

## SHORT COMMUNICATION

# The Alaotra gentle lemur: Population estimation and subsequent implications

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## ABSTRACT

Durrell Wildlife Conservation Trust (DWCT) has conducted since 1994 several census' on the population of the Alaotran gentle lemur to observe the development of the population in time and space.

## ALAOTRA GENTLE LEMUR AND ITS THREATS

The Alaotra gentle lemur or Bandro (*Haplemur griseus alaotrensis*) (Figure 1) is confined to the papyrus and reed beds of the Lake Alaotra (see Figure 2). This type of vegetation is most found in the southern parts of the lake. The population of the Alaotra lemur is suffering severe anthropogenic threats: The major pressures derive from habitat destruction mainly through fires. Slash and burn culture is mostly used to convert marshy habitat into rice paddies and to gain better access to fish ponds. Since the beginnings of the 1980's, there has been a significant reduction in rain precipitation which prolongs the dry season and therefore leads to a desiccation of substantial parts of the marshes. This enhances and further propagates the slash and burn culture. Another direct population pressure is the hunting of the lemurs mainly for protein supply.

## POPULATION CENSUS

Since 1994 Durrell Wildlife Conservation Trust is conducting several census' to estimate the population development in time and space. In total there have been 8 census' until now. Since 2001 the census has been conducted on a regular year-round base always during the rainy season in the months February to March. In 1994 the population was estimated at 11,000 animals (Mutschler and Feistner 1995). Only five years later the population had already diminished by 50% (Mutschler *et al.* 2000). In 2003 the population reached its lowest level with 2,480 individuals (Ralainasolo 2004). If the decline of the population will continue with the measured 16% *per annum* under the same anthropogenic pressures, the species might disappear within the next 40 years (Ralainasolo 2004). For all census', four main key sites have been chosen: Anororo and Andilana Sud in the western part of the lake and Andreba and Ambodivoara on its Eastside. This was for two reasons: the four sites are bordering directly the marshes and are easily accessible. Furthermore, they cover more than 85% of the whole Alaotra marshes. The estimations were based on Mutschler's *et al.* technique of encounters of lemur individuals per time spent on the trail. Since



FIGURE 1. Alaotra gentle lemur or Bandro (*Haplemur griseus alaotrensis*)

2004 the distance sampling as a new method has been applied in addition to allow comparisons between the methods to reach a more appropriate estimation.

In 2005 the census was difficult, due to special conditions: Heavy rainfalls caused a very high water level of the lake as found only back in the early 1970's. Consequently, huge areas of natural lemur habitat have been inundated and are not useable for the lemurs. This also allowed the observers to visit former remote regions in the marshes. Furthermore, due to the special situation the observers were often on the same height as the canopy where the animals were to be found. Additionally, intense habitat destructions through fires at the end of 2004 have reduced the existing habitat for more than 47% (Andri-anandrasana, unpublished data). Hence, the animals were to be found in a relatively high number and density.

## CONCLUSIONS

In conclusion we can say there are three major aspects to address for the future to save the Alaotra lemur from extinction: First, the fires must be reduced to zero because fire is the most devastating pressure to the habitat. Second, poaching must be stopped. (Informal sources said that only in one of the four key sites more than 800 animals have been killed in 2004). Third, the four key sites must be reconnected again, so that the different subpopulations may have the possibilities of migration and gene exchange. For all this, a main responsibility must be given to

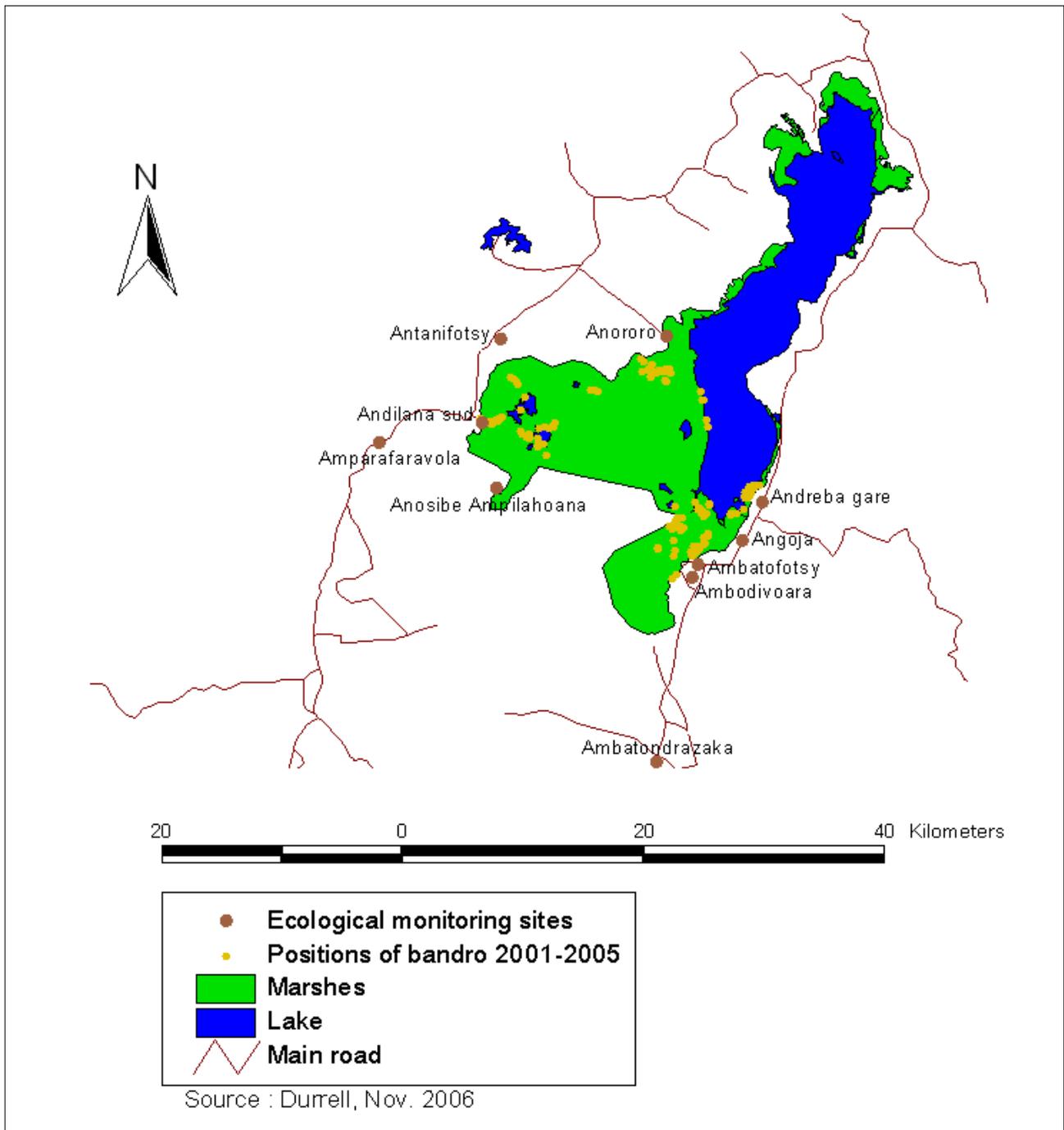


FIGURE 2. Bandro distribution map

the villagers, especially in view of implementing the Ramsar Convention by setting up protection areas at the key sites.

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