



# Global Re-introduction Perspectives: 2010

Additional case-studies from around the globe  
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IUCN/SSC Re-introduction Specialist Group (RSG)



## Re-introduction and translocation of eastern bongo in Kenya; is it necessary and if so what are likely to be the most effective methodologies of achieving meaningful conservation goals?

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### Introduction

The eastern or mountain bongo is currently only found in the wild in Kenya; surveys carried out by the Bongo Surveillance Program (BSP) confirm the existence of remnant populations in four isolated locations with no scope for natural migration between them; the Aberdare National Park, Eburu, Mau and Mount Kenya Forests. In the early 1980s it was estimated that the wild population of bongo in the Aberdares alone was well in excess of 500, however, in the last few decades there has been a rapid decline in the numbers of bongo due to poaching and human pressure on their habitat, with local extinctions in Cherangani, Mount Loldiani and potentially Mount Elgon and Chepalungu Hills. Wild bongo numbers in Kenya may now be as low as 100 or so animals. In 2004, a group of 18 Bongo were exported from North America to a captive facility at the Mount Kenya Wildlife Conservancy at Nanyuki where they joined a pre-existing captive herd. Despite a high level of mortality in the repatriated animals as a result of succumbing to theileriosis, this captive herd has expanded and there is mounting pressure to release these animals into the Mount Kenya World Heritage Site. However, it is suggested for several reasons the time is not right for any proposed release program for eastern bongo.

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### Goals

- Goal 1: Determine more accurately the status and threats facing the eastern bongo in the wild.
- Goal 2: Develop a bongo conservation strategy in order to secure the remaining wild populations and allow them to expand.
- Goal 3: Implement a metapopulation management



Bongo captured in camera-trap at night

plan to ensure the current rate of genetic drift in these populations is reduced and ideally reversed.

- **Goal 4:** Where possible expand eastern bongo habitat through reforestation projects.
- **Goal 5:** Maintain a genetically viable *ex situ* eastern bongo population as a resource to be made available to the Kenya Wildlife Service as required within the framework of a holistic conservation strategy for the species globally.

### Success Indicators

- **Indicator 1:** On at least a bi-annual basis complete population surveys of the remaining eastern bongo populations.
- **Indicator 2:** Complete the assessment of the relative genetic health of both wild and captive eastern bongo populations in order to develop an appropriate global metapopulation management plan.
- **Indicator 3:** Completion of an integrated conservation masterplan for eastern bongo with the primary purpose of securing the species in the wild within Kenya in perpetuity.
- **Indicator 4:** A reduction in the rate of estimated genetic drift as calculated using Vortex to less than 5% per century (100 years) within Kenya.
- **Indicator 5:** A downgrading of the status of eastern bongo from critically endangered within 10 years.

### Project Summary

**Feasibility:** The North American led bongo repatriation project carried out in 2004 highlighted various difficulties associated with a bongo repatriation project. Principle among these were the high mortality of repatriated bongo due to theileriosis, the failure to incorporate the captive Kenyan herd into the international bongo studbook, and the arguably apparent disconnect between the repatriation project itself and efforts to conserve declining but still viable wild populations at that time. Furthermore, it could be equally argued that this project was as much of a distraction from the main issues facing bongo in Kenya as it was a catalyst for their conservation. However, much has been learnt from this project and this captive herd at Nanyuki could yet play a vital role in the conservation of wild bongo by providing a surrogate herd for genetically targeted embryo transfers from outside of Kenya. In 2008 a population viability assessment was carried out by Jake Veasey with input from the Bongo Surveillance Program. This model was inevitably limited by the availability of solid data, however, it was useful in identifying probable outcomes based on educated assumptions, and was also be useful in identifying management priorities likely to yield the biggest conservation return.

