

National Leopard Census Project

September 2017 – March 2019

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The recent IUCN Red Data List (2016) recategorised the conservation status of leopard globally, from *Near Threatened* to *Vulnerable*. This places greater significance on the need to better understand the status, population size and trends of the Namibian leopard population.



While the leopard has a broad geographical range in Namibia, from the Namib desert to the Zambezi woodlands, it is rarely seen. As a result, there is a limited amount of information available on which to base its conservation and management. As a result, a number of organisations collaborated to carry out a National Leopard Census, including the Ministry of Environment & Tourism (MET), the Large Carnivore Management Association of Namibia (LCMAN), NAPHA and the Namibian Chamber of Environment (NCE). An independent carnivore specialist, Dr. Louisa Richmond-Coggan of LRC Wildlife Conservation, led this research project, which aimed to better understanding the population ecology and dynamics of leopard in Namibia.

The project was supported by, and worked alongside, a wide range of partners including academic researchers, environmental NGOs, the tourism sector,

conservancies, private protected areas, farmers, and anyone with information on leopards, including sightings, photographs, distribution data and population trends. By being inclusive the project has been able to collect information from across the country which has ensured that the results of the leopard census are as accurate as possible within the project timeframe of 18 months. The project's inclusiveness has provided information on areas of Namibia previously categorised as "unknown" for leopard presence, particularly in the east and south-east - we now know that they support leopards. Additionally, leopard presence records have been collected outside of the 2016 IUCN Red List distribution for Namibia which now aligns with resident's accounts. The increase in the presence records has highlighted areas in which further investigation on the local leopard population would be beneficial.

By the end of the project, two camera trap surveys and an intensive questionnaire survey were successfully completed. Together the camera trap surveys generated 5.4 million images which included leopard, cheetah, brown hyaena and spotted hyaena and many other carnivore and herbivore species. The project got up close and personal with the leopards across both survey areas.



Across the two survey areas many different individual leopards were captured including; males, females, females with cubs, and a mating pair. Individual leopards were identified using their unique rosette patterns on their left and right side.



In the Auas Mountains a leopard was photographed at an altitude of 2,091 meters above sea level. The surveys undertaken in the Auas Mountains and north-east of Omaruru in the freehold farmland found that leopard densities have risen by up to 40% from those documented in 2011. However, leopard densities in other areas such as the north-east of Namibia and the southern 2011 camera trap site were lower than the 2011 records. The lowest recorded leopard density across Namibia was recently recorded in the Mudumu North Complex which comprises of Mayuni, Sobbe and Mashi communal conservancies.

Leopard densities across Namibia vary significantly based upon their geographical location. All the evidence gathered by this project shows that the core of Namibia's leopard population lies within the freehold farmland and the communal conservancies of Kunene, as such the landowners of these areas are the custodians of the national leopard population. However, it is important to recognise that leopards in these areas are under significant anthropogenic pressures from human-leopard conflict and illegal poaching activities using wire snares.



In Namibia it is important to recognise that the leopard population is widespread across the country as the leopard can move relatively freely. The leopard densities are higher in the freehold farmland compared to the national parks and communal conservancies due to a combination of factors such as competition with other carnivores and prey availability. The highest recorded leopard density was within a private closed reserve due to its protection status and high prey availability but nationally the result is an outlier. The very high density inside the reserve reflects densities recorded inside South Africa's national parks. In comparison, the low densities recorded in the areas bordering South Africa's national parks are comparable to our classified 'high densities' recorded in the Namibian freehold farmland largely as a result of human-leopard conflict. Survey effort for the leopard has predominantly been focused in the north-east of Namibia due to the long-term *in situ* carnivore research projects. As such, the amount of leopard research being undertaken in the freehold farmland is limited which hinders an overall understanding of the population. Efforts need to be focus on further research in these areas which can then inform future management strategies.

Over the period of the project 23 meetings were attended which generated two thirds of the 392 questionnaires collected from landowners. The questionnaires provided vital information on leopard removal rates from freehold farms, the level of livestock and game loss attributed to leopard predation, income generating activities and attitudes towards leopards as well as reporting rates to the government authorities. The level of leopard removal by a proportion of the landowners was very high when compared to 2011 and the government's own figures. The results also showed a decline in the number of landowners reporting the removal of a leopard from their property. The project also showed the clear link between tolerance for leopards and income generating activities. For example, income via trophy hunting and/or tourism created a positive attitude towards leopards verses livestock and game farmers who lacked tolerance because of sustained economic losses from predation. Overall the scope and scale of the problem leopard removal in Namibia, both reported and especially that which goes unreported, is undoubtedly the greatest threat to the Namibian leopard population and needs to be urgently addressed.

Prior to estimating the national leopard population, the project, based upon new data, had to updated and re-defined substantial areas of high-density that were assigned in 2011. As a consequence of the re-classification of the density categories and lower leopard densities in some areas of Namibia this project has determined that the

leopard population figure is now at a lower estimate of 11,733. However, it is important to recognise that the leopard population is not declining country wide, in the centre and north of Namibia across freehold farms between 2011 and 2019 there have been increases in the leopard densities. Further research in the freehold farmland will create baseline data sets from which future changes in leopard densities across Namibia can be effectively monitored.

Overall the project successfully fulfilled its purposes of better understanding the distribution and population size of leopards in Namibia and the main threats to their future wellbeing. This in turn will enable decision makers to strategically plan for the long-term conservation of the leopard throughout the country. Through progressive adaptive management at the landscape level and collaborative research, we can ensure that Namibia remains a stronghold for the leopard in Africa.

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