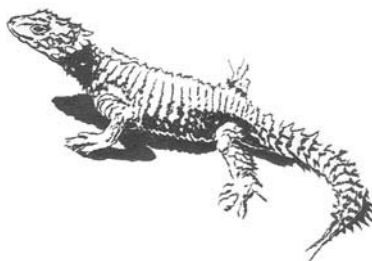


CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Twentieth meeting of the Animals Committee
Johannesburg (South Africa), 29 March-2 April 2004

RELATIONSHIP BETWEEN *EX SITU* PRODUCTION AND *IN SITU* CONSERVATION
[DECISION 11.102 (REV. COP12)] – REPORT OF THE WORKING GROUP

1. This document has been prepared by the Chairman of the working group on relationship between *ex situ* production and *in situ* conservation, the table in paragraph 3 has been compiled by the Secretariat on the basis of responses to Notification to the Parties No. 2003/072 of 12 November 2003.
2. The Working Group (WG) was established during the 18th meeting of the Animals Committee (Geneva, August 2003) and has continued its work intersessionally. The terms of reference of the WG are as follows:
 - a) Using the expertise of its members, responses to the Notification to the Parties and input from specialized organizations and the PC, evaluate the relationship between *ex situ* production and *in situ* conservation by:
 - i) asking Parties and organizations to identify and provide information on potential case studies; and
 - ii) requesting organizations to provide information on the conservation costs and benefits of different captive-production systems.
 - iii) assessing the effect of commercial and non-commercial captive breeding of CITES-listed animal species to the *in situ* conservation of those species;
 - iv) take into account the work of the Convention on Biodiversity on issues of access and benefit sharing in relation to *ex situ* production; and
 - b) In liaison with the PC, identify possible strategies and other mechanisms by which (nationally or internationally) registered or non-registered *ex situ* breeding operations may contribute to enhancing the recovery or conservation of CITES-listed species *in situ* by:
 - i) identifying examples of *in situ* recovery or conservation programmes for species produced in breeding operations, and examining in what form and under what conditions operations could usefully contribute to these programmes;

- ii) assessing the effect of reintroduction of captive-bred specimens for the conservation of the species;
 - iii) examining mechanisms for generating sustainable funding for *in situ* conservation from *ex situ* breeding operations for instance through applying a 'conservation' levy on the sales of captive-bred specimens entering international trade;
 - iv) evaluating the capacity and need of range States to develop or manage *in situ* recovery and conservation programmes for species produced in *ex situ* breeding operations; and
- c) consider the development of a draft resolution for discussion at the 13th meeting of the Conference of Parties on tools for Scientific and Management Authorities to assist in monitoring and assessing the impacts of captive production systems, and to develop recommendations concerning *ex situ* production and *in situ* conservation of CITES-listed species.

3. The table below contains a compilation of the case studies received until mid-February, 2004 and the conclusions generated from them.

Analysis of the case-studies on the relationship between *ex situ* production and *in situ* conservation

Taxon	Species	Author	Conclusion
Actinopterygii	<i>Scleropages formosus</i> (Asian bonytongue, Asian arowana)	WWF	There are numerous commercial breeding operations in the species range countries successfully producing this species; together they produce annually thousands of specimens. These operations' founder breeding stock come from the wild. Currently, there are no formal <i>in situ</i> conservation programs (monitoring and habitat conservation) and possibly the only benefit is the reduction in the exploitation rate over the wild populations. Probably it has also eliminated economic incentives to conserve wild populations. Legal trade remains and there is a growing demand. Populations are declining. It is necessary that these very lucrative businesses contribute to research and to <i>in situ</i> conservation programs.
Crocodylia	<i>Crocodylus rhombifer</i> (Cuban crocodile)	WAZA	Most of the <i>ex situ</i> facilities are outside the species range country. However, the highest rate of production has been registered in the country of origin where an intensive reintroduction program is under operation with not very clear results. The main declination factors have not been eliminated and the populations continue to decline. On the other hand, this program has generated resources for research and monitoring to produce environmental education materials and to create awareness.
Crocodylia	<i>Crocodylus moreletii</i>	COMACROM	There are several commercial captive breeding facilities that are operating successfully. Only three of them have been registered in CITES. The initial breeding stock came from the wild and from other captive breeding facilities. Some individuals

Taxon	Species	Author	Conclusion
			have been released separated from the commercial operating facilities. Captive breeding facilities have provided human, material and financial resources for research and education programs. While there are some <i>in situ</i> conservation programs that include environmental education and habitat conservation plans, sustainable harvesting efforts are not generating local benefits. In some areas, the impact in wild populations has decreased contributing to the recovery of the species.
Chelonidae	<i>Geochelone radiata</i> (Radiated tortoise)	WAZA	There are no <i>in situ</i> conservation/release programs in place. There are some captive management manuals available as well as some educational programs. Captive breeding success has been very variable. Populations continue declining mainly because of habitat disturbance.
Chelonidae	<i>Malacochersus tornieri</i> (Pancake tortoise)	WAZA	There are no formal programs for <i>in situ</i> conservation linked with <i>ex situ</i> facilities, and apparently the only benefit to <i>in situ</i> conservation has been the production of some technical publications and public awareness. Current population trend is unknown.
Chelonidae	<i>Homopus signatus signatus</i> and <i>H signatus cafer</i> (Namaqualand and Southern speckled tortoise)	WAZA	There is a captive breeding program for this species with several facilities outside of the species range country that has been relatively successful. Releases to the wild have not been considered necessary to date. This program has generated financial resources for research on wild populations. Several aspects of the biology of the species have been studied and documented in captive breeding facilities.
Rhynchocephalia	<i>Sphenodon p. punctatus</i> (Northern tuatara)	WAZA	There is a relatively successful captive breeding program in 2 zoological facilities of the species range country. Due to this program, there are still some individuals in the wild. Parallel to federal species eradication activities, there have been some releases to the wild. Some fundraising has taken place for <i>in situ</i> conservation and public awareness.
Boidae	<i>Epicrates monensis</i> (Virgin Islands Boa)	WAZA	There is a zoological park that is successfully breeding this species and has done several releases to the original distribution range. <i>In situ</i> conservation programs are in place and include the eradication of feral species. These activities have received financial support from <i>ex situ</i> breeding programs. Wild populations continue declining except in the reintroduction areas where the population has duplicated in numbers.

Taxon	Species	Author	Conclusion
Anseriformes	<i>Hymenolaimus malacorhynchus</i> (Whio, Blue Duck)	WAZA	There are several successful captive breeding facilities in the range country. The captive management program is a significant component of the recovery program for the species. Several captive bred individuals have been successfully released to the wild, which has contributed to raise public awareness.
Gruiformes	<i>Bugeranus carunculatus</i> (Wattled Crane)	WAZA	Captive breeding programs have had limited success. <i>Ex situ</i> conservation activities are linked to <i>in situ</i> conservation programs. These actions have favored the conservation of the species with the support of private captive breeders and zoos contributing to raise public awareness.
Ciconiformes	<i>Gymnogyps californianus</i> (California condor)	WAZA	Captive breeding facilities located in the species distribution range have proven to be more successful. Released individuals have successfully been reincorporated to their natural ranges in the wild. In the context of the <i>ex situ</i> conservation program, there are some <i>in situ</i> conservation actions to mitigate threats to the newly released populations.
Falconiformes	<i>Gypaetus barbatus</i> (Bearded vulture)	WAZA	There are several captive breeding facilities, most of which are located in range countries. Several release events have taken place in different sites, and due partly to these, the populations have increased. These actions have contributed to increase public involvement as well as to raise funds for <i>in situ</i> conservation programs.
Falconiformes	<i>Falco peregrinus</i> (Peregrine falcon)	UK Scientific Authority (Vincent Fleming)	There are several captive breeding commercial facilities for the species; 2 are registered in CITES. Wild populations have recovered and overcome historic levels due basically to the harvest regulations, and not to the role played by captive breeding facilities (CBFs). There have been few benefits to <i>in situ</i> conservation that have derived from CBFs. One of the main roles of the CBFs has been to provide individuals for falconry avoiding more extractions from the wild, even though some illegal captures still take place. Potential risks to the wild population have been identified given the likely of interbreeding of escaped hybrids with wild animals. Similarly laundering of wild specimens is considered a threat.
Sphenisciformes	<i>Spheniscus demersus</i> (African penguin)	WAZA	The CBF is not linked to <i>in situ</i> conservation programs. There is no monitoring of released individuals. The <i>ex situ</i> conservation program has raised public awareness but populations continue to decline.
Psittaciformes	<i>Neophena chrysogaster</i> (Orange-bellied)	WAZA	CBFs operate in the species range country and have been successful in producing and releasing individuals. There is limited support

Taxon	Species	Author	Conclusion
	parrot)		(human resources) from the CBFs to the <i>in situ</i> programs, however, <i>ex situ</i> programs have contributed to improve knowledge of the species biology and to raise public awareness. Populations are stable.
Psittaciformes	<i>Nestor meridionalis septentrionalis</i> (North Island Kaka)	WAZA	12 CBFs operate in the range country and even though they have had a relatively low production, some animals have been released to the wild, and some have successfully bred and have contributed to the recovery of one of the populations. The program has also increased public awareness.
Perissodactyla	<i>Equus przewalski</i> (Przewalski's horse)	WAZA	CBFs have been very successful and several individuals have been released in their original distribution range. There are monitoring, education and outreach programs in place for which an important amount of money has been invested. This species was formerly considered extinct in the wild. Currently, wild populations are increasing.
Artiodactyla	<i>Oryx dammah</i> (Scimitar-horned oryx)	WAZA	Several CBFs operate successfully outside the range countries. Several <i>in situ</i> programs are linked to CBFs (mainly through economic support for transportation, food, training, medicine, monitoring and translocation activities). The species has been reintroduced in many countries contributing to an increased public awareness.
Artiodactyla	<i>Addax nasomaculatus</i> (Addax antelope)	WAZA	CBFs operate outside the species range countries, but some animals have been released to their natural range. Additionally, some research and monitoring has taken place with the support of <i>ex situ</i> programs along with education campaigns. Population decrease continues.
Artiodactyla	<i>Gazella leptoceros</i> (Slender-horned gazelle)	WAZA	There is a successful breeding program with several institutions involved. No releases to the wild have taken place. Involved zoos have sent animals to a national park, but they continue confined for future release. Currently, there is a captive population that is intended to reinforce wild populations. CBFs also contribute to increase public awareness and to raise funds for <i>in situ</i> conservation. Causes for population decrease are still present.
Artiodactyla	<i>Gazella dama mhorr</i> (Mhorr gazelle)	WAZA	There are 2 breeding programs that involve several institutions outside the range countries. Without them, the species would be extinct in the wild. Causes for population decrease have not ceased completely but some national parks and protected areas have been created where some releases have successfully taken place. These programs have contributed to generate

Taxon	Species	Author	Conclusion
			resources for research monitoring and management.
Artiodactyla	<i>Cervus alfredi</i> (Philippine spotted deer)	WAZA	Several European zoos are involved in breeding programs that have been increasingly successful. There are no <i>in situ</i> programs, but there are some funds available for rescue centers and CBFs in the country of origin that are also running education programs. Wild populations are still declining.
Primates	<i>Varecia variegata rubra</i> (Red ruffed lemur)	WAZA	Several CBFs operate outside the range countries and have showed limited success. Up to date there are not known releases to the wild. Zoos breeding this species have generated funds for <i>in situ</i> conservation programs, and for the management of a national park, which has contributed to improve this species condition.
Primates	<i>Cercopithecus diana roloway</i> (Roloway monkey)	WAZA	CBFs outside range countries have had low breeding success. Up to date there are not known releases to the wild. CBFs have initiated, funded and coordinated the <i>in situ</i> conservation program, and have helped to raise public awareness using this lemur as a flagship species.
Primates	<i>Cebus xanthosternos</i> (Yellow-breasted capuchin monkey)	WAZA	There are several CBFs with successful programs, many of which are outside of the species range country. Up to date no releases to the wild have taken place because the causes for population decline have not ceased. CBFs have supported <i>in situ</i> conservation programs.
Primates	<i>Pan troglodytes verus</i> (Western chimpanzee)	WAZA	There is a CBF outside the species range countries. The number of successfully bred individuals is unknown, and no releases to the wild have occurred. Causes of species decline have not ceased and therefore the populations are still declining. This CBF has also contributed to increase public awareness and to raise funds for <i>in situ</i> conservation.
Carnivora	<i>Acinonyx jubatus jubatus</i> (Subsaharan Cheetah)	WAZA	There are several successful breeding programs outside the species range countries. Some individuals have been released in hunting reserves with limited success. CBFs are supporting <i>in situ</i> research and public awareness programs. Causes of species decline have not ceased and therefore the populations are still declining. All these efforts have helped to release pressures over wild populations.
Carnivora	<i>Panthera onca</i> (Jaguar)	WAZA	There is one CBF running a AZA SSP program and producing a few individuals per year, non of which have been released to date into the wild. The SSP along with several institutions have supported <i>in situ</i>

Taxon	Species	Author	Conclusion
			conservation activities mainly through funds for field studies. Causes for population decline including habitat loss have not ceased.
Carnivora	<i>Panthera tigris sumatrae</i> (Sumatran Tiger)	WAZA	There are several CBFs worldwide that have shown relatively low breeding success. None of the produced animals have been released. Some funds have been applied to fieldwork as well as to increase public awareness in the zoological parks.
Carnivora	<i>Panthera pardus orientalis</i> (Amur leopard)	WAZA	There are several successful captive breeding programs in place. A number of <i>in situ</i> conservation programs include educational, anti-poaching, monitoring, research, population and habitat management components funded by zoological parks. No releases to the wild have taken place, but there are plans to do so.
Carnivora	<i>Panthera leo vernayi</i> (Kalahari lion)	WAZA	There is only one CBF (zoo) with a breeding program in place, it is outside of the species range countries and up till now it has not succeeded in producing offspring. <i>Ex situ</i> conservation programs have donated telemetry collars for <i>in situ</i> research and currently, a fundraising campaign for supporting research and public awareness is going on.
Carnivora	<i>Lycaon pictus</i> (African wild dog)	WAZA	There are several CBF's operating in the range countries. Some individuals have been released in national parks and hunting reserves. CBF's have provided funds for <i>in situ</i> programs and they have used their facilities to hold wild animals temporarily. CBFs have also promoted research on rabies vaccines.
Carnivora	<i>Canis lupus baileyi</i> (Mexican grey wolf)	WAZA	There are 2 successful breeding programs involving several CBFs in the range countries. A number of individuals have been released successfully to the wild, and they are now part of the only existing wild population. In this context, several activities such as monitoring, public awareness, and research are being carried out. In Mexico there is an official program with no significant achievements.
Rodentia	<i>Leporillus conditor</i> (Greater stick-nest Rat)	WAZA	There are several CBFs in the range country. There have been some releases to the wild that have resulted in self-sustained populations where they were previously extirpated. This is a good example of a successful <i>ex situ</i> conservation program because it has helped to change the status of the species from endangered to vulnerable. Populations are being monitored and recovery programs are receiving continued support.

Taxon	Species	Author	Conclusion
Peramelemorphia	<i>Macrotis lagotis</i> (Greater bilby)	WAZA	There are several successful CBFs in the range country. A large number of individuals has been released in 4 different sites, one of which has now a reestablished self-sustained population, and in the others reestablishment is in process. Funding is also being generated for <i>in situ</i> conservation programs.

Summary

4. Until now we have received 35 case-studies that represent one fish, 7 reptiles, 8 birds and 19 mammals. Five of them report that the pressure on the wild populations has been eliminated, 15 have been successful in releasing animals into the wild, and 22 have generated financial resources that have been used for field studies, monitoring or habitat improvement activities for the species.
5. Before recommending guidelines for action, it is necessary to increase the number of case-studies as well as to extend taxonomic representation. Some case-studies were announced during our last meeting and they are expected to be concluded in the near future.
6. Participants in the WG are:
 - Veronique Brondex, Canada
 - Agustin Iriarte, Chile
 - Rodrigo Medellín, Regional representative, North America (Chairman).
 - Vincent Fleming, United Kingdom
 - Tapera Chimuti, Zimbabwe
 - Adam Roberts, Animal Welfare Institute
 - Kristin Verhrs, American Zoos and Aquarium Association (AZA)
 - Carroll Muffett, Defenders of Wildlife
 - Masha Vorontsova, IFAW-Russia
 - Laura van der Meer, International Elephant Foundation
 - Perran Ross, IUCN
 - Yolanda Matamoros, IUCN
 - Marshall Meyers, Pet Industry Joint Advisory Council
 - Peter Dollinger, World Association of Zoos and Aquaria
 - Karen Steuer, WWF-US

NOTIFICATION TO THE PARTIES

No. 2003/072

Geneva, 12 November 2003

CONCERNING:

Relationship between *ex situ* breeding operations and *in situ* conservation

1. Decision 11.102 (Rev. CoP12), directs the Animals Committee to:

continue to examine the complex issues related to the origin of founder breeding stock and the relationship between ex situ breeding operations and in situ conservation of the species and, in collaboration with the Plants Committee, the American Zoo and Aquarium Association, the European Association of Zoos and Aquaria and the World Association of Zoos and Aquariums, identify possible strategies and other mechanisms by which registered ex situ breeding operations may contribute to enhancing the recovery and/or conservation of the species within the countries of origin, and report its findings at the 13th meeting of the Conference of the Parties.

2. The Secretariat sent Notification to the Parties No. 2001/091 of 19 December 2001, inviting all Parties and organizations to provide information on the relationship between *ex situ* production systems and *in situ* conservation programmes for CITES-listed species. The Secretariat reported the limited responses to this Notification to the Animals Committee (see document AC18 Doc. 10).
3. The issue was discussed at the 19th meeting of the Animals Committee (Geneva, August 2003; see documents AC19 Doc. 11.2 and AC19 WG2 Doc. 1). The present Notification was developed in collaboration with a working group of the Animals Committee, which was established to look at the relationship between *ex situ* breeding operations and *in situ* conservation of CITES-listed species.
4. Parties and organizations are hereby invited to provide information on case studies concerning the relationship between *ex situ* breeding operations and *in situ* conservation of CITES-listed species for compilation and analysis by the working group of the Animals Committee.
5. The case studies should be submitted to the CITES Secretariat by 15 December 2003 at the latest. A suggested format for submitting the information is presented in the Annex to this Notification.
6. The information received will be presented to the Animals Committee to assist it in the implementation of Decision 11.102 (Rev. CoP12) and in the preparation of its report for the 13th meeting of the Conference of the Parties.

Annex

Case study concerning relationship between *ex situ* breeding operations and *in situ* conservation of CITES-listed species

1. Author
2. Species
3. CITES Appendix
4. Distribution
5. Size of wild population (globally and per range State, in as far as known)
6. Conservation status (cf. IUCN Red List of Threatened Species; national conservation status information)
7. Population trends in the wild (i.e. increasing; decreasing; stable or unknown, per range State and overall)
8. Where applicable: information on *in situ* conservation programmes for the species concerned (including location and nature of the programme)
9. For each *ex situ* breeding operation that is the subject of this study:
 - a) Name
 - b) Location
 - c) Year of establishment
 - d) CITES registration number (if applicable)
 - e) Type of operation (registered commercial, non-registered commercial, non-commercial)
 - f) Main products of the breeding operation (e.g. live animals; skins; meat)
 - g) Origin of the founder stock for the operations (where known)
 - h) Number of individuals produced annually.
10. How do *ex situ* breeding operations contribute to the *in situ* recovery and/or conservation of the species? For example:
 - a) Have live individuals from the *ex situ* breeding operations been reintroduced into the wild?
If so:
 - When, how many and where? From what operations?
 - Were the IUCN Reintroduction Guidelines followed?
 - Is there a monitoring programme in place to follow the reintroductions?
 - Has information from such monitoring programmes been analysed and published?
 - Has the impact of the reintroductions been quantified or qualified?
 - b) Have *ex situ* breeding operations otherwise supported *in situ* conservation for the species they breed?
If so:
 - Was any financial support provided? By which operations?
 - Was any other kind of support provided? By which operations?
 - When and where was (or is) the support provided?
 - What has been the impact of this support?
 - c) Have *ex situ* breeding operations been involved in species conservation education in the country of origin of the species, or the country in which the *ex situ* breeding operation exists? If so, provide details.
 - d) Are there other ways in which the *ex situ* breeding operations contribute to the *in situ* conservation of the species they breed?

11. How does or could the *in situ* conservation of a CITES-listed species be enhanced by operations breeding these species *ex situ*? For example:
- a) Are there specific recovery or conservation programmes for CITES-listed species that are bred *ex situ*?
 - b) Have such programmes received support from *ex situ* breeding operations? If so provide details, including an evaluation of the effectiveness of the support.
 - c) Would these recovery or conservation programmes benefit from enhanced support from *ex situ* breeding operations, and if so in what form?