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

Seventeenth meeting of the Conference of the Parties
Johannesburg (South Africa), 24 September – 5 October 2016

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

South Africa proposes the transfer of the Cape mountain zebra, *Equus zebra zebra,* from Appendix I to Appendix II in accordance with a precautionary measure specified in Annex 4 of Resolution Conf. 9.24 (Rev. CoP16).

Specification of the criteria in Annex 2, Resolution Conf. 9.24 (Rev. CoP16) that are satisfied

Criterion B of Annex 2a applies, namely "It is known, or can be inferred or projected, that regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences".

The applicability of this criterion is further substantiated in Section C below.

Furthermore criteria A and B of Annex 2b apply, namely:

A. "*The specimens of the species in the form in which they are traded resemble specimens of a species included in Appendix II so that enforcement officers who encounter specimens of CITES-listed species are unlikely to be able to distinguish between them"*; and

B. "*There are compelling reasons other than those given in criterion A above to ensure that effective control of trade in currently listed species is achieved*."

As further detailed in Section C, Point 9 below, there may be difficulty in distinguishing between products of Cape mountain zebra (e.g. mounted trophies) and those of Hartmann's mountain zebra *Equus zebra hartmannae,* which is listed in Appendix II. While this may be a consideration, it is not seen to be the most important reason for transferring Cape mountain zebra to Appendix II.

The additional compelling reasons for allowing trade, subject to effective controls are:

1. Stakeholder consultation in South Africa showed broad consensus that opportunities for international trade in Cape mountain zebra will increase the economic value of the subspecies, which in turn will increase the size and range of the species on private (and hopefully on communal land) within the species historical range.

2. Such trade, however, will need to be carefully controlled and monitored to ensure that it is sustainable and does not have any unanticipated, deleterious consequences.

These points are further substantiated in Section C.

Specification of the criteria in Annex 1, Resolution Conf. 9.24 (Rev. CoP16) that are no longer satisfied

The Cape mountain zebra population is not currently considered to be threatened with extinction and it meets none of the criteria listed in Annex 1. Although the wild population is still comparatively small (there were no less than 4,791 individuals in August 2015), it has increased steadily at 8-9% per year since the early 1990s, with a specific rate of increase of 9.16% per year since 2009. Sixty-nine percent of the population occurs in secure state-owned protected areas, the remainder being privately-owned. The number of subpopulations has also shown a sustained increase since the 1980s. In August 2015 there were at least 75 subpopulations, which are well distributed over the historical range of the subspecies. Although many of the subpopulations are small (37% have 20 or fewer animals), 11% have over 100 animals. The two original subpopulations in Mountain Zebra National Park and Karoo National Park have doubled since 2004 (300 and 375 individuals compared to 769 and 777 individuals in 2013 respectively). There are no records of major population declines since the 1950s. The area of available habitat has increased as a result of the expansion in area of many of the state-owned protected areas with Cape mountain zebras, as well as an increase in the number of privately-owned subpopulations.

Specification of the measure in Annex 4, Resolution Conf. 9.24 (Rev. CoP16) that is proposed for implementation

The measure proposed for implementation is A. 2. a) iii) of Annex 4, namely: "*an integral part of the amendment proposal is an export quota or other special measure approved by the Conference of the Parties, based on management measures described in the supporting statement of the amendment proposal, provided that effective enforcement controls are in place*".

Thus, conditional to the transfer of Cape mountain zebra from Appendix I to Appendix II, South Africa will implement a combination of active adaptive harvest management and management strategy evaluation to set a hunting quota for Cape mountain zebra, subject to the provisions of paragraph B of Annex 4.

As elaborated further in Section C, national and provincial legislation is in place to provide for effective enforcement controls and enable adequate monitoring of the impacts of the hunting quota.

B. Proponent

South Africa[*]

C. Supporting statement

1. Taxonomy

1.1 Class: Mammalia

1.2 Order: Perissodactyla

1.3 Family: Equidae

1.4 Genus, species or subspecies, including author and year: *Equus zebra zebra* Linnaeus, 1758

1.5 Scientific synonyms:

1.6 Common names: English: Cape mountain zebra
French:
Spanish:

1.7 Code numbers: No code provided in CITES Identification Manual

[*] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

2. Overview

The Cape mountain zebra, a South African endemic, has recently been assessed as Least Concern. It is well protected in state-owned protected areas and numbers on private wildlife ranches have been increasing, with the annual rate of increase of the national population from 2009 to 2015 measured at 9.16%. In August 2015 the population of Cape mountain zebra comprised a minimum of 4,791 individuals in no less than 75 subpopulations. Private ranchers currently play an important role in conserving 31% of the national population, and this role could potentially increase in future. However, economic incentives are currently lacking and ranchers prefer alternative high value game species over Cape mountain zebra, because the latter cannot be hunted as profitably. If the Cape mountain zebra were to be transferred to Appendix II and a sustainable hunting quota implemented, it is anticipated that the economic value of the subspecies would increase and thereby incentivize private ranchers to acquire and maintain Cape mountain zebra in preference to alternative species that are less worthy of conservation but currently more profitable. Continued monitoring of the status of the population will assist in assessing the effect of the hunting quota. A Biodiversity Management Plan (BMP) in terms of the National Environmental Management: Biodiversity Act (NEMBA) 2004, currently under development, will further improve the management and monitoring of Cape mountain zebra and address the major threat to the subspecies, which is a loss of genetic diversity. Legal trade and hunting is currently limited and there is no illegal trade. All utilization is controlled through national and provincial legislation.

3. Species characteristics

In the presence of a full set of competitors, the Cape mountain zebra is a specialist adapted to rugged terrain and is a selective grazer. Cape mountain zebra are poor dispersers and at present dispersal is severely limited by fences. The subspecies is tolerant of human activities and adapts well within transformed landscapes.

3.1 Distribution

The Cape mountain zebra is endemic to South Africa. The subspecies currently occurs in a number of fragmented subpopulations, many of which are small (37% of populations comprise 20 or fewer animals - Hrabar and Kerley 2015), in a geographic range (extent of occurrence) measuring approximately 180 000 km^2. All populations are constrained by fences. Although the species occurs in the Cape Floristic Region, it is currently more common in the Nama Karoo Biome and the Grassland Biome of the Eastern Cape. Evidence suggests that this was also true in historical times.

3.2 Habitat

The Cape mountain zebra is dependent on good grass cover, generally favouring tall, tufted grass species. It is able to make use of fallow lands that have been overgrown by grasses.

3.3 Biological characteristics

The Cape mountain zebra is long-lived, with mares of up to 21 years of age producing foals and stallions of up to 19 years of age remaining fertile in the wild. The reproductive rate is low due to the long gestation period of approximately 12 months and the single foal produced approximately every 25 months (range 12 - 69 months).

3.4 Morphological characteristics

Cape mountain zebras are distinguishable from other zebra species by the “grid-iron” pattern formed by the stripes on the rump and the small dewlap on the throat. In addition to the “grid-iron” pattern, the Cape mountain zebra is distinguishable from Hartmann’s mountain zebra (*Equus zebra hartmannae* Matschie 1898) on the basis of the following differences:

- Hartmann’s zebras are a little larger than the Cape subspecies;
- Cape mountain zebras have wider black stripes than Hartmann’s;
- In Hartmann’s the mane comes further forward between the ears than that of the Cape mountain zebra.

3.5 Role of the species in its ecosystem

Cape mountain zebras graze taller grasses in typically broken or mountainous terrain, occupying a niche that is distinct from other grazing ungulates. An Appendix II listing with the proposed hunting quota will not affect this role.

4. Status and trends

The Cape mountain zebra has recently been assessed as Least Concern (Hrabar *et al*. 2015). In 2009 the total population was estimated at 2,790 animals in approximately 52 subpopulations of which 17 were formally protected and 35 occurred on privately-owned properties. In August 2015 the population of Cape mountain zebra comprised a minimum of 4,791 individuals in no less than 75 subpopulations (Hrabar and Kerley 2015). The majority of the national population, namely 69%, remains on state-owned land and this proportion has remained stable since 2009. The number of privately-owned populations has grown considerably, however, with at least 56 Cape mountain zebra populations now on privately-owned land (compared to 35 in 2009) (Hrabar and Kerley 2015). Recent analysis, using a Bayesian state-space modelling approach, confirmed the Red List status of Least Concern, with an estimated population increase of 531% over the last 31 years, corresponding to ~ 3 generations (Winker, 2016a). However, it also showed that the future growth potential of formally protected source populations is constrained by the availability of state-owned land, which will likely reach its carrying capacity by 2020 (Winker *et al*. 2016c). Maintenance of current rates of increase will therefore require extending the available land that can support viable mountain zebra populations (Winker *et al*. 2016b).

4.1 Habitat trends

Suitable habitat is reasonably abundant within most of the natural range of the subspecies, and there is no evidence of a decline in habitat quality. The area of available habitat has increased as a result of an increase in the:

- area of state-owned protected areas with Cape mountain zebras, and
- number of private owners who have acquired Cape mountain zebras (Hrabar and Kerley 2015).

4.2 Population size

The total Cape mountain zebra population in August 2015 was at least 4,791 individuals, occurring in no less than 75 subpopulations, as assessed by a questionnaire sent to private owners and national and provincial conservation agencies (Hrabar and Kerley 2015). Thirty seven per cent of the populations comprise 20 or fewer animals, and 11 % have over 100 animals.

4.3 Population structure

The sex and age composition of the national metapopulation is currently not known. But the favourable rate of increase would suggest that this is not an issue.

4.4 Population trends

The annual rate of increase of the national population from 2009 to 2015 was 9.16%, which was higher than the annual increase rate of around 8-9% that prevailed before 2009 (Hrabar and Kerley 2015).

4.5 Geographic trends

The geographic distribution has increased since 2009 mainly through an increase in the number of private properties stocking Cape mountain zebras. The number of privately-owned populations increased from 35 in 2009 to at least 56 in 2015 (Hrabar and Kerley 2015).

5. Threats

The biggest current threat to the Cape mountain zebra is the loss of genetic diversity. Currently, the national population is fragmented into a number of small subpopulations and active meta-population

management is not practised. This will be addressed through the implementation of the Biodiversity Management Plan (BMP) for Cape mountain zebra that is being developed.

In the past, prolonged uncontrolled hunting and habitat loss decimated the population and no less than 80 individuals remained in the 1950s. Small numbers of animals were subsequently reintroduced elsewhere but all of these reintroduced subpopulations (except for that of De Hoop Nature Reserve) originated from Mountain Zebra National Park. This has resulted in low genetic variation and a risk of inbreeding depression. Inbreeding may increase the susceptibility of individuals to the equid disease *Equine sarcoidosis,* which in 2006 was found to infect 22% and 53% of the Cape mountain zebras in the Gariep Nature Reserve and the Bontebok National Park, respectively. The low genetic variation within individual populations is however offset by moderate variation in the national population (Moodley and Harley 2005); therefore higher levels of diversity still exist within the Cape mountain zebra gene pool. Genetic management will soon be implemented in accordance with the BMP that is currently being developed.

6. Utilization and trade

6.1 National utilization

There is currently no CITES quota in place for the Cape mountain zebra and currently no hunting of this subspecies takes place in any provincial reserves or national parks where it occurs. Limited hunting of Cape mountain zebra is allowed on private properties in the Eastern Cape and Western Cape provinces of South Africa.

6.2 Legal trade

There is currently limited international trade. According to the CITES trade Database (UNEP World Conservation Monitoring Centre, Cambridge, UK), a total of seven Cape mountain zebra trophies and seven skins were exported from South Africa between 2000 and 2013. All trade was from wild sourced specimens. Given that there is no illegal trade in Cape mountain zebra skins and other derivatives, an amendment to the current listing of the species is not expected to affect the nature of the trade.

6.3 Parts and derivatives in trade

Between 2000 and 2013 seven Cape mountain zebra skins were exported as hunting trophies (CITES Trade Database, UNEP World Conservation Monitoring Centre, Cambridge, UK). Skins were exported to the United States, France and New Zealand.

6.4 Illegal trade

There is little or no illegal trade involving Cape mountain zebras.

6.5 Actual or potential trade impacts

The introduction of a hunting quota is expected to have beneficial effects by providing incentives for private owners to invest in Cape mountain zebras. Hrabar and Kerley (2015) report that, since steps towards a national hunting quota took place, the mean price of Cape mountain zebra in 2015 increased to double that of previous periods. A number of private sector respondents to questionnaire surveys indicated that an increase in the economic value of Cape mountain zebra would be an incentive to increase their maximum desired population size (Hrabar and Kerley 2015). In a questionnaire survey conducted in April 2016, six of 23 respondents stated that an increase in the economic value of Cape mountain zebra would justify the expense of bringing in new breeding animals to increase genetic diversity.

7. Legal instruments

7.1 National

Any form of utilization of Cape mountain zebras is controlled under national and provincial legislation. A permit is required in terms of the National Environmental Management: Biodiversity Act (NEMBA), 2004 for all restricted activities (including hunting) involving Cape mountain zebra. Permits are further

regulated in terms of the Threatened or Protected Species (TOPS) Regulations (2007), which have been promulgated in terms of the National Environmental Management: Biodiversity Act (NEMBA), 2004. Permit holders are required to give annual feedback to the Issuing Authority on compliance with permit conditions, which provides a means of monitoring effectiveness. The NEMBA provides for the development and implementation of a Biodiversity Management Plan (BMP) for the subspecies, and one is currently under development for Cape mountain zebras. Private sector respondents to questionnaires indicated no objection to regulation by permit (Hrabar and Kerley 2015).

7.2 International

Apart from CITES-listing there are no international instruments in place. None appear to be necessary in view of the virtual absence of international trade, legal or illegal.

8. Species management

8.1 Management measures

Conservation authorities responsible for the management of national and provincial protected areas mostly conduct annual surveys of the populations, and maintain surveillance of habitat conditions. Risks of over utilization of the habitat are mitigated by translocating individuals to other suitable protected areas or by making them available for sale to private owners. A hunting quota will be determined through a population viability analysis that considers genetic diversity within the population. The implementation of the quota will be monitored through a research project.

Recognizing that fixed harvest quotas are prone to failure because they do not respond to system dynamics and uncertainty, a combination of active adaptive harvest management and management strategy evaluation (Bunnefeld *et al.* 2011) will be implemented to set the hunting quota for Cape mountain zebra. An individual-based simulation tool has been developed to evaluate the impacts of life stage- and sex-specific hunting quotas and translocation strategies on Cape mountain zebra populations over several years (Winker, 2016c). The simulation model allows for monitoring the population trajectory based on the input numbers of juveniles, bachelors, mares and stallions that are proposed for hunting and/or translocations. In April 2016 a questionnaire survey was conducted among private sector owners of Cape mountain zebra to assess interest in the quota. Respondents were asked to put forward a hunting quota for consideration, and to provide relevant background information, including the population size, age and sex composition, incidences of mortality, recent population performance and size of area available to the zebras. Based on the information provided by the respondents, the simulation model will be used to assess the viability of each proposed hunting quota. This assessment will provide the basis for an initial determination of a case-specific hunting quota for Cape mountain zebra. Over 90% of respondents to the questionnaire stated willingness to monitor and report on outcomes, which will allow for active adaptive management and sharing of information. Assignment of the quota can therefore readily be adapted in accordance with population performance.

8.2 Population monitoring

The numbers of Cape mountain zebra on all of the formally protected areas, which amounts to 69% of the population, are counted mostly on an annual basis. Surveys of the numbers in private ownership were conducted in 2009 and 2015 (Hrabar and Kerley 2015). In future the implementation of such surveys will be provided for in the BMP for the Cape mountain zebra, which is currently under development. As noted above, a recent questionnaire survey showed willingness on the part of private owners to provide information for the purpose of monitoring and reporting.

8.3 Control measures

8.3.1 International

The Cape mountain zebra is included in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Apart from CITES-listing no additional measures are required at present.

8.3.2 Domestic

See Section 7.1.

8.4 Captive breeding and artificial propagation

Not applicable; there are no captive breeding programmes for Cape mountain zebras.

8.5 Habitat conservation

Cape mountain zebra habitat is conserved in 19 state-owned protected areas, many of which have increased in area over the last decade. Seven of these protected areas maintain populations of more than 100 mountain zebras, the largest of which are in Mountain Zebra and Karoo National Parks with 25% and 18% of the national population, respectively.

8.6 Safeguards

An important safeguard to the institution of a hunting quota will be the feedback required from permit holders in terms of the Threatened or Protected Species Regulations (TOPS) as well as the national Biodiversity Management Plan for the Cape mountain zebra. These measures will allow for the necessary monitoring and evaluation. As indicated in Section 8.1, hunting will be regulated through adaptive harvest management, so it can be adapted in the event of unforeseen outcomes.

9. Information on similar species

Products of Hartmann's mountain zebras from Namibia are traded internationally. As noted above, the two subspecies are distinguishable, although this requires familiarity with both subspecies and identification may be difficult for certain products. There is no reason to expect that confusion between the two subspecies will present problems.

10. Consultations

Although the species is endemic to South Africa, the CITES Management Authority of South Africa, consulted other countries on the continent as part of the consultation process. Positive responses were received from Botswana, Ghana, Malawi, Nigeria, Tanzania and Zambia. The proposal was also discussed at a SADC Regional Workshop to prepare for the 17th Conference of Parties to CITES. No objections were received.

11. Additional remarks

None

12. References

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