

Captive/Conservation Breeding -- not so straightforward as it seems

Greetings from Editor Emeritus :

I have been distressed for years over the anomalies and misunderstandings that our zoo people have about zoo breeding, call it captive or conservation breeding as you prefer. I am going to be totally frank here. Zoos in our region (South Asia) are way, way behind in the science and protocol and even common sense which should govern zoo breeding. Ours is not the only region to be behind ... all the regions except USA, UK/Europe and Australia are lagging behind to some extent.

From time to time I have raised this in meetings of the Conservation Breeding Specialist Group when I knew of some project that threatened to wipe out more animals than it saved. There are guidelines for conservation breeding but nothing which starts at the beginning and truly gives the big picture in such a way that it is fully understood. I catalysed a working group on the topic at CBSG on year but it just didn't work ... I am still searching for the right approach.

I have taken this up again and decided that while trying to find a better way of communicating some of this I would start by familiarising all of our readers with as much of the basic literature as possible. This is the first contribution ... the IUCN Policy Statement of CB...from 1987. It has been upgraded in 2002. Maybe a good start would be for everyone in this region to read the literature again. Next month I will write more and include another document.
Sally Walker

IUCN Policy Statement on Captive Breeding
Prepared by the SSC Captive Breeding Specialist Group
Approved by the 22nd Meeting of the IUCN Council, Gland Switzerland, 4 September 1987

SUMMARY: Habitat protection alone is not sufficient if the expressed goal of the World Conservation Strategy, the maintenance of biotic diversity, is to be achieved. Establishment of self-sustaining captive populations and other supportive intervention will be needed to avoid the loss of many species, especially those at high risk. In greatly reduced, highly fragmented, and disturbed habitats. Captive breeding programmes need to be established before species are reduced to critically low numbers, and thereafter need to be co-ordinated internationally according to sound biological principles, with a view to the maintaining or re-establishment of viable populations in the wild.

PROBLEM STATEMENT -- IUCN data indicate that about three percent of terrestrial Earth is gazetted for protection. Some of this and much of the other 97 per cent is becoming untenable for many species and remaining populations are being greatly reduced and fragmented. From modern population biology one can predict that many species will be lost under these conditions. On average more than one mammal, bird, or reptile species has been lost in each year this century. Since extinctions of most taxa outside these groups are not recorded, the loss rate for all species is much higher.

Certain groups of species are at particularly high risk, especially forms with restricted distribution, those of large body size, those of high economic value, those at the top of food chains, and those which occur only in climax habitats. Species in these categories are likely to be lost first, but a wide range of other forms are also at risk. Conservation over the long term will require management to reduce risk, including *ex situ* populations which could support and interact demographically and genetically with wild populations.

FEASIBILITY: Over 3,000 vertebrate species are being bred in zoos and other captive animal facilities. When a serious attempt is made, most species breed in captivity, and viable populations can be maintained over the long term. A wealth of experience is available in these institutions, including husbandry, veterinary medicine, reproductive biology, behaviour, and genetics. They offer space for supporting populations of many threatened taxa, using resources not competitive with those for *in situ* conservation. Such captive stocks have in the past provided critical support for some wild populations (e.g. American bison, *Bison bison*), and have been the sole escape from extinction for others which have since been re-introduced to the wild (e.g. Arabian oryx, *Oryx leucoryx*).

RECOMMENDATION: IUCN urges that those national and international organizations and those individual institutions concerned with maintaining wild animals in captivity commit themselves to a general policy of developing demographically self-sustaining captive populations of endangered species wherever necessary.

SUGGESTED PROTOCOL

WHAT: The specific problems of the species concerned need to be considered, and appropriate aims for a captive breeding programme made explicit.

WHEN: The vulnerability of small populations has been consistently underestimated. This has erroneously shifted the timing of establishment of captive populations to the last moment, when the crisis is enormous and when extinction is probable. Therefore, timely recognition of such situations is critical, and is dependent on information on wild population status, particularly that provided by the IUCN/Conservation Monitoring Centre** . Management to best reduce the risk of extinction requires the establishment of supporting captive populations much earlier, preferably when the wild population is still in the thousands. Vertebrate taxa with a current census below one thousand individuals in the wild require close and swift cooperation between field conservationists and captive breeding specialists, to make their efforts complementary and minimize the likelihood of the extinction of these taxa.

HOW: Captive populations need to be founded and managed according to sound scientific principles for the primary purpose of securing the survival of species through stable, self-sustaining captive populations. Stable captive populations preserve the options of reintroduction and/or supplementation of wild populations. A framework of international cooperation and coordination between captive breeding institutions holding species at risk must be based upon agreement to cooperatively manage such species for demographic security and genetic diversity. The Captive Breeding Specialist Group is an appropriate advisory body concerning captive breeding science & resources.

Captive programmes involving species at risk should be conducted primarily for the benefit of the species and without commercial transactions. Acquisition of animals for such programmes should not encourage commercial ventures or trade. Whenever possible, captive programmes should be carried out in parallel with field studies and conservation efforts aimed at the species in its natural environment.

Notes:

Currently the *Conservation Breeding Specialist Group and the ** World Conservation Monitoring Centre © IUCN 1996