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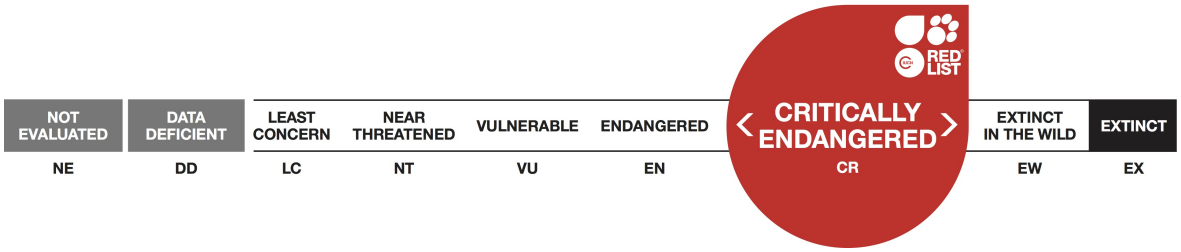
Equus africanus, African Wild Ass

Assessment by: Moehlman, P.D., Kebede, F. & Yohannes, H.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Perissodactyla	Equidae

Taxon Name: *Equus africanus* Heuglin & Fitzinger, 1866

Regional Assessments:

- Mediterranean

Common Name(s):

- English: African Wild Ass, African Ass, Ass
- French: Ane sauvage d'Afrique, Âne Sauvage D'Afrique
- Spanish: Asno Salvaje de Africa

Taxonomic Notes:

This taxon is sometimes treated under the specific name *asinus*. However, this is considered to be the name applied to the domestic form and is so generally rejected in favour of *africanus*. Gentry (2006) criticized the incorrect use of the name *E. asinus* for the Wild Ass by Grubb (2005). There are two recognized extant subspecies, although there is disagreement as to whether the African Wild Ass is one continuously distributed species exhibiting clinal variation (see Moehlman 2002, Moehlman *et al.* 2013). Groves (2002) lists a third unnamed subspecies from the Sahara, although these may not have been true Wild Asses.

Assessment Information

Red List Category & Criteria: Critically Endangered C2a(i) ver 3.1

Year Published: 2015

Date Assessed: September 8, 2014

Justification:

Listed as Critically Endangered as the species numbers (at best approximately 200 mature individuals) may be undergoing a continuing decline due to climate and human/livestock impact, and no subpopulation numbers in excess of 50 mature individuals. The species may also meet the threshold for Critically Endangered under D, as there may be less than 50 mature individuals in the wild.

Previously Published Red List Assessments

2008 – Critically Endangered (CR)

1996 – Critically Endangered (CR)

1994 – Endangered (E)

1990 – Endangered (E)

1988 – Endangered (E)

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1986 – Endangered (E)

Geographic Range

Range Description:

The African Wild Ass occurs in Eritrea and Ethiopia, and some animals may persist in Djibouti, Somalia, Sudan and Egypt, but there is no recent information available (Moehlman *et al*. 2013). Yalden *et al*. (1996) recorded them to 1,500 m in Ethiopia.

Two subspecies are recognized. The Nubian Wild Ass, *E. a. africanus*, lived in the Nubian desert of north-eastern Sudan, from east of the Nile River to the shores of the Red Sea, and south to the Atbara River and into northern Eritrea (Watson 1982). During aerial flights in the 1970s, wild asses were seen in the Barka Valley of Eritrea and in the border area between Eritrea and the Sudan (Watson 1982). The Somali Wild Ass, *E. a. somaliensis*, was found in the Denkelia region of Eritrea, the Danakil Desert and the Awash River Valley in the Afar region of north-eastern Ethiopia, western Djibouti, and into the Ogaden region of eastern Ethiopia. In Somalia, they ranged from Meit and Erigavo in the north to the Nugaal Valley, and as far south as the Shebele River (Moehlman 2002, Moehlman *et al*. 2013).

The current range of the African Wild Ass in Ethiopia and Eritrea is approximately 23,000 km^2 (Kebede 2013, Teclai 2006). DNA extracted from faecal samples collected from animals in Eritrea and Ethiopia resulted in the identification of five mitochondrial DNA haplotypes: one haplotype (group of polymorphisms) is specific to the Eritrean population (haplotype D); one haplotype specific to the Ethiopian population (haplotype E); and three shared haplotypes (A, B, and C). These results suggest that there is and/or has been gene flow between the subpopulations (Afrera, Serdo) in Ethiopia and the population in Eritrea (Oakenfull *et al*. 2002).

Country Occurrence:

Native: Eritrea; Ethiopia

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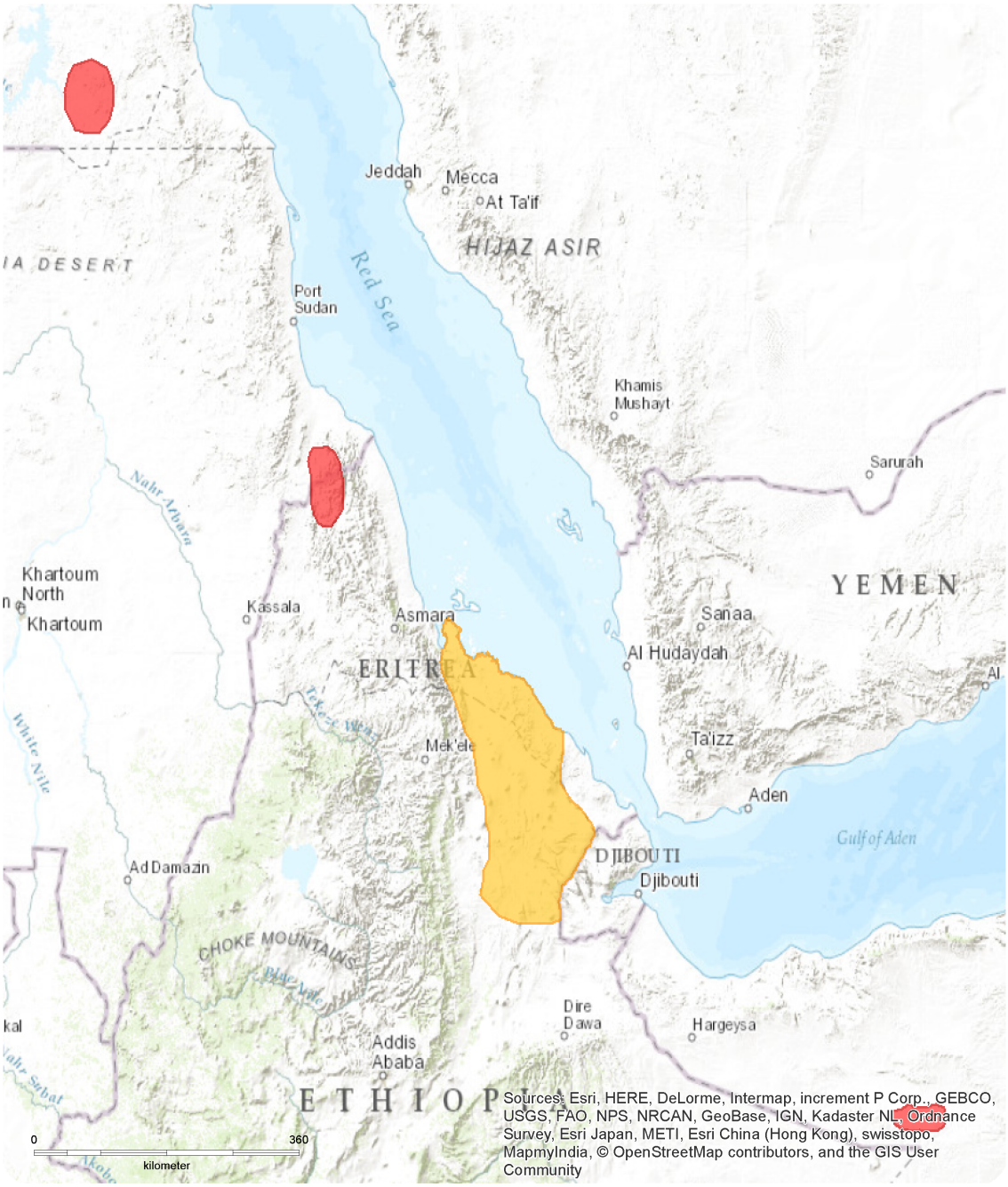
Distribution Map



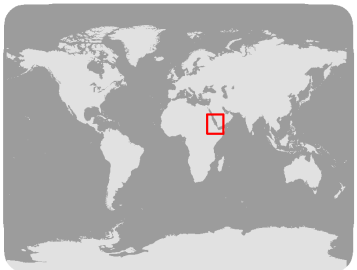
Equus africanus

Range

- Extant (resident)
- Possibly Extinct

Compiled by:
IUCN (International Union for Conservation of Nature)

NE DD LC NT VU EN CR CRITICALLY ENDANGERED EW EX



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

In Ethiopia, there has been a severe population decline since the early 1970s. Klingel (1977) recorded group sizes of 10-30 individuals in the Danakil, and he estimated a density of 18.6 wild asses per 100 km^2 in an area of approximately 10,000 km^2. During that survey, Yangudi-Rassa National Park (NP) had the highest density (30 wild asses per 100 km^2). In 1994, Moehlman and Kebede did a ground survey of the Yangudi-Rassa NP, but no wild asses were seen, although local Issa pastoralists reported that they were present but rare and occurred at an approximate density well below one animal per 100 km2 (Moehlman 1994, Kebede 1995, Moehlman *et al*. 1998). Surveys conducted from 1994-1998 in an area of 2,000 km2 indicated that there were approximately 0.5 wild ass per 100 km^2 (Moehlman 2002). In 2007, Kebede surveyed the historic range of the African Wild Ass in Ethiopia (Kebede *et al*. 2007) and determined that they have been extirpated from the Yangudi-Rassa NP and the Somali Region and that the only remaining population is in the northeastern Afar Region. The total number of wild ass observed during this survey was 25 in an area of 4,000 km^2 yielding a density of 0.625 animals per 100 km^2. In 2009 and 2010, Kebede (2013) did quarterly ground surveys in the African Wild Ass range and sampled 17% of the total African Wild Ass range in Ethiopia (12,300 km^2). The density estimate was computed applying D=N/A where D=density, N total number of individuals recorded, A= sample area (km^2). Then the result obtained was extrapolated to the suitable habitat determined using the Maxent model to estimate the population (Kebede *et al*. 2014). The 2009-2010 survey results indicated that the species' distribution is restricted to few localities in the Danakil. The current population estimate indicated that this species occurs in low density, approximately one African Wild Ass per 100 km^2. Current population estimates indicate that the population size has declined significantly (~94%) since the 1970's and 112±4 individuals of African Wild Asses are estimated to survive in the Danakil desert (Kebede 2013).

In Eritrea, there are limited long-term data. The first successful survey was made in 1996 (Moehlman *et al*. 1998) and there has been a research and conservation programme with the Ministry of Agriculture and Hamelmalo Agricultural College. The main study site in the Northern Red Sea Zone has had a population of roughly 47 individuals per 100 km^2 (Moehlman *et al*. 1998, Moehlman 2002). This is the highest population density found anywhere in the present range of the species and is similar to population densities recorded in Ethiopia in the early 1970s (Klingel 1977). This is a limited study area (100 km^2), but recent research indicates that African Wild Ass currently inhabit approximately 11,000 km^2 in the Denkelia desert (Teclai 2006). Surveys and Maxent analyses of suitable habitat are needed to determine the distribution and density of African Wild Ass in this larger area. A rough estimate of African Wild Ass in Eritrea would yield a total of possibly 400 individuals.

In 1978-1980, Watson (1982) did aerial surveys in northern Somalia and estimated that there was a population of 4,000-6,000 African wild ass in the area from the Nugaal Valley to the Djibouti border. Given the area covered by the survey, this would indicate approximately six African wild ass per 100 sq km. In 1979/82 Simonetta and Simonetta (1983) estimated that there were about 250 African Wild Ass in the northwestern Nugaal Valley and that there were about 50 African Wild Ass near Meit, with scattered groups along the coast in the Erigavo region. In 1989 (Moehlman 1998) a ground survey with limited aerial reconnaissance in the Nugaal Valley yielded population estimates of roughly 135 to 205 wild asses or approximately 2.7 to 4.1 asses per 100 km2. This indicates that there perhaps has been a significant reduction in the African wild ass population during the decade between those surveys. In 1997, Moehlman returned to the Nugaal Valley but was not able to survey the entire area. Local pastoralists said that there was less than ten African wild ass left in the Nugaal Valley (Moehlman et al.

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2013). Some animals may remain near Meit and Erigavo, but this area has not been surveyed since the 1970s (Moehlman *et al*. 2013). It is not known if African Wild Ass currently persists in Somalia.

In summary, the total number of observed African Wild Ass in Eritrea and Ethiopia is roughly 70 individuals; there may be as many as 600 individuals in these two countries, but this figure is a very rough extrapolation from more intensely studied areas. The number of mature individuals is approximately one-third of the population (Feh *et al*. 2001), hence the minimum number of mature individuals is 23 and the maximum might be 200. In Ethiopia, in the last 35 years there has been a greater that 95% population decline and in the last 12 years the African Wild Ass has been extirpated from roughly 50% of its range (Kebede *et al*. 2007). In Eritrea, the population is stable and slowly increasing. However, it is difficult to predict population trends into the future. The desert habitat of the African Wild Ass in both Eritrea and Ethiopia suffers from recurrent and extreme droughts (Kebede 1999).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The primary habitat is arid and semi-arid bushland and grassland. In Eritrea and Ethiopia, the African Wild Ass lives in volcanic landscape of the Great Rift Valley where they range from below sea level in the Dalool Depression to 2,000 m (Moehlman *et al.* 2013). In Eritrea and Ethiopia, limited observations indicate that African Wild Asses are primarily grazers, but that they will also utilize browse. Typical of arid habitat equids, the only stable groups are composed of a female and her offspring. Females do associate with other females or with males, but even temporary groups are small. Low density and low sociability may be due to low forage quality and availability. In the Mille-Serdo Wild Ass Reserve the preferred forage is *Aristida* sp., *Chrysopogon plumulosus*, *Dactyloctenium schindicum*, *Digitaria* sp., *Lasiurus scindicus*, and *Sporobolus iocladus* (Kebede 1999, Moehlman 2002, Moehlman *et al*. 2013). In Eritrea, *Pannicum turgidium* is an important forage species (Teclai 2006).

Systems: Terrestrial

Use and Trade (see Appendix for additional information)

The African Wild Ass is hunted for food and medicinal products. It is only hunted at the subsistence level.

Threats (see Appendix for additional information)

The major threat to the African Wild Ass is hunting for food and medicinal purposes; for example, body parts and soup made from bones are used for treating tuberculosis, constipation, rheumatism, backache, and bone ache (Kebede 1999, Moehlman 2002, Moehlman *et al.* 2013). Limited access to drinking water and forage (largely due to competition with livestock) is also a major constraint, with reproductive females and foals less than three-months old most at risk. Hence, it will continue to be important to determine critical water supplies and basic forage requirements, allowing management authorities to determine (in consultation with local pastoralists) how to conserve the African Wild Ass (Kebede 1999, 2007; Moehlman 2002; Teclai 2006; Moehlman *et al.* 2013). The third possible threat to the survival of the African Wild Ass is potential interbreeding with the domestic donkey (Moehlman 2002, Moehlman *et al.* 2013). However, there is no scientific evidence that indicates hybridization of *Equus africanus somaliensis* with domestic donkeys (Kebede 2013).

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Conservation Actions (see Appendix for additional information)

In Ethiopia, the Yangudi-Rassa National Park (4,731 km$^{2)}$ and the Mille-Serdo Wild Ass Reserve (8,766 km^2) were established in 1969. However, the former has never been formally gazetted, and both areas are utilized by large numbers of pastoralists and their livestock. These areas are remote and extremely arid, and the Ethiopian Wildlife Conservation Authority (EWCA) has not had sufficient funds or personnel for appropriate management (Kebede 1999). In Eritrea, the government designated the African wild ass area between the Buri Peninsula and the Dalool Depression as a high-priority area for conservation protection as a nature reserve. In both Eritrea and Ethiopia, research and conservation programs (Ministry of Agriculture and EWCA) have been critical for sustaining African Wild Ass populations by involving local pastoralists in their conservation. There are no protected areas in the range of the species in Somalia.

The African Wild Ass is listed as CITES Appendix I in both Ethiopia and Eritrea. Populations of Somali Wild Ass are maintained in captivity (Moehlman 2002, Kebede 2013).

Recommended research and conservation actions, include:

- Ecosystems based and population dynamics research on the African Wild Ass in Eritrea and Ethiopia
- Research on interactions among pastoralists, livestock, wildlife and the environment
- Awareness campaign with local communities in Ethiopia on medicine/veterinary care
- Continued employment and training of local pastoralists as scouts
- Continued education and awareness campaigns on the ecological and cultural roles of wildlife
- Continued workshops and active involvement of local pastoralists in the preparation of management plans
- Post-graduate training of personnel in Eritrea and Ethiopia
- Surveys in Eritrea, Djibouti, Sudan and Egypt to determine current distribution of African Wild Ass
- Genetic research on the African Wild Ass and local domestic donkey populations to clarify the genetic status of the two subspecies.

Credits

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Bibliography

Feh, C., Munkhtuya, B., Enkhbold, S. and Sukhbaatar, T. 2001. Ecology and Social Structure of the Gobi Khulan (*Equus hemionus* subsp). in the Gobi B National Park, Mongolia. *Biological Conservation* 101: 51-61.

Gentry, A. 2006. Mammal Species of the World. A taxonomic and geographic reference. 2005. D. E. Wilson & D.M. Reeder (Eds.) Ed. 3, 2 vols. Baltimore, Johns Hopkins University Press: A nomenclatural review. *Bulletin of Zoological Nomenclature* 63(3): 215-219.

Groves, C.P. 2002. Taxonomy of the Living Equidae. In: P.D. Moehlman (ed.), *Equids: Zebras, Asses and Horses. Status Survey and Conservation Action Plan*, pp. 108-112. IUCN, Gland, Switzerland.

Grubb, P. 2005. Order Perissodactyla. In: D. E. Wilson and D. M. Reeder (eds), *Mammal Species of the World*, pp. 629-636. The Johns Hopkins University Press, Baltimore, Maryland, USA.

IUCN. 2015. The IUCN Red List of Threatened Species. Version 2015.2. Available at: www.iucnredlist.org. (Accessed: 23 June 2015).

Kebede, F. 1995. A field report on the survey of the African wild ass in Serdo area. Report to EWCO. Addis Ababa.

Kebede, F. 1999. Ecology and conservation of the African wild ass (*Equus africanus*) in the Danakil, Ethiopia. M.Sc. Thesis, University of Kent.

Kebede, F. 2013. Ecology and community-based conservation of Grevy's zebra (*Equus grevyi*) and African wild ass (*Equus africanus*) in the Afar Region. University of Addis Ababa.

Kebede, F., Berhanu, L. and Moehlman, P.D. 2007. Distribution and Population Status of the African Wild Ass (*Equus africanus*) in Ethiopia. Report to Saint Louis Zoo.

Kebede, F., Moehlman, P.D., Bekele, A. and Evangelista, P.H. 2014. Predicting Habitat Suitability for the Critically Endangered African Wild Ass in the Danakil, Ethiopia. *African Journal of Ecology* 52(4): 533–542.

Klingel, H. 1998. Observations on social organization and behavior of African and Asiatic wild asses (*Equus africanus* and *E. hemionus*). *Applied Animal Behaviour Science* 60: 103-113.

Moehlman, P.D. 1994. The African Wild Ass: A Survey of Its Current Status in the Yangudi-Rassa National Park and the Southern Danakil, Ethiopia. Report to the Ethiopian Wildlife Conservation Organization. Addis Ababa.

Moehlman, P.D. 1998. Feral Asses (*Equus africanus*): Intraspecific variation in social organization in arid and mesic habitats. *Applied Animal Behavior Science* 60: 171-195.

Moehlman, P.D. 2002. Status and action plan for the African wild ass (*Equus africanus*). In: P.D. Moehlman (ed.), *Equids: Zebras, Asses and Horses. Status Survey and Conservation Action Plan*, pp. 2-10. IUCN, Gland, Switzerland.

Moehlman, P.D., Kebede, F. and Yohannes, H. 1998. The African wild ass (*Equus africanus*): Conservation status in the Horn of Africa. *Applied Animal Behavior Science* 60(2,3): 115-124.

Moehlman, P.D., Kebede, F. and Yohannes, H. 2013. *Equus africanus*. In: J. Kingdon and M. Hoffmann (eds), *The Mammals of Africa. Volume V: Carnivores, Pangolins, Equids and Rhinoceroses*, Bloomsbury Publishing, London.

Oakenfull, A., Yohannes, H., Kebede, F., Swinburne, J., Binns, M. and Moehlman, P. D. 2002. Conservation Genetics of African Wild Asses. Final report for the Zoological Societies of Chicago and San Diego.

Simonetta, A. M. and Simonetta, J. 1983. An outline of the status of the Somali fauna and of its conservation and management problems. *Rivista di Agricoltura Subtropicale e Tropicale* 73(4): 456-483.

Teclai, R. 2006. Conservation of the African wild Ass (*Equus africanus*) on Messir Plateau (Asa-ila), Eritrea: The role of forage availability and diurnal activity pattern during the wet season and beginning of the dry season. M.Sc. Thesis, University of Kent.

Watson, M. 1982. Draft report on the African wild ass. Arusha, Tanzania.

Yalden, D.W., Largen, M.J., Kock, D. and Hillman, J.C. 1996. Catalogue of the Mammals of Ethiopia and Eritrea. 7. Revised checklist, zoogeography and conservation. *Tropical Zoology* 9(1): 73-164.

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External Resources

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Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
3. Shrubland -> 3.5. Shrubland - Subtropical/Tropical Dry	-	Suitable	Yes
4. Grassland -> 4.5. Grassland - Subtropical/Tropical Dry	-	Suitable	Yes
8. Desert -> 8.1. Desert - Hot	-	Suitable	No

Use and Trade

(http://www.iucnredlist.org/technical-documents/classification-schemes)

End Use	Local	National	International
Food - human	Yes	No	No
Food - animal	Yes	No	No
Medicine - human & veterinary	Yes	No	No

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.1. Nomadic grazing	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
6. Human intrusions & disturbance -> 6.2. War, civil unrest & military exercises	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species (Equus asinus)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.3. Indirect species effects -> 2.3.1. Hybridisation		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

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Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Systematic monitoring scheme: Yes
In-Place Land/Water Protection and Management
Occur in at least one PA: Yes
In-Place Species Management
Subject to ex-situ conservation: Yes
In-Place Education
Included in international legislation: Yes
Subject to any international management/trade controls: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.2. Species recovery
4. Education & awareness -> 4.1. Formal education
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.5. Threats
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.1. Population trends

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Additional Data Fields

Distribution
Estimated extent of occurrence (EOO) (km²): 23000
Number of Locations: 1
Lower elevation limit (m): -100
Upper elevation limit (m): 2000
Population
Number of mature individuals: 23-200
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: No
No. of subpopulations: 1
All individuals in one subpopulation: Unknown

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