JUL 2 1996

MEMORANDUM

To: Chief, Office of Management Authority

From: Chief, Office of Scientific Authority

Subject: Advice on Convention Import Permits for Sport-hunted Trophies of Cheetah (*Acinonyx jubatus*) from Namibia

Please be advised that, for the following applications, we are unable to find that the import of these specimens will be for purposes that are not detrimental to the survival of the species.

Application number	Applicant	Species	Specimen
778597	Francis Carnes	Cheetah (*Acinonyx jubatus*)	Sport-hunted trophy
778674	Mareen Waterman	"	"
781179	Richard Pickard	"	"
781481	Roy Montgomery	"	"
789268	Donald G. Gates	"	"
802428	Tamara Scott	"	"
802429	Christian B. Jackson	"	"
811599	Steven Camp	"	"
811771	Jesse T. Kirk	"	"

BASIS FOR ADVICE:

1. The cheetah had a historical range that included most of Africa, the Arabian peninsula, Iran, Afghanistan, Russian Turkestan, and central and southern India, and is believed to have numbered around 100,000 in 1900. However, the species was extirpated from India by the 1950s and has gradually disappeared from the rest of Asia, except for Iran, where a remnant population of about 200-250 animals persists (Nowak 1991; Marker-Kraus 1996). Population estimates for the entire African continent range between 9,000 and 12,000 animals, with the greatest concentrations in Kenya and Tanzania in East Africa and Namibia and Botswana in southern Africa.

2. The current cheetah population in Namibia is estimated at about 2,500 animals, although no actual population surveys have been conducted for the species, and population estimates have been inferred largely from sightings, sign (e.g., spoor), and estimates of available habitat. The actual number of cheetahs in Namibia, therefore, may be either greater or lower than reported.

In Namibia as well as other parts of Africa, cheetahs are found primarily on agricultural lands, with relatively few animals found in protected areas such as national parks and reserves. This is due to competition in protected areas with other large carnivores, particularly lions and hyenas, which take the cheetahs' kills and prey on cheetah cubs. Lions and hyenas have been largely extirpated from agricultural areas, and therefore cheetahs occupy these alternative habitats. An estimated 95% or more of the cheetah in Namibia live on private farmlands, where they are perceived as a pest due to actual or suspected predation on domestic livestock and valuable game species.

Through the 1970s and into the early 1980s, the number of livestock, including game species, increased substantially in Namibia due to favorable environmental conditions. Consequently, the number of cheetah also increased and was estimated to have reached about 6,000. A severe drought began in the early 1980s, resulting in a 50% decline in wildlife populations, yet farmers continued to maintain large numbers of domestic livestock, and conflicts with cheetah increased. Furthermore, a rabies epidemic in the 1980s caused an 80% reduction in kudu, a main prey of the cheetah, which led to even more cheetah predation on livestock. Trapping and shooting of cheetahs by farmers for depredation control purposes is considered largely responsible for the reduction (50% or more) of the cheetah population in Namibia to current levels.

3. In Namibia, the cheetah is classified as a Protected Species, but it is legal to remove cheetahs for perceived threat to human life or ***actual*** predation of livestock [emphasis added], provided the removal is reported to the Ministry of Environment and Tourism within 10 days (K. Nowell, letter of May 7, 1996). According to Namibian government records, 6,818 cheetahs were removed from the wild in Namibia from 1980 to 1991, and 5,670 of these were shot for protection of livestock. However, these represent minimal figures, since records depend on the voluntary reporting of cheetah removals to the Ministry of Environment and Tourism or local police. The actual number removed may actually exceed 10,000 animals.

In 1983, the Directorate of Nature Conservation and Tourism conducted a 3-year project investigating the causes of conflict between farmers and cheetahs, and concluded that:

a) farmers had strong opinions and attitudes about the cheetah;

b) the cheetah was perceived by farmers as the worst problem animal and was believed responsible for large financial losses;

c) the sighting of cheetah or cheetah sign caused farmers to ascribe livestock losses to cheetah predation;

d) farmer attitudes notwithstanding, a large percentage of calf losses were actually due to natural causes (e.g., disease, poor nutrition, and stillbirths) and not cheetahs; and

e) further research was necessary.

From 1991-1993, the Cheetah Conservation Fund (CCF) conducted a survey of commercial farmlands in north-central Namibia (Marker-Kraus et al. 1996). They found that farmer attitudes toward cheetah were variable, but that 75% of farmers did not perceive a "cheetah problem" on the farms at the time of the survey. Some farmers are apparently willing to tolerate limited losses of livestock to cheetahs, whereas others may avoid conflicts with cheetahs through intensive livestock management and protection of stock with electric fences, donkeys, guard dogs, baboons, and herders. Certain breeds of cattle may also be less susceptible to predation (although information is not conclusive). Livestock farmers reporting problems with cheetah had a lower ratio of game to cattle than on farms with no cheetah problems. However, the apparent preference of cheetahs for game animals leads to conflicts with game farmers (31% of farmers in study area), who remove a disproportionate number of cheetahs (45% of cheetah removed). It is also worth noting that even farmers who stated that they did not perceive a cheetah problem still removed some cheetahs from their farms.

The CCF survey underscored two important aspects of farmer-cheetah conflicts in Namibia:

> First, despite (a) the lack of perception of a "cheetah problem" by many farmers, (b) acknowledgment by farmers that other predators take more livestock than cheetahs, and (c) the availability of livestock management methods to reduce predation by cheetahs, a large number of cheetahs are removed to *prevent* predation rather than in response to *actual* predation.
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> Second, large numbers of cheetah removals are unreported to authorities. Although CCF surveyed only 4% of the farmers surveyed (representing 18% of the farmland area surveyed) annually by the Namibian Ministry of Agriculture, Water and Rural Development, Directorate of Veterinary Services (DVS), the number of cheetah removals reported to CCF were 15% higher from just the limited sample than the total number reported to DVS. Morsbach (1985, cited in Marker-Kraus et al. 1996) similarly estimated that cheetah removals by farmers were twice the number reported to CITES.

While proponents of cheetah trophy hunting contend that the trophy value provides an *incentive* to conserve cheetahs, it is unclear from the available information what, if any, enforcement measures have been or will be taken to *deter* indiscriminate removal of

cheetahs by farmers (i.e., outside of the voluntary commitment made by game ranchers who have signed the NAPHA compact; see below). It is apparently well known that some farmers are removing disproportionate numbers of cheetahs, but information was not provided on whether any penalties are levied, such as in cases where farmers are found to maintain permanently operating cheetah traps. In her May 7, 1996, letter, Kristin Nowell mentions that she is trying to identify "problem farmers," who have removed above-average numbers of cheetahs and that these individuals *may be* [emphasis added] subject to prosecution under the Nature Conservation Ordinance.

4. Although well over 10,000 cheetahs may have been removed from the wild in Namibia by farmers since 1980, the number of animals removed annually has shown a downward trend, from a high of 890 animals reported in 1982 to 236 animals removed in 1991. The reported number of animals shot or captured live have both decreased, while at the same time, there has been an increase in the number of animals taken as hunting trophies. It is unclear why this decrease has occurred, but it may be attributable to a variety of factors (K. Nowell, letter of May 7, 1996):

a) the population of cheetahs in Namibia may be decreasing, thus leaving fewer animals to be captured or killed;

b) the number of cheetahs being shot or captured is decreasing; and/or

c) the proportion of cheetah removals being reported is decreasing.

5. A Population and Habitat Viability Analysis (PHVA) Workshop conducted by the IUCN Conservation Breeding Specialist Group in Namibia in February 1996 concluded that the cheetah population in Namibia has a fairly robust growth potential, allowing for natural mortality, of about 10-15% annually (draft PHVA report). A computer program for simulation modeling was used to determine that a total adult (>1 year of age) mortality rate of 20-25% annually was determined to be the maximum sustainable, if male and female survival rates are equal. The model was based on life history and population variables as well as the probabilities of stochastic events affecting the probability of extinction of cheetahs in Namibia. Assuming a natural mortality rate of 5-10% and that males and females are removed in equal numbers, and using the current estimated population size of 2,500 animals as well as other assumptions used in the modeling exercise, it was estimated that approximately 250 cheetahs (about 10% of the total population) could be removed annually for sport-hunting and depredation purposes from the population while maintaining a positive growth rate.

It was also noted that variations in adult female mortality had a greater effect on the probability of extinction than did variation in adult male mortality. It was determined that total mortality of

adult females generally must be held below 20% annually to prevent a decline in the population. Because adult females constitute only 27% of the population, it was determined that only 60-70 adult females should be represented in the 250 animals removable annually, assuming no sex bias in the population of removed animals.

Removals of cheetahs on farmlands, however, do appear to be biased in favor of males, due to the capture methods used, particularly the use of traps at "play trees," where groups of males tend to congregate. In a 3-year radiotelemetry and tagging study involving 18 male and 8 female cheetahs, it was found that the males experienced a mortality rate approximately double that of females (38.6% versus 19.2%). Similarly, the Cheetah Conservation Fund examined 121 cheetah live-caught by farmers from November 1991 to October 1994 and found 80 males and 41 females, again about a 2-to-1 ratio. Other reports cited by Marker-Kraus et al. (1996) show ratios varying up to 56 males to 1 female removed. If a 2-to-1 ratio is expected, then an offtake of 375 (still to include no more than 60-70 adult females, however) should be sustainable, if the estimate of 2,500 for the current population and other assumptions used in the PHVA modeling exercise are correct. To the extent that sport-hunting offtake replaces depredation offtake, and to the degree that the sport harvest is less biased toward males, the theoretical maximum allowable offtake becomes fewer than 375.

6. As part of the PHVA Workshop, two sets of concerns were presented relative to cheetahs, those of livestock and game farmers, and those of the Namibian Ministry of Environment and Tourism (MET). The concerns of the farmers included:

a) the need to reduce or eliminate losses of livestock or game to cheetahs;

b) whether economic losses caused by cheetahs could be mitigated (such as through a compensation fund);

c) what management techniques might reduce losses;

d) the need for conservation education; and

e) the need for more effective communication with the government.

MET concerns included:

a) uncertainty about the impact of cheetah removal on population status;

b) the incompatibility of different land-use objectives;

c) the need for better communication with farmers, but inadequate funding to do so effectively; and

d) the need for better population monitoring of cheetahs nationally, a better understanding of limiting factors, and improved economic incentives for conservation of the species.

7. Namibia is a sparsely populated nation with 44% of its available agricultural land in commercial livestock farms, most of which range in size from 5,000 to 20,000 hectares (about 12,500-50,000 acres). Because private farmlands constitute the most extensive range of cheetah in Namibia (about 90% of cheetah habitat), farmers must be discouraged from engaging in the indiscriminate removal of cheetah from their property to ensure the continued survival of cheetah in Namibia. The presumed high level of removal of cheetahs on farmlands as a preventive measure rather than in response to actual predation of livestock indicates that law enforcement efforts alone by the Namibian government have been insufficient to curtail such removals.

8. From the time of German colonization in 1884 until 1967, game in Namibia was legally designated as property of the state. However, in 1967, ownership of huntable game was transferred by law to the landowner on whose property the game resided. It was believed that landowners would be motivated to conserve wild game as a commodity from which they would benefit financially. This "privatization" of game species is believed to be responsible for the subsequent increases in game species in Namibia. Therefore, it has been proposed by the Government of Namibia, Safari Club International (on behalf of applicants), and the Namibia Professional Hunting Association that promoting cheetah as a game species for trophy hunting will confer financial value to maintaining cheetah populations on farmland. Proponents of this idea contend that farmers will then have an incentive to cease removal of cheetahs from the wild (except for limited sport hunting), or at least will have the opportunity to receive some compensation for livestock and game losses to cheetah predation and thus may tolerate the presence of cheetah.

9. In a response dated May 7, 1996, Kristin Nowell, a consultant retained by the Namibian Ministry of Environment and Tourism to develop a national cheetah conservation plan, noted that the following several actions are pending related to cheetah in Namibia:

a) Environmental legislation is being overhauled, but will not be changed with regard to cheetah; therefore, protected status will continue for the species, with the provision for removal of depredating animals as described in item 3 above.

b) One of the recommendations expected to be included in the cheetah conservation strategy is the appointment of a National Predator Coordinator, similar to the recently created post of Rhino Coordinator, which means that there will be a full-time person devoted to conservation and

management of protected predators, including cheetah. This person will coordinate national research on cheetah to focus on conservation priorities and will closely monitor the number of cheetahs removed by farmers under depredation provisions. This person will also chair a Cheetah Conservation Committee composed of both governmental and non-governmental members. It is believed that this will improve communication among entities interested in cheetah conservation in Namibia.

c) Development of a cheetah conservation strategy will focus on developing an accurate estimate of the cheetah population in Namibia and developing a reliable population monitoring technique to determine population trends for cheetah. Ms. Nowell is already reviewing various sources of historical data, including government records on cheetah removals, as well as current estimates of available cheetah habitat in an attempt to refine the estimate of the current cheetah population. Part of the cheetah strategy will be a recommendation for further research on cheetah densities in various habitat types, from which a population estimate can be extrapolated. The National Predator Coordinator will work with non-governmental organizations (NGOs; e.g., the Cheetah Conservation Fund and Africat) and assist in analysis of data obtained from radiotelemetry and mark-release studies of cheetahs.

d) The cheetah conservation strategy will also recommend the use of multiple indices to monitor cheetah populations. Again, NGOs will be involved in the design and implementation of monitoring efforts.

Ms. Nowell stated that the national cheetah management plan for Namibia is expected to be completed in July 1996.

10. Ms. Nowell also provided preliminary information on the removals of cheetah for which permits were actually issued, which reflects a total of 7,488 for the period 1980-1994. For the years 1980-1991, the number of cheetahs removed according to Ms. Nowell is about 24% higher than reported by the Cheetah Conservation Fund (Marker-Kraus et al. 1996), but in both cases there is a downward trend in cheetah removals. For 1992-1994, the most recent years reported by Ms. Nowell (and not included in the CCF report), the totals removed each year are 164, 169, and 146, respectively--down from a peak of 991 in 1982. These reflect the removal of fewer cheetahs than the maximum sustainable offtake of 250 animals annually in the PHVA Workshop report; however, if actual removal is under-reported by 50%, as suggested by Morsbach (1985 internal Namibian government report, cited by Nowell and Marker-Kraus et al. 1996), then actual offtake exceeds the annual maximum sustainable level by about 50 or more animals.

11. The Namibia Professional Hunting Association (NAPHA) has promoted a compact under which Namibian farm owners who are signatories to the compact agree to provisions aimed at conserving cheetah on their property through a sustainable-use strategy involving sport hunting. In exchange for the opportunity to conduct limited sport hunting on their lands, and therefore earn trophy fees, signatories to the compacts agree to:

a) cooperate in the Namibian government's cheetah management plan;

b) take reasonable steps to control the indiscriminate killing of cheetahs on their property and to educate employees, tenants, and others in their vicinity about the importance of cheetah conservation;

c) manage their property to maintain appropriate habitat for cheetah;

d) abide by hunting limits established for cheetah by the Namibian government;

e) assure that cheetah trophies taken on their property are properly documented and tagged, to be consistent with the requirements of CITES and the Namibian government;

f) levy a surcharge of N$1,000 as a conservation fee, in addition to the trophy fee, to be administered by the Namibia Nature Foundation in support of cheetah conservation activities (although there is provision for changing this amount);

g) select a committee to review proposals for funding activities by organizations or individuals that will enhance the survival of the cheetah in Namibia;

h) be included in a list of properties managed under the compact, such list to be provided to the competent CITES Management Authorities of any country requesting information for trophy import purposes; and

i) conduct an annual survey of cheetah on properties under their control.

According to a letter provided to this office, dated October 17, 1995, from NAPHA to Safari Club International, as of that date, there were about 100 signatories to the compact, representing about 1.1 million hectares, which may represent about 3% of the cheetah range in Namibia (if compacts represent commercial farmlands, which constitute 44% of agricultural lands and 90% of cheetah range according to Marker-Kraus et al. 1996). However, in this same letter NAPHA acknowledges that educating stock farmers is important to the conservation of cheetah, and that this is a difficult task.

They note that there persists the perception that cheetahs are solely responsible for stock losses, and they stated that farmers still kill cheetahs indiscriminately and maintain permanent trap sites.

Furthermore, it remains unclear, or even doubtful, whether the compacts involve farmlands where actual cheetah-livestock conflicts exist. The compact appears to have been largely promoted among game farmers rather than among farmers devoted largely to raising domestic livestock. In the October 17, 1995, letter from NAPHA to Safari Club International, Mr. Jochen Hein for NAPHA states that "it will take time before the normal stockfarmers get the idea and the system will start to function." Therefore, the commitment to conserve cheetahs on farmlands appears limited to those farms covered by compacts, which fail to include livestock farms. Although game farmers are more likely to remove cheetahs than livestock farmers, the majority of removals are from livestock farms because they outnumber game farms.

12. As mentioned above, NAPHA plans to collect a N$1,000 cheetah conservation fee per trophy. At current exchange rates, this is approximately US$250. Considering that the highest number of cheetah trophies taken in Namibia thus far in one year is 40, this amounts to about US$10,000 in annual revenue. There is no indication in any of the materials submitted in support of the applications, or in any other materials reviewed by this office as to whether this level of funding would substantially support cheetah conservation activities. However, we also note that Safari Club International has provided US$6,000 for the national management plan for cheetah in Namibia, and there is an indication that additional funding from the European Union and the Netherlands government may be forthcoming, which may substantially augment the conservation fees collected for trophies. In total, these various sources of revenue may fully fund the necessary activities to develop a complete cheetah management and conservation program in Namibia, but information is lacking for making such a determination.

It was also stated by Kristin Nowell in her May 7, 1996, letter that the trophy fee, to be divided between the professional hunter and the landowner, will be approximately N$5,000. It is not clear whether this will result in a level of compensation that will be sufficient for farmers who lose livestock to cheetah predation to tolerate the presence of cheetahs on their property. Considering that every farm is unlikely to have cheetahs taken as trophies in every year, it appears that all farmers will not have equal opportunity for compensation of losses, or that farmers can be assured that compensation will occur in the year that losses are sustained. Therefore actual financial incentives to conserve cheetahs--and to deter indiscriminate removal--may be limited to those farmers that actually have trophies regularly taken on their land.

13. In a press conference on June 3, 1996, Namibian President Sam Nujoma officially declared a drought emergency due to several years of almost continuous drought. Although Namibia normally is considered semi-arid, there are regular cycles of drought lasting about 12 years. The current drought began in 1979. According to the Cheetah Conservation Fund report (Marker-Kraus et al. 1996), in the past farmers have "culled" game from their lands during drought in favor of reducing competition with livestock for forage. The resultant decrease in natural prey base for cheetahs resulted in increased cheetah predation on livestock, and therefore increased removal of cheetahs by farmers. Although President Nujoma in his June 3 address encouraged farmers to market their animals and promised some subsidies, it may be difficult to predict what effect these measures will have to ameliorate potential conflicts between cheetahs and farmers.

14. Although a basis has been presented for the sustainable sport hunting of cheetahs in Namibia, with the potential for associated activities that will support the conservation of cheetahs so that sport hunting will not be detrimental to the survival of the species, certain information is still needed to support such a finding. Therefore, we are unable to find that the import of these specimens will be for purposes that are not detrimental to the survival of the species. For reconsideration of these or any further applications to import sport-hunted cheetah trophies from Namibia, the following information related to demography and management will be needed:

Population Information

a) design of a meaningful population index(es) and implementation of a population monitoring program sufficient to detect changes in the cheetah population on Namibian farmland;

b) implementation of an accurate, standardized method(s) of documenting total offtake of cheetahs for depredation control, sport hunting, or other purposes; and

c) a requirement for professional hunters and farmers to make available to experts, for demographic analysis, the carcasses of cheetahs killed.

Management

a) completion of the national management plan for cheetahs in Namibia, which should include a basis for determining sport-hunting quotas, and receipt of a copy of the final plan by the Office of Management Authority; and

b) information on how--or whether--the NAPHA compacts will relate to the national management plan, such as whether trophy hunting will be limited to lands covered by compacts, or

whether the collection of similar conservation fees and other requirements of the compacts will be extended to non-signatories to ensure that trophy hunting throughout Namibia, not just on compact lands, results in benefits to cheetah conservation.

/s/ Charles Dane

for the Scientific Authority

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