CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Thirteenth meeting of the Conference of the Parties
Bangkok (Thailand), 2-14 October 2004

Interpretation and implementation of the Convention

Regular and special reports

Appendix-I species subject to export quotas

LEOPARD: EXPORT QUOTA FOR NAMIBIA

1. This document has been submitted by Namibia.

Proposal

2. In accordance with Resolution Conf. 9.21 on The interpretation and application of quotas for species included in Appendix I, paragraph a), the Management Authority of Namibia requests the Conference of the Parties to increase its export quota for leopard hunting trophies and skins for personal use indicated in Resolution Conf. 10.14 (Rev. CoP12) from 100 to 250.

Supporting statement

Background

3. The leopard (*Panthera pardus*) was included in Appendix I at the plenipotentiary conference of CITES (Washington, D.C., 1973). This listing was not based on any scientific data and was done in the absence of any listing criteria. Subsequent reviews of this listing and its inappropriateness led to a compromise resolution on the trade in leopard skins (document CoP12 Doc. 23.1.2; Wijnstekers 2003). The purpose of this Resolution was not to open the trade in an Appendix-I species contrary to Article III of the Convention but only to simplify the procedures provided for by that Article, in particular regarding non-detriment determinations.

4. In 1983 and subsequently in 1985, with Resolution Conf. 4.13 and Resolution Conf. 5.13 respectively, the Conference of the Parties recognized that the killing of specimens of leopard may be sanctioned by countries of export in defence of life and property and to enhance the survival of the species, and that the leopard is in no way endangered in a number of range States (Wijnstekers 2003). The Conference of the Parties accordingly agreed upon the establishment of a quota system, and in 1985 on the increase of quotas of three countries, the United Republic of Tanzania, Zambia and Zimbabwe.

5. At the sixth meeting of the Conference of the Parties (CoP6) (Ottawa, 1987) a report on the leopard population of sub-Saharan Africa, based on the habitat available in each country and the average rainfall was presented (Martin and De Meulenaer, 1988). The findings from this study attracted criticism but also positive reviews and supporting data (Jackson 1989, Stander *et al.* 1997). Several important conclusions were drawn from this study by Martin & De Meulenaer (1988), which are still largely valid 16 years later, as specified below:

   a) The leopard belongs to the category of 'populations with full compensation', i.e. populations able to compensate easily a reasonable harvesting. Even if a population has been decreased to a very low level, it will recover its maximal density when the off-take is stopped.

b) The populations of predators are in general limited by the food resources and, in Africa, these resources are determined by the biological productivity, itself determined by the rainfall.

c) On the basis of the habitats available, the total sub-Saharan leopard population was estimated through mathematical models at around 700,000 with a confidence interval between 600,000 and 850,000. For Kenya, the estimate was similar to that obtained by P. Hamilton using a totally different method.

d) The authors estimated the potential off-takes of leopard at that time at around 6,000, when the total of granted quotas amounted to 1,140. They indicated that an off-take of 5 to 10 per cent of the total population would be without any danger.

e) The fact that the species was included in Appendix I, prohibiting commercial trade, represented a loss of profit of at least USD 30 million at that time, and the inclusion in Appendix I was not appropriate.

f) Concerning Namibia, the leopard population was estimated at 7,745 (4,182 – 14,483) and the potential safe harvest was estimated at 332 animals.

g) The leopard was much more valuable through sport hunting than it could be through commercial trade and this was an appropriate form of land use in non-protected uninhabited areas.

Quotas

6. The export quota for Namibia was set at 100 in 1992, and has not been changed since that time.

Review of leopards in the Republic of Namibia

7. In Namibia leopards are still widely distributed, especially in the central and northern parts of the country. Data from the national wildlife survey questionnaires as well as reports to the Ministry of Environment and Tourism on problem animals destroyed and leopard hunted for trophies support this statement (Figures 1, 2 & 3). The overall distribution of leopard in Namibia seems to have changed little since the earliest accounts (Shortridge 1934).

8. Owing to their secretive habits, and wide-ranging distribution, leopards are notoriously difficult to count. Several intensive studies have been conducted within Namibia in different habitats to determine leopard densities (Stander *et al.* 1997, Stander 2000, Stander & Hanssen 2001, Hanssen & Stander 2003). These studies produced population density estimates that were greater than previously anticipated, and provide independent measures of the status of leopard populations and densities (Table 1).

Table 1. A summary of background information and results of studies on leopards in Namibia

	Khaudum	**Nyae Nyae**	**Waterberg**	**Otjiwarongo**	**Hobatere**
Study period	1992-1995	1992-1998	1995-1996	1998-2000	2000-present
Duration	3 years	6 years	2 years	2 years	3 years
Study area (km^2)	2,345	244	400	56	610
Radio-collared leopards	7	18	7	8	9
Density estimate (100 km^{-2})	3.53 (2.9-6.2)	1.15 (0.8-2.1)	4.4 (3.8-5.0)	5.6	3.9
Key to study area names:	*Khaudum Game Park, Nyae Nyae Conservancy, Waterberg Plateau Park, Otjiwarongo District, Hobatere Concession Area.*				

9. A study is currently underway that aims to obtain better distribution and density information on a national scale (Hanssen & Stander 2003). This study is based on sighting returns from the public (including hunting guides, conservation authorities, tour operators and tourists) that are correlated with data from the intensive studies, and extrapolated to obtain a national population estimate. Based on 913 observations, the density and distribution of leopards were conservatively calculated for three density strata (Table 2) with a combined population estimate of 8,039 (5,469-10,610) animals (Hanssen & Stander 2003). This population estimate, derived from a completely different method, is similar to Martin & De Meulenaer's (1988) estimate of 7,745 (4,182-14,483).

Table 2. Leopard population and density estimates for Namibia in December 2003

Density stratum	Area (km²) of potential habitat	Leopards per 100 km²		Numbers	
		Min.	Max.	Min.	Max.
Low density	417,831	0.5	1.0	2,089	4,178
Medium density	132,149	1.0	2.5	1,321	3,304
High density	82,320	2.5	3.8	2,058	3,128
Total	**632,300**			**5,468**	**10,610**

Habitat

10. Approximately 77 per cent of Namibia provides suitable habitat for leopard. The area of highest density for leopard falls primarily within the freehold land tenure, but with a significant proportion also in communally-farmed State land (Figure 4). In the area of highest leopard densities, the principal form of land use outside protected areas is livestock (cattle) farming. With Namibia being an arid country, there is a relatively low carrying capacity for livestock, and an increasing trend towards a wildlife-based land-use. Nonetheless, leopards are perceived to cause a number of stock-losses to farmers, and as such are in many cases considered to be a nuisance.

Protected areas

11. More than 13 per cent[1] of the land surface of Namibia has formal conservation status, either as National Parks or Game Reserves. Although some hunting concessions are situated within these protected areas, the total leopard quota for these areas is currently only eight animals per year.

Utilization in Namibia

12. Namibia has a well-established and strictly controlled trophy-hunting industry. Trophy hunting is conducted under the strict supervision of registered hunting guides. The numbers of leopard trophy hunted since 1997 have increased annually (Table 3, Figure 5). Although the increase is not statistically significant, the positive annual trend is of ecological and management importance.

13. Namibian legislation lists leopard as Specially Protected under the Nature Conservation Ordinance (Ordinance 4 of 1975), and as such no person may hunt a leopard without a permit. Nonetheless, owners or occupiers of land may kill leopards in defence of human life or to protect the life of livestock. When this happens, it is compulsory to report such killing to the Ministry of Environment and Tourism within 10 days, at which point a tag number is allocated to the skin of such an animal. There has been a notable increase in the numbers of leopards shot as problem animals over the past seven years (Figure 5).

[1] *An additional 25,000 km² national park, in the process of being gazetted, will increase this figure to over 17 per cent.*

Table 3. Comparison of leopards hunted for trophies or killed as problem animals, based on Permit Office records within the Ministry of Environment and Tourism, Namibia

Year	Shot as problem animals	Trophy hunted	Total removal
1997	52	57	109
1998	93	33	126
1999	89	56	145
2000	138	59	197
2001	131	66	197
2002	122	98	220
2003	145	106	251

14. The distribution of leopard trophy-hunted and shot as problem animals (Figures 2 and 3) shows higher concentrations in the central-north of Namibia. This pattern corresponds with the areas of high leopard density and cattle farming. These areas have seen an increase and expansion of wildlife populations, associated with changing land-use practises, from chiefly livestock farming to game farming, tourism and trophy hunting. These changes have arguably favoured the leopard population. An increase in leopard numbers would be expected and, with the growing trophy-hunting industry, a corresponding increase in the number of leopards that are shot each year (Figure 5).

15. As a mechanism of increasing the value of leopard to land users, and hence enhance the survival of the species, Namibia has tried to encourage trophy hunting as a preferable alternative to simply destroying problem animals. The hunting of a leopard for a trophy is sold on average for USD 2,100 or more. A leopard that has been destroyed as a problem has much less value domestically, as the export of such specimens is not allowed.

Increased quota

16. Less than half of the animals destroyed annually in Namibia are trophy-hunted. Through this proposal Namibia would like to have its quota for the export of leopard hunting trophies and skins for personal use increased in order to be able to encourage the trophy hunting of animals that would otherwise be destroyed in any case as problems. In comparison to trophy hunting, killing a problem animal has no financial benefit to the farmer as these skins may not be exported and the local market for leopard skins is very limited.

17. Wildlife is perceived as important by many Namibian farmers, owing to its economic value. In the past 30 years Namibia has developed a significant trophy hunting industry and more recently the live trade of wildlife breeding stock within Namibia and with South Africa has grown. It is anticipated that, given sufficient value, the perception of the farmers towards leopard will equally change over time from being viewed as a nuisance to an economically important resource that should be managed appropriately.

18. Namibia would like to encourage the shift to trophy hunting, but this is not possible under the current export quota of 100. For the first time, in 2003, Namibia reached the export quota, and was obliged to keep back some trophies for export in the subsequent year.

19. Martin & De Meulenaer (1988) suggested that offtakes of 5 per cent would be conservative and sustainable. Based on the current population estimate of 8,039 (5,468-10,610) a 5 per cent harvest will allow an annual offtake of 402 (273-531) leopards. From the intensive studies on leopards in Namibia, the lowest density was recorded in Nyae Nyae Conservancy (0.82/100 km^2) (Stander 2000). If this density estimate, in a worse case scenario, were to be used and extrapolated to the known leopard range in Namibia, the population estimate would be 5,185 leopards, permitting a 5 per cent harvest of 259 leopards. The current removals are below this range. It is therefore proposed that an export quota of 250 trophies would be sustainable, and would allow for a greater

number of the animals currently shot as problems to be trophy-hunted, thus increasing the value of this species to the land user.

References

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COMMENT FROM THE SECRETARIAT

The Secretariat concurs with Namibia's assessment and supports this proposed quota increase.

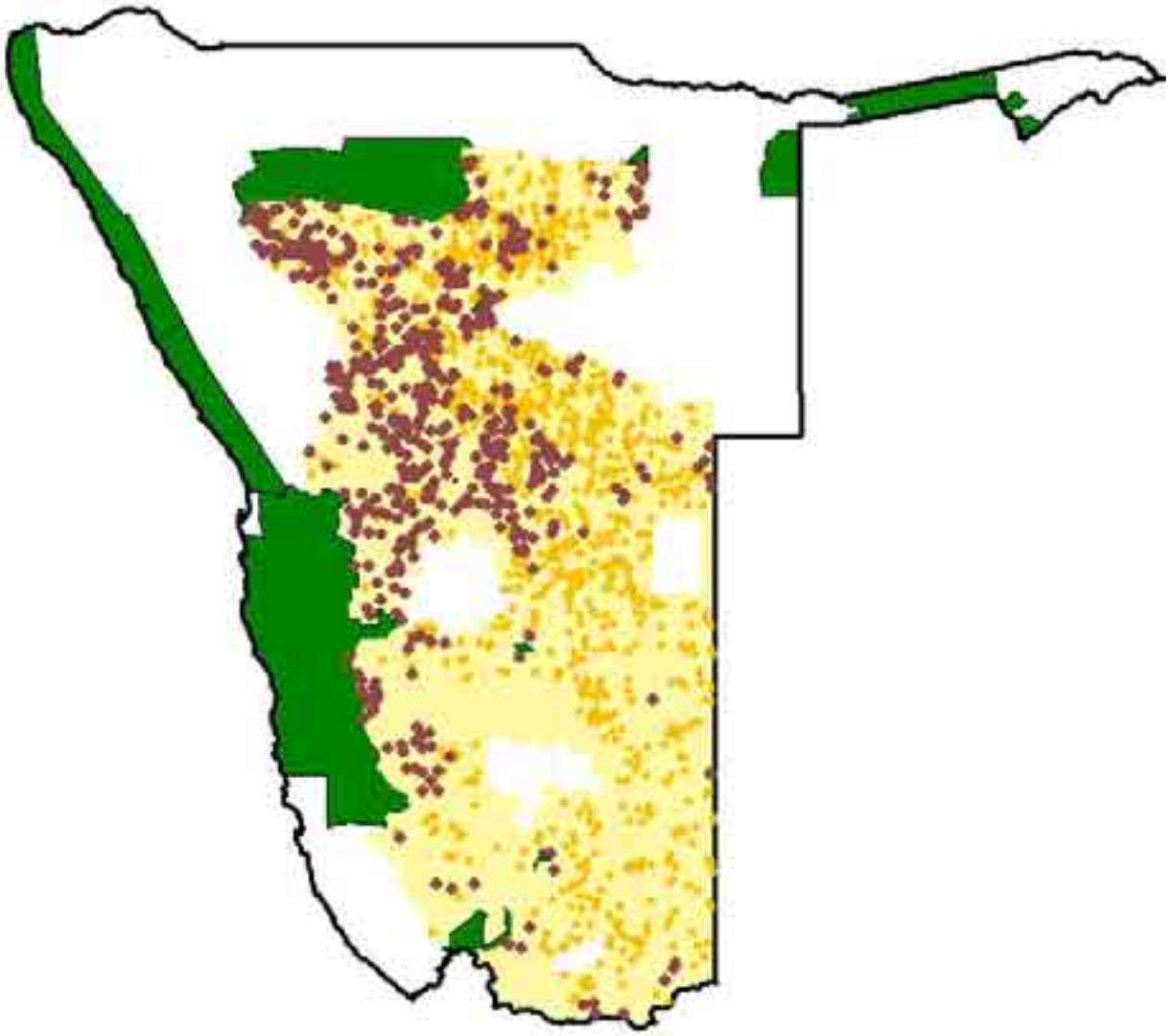


Figure 1 *Leopard distribution in Namibia based on the 1997 wildlife questionnaire survey (dark point indicates presence on a farm, light points indicates absence, light shaded area approximate area covered by free-hold farmland, dark shaded area represents the formal conservation areas)*

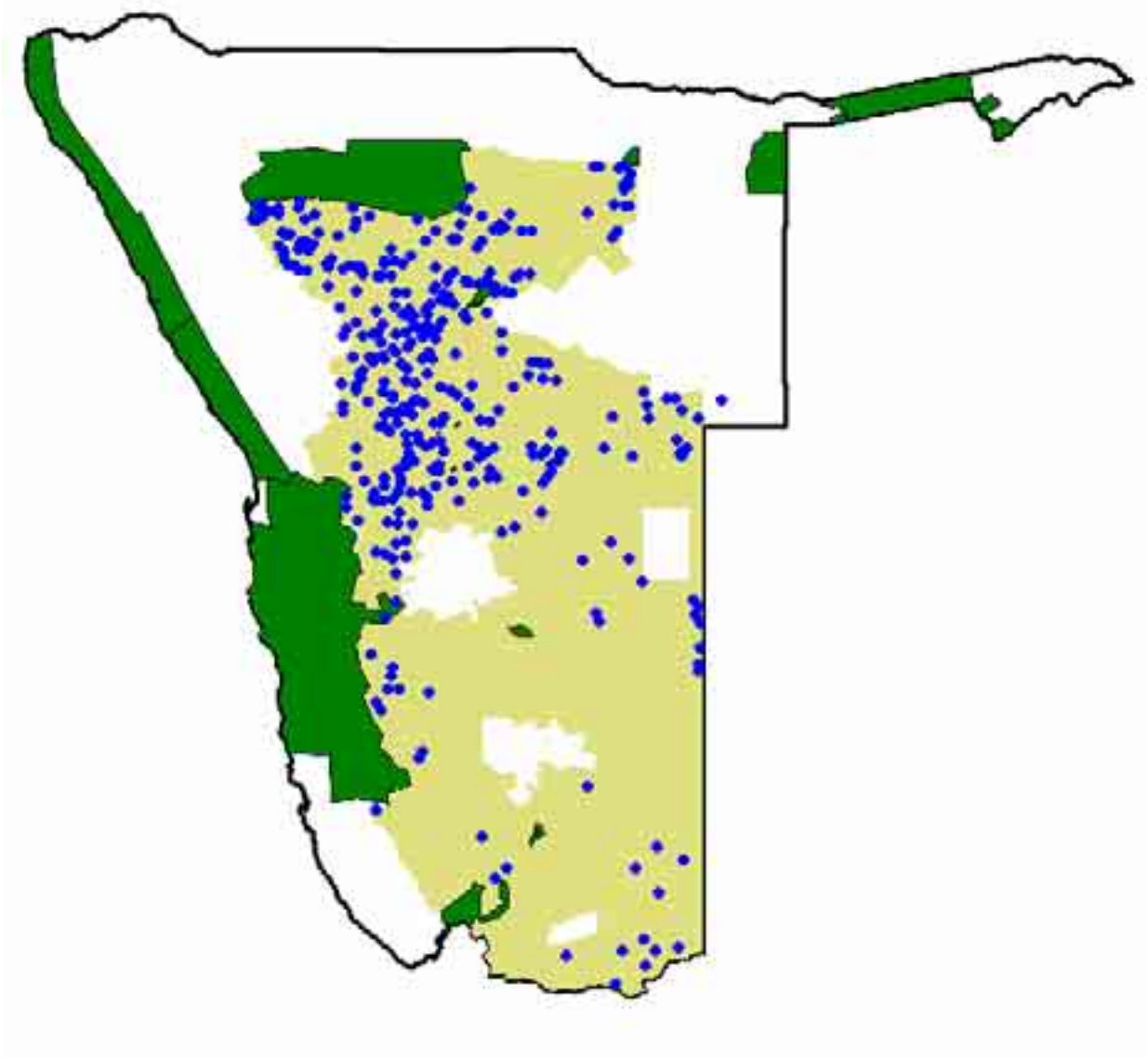
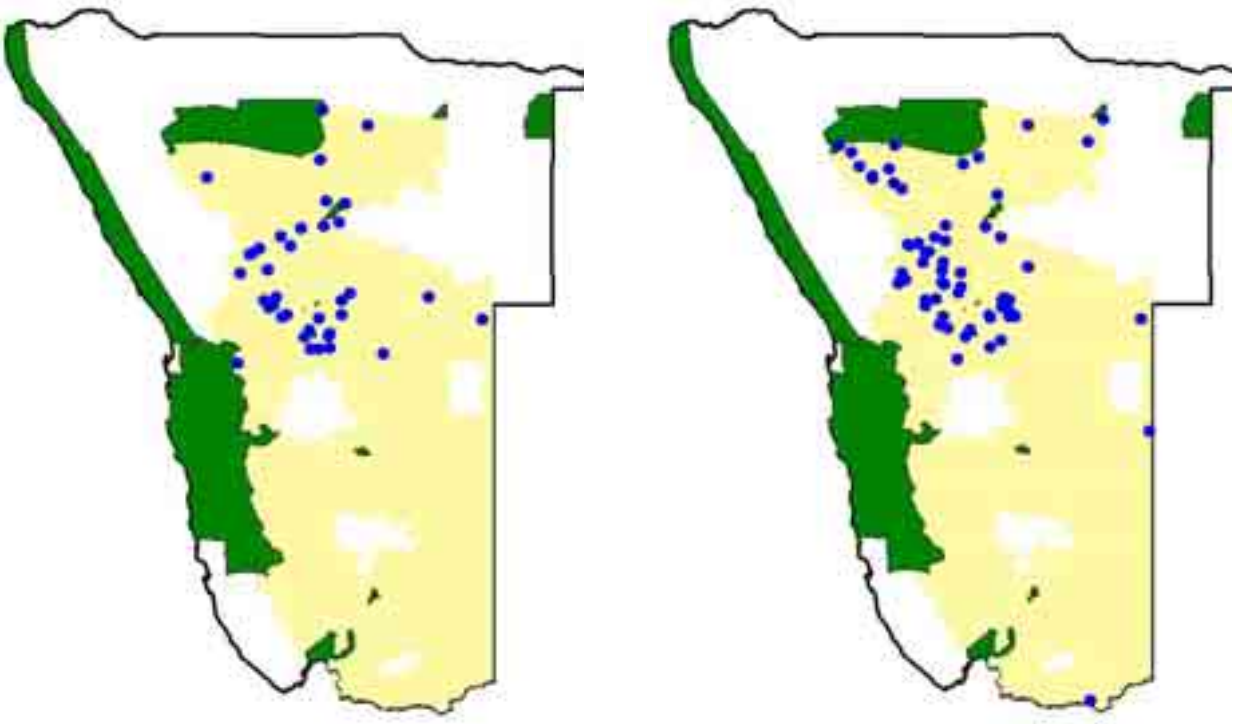


Figure 2 *Distribution based on reported problem leopard to the Permit Office from 1997 to 2003. (Indicated are the formal conservation areas and the approximate area occupied by the free-hold farmland.)*



A) B)

Figure 3 *Distribution of leopards that were trophy hunted in A) 2000 (n = 59) and B) in 2003 (n = 106) on free-hold farmland.*

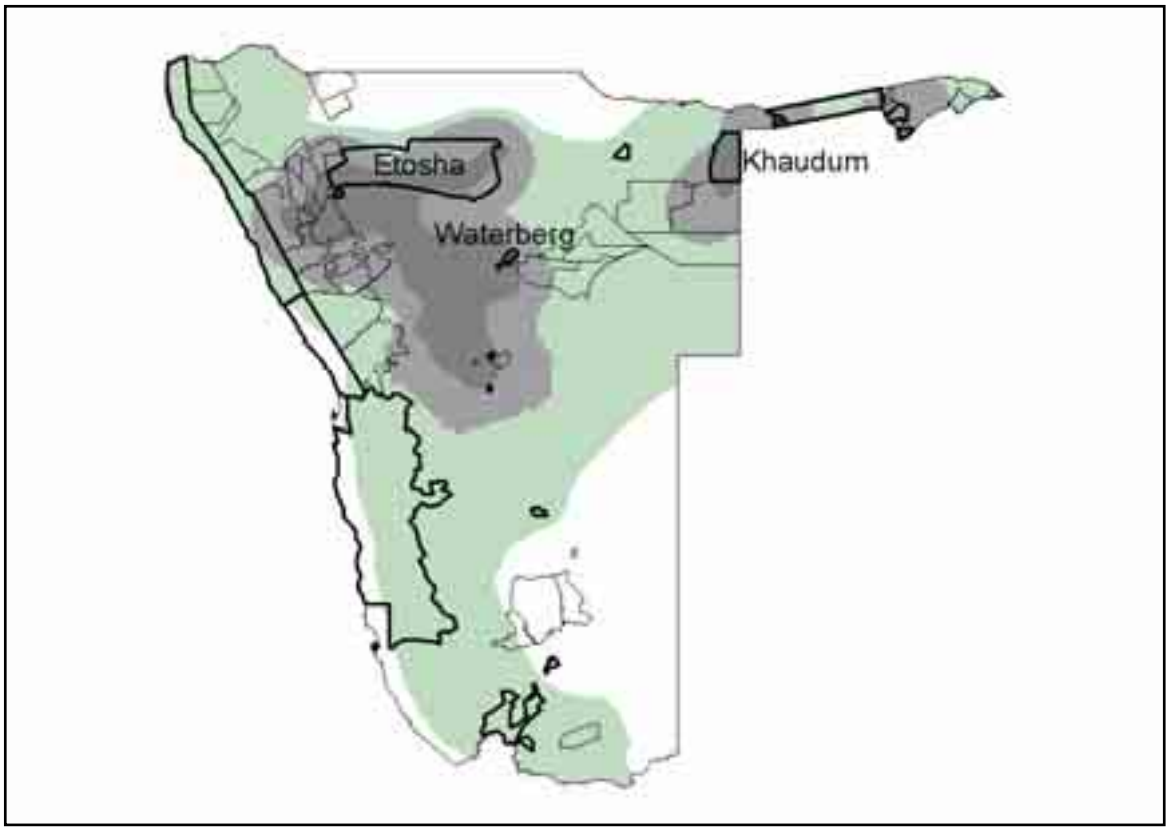


Figure 4 *Density distribution as adapted from Hanssen and Stander (2003). Indicated are areas of low, medium and high density corresponding to Table 2. These strata are shaded from light to dark respectively. The lighter coloured outlines represent the communal conservancies.*

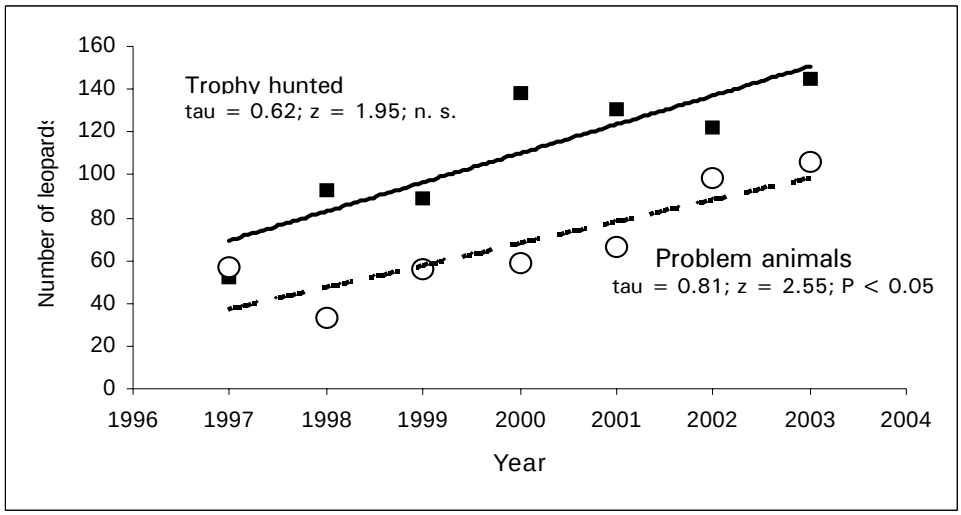


Figure 5 *Trends in the annual number of leopards shot as problem animals (■ and solid line) and for trophy hunting (○ and dashed line) between 1997 and 2003. Non parametric measures of correlation (Kendall's rank correlation) were used.*