Based on these assumptions; Vortex 9.94 reveals that there was a 89% chance of extinction of all bongo populations in Kenya within 50 years based on 500 iterations, and a mean time to total extinction of 30 years. Extinction in Mau and Eburu would be expected to occur within well under a decade based on the current set of assumptions. If all four populations are afforded comprehensive protection that is to say no reduction in carrying capacity due to illegal activity



Typical bongo habitat

(though still a 0.5% annual loss due to habitat/climate change) combined with a complete cessation of poaching, the likelihood of all bongo populations becoming extinct in Kenya over the next 50 years falls to 12%. However, even under this optimistic scenario with an expanding population of bongo, ~13% of the CURRENT genetic diversity will be lost in that 50 year period, on top of the ~15% or so that has been lost in the previous 50 years; highlighting the need for an

effective and global meta-population management plan to coincide with effective protection. Moreover, a meta-population management to include the stable captive populations in Europe and North America which total in the region of 500 animals has the potential to further reduce the 12% extinction probability to close to zero as well dramatically reducing the ongoing loss of genetic diversity.

In order to consider releasing any bongo into Kenya whether they be from the captive Kenyan population at Nanyuki or from further afield, certain criteria should be met such as a) Current bongo populations must be secured, b) a long-term conservation masterplan should be in place for the species within Kenya, c) the genetic status of each population; wild and captive should be determined in order to optimise the re-introduction/restocking events and d) the issue of disease risk should be fully evaluated in order to avoid the potential transfer of exotic disease from captive populations into the wild Kenyan populations and/or to avoid high mortality rates amongst repatriated bongo.

Currently, Jake Veasey of Woburn Safari Park representing the European Endangered species Programme (EEP) for the Eastern Bongo is working in collaboration with Thomas Hildebrand of the Institute for Zoo Wildlife Medicine in Berlin to determine whether or not embryos could be created in Europe or North America for implantation to a captive herd within Kenya such as the one at Nanyuki. These embryos would be created by the specific pairing of captive bongo in order to best genetically supplement the existing wild populations based on a thorough genetic review of all populations. Not only would such an approach be highly targeted genetically, it will also be comparatively stress free and inexpensive and will result in babies being born in Kenya with all the advantages of acquired immunocompetence from their surrogate parents and early life exposure. Preparing them much more effectively for a subsequent release program where they can play a part in reinvigorating the genetic diversity of these impoverished wild herds.

Any future plans for the release of bongo descendant from any of the captive populations within Europe, North America or Kenya into the wild must also be mindful of the current IUCN Re-introduction Guidelines. Given the current ongoing decline in bongo numbers in the wild and the dearth of knowledge relating to disease risk and genetic health, the time is not right for an imminent release. However, with the benefit of two well managed captive herds in Europe and North America, and a potential surrogate herd within Kenya, there is the opportunity, possibly for the first time in conservation history, to implement an effective global meta-population management plan incorporating wild and captive populations with genes currently lost to the wild being returned from captive populations. For this to be possible, various obstacles do need to be overcome, not least of which is cessation of the current decline in bongo numbers.

**Implementation & Post-release monitoring:** Currently ongoing.

**Major difficulties faced**

- Continuing decline of eastern bongo in the wild due to habitat loss, poaching and potentially predation by predators previously absent or at lower densities within the current eastern bongo distribution.
- Isolation of remaining wild eastern bongo populations and close proximity to expanding human populations and associated livestock.
- Uncertainty about the relative genetic status of wild and captive populations and difficulties in collection genetic data from the wild populations.
- Potential disease risk posed by amongst other things a chronic wasting condition seen in some captive bongo for which there is very little known.

**Major lessons learned**

- Any re-introduction project must be set firmly within the context of a wider strategy for the conservation of the species.

**Success of project**

Highly Successful	Successful	Partially Successful	Failure
		√	

**Reason(s) for success/failure:**

The recent repatriation can only be viewed as a partial success, the proposed future transfer of captive genes to the wild is currently in the feasibility stage.

- High level of mortality of repatriated animals.
- Unsuitability of these animals and their offspring for any imminent release program.
- Failure to incorporate the captive Kenyan herd within the international studbook and to manage their reproduction more effectively.
- These animals repatriated animals may yet form the basis of a vital surrogate herd and may also be suitable to supplement wild populations directly following a full genetic assessment of the remaining populations in the wild and captivity.