LARGE HERBIVORE FOUNDATION

STATUS REPORT 2007 OF THE LARGE HERBIVORES OF THE PALAEARCTIC














LARGE HERBIVORE FOUNDATION
P.O. Box 155
NL-2250 AD Voorschoten
The Netherlands
P. +31 (0)71 5612897
F. +31 (0)71 5615790
Info@largeherbivore.org
www.largeherbivore.org

LARGE HERBIVORE FOUNDATION

STATUS REPORT 2007 OF THE LARGE HERBIVORES OF THE PALAEARCTIC

JUNE 2007

Published by:

LARGE HERBIVORE FOUNDATION
P.O. Box 155
NL-2250 AD Voorschoten
The Netherlands
P. +31 (0)71 5612897
F. +31 (0)71 5615790
Info@largeherbivore.org
www.largeherbivore.org

Citation as reference:

Franchimon, W. M., De Haas, M.F.P., Lunenburg, I.C.A., Renard, M., Sietses, D.J., Van de Wiel, G.L.W. & Cromsigt, J.P.G.M. (2007). *Status report 2007 of the large herbivores of the Palaearctic*. Large Herbivore Foundation, 275 pp

Citation in text:

Franchimon *et al*., (2007)

Produced by:

Editor &Author : G.L.W. van de Wiel
Authors: W. Franchimon & M. de Haas (Caprinae)
I. Lunenburg & D. Sietses (Antilopinae, Moschidae, and Cervidae)
M. Renard (Bovinae, Equidae, Suidae, Camelidae)
J.P.G.M. Cromsigt
LHF Advisors: J. van de Vlasakker

This report is based upon an earlier work by J.P.G.M. Cromsigt (2000)

The large herbivores of the Eurasian continent. A reference guide for the Large Herbivore Initiative (LHI). Large Herbivore Initiative, 126 pp.

and serves to update this work.

TABLE OF CONTENTS Scientific names

TABLE OF CONTENTS Common names

1. INTRODUCTION

LARGE HERBIVORE FOUNDATION

WHAT IS THIS REPORT ABOUT?

The Large Herbivore Initiative was founded in 1998, initiated by the World Wide Fund for Nature (WWF). Six years after the initiative was established, they became independent under the new name of Large Herbivore Foundation (LHF). The organisation believed that the important role of Eurasian large herbivores in ecosystems had been widely underestimated, and not sufficiently investigated.

The LHF represents a cooperative effort of a wide variety of interested parties (university's and research institutes, governments, NGO's), created for the benefit of large herbivores in the Palaearctic.

The mission of this initiative has been translated in three major objectives:

1. To conserve ecosystems and landscapes as habitat for large herbivores.
2. To conserve all wild large herbivore species in viable and widespread populations.
3. To increase knowledge and appreciation of large herbivores by people.

To meet these objectives, information is needed on the distribution and status of the large herbivore species. This report represents a renewed database containing such information. It is based on a similar report produced by the LHF in 2000, dealing with among others the population size and trend of large herbivore species, their status on different conservation lists and their distribution in the area (Cromsigt, 2000). The decision to revise this former report is based on two factors: the enlargement of the work area of the LHF from Eurasia to the whole Palaearctic; and the fact that the large herbivore populations throughout this area have undergone some major changes in population numbers etc.

This report states the current taxonomic status according to Wilson and Reeder (2005), the former and current distribution, the status, the population size and trend, and the international conservation status. Most of this information has already been published in other sources and is, as such, not new. The aim of the report is to review this information and present a reference guide, thus combining information on large herbivores in the Palaearctic which is scattered over several different sources.

Similar to the former report, this report functions as a database showing where conservation action is necessary and where data is still lacking. Specialists from within and outside the LHF should, therefore, see it as their challenge to fill up these data gaps. The database should be part of a dynamic information gathering process.

2. METHODS

LARGE HERBIVORE FOUNDATION

AN EXPLANATION OF THE USED METHODOLOGY

As mentioned in the introduction, the database concerns large herbivore species in the Palaearctic. First of all, it should be clarified how 'large herbivores' and the 'Palaearctic' have been defined in the database. Based on a general consensus within the LHF large herbivore species have been defined as plant eating mammals, larger than the species of the order Rodentia (rodents). In the geographical area in which the LHF works this means that only the orders Perissodactyla (odd-toed ungulates) and Artiodactyla (even-toed ungulates) are included.
The geographical area of the LHF, the Palaearctic, has been defined by Alfred Russell Wallace in 1876 as the terrestrial ecoregions of Europe, the central and northern parts of the Arabian Peninsula, northern Africa, and Asia north of the Himalaya foothills (see figure 1).

Fig.1: Palearctic region as specified in Wallace (1876).

The selection of species to be included in this database was done on the basis of two main criteria: they are large herbivores, as stated in the definition found above; and they live, at least partly, in the Palaearctic. Only species that have a wild origin are included. The database also includes recently extinct taxa such as the Saoudi Gazelle (*Gazella saudiya*) to give a comprehensive overview of the natural occurrence of large herbivores in the region. Effort has been made to include all species qualified according to these criteria, but

if species are not included which should be, it is important to report this to the LHF so the (interactive) database can be updated.

The following information has been listed for each species or subspecies, providing the data was available:

- Scientific name and common English name, plus the often used synonyms.
- The recognised subspecies according to Wilson and Reeder (2005).
- Historical and current distribution of the species.
- The status of the species.
- The total population size and trend, and if applicable the size and trend of the different populations.
- Position or status of the species in the following international agreements: International Union for Conservation of Nature and Natural Resources (IUCN) Red list of Threatened Animals, Convention on International Trade in Endangered Species of Flora and Fauna (CITES), European Union (EU) regulation on trade (338/97), Bern convention, Bonn convention and the EU Habitat Directive. More information about these agreements is given in the appendices.
- Recommendations for further research and/or a change in the status of the species in the mentioned international agreements.

More information about the species accounts can be found in chapter 3 of this report.

The data gathering has been conducted in two main fashions: from an extensive literature survey in (recent) scientific articles, books and authoritative websites; and through personal communication with experts in the field of large herbivore ecology. These included the chairmen of relevant IUCN Specialist Groups, scientists, and heads of (non) governmental nature conservation organisations/departments such as WWF.

On a taxonomical note: This report does not aim to be a taxonomical reference work, or to rectify taxonomical issues. The taxonomic science is a very dynamic one, and as such full of controversies. For clearness' sake it has been decided to use one recent standard reference work, being Wilson and Reeder's Mammals of the World (2005). Only scientific names recognised as full species or subspecies in this work are used, and consequently 'other' (sub)species that are also widely recognised have been placed under their respective synonym taxon as mentioned in Wilson and Reeder (2005). In comparison to the previous LHF status report (Cromsigt, 2000), this means that in some occasions animals then discussed as separate (sub)species, are now lumped together under one name, or have even been split further apart.

3. SPECIES ACCOUNTS

LARGE HERBIVORE FOUNDATION

INTRODUCTION

This chapter deals with all the individual large herbivore species that occur in the Palaearctic, grouped according to their taxonomic hierarchy. On each full species page, information on that species on the whole is given, with data from all the recognised subspecies lumped together. In addition, on these pages all of the recognized subspecies present in the Palaearctic are listed.
If there is evidence that a certain subspecies is in need of extra attention because it seems to be declining or is threatened AND if specific information about this subspecies was available, it was decided to discuss these subspecies separately. These subspecies are given in bold on the full species page and are discussed separately on subsequent pages, given in alphabetical order. If specific information on a subspecies was available, but there does not seem to be any threat to that specific subspecies (e.g. in the case of most subspecies of Wild boar, *Sus scrofa*) it is not discussed on a separate page.

The maps were taken from www.ESRI.com and modified. The maps in the report do not imply political correctness or preference by the authors - they are mereley for geographical reference. The legend is given here:


Ocean, sea, lake.


Original distribution.


Current distribution.


No precise distribution data available, but occurs in some parts of this region.

It should be noted that for most (sub)species very little precise distribution information is available. Usually it consisted of the names of a few countries in which it occurred. In these cases the complete country is coloured in green, even though it may not occur everywhere in this country. In some cases the original distribution is known, and if so, mentioned, but mostly it was not and thus could not be depicted on the maps. This gap in knowledge only emphasizes the need for extra information and makes it clear that the LHF would be very keen to receive additional information about the distribution of large herbivores.

PERISSODACTYLA EQUIDAE

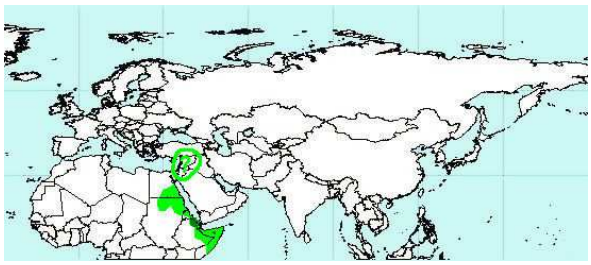
Equus asinus -

Ass

Synonyms: *E. africanus*; African Wild Ass; Abyssinian Wild Ass

Subspecies: *E. a. asinus; E. a. africanus; E. a. somalicus*

Distribution:



NE Sudan (now extinct), NE Ethiopia and N Somalia; domesticated worldwide; feral or possibly wild in Oman, Hoggar (S Algeria) and Tibesti (N Chad); feral in o.a. Sudan, Saudi Arabia and Yemen (Wilson & Reeder, 2005). Historically may have existed in Israel and Syria (Moehlman, 2002).

Status: Critically endangered. Evidence suggests that African wild asses in Somalia declined by 50% in the 1980s. Large declines in asses within Ethiopia have been documented as well. Only Eritrea has a small but stable African wild ass population. The primary threats are hunting for food and medicinal purposes, potential competition with livestock for food and water resources, and possible hybridization with the domestic donkey (Moehlman, 2002).

Population size and trend: Declining (Moehlman, 2002).

IUCN Red List:	CR A1b, as *E. africanus* ver 2.3	**EU Habitat Dir.:**	-
CITES:	I, as *E. africanus*	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Surveys need to be extended to Egypt and Sudan. Known populations need to be monitored regularly. The genetic status regarding the two subspecies *E. a. africanus* and *E. a. somalicus* needs to be clarified in order to take appropriate management measures, because they might need separate conservation plans. (Moehlman, 2002)

PERISSODACTYLA EQUIDAE

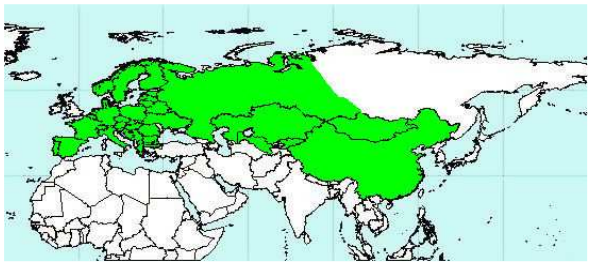
Equus caballus -

Wild and Domesticated Horse

Synonyms: *E. ferus; E. przewalskii*

Subspecies: *E. c. ferus*; ***E. c. przewalskii***

Distribution:



Formerly throughout Eurasia. Last wild European subspecies are believed to have died in Poland in 1814, in Ukraine in 1879. However it is most probable that these were already feral horses.(Vlasakker, van de; pers.comm. 2007) Wild populations of the subspecies survived (at least until recently) in SW Mongolia and adjacent Gansu, Sinkian, and Inner Mongolia (China). Domesticated worldwide; feral in Portugal, Spain, France, Greece, Iran and several countries outside the Palaearctic. (Equid specialist group, 1996a; Wilson & Reeder, 2005)

Status: See subspecies

Population size and trend: See subspecies

IUCN Red List:	EW, as *E. ferus* ver 2.3	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:

It has been proposed to use the name *E. ferus* or *E. c. ferus* to refer to the wild taxon of Horses (Wilson & Reeder, 2005).
As with Aurochs, attempts have been made to introduce certain breeds (e.g. Konik) that are close to there wild ancestors to the wild. With respect to these projects it is of importance that species are introduced in the range of the original wild subspecies, it resembles most. (Cromsigt, 2000; Bunzel-Drüke, 2001)

PERISSODACTYLA EQUIDAE

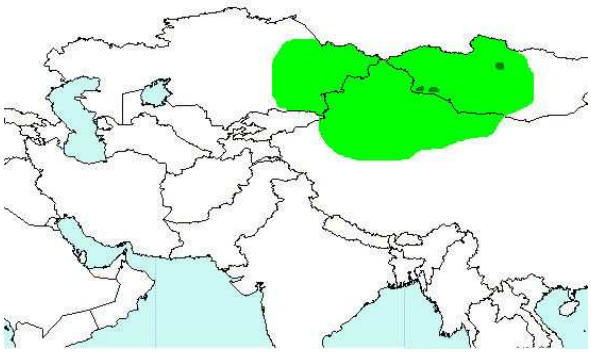
Equus caballus przewalskii

Przewalski's Horse

Przewalski horse – Chris Eisenga Flaxfield Nature Consultancy

Synonyms: *E. ferus przewalskii; E. przewalskii;* Mongolian Wild Horse; Takhi

Distribution:



Likely to have once roamed the Eurasian steppes but in recent history restricted to SW Mongolia and adjacent Gansu, Sinkiang and Inner Mongolia (China). Almost certainly extinct in the wild but recently reintroduced into Mongolia. (Equid specialist group, 1996b; Moehlman, 2002; King, 2005; Wilson & Reeder, 2005)

Status: Since 1992 several reintroduction programs have been conducted or are planned for a.o. Mongolia, China and Kazakhstan (Moehlman, 2002; www.waza.org). Currently the only free-ranging populations are those associated with the reintroduction programs in Mongolia (Moehlman, 2002).

Population size and trend:
World: ~ 1900 increasing slightly
In Captivity: ~ 1590 (Moehlman, 2002)
Mongolia:
Hustai National Park: ~200
Tachyn Tal: ~ 75
Seriin Nuruu: ~ 22
increasing slightly (2006, King, pers. comm. 2007)

IUCN Red List: EW, as *E. f. przewalskii* ver 2.3 **EU Habitat Dir.:** -

CITES:	I, as *E. Przewalskii*	**EC Reg. 338/97:**	A, as *E. przewalskii*
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:

With regard to the captive population the primary management objective is to maintain a population that is large enough to prevent the species from going extinct and to produce animals for release programs. The genetic diversity should be safeguarded; therefore paternity data needs to be collected so that a full pedigree of each individual is known.
The genetic diversity of the animals should be increased by facilitating the exchange of animals between the three populations in Mongolia. (King, pers. comm. 2007) The populations need to be monitored regularly and research should focus on the ecology of the species in the wild, especially with regard to social behaviour and social organisation (Moehlman, 2002; King, pers. comm. 2007).
Future reintroduction and release projects need to be planned and evaluated (Moehlman, 2002).

PERISSODACTYLA EQUIDAE

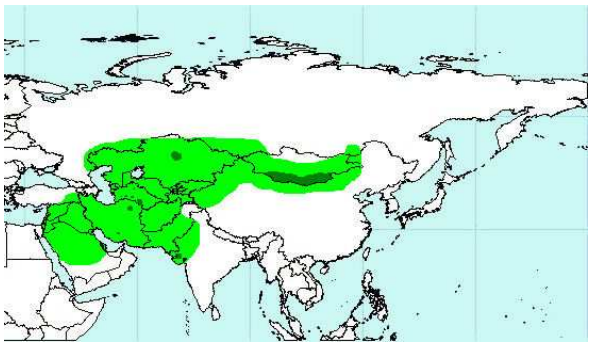
Equus hemionus -

Onager

Synonyms: *E. onager;* Asian wild ass; Asiatic Wild ass

Subspecies: ***E. h. hemionus****;* ***E. h. hemippus****; E. h. Khur;* ***E. h. kulan****;* ***E. h. luteus; E. h. onager***

Distribution:



Once distributed throughout the Near East, including the Arabian Peninsula, Asia Minor and NW India, but now extinct throughout most of its former range. Currently distributed in Israel (re), Saudi Arabia (re), Iran, Kazakhstan (re), Turkmenistan (including re-introduced populations), Uzbekistan (re), China (N Xinjiang Province), India and Mongolia. (Clark *et al*., 2006) The most abundant population of the species, representing > 80% of the total number, occurs in the southern part of Mongolia. All other populations have shrunk to a few hundred individuals. (Moehlman, 2002) See subspecies for detailed information on range and numbers.

Status: The species is threatened by direct competition with grazing livestock, increasing human activities resulting in loss of habitat, and poaching for meat and hides (Moehlman & Feh, 2002a). See subspecies for more specific threats per region.

Population size And trend: World:
10,000 – 30,000 (www.Takh.org)
38,000 – 53,000 (2000) decreasing
(Moehlman, 2002; Moehlman & Feh, 2002a)

IUCN Red List:	VU A3bcd; C1 ver 3.1	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	II
Recommendations and remarks:	See subspecies		

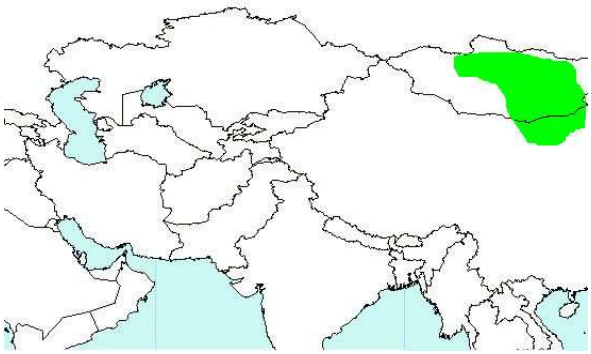
PERISSODACTYLA EQUIDAE

Equus hemionus hemionus

North Mongolian Dziggetai

Synonyms: *E. h. luteus*?; Mongolian Khulan; Mongolian Wild Ass

Distribution:



Formerly possibly distributed over NE Mongolia and China.

Status: Status and distribution is still unclear. It is thought that *E. h. hemionus* may be synonymous with *E. h. luteus* .(Moehlman & Feh 2002c)
Genetic analysis shows no indication of subspecies over the present distribution range. The north Mongolian subspecies does not exist and may never have existed (Kaczensky, pers. comm. 2007).

Population size and trend: Possibly extinct if once existed.
See *E. h. luteus*

IUCN Red List:	VU C1 ver 3.1	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	II, as E. hemionus s.l.

Recommendations and remarks: More research should be done to clarify the situation regarding the distinction between the two subspecies *E. h. hemionus* and *E. h. luteus* (Moehlman, 2002).

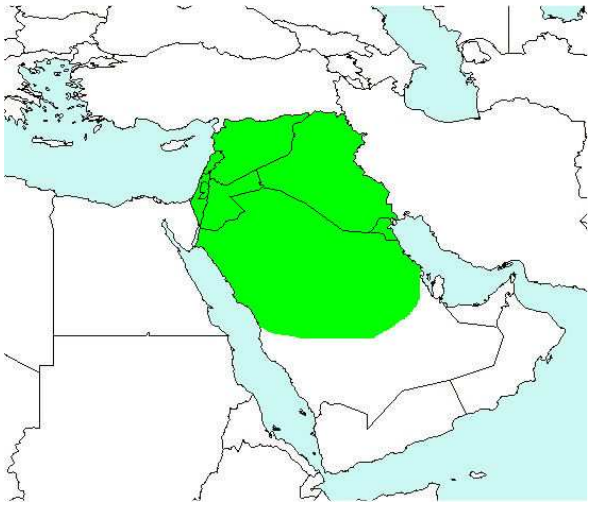
PERISSODACTYLA EQUIDAE

Equus hemionus hemippus

Syrian Wild Ass

Synonyms: *E. onager hemippus*

Distribution:



Formerly occupied the region from Palestine to Iraq, including Syria, Israel, Jordan and Arabian Peninsula. Extinct in the wild and in captivity. (Moehlman & Feh, 2002f)

Status: The species became extinct when the last known captive animal died in the Vienna Zoo in 1927 and the last wild animals disappeared at around the same time (Moehlman & Feh, 2002f).

Population size and trend: -

IUCN Red List:	EX ver 3.1	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

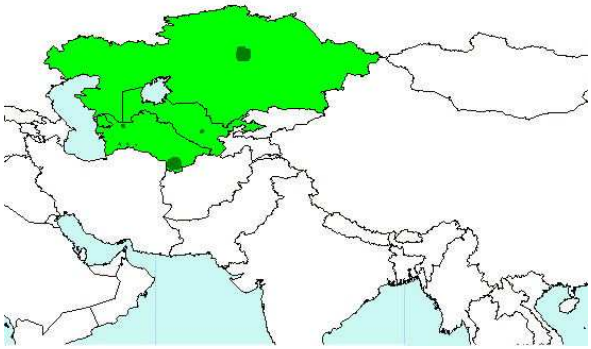
PERISSODACTYLA EQUIDAE

Equus hemionus kulan

Kulan

Synonyms: *E. onager kulan*; Turkmenian Kulan

Distribution:



Currently the only natural occurring population is in Badkhys Nature Park in Turkmenistan. Reintroduced to Uzbekistan and Kazakhstan. Introduced to Ukraine. (Moehlman, 2002; Yasynetska, 2002) A hybrid population of Onager and Kulan is introduced to Israel (Saltz & Rubenstein, 1995).

Status: The population in Turkmenistan suffered from a dramatic decline, in about three to five years the population went from about 6000 animals in 1995 to about 650 in 2000 due to heavy poaching pressure. Besides poaching for meat, loss of habitat and competition from domestic livestock are believed to be the main threats. Reduction of food or water resources due to periods of drought may also be a threat to the survival of this population. (Moehlman & Feh, 2002e; Moehlman 2002) More recently the population in Badkhys seems to be stabilizing again, due to an improvement of the management in the area (www.wwf.ru). Several breeding programs and reintroduction projects have been moderately successful (www.wza.org).

Population size and trend:	Kazakhstan: ~ 1000 (Pereladova, pers.comm. 2007) Altyn Emel: ~ 600 - 700 (www.waza.org; www.wwf.ru) Turkmenistan: ~ 1500 (Pereladova, pers.comm. 2007) Stable/increasing (www.wwf.ru; Pereladova, pers.comm. 2007) Badkhys: ~ 900-1000 (www.wwf.ru) Reintroduced: ~ 320 (Moehlman, 2002) Ukraine: ~ 154 increasing Askania Nova: 71 Azovo-Syvasky: 57 (Yasynetska, 2002) Uzbekistan: Bukhara reserve: 16-18 stable (Bahloul, 2001) In captivity: ~ 420 (wwwwaza.org) Israel (hybrid): 100 (Moehlman, 2002)

IUCN Red List:	CR A2bcd +4bcd ver 3.1	**EU Habitat Dir.:**	-
CITES:	II, as *E. onager*	**EC Reg. 338/97:**	B, as *E. onager*
Bern Convention:	-	**Bonn Convention:**	II, as *E. hemionus* s.l.

Recommendations and remarks:	The status of the Kulan in Turkmenistan needs to be assessed to confirm whether the population is indeed stabilizing/increasing again. Breeding programs and reintroduction projects need to be evaluated and properly managed, particularly with respect to overpopulation, which needs to be avoided. (Moehlman, 2002; www.wwf.ru). WWF Russia is currently finalizing an Action Plan for future conservation and restoration in Turkmenistan. It includes follow-up work in Badkhyz and all reintroduction sites. (www.wwf.ru) There is some doubt whether *E. h. onager* and *E. h. kulan* are sufficiently different to be classified in two subspecies. This needs to be clarified since it could affect the Onager populations in Iran and the Kulan populations in Turkmenistan, as well as the introduced hybrid population in Israel (Moehlman, 2002).

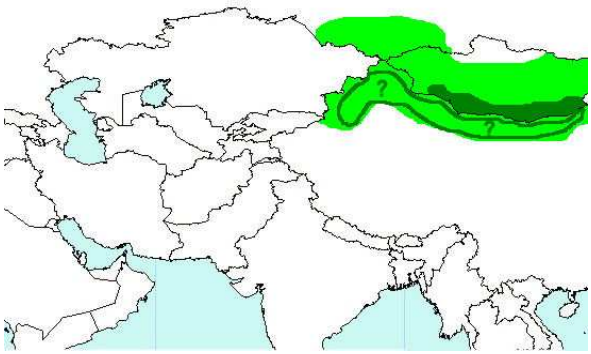
PERISSODACTYLA EQUIDAE

Equus hemionus luteus

Gobi Dziggetai

Synonyms: *E. h. hemionus*; Gobi Khulan; Gobi Asiatic Wild Ass

Distribution:



Until the mid-1800s, Khulan were distributed across most of Mongolia, small parts of Siberia and Manchuria, W Inner Mongolia and N Xinjiang (China). Today they are distributed throughout the Gobi region of S Mongolia. Khulan are rare in adjacent areas of China, especially Inner Mongolia, where the population is probably sustained only by migration from Mongolia.(Reading *et al*., 2001)

Status: Reliable data on Khulans is still lacking. Due to the large areas they cover, it is very hard to count them from the ground. Additional evidence, namely the abundance of Khulan carcasses and illegal hunting suggest that the population is decreasing. (Kaczensky *et al*., 2006; Kaczensky, pers. comm. 2007). The off-take rate via illegal hunting may be as many as 3,000 individuals per year (Wingard & Zahler, 2006). This would result in a 5% decline per year and over a 20 year period could result in a greater than 60% decline. (Clark *et al*., 2006). The most dominant threats are illegal hunting, habitat degradation, mining and possibly competition with livestock (Clark *et al*., 2006). The species appears to have lost 50% of its former range in Mongolia over the last 70 years (Kaczensky *et al*., 2006).
Data from China are lacking, it is said that a viable population occurs in Xingian province in

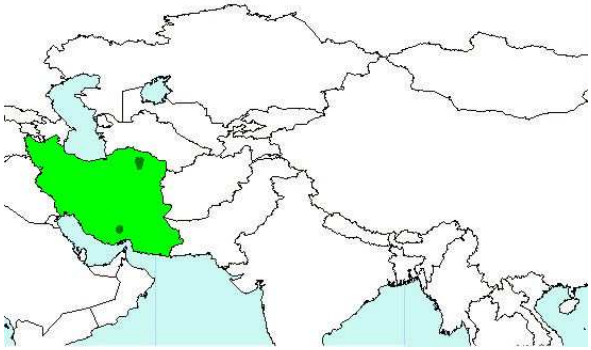
	the Kamamelei nature reserve but no data or proof of this can be found (Kaczensky, pers. comm. 2007).
Population size and trend:	Mongolia: 33,000 – 66,000 (Reading, 2001) ~20,000 animals ((Kaczensky *et al*, 2006) 20,000 – 30,000 declining (Kaczensky, pers. comm. 2007) China: Xiang reserve: > 1000? (Kaczensky, pers. comm. 2007) Inner Mongolia: ~ 11,400 declining (as *E. h. hemionus)* (Chunwang *et al*., 2002)
IUCN Red List:	VU C1 ver 3.1 **EU Habitat Dir.:** -
CITES:	I as *E. h. hemionus* **EC Reg. 338/97:** A
Bern Convention:	- **Bonn Convention:** II
Recommendations and remarks:	It is thought that *E. h. hemionus* may be synonymous with *E. h. luteus* (Moehlman & Feh 2002b). In some cases the *Equus hemionus* ssp are mentioned as *E. h. hemionus*, however they are recently most often referred to as *E. h. luteus*. A solid monitoring scheme is needed to assess the current situation regarding the status and distribution of Khulan, both in Mongolia as well as in China. In Mongolia several research projects were recently initiated on this species, this should be considered for China as well.

Equus hemionus onager

Onager

Synonyms: *E. onager onager*; Persian Onager; Persian Wild Ass

Distribution:



Endemic to Iran; currently restricted to two populations (Touran and Bahram-e-Goor); introduced to Saudi Arabia (Moehlman & Feh, 2002d; Tatin *et al*., 2003); A hybrid population of Onager and Kulan is reintroduced to Israel (Saltz & Rubenstein, 1995).

Status: The population has declined by at least 28% over the last three generations (21 years). Although it is currently restricted to two protected areas, poaching for meat and competition with livestock are still believed to be the primary threats for the Onager. Periods of drought may also pose a threat to the population due to a reduction of food and water resources. (Moehlman & Feh, 2002d; Tatin *et al*., 2003) Geographic isolation of both populations could also be a source of danger for their viability. No exchange of animals was reported between Touran and Bahram-e-Goor or between Touran and the border of Turkmenistan, an area where the E. *hemionus kulan* occurs. This could affect the Bahram-e-Goor population in particular. (Moehlman, 2002; Tatin *et al*., 2003)

Population size And trend:	Iran: Touran: 200-250 declining (2004) Bahram-e-Goor: 175-185 stable/slightly increasing (2004) (Hamadanian, 2005) Total in the wild: 375-435 declining (2004) In captivity: ~140 (www.waza.org, 2007). Israel (hybrid): 100 (Moehlman, 2002)		
IUCN Red List:	CR C1 ver 3.1	**EU Habitat Dir.:**	-
CITES:	II, as *E. onager*	**EC Reg. 338/97:**	B, as *E. onager*
Bern Convention:	-	**Bonn Convention:**	II, as *E. hemionus s.l.*
Recommendations and remarks:	Since there is a lack of data regarding the status of the two remaining populations of Onager the current situation needs to be assessed. There is some doubt whether *E. h. onager* and *E. h. kulan* are sufficiently different to be classified in two subspecies. This needs to be clarified since it could affect the Onager populations in Iran and the Kulan populations in Turkmenistan, as well as the introduced hybrid population in Israel. (Moehlman, 2002)		

PERISSODACTYLA EQUIDAE

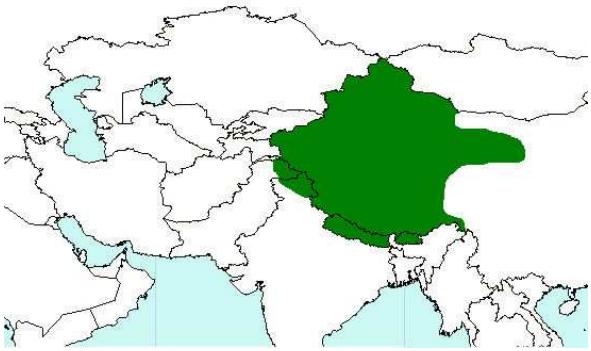
Equus kiang -

Kiang

Synonyms: *E. hemionus kiang*; Asiatic Wild Ass; Tibetan Wild Ass

Subspecies: *E. k. kiang*; *E. k. holdereri*; *E. k. polyodon*

Distribution:



The species is currently still found in much of its former range; ninety percent of the kiang population occurs in China, in the provinces of Qinghai, Gansu, Xinjiang, and Tibet. The remaining ten percent occurs in adjacent Nepal and Sikkem, India (Ladak), Pakistan and Bhutan (Moehlman, 2002; Wilson & Reeder).

