

**Transfer of *Acinonyx jubatus* (populations of Botswana, Malawi, Namibia, Zambia, Zimbabwe) from Appendix I to Appendix II
Namibia and Zimbabwe**

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As of January 1992, no supporting statement had been made available as a basis for discussion of this proposal. Information and comments relevant to the intent of the proposal are given below.

- I. Status: The cheetah was once widely distributed across Africa and Asia, from the Cape of Good Hope to the Mediterranean, throughout the Arabian Peninsula and Asia Minor, India and Pakistan to the southern states of the former Soviet Union. In Asia, the cheetah has virtually disappeared, reduced to isolated relict populations in Iran, and possibly in the bordering areas of Afghanistan and Pakistan. In Africa, the species is concentrated primarily in the east and south. Reviewers consider the world's cheetah population to number between 5,000-12,000 individuals (Caro, 1991; Laurenson, 1991; Marker-Kraus and Kraus, 1991a). The cheetah is listed as Vulnerable by the IUCN, while the Asian subspecies, *A. j. venaticus*, is considered Endangered (IUCN, 1990).

Five subspecies are currently considered valid by most taxonomists (Smithers, 1975):

A. j. hecki: southern Mauritania, Senegal, Ghana, Burkina Faso, southern Mali and northern Benin;

A. j. venaticus: ~~north Africa from Morocco to Egypt, Algeria, northern Niger, northern Mali, northern Mauritania, western Sahara, southern Asia, and India~~ ^{formerly} Iran (current)

A. j. soemmeringii: Ethiopia, Chad, Sudan, northern Cameroon, northern Central African Republic, northern Nigeria, southern Niger;

A. j. jubatus: Angola, Zambia, southern Zaire, southern Tanzania, Mozambique, Malawi, Zimbabwe, Botswana, Namibia, South Africa;

A. j. raineyi: Uganda, Kenya, northern Tanzania, Somalia.

Some reviewers consider that it is feasible to distinguish between subspecies (Marker-Kraus and Kraus, 1991b; Stuart, 1991), while others consider it difficult, particularly if only pelts were traded (Caro, 1991; Koehler, 1991, Laurenson, 1991). Caro (1991) reports that, within subspecies, there is great variability in coat colour and pattern which is used to identify individuals.

Much has been written about the implications of the cheetahs' lack of genetic variation (O'Brien *et al.*, 1986, 1987). However some authors consider that the conservation implications are not clear when considering the conservation of the species in the wild (Laurenson, *et al.*, in press). Cheetahs are virtually monomorphic with little variation between and within the East African and South African subspecies (O'Brien *et al.*, 1987). Moreover, *A. j. jubatus*, the subspecies in question, may be even more inbred than the eastern subspecies, *A. j. raineyi* (O'Brien *et al.*, 1987). This lack of genetic variation has two important potential consequences. Firstly, inbreeding depression or physiological abnormalities may effect reproduction, fecundity and survivorship. Fieldwork, however, has shown that this species breeds readily in the wild, suggesting that the fertility problems observed in captivity are primarily behavioural not physiological (Laurenson *et al.*, in press). Furthermore, although cub mortality is high, at least in the Serengeti National Park in Tanzania, the vast majority of this is due to predation by large carnivores

and other stochastic events, rather than poor viability of cubs that might arise from inbreeding (Laurenson *et al.*, in press). Secondly, cheetahs may have increased vulnerability to infectious diseases (O'Brien *et al.*; 1986). Although O'Brien (1991) considers that this subspecies is "well known in scientific discussions as a clear example of the immunological compromise that accompanies close inbreeding" other workers feel that the cheetah's vulnerability to disease is more hypothetical than well proven; in the one disease cited, nearly half the animals survived (Laurenson, 1991; Heeney *et al.*, 1990).

Reviewers were in agreement that the major threat facing this species is loss of habitat, combined with persecution on farmland and that its range and density have decreased in the last century (Myers, 1975). The population trends in Namibia, Botswana, Zambia and Malawi are all downwards (Morsbach, 1987; Gros, 1990; Marker-Kraus and Kraus, 1991), although populations in Zimbabwe may be increasing (Marker-Kraus and Kraus, 1991). The task of preserving large, healthy populations of cheetah is further complicated by the fact that the species is generally not found at its highest densities in protected areas. In some areas, such as the Serengeti, an important habitat block, cheetah numbers appear to be limited by other predators such as lions and hyaenas which account for much of the 94% of cub mortality (Caro, 1991; Laurenson *et al.*, in press). In southern Africa, only an estimated 18-24% of the cheetah population occurs in protected areas (Stuart and Wilson, 1988). The majority are found mainly on agricultural lands and cattle ranches where they may occur at higher densities than in protected areas.

Namibia, which became a party to CITES in 1991 and holds a reservation for the species, has the world's largest concentration of cheetahs. Very few are found within protected areas; these areas tend to be located either in very dry areas with low prey density, or otherwise contain high densities of other large predators which marginalise the cheetah. Namibia's cheetah population has been estimated at 2,000-3,000 animals, down from approximately 6,000 in 1980 (Marker-Kraus and Kraus, 1991), with 95% now living on agricultural lands (Morsbach, 1987). It is believed that the population has been halved over the past decade, chiefly due to persecution by farmers, who suffer heavy losses of livestock, particularly juveniles, to cheetah (Morsbach, 1987). On the other hand, agricultural land will continue to remain a stronghold for the cheetah for the following reasons: eradication of lions and hyaenas which formally limited cheetah densities on farmland; bush encroachment in response to overgrazing that has given more protection to cheetahs and their litters; and, increase of prey density with bush encroachment and game ranching development (Gros, 1990).

Botswana is thought to hold the second largest African cheetah population, with between 1,000-2,500 animals (Stuart and Wilson, 1988; Gros, 1990). Gros (1990) reports that cheetah distribution is not much changed from that reported by Myers (1975), but that the density seems to be much lower. As in other parts of Africa, cheetah are killed by farmers as "problem animals". Gros (1990) considers Botswana a key country for cheetah because of its central position in southern Africa and its relatively large areas of undisturbed habitat.

Zimbabwe's cheetah population has been estimated to number between 500-1,000 animals (Gros, 1990), although other estimates are in the region of 500-600 (Stuart and Wilson, 1988). Two main populations are found in the southern commercial farming areas and in the northwest conservation areas, accounting for about 400 animals (Stuart and Wilson, 1988). Eighty percent of the total population is estimated to occur on privately owned farmland (Wilson, 1987).

Cheetah populations in Malawi and Zambia are believed to be low and decreasing (R. Nefdt, pers. comm. to Laurenson, 1991; Marker-Kraus and Kraus 1991a). Gros (1990) believes the cheetah has essentially disappeared from Malawi, and that recent sightings are of migrants from Zambia.

- II. Utilisation and trade: Marker-Kraus and Kraus (1991b) report that the cheetah is utilised within its range states on a very limited basis. According to data from CITES annual reports, international trade in cheetahs averaged 87 live animals and 101 skins (including a small numbers of trophies) annually from 1985-1989. Namibia has been the primary exporter of cheetahs to the international market: between 1985-1989 this country's exports of live animals averaged 48% of annual trade, and 54% of annual trade in skins and hunting trophies. A substantial portion of Namibia's exports of cheetahs have been to South Africa, between 1985-1989 averaging 47% of the country's total annual exports of live animals, and 67% of annual exports of skins and hunting trophies. Namibia's exports to South Africa of skins seem on the decline, decreasing from 94% of total reported exports in 1985 to 56% in 1988 and 22% in 1989. The state's exports of live animals, on the other hand, seem to be increasing. Exports to South Africa made up 35% of total exports in 1985, increasing to 63% in 1988 and 59% in 1989.

Importing states typically report live cheetahs as being captive-bred animals. Exports from Namibia, are believed to be exclusively wild-caught individuals. Namibian farmers are reported to have become proficient at live-capturing cheetahs in cages (up to 40-50 annually per farm), although most of the animals are frequently killed after capture rather than sold (Gros, 1990; Berry, 1991; Marker-Kraus and Kraus, 1991b). The Cheetah Studbook Keeper, meanwhile, notes that the majority of the world's captive population of cheetah originated in Namibia (Marker-Kraus, 1990).

Although it is difficult to judge from the CITES data, as hunting trophies may be inaccurately reported, it appears that the exports of hunting trophies were very low in the years 1985-1989, with only 2-11 reported annually. Skins are typically exported in small batches, although Namibia has reported several large exports to South Africa of up to 71 skins per transaction in 1985. Most reviewers agree that there is not much of a demand for skins, perhaps because of the coarse quality of the pelage (Caro, 1991). It is unlikely that there is much illegal trade, although Laurenson (1991) has heard of poached skins being offered for sale in the past.

Marker-Kraus and Kraus (1991) point out that "in Namibia, trophy hunting and export of live "problem" cheetah do not pose a threat within a quota system; it is the indiscriminate killing and live capture of hundreds of cheetah per year which poses the greatest continuing threat to the species."

- III. Protection: (all information from Gros 1990 and Marker-Kraus and Kraus, 1991):

Botswana: Cheetahs are listed as protected game animals but may be legally killed in defence of life or property. It is not necessary to first provide evidence of depredation to government authorities.

Malawi: No information.

Namibia: Cheetahs are listed as protected game animals under Namibia's Nature Conservation Ordinance of 1975. It is legal to kill cheetahs in defence of life or property,

provided the killing is reported to the wildlife authorities within ten days. Ownership of the skin is retained by the landowner.

Zambia: No information.

Zimbabwe: The cheetah was downgraded from "protected" to "controlled" status in 1990; a trophy hunting programme was also started at that time.

Reviewers were divided on the issue of exploitation of cheetah. Some were of the opinion that the current level of exploitation under Appendix I status is threatening the cheetah's survival (du Bothma, 1991; Koehler, 1991). Others felt more strongly that all hunting of cheetah should cease (Caro, 1991; O'Brien 1991). Some reviewers thought that limited exploitation of the cheetah for live animal trade and/or trophy hunting, if properly controlled, could enhance its survival outside protected areas (Jackson, 1992; Laurenson, 1991; Marker-Kraus and Kraus, 1991b; Stuart, 1991). Laurenson (1991) and Marker-Kraus (1991b) felt that the cheetah populations of Zambia and Malawi were too low and poorly known to permit exploitation. Both also felt that Zimbabwe's population may not be large or secure enough to exploit. Some reviewers expressed fears that commercial exploitation of cheetah in southern Africa would lead to increased poaching of beleaguered populations further north (Caro, 1991; Frame, 1991).

- IV: Reviewers: Tim Caro, University of California - Davis, U.S.A.; J. Bothma, University of Pretoria, South Africa; George Frame, African Wildlife Husbandry Development Association, Burkina Faso; Gary Koehler, Moi University, Kenya; Peter Jackson, Chair, IUCN/SSC Cat Specialist Group, Switzerland; Karen Laurenson, Cambridge University, U.K.; Laurie Marker-Kraus and Daniel Kraus, Cheetah Preservation Fund, Namibia; Stephen O'Brien, National Cancer Institute, USA; Chris Stuart, African Carnivore Survey, South Africa. All are members of the IUCN/SSC Cat Specialist Group.

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