

The Arabian Leopard *Panthera pardus nimr* conservation breeding programme

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Abstract. Captive breeding has the potential to play a pivotal role in conserving threatened species, among others by providing a healthy “safety net” population with which to buffer dwindling numbers in the wild. The Arabian Leopard *Panthera pardus nimr* is Critically Endangered on the IUCN Red List. Captive breeding is an essential component of conservation for this species. Many experts are of the opinion that the chances for survival of the Arabian Leopard in the wild are much reduced without the potential for reintroduction of animals. The captive breeding programme has been operating on a regional level since 1999, although the first Arabian Leopards registered in the studbook were caught in 1985. The current living population consists of 42 males, 32 females, and three unsexed leopards; nineteen are wild caught (of which 3 are siblings) and a substantial number of these do not actively participate in the breeding programme. The program focuses on ensuring a genetically sound population that closely resembles the wild population. Current and predicted trends within the population are compared with recommended trends and graphically illustrated using dedicated population management software, PM2000.

Key words. Captive breeding, Arabian Leopard, population trend, population modelling.

Introduction

The Arabian Leopard *Panthera pardus nimr* (Hemprich & Ehrenberg, 1833) is a Critically Endangered subspecies of the Common Leopard and lives in a rapidly decreasing and highly fragmented habitat (AL JUMAILY et al. 2006, BREITENMOSER et al. 2006, EDMONDS et al. 2006, JUDAS et al. 2006, QARQAZ AND ABU BAKER 2006, SPALTON et al. 2006). Once a population has become extremely small and fragmented, even a complete reversal of all anthropogenic threats might be insufficient to save the population, because it is now also susceptible to demographic and genetic stochasticity. In such situations, conservation activities directed towards mitigation of the human-caused threats may need to be supplemented with intensive management of the population, and/or individuals themselves. Captive breeding is one form of intensive management of populations, which when formally integrated into the overall conservation strategy for a threatened species, subspecies or population, can fulfill a number of different functions, such as providing individuals for genetic or demographic supplementation, providing individuals for reintroduction in areas where the taxon has gone extinct, providing a genetically and demographically healthy “safety net” population for the wild population etc.

The establishment of a captive breeding programme was a first important step in preventing the complete extinction of the Arabian leopard, even though not all leopards held in captivity on the Arabian Peninsula have yet been integrated into the programme (EDMONDS et al. 2006). Provided sufficient knowledge on the biology and husbandry of the species