Status: The Kiang is considered at Lower Risk but data are inadequate (DD) for the assessment of the status of two of the three subspecies.
Kiang have markedly decreased in number during this century, especially in areas with many nomads and their livestock. Due to its large range it is difficult to make a reliable population estimate. (Moehlman, 2002)

Population size and trend: Total population: 60,000 - 70,000 (1998) declining (Moehlman, 2002)

IUCN Red List:	LR/lc ver 2.3	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The Kiang was considered to be a subspecies of the *Equus hemionus*, but recent molecular studies indicate that it is a distinct species. Since there is a lack of data regarding this species, the status and distribution should be assessed, in particular in China. The taxonomic status of the three subspecies should be clarified in order to understand the distribution of the species and subspecies. (Moehlman, 2002)

ARTIODACTYLA SUIDAE SUINAE

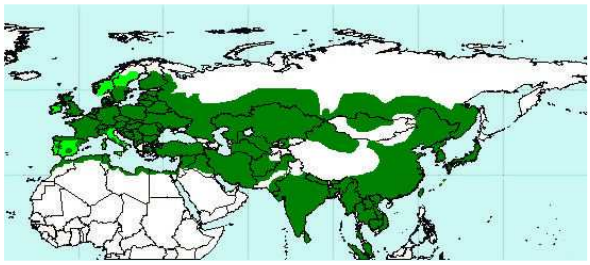
Sus scrofa -

Wild Boar

Synonyms: Eurasian Wild Boar

Subspecies: *S. s. algira; S. s. attila; S. s. cristatus; S. s. davidi; S. s. leucomystax S. s. libycus; S. s. majori;* ***S. s. meridionalis****; S. s. moupinensis;* ***S. s. nigripes; S. s. riukiuanus;*** *S. s. scrofa;* ***S. s. sibiricus****; S. s. taivanus; S. s. ussuricus; S. s. vittatus*

Distribution:



Distributed all throughout the European mainland and parts of Asia. Extinct in British Isles and Scandinavia but reintroduced into England, S Finland and S Sweden.(Wilson & Reeder, 2005)

Status: The species is doing generally well throughout most of its range; it is even considered a pest in most countries and therefore intensively hunted (Oliver *et al*., 1993). See subspecies for more detailed information regarding populations that are fragmented or in need of special attention.

Population size and trend: Numerous

IUCN Red List:	LR/lc ver 2.3	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Fragmentation of populations should be reduced (Cromsigt, 2000).

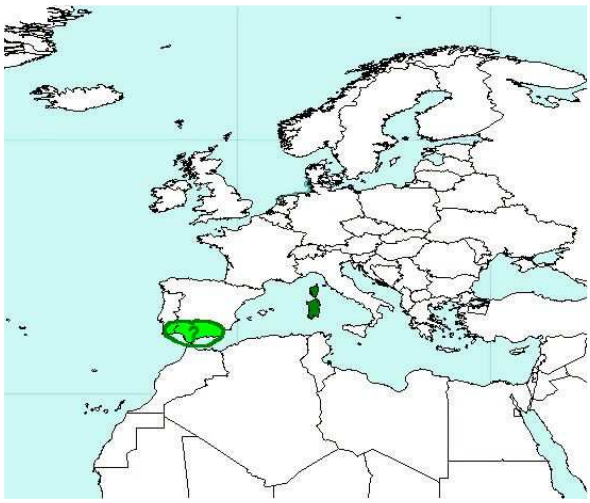
ARTIODACTYLA SUIDAE SUINAE

Sus scrofa meridionalis

Iberian Wild Pig

Synonyms: -

Distribution:



Found in Andalusia (S Spain and SE Portugal), Sardinia and Corsica (island populations probably feral) (Cromsigt, 2000).

Status: Is considered potentially at risk or rare (IUCN Pig, Peccaries & Hippos Specialist Group website).

Population size and trend: -

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: The situation regarding this subspecies should be assessed so that appropriate conservation measures can be made.

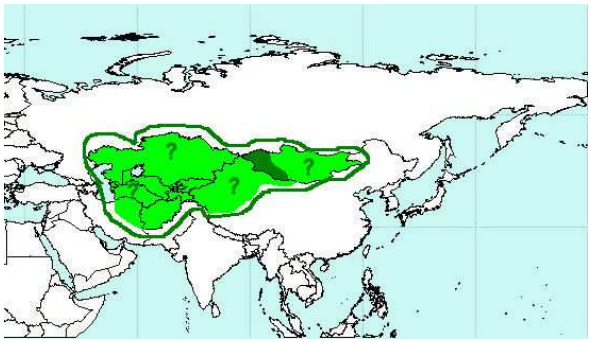
ARTIODACTYLA SUIDAE SUINAE

Sus scrofa nigripes

Central Asian Wild Boar

Synonyms: -

Distribution:



Flanks of the Tien shan Range in C Asia and ranging west to the Caspian Sea, south to N Iran, Afghanistan, W and S Mongolia (including Great Lakes Depression and western Mongol Altai Mountain Range) and China, and east as far as Novosibirsk (Oliver, 1993; Clark *et al*., 2006)

Status: Are still said to be widespread and abundant but the current situation in Mongolia needs to be investigated. As many other animal species in Mongolia they suffer from extreme hunting pressure as well as habitat degradation and hybridization with domesticated pigs. Regional status in Mongolia is Near Threatened. (Clark *et al*., 2006) The total Wild Boar take in Mongolia was estimated to be 30,000 animals in 2004, this concerns both *S. s. Raddeanus* and *S. s. nigripes* (Wingard & Zahler, 2006).

Population size and trend: -

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	The situation regarding this subspecies of Wild Boar in Mongolia needs to be thoroughly assessed so that appropriate conservation measures can be taken.

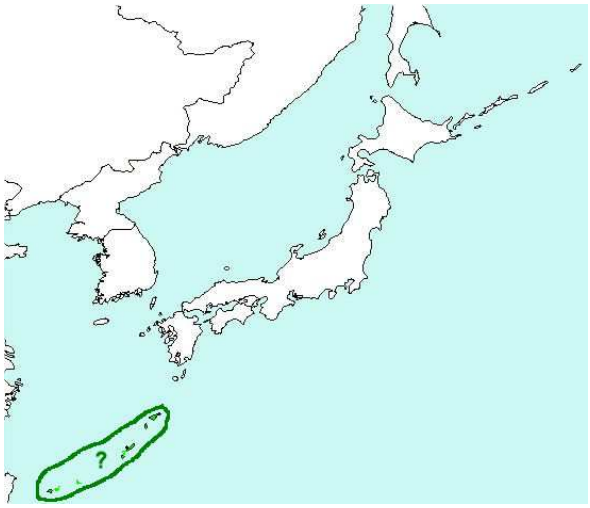
ARTIODACTYLA SUIDAE SUINAE

Sus scrofa riukiuanus

Ryukyu Islands Wild Pig

Synonyms: -

Distribution:



Endemic to the Ryukyu Islands south of the main islands of Japan.

Status: Numbers are declining rapidly, largely as a result of hunting, and it is thought to be endangered on at least four of the six islands of the Ryukyu chain. Other threats include diseases and genetic contamination through contact with free ranging domestic pigs. (Oliver *et al.*, 1993; Blouch, 1995; Pigs & Peccaries Specialist Group 1996)

Population size and trend: -

IUCN Red List:	VU A1acde, B1+2bd ver 2.3	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	The situation regarding this subspecies of Wild Boar needs to be thoroughly assessed on all of the six Ryukyu islands of Japan so that appropriate conservation measures can be made (Pigs & Peccaries Specialist Group, 1996).

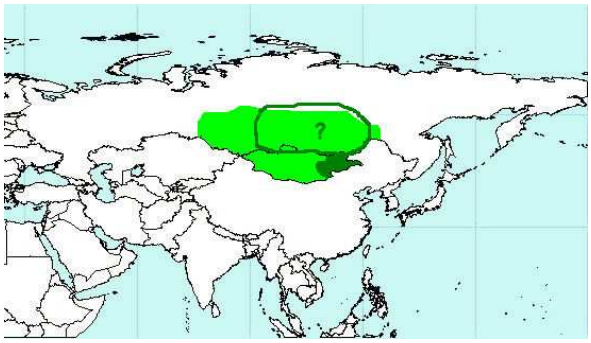
ARTIODACTYLA SUIDAE SUINAE

Sus scrofa sibiricus

Siberian Wild Boar

Synonyms: *S. s. raddeanus*

Distribution:



Occurs in Siberia and in the eastern parts of Mongolia including Hangai, Hövsgöl and Hentii mountain ranges, Ikh Hyangan Mountain Range and Mongol Daguur Steppe (Clark *et al*., 2006).

Status: Are still said to be widespread and abundant but the current situation in Mongolia needs to be investigated. As many other animal species in Mongolia they suffer from extreme hunting pressure as well as habitat degradation and hybridization with domesticated pigs. Regional status in Mongolia is Near Threatened. (Clark *et al*., 2006) The total Wild Boar take in Mongolia was estimated to be 30,000 animals in 2004, this concerns both *S. s. Raddeanus* and *S. s. nigripes* (Wingard & Zahler, 2006).

Population size and trend: -

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The situation regarding this subspecies of Wild Boar in Mongolia needs to be thoroughly assessed so that appropriate conservation measures can be taken.
S. s. raddeanus is often regarded as being the same subspecies as *S. s. sibericus*.

ARTIODACTYLA CAMELIDAE

Camelus bactrianus -

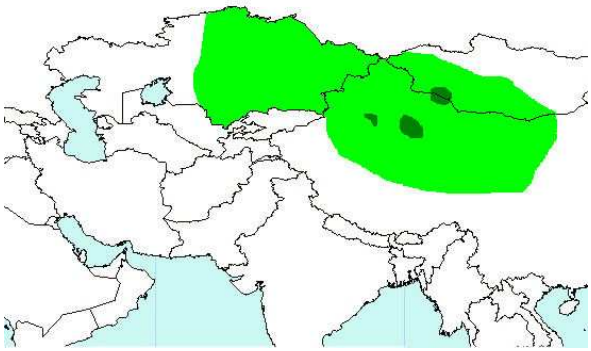
Bactrian Camel

Bactrian Camel – Chris Eisenga Flaxfield Nature Consultancy

Synonyms: *C. ferus*; Wild Camel; Wild Bactrian Camel

Subspecies: *C. b. ferus; C.b. bactrianus*

Distribution:



Formerly distributed throughout the steppes and semi-deserts of Kazakhstan, S Mongolia and N China. Currently restricted to four subpopulations in SW Mongolia (Great Gobi national park) and China (Gansu, Tsinghai and Sinkiang); domesticated in Iran, Afghanistan, and Pakistan, north to Kazakhstan, Mongolia and China (Wilson & Reeder, 2005; Clark et al., 2006; www.wildcamels.com)

Status: It is estimated (based on observations made during five expeditions) that the Wild Bactrian Camel is facing a population size reduction of at least 80% within the next three generations (Hare, 2002). However, after years of dramatic decline in Mongolia, known to be 46% since 1985 (Hare, 2002), the Bactrian Camel population in the Great Gobi section A Strictly Protected Area (SPA) currently seems to be doing fairly well. The Wild Camel Protection Foundation (WCPF) has set up a captive wild Bactrian Camel breeding centre and so far the births have been encouraging (Hare, pers.comm. 2007). The primary threat for the Mongolian population is hybridization with Domestic Camels. Movements of Domestic Camels into the Great Gobi section A SPA have been observed on many occasions (Walzer &

Kazcensky, 2005 as in Clark *et al.*, 2006 ; Clark *et al.*, 2006).
In China the situation is still critical, the Wild Bactrian Camel Area is about 175,000 square kilometres in size, and part of the area is still under the military. Poaching is still rife together with illegal mining resulting in wild camels being shot for food.(www.wildcamels.com; Clark *et al*., 2006; Hare, pers.comm. 2007) Other threats to the remaining populations, both in China and Mongolia, include habitat degradation, reduction of water resources and predation by Wolves (Hare, 2002; www.wildcamels.com; Clark *et al*., 2006).

Population size and trend:

World wild population: ~ 1050 decreasing
Mongolia: ~ 450 stable/increasing slightly
China: ~ 600 decreasing
Taklimakan Desert: 40-60
Lop Nur in Xingjiang Province: 60-80
Arjin mountains in Gansu Province: 280-340
(Hare, pers.comm. 2007; www.wildcamels.com)

IUCN Red List:	CR A3de + 4ade ver 3.1	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	I

Recommendations and remarks:

It has been proposed to use the name *C. ferus* or *C. b. ferus* to refer to the wild taxon of Bactrian Camels. Preliminary genetic research indicates that wild Bactrian camels may represent a distinct species from Domestic Camels. (Wilson & Reeder, 2005; Clark *et al*., 2006)
The WCPF has recently signed an agreement with the Zoological Society of London to advise on the future management of wild camels in Mongolia and China. This could help raise the professional standards of managing and monitoring of the wild Bactrian camel in both countries (Hare, pers.comm. 2007). Designating areas in both China and Mongolia either as Nature Reserves or Strictly Protected Areas will reduce the threat of poaching and illegal mining and could facilitate the migration of wild Bactrian camels along the border desert area between Mongolia and China. (www.wildcamels.com)

ARTIODACTYLA CAMELIDAE

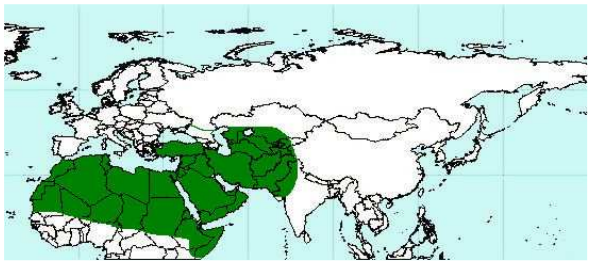
Camelus dromedarius -

One-humped Camel

Synonyms: Dromedary Camel; Dromedary

Subspecies: -

Distribution:



Extinct in the wild; domesticated from wild populations which presumably had become restricted to the S Arabian Peninsula; domesticated in Mauritania to Somalia and Kenya, throughout N africa, the Middle East, Arabia and Iran to NW India; feral in Australia (Wilson & Reeder, 2005).
The distribution map shown above is based on the current range of the Domesticated Dromedary.

Status: Extinct in the wild.

Population size and trend: -

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Since the dromedary is no longer considered to be a wild animal action should be taken to explore the possibilities if the domestic form can take the niche of the wild form in nature conservation projects/ reserves within its former range (Vlasakker, van de, pers.comm. 2007).

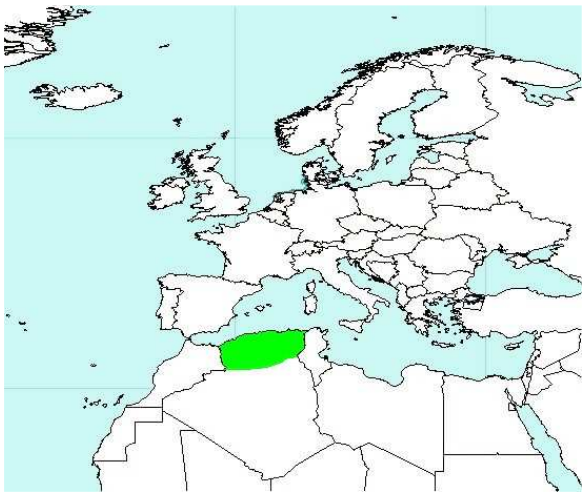
ARTIODACTYLA BOVIDAE ANTILOPINAE

Eudorcas rufina -

Red gazelle

Synonyms: *Gazella rufina*

Distribution:



Formerly found in N Algeria (Wilson & Reeder, 2005).

Status: Extinct (Antelope specialist group, 1996b).

Population size and trend: World: 0

IUCN Red List:	EX ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

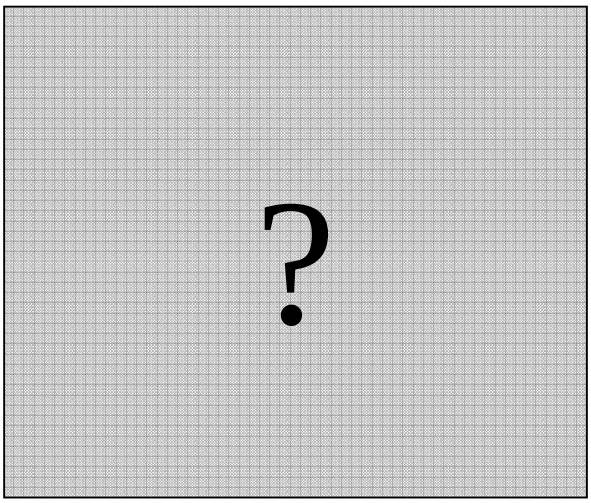
ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella arabica -

Arabian Gazelle

Synonyms: -

Distribution:



Former distribution not known (Mallon and Kingswood, 2001).

Status: Extinct in wild (Mallon, 2003a).

Population size and trend: World: 0

IUCN Red List:	EX ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

ARTIODACTYLA BOVIDAE ANTILOPINAE

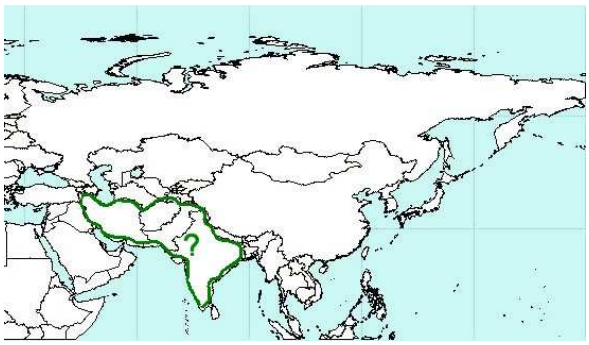
Gazella bennetii -

Indian Gazelle

Synonyms: Chinkara

Subspecies: *G. b. bennetii; G. b. christii; G. b. fuscifrons; G. b. karamii; G. b. salinarum; G. b. shikarii*

Distribution:



Currently found in Afghanistan, India, Iran and Pakistan. (Wilson & Reeder, 2005)

Status: Populations in Pakistan, Afganistan and Iran have been greatly reduced by overhunting, Habitat loss by overgrazing, agriculture and industrial development. The Indian population is stable (Rahmani, 2001).

Population size and trend: India: >100,000 stable (Rahmani, 2001)
Iran: about 1,300 (Hemami, 2001)
Afganistan: unknown (Habibi, 2001)
Pakistan: unknown (probably very rare) (Habibi, 2001)

IUCN Red List:	LC ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	This species is stable due to protection by law in India, Pakistan and Iran.

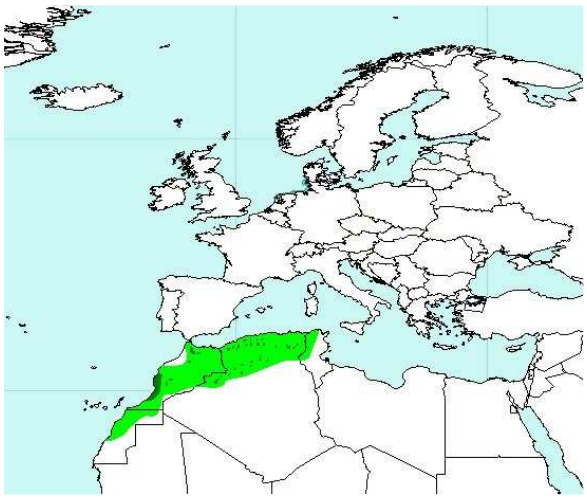
ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella cuvieri -

Cuvier's Gazelle

Synonyms: Edmi (Gazelle); Atlas Mountain Gazelle

Distribution:



Formerly occurred in the mountainous regions of Morocco, including the Middle and High Atlas, almost to the Atlantic coast. It also occurred in Algeria and western Tunisia. Currently found in a series of small populations in highland areas of Algeria, Morocco, and Tunisia (Lafontaine *et al.,* 2005; Mallon & Kingswood, 2001).

Status: Habitats in Algeria and Tunisia are formally protected, in Morocco it is mainly distributed outside protected areas. Major threats are fragmentation and habitat loss and from overgrazing by livestock and poaching (Mallon & Kingswood, 2001).

Population size and trend:
World: 1,450 – 2,450
Algeria: 560
Morocco: 600 – 1,500
Tunisia: 300 - 400
(Lafontaine *et al.* 2005)

IUCN Red List: EN C2a ver. 2.3 (1994) **EU Habitat Dir.:** -

CITES: III **EC Reg. 338/97:** -

Bern Convention: - **Bonn Convention:** I

Recommendations and remarks: Reports suggest that some populations are now stable or even increasing. If these trends are confirmed, a status reassessment will become necessary. (Mallon, pers. comm. 1997)

ARTIODACTYLA BOVIDAE ANTILOPINAE

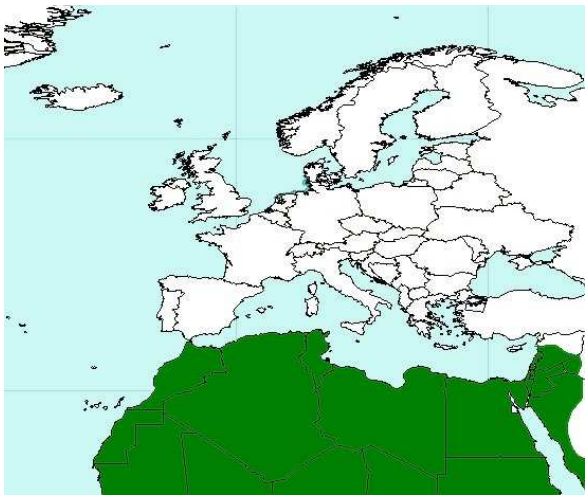
Gazella dorcas -

Dorcas Gazelle

Synonyms: Black-tailed Gazelle

Subspecies: *G. d. dorcas; G. d. beccarii; G. d. isabella; G. d. massaesyla; G. d. osiris; G. d. pelzelnii*

Distribution:



Formerly occurred over the entire Sahelo-Saharan region, from the Mediteranean to the S Sahel and from the Atlantic to the Red Sea, extending into S Israel and Jordan. (Lafontaine *et al.* 2005; Wilson & Reeder, 2005)

Status: Recent declines in almost all range states, disappeared from many regions and seriously reduced in numbers where it survives (Lafontaine *et al.* 2005).
Major threats include over hunting and habitat loss due to overgrazing by livestock and drought. (Mallon & Kingswood, 2000a)

Population size and trend: World: somewhere in tens of thousands, declining (East, 1999).
Sub-Saharan population: 35,000 – 40,000 declining (East, 1999).
Israel: > 2,000 stable (Clark & Frankenberg 2001).

IUCN Red List: VU A1a ver. 2.3 (1994) **EU Habitat Dir.:** -

CITES:	III	**EC Reg. 338/97:**	B
Bern Convention:	II	**Bonn Convention:**	I
Recommendations and remarks:	-		

ARTIODACTYLA BOVIDAE ANTILOPINAE

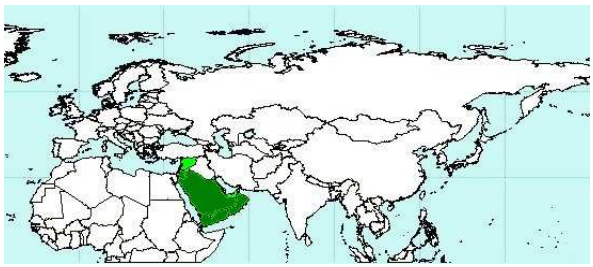
Gazella gazella -

Mountain Gazella

Synonyms: Idmi

Subspecies: ***G. g. gazella***; ***G. g. acaciae***; ***G. g. cora***; *G. g. darehshourii*; ***G. g farashani;*** *G. g. muscatensis*

Distribution:



Formerly occurred across most of the Arabian Peninsula, N to S Syria and extending westwards into Sinai (Mallon, 2003b).
Currently occurs in Israel, Saudi Arabia (occurs also on the Farasan islands), Oman, probably the United Arab Emirates and Yemen (Wilson & Reeder, 2005; Mallon, 2003b).

Status: Population is decreasing due to Illegal hunting for meat and live capture for pets and private collections. Habitat loss through conversion to agriculture and development (Mallon, 2003b).

Population size and trend:
World: 15,000
Israel: declined from 10,000 to approximately 3,000 since 1996
Oman: < 10,000
Saudi Arabia: 1,500 - 1,700, up to 1,000 of these are on the Farasan Islands
Yemen: data deficient (but generally described as rare)(Mallon, 2003b)

IUCN Red List:	VU A2ad ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks:	Legally protected in Israel, Saudi Arabia, and Oman, but enforcement is not always effective (Mallon, 2003b)

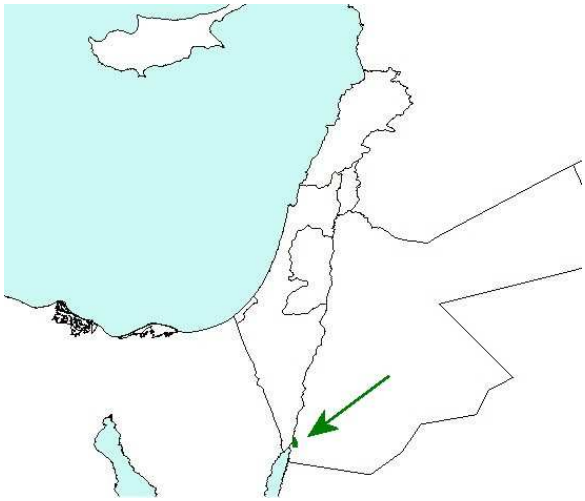
ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella gazella acaciae

Acacia Gazelle

Synonyms: -

Distribution:



This species represent a relict population that became isolated at the end of the last glacial period (Clark & Frankenberg, 2001). Currently It occurs in a small area of the southern Arava Valley, north of Aqaba (Jordan). Area of occupancy is currently estimated at 7.5 km^2 (Blank, 2003a).

Status: The population is critically endangered. Major threats are habitat deterioration (the water table is falling due to abstraction of underground water sources for agriculture causing acacia trees, bushes and perennial plants to disappear), increasing predation by wolves and jackals and inbreeding due to small population size (Blank, 2003a).

Population size and trend: Jordan (Arava valley): <50 (Clark & Frankenberg, 2001)

IUCN Red List: CR B2ab(iii); D ver. 3.1 (2001) **EU Habitat Dir.:** -

CITES: - **EC Reg. 338/97:** -

Bern Convention: - **Bonn Convention:** II

Recommendations and remarks: The current habitat is protected. Supplementary feed is provided and natural vegetation irrigated. An evaluation of predator control in the area is recommended (Blank, 2003a).

ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella gazella cora

Arabian Mountain Gazelle

Synonyms: -

Distribution:

Formerly occurred in a wide area of the Arabian Peninsula.
Currently found in Oman, Saudi Arabia, Yemen and United Arab Emirates. (Mallon, 2003c)

Status: Most of this species occur in Oman. Reintroduced populations in Saudi Arabia are found in the Ibex Reserve, southeast of Riyadh; Al-Khunfah Reserve in the north; and Uruq Bani Ma'arid reserve in the south. Small, scattered populations occur in the west of the country. Major threats are hunting. (Mallon, 2003c)

Population size and trend: Oman: approximately 9,500
Saudi Arabia:
- Ibex Reserve: 240 – 300
- Uruq Bani Ma'arid: 150 - 300
- Al Kunfah: 50
- rest of the country: 100 (Mallon, 2003c)

IUCN Red List:	VU C1 ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-

Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks:	Legally protected but enforcement is not fully effective. (Mallon, 2003c)

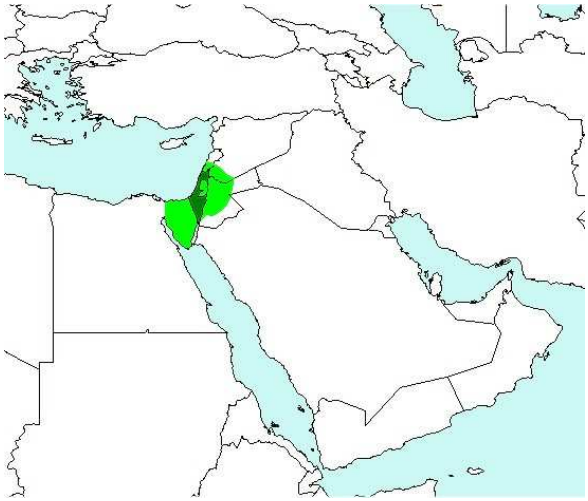
ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella gazella gazella

Palestine Mountain Gazelle

Synonyms: -

Distribution:



Formerly occurred across the northern part of the Arabian Peninsula, from the Sinai peninsula to S Syria.
Currently confined to Israel (Blank, 2003b).

Status: Declining. Major threats are Habitat loss (agricultural development, fencing pasture for cattle, construction of roads and settlements) and poaching (Blank, 2003b).

Population size and trend: Israel: 3,000 (Blank, 2003b)

IUCN Red List:	EN A2a ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks: Legally protected in Israel. (Blank, 2003b)

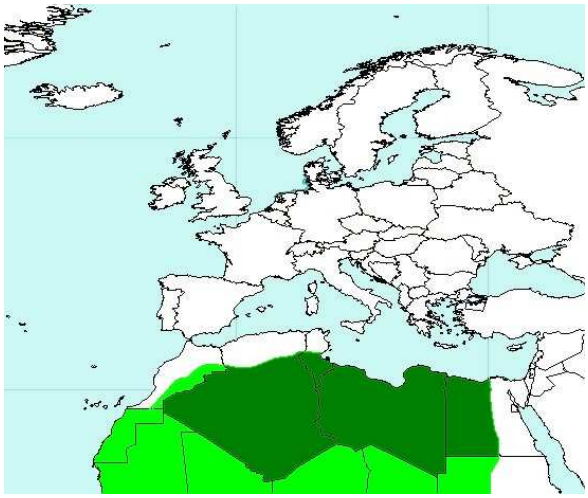
ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella leptoceros -

Slender-horned Gazelle

Synonyms: Algerian Sand Gazelle

Distribution:



Formerly occurred across the Sahara, west of the River Nile.
Currently found only in Algeria, Tunisia, Libya and the Western desert of Egypt. (Devillers *et al.* 2005)

Status: Large decline in the last 10 years. Major threat is uncontrolled hunting (Devillers *et al.* 2005).

