropriate governance structures are in place.

g) Ranching requires investment in raising infrastructure, and creates ongoing needs for labour, food, maintenance, *etc*. It entails benefits in excess of those needed for short-term wild harvesting or culling of a wild population.

7. Ranching and Quota Systems - Similarities

a) Although not approving a transfer to Appendix II, Parties have made provision for hunting quotas of Appendix I species where non-detriment can be demonstrated (Resolution Conf. 2.11 Rev). Specific resolutions concerning quotas for leopard, *Panthera pardus* (Resolution Conf. 10.14 Rev CoP14) and Makhor, *Capra falconeri* (Resolution Conf. 10.15 Rev CoP14) have been adopted. The Appendix-I listing of

cheetah (*Acinonyx jubatus*) and black rhinoceros (*Diceros bicornis*) annotated to permit non-commercial trade in hunting trophies from specific national populations. In all cases *conservation benefits* were sought. Annotations have been used in proposals to transfer crocodilians from Appendix I to Appendix II in order to allow a commercial take, to both reduce conflict with people and/or to generate economic benefits from harvesting some animals: both linked to *conservation benefit.*

b) These resolutions, like the ranching resolution, represent efforts by the Parties to be adaptive, and account wisely and realistically for situations in which range State Parties have compelling cases to trade, either to offset human-wildlife conflict (which has negative consequences for conservation locally) or where a direct conservation advantage (restocking or prevention of illegal harvest by local people) can be gained.

c) These "special cases" are clearly similar in principle, and raise the obvious issue of whether it would be more effective to incorporate these "special cases" as an Annex to Resolution Conf. 9.24 (Rev. CoP15), rather than being separate resolutions. With regard to ranching, this may also help overcome the current confusing aspects of source code R, which is sometimes used to denote the production system in use (ranching), but at other times to denote the mechanism through which a species may have been transferred from Appendix I to Appendix II in order to employ the production system (Resolution Conf. 11.16 Rev. CoP 15).

8. Conclusions

a) The CSG fully supports the position of the Secretariat in document CoP15 Doc. 28 which states *inter alia* that:

> *'… the conditions required for the transfer of a species from Appendix I to Appendix II for ranching, through paragraph A. 2. d), are much stricter than those required under paragraph A. 2. b) or c) in Annex 4 to Resolution Conf. 9.24 (Rev. CoP14). Consequently, there would appear to be little reason or incentive for a Party to propose to transfer a species from Appendix I to Appendix II for ranching purposes. Not surprisingly, at the three meetings of the Conference of the Parties since these provisions have been in effect, only one such proposal has been submitted – that for the Cuban population of Crocodylus acutus at the 13th meeting (Bangkok, October 2004).*
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> *Such a situation is perverse, because the requirements for ranching will ensure that any ranching programme successfully used to transfer a species from Appendix I to Appendix II will actually be beneficial to the wild population through reintroduction or in other ways.'*

b) CSG has always interpreted Resolution Conf 3.15 on Ranching and its successors as a separate and more stringent process to transfer populations of Appendix-I species to Appendix II for the purpose of ranching pursuant to either of the two current resolutions on ranching even if the species continues to qualify for inclusion in Appendix I under the criteria listed in Annex 1 of Resolution Conf. 9.24 (Rev. CoP15).

c) The conservation and livelihood benefits of ranching crocodilians have been well demonstrated, and the principles involved could be readily applied to other biologically suitable species beyond crocodilians.

d) The CSG fully endorses the merits and utility of ranching as a robust but conservative management option for recovering populations of biologically suitable Appendix-I species, and supports incorporating the two ranching resolutions into Resolution Conf 9.24 (Rev. CoP15) at the same time retaining the preambular language of both resolutions to inform the decision-making process of the Parties.

e) On the basis of the proven utility of ranching being applied as a separate mechanism for transferring species from Appendix I to Appendix II to the requirements of Annex 4 of Resolution Conf 9.24 (Rev. CoP15), the terms of paragraph A. 2 in Annex 4 of Resolution Conf. 9.24 (Rev. CoP15) should be amended to eliminate the requirement that down-listing proposals pursuant to Resolution Conf. 11.16 (Rev. CoP15) or Resolution Conf. 9.20 (Rev.) must also meet the criteria in Annex 1 of Resolution Conf. 9.24 (Rev. CoP15).

f) From the above made deliberations the CSG therefore recommends that the CITES Animals Committee concludes that there is real merit in amending paragraph A 2 of Annex 4 of Resolution Conf. 9.24 (Rev. CoP15):

'A 2. Species included in Appendix I should only be transferred to Appendix II if a ranching proposal is submitted (and accepted) in accordance with the applicable resolutions of the Conference of the Parties, or if they do not satisfy the relevant criteria in Annex 1 and only when one of the following precautionary safeguards is met:

a) the species is not in demand for international trade, nor is its transfer to Appendix II likely to stimulate trade in, or cause enforcement problems for, any other species included in Appendix I; or

b) the species is likely to be in demand for trade, but its management is such that the Conference of the Parties is satisfied with

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

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

c) an integral part of the amendment proposal is an export quota or other special measure approved by the Conference of the Parties, based on management measures described in the supporting statement of the amendment proposal, provided that effective enforcement controls are in place.'

Paragraph A 2 d) of Annex 4 should be deleted.