Population size and trend: World: < 2,500 declining

IUCN Red List:	EN C1+2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	III	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	I

Recommendations and remarks: Sub populations are smaller than 250 mature individuals. (Mallon, 2003; Antelope Specialist Group, 1996a)

ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella saudiya -

Saudi Gazelle

Synonyms: -

Distribution:

Formerly occurred widely in the Arabian Peninsula from Kuwait to the borders of Saudi Arabia and Yemen. (Mallon & Kingswood, 2001).

Status: Extinct in wild.

Population size and trend: World: 0

IUCN Red List:	EW ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

Gazella subgutturosa -

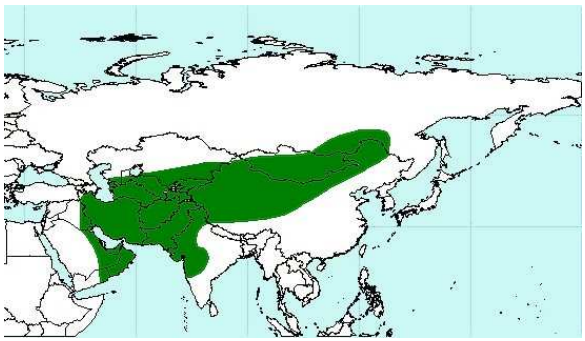
Goitered Gazelle

Goitered gazelle – LHF Photo Library

Synonyms: Black-tailed Gazelle

Subspecies: *G. s. subgutterosa*; *G. s. hillieriana*; ***G. s. marica***; *G. s. yarkandensis*

Distribution:



Currently found from the south of the Arabian Peninsula across the Middle East and Asia to Mongolia, China and Pakistan (Wilson & Reeder, 2005).

Status: Declines are widely reported and continuing. The population in Turkmenistan has almost disappeared in recent years. The largest population in Kazakhstan has also drastically declined in the last few years even as the Mongolian population (decline of 50%). The rate of decline is now estimated to have exceeded the figure of 30% over 10 years. Major threats are Illegal hunting and habitat loss. (Mallon, 2005a)

Population size and trend:

World: 120,000–140,000 declining (Mallon & Kingswood, 2001)
Kazakhstan: < 15,000 drastically declining
Iran: 4,000
Pakistan: drastically declined (maybe extinct)(Mallon, 2005a)
Turkey (2004 - 2005): 2,560 – 2,660 (of which 110 in wild populations (Suyomert, pers. comm. 2007)
Mongolia 10,000 – 20,000 declining
Azerbaijan 4,500 –8,000
Tajikistan: critical situation < 100
Azerbaijan: 4,000 (Pereladova, 2002)

IUCN Red List:	VU A2ad ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II	**Bonn Convention:**	II
Recommendations and remarks:	Important to take conservational steps to preserve this species, especially in Uzbekistan, Turkmenistan and Tajikistan.		

ARTIODACTYLA BOVIDAE ANTILOPINAE

Gazella subgutturosa marica

Arabian Sand Gazelle

Synonyms: Reem

Distribution:

Formerly occurred in the Arabian Peninsula north to Iraq and Kuwait.
Currently found in Bahrain (Hawar Island and southern part of Bahrain Island); Oman (Dhofar, edge of Rub al Khali to Arabian Oryx Sanctuary); United Arab Emirates (Umm al Zummur area); Saudi Arabia (four populations, all in protected areas); Jordan (northeast); Syria, Iraq and Yemen (BCEAW, 2003).

Status: Declining, the global population of G.s. marica is estimated at <10,000. The largest subpopulation, in Oman, is continuing to decline and no subpopulation contains >1,000 mature individuals. Major threats are hunting, habitat degradation and competition with domestic livestock.

Population size and trend:
World: <10,000
Saudi Arabia: 2,650-3,050
Oman: unknown
Yemen: unknown
United Arab emirates: 1,000
Bahrein: >1,700
Jordan: unknown (very few)
Syria: 120 (Habibi, 1998; BCEAW, 2003)

IUCN Red List:	VU C2a (i) ver 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II	**Bonn Convention:**	II
Recommendations and remarks:	More data on population size and distribution is important to be able to take conservational steps to preserve this species.		

ARTIODACTYLA BOVIDAE ANTILOPINAE

Nanger dama -

Dama Gazella

Synonyms: *Gazella dama*; Addra Gazelle ; Dama Gazelle

Subspecies: *N. d. dama; N. d. mhorr; N. d. ruficollis*

Distribution:

Currently found in S and W Algeria, N Burkina Faso, Chad, S Mali, Morocco, S Niger, N Nigeria(possibly), N Senegal (reint.), N Sudan and Tunesia.
Formerly also in S Mauritania. (Wilson & Reeder, 2005)

Status: Only 4 populations known, each less than 100 individuals: Manga (Chad), Termit (Niger), Eastern Air (Niger), Tamesna (Mali/Niger border area). Uncontrolled hunting, habitat loss and degradation are threats. (Newby *et al*, 2005)

Population size and trend: World: declining (Newby *et al*, 2005)

IUCN Red List:	CR A2cd ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	This species is very threatened. The habitat fragmentation and the uncontrolled hunting are prone to drive this species to extinction rapidly. More effort should be made to reintroduce and breed in captivity.

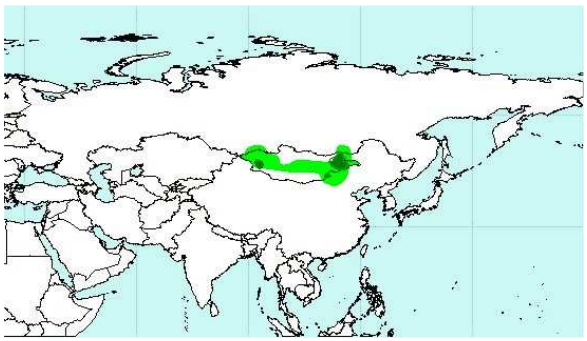
Procapra gutturosa -

Mongolian Gazelle

Mongolian gazelle – LHF Photo Library

Synonyms: *Gazella gutturosa;* Dzeren; Zeren

Distribution:



Currently found in China (Inner Mongolia), W and E Mongolia, Russia (Transbaikalia). Formerly also in the rest of China, other parts of Mongolia and Russia, and NE Kazachstan. (Wilson & Reeder, 2005)

Status: Despite heavy illegal hunting the population seems to be doing well.

Population size and trend: World: 400,000 – 2,700,000 (Mallon, 2003d)
China: 80,000 – 250,000 (Mallon, 2003d)
Mongolia: 800,000 – 900,000 (Clark *et al*, 2006)

IUCN Red List:	LC ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Even though the species seems to be doing all right now, the heavy hunting in combination with some unexpected event (like a disease) could put it in a vulnerable position. Annual monitoring is therefore necessary. (Mallon, 2003d)

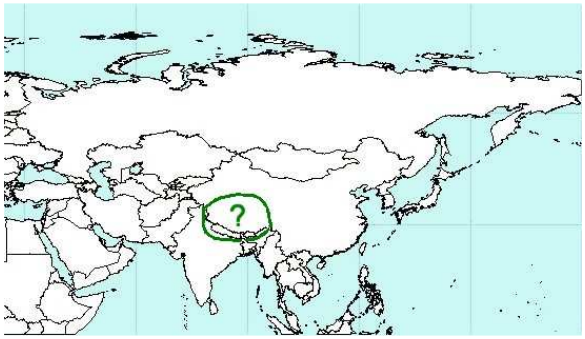
ARTIODACTYLA BOVIDAE ANTILOPINAE

Procapra picticaudata -

Tibetan Gazelle

Synonyms: Goa

Distribution:



Currently found in China, India (Jammu-Kashmir; Sikkim) (Mallon, 2003e)

Status: Habitat loss and illegal hunting are reducing the population, but at what rate is not clear. Most animals occur in China (99%), but some very small populations exist in India. (Mallon, 2003e)

Population size and trend: World: 100,000 declining (Mallon, 2003e)

IUCN Red List:	LC ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

ARTIODACTYLA BOVIDAE ANTILOPINAE

Procapra przewalskii -

Przewalski's Gazelle

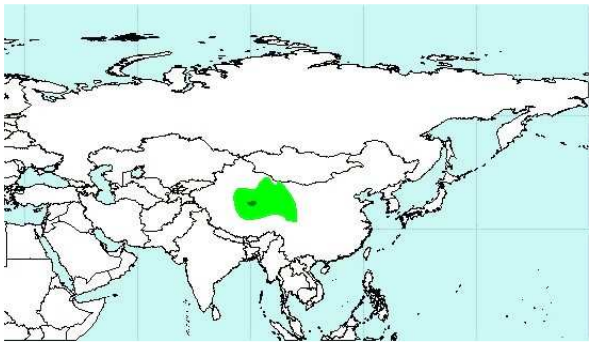
Przewalski's gazelle – Jiang Zhiang

Przewalski's gazelle – Jiang Zhiang

Synonyms: *P. picticaudata przewalskii*

Subspecies: *P. p. przewalskii; P. p. diversicornis*

Distribution:



Currently found in China (Gansu (extinct), Qinghai) (Mallon, 2003f).

Status: Four populations in China add up to less than 250 mature animals. A decline of at least 25% within three years is estimated. (Mallon, 2003f)

Population size and trend: China: <250 declining (Mallon, 2003f)

IUCN Red List:	CR C1 ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks:	This species is under major threat of extinction. Immediate conservation actions should be taken.

Saiga borealis mongolica

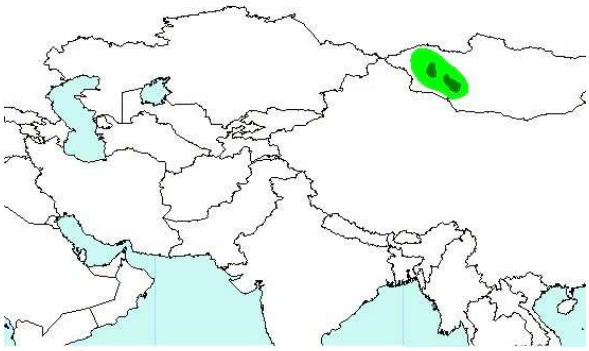
Mongolian Saiga

Saiga – Chris Eisenga Flaxfield Nature Consultancy.

Saiga – Chris Eisenga Flaxfield Nature Consultancy

Synonyms: Some authors include the Mongolian Saiga as a subspecies of *S. tatarica* as *S. t. mongolica*; Saiga antelope.

Distribution:



Formerly occurred from the Uvs Nuur basin in NW Mongolia through the Great Lakes Basin to the Huisiin Gobi and Shargyn Gobi.
Currently there are two subpopulations. The main subpopulation is in the Shargyn Gobi. The other consists of a remnant in Mankhan District. (Milner-Gulland, 2006)

Status: Endangered. The population increased from c. 3,000 in 1998 to 5,200 in 2000. Numbers fell 2000–2002 as a result of severe winters and summer drought. They continued to decline in 2002–2003, mainly because of poaching. Numbers were c. 1,020 in 2003 and 750 in January 2004 (WWF, 2004; Zahler et al, 2004)
Mongolian saiga are known from two locations, one of which contains >95% of the total population. Major threats are poaching and Competition with increasing numbers of domestic livestock (Mallon, 2005b).

Population size and trend: Mongolia: 2000 declining (Milner-Gulland, 2006)

IUCN Red List: EN A2ad; C1+2a(ii) ver. 3.1 (2001)

EU Habitat Dir.: -

CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The ranger program of the WWF that ceased in 2002 due to lack of funding, was a very good initiative. This or similar initiatives are necessary to preserve this species. (Mallon, 2005b)

ARTIODACTYLA BOVIDAE ANTILOPINAE

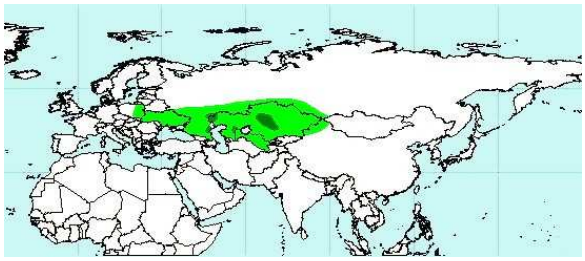
Saiga tatarica tatarica

Steppe Saiga

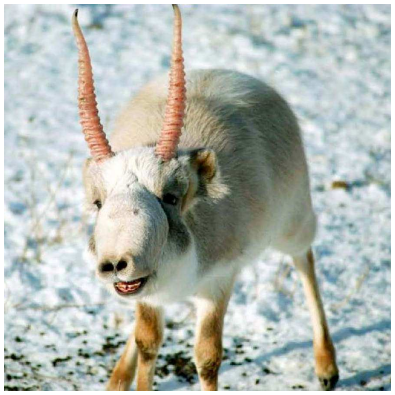
Saiga – LHF photo Library

Synonyms: Saiga

Distribution:

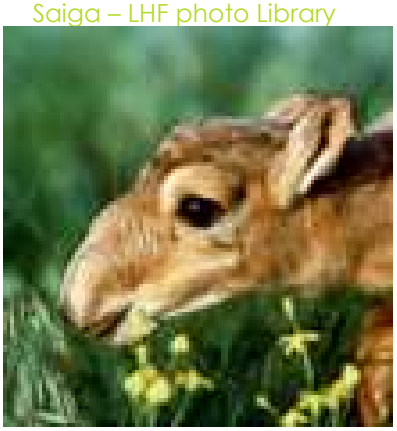


Formerly occurred in China (Dzungarian basin of Sinkiang), Kazakhstan, Moldavia, Eastern Poland, South Russia, Ukraine and Uzbekistan. Currently found in four populations in NW precaspian (Russia), Ural (Kazakhstan/Russia), Ustiurt (Kazakhstan, Uzbekistan and Turkmenistan) and Betpak-dala (Kazakhstan) (Wilson & Reeder, 2005).



Saiga – LHF photo Library

Status: The population has shown an observed decline of over 80% over the last 10 years. Global population has stabilized since 2002 (Milner-Gulland, 2006). Major threats are illegal hunting for horns and meat, heavily skewed sex ratios are resulting in reproductive collapse (Milner-Gulland *et al*, 2003).



Saiga – LHF photo Library

Population size and trend: World: 64,400 - 69,400
NW precaspian (Russia); 15,000 - 20,000 stable/increasing
Ural (Kazachstan/Russia): 12,800 stable
Ustiurt (Kazachstan, Uzbekistan and Turkmenistan): 17,800 declining
Betpak-dala (Kazachstan): 16,800 increasing
(Milner-Gulland, 2006)

IUCN Red List:	EN A2ad; C1+2a(ii) ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks:	Some protective measurements have been taken, but winter and summer ranges are not connected. More actions have to be taken to diminish the decline of this species.

ARTIODACTYLA BOVIDAE BOVINAE

Bison bonasus -

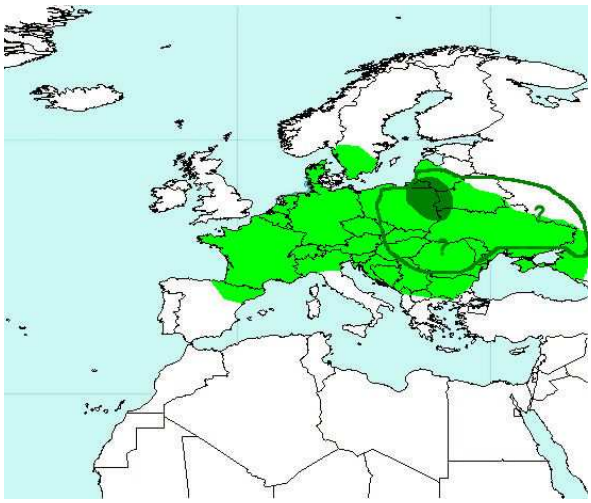
European Bison

European Bison – Joep van de Vlasakker Flaxfield Nature Consultancy

Synonyms: Wisent

Subspecies: *B. b. bonasus; B. b. caucasicus; B. b. hungarorum*

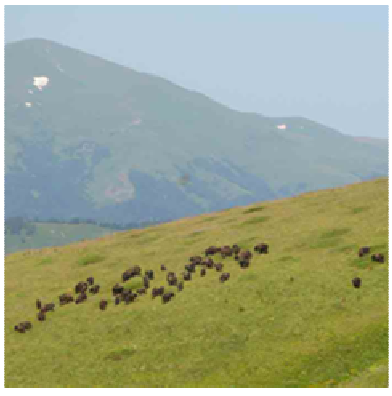
Distribution:



Formerly throughout Europe, surviving in Germany, Romania and W Russia into 18th Century and in Poland, W Caucasus Mtns until early part of 20th Century. Extinct in the wild but now reintroduced in Belarus, Lithuania, Poland, Romania, Russian Federation, Slovakia and Ukraine. Introduced to Kyrgyzstan. Several other reintroduction projects are currently being planned. (Pucek, 2000; Wilson & Reeder, 2005)

European Bison – Joep van de Vlasakker Flaxfield Nature Consultancy

Status: The population has been increasing with about 9% each year for the last 10 years (Pereladova, pers. comm. 2007). Actual threats include fragmentation of the free-ranging herds which prevents exchange of genetic material and increases the risk of extinction. The limited gene-pool causes a high percentage of inbred animals. (Pucek *et al*., 2004)



European Bison (Caucasicus) – LHF Photo library

Population size and trend:

World population: 3,155 (2004) increasing
Free-ranging: 1,955 in total
Russia: 411 (2006)
Free-ranging: 299 (Pereladova, pers. comm. 2007)
Bialowieza Primeval Forest:
Poland part: 250 – 350 stable
Belarus part: ~ 300 stable (Mysterud *et al*., 2006)
Poland: ~ 266 (2000)
Lithuania: ~ 30 (2000)
Belarus: ~ 204 (2000)
Ukraine: 528 (2000)
(Pucek *et al*., 2004)

More detailed information on exact population sizes can be found in the 2004 IUCN/SSC European Bison status survey and conservation action plan.

European Bison – Joep van de Vlasakker Flaxfield Nature Consultancy

IUCN Red List:	EN A2ce, C2a ver 2.3	**EU Habitat Dir.:**	II, IV
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

European Bison – Joep van de Vlasakker Flaxfield Nature Consultancy

Recommendations and remarks:

Genetic variability needs to be safeguarded; this is of interest to the breeding programs in particular. The captive population serves as a reserve gene pool and as a source of animals for further reintroduction, so further breeding programs are required.
Many of the free-ranging populations are very small and thus are vulnerable for poaching and diseases.
The process of reintroduction should be continued, so additional reintroduction sites need to be identified and projects need to be planned. With regard to the breeding and the reintroduction of the species, the separation of the two subspecies should be maintained for as long as possible. Isolated free-ranging populations need to be linked to ensure exchange of genetic material. (Pucek *et al*., 2004)

European Bison (Caucasicus) – LHF Photo library

ARTIODACTYLA BOVIDAE BOVINAE

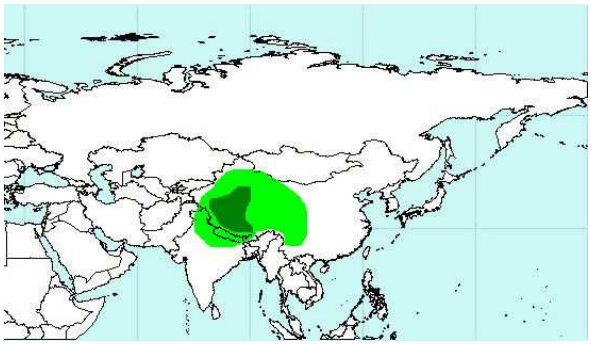
Bos grunniens -

Yak

Synonyms: *B. mutus*; Wild Yak

Subspecies: *B. g. grunniens; B. g. mutus*

Distribution:



Once widespread and numerous throughout the entire Tibetan Plateau, China, N India and Nepal; seemingly in Kazakhstan, Mongolia and Siberia until 13th to 18th centuries (but probably in domesticated form); Domesticated throughout C Asia. Currently few wild populations exist, restricted to the Tibetan Plateau ranging from the western edge of Gansu and including Qinghai, Tibet Region and the southern rim of Xinjiang Region. (Schaller & Wulin, 1996; Wilson & Reeder, 2005)

Status: Severe poaching pressure caused an overall decline estimated to be at least 20% over 20 years. This decline will probably persist, largely because of hunting but also due to competition and hybridization with livestock and habitat degradation. (Schaller & Wulin, 1996; Hedges, 2000) The Wild Yak population increased in Yeniugou (Qinghai province, China) since commercial poaching declined and now probably contains the densest population of Wild Yak in existence. However, the animals are very vulnerable to human disturbance and since the Yeniugou area still has no conservation-oriented management the future of this population is not secured (Harris & Loggers, 2004).

Population size and trend:	China: Yeniugou : ~ 1700 increasing (Harris & Loggers, 2004) World: ~ 10,000 declining (Hedges, 2000)		
IUCN Red List:	VU A1cd +2cd, C1 ver 2.3	**EU Habitat Dir.:**	-
CITES:	I, as *B. mutus* (excl. domestic form)	**EC Reg. 338/97:**	I, as *B. mutus* (excl. domestic form)
Bern Convention:	-	**Bonn Convention:**	I

Recommendations and remarks:

It has been proposed to use the name *B. mutus* when referring to the wild taxon of Yak (Wilson & Reeder, 2005).

Appropriate conservation measures need to be taken to secure the remaining populations of Wild Yak in China. Yak sites should receive full protection to diminish illegal poaching. A survey is needed to assess the current status of the species. (Schaller & Wulin, 1996; Hedges, 2000; Harris & Loggers, 2004)

ARTIODACTYLA BOVIDAE BOVINAE

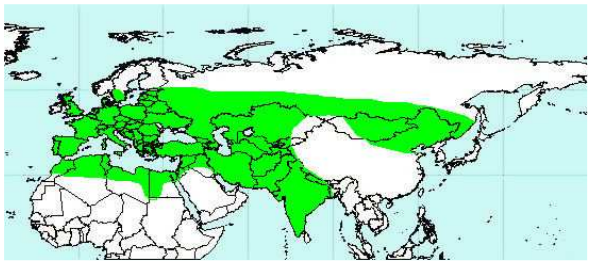
Bos taurus -

Aurochs & Domestic Catle

Synonyms:

Subspecies: *B. t. taurus; B. t. indicus; B. t. primigenius*

Distribution:



Extint in the wild; the last wild individual is believed to have died in 1627 in Poland. Once distributed throughout Europe and parts of Asia. Domesticated worldwide; feral populations in Spain, France and several countries outside the Palaearctic region. (Wilson & Reeder, 2005).

Status: Several attempts have been made to breed back original Aurochs from domestic Cattle breed. These Aurochs-like Cattle breeds (e.g. Heck Cattle) have been introduced in nature reserves throughout Europe to substitute for the role that Aurochs played in ecosystems (Bunzel-Drüke, 2001).

Population size and trend: -

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Efforts to breed Aurochs-like Cattle breeds should be continued, these species should be introduced into the original range of the Aurochs (Bunzel-Drüke, 2001).

ARTIODACTYLA BOVIDAE BOVINAE

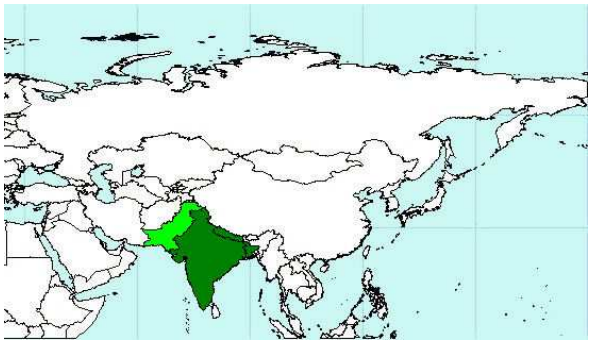
Boselaphus tragocamelus -

Nilgai

Synonyms: Blue Bull; Nilgai Antelope

Subspecies: -

Distribution:



Currently widely distributed in India and Nepal; rare in Pakistan; extinct but reintroduced to Bangladesh (Mallon, 2003g).

Status: Considered an agricultural pest in parts of India and sometimes shot. In Pakistan and Bangladesh the populations have decreased due to hunting and habitat destruction. (Mallon, 2003)

Population size and trend: India: > 100,000 (2001) stable (Mallon, 2003g)

IUCN Red List:	LC ver 3.1	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Survival of the species does not seem to be in danger (Cromsigt, 2000).

ARTIODACTYLA BOVIDAE BOVINAE

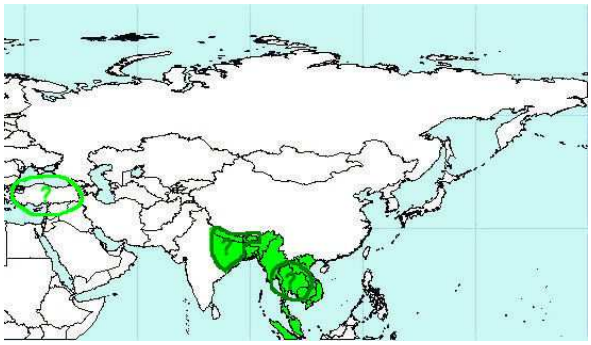
Bubalus bubalis -

Wild Water Buffalo

Synonyms: *B. arnee*; Water Buffalo; Asian Buffalo; Asiatic Buffalo

Subspecies: *B. b. bubalis; B. b. arnee; B. b. fulvus; B. b. kerabau; B. b. migona; B. b. theerapati*

Distribution:



Originally ranged from eastern Nepal and India, east to Vietnam and South to Malaysia. Currently restricted to Thailand, Bhutan, Nepal and India. Possibly at least formerly in Laos; domesticated in N Africa, S Europe and even England. Supposedly feral populations throughout SE Asia. (Wilson & Reeder, 2005) Possibly occurred in Turkey (Cromsigt, 2000).

Status: The current situation regarding the Wild Water Buffalo is hard to assess; this is mainly caused by the difficulty of distinguishing between free-ranging Domestic Buffalo, feral Buffalo, and truly Wild Buffalo, as well as hybrids between wild and other buffalo. Possibly no purebred Wild Water Buffalo remain.
The primary threats are hybridization with feral and Domestic Buffalo, hunting and habitat degradation. Other threats include competition for food and water resources and contamination by livestock (Hedges, 1996).

Population size and trend: World population: 200 - 4000 (?) decreasing (Hedges, 1996).

IUCN Red List: EN A2e, C1 **EU Habitat Dir.:** -
ver 2.3

CITES:	III, as *B. arnee*	**EC Reg. 338/97:**	C, as *B. arnee*
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: It has been proposed to use the name *Bubalus arnee* when referring to the wild taxon of the species (Wilson & Reeder, 2005).
The exact former range should be determined and possible reintroduction projects should be planned. The status of the species should be assessed, especially in India where reliable data is lacking (Hedges, 1996).

ARTIODACTYLA BOVIDAE CAPRINAE

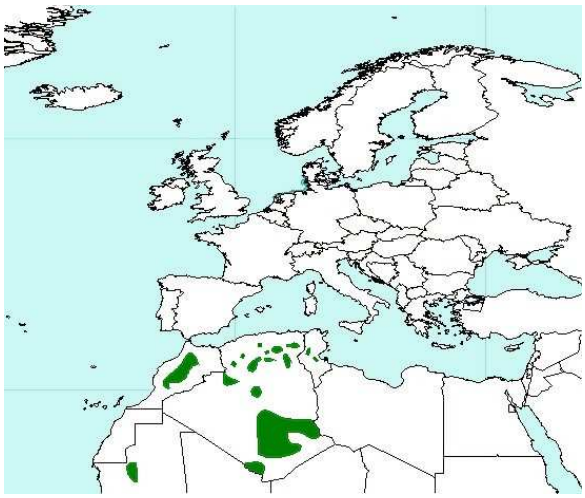
Ammotragus lervia -

Barbary Sheep

Synonyms: Aoudad, Uaddan

Subspecies: *A. l. lervia; A. l. angusi; A. l. blainei; A. l. fassini;* ***A. l. ornate;*** *A. l. sahariensis; A. l. tragelaphus*

Distribution:



Formerly occurred in N Africa.
Currently distributed in N Africa and Spain (after introduction) (Caprinae Specialist Group, 1996a; Cassinello *et al*., 2006).

Status: The population sizes are decreasing (Caprinae Specialist Group, 1996a). Habitat loss,degradation and hunting are the main threats (Caprinae Specialist Group 1996). Populations introduced in Spain are increasing in size (Cassinello *et al*., 2006).

Population size and trend: World: declining (Caprinae Specialist Group, 1996a)
Spain: increasing (Cassinello *et al*. 2006)

IUCN Red List:	VU A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	II
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Populations have also been introduced in Texas, New Mexico and California (Cassinello *et al.*, 2006). More research about population size should be performed.

ARTIODACTYLA BOVIDAE CAPRINAE

Ammotragus lervia ornata

Egyptian Barbary Sheep

Synonyms: -

Distribution:

Formerly occurred in Egypt. Currently possibly occurs in Egypt (Wacher *et al*., 2002).

Status: Was thought to be extinct, but has recently been seen as still existing in wild in Egypt (Wacher *et al*., 2002). It is/was killed mainly for meat, hide, hair, and sinews, competition with livestock and camels is/was another threat (Caprinae Specialist Group, 2000a)

Population size and trend: -

IUCN Red List:	EW ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research should be done to investigate whether this animal occurs in wild and in what numbers.

ARTIODACTYLA BOVIDAE CAPRINAE

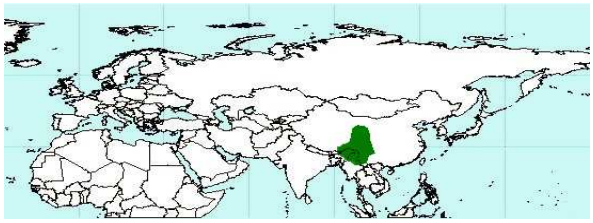
Budorcas taxicolor -

Takin

Synonyms: -

Subspecies: ***B. t. taxicolor; B. t. bedfordi; B. t. tibetana; B. t. whitei***

Distribution:



Currently distributed in Bhutan, N burma, China (Gansu, Sichuan, Shaanxi, SE Tibet and Yunnan), NE India and Myanmar (Wilson &Reeder; Caprinae Specialist Group, 1996b).

Status: Main threats are habitat loss / degradation, hunting, changes in native species dynamics and human disturbance (Caprinae Specialist Group, 1996b).

Population size and trend: -

IUCN Red List:	VU A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	II
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

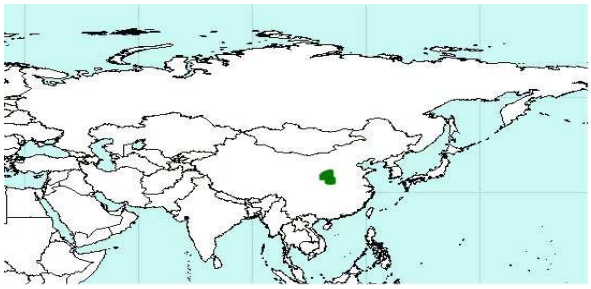
ARTIODACTYLA BOVIDAE CAPRINAE

Budorcas taxicolor bedfordi

Golden Takin

Synonyms: Shensi Takin

Distribution:



Currently distributed in the Quin Ling mountains in Shaanzi province (China) (Caprinae Specialist Group, 1996f; Zeng *et al*., 2002).

Status: The main threats are habitat loss / degradation, hunting and changes in native species dynamics (Caprinae Specialist Group, 1996f).

Population size and trend: World: declining (Caprinae Specialist Group, 1996f).

IUCN Red List:	EN A2cd, C2a, D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research should be done to determine the number of animals. Habitat loss and hunting should be limited.

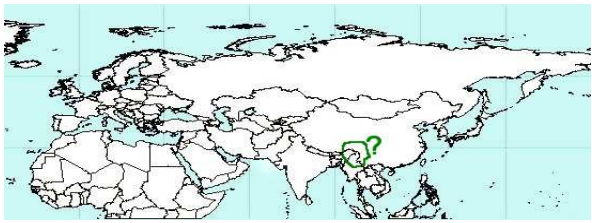
ARTIODACTYLA BOVIDAE CAPRINAE

Budorcas taxicolor taxicolor

Mishmi Takin

Synonyms: -

Distribution:



Currently occurs in China, India and Myanmar (Caprinae Specialist Group, 1996c).

Status: Major threats are habitat loss / degradation and hunting (Caprinae Specialist Group, 1996c).

Population size and trend: World: <10,000 (www.zoo.org)

IUCN Red List:	EN A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The trend of this species should be investigated. Habitat loss and hunting should be limited.

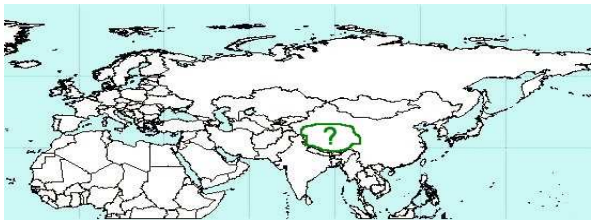
ARTIODACTYLA BOVIDAE CAPRINAE

Budorcas taxicolor tibetana

Sichuan Takin

Synonyms: Tibetan Takin

Distribution:



Formerly and currently distributed in China (Caprinae Specialist Group, 1996e).

Status: The main threats are habitat loss / degradation hunting and human disturbance (Caprinae Specialist Group, 1996e).

Population size and trend: World: <5,000 (www.zoo.org)
Majiashan Nature Reserve: 55-65 (Zhi-Gao *et al*. 2004)

IUCN Red List:	VU A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research should be performed regarding the trend of populations of this animal.

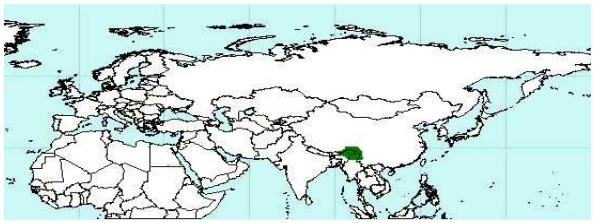
ARTIODACTYLA BOVIDAE CAPRINAE

Budorcas taxicolor whitei

Bhutan Takin

Synonyms: -

Distribution:



Currently distributed from Bhutan eastward to Myanmar and China and in India. In Bhutan they are found Primarily in the Jigme Dorji Wangchuk National Park (Caprinae Specialist Group, 1996d; www.bhutan2008.blogspot.com).

Status: The main threats are habitat loss/degradation hunting and changes in native species dynamics (Caprinae Specialist Group, 1996d).

Population size and trend: -

IUCN Red List:	VU A2cde ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research should be done to investigate the status and number of animals of this species.

ARTIODACTYLA BOVIDAE CAPRINAE

Capra caucasica -

Tur

Synonyms: -

Subspecies: ***C. c. caucasica***; ***C. c. cylindricornis***; *C. c. severtzovi*

Distribution:

Formerly and currently occurs in the Caucasus mountains.

Status: Main threats are habitat loss / degradation, poaching and natural disasters (Caprinae Specialist Group, 1996g,p).

Population size and trend: -

IUCN Red List:	EN A1d + 2cde ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:

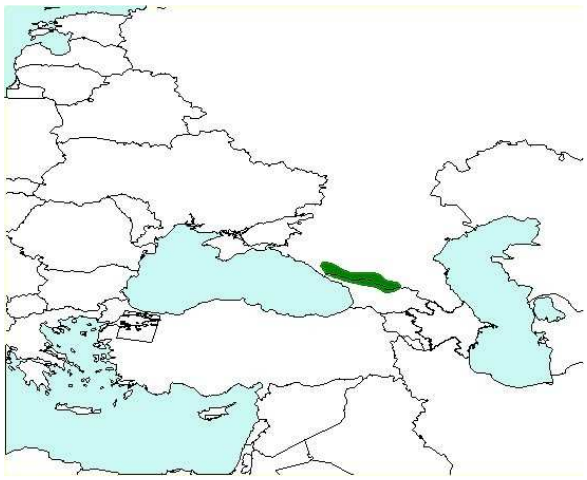
ARTIODACTYLA BOVIDAE CAPRINAE

Capra caucasica caucasica

West Caucasian Tur

Synonyms: *Capra caucasica*; Kubanskii Tur

Distribution:



Caucasus mountains in Georgia, Russia and Azerbaijan (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996g).

Status: Populations are declining, main threats are habitat loss/ degradation, poaching and natural disasters (Caprinae Specialist Group, 1996g). In Russia the main threat is poaching (Weinberg, pers. comm. 2007).

Population size and trend: World: 5,000-6,000 stabilized, slightly increasing (Pereladova, pers. comm. 2007; Weinberg, pers. comm. 2007)
Russia: < 5,000 (Weinberg, pers. comm. 2007)
Teberda: 1,000 (Weinberg, pers. comm. 2007)
Caucasus nature reserve: 2,000 (Romashin, 2001)

IUCN Red List:	EN A1d + 2cde ver. 2.3 (1994) (as *Capra caucasica*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

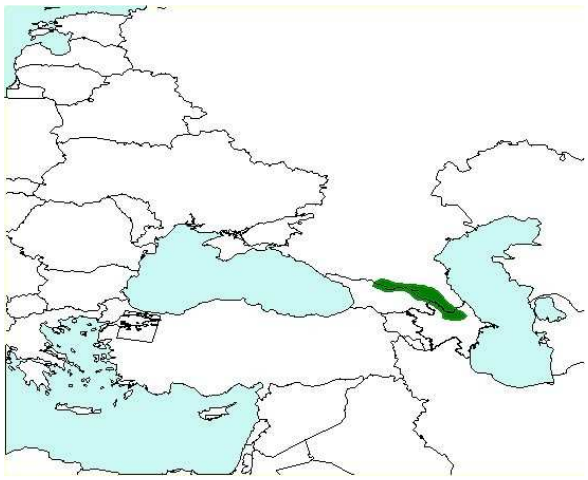
Recommendations and remarks:	Mainly lives in strictly protected area's (Pereladova, pers. comm. 2007). These areas should stay protected.

Capra caucasica cylindricornis

East Caucasian Tur

Synonyms: *Capra cylindricornis*; Dagestanskii Tur

Distribution:



Formerly distributed in Azerbaijan, Georgia and Russia (Caprinae Specialist Group, 1996p). Currently distributed in E Caucasus (Azerbaijan, Georgia and Russia) between the Babadagh mountain massif and hybridization with *C. c. caucasica* (Weinberg, 2002; Weinberg, pers. comm. 2007; Yarovenko, pers. comm. 2007).

Status: No improved status in North Ossetia in Russia. In neighboring Kabardin-Balkaria the situation is noticeably better. In Azerbaijan (the south slope) the situation looks quite healthy in certain nature reserves, for example Zakatala and Ilisu. The main threats are poaching and habitat loss / degradation. (Caprinae Specialist Group, 1996p; Weinberg, pers. comm. 2007)

Population size and trend: World: > 25,000 (1997) declining (Cromsigt, 2000)

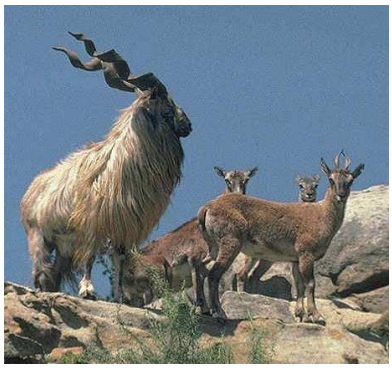
IUCN Red List:	VU A1d+2de C1 ver. 2.3 (1994) (as *Capra cylindricornis*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-

Bern Convention: - **Bonn Convention:** -

Recommendations and remarks: The trend and number of animals of this species should be monitored. To increase the number of animals, poaching and habitat loss should be limited.

Capra falconeri -

Markhor

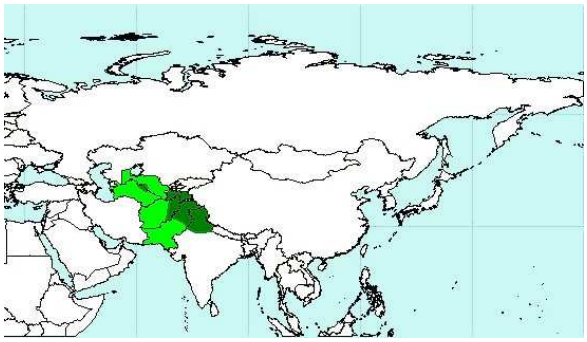


Markhor – LHF Photo Library

Synonyms: -

Subspecies: ***C. f. falconeri; C. f. heptneri; C. f. megaceros***

Distribution:



Formerly occurred in N(E) Afghanistan, N(W) India (SW Jammu and Kashmir), N and C Pakistan, S Tajikistan and S Uzbekistan (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996s).
Currently occurs in NE Afghanistan, N India (SW Jammu and Kashmir), N and C Pakistan, S Tajikistan, S Uzbekistan and perhaps in Turkmenistan (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996s).

Status: The populations are declining. The main threats are habitat loss / degradation, hunting, changes in native species dynamics, low densities and human disturbance (Caprinae Specialist Group, 1996s).

Population size and trend: World: > 5,000 (1997) declining (Cromsigt, 2000)

IUCN Red List:	EN A2cde ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	More research has to be performed to investigate whether changes have occurred. The species should be monitored carefully and action should be taken to minimize further declining.

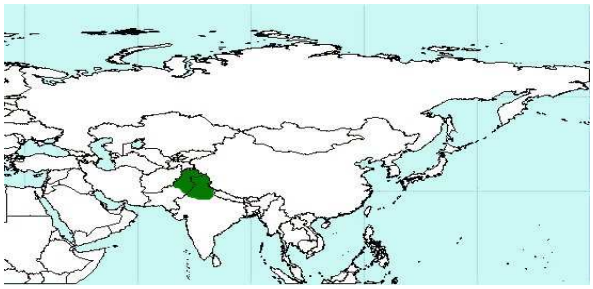
ARTIODACTYLA BOVIDAE CAPRINAE

Capra falconeri falconeri

Flare-Horned Markhor

Synonyms: Suleiman Markhor

Distribution:



Formerly occurred in India and N Pakistan
Currently occurs in India and N Pakistan (Caprinae Specialist Group, 1996i; www.wcs.org)

Status: The main threats are habitat loss / degradation, hunting and low densities (Caprinae Specialist Group, 1996i).

Population size and trend: World > 3,000 (1997) declining (Cromsigt, 2000)

IUCN Red List:	EN C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Hunting should be minimized and habitats should be preserved.

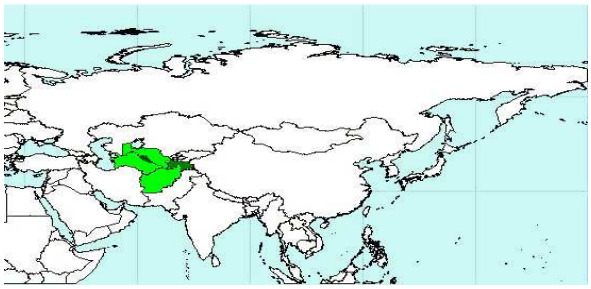
ARTIODACTYLA BOVIDAE CAPRINAE

Capra falconeri heptneri

Tadjik Markhor

Synonyms: Bukhara Markhor

Distribution:



Formerly occured in Afghanistan, Tajikistan, Turkmenistan and Uzbekistan (Caprinae Specialist Group, 1996j).
Currently occurs in Tajikistan (several local populations; maybe a couple on the Vakhsh Range, two separate populations on the western and eastern slopes of the Darvaz Range) and two separate populations on the Khozratisho Range, Kugitang Range on the border between Turkmenistan and Uzbekistan and possibly in Afghanistan (Caprinae Specialist Group, 1996j; Weinberg, pers. comm. 2007).

Status: The number of animals is declining. The distribution in Tajikistan looks fragmented and confined to small distant areas. The main threat is poaching, other threats are habitat loss / degradation, changes in native species dynamics and human disturbance. (Caprinae Specialist Group, 1996j; Weinberg, pers. comm. 2007)

Population size and trend: World: > 1,000 declining, stabilized in the protected areas (Caprinae Specialist Group, 1996j; Pereladova, pers. Comm. 2007)
Turkmen slope of Kugitang Range: 400-600 (begin 2000) (Lukarevsky, 2002) increasing (1997) (Weinber, pers. comm. 2007)
Uzbek slope of the Kugitang Range: 180 (2002) (Weinberg, 2003)
Vakhsh and Khozratisho Ranges: declining (Weinberg, 2003)

IUCN Red List: CR C2a ver. 2.3(1994) **EU Habitat Dir.:** -

CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Poaching should be limited.

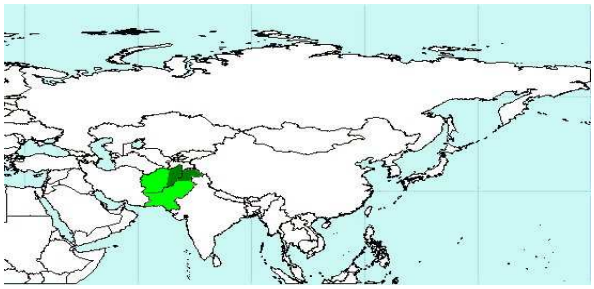
ARTIODACTYLA BOVIDAE CAPRINAE

Capra falconeri megaceros

Straight-Horned Markhor

Synonyms: *C. f. jerdoni*; Suleiman Markhor

Distribution:



Formerly occurred in Afghanistan and Pakistan (Caprinae Specialist Group, 1996k). Currently occurs in fragmented populations in NC Pakistan and E Afghanistan (Cromsigt, 2000)

Status: Major threats are habitat loss/degradation and hunting (Caprinae Specialist Group, 1996k).

Population size and trend: World: < 1,500 (1997) declining (Cromsigt, 2000)

IUCN Red List:	EN C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

ARTIODACTYLA BOVIDAE CAPRINAE

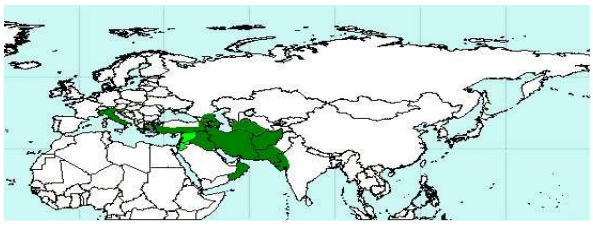
Capra hircus -

Wild and Domestic Goat

Synonyms: *Capra aegagrus*

Subspecies: *C. h. hircus;* ***C. h. aegagrus****;* ***C.h. chialtanensis****;* ***C. h. cretica****; C. h. jourensis; C. h. picta*

Distribution:



Formerly distributed in Afghanistan, Armenia, Azerbaijan, NE Georgia, Iran, Iraq, Jordan, Lebanon, S Pakistan, S Russia, Syria, Turkey, S Turkmenistan, Greek islands, Cyprus, India, Italy and Oman (Caprinae Specialist Group, 1996l; Wilson & Reeder, 2005).
Currently occurs in Afghanistan, Caucasus region (E Armenia, Azerbaijan, NE Georgia and S Russia), Iran, Iraq, S Pakistan, Turkey, S Turkmenistan, Greece, Oman, Cyprus, India, Italy and after introduction in Slovakia (Caprinae Specialist Group, 1996l; Wilson & Reeder, 2005; Weinberg, pers. comm. 2007).

Status: This species is heavily threatened as a wild species (Pereladova, pers. comm. 2007). Main threats are habitat loss/degradation, hunting, changes in native species dynamics and human disturbance (Caprinae Specialist Group, 1996l). In Armenia and Azerbaijan these threats are poaching, mining activities and competition with livestock (the latter mainly in Azerbaijan). A specific threat is the state of war between the two countries (Weinberg, pers. comm. 2007).

Population size and trend: 10,000s (1997) increasing (Cromsigt, 2000; Pereladova, pers. comm. 2007)

IUCN Red List:	VU A2cde ver. 2.3(1994) (as *Capra aegagrus*)	**EU Habitat Dir.:**	II, IV (as *Capra aegagrus*)

CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II (*as Capra aegagrus*)	**Bonn Convention:**	-
Recommendations and remarks:	-		

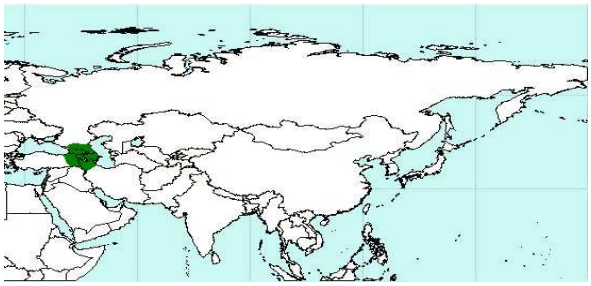
ARTIODACTYLA BOVIDAE CAPRINAE

Capra hircus aegagrus

Persian Wild Goat

Synonyms: *C. aegagrus aegagrus; C. aegagrus; C hircus blythi;* Caucasian Bezoar Goat*;* Sind Ibex

Distribution:



Formerly occurred in Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Lebanon, Russia and Turkey (Caprinae Specialist Group, 1996m). Currently occurs in Afghanistan, C and SE Armenia, Azerbaijan (Lesser Caucasus; the Karabakh hills), Georgia (It is spread in Tusheti and Khevsureti), Iran, Russia and Turkey (Caprinae Specialist Group, 1996m; www.nacres.org).
The basic part on the Big Caucasus is located in Dagestan, in canyons of Andiskoye Koysu and Avarskoye Koysu inflows (Yarovenko, pers. comm. 2007).

Status: The number of Persian Wild Goat is declining. Main threats are habitat loss / degradation, poaching, changes in native species dynamics and human disturbance. Populations in Daghestan are threatened most by poaching (Caprinae Specialist Group, 1996m; Yarovenko, pers. comm. 2007).

Population size and trend: World: few 10,000s (Cromsigt, 2000) declining (Caprinae Specialist Group, 1996m)
Daghestan: 1,800-2,000 (Yarovenko, pers. comm. 2007).
Georgie: 100 (www.nacres.org)
Armenia: 400-600 (www.nacres.org) declining (Pereladova, pers. comm. 2007)
Azerbaijan:1938 (www.nacres.org) declining (Pereladova, pers. comm. 2007)
N Iran: high population number, stable (in protected area's) (Pereladova, pers. comm. 2007)

IUCN Red List:	VE A2cde ver. 2.3 (1994) as *Capra aegagrus aegagrus*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II (*as Capra aegagrus*)	**Bonn Convention:**	-
Recommendations and remarks:	Populations are in critical condition in Dagestan and Georgia (Pereladova, pers. comm. 2007). Conservation measures outside Iran should be taken.		

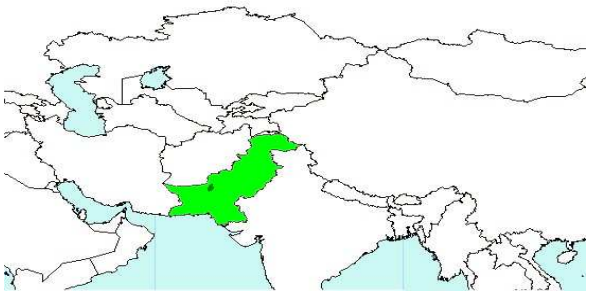
ARTIODACTYLA BOVIDAE CAPRINAE

Capra hircus chialtanensis

Chiltan (Wild) Goat

Synonyms: *Capra falconeri chialtanensis; Capra aegagrus chialtensis*

Distribution:



Formerly occured in Pakistan (Caprinae Specialist Group, 1996o).
Currently occurs in Hazarganji Chiltan National Park in Pakistan (Caprinae Specialist Group, 1996o).

Status: Occurs only at one place in Pakistan with limited numbers, the main threat is hunting.

Population size and trend: Hazarganji Chiltan National Park: 800 (1997) (www.wildlifeofpakistan.com)

IUCN Red List:	CR C2b ver. 2.3 (1994) (as *Capra aegagrus chialtanensis*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Hunting should be limited.

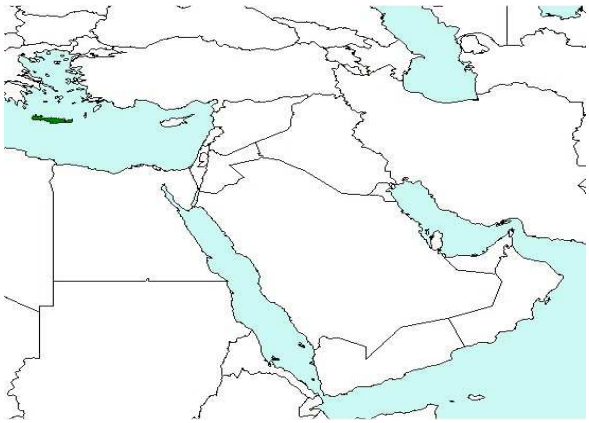
ARTIODACTYLA BOVIDAE CAPRINAE

Capra hircus cretica

Cretan Goat

Synonyms: *Capra aegagrus cretica*; Cretan wild goat; Agrimi

Distribution:



Formerly occurred in Greece (Caprinae Specialist Group, 1996n).
Currently occurs in Greece; Samaria Gorge in the White mountains (W crete), Theodorou, Dia and Agli Pandes (Bar-Gal *et al*., 2002).

Status: Main threats are hunting, Human disturbance hybridization and low numbers (Caprinae Specialist Group, 1996n; Vlasakker, 2004).

Population size and trend: Samaria Gorge: 500 (1996) (Bar-Gal *et al*., 2002)
Theodorou: 70 (1996) (Bar-Gal *et al*., 2002)
Dia: 300 (Bar-Gal *et al*., 2002)
Agli Pandes: 90 (Bar-Gal *et al*., 2002)

IUCN Red List:	VU D1+2 ver. 2.3 (1994) (as *Capra aegagrus cretica*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II (as *Capra aegagrus)*	**Bonn Convention:**	-

Recommendations and remarks: Probably introduced in the Aceramic Neolithic period (c. 7000 uncal. bc) (Bar-Gal *et al.*, 2002).

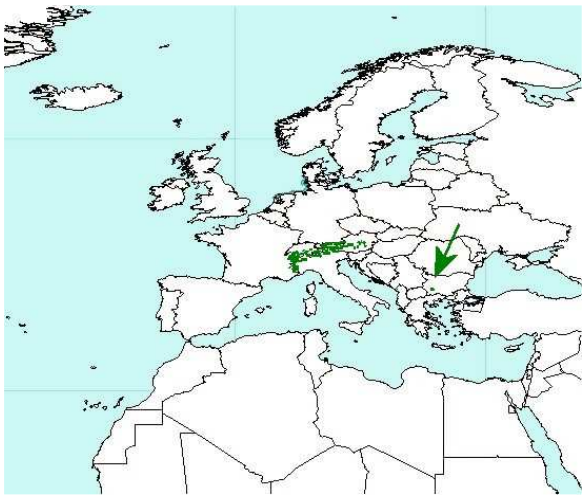
ARTIODACTYLA BOVIDAE CAPRINAE

Capra ibex -

Alpine Ibex

Synonyms: Ibex

Distribution:



Formerly distributed in the Alps of Austria, France, Germany, N Italy and Switserland (Wilson & Reeder, 2005).
Extinct except in Italy and reintroduced in former range (Wilson & Reeder, 2005; Maudet *et al.*, 2002).
Currently occurs in Austria, France, Germany, Italy and Switzerland (Caprinae Specialist Group, 1996q).

Status: The number of Alpine ibexes is increasing. Main threats are lack of genetic diversity, fragmented and small populations and hybridization (Shackleton, 1997).

Population size and trend:
World: increasing (European mammal assessment, 2007)
Switserland: 13,785 (Vlasakker, 2004)
Italy: 13,000 (2000) (Vlasakker, 2004)
Austria: 3,200 (Shackleton, 1997)
France: 3,300 (Shackleton, 1997)
Slovenia: 250 (Shackleton, 1997)
Germany: 420 (2000) (Vlasakker, 2004)
Oberallgäu (Germany): 100 (Vlasakker, 2004)
Ostallgäu (Germany): ~ 10 (Vlasakker, 2004)
Benediktenwand (Germany): 100 stable (Vlasakker, 2004)

	Brünnstein (Germany): 35 (Vlasakker, 2004) Berchtesgaden Nationalpark (Germany): 180 (Vlasakker, 2004)		
IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	V
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-
Recommendations and remarks:	Fragmented populations should be enabled to reach each other.		

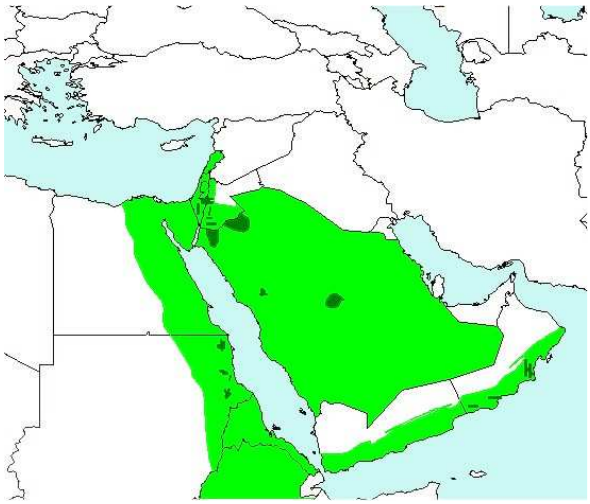
ARTIODACTYLA BOVIDAE CAPRINAE

Capra nubiana -

Nubian Ibex

Synonyms: -

Distribution:



Formerly occurred in Egypt, N Eritrea, Ethiopia, Israel, W Jordan, Lebanon, SE Oman, Saudi Arabia, NE Sudan, Syria and SE Yemen (Caprinae Specialist Group, 1996r; Wilson & Reeder, 2005)
Currently occurs in Egypt (east of the Nile), N Eritrea, Ethiopia, Israel, W Jordan, SE Oman, Saudi Arabia, NE Sudan and SE Yemen (Caprinae Specialist Group, 1996r; Wilson & Reeder, 2005)

Status: The number of Nubian Ibexes is declining (Caprinae Specialist Group, 1996r). Major threats are habitat loss / degradation due to livestock in Egypt, Saudi Arabia and Oman, Limited water resources (holes) in Egypt and Israel and hunting poses a problem everywhere (Caprinae Specialist Group, 1996r; Shackleton, 1997).

Population size and trend: World: declining (Caprinae Specialist Group, 1996r)

IUCN Red List: EN C2a ver. 2.3 (1994) **EU Habitat Dir.:** V

CITES: - **EC Reg. 338/97:** -

Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Research should be done to determine the number of animals.

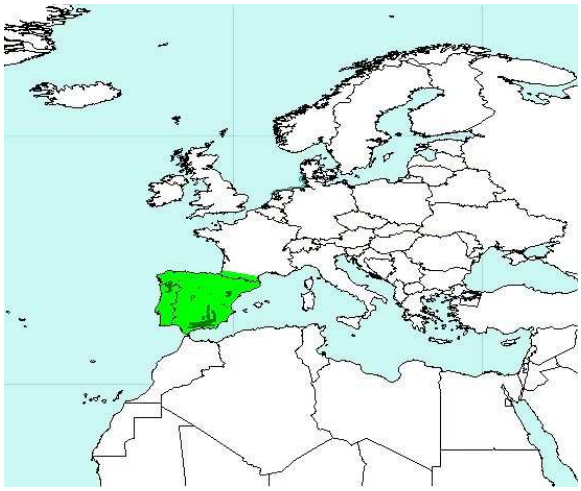
ARTIODACTYLA BOVIDAE CAPRINAE

Capra pyrenaica -

Spanish Ibex

Synonyms: *Capra pyrenaica pyrenaica; Capra pyrenaica hispanica; Capra pyrenaica victoriae*

Distribution:



Formerly distributed in the Iberian peninsula and the French Pyrenees (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996s).
Extinct in Portugal and Spain in the 19th century and currently lives in Spain (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996s; Moço *et al*., 2006). Escaped and released animals form a new population in Portugal (Moço *et al*., 2006).

Status: Generally populations are increasing in number and range (Moço *et al*., 2006). The main threat is human disturbance, tourism (Caprinae Specialist Group, 1996s).

Population size and trend: Iberian peninsula: > 42,000 (Pérez *et al.,* 2002) increasing (Moço *et al*., 2006)
Portugal: >75 increasing (Moço *et al*., 2006)
Spain: 7,900 as C. p. hispanica (Vlasakker, 2004)

IUCN Red List:	LR/nt ver. 2.3 (1994) (EX ver. 2.3 (1994) as *C. p. pyrenaica;* VU D2 ver. 2.3 (1994) as *C. p. victoriae;* LR/cd ver. 2.3 (1994) as *C. p. hispanica*)	**EU Habitat Dir.:**	V (II and IV as *C. p. pyrenaica*)
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III (II as *C. p. pyrenaica)*	**Bonn Convention:**	-
Recommendations and remarks:	The species needs conservation to survive. The biggest threat is tourism, which has to be integrated in conservation. The Pyrenean population is often mentioned as a subspecies, *C. p. pyrenaica*, which is extinct since January 6th 2000 (Moçet et al., 2006).		

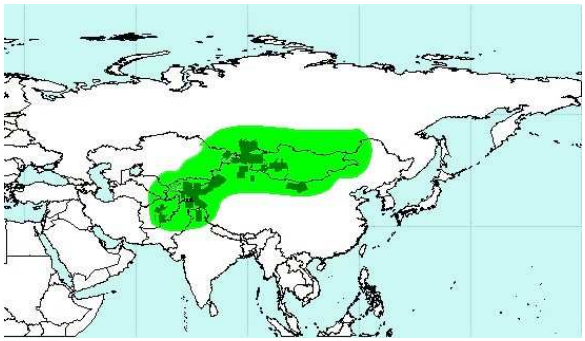
ARTIODACTYLA BOVIDAE CAPRINAE

Capra siberica -

Siberian Ibex

Synonyms: Asiatic Ibex

Distribution:



Formerly and currently distributed in the mountains in N Afghanistan, N Tibet, N Gansu, W Inner Mongolia, Sinkiang, (China), Himalayas of Jammu and Kashmir and Himachal Pradesh (N India), E Kazakhstan, Kyrgyzstan, S and W Mongolia, N Pakistan, Russia (S Siberia) and Tajikistan (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996t).

Status: Due to overhunting the number of animals is declining (Cromsigt, 2000).

Population size and trend:

World: > 250,000 stable/declining (Cromsigt, 2000)
Former USSR: 100,000 -110,000 (Weinberg et al. 1997)
Altai: 9,000 (Sidorov, 2004)
Kyrgyztan, Tajikistan and Uzbekistan: 70,000 (Fedosenko & Blank, 2001)
Kazakhstan: numerous (Fedosenko & Blank, 2001)
Tien Shan (China): 40,000 -50,000 (Fedosenko & Blank, 2001)
Mongolia: stable (Reading, pers. comm. 2007)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Declining populations should be monitored and hunting should be managed.

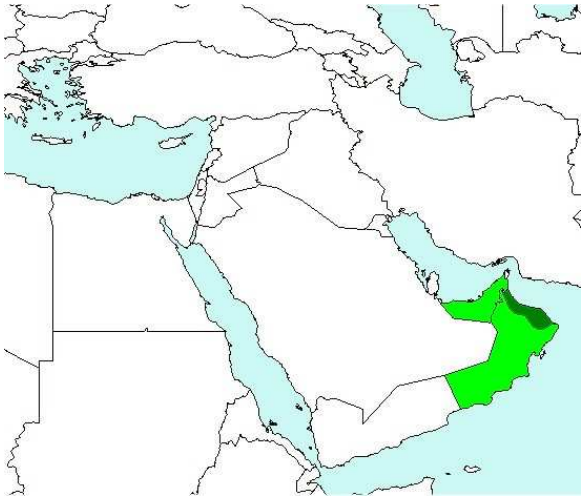
ARTIODACTYLA BOVIDAE CAPRINAE

Hemitragus jayakari -

Arabian Thar

Synonyms: -

Distribution:



Fromerly occurred in Oman and United Arab emirates (Wilson & Reeder, 2005).
Currently occures in Oman and is (almost) extinct in United Arab emirates (Wilson & Reeder, 2005; Caprinae Specialist Group, 1996u).

Status: The populations are stable. The main threats are habitat loss / degradation, hunting and changes in native species dynamics (competitors and pathogens / parasites) (Caprinae Specialist Group, 1996u).

Population size and trend: World: stable (Caprinae Specialist Group, 1996u)

IUCN Red List:	EN C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

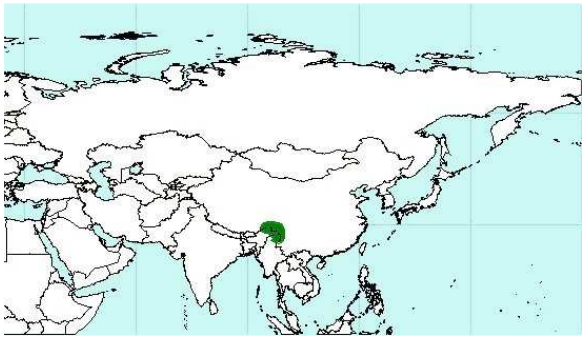
Recommendations and remarks: More research should be done to determine the number of animals.

Naemorhedus baileyi -

Red Goral

Synonyms: *N. b. cranbrooki; N. b. bailey*

Distribution:



Currently occurs in N Burma, SE tibet, Yunnan (China), Arunachal Pradesh (NE India) and Myanmar (Caprinae Specialist Group, 1996w; Wilson & Reeder, 2005).

Status: The main threats are habitat loss / degradation and hunting (Caprinae Specialist Group, 1996w).

Population size and trend: -

IUCN Red List:	VU A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

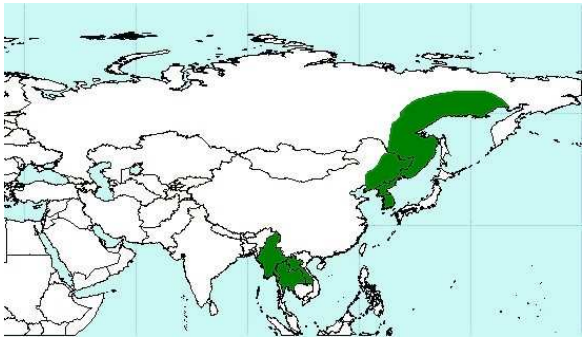
Recommendations and remarks: More research should be done to determine status and number of animals.

Naemorhedus caudatus -

Long-tailed Goral

Synonyms: *N. c. caudatus; N. c. raddeanus*; *N. c. evansi; N. c. griseus*; Chinese Goral; Amur Goral

Distribution:



Currently occurs in E Russia (Primorsky and Khabarovsk Territories), NE China (Heilonjiang, Jilin), Korean Peninsula, Myanmar, Lao People's Democratic Republic and Thailand (Caprinae Specialist Group, 1996v; Wilson & Reeder, 2005)

Status: The number of Long-Tailed Goral in the world is declining (Cromsigt, 2000). The main threats are habitat loss / degradation, poaching and natural disasters such as temperature extremes and avalanches or landslides (Caprinae Specialist Group, 1996v; Pereladova, pers. comm. 2007).

Population size and trend: World: declining (Cromsigt, 2000)

IUCN Red List:	VU A2cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The status in China and Korea should be determined. The scattered populations in Far East of Russia have to be protected against hunting. To secure the survival of the species in Far East of Russia the species should be reintroduced into former areas of occurrence and fragmentation of the existing populations should be diminished. Legal prolongation of the existence of special goral sanctuaries in Primoskii krai is needed (they existed up to the beginning of 90's). A special regime of protection of the sea along the coast in the goral's habitats exists, Lazovskii strict nature reserve (zapovednic): the major threat is poaching from sea motor-boats (As *N. c. raddeanus*; Pereladova, pers. comm. 2007).

ARTIODACTYLA BOVIDAE CAPRINAE

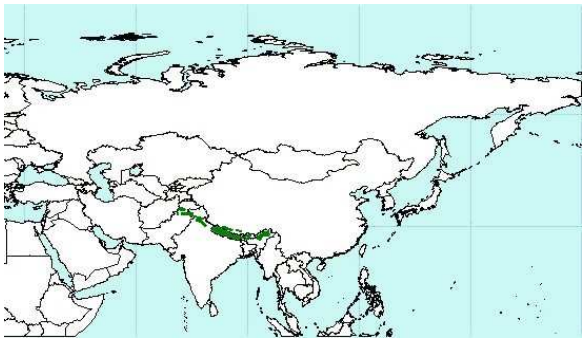
Naemorhedus goral -

Himalayan Goral

Synonyms: Goral

Subspecies: ***N. g. goral; N. g. bedfordi***

Distribution:



Currently distributed in the Himalayas in Bhutan, S Tibet (China), N India (Including Sikkim), Nepal, Myanmar and N Pakistan (Caprinae Specialist Group, 1996x; Wilson & Reeder, 2005)

Status: The main threats are habitat loss / degradation, hunting and human disturbance (fires) (Caprinae Specialist Group, 1996x).

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research should be performed to determine status and number of animals of this species.

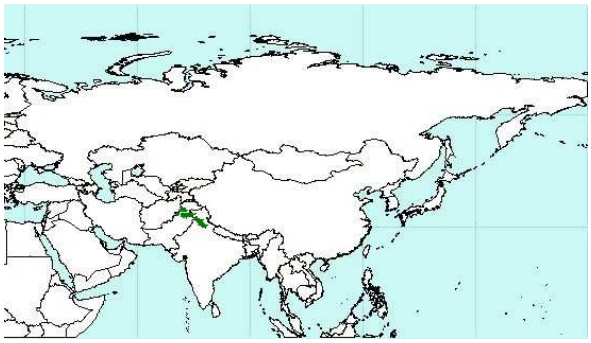
ARTIODACTYLA BOVIDAE CAPRINAE

Naemorhedus goral bedfordi

Western Himalayan Goral

Synonyms: -

Distribution:



Occurs in India and Pakistan (Caprinae Specialist Group, 1996y).

Status: The main threats are habitat loss / degradation and hunting (Caprinae Specialist Group, 1996y).

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research has to be done and hunting and habitat loss should be limited.

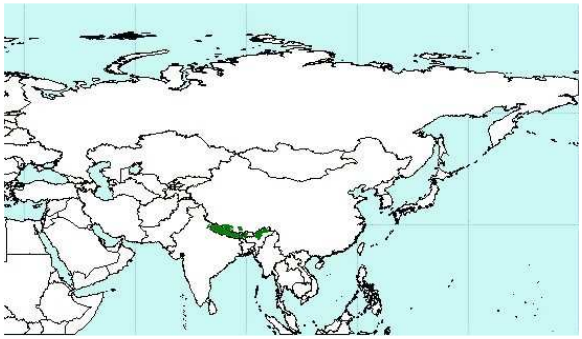
ARTIODACTYLA BOVIDAE CAPRINAE

Naemorhedus goral goral

Eastern Himalayan Goral

Synonyms: -

Distribution:



Occurs in Bhutan, China, India and Nepal (Caprinae Specialist Group, 1996z).

Status: The main threats are habitat loss / degradation, hunting and human disturbance (fire)(Caprinae Specialist Group, 1996z).

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research has to be done to determine status and the number of animals.

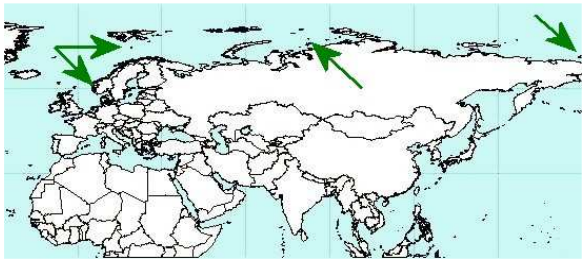
ARTIODACTYLA BOVIDAE CAPRINAE

Ovibos moschatus -

Musk Ox

Synonyms: -

Distribution:



Formerly ocurred in Point Barrow, Alaska, east to NE Greenland, South to NE Manitoba (Canada) (Wilson & Reeder, 2005).
Reintroduced to Seward Peninsula and Nunivak Island (Alaska), Taimyr Peninsula and Wrangel Island (Russia) and Svalbard (Norway) (Wilson & Reeder, 2005).
Currently occurs in Canada, Greenland, Russia, the United States and Hardangervidda in Norway (Caprinae Specialist Group, 1996aa; pers. Comm. Van de Vlasakker, 2007).

Status: -

Population size and trend: World: stable, increasing (Cromsigt, 2000)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	II	**Bonn Convention:**	-

Recommendations and remarks: More research should be done to determine the number of animals and if possible reintroductions into its former range should occur.

Ovis ammon -

Argali

Argali – Richard Reading

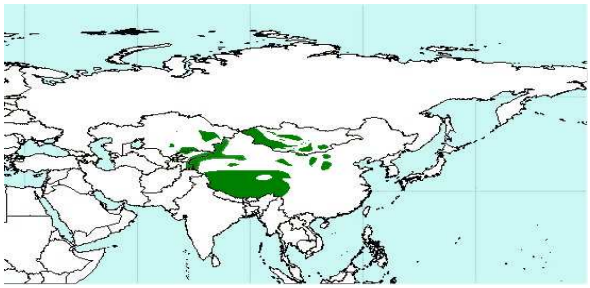
Argali – Richard Reading

Argali – Richard Reading

Synonyms: *O. a. ammon*; Eurasian Mouflon; Giant Wild Sheep

Subspecies: ***O. a. ammon; O. a. collium; O. a. comosa; O. a. darwini; O. a. hogsonii; O. a. karelini; O. a. nigrimontana; O. a. polii; O. a. severtzovi***

Distribution:



This species is widespread. It occurs in Southern Siberia and in the mountains of Central and Middle Asia, from central Kazakhstan in the west to Shansi Province of China in the east, and from Altai in the north to the Himalayas in the south. (Fedosenko & Blank, 2005; Caprinae Specialist Group, 1996ab)

Status: The species is declining in all areas, mostly due to trophy hunting and poaching.
In China and Western Mongolia the species seems to be stable, in the Gobi desert even increasing. (Reading, pers. comm. 2007)

Population size and trend:
World: 96,000-114,600 (Shackleton, 1997) declining (Cromsigt, 2000)
Mongolia: 1,000-15,000 (2002) declined by 75% since 1985 (Zahler, 2004)
Russia: 450-700 (Fedosenko, 2000)
China: several hundreds (Shackleton, 1997)

IUCN Red List:	VU A2cde ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:

(Illegal) trophy hunting is a large problem in most *Ovis* species. Measures need to be taken to decrease this (Cromsigt, 2000; Shackleton, 1997)
In traditional Chinese medicine, the horns are considered beneficial and large amounts of money are paid for it (Shackleton, 1997)
Most population size numbers are defined per subspecies.

Argali – Richard Reading

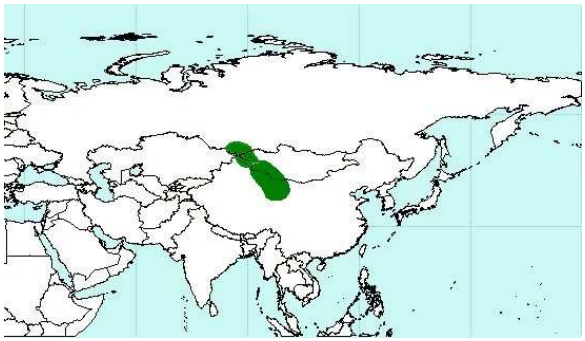
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon ammon

Altai Argali

Synonyms: *O. aries ammon*

Distribution:



The distribution is confined to the Altai-Mongolian tundra-steppe geobotanical subprovince of the Dauria-Mongolian steppe province (southeastern Russian Altai) (Abaturov, 2004).

Status: Local extirpations occurred in Mongolia, Russia, China and Kazakhstan. Major threat is poaching. (Maroney, 2003; Caprinae Specialist Group, 1996ac)

Population size and trend: World: 20,000 declining (Fedosenko, 2005; Shackleton, 1997; Pereladova, pers. comm. 2007)
Mongolia (Gobi National Conservation Park): 3,000 (1997) uncertain stability (Reading et al 1999b)
Russia (Altai mountains): 200-500 (Weinberg, pers. comm. 2007) risen 1.5 times since 1980s (Fedosenko, 2000)
Russia (Tuva): 150 declining (Fedosenko, 2000)

IUCN Red List:	VU A2cde, C1 ver 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Quick recoveries when circumstances are favorable. Naturally large fluctuations and large recovery potential (Maroney & Paltsyn, 2003). It is unknown whether the population of Altai Argali in Mongolia is stable or declining. Most local inhabitants believe the population is increasing. Some scientists agree with this, others say the population is declining (Maroney, 2006). Not kept in zoos successfully (Fedosenko & Blank, 2005).

ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon collium

Kazakhstan Argali

Synonyms: *O. aries ammon*

Distribution:

Endemic to EC Kazakhstan (Caprinae Specialist Group, 1996ad; www.funet.fi).

Status: This species has a small range and is declining, due to the threat of poachers.

Population size and trend: World (Kazakhstan): 8,000-10,000 declining (Shackleton, 1997)
Kazakhstan (Tien Shan): 8,000-12,000 (Fedosenko, 2005)

IUCN Red List:	VU A2cde, C1 ver. 3.2 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Poaching is a major threat and needs to be prevented.

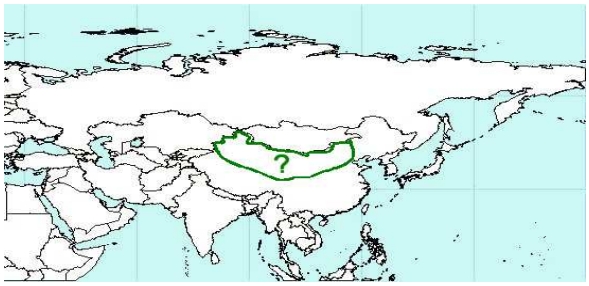
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon comosa

Northern Chinese Argali

Synonyms: *O. aries ammon; O. a. jubata*

Distribution:



Endemic to China.

Status: This species is critically endangered. Major threat is the ongoing hunting and poaching (Caprinae Specialist Group, 2000b). During a workshop on Caprinae taxonomy in Ankara in 2000 it is stated that the species is possibly extinct (Fedosenko en Blank, 2005).

Population size and trend: China: 600-700 (Shackleton, 1997)

IUCN Red List:	CR C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: *O. a. comosa* is possibly extinct.

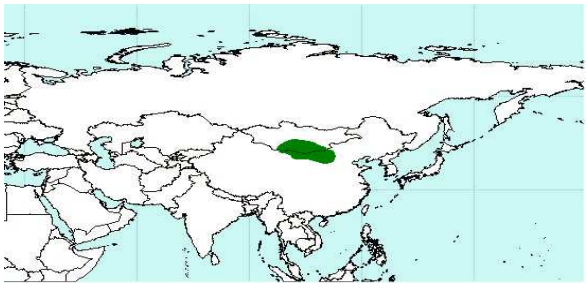
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon darwini

Gobi Argali

Synonyms: *O. aries ammon*

Distribution:



Currently found in the Gobi desert, in N China and SC Mongolia.

Status: This species is, like most *Ovis* species, threatened by poaching and trophy hunting (Caprinae Specialist Group, 1996ae; Cromsigt, 2000). The population is highly fragmented and threatened by competition with livestock (Cromsigt, 2000).

Population size and trend: Mongolia: 8,500-11,000 (Fedosenko, 2000; Shackleton, 1997) declining (2007) (Reading, pers. comm. 2007)
China: 2,100-2,800 (Shackleton, 1997)

IUCN Red List:	EN C1 ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: The species lives in a highly fragmented habitat, it is beneficial to connect different populations. Trophy hunting should by prevented.

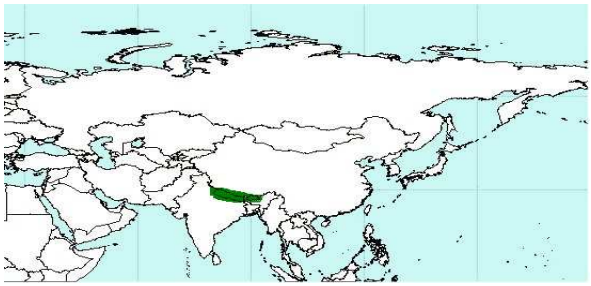
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon hodgsonii

Tibetan Argali

Synonyms: *O. aries ammon*

Distribution:



Occurs in Bhutan, China, India and Nepal, in the Himalayas (www.funet.fi; Caprinae Specialist Group, 1996af).

Status: The Tibetan Argali is threatened by competition with livestock, degradation of the habitat, poaching, trophy hunting and low population densities (Caprinae Specialist Group, 1996af).

Population size and trend: World: 29,000-36,000 (Shackleton, 1997) declining (Schaller, 1998)
China: 29,000-36,000 (Shackleton, 1997)

IUCN Red List:	VU A2cde ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Protection of the habitat is important for the survival of this species.

ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon karelini

Tien Shan Argali

Synonyms: *O. aries ammon*

Distribution:

Occurs in the Tien Shan area, in China, Kazakhstan and Kyrgystan (Fedosenko & Blank, 2005; Caprinae Specialist Group, 1996ag).

Status: Major threats are poaching and competition with domestic livestock (Caprinae Specialist Group, 1996ag).

Population size and trend: World: 9,200-12,500 (Shackleton, 1997) declining (Cromsigt, 2000)
Kazakhstan (W Tien Shan): <1,200-1,500 (Fedosenko & Blank, 2005)
China: 8,000-12,000 (Shackleton, 1997)

IUCN Red List:	VU A2cde, C1+2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Poaching must be prevented.

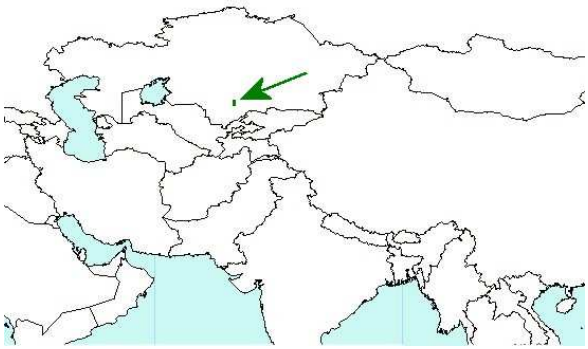
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon nigrimontana

Kara Tau Argali

Synonyms: *O. aries ammon*

Distribution:



Endemic to Kazakhstan (Caprinae Specialist Group, 1996ah; Fedosenko & Blank, 2005). It occurs only in the Aksu-Djabagly reserve in W Tien Shan (Fedosenko & Blank, 2005).

Status: This species is critically endangered. This is mostly due to illegal trophy hunting (Caprinae Specialist Group, 1996ah).

Population size and trend: World: 250 (Fedosenko & Blank, 2005; Shackleton, 1997) declining (Caprinae Specialist Group, 1996ah)

IUCN Red List:	CR C2b ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Protection measures need to be taken, in order to prevent extinction in the short term.

ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon polii

Marco Polo Sheep

Synonyms: *O. aries ammon*

Distribution:

Occurs in the Pamir mountain range of Afghanistan, Tadzikistan and Kyrgyzistan. It occurs in China, in E Tien Shan and seasonally in the Khunjerab National Park of Pakistan. (Caprinae Specialist Group, 1996ai; Fedosenko & Blank, 2005; www.funet.fi)

Status: Due to (trophy) hunting, the population declines (Caprinae Specialist Group, 1996ai). Certain local population increase might be due to serious livestock decline and restoration of grass cover (Weinberg pers. comm. 2007; Fedosenko, 2000).

Population size and trend: World: 16,100-20,100 (Shackleton, 1997; Weinberg, pers. comm. 2007) declining (Caprinae Specialist Group, 1996ai)
Pamir: 10,000-14,500 (Fedosenko & Blank, 2005; Magamedov *et al.*, 2002)
Kazakhstan (Tien Shan): 5,000 (Fedosenko & Blank, 2005)
Pakistan: <150 (Fedosenko & Blank, 2005)

IUCN Red List:	VU A2cde, C1 ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: -

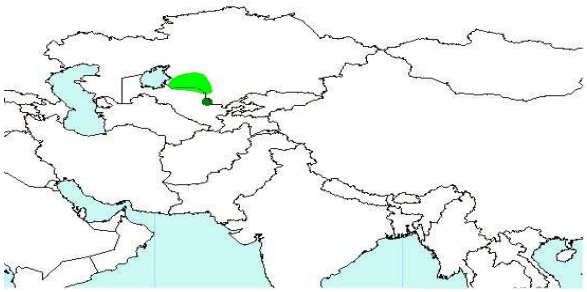
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis ammon severtzovi

Kyzylkum Sheep

Synonyms: *O. aries ammon; O. orientalis severtzovi; O. vignei severtzovi;* Severzov's Urial

Distribution:



Restricted to two small areas west and south of Aydarkul Lake in Uzbekistan. The taxon occurred until recently in Kazakhstan in the area between the Amu Darya and Syr Darya rivers. (Caprinae Specialist Group, 1996aj)

Status: This species is endangered and is already extinct in Kazakhstan. Major threats are poaching and competition with domestic livestock. The species depends entirely on the Nuratau nature reserve. (Weinberg *et al.*, 1997)

Population size and trend: World: 2,000 (Shackleton, 1997; Reading, pers. comm. 2007) stable or slight increase (Weinberg, 1997)

IUCN Red List:	EN A2cde, C2b ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Measures have to be taken soon in order to prevent total extinction of this species.

ARTIODACTYLA BOVIDAE CAPRINAE

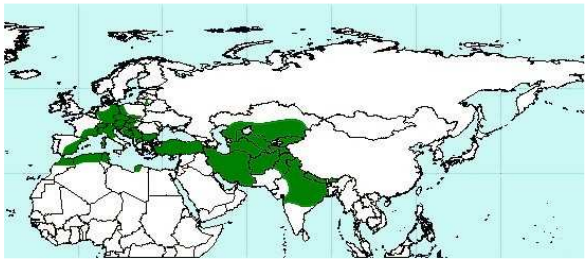
Ovis aries -

Mouflon and domestic sheep

Synonyms: *O. musimon; O. Ophion; O. orientalis ; O. o. arkal ; O. o. blanfordi; O. o. bocharensis; O. o. cycloceros; O. o. gmelinii; O. o. musimon; O. o. isphanica; O. o. laristanica; O. o. ophion; O. o. orientalis; O. o. punjabiensis; O. o. severtzovi; O. o. vignei; O. vignei ; O. v. arkal ; O. v. bocharensis; O. v. cycloceros; O. v. punjabiensis; O. v. severtzovi; O. v. vignei; O. gmelinii ophion;* red sheep; urial

Subspecies: ***O. a. arkal; O. a. cycloceros; O. a. isphanica; O. a. laristanica;*** *O. a. musimon; O. a. ophion; O.* ***a. orientalis; O. a. vignei***

Distribution:



A wide range of countries in Europe, around the Mediterrean sea and further east.
Originally, it occurred in Morocco, Turkey, Armenia, Azerbaijan, Iraq, India, Pakistan, Iran, Kazakhstan, Turkmenistan, Uzbekistan, Afghanistan and Tajikistan (www.funet.fi, Caprinae Specialist Group, 1996p).
The species is prehistorically introduced in Corsica, Sardinia and Cyprus. In the 18th Century the species was introduced in other countries of Europe (Spain, France, Belgium, Luxembourg, Germany, Denmark, Italy, Austria, Switzerland, Slovenia, Croatia, the Czech Republic, Slovakia, Poland, Romania, Bulgaria, Lithuania, Bosnia and Herzegovina, Macedonia, Serbia and Montenegro, Ukraine, and the Canary Islands). (Röhrs, 1999)

Status: Status is different for each population.
Many subspecies are threatened by trophy hunting.

Population size and trend: World: declining (CBSG CAMP Workshop, India 2000)

IUCN Red List:	VU A2cde ver. 2.3 (1994) (as *O. orientalis,* excluding species synonymous for *O. vignei*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-
Recommendations and remarks:	Large controversies exist about the taxonomical classification of *Ovis*. One division often used is the *aries/orientalis* division. This is an artificial division, based on domestic or wild animals. Another often used division is the *vignei* (Urial) division. Both divisions are conspecific. Multivariate morphometrics did not discriminate between the two species defined by the above specified divisions (Wilson & Reeder, 2005). Trophy hunting is a major problem for the survival of many populations of *O. aries*.		

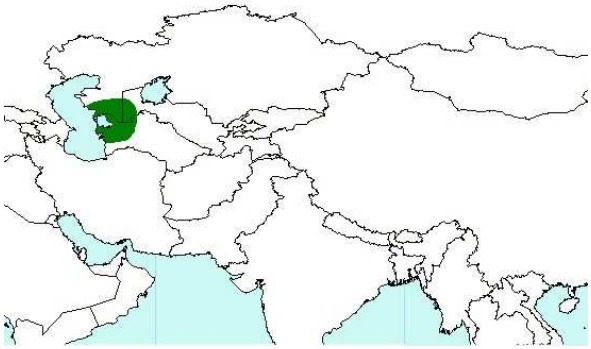
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries arkal

Transcaspian Urial

Synonyms: *O. vignei arkal; O. orientalis arkal*

Distribution:



Found on the Mangyshlak peninsula in Kazakhstan and Ustyurt plateau of Kazakhstan, Uzbekistan and NW Turkmenistan (Cromsigt, 2000).

Status: Its numbers have declined significantly, but recently, numbers appear to respond positively to protection measures. However, there is no evidence that this positive response continues (Caprinae Specialist Group, 1996q). Population is declining, mostly due to poaching (Pereladova, pers. comm. 2007).

Population size and trend: World: 6,500-7,000
Turkmenistan: 600-750 (Lukarevsky, 2000; Fedosenko, 2002)

IUCN Red List:	VU A2cde ver 2.3 (1994) (as *O. o. arkal*)	**EU Habitat Dir.:**	-
CITES:	II (as *O. v. arkal*)	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Only limited information can be found. More research is needed on the exact status of the species.

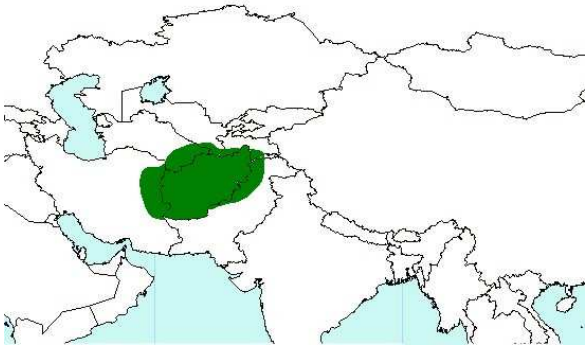
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries cycloceros

Afghan Urial

Synonyms: *O. vignei cycloceros ; O. v. bochariensis; O. v. punjabiensis.; O. orientalis cycloceros; O. o. bochariensis; O. o. punjabiensis*; Bukhara Urial ; Punjab Urial.

Distribution:



Mountainous areas of Tadjikistan, Uzbekistan, Afghanistan, NE Iran, NW Pakistan and a small area of SE Turkmenistan (Caprinae Specialist Group, 1999).

Status: The population of Afghan Urial is fragmented. At the border between Iran and Pakistan, the population seems to be stable.

Population size and trend:

As described for *O. v. cycloceros*:
World: >12,000 declining (Cromsigt, 2000)
Turkmenistan: 5,000-6,000 (1998)
Beluchistan: 2,000-3,000 (1985).
Dureji: 1,300 (1999)
Afghanistan: no survey since 70s (Caprinae Specialist Group, 1999)

As decribed for *O. v. punjabiensis*:
World (Pakistan): < 2,000 (1997) declining (Caprinae Specialist Group, 1999)

As described for *O. v. bochariensis*:
Total: <1,200-2,000 (1997, 1999)
Turkmenistan: 500 (1996)
Uzbekistan: < 200-300 declining and almost extinct (1998)
Tadjikistan: 1,600 (1999) (Caprinae Specialist Group, 1999)

IUCN Red List:	VU C1 ver 2.3 (1994) (as O. o. cycloceros) EN A4ad; C1 ver 3.1 (2001) (as *O. o. punjabiensis*) EN A1cde, C1+2a ver 2.3 (1994) (as *O. o. bochariensis*)	**EU Habitat Dir.:**	-
CITES:	II (as *O. vignei cycloceros*, *O. v. bochariensis* and *O. v. punjabiensis*.)	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-
Recommendations and remarks:	The classification of this species is disputed. Most sources divide this subspecies in three separate subspecies. However, these are conspecific, according to Wilson and Reeder (2005).		

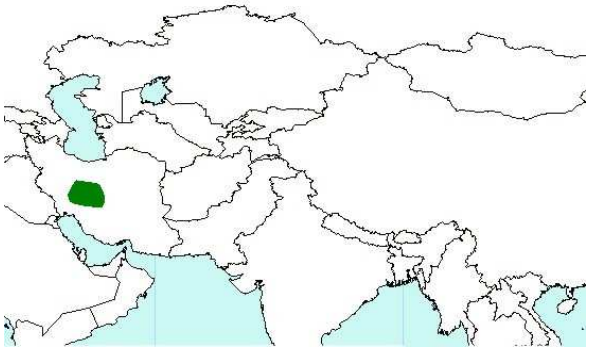
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries isphanica

Esfahan Mouflon

Synonyms: *O. orientalis isphanica*

Distribution:



Only in Esfahan, in C Iran (www.funet.fi).

Status: Major threat is poaching (Caprinae Specialist Group, 1996a|)

Population size and trend: -

IUCN Red List:	VU A2c ver 2.3 (1994) *(as O. o. isphanica)*	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Very limited information is available. Research has to be done to be able to assess the status and population size and trend.

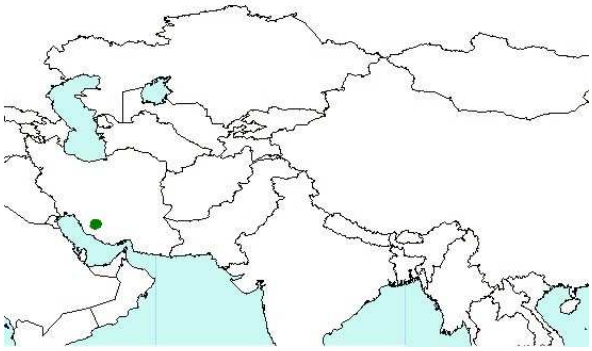
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries laristanica

Laristan Mouflon

Synonyms: *O. orientalis laristanica*

Distribution:



In Laristan county (www.funet.fi), in the province of Fars, in the CS Iran.

Status: The Laristan Mouflon is threatened by poaching (Caprinae Specialist Group, 1996am).

Population size and trend: -

IUCN Red List:	VU A2c ver 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Very limited information is available. Research has to be done to be able to assess the status and population size and trend.

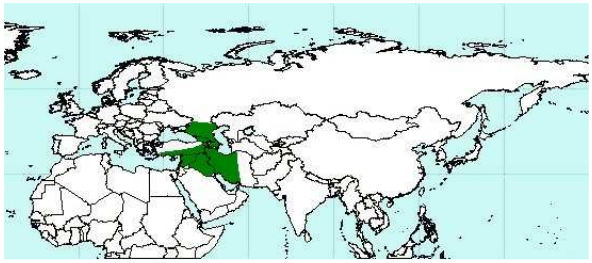
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries orientalis

East mouflon

Synonyms: *O. o. orientalis; O. gmelinii; O. o. gmelinii; O. aries gmelinii*; Red Sheep; Armenian Mouflon

Distribution:



In S Turkey, Transcaucasus and W Iran (www.funet.fi).

Status: The species is threatened by habitat loss and hunting/poaching. Most populations are decreasing, some show a slight increase (Caprinae Specialist Group, 1996ak).

Population size and trend: World: 2,000 stable or decreasing (Pereladova, pers. comm. 2007)
Azarbaijan: 1,000-l,200 (1997) increasing (www.nacres.org)

As *O. a. gmelinii*:
Total: < 2,000 (Pereladova, pers. comm. 2007) declining (Caprinae Specialist Group, 1996an)
Armenia: 200 declining
Azarabijan: 150 declining (pers. comm. Pereladova)

IUCN Red List:	VU A2cde ver 2.3 (1994) (as *O. o. orientalis* and as *O. o. gemelinii*)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Better protection measures are needed, because the species is threatened by habitat loss, hunting and declines overall.

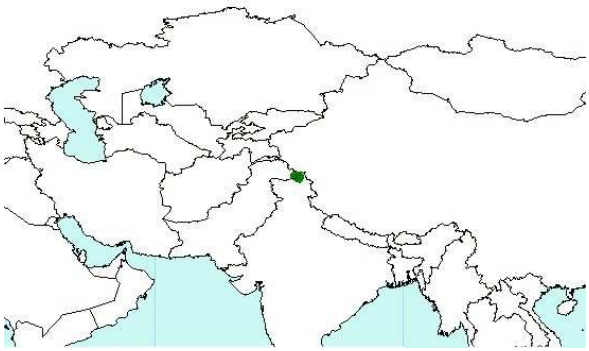
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis aries vignei

Ladakh Urial

Synonyms: *O. orientalis vignei; O. vignei vignei;* Shapu Urial

Distribution:



Only in two fragmented areas in Ladakh (CBSG CAMP Workshop, India 2000), at the border between India and Pakistan.

Status: Loss of habitat and hunting pressures are the main threat for the Ladakh Urial (CBSG CAMP Workshop, India 2000). The Indian population decreased dramatically the last 60 years, mainly due to war. Numbers and herd sizes have increased lately, due to decreased illegal hunting. (Fox & Johnsingh, 1997)
In Pakistan, the animal was abundant, but decreased until 1985, increased slightly and is decreasing again (Rasool, 1999).

Population size and trend: Total: <1,500 declining (CBSG CAMP Workshop, India 2000)
India: 1,000-1,500 slight increase (Fox & Johnsingh, 1997)
Pakistan: 200-300 decleasing (Rasool, 1999)

IUCN Red List:	EN C2a ver 2.3 (1994) (as *O. o. vignei*)	**EU Habitat Dir.:**	-
CITES:	I (as *O. v. vignei)*	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Preservation areas must be expanded. Habitat destruction is the major threat and the species depends on protected areas.

ARTIODACTYLA BOVIDAE CAPRINAE

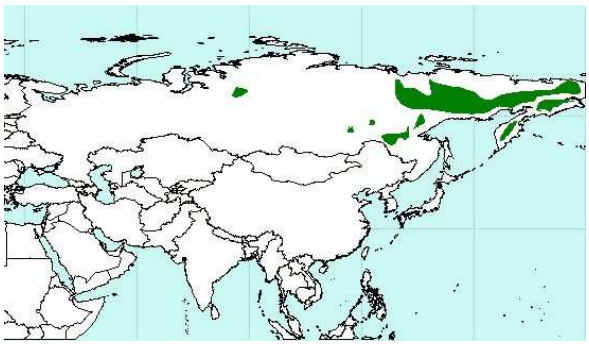
Ovis nivicola -

Snow sheep

Synonyms: -

Subspecies: ***O. n. borealis****; O. n. kodarensis; O. n. koriakorum;* ***O. n. borealis***

Distribution:



Russia (in the Putorana Mountains, NC Siberia, NE Siberia from Lena River east to Chukotka and Kamchatka. (Wilson and Reeder, 2005; Caprinae Specialist Group, 1996ao)

Status: Major threat is, like for most *Ovis sp.*, poaching.

Population size and trend: World (Russia): > 87,000 (1997) (Pereladova, pers. comm 2007) stable (Caprinae Specialist Group, 1996ao)

IUCN Red List:	LR/cd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

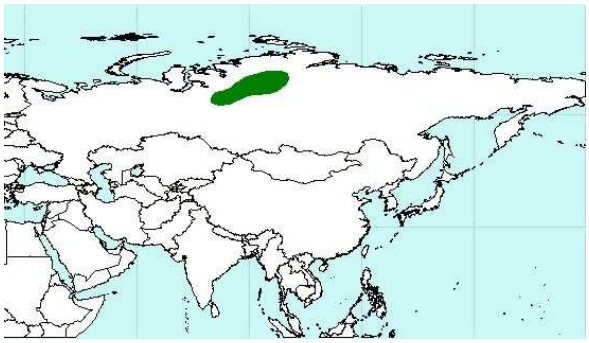
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis nivicola borealis

Putorean Snow Sheep

Synonyms: -

Distribution:



Found in the Putoran Mountains on the northwestern edge of the Central Siberian Plateau in Russia (www.funet.fi).

Status: This species seems to be increasing, major threat is poaching (Cromsigt, 2000).

Population size and trend: World (Russia): 3,500 (1997) (Cromsigt, 2000) increasing (Cromsigt, 2000)

IUCN Red List:	LR/cn ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: Current status has to be investigated.

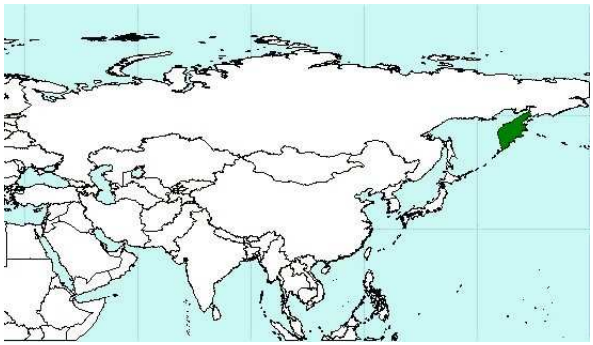
ARTIODACTYLA BOVIDAE CAPRINAE

Ovis nivicola nivicola

Kamtchatka Snow Sheep

Synonyms: -

Distribution:



Occurs in Kamtchatka, in Russia (Caprinae Specialist Group, 1996ap; www.funet.fi).

Status: The population of this species is stable, despite the threat of poachers and changes in native species dynamics of competitors (Caprinae Specialist Group 1996ap).

Population size and trend: World (Russia): >12,000 (1997) (Cromsigt, 2000) stable (Caprinae Specialist Group, 1996ap).

IUCN Red List:	LR/nt ver. 2.3. (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Information on the current status is lacking. The current status should be evaluated to see what the influence of hunting has been (Pereladova, pers. comm. 2007).

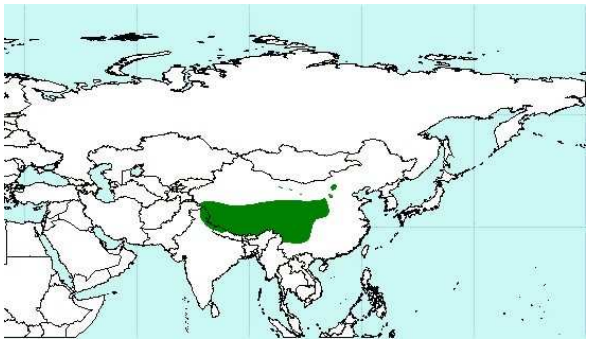
ARTIODACTYLA BOVIDAE CAPRINAE

Pseudois nayeur -

Bharal

Synonyms: Blue sheep

Distribution:



Occurs in Bhutan, N Burma, China (Provinces Gansu, S inner Mongolia, Ningxia, Shaanxi, Sichuan, Sikiang and Tibet), Himalayas (Northern India, Nepal, Northern Pakistan), SE Tajikistan and the Tibetan plateau (Harris, 2003; Schaller, 1998; Wilson & Reeder, 2005).

Status: Major threats are habitat loss and hunting. Recently, a disease outbreak of unknown etiology, has been reported among *P. nayeur* in extreme northern Pakistan, and has markedly reduced abundance locally. This may yet be a cause for concern range-wide, but we are unaware of similar reports from elsewhere within the species' range (Harris, 2003).

Population size and trend: World: 47,000-414,000 (DIIR, 2005; Harris, 2003) declining (Cromsigt, 2000)
Western China: >10,000 (Wang, 1998)
Tibet: >10,000 (Schaller, 1998)
Nepal: >10,000 (Shackleton, 1997)

IUCN Red List:	LC ver 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	Estimates on the number of Blue Sheep are very rough and need to be made more accurate. Although the species is called Blue Sheep, it is more like a goat than a sheep (www.ultimateungulate.com). The reported disease in Pakistan has to be identified and monitored.

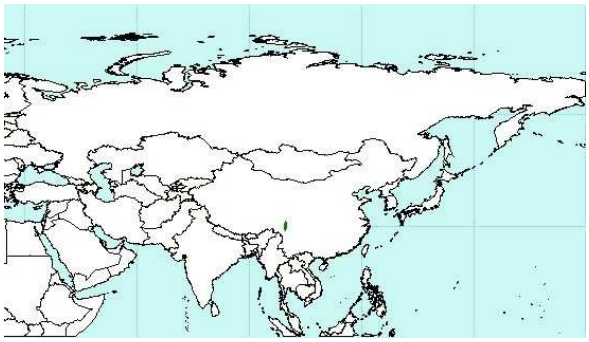
ARTIODACTYLA BOVIDAE CAPRINAE

Pseudois schaeferi -

Dwarf Bharal

Synonyms: Dwarf Blue Sheep; Rong-na

Distribution:



Endemic to a small part of China. It inhabits low, arid, grassy slopes of the upper Yangtze gorge in Batang County of Sichuan Province, and a small part of Mukang County in the Tibetan Autonomous Region of China. (www.answers.com; Wang *et al.*, 2000)

Status: Population will reduce by 50% over de next 10 years, based on the potential levels of overexploitation (Wang *et al.,* 2000). Major threats are hunting (Caprinae Specialist Group, 1996aq) and competition with domestic livestock (Wang *et al.*, 2000).

Population size and trend: China: 200 declining (Wang *et al.,* 2000; Shackleton, 1997)

IUCN Red List:	EN A2d, B1+2e ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:

A prefectural reserve, covering 142.4 square kilometers around Zhubalong was created in 1995 to protect the dwarf blue sheep. However, the protection is only on paper, and human activities continue to occur in the "safe" zone. (Wang *et al.*, 2000)
Although the species is called Dwarf Blue Sheep, it is more like a goat than a sheep (www.ultimateungulate.com).

ARTIODACTYLA BOVIDAE CAPRINAE

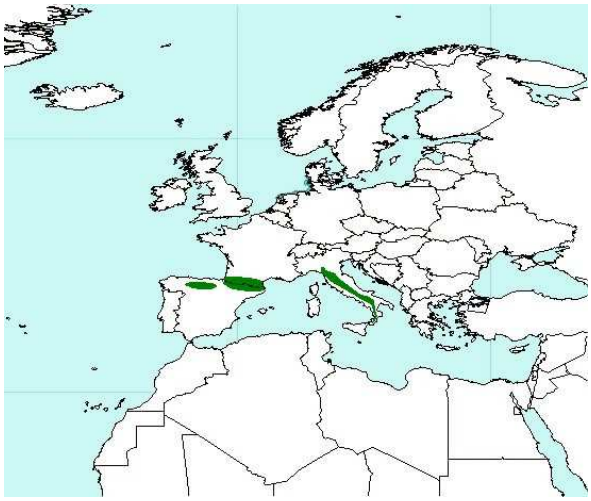
Rupicapra pyrenaica -

Pyrenean Chamois

Synonyms: *R. p. parva*; Southern Chamois

Subspecies: *R. p. pyrenaica;* ***R. p. ornata***

Distribution:



Occurs in the Pyrenees (France, Spain), Cantabrian Mountains (Spain), and Apennines (Italy) (answers.com; Wilson & Reader, 2005).

Status: -

Population size and trend: World: 35,000 (Cromsigt, 1999) stable or increasing (Cromsigt, 2000)
Spain: 27,000 (Van de Vlasakker, 2004)

IUCN Red List:	LC ver. 2.3 (1994)	**EU Habitat Dir.:**	V
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research is needed, because little is known on the current status and number of Pyrenean Chamois.

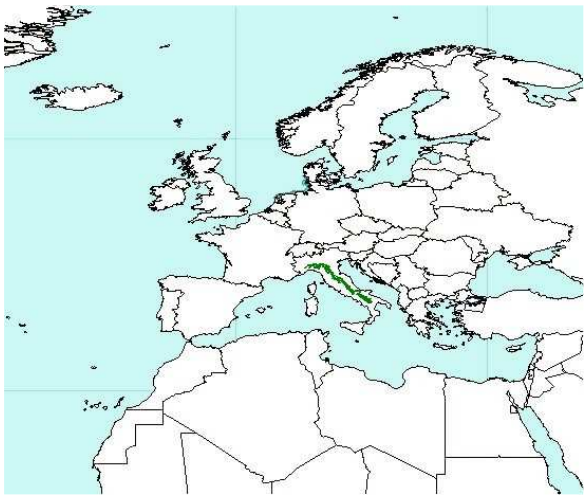
ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra pyrenaica ornata

Appenine Chamois

Synonyms: *R. r. Ornata*

Distribution:



Occurs in the Appenine Mountains, in Italy (Caprinae Specialist Group, 1996ar).

Status: The population size was increasing in 2000, current status is not known (Cromsigt, 2000).

Population size and trend: Italy: 600-700 (Cromsigt, 1997) increasing (Cromsigt, 2000)

IUCN Red List:	LC ver 2.3 (1994)	**EU Habitat Dir.:**	II, IV
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	II, as rupicapra rupicapra ornata	**Bonn Convention:**	-

Recommendations and remarks: More research is needed, because no new information is available on the population size and trend.

ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra rupicapra -

Alpine Chamois

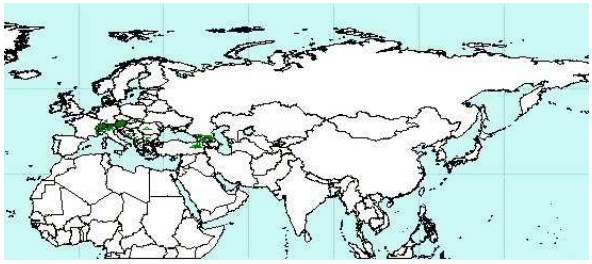
Alpine Chamois – Joep van de Vlasakker Flaxfield Nature Consultancy

Alpine Chamois – Joep van de Vlasakker Flaxfield Nature Consultancy

Synonyms: Northern Chamois

Subspecies: ***R. r. rupicapra; R. r. asiatica, R. r. balcanica,*** *R. r. carpatica,* ***R. r. tatica***

Distribution:



This species occurs in a wide range of countries in the Balkan (Albania, Bulgaria, Macedonia, Greece, Serbia and Montenegro), Central Europe (Romania, Slovakia, Poland), the Alps (France, Germany, Switzerland, Italy, Austria), Turkey and the near East (Georgia, Russian Federation, Azerbaijan) (Wilson & Reeder, 2005; Caprinae Specialist Group, 2000c; www.ultimateungulate.com).

Status: Threats depend on the population, but comprise among others poaching and competition with domestic goats, or climatic factor (Yarovenko, Pers. comm. 2007).

Population size and trend: World: 400,000 (1999) (Cromsigt, 2000)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	V
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Population sizes and status are specified and dealt with per subspecies.

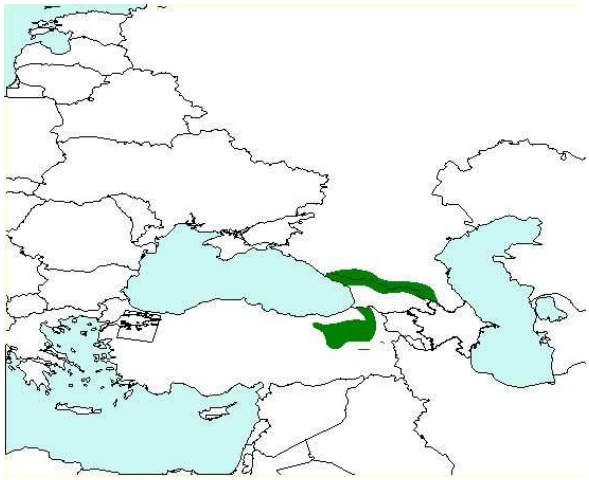
ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra rupicapra asiatica

Turkish Chamois

Synonyms: *R. r. caucasica*

Distribution:



Occurs in E Turkey and the Lesser Caucasus. Around 1900 large numbers of Chamois inhabited both the Great and the Lesser Caucasus (www.nacres.org).

Status: Threats are poaching and habitat and population fragmentation (www.nacres.org, Caprinae Specialist Group 1996as).

Population size and trend: Azarbaijan: 420 (1996) (www.nacres.org)
Georgia: 1,800-2,000 (1996) (www.nacres.org)
W Dagasthan: 300 (Yarovenko, pers. comm. 2007)
Declining in E Kaukasus (Yarovenko, pers. comm. 2007)

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	V
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Habitat has to be protected and restored in order to rejoin isolated populations.
Poaching must be prevented more effective.

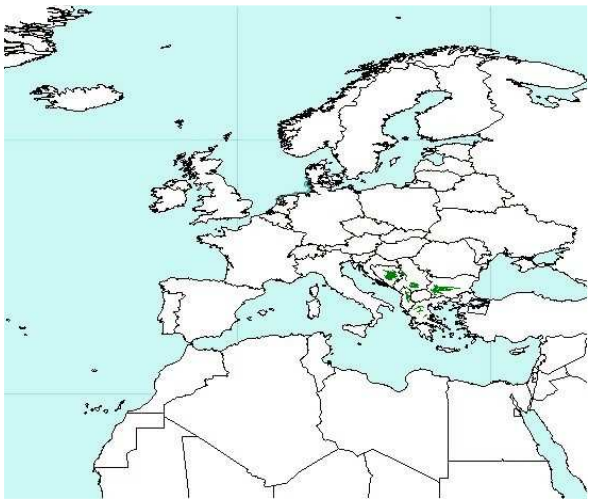
ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra rupicapra balcanica

Balkan Chamois

Synonyms: -

Distribution:



The Balkan Chamois occurs in the mountainous regions of Albania, Bulgaria, Croatia, Macedonia, Greece, Serbia and Montenegro (www.ultimateungulate.com).

Status: Major threat is hunting (www.balkani.org). Protected in Bulgaria (Van de Vlasakker, 2004).

Population size and trend:
World: 25.000 (1982) (Cromsigt, 2000)
Albania: 1,600 (Van de Vlasakker, 2004)
Bulgaria: total 1600
Rhodope Mountains: 730
Rila (incl. Rila National Parc): 470
Pirin: 280
National Parc Centralen Balkan: 120 (2002) (www.balkani.org).
Croatia : 800 declining (Van de Vlasakker, 2004)
Greece: 500-600 (Van de Vlasakker, 2004)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	II, IV
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Population depends on political situation (Anonymous, 2006, Van de Vlasakker, 2000). Population in Greece is small, scattered and isolated, due to poaching and habitat degradation (competition with domestic livestock). Feral dogs predate many chamois. (Van de Vlasakker, 2004)

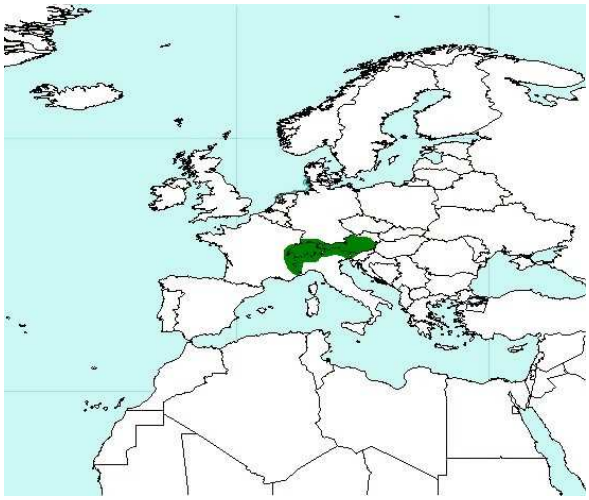
ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra rupicapra rupicapra

Alpine Chamois

Synonyms: *R. r. cartusiana;* Chartreuse Chamois

Distribution:



Occurs in the Alps; France, Germany, Switzerland, Italy and Austria (www.ultimateungulate.com).

Status: The population in the French Chartreuse mountains is critically endangered, but is increasing after a minimum of 157 chamois in the winter of 1985-1986. This species in threatened by hybridization (Roucher, 1999).

Population size and trend:

France (Chartreuse mountains): 770 increasing with an average annual rate of 16% since 1985 (Roucher, 1999).
Germany total: 20,000 stable
Germany (Schwartswald): 1,500
Germany (Alps): 18,500
Italy: 123,410 increasing (Van de Vlasakker, 2004)
Romania: 7,616 (2001) stable
Slovakia: 160
Switzerland: 89,535 (Van de Vlasakker, 2004)

IUCN Red List:	CR C2b, D (as R. r. cartusiana), LR/lc (as R. r. rupicapra) ver. 2.3 (1994)	**EU Habitat Dir.:**	V
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:

The population of the Chartreuse mountains in France is often described as a separate subspecies; *R. r. cartusiana* (Chartreuse Chamois).
In Germany, there are no predators for Chamois. By hunting the population size is managed. The only natural population decline that occurs, is by severe winters. After a severe winter population is at its old level soon. (Van de Vlasakker, 2004)

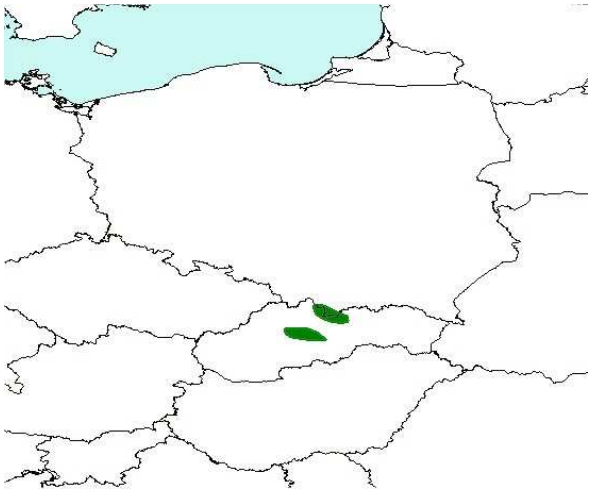
ARTIODACTYLA BOVIDAE CAPRINAE

Rupicapra rupicapra tatrica

Tatra Chamois

Synonyms: -

Distribution:



Only two Tatra Chamois populations exist; in the lower Tatra mountains in C Slovakia and in the higher Tatra mountains at the border of Slovakia and Poland (Jurdíková, 2000).

Status: Population declined during the second world war dramatically (200 individuals were left in high Tatra), increased until the 60s (900 individuals in high Tatra), and shows a gradual decline until 2000 (Jurdíková, 2000). It is now known which threats caused this, probably hunting, low population densities, hybridization with alpine chamois or tourism, or a combination (Caprinae Specialist Group, 2000d; Roucer, 1999). Since 2005 the population increases slightly.
After introduction in the '60s in the lower Tatra mountains, the population there increased until around 120 animals and remained stable (Jurdíková, 2000).

Population size and trend: Total: uncertain trend ((www.sopsr.sk; Judíková, 2000; Roucher, 1999)
Slovakia:
- TANAP parc: 373 (2005), increasing slightly (www.sopsr.sk).
- NAPANT parc: 96 (2005), stable (www.sopsr.sk).
Poland : 140 (1992) (Van de Vlasakker, 2004)

IUCN Red List:	CR C2b ver. 2.3 (1994)	**EU Habitat Dir.:**	II, IV
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-
Recommendations and remarks:	A project to solve the critical situation is developed, shortly before 2000 (Jurdíková, 2000). These results should be evaluated.		

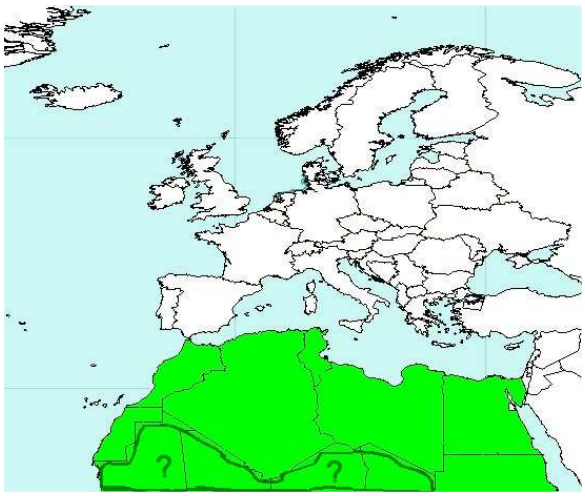
ARTIODACTYLA BOVIDAE HIPPOTRAGINAE

Addax nasomaculatus -

Addax

Synonyms: -

Distribution:



Currently found in Chad, N Mali, Mauritania and Niger.
Formerly in Algeria, Egypt, Libya, Morocco, Tunesia and Sudan (possibly). (Wilson & Reeder, 2005)

Status: Decline of over 80% in the last ten years. Only sizable population in Niger. (Newby & Wacher, 2005)

Population size and trend: Termit (Niger): 128 declining (Newby & Wacher, 2005)

IUCN Red List:	CR A2cd ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	-	**Bonn Convention:**	I

Recommendations and remarks: Controlling the hunting on this species is necessary to preserve it.

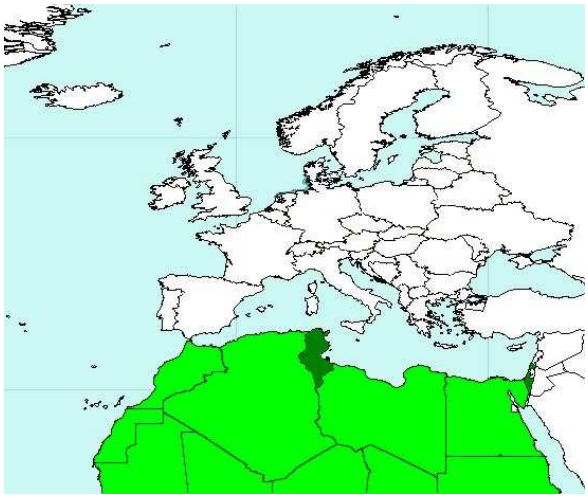
ARTIODACTYLA BOVIDAE HIPPOTRAGINAE

Oryx dammah -

Scimitar-horned Oryx

Synonyms: *Oryx tao;* Sahara Oryx; White Oryx

Distribution:



Currently found in Tunesia and Israel (Mallon & Kingswood, 2000b).
Formerly also in Algeria, N. Burkina Faso, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, N. Nigeria, N. Senegal, Sudan and Tunesia (Wilson & Reeder, 2005).

Status: Extinct in the wild. Reintroduced in Tunesia and introduced in Israel (Mallon & Kingswood, 2000b).

Population size and trend: -

IUCN Red List:	EW ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	II

Recommendations and remarks: The reintroduction of animals in the wild should continue, trying to establish healthy populations.

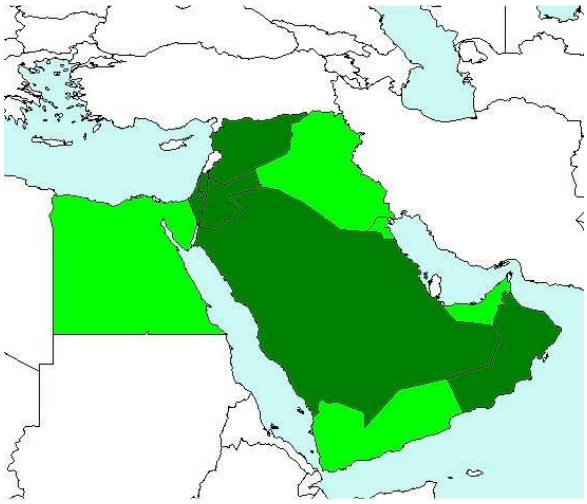
ARTIODACTYLA BOVIDAE HIPPOTRAGINAE

Oryx leucoryx -

Arabian Oryx

Synonyms: White Oryx

Distribution:



(Re)introduced in Bahrain, Israel, Oman, Saudi Arabia, Jordan, Syria (BCEAW, 2003).
Formerly also found in Egypt, Iraq, Israel, Jordan, Kuwait, Oman, Saudi Arabia, United Arab Emirates and Yemen (Wilson & Reeder, 2005).

Status: Overall the reintroduced populations have more or less equal numbers to 1997, but the sale of female Oryx meat has produced a biased population in Oman, with an estimated 100 males and only 6 females. In the United Arab Emirates >3400 animals are held in captivity; in Qatar around 300. (BCEAW, 2003)

Population size and trend:
World: 866 declining
Oman: 106 declining
Saudi Arabia: 700 stable / increasing
Israel: 65 stable / increasing
Bahrain: 55
Jordan (mostly at Shaumari): 68
Syria (Al Talila Reserve): 26 (all : BCEAW, 2003)

IUCN Red List:	EN C1 ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	The breeding programs are a good step to secure the future of this species. Even though, the reintroduced populations should be monitored and protected from hunting.

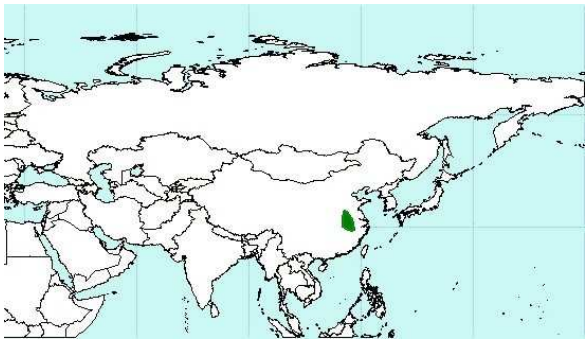
ARTIODACTYLA MOSCHIDAE

Moschus anhuiensis -

Anhui Musk Deer

Synonyms: *M. moschiferus anhuiensis; M. berezovskii*

Distribution:



Currently found in China (Anhui province) (Wilson & Reeder, 2005).

Status: -

Population size and trend: -

IUCN Red List:	Not recognized.	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to take conservational steps to preserve this species.

ARTIODACTYLA MOSCHIDAE

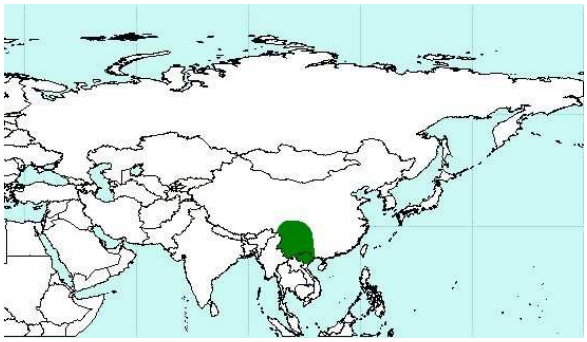
Moschus berezovskii -

Forest Musk Deer

Synonyms: *M. anhuiensi;, M. chrysogaster berezovskii;* Chinese Forest Musk Deer; Dwarf Musk Deer; South China Forest Musk Deer

Subspecies: *M. b. berezovskii; M. b. bijiangensis; M. b. caobangis; M. b. yanguiensis*

Distribution:



Currently found in S and C China, N Vietnam (Wilson & Reeder, 2005).

Status: -

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More research is necessary to ensure to status of this species.

ARTIODACTYLA MOSCHIDAE

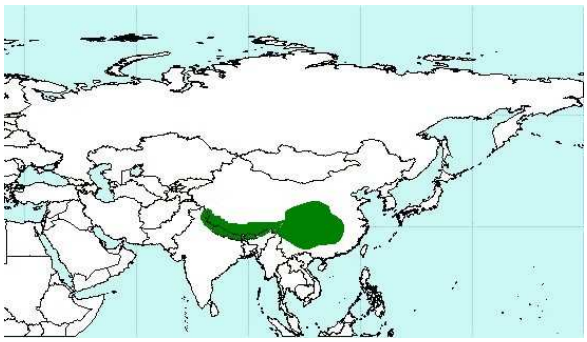
Moschus chrysogaster -

Alpine Musk Deer

Synonyms: *M. cupreus; M. moschiferus moschiferus; M. sifanicus*; Himalayan Musk Deer

Subspecies: *M.c. chrysogaster; M.c. sifanicus*

Distribution:



Currently found in Bhutan, South and Central China, North India, Nepal (Wilson & Reeder, 2005)

Status: Due to heavy poaching and musk trade, this species is still declining (Yang *et al*, 2003).

Population size and trend: World: -
China: 220,000 – 320,000 declining (Yang *et al*, 2003)

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II, I (pops. of Afganistan, Bhutan, India, Myanmar, Nepal and Pakistan)	**EC Reg. 338/97:**	B, A (pops. of Afganistan, Bhutan, India, Myanmar, Nepal and Pakistan)
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: -

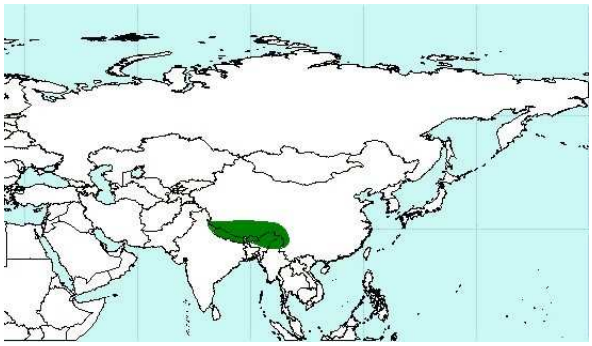
ARTIODACTYLA MOSCHIDAE

Moschus fuscus -

Black Musk Deer

Synonyms: *M. Chrysogaster fuscus;* Dusky Musk Deer

Distribution:



Currently found in N Burma, China, India, Nepal (Wilson & Reeder, 2005).

Status: Habitat fragmentation and poaching are main threats on this species (Yang *et al*, 2003).

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I (India, Nepal and Burma) II (China)	**EC Reg. 338/97:**	A (India, Nepal and Burma) B (China)
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to take conservational steps to preserve this species.

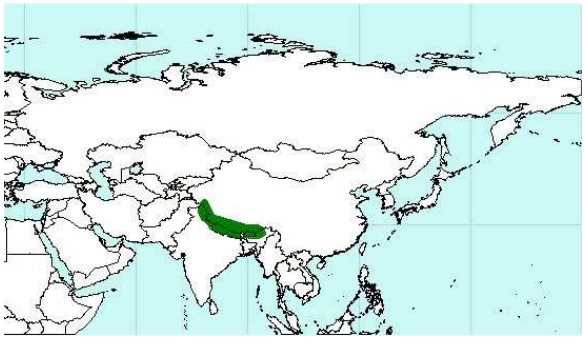
ARTIODACTYLA MOSCHIDAE

Moschus leucogaster -

Himelayan Musk Deer

Synonyms: *M. chrysogaster leucogaster.*

Distribution:



Currently found in Himelayas of Bhutan, North India and Nepal. (Wilson & Reeder, 2005)

Status: Threatened by poaching and habitat loss (Cromsigt, 2000).

Population size and trend: ? declining (Cromsigt, 2000)

IUCN Red List:	LR/nt (ver. 2.3)	**EU Habitat Dir.:**	-
CITES:	II, I (pops. of Afganistan, Bhutan, India, Myanmar, Nepal and Pakistan)	**EC Reg. 338/97:**	B, A (pops. of Afganistan, Bhutan, India, Myanmar, Nepal and Pakistan)
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	More data on population size and distribution is important to be able to assess the status of this species.

ARTIODACTYLA MOSCHIDAE

Moschus moschiferus -

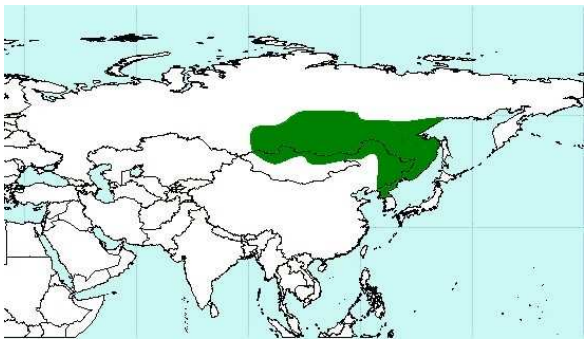
Siberian Musk Deer

Musk deer – WWF Photo library WWF Mongolia

Synonyms: -

Subspecies: *M.m. moschiferus; M.m. arcticus; M.m. parvipes; M.m. sachalinensis; M.m. turowi*

Distribution:



Currently found in forests of Russia, North China, Korea, North Mongolia. (Wilson & Reeder, 2005)

Status: Poaching is one of the major threats.
Serious decrease of Siberian Musk Deer in areas which are easily accessible for hunters.
In the rest of the species area situation is more or less stable or even increasing. (Mosheva, 2004)

Population size and trend:
World: 60,000 - 120,000 (Mosheva, 2004)
Russia: 50,000 - 60,000 declining (Cromsigt, 2000)
China: ~100,000 declining (Cromsigt, 2000)
Mongolia: ?

IUCN Red List:	VU A1acd ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	II	**EC Reg. 338/97:**	B
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks:	More recent data on population size and distribution is important to be able to assess the status of this species.

ARTIODACTYLA CERVIDAE CAPREOLINAE

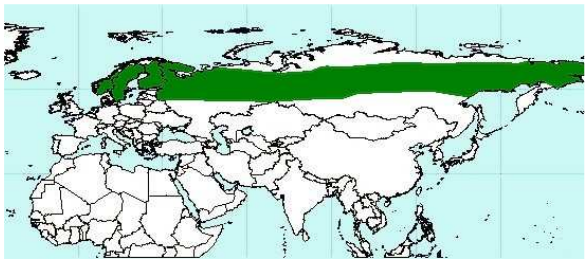
Alces alces -

Eurasian Elk

Synonyms: Elk; Moose

Subspecies: *A. a. alces; A. a. caucasicus*

Distribution:



Currently found in N Eurasia (Wilson & Reeder, 2005).

Status: Former range has been strongly diminished, but the species is rebuilding its numbers (Lomanova & Lomanova, 2004).

Population size and trend: Eurasia: 526,000 increasing (Lomanova & Lomanova, 2004)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: The survival of the species seems to be fairly secure. To secure the survival of the species in the future reintroductions should be considered in other areas of its former range (such as W Europe). Furthermore, its role in ecological restoration processes has to be considered as well. (Pereladova, pers. comm. 2007)

ARTIODACTYLA CERVIDAE CAPREOLINAE

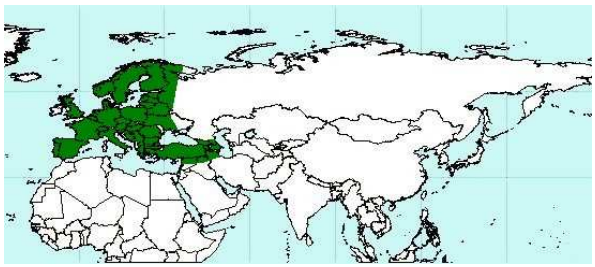
Capreolus capreolus -

European Roe

Synonyms: Western Roe Deer, Roe Deer

Subspecies: *C. c. capreolus; C. c. canus; C. c. caucasicus; C. c. italicus*

Distribution:



Currently found in Europe to W Russia and Ukraine, Turkey, Caucasus region, NW Iraq and N Iran.
Formerly in Lebanon and Israel.
(Wilson & Reeder, 2005)

Status: Still expanding its range (Cromsigt, 2000).

Population size and trend: World: > 1,000,000 stable/increasing (Cromsigt, 2000)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: -

ARTIODACTYLA CERVIDAE CAPREOLINAE

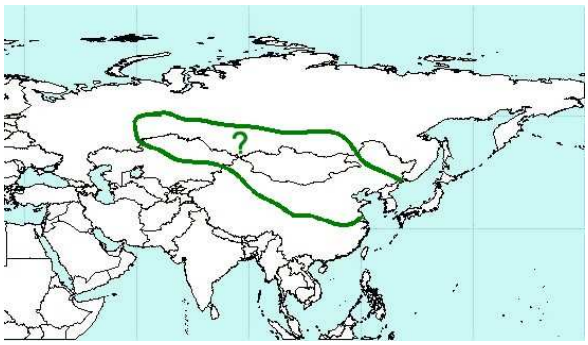
Capreolus pygargus -

Siberian Roe

Synonyms: Eastern Roe Deer

Subspecies: *C. p. pygargus; C. p. bedfordi; C. p. mantschuricus; C. p. ochraceus*

Distribution:



Currently found in Russia (S Ural mountains and S Siberia), N and E Kazachstan, Kyrgystan, N and C China, N Mongolia and Korea. (Wilson & Reeder, 2005)

Status: Well adapted to civilisation (Cromsigt, 2000). Generally not threatened, but some populations suffer from overhunting for its meat. (Mirutenko, 2004)

Population size and trend: World: 536,000 in 2003 (Mirutenko, 2004)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: -

Rangifer tarandus -

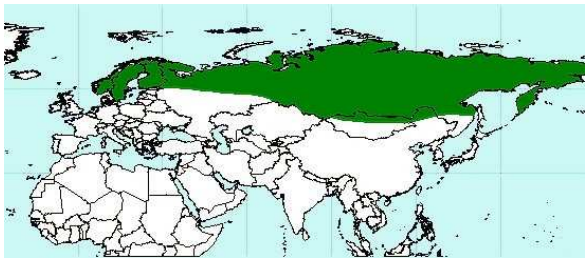
Reindeer

Reindier – Chris Eisenga Flaxfield Nature Consultancy

Synonyms: Caribou

Subspecies: *R. t. tarandus; R. t. buskensis; R .t. caboti; R .t. caribou; R. t. dawsoni; R. t. fennicus; R. t. groenlandicus; R. t. osborni; R. t. pearsoni; R. t. pearyi; R. t. phylarchus; R. t. platyrhynchus; R. t. sibiricus; R. t. terraenovae*

Distribution:



Currently found circumboreal in tundra and taiga from Svalbard, Norway, Finland, Russia, Alaska and Canada; south to N Mongolia and China.
Formerly also in Sweden. (Wilson & Reeder, 2005)

Status: The species as a whole is doing good. Only the subspecies *R.t. pearyi* (Canada) is endangered (Huffman, 2006). In Mongolia the population is declining (Clark *et al*, 2006).

Population size and trend: World: 1,000,000 increasing (Cromsigt, 2000)
Russia: 827,000 (in 2003) (Paponov, 2004)
Mongolia: < 1,000 declining (Clark et al, 2006)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	II, as *R. t. fennicus*
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	More information is needed on its status in Russia and China. Situation is getting worse very quickly, some populations should be considered to be threatened already – especially in oil and gas extracting regions – Western Siberia, Sakhalin, as well as on Kamtchatka and Lena delta. (Pereladova, pers. comm. 2007)

ARTIODACTYLA CERVIDAE CERVINAE

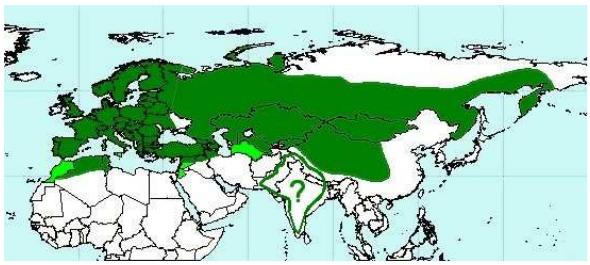
Cervus elaphus -

Red deer

Synonyms: *Cervus canadensis;* Elk; Wapiti

Subspecies: ***C. e. alashanicus***; *C. e. atlanticus*; **C. e . Bactrianus**; ***C. e. barbarus***; *C. e. brauneri*; *C. e. Canadensis*; ***C. e. corsicanus***; ***C. e. hanglu***; *C. e. hispanicus*; *C. e. kansuensis*; ***C. e. macneilli***; ***C. e. maral***; *C. e. nannodes*; *C. e. pannoniensis*; *C. e. songaricus*; ***C. e. wallichii***; *C. e. xanthopygus*; ***C. e. yarkandensis***

Distribution:



Currently found in NE Algeria, Tunesia; continental Europe east to S Norway, S Sweden, Ukraine and Caucasus; Turkey, N Iran, Iraq; Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, N Afghanistan, N India (Kashmir Valley), N Pakistan, east to Siberia, Mongolia, W and N China, Korea, Russia (Ussuri region); Canada and USA (western areas and reserves). Introduced to Morocco, USA Argentina, Chile, Australia, New Zealand. *C.e. canadensis* introduced to Ural mountains, Russia (Volga Steppe) and New Zealand.
Formerly also in Albania, Moldavia, Sicily, Israel, Jordan, Lebanon, Syria and Turkmenistan. (Wilson & Reeder, 2005)

Status: Some of the fragmented populations are threatened. (Cromsigt, 2000)
Mongolian population is critically declining due to overhunting and habitat loss (decline of greater then 80% over the past three generations). (Clark et al, 2006)

Population size and trend: World: > 1,000,000 mostly stable (Cromsigt, 2000)
Mongolia: 8,000 – 10,000 (Clark et al, 2006)

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-
Recommendations and remarks:	Status of subspecies is completely different, many are threatened.		

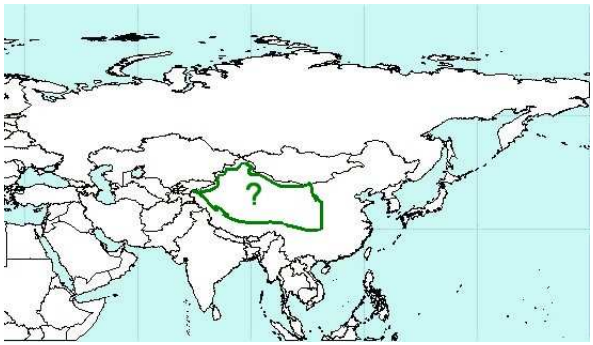
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus alashanicus

Alashan Wapiti

Synonyms: -

Distribution:



Currently found in China (Deer specialist group, 1996a).

Status: -

Population size and trend: -

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	More data on population size and distribution is important to be able to assess the status of this subspecies.

Cervus elaphus bactrianus

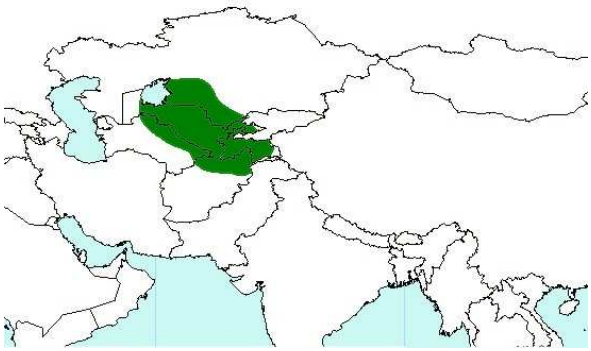
Bukhara Deer

Bukhara deer – LHF Photo Library

Bukhara deer – LHF Photo Library

Synonyms: Bactrian (Red) Deer; Bactrian Wapiti

Distribution:



Formerly distributed along the corridors of the Syr-Darya and Amu-Darya rivers from the Aral Sea to N Afghanistan.
Currently found in Turkmenistan, Uzbekistan, Tajikistan, Kazakhstan and Afghanistan. (Pereladova et al, 2007)

Status: The populations are very fragmented and the populations have kept declining in recent years and habitat fragmentation has increased. (Chikin et al, 2005)

Population size and trend: World: 1000 (in 2006). (Pereladova et al, 2007)

IUCN Red List:	EN D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	Implementation of immediate conservation measures is needed to save the subspecies from extinction. The range states should be encouraged to control the habitat fragmentation. Captive breeding and reintroductions (which already started in 4 sites, but need to be continued, as well as additional sites are needed) should be considered while the total population is still sufficiently large. (Pereladova, pers. comm. 2007)

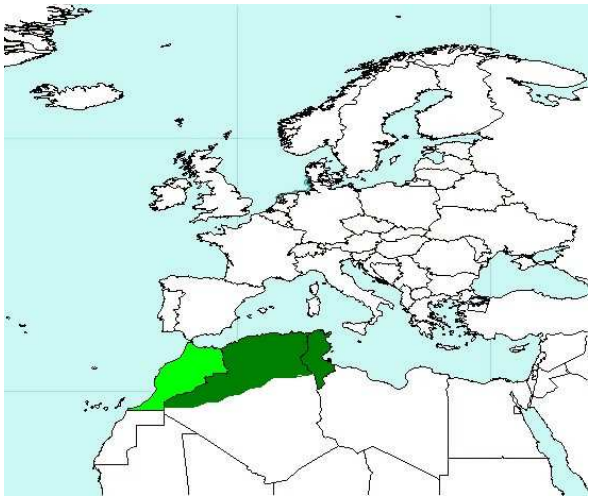
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus barbarus

Barbary Deer

Synonyms: Atlas Deer; Barbary Stag; Barbary Red Deer

Distribution:



Currently found in Algeria and Tunesia. Formerly also in Morocco. (Deer specialists group, 1996)

Status: -

Population size and trend: -

IUCN Red List:	LR/nt ver. 2.3 1994)	**EU Habitat Dir.:**	-
CITES:	III	**EC Reg. 338/97:**	C
Bern Convention:	III	**Bonn Convention:**	I

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

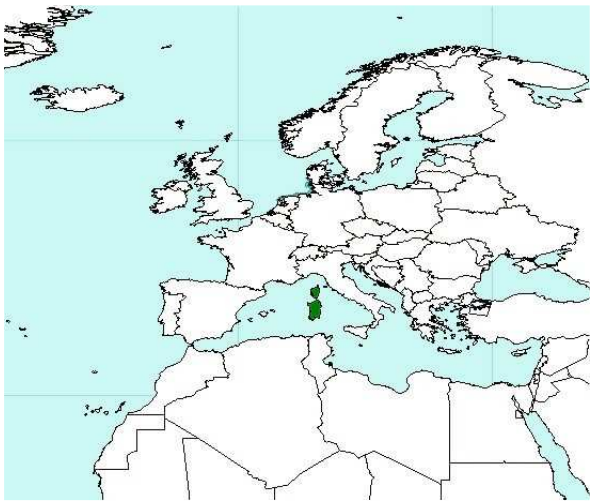
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus corsicanus

Corsican Red Deer

Synonyms: -

Distribution:



Currently found in France and Italy (Deer specialist Group, 1996b).

Status: -

Population size and trend: -

IUCN Red List:	EN D ver. 2.3 (1994)	**EU Habitat Dir.:**	II, IV
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

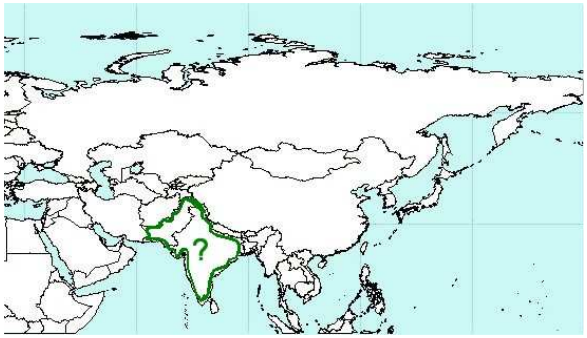
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus hanglu

Kashmir Red Deer

Synonyms: *Cervus hanglu;* Hangul; Kashmir Deer; Kashmir Stag

Distribution:



Currently found in India, Pakistan (Deer specialist group, 1996c).

Status: -

Population size and trend: -

IUCN Red List:	EN D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

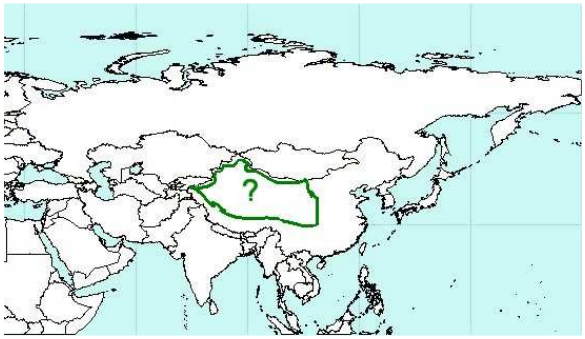
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus macneilli

MacNeill's Red Deer

Synonyms: *C. canadensis macneilli;* McNeill's Deer

Distribution:



Currently found in China (Deer specialist group, 1996d).

Status: -

Population size and trend: -

IUCN Red List:	DD ver 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

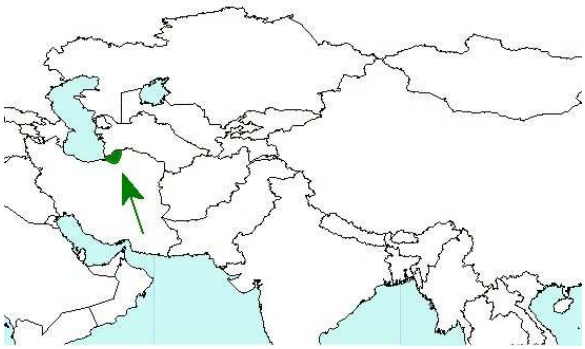
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus maral

Maral

Synonyms: East European Red Deer; Caspian Red Deer; Noble Deer

Distribution:



Occurs between the Black Sea and Caspian Sea (Kiabi et al, 2004).

Status: Illegal hunting, road kill and livestock grazing have been identified as the major factors which affect the population adversely (Kiabi et al, 2004).

Population size and trend: Iran (Golestan National Park): 500 (2003) declining (Kiabi et al, 2004).

IUCN Red List:	-	**EU Habitat Dir.:**	-
CITES:	III	**EC Reg. 338/97:**	C
Bern Convention:	III	**Bonn Convention:**	I

Recommendations and remarks: -

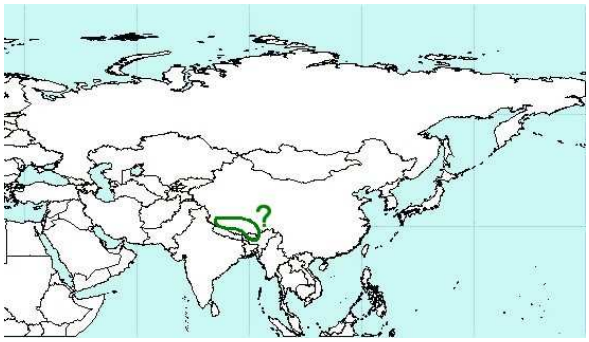
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus wallichii

Tibetan Red Deer

Synonyms: *Cervus wallichii;* Shou

Distribution:



Currently found in China, possibly Bhutan (Deer specialist group, 1996e).

Status: -

Population size and trend: -

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data is necessary to ensure the status of this species.

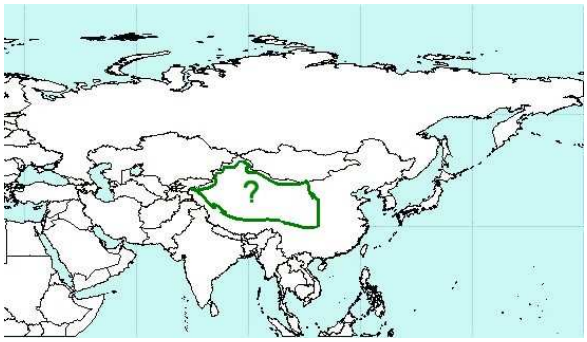
ARTIODACTYLA CERVIDAE CERVINAE

Cervus elaphus yarkandensis

Yarkand deer

Synonyms: -

Distribution:



Currently found in China (Deer specialists group, 1996f)

Status: -

Population size and trend: -

IUCN Red List:	EN A1a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	More data is necessary to ensure the status of this species.

ARTIODACTYLA CERVIDAE CERVINAE

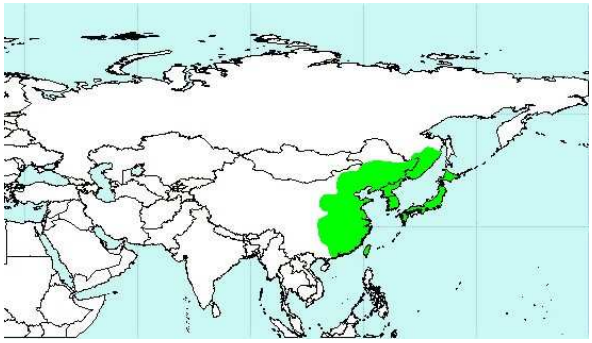
Cervus nippon -

Sika

Synonyms: Sika Deer; Japanese Deer

Subspecies: *C. n. nippon;* ***C. n. aplodontus****;* ***C. n. grassianus****;* *C. n. hortulorum;* ***C. n. keramae****;* ***C. n. kopschi****;* *C. n. mageshimae;* ***C. n. mandarinus****;* ***C. n. mantchuricus****;* ***C. n. pseudaxis****;* ***C. n. pulchellus****;* ***C. n. sichuanicus****;* *C. n. soloensis;* ***C. n. taiouanus****;* *C. n. yakushimae;* ***C. n. yesoensis***

Distribution:



Formely occurred in W China, Japan, far E Russia, Taiwan and Vietnam.
Introduced in the 19th-20th century to Britisch isles, Armenia, Austria, Azerbaijan, Czech republic, Denmark, Finland, France, Germany, Kalingrad, Lithuania, Poland, W Russia and Ukraine. (Wilson & Reeder 2005)

Status: Many subspecies are considered to be endangered. All subspecies have been hunted widely in China during the past 100 years (Ohtaishi & Gao, 1990).

Population size and trend: -

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	The species as a whole is not threatened, but some local subspecies are. Data is deficient for many subspecies.

ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon aplodontus

North Honshu Sika

Synonyms: -

Distribution:

Currently found in Japan (North Honshu islands) (Deer specialist group, 1996g).

Status: -

Population size and trend: -

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

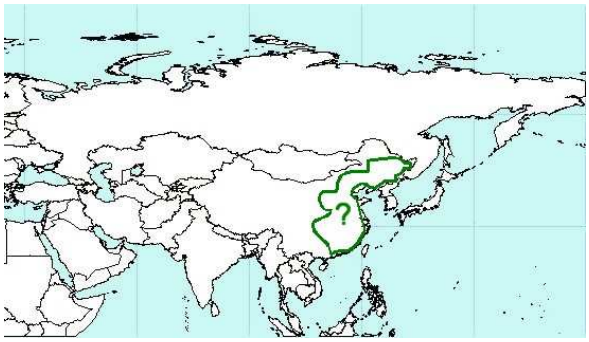
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon grassianus

Shansi Sika

Synonyms: -

Distribution:



Currently found in China (Deer specialist group, 1996h)

Status: -

Population size and trend: -

IUCN Red List:	CR C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

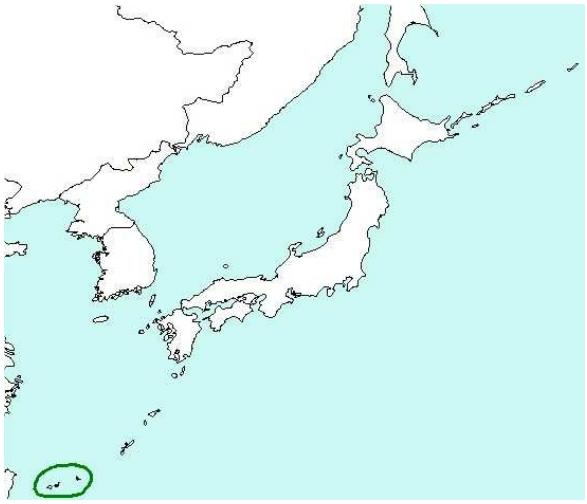
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon keramae

Kerama Deer

Synonyms: Ryukyu Sika

Distribution:



Currently found in Japan (Ruyukyu islands) (Deer Specialist Group, 1996i).

Status: -

Population size and trend: -

IUCN Red List:	CR C2a ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

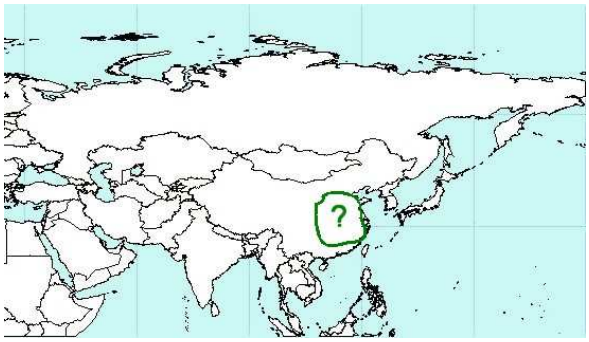
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon kopschi

South China Sika

Synonyms: -

Distribution:



Currently found in EC China (Nowak, 1991; Whitehead, 1972).

Status: -

Population size and trend: -

IUCN Red List:	EN D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

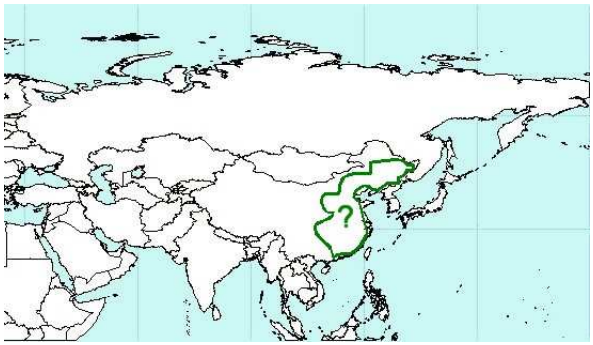
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon mandarinus

North China Sika

Synonyms: -

Distribution:



Currently found in China (Deer Specialist Group, 1996j).

Status: -

Population size and trend: -

IUCN Red List:	CR D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

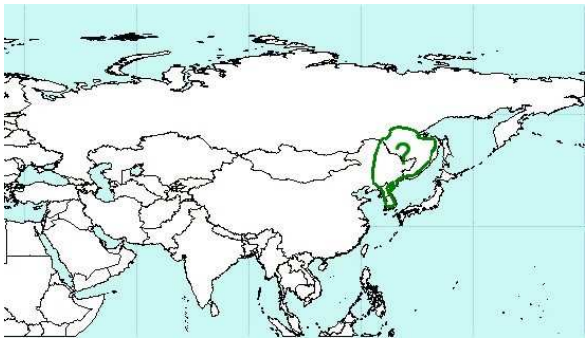
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon mantchurius

Mantchurian Sika

Synonyms: -

Distribution:



Currently found in the Russian Far East, Manchuria and Korea (Pereladova, pers. comm. 2007).

Status: The populations have been drastically reduced, but recently increased again. Introduced elsewhere in Russia and the Ukraine (Pereladova, pers. comm. 2007).

Population size and trend: Around 15,000 (in 2006) (Pereladova, pers. Comm. 2007)

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: The status of this subspecies needs to be evaluated within short terms, followed by immediate conservation action. The number is continuously rising during the last 10-15 years, both in the limits of Protected area's, and outside them. Area is also expanding.
The question is raised – to exclude the population from the Red List – to move to the green lists. (Pereladova, pers. comm. 2007)

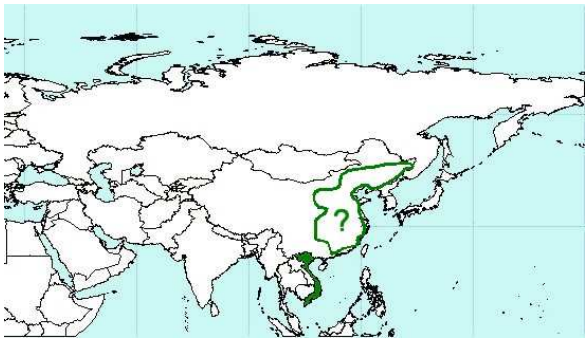
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon pseudaxis

Tonkin Sika

Synonyms: -

Distribution:



Currently found in Vietnam and possibly China (Deer Specialist Group, 1996k).

Status: -

Population size and trend: -

IUCN Red List:	CR D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon pulchellus

Tsushima Sika

Synonyms: -

Distribution:

Currently found in Japan (Deer Specialist Group, 1996l).

Status: -

Population size and trend: -

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

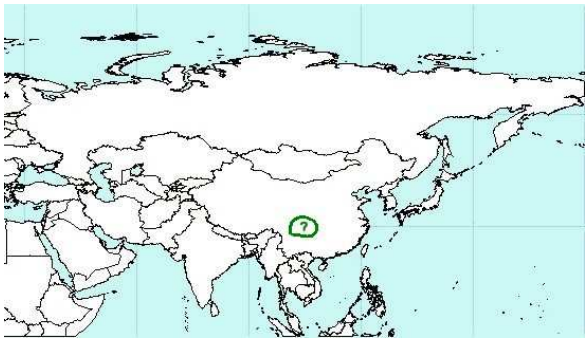
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon sichuanicus

Sichuan Sika

Synonyms: -

Distribution:



Currently found in China (Deer Specialist Group, 1996m).

Status: -

Population size and trend: -

IUCN Red List:	EN D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

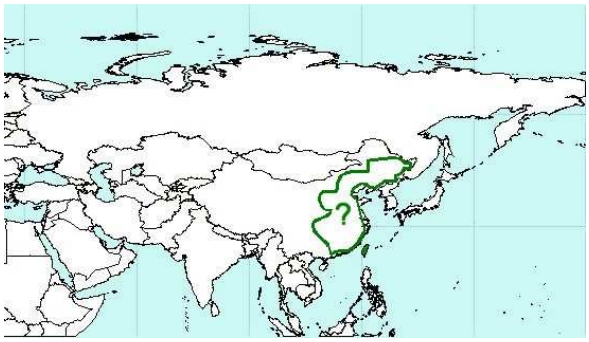
ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon taiouanus

Formosan Sika

Synonyms: Taiwan Sika

Distribution:



Currently found in China and Taiwan (Deer Specialist Group, 1996n).

Status: -

Population size and trend: -

IUCN Red List:	CR D ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: More data on population size and distribution is important to be able to assess the status of this subspecies.

ARTIODACTYLA CERVIDAE CERVINAE

Cervus nippon yesoensis

Hokkaido Sika

Synonyms: -

Distribution:

Currently found in Japan (Hokkaido islands) (Deer Specialist Group, 1996o).

Status: -

Population size and trend: -

IUCN Red List:	DD ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	More data on population size and distribution is important to be able to assess the status of this subspecies.

ARTIODACTYLA CERVIDAE CERVINAE

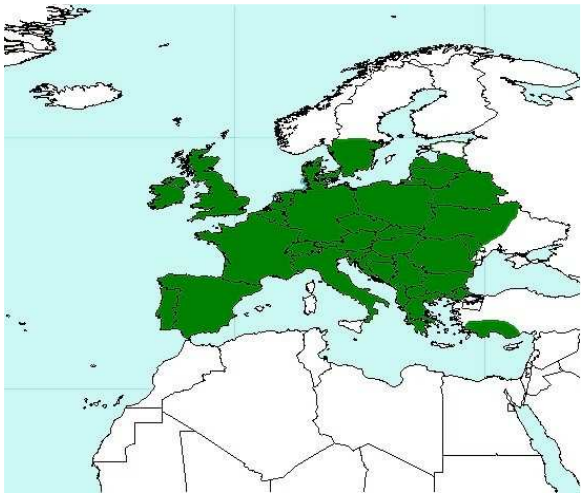
Dama dama -

Fallow deer

Synonyms: *Cervus dama*

Subspecies: ***D. d.* mesopotamica**

Distribution:



Naturaly wild population still present in S Turkey (dissapeared from the rest of Europe during the last glacial period).
Currently widely introduced to nearly all European country's. (Wilson & Reeder, 2005)

Status: Populations in original area have strongly declined (Wilson & Reeder, 2005).

Population size and trend: -

IUCN Red List:	LR/lc ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks:	The status of this species in its original area (Mediterranean region and Turkey) needs to be evaluated. Reintroductions should be considered into former range areas to secure the survival of the species in its original distribution area.

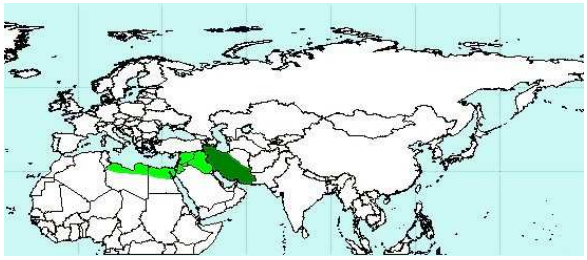
ARTIODACTYLA CERVIDAE CERVINAE

Dama dama mesopotamica

Persian Fallow Deer

Synonyms: *D. mesopotamica*; *Cervus dama mesopotamicus*; Mesoptamian follow deer

Distribution:



Formerly occurred in North Africa from the Tunisian border to the Red Sea and in Asia from Syria and Jordan to Iraq and western Iran. Currently found in SW, NW, N and S of Iran. Re-introduced in Israel (Salz, 1998)

Status: Vulnerable but improving. Major threats are habitat destruction, poaching and competition with livestock. Besides they are suffering from small sized and isolated populations. (Rabei, 2005; Hemami & Rabiei, 2002)

Population size and trend: Iran: approximately 340 (Rabiei, 2004) increasing
Israël (re-introduction): 55 (Salz, 1998)

IUCN Red List:	VU D1+2 ver. 3.1 (2001)	**EU Habitat Dir.:**	-
CITES:	I	**EC Reg. 338/97:**	A
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Reintroductions in the known former distribution range (Iraq and Jordan) should be executed, to improve the status of this subspecies and save it from extinction (Cromsigt, 2000).

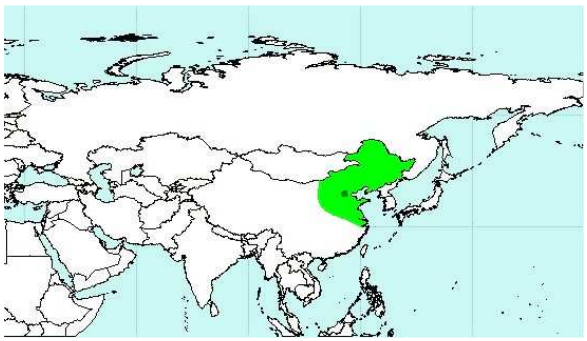
ARTIODACTYLA CERVIDAE CERVINAE

Elaphurus davidianus -

Pere David's Deer

Synonyms: Milu

Distribution:



Formerly occurred in NE and CE China. Extinct in wild at least 1000 years ago. Currently re-introduced in China (Focus 1997c.).

Status: Successful reproduction in Dafeng reserve, China (Focus 1997c).

Population size and trend: China (1997): 268 (re-introduced) improving (Focus 1997c)

IUCN Red List:	CR D ver 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	-	**Bonn Convention:**	-

Recommendations and remarks: The efforts of reintroducing this species should continue and widen to different former ranges.

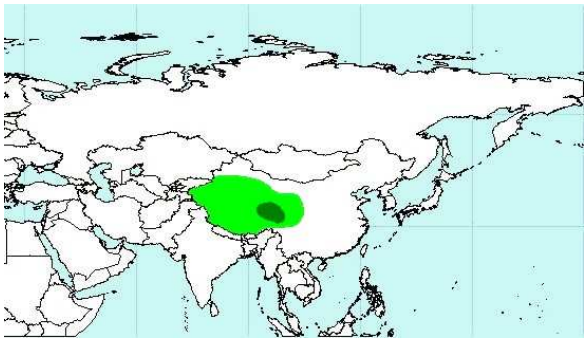
ARTIODACTYLA CERVIDAE CERVINAE

Przewalskium albirostris -

White-lipped Deer

Synonyms: *Cervus albirostris*; Thorold's deer

Distribution:



Formerly occurred across most of the eastern Tibetan Plateau.
Currently found in Tibet, from the vicinity of Lhasa eastward into western Sichuan and in the eastern two-thirds of Qinghai and into Gansu (Schaller, 1998).

Status: Vulnerable and declining; populations are highly fragmented; competition with livestock and hunting for meat and antlers are major threats (Schaller, 1998).

Population size and trend: China 1993: 50,000 - 100,000 declining (Schaller, 1998)

IUCN Red List:	VU C1 ver. 2.3 (1994)	**EU Habitat Dir.:**	-
CITES:	-	**EC Reg. 338/97:**	-
Bern Convention:	III	**Bonn Convention:**	-

Recommendations and remarks: Conservational steps have to be taken to ensure the future existence of this species.

4. ACKNOWLEDGEMENTS

LARGE HERBIVORE FOUNDATION

A WORD OF THANKS

The Large Herbivore Foundation is thanked for commissioning this status report. Drs. Fred Baerselman and ing. Joep van de Vlasakker are greatly acknowledged for fruitful discussions and suggestions during the process in which this report was produced. Dr. Annet Velthuis is thanked for her role as team coach. This work could not have been achieved without the support and goodwill of the members of the LHF network. In particular the following people are thanked for their contribution: Baskin, L.; Feh, C.; Festa-Bianchet, M.; Hare, J.; Harris, R.; Herrero, J.; Kaczensky, P.; King, S.R.B.; Kopaliani, N.; Lhagvasuren, B.; Mcrae, L.; Mallon, D.; Milner-Gulland, E.J; Myslenkov, A.; Oliver, W.L.R.; Papaioannou, H.; Pereladova, O.; Perzanowski, K.; Reading, R.; Shackleton, D.; Shvarts, E.; Subbotin, A.; Suyomert, A.; Valchev, K.; Voloshina, I.; Weinberg, P.; Yarovenko, Y.; Zazanashvili, N. and the WCMC information office.
This project was funded by Wageningen University and Research Centre.

5. REFERENCES

LARGE HERBIVORE FOUNDATION

A LIST OF REFERENCES

- Abaturov, B. D., Anchiforov, P. S., Ogureeva, G. N., Pal'tsyn, M. Y., Spitsyn, S. V., Subbotin, A. E. (2004). Distribution of the Altai wild sheep (*Ovis ammon ammon*) in the Altai Mountains related to the plant cover pattern. *Zoologichesky Zhurnal* **83(2)**: 241-251.
- Anonymous (2006). Distribution and number of Balkan Chamois (*Rupicapra rupicapra balcani*) in Bulgaria.
- Antelope Specialist Group 1996a. *Gazella leptoceros*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Antelope Specialist Group 1996b. *Gazella rufina*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Bahloul, K., Pereladova O. B., Soldatova N., Fisenko G., Sidorenko E. and Sempéré A. J. (2001). Social organization and dispersion of introduced kulans (*Equus hemionus kulan*) and Przewalksi horses (*Equus przewalskii*) in the Bukhara reserve, Uzbekistan. *Journal of Arid Environments* **47**: 309-323.
- Bar-Gal, G. K., Smith, P., Tchernov, E., Greenblatt, C., Ducos, P., Gardeisen, A. And Horwitz, L. K. (2002) Genetic evidence for the origin of the agrimi goat (*Capra aegagrus cretica*). *Journal of Zoology London* **256:** 369-377.
- BCEAW (2003). Conservation Workshop for the Fauna of Arabia, February 2003. Breeding Centre for Endangered Arabian Wildlife and Environment and Protected areas Authority, Sharjah, UAE.
- Blank, D. A. 2003a. *Gazella gazella* ssp. *acaciae*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Blank, D. A. 2003b. *Gazella gazella* ssp. *gazella*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Blouch, R. A. (1995). Conservation and Research Priorities for Threatened Suids of South and Southeast Asia. *Ibex Journal of Mountain Ecology* **3:** 21-25

- Bobyr, K. G. (2002). Ecological peculiarities and protection of the West Caucasian tur (*Capra caucasica* Güldenstaedt et Pallas, 1783) of the Teberda Nature Reserve. *Candidate diss. thesis*. Stavropol (in Russian).
- Bunzel-Drüke, M. (2001). Ecological Substitutes for Wild Horse (*Equus ferus,* BODDAERT 1785 = *E. przewalskii*, POLJAKOV 1881) and Aurochs (*Bos primigenius*, BOJANUS 1827). *Natur- und Kulturlandschaft* ***4:*** *240-252*.
- Caprinae Specialist Group 1996a. *Ammotragus lervia*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Caprinae Specialist Group 1996b. *Budorcas taxicolor*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996c. *Budorcas taxicolor* ssp. *taxicolor*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Caprinae Specialist Group 1996d. *Budorcas taxicolor* ssp. *whitei*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Caprinae Specialist Group 1996e. *Budorcas taxicolor* ssp. *tibetana*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996f. *Budorcas taxicolor* ssp. *bedfordi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Caprinae Specialist Group 1996g. *Capra caucasica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996h. *Capra falconeri*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996i. *Capra falconeri* ssp. *falconeri*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996j. *Capra falconeri* ssp. *heptneri*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996k. *Capra falconeri* ssp. *megaceros*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996l. *Capra aegagrus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996m. *Capra aegagrus* ssp. *aegagrus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996n. *Capra aegagrus* ssp. *cretica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996o. *Capra aegagrus* ssp.

chialtanensis. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.

- Caprinae Specialist Group 1996p. *Capra cylindricornis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996q. *Capra ibex*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996q. Ovis orientalis ssp. arkal. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996r. *Capra nubiana*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996s. *Capra pyrenaica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996t. *Capra sibrica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996u. *Hemitragus jayakari*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996v. *Naemorhedus caudatus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996w. *Naemorhedus baileyi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996x. *Naemorhedus goral*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996y. *Naemorhedus goral* ssp. *bedfordi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996z. *Naemorhedus goral* ssp. *goral*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **15 June 2007**.
- Caprinae Specialist Group 1996aa. *Ovibos moschatus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996ab. *Ovis ammon*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996ac. *Ovis ammon* ssp. *ammon*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996ad. *Ovis ammon* ssp. *collium*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996ae. *Ovis ammon* ssp. *darwini*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996af. *Ovis ammon* ssp. *hodgsonii*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.

- Caprinae Specialist Group 1996ag. *Ovis ammon* ssp. *karelini*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996ah. *Ovis ammon* ssp. *nigrimontana*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996ai. *Ovis ammon* ssp. *polii*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996aj. *Ovis ammon* ssp. *severtzovi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1996ak. *Ovis orientalis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996al. *Ovis orientalis* ssp. *isphahanica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Caprinae Specialist Group 1996am. *Ovis orientalis* ssp. *laristanica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007.**
- Caprinae Specialist Group 1996an. Ovis orientalis ssp. gmelinii. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on **15 June 2007.**
- Caprinae Specialist Group 1996ao. *Ovis nivicola*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996ap. *Ovis nivicola* ssp. *nivicola*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996aq. *Pseudois schaeferi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996ar. *Rupicapra pyrenaica* ssp. *ornata*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Caprinae Specialist Group 1996as. *Rupicapra rupicapra* ssp. *asiatica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 1999. Proposal for the inclusion of all subspecies of Ovis vignei (not yet listed by CITES) in Appendix I of CITES.
- Caprinae Specialist Group 2000a. *Ammotragus lervia* ssp. *ornata*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Caprinae Specialist Group 2000b. *Ovis ammon* ssp. *jubata*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 2000c. *Rupicapra rupicapra*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Caprinae Specialist Group 2000d. *Rupicapra rupicapra* ssp. *tatrica*. In: IUCN 2006. *2006 IUCN Red List of Threatened*

Species. <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Cassinello, J., Acevedo, P. and Hortal, J. (2006) Prospects for population expansion of the exotic aoudad (*Ammotragus lervia*; Bovidae) in the Iberian Peninsula: clues from habitat suitability modelling. *Diversity and Distributions* **12:** 666-678.
- CBSG CAMP Workshop, India 2000. *Ovis orientalis ssp. vignei*. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Chikin Yu. A., Pereladova O. B., Marochkina V. V., Marmazinskaja N. V., Lim V. P. (2005). Bukhara deer populations in Amudaria valley. *News of "Tinbo", Tashkent* **1:** 53-59.
- Chunwang, L., Zhigang, J., Jiadi, Z. and Yan, Z. (2002). Distribution, numbers and conservation of Mongolian wild ass (*Equus hemionus hemionus)* in west Inner Mongolia. *Acta Theriologica Sinica* **22(1):** 1-6.
- Clark, B. and Frankenberg, E. (2001). Israel. In: D. P. Mallon and S. C. Kingswood (comp.). *Antelopes. Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans* 107-111.
- Clark, E. L., Munkhbat, J., Dulamtseren, S., Baillie, J. E. M., Batsaikhan, N., King, S. R. B., Samiya, R. and Stubbe, M. (comp. and eds.) (2006). Mongolian Red List of Mammals. *Regional Red List Series* **1**.
- Clark, E. L., Munkhbat, J., Dulamtseren, S., Baillie, J. E. M., Batsaikhan, N., King, S. R. B., Samiya, R. and Stubbe, M. (comp. and eds.) (2006). Summary Conservation Action Plans for Mongolian Mammals. *Regional Red List Series* **2**.
- Cromsigt, J. P. G. M. (2000). *The large herbivores of the Eurasian continent. A reference guide for the Large Herbivore Initiative (LHI*). Large Herbivore Initiative, 126 pp.
- Deer Specialist Group 1996. *Rangifer tarandus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007.**
- Deer Specialist Group 1996a. *Cervus elaphus* ssp. *alashanicus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007.**
- Deer Specialist Group 1996b. *Cervus elaphus* ssp. *corsicanus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007.**
- Deer Specialist Group 1996c. *Cervus elaphus* ssp. *hanglu*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Deer Specialist Group 1996d. *Cervus elaphus* ssp. *macneilli*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Deer Specialist Group 1996e. *Cervus elaphus* ssp. *wallichi*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007.**
- Deer Specialist Group 1996f. *Cervus elaphus* ssp. *yarkandensis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007.**
- Deer Specialist Group 1996g. *Cervus nippon* ssp. *aplodontus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Deer Specialist Group 1996h. *Cervus nippon* ssp. *grassianus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007.**

- Deer Specialist Group 1996i. *Cervus nippon* ssp. *keramae*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007.**
- Deer Specialist Group 1996j. *Cervus nippon* ssp. *mandarinus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007.**
- Deer Specialist Group 1996k. *Cervus nippon* ssp. *pseudaxis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Deer Specialist Group 1996l. *Cervus nippon* ssp. *pulchellus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Deer Specialist Group 1996m. *Cervus nippon* ssp. *sichuanicus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Deer Specialist Group 1996n. *Cervus nippon* ssp. *taiouanus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**
- Deer Specialist Group 1996o. *Cervus nippon* ssp. *yesoensis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Devillers, P., Beudels-Jamar, R. C., Lafontaine, R-M. and Devillers-Terschuren, J. (2006). *Gazella leptoceros*. In: Beudels, R. C., Devillers, P., Lafontaine, R-M., Devillers-Terschuren, J. and Beudels, M-O. (Eds) (2006). Sahelo-Saharan Antelopes. Status and Perspectives. *CMS SSA Concerted Action. 2nd edition. CMS Technical Series Publication* **11:** 73-82. UNEP/CMS Secretariat, Bonn, Germany.
- DIIR, CTA (2005). The Endangered Mammals of Tibet.
- East, R. (comp.) (1999). *African Antelope Database 1998*. IUCN/SSC Antelope Specialist Group. ICN, Gland, Switzerland and Cambridge, UK.
- Equid Specialist Group 1996a. *Equus ferus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Equid Specialist Group 1996b. Equus ferus ssp. przewalskii. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Fedosenko A. K. (2000). In: Fedosenko, A.K. and Blank, D.A. (2005). *Ovis ammon*. *Mammalian Species* **773:** 1–15.
- Fedosenko A. K., (2002). Urial. Moscow, 154 pp. (in Russian).
- Fedosenko, A. K. and Blank, D. A.(2001) *Capra siberica*. *Mammalian Species* **675:** 1-13.
- Fedosenko, A. K. and Blank, D.A. (2005). *Ovis ammon*. *Mammalian Species* **773:** 1–15.
- Focus 1997. Deer thriving in new Chinese home. *Focus (World Wildlife Fund)* **19(3**): 3.
- Fox, J. L. and Johnsingh, A. J. T. (1997). In Shackleton, D. M. (ed. (1997). *Wild Sheep and Goats and their relatives: Status Survey and Conservation Action Plan*. IUCN/SSC Caprinae Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- Habibi, K. (1998). Sand gazelle in the Syrian Harrat. *Gnusletter* **17 (1)**: 17-18.
- Habibi, K. (2001). Pakistan. In: D.P. Mallon and S.K. Kingswood (comp.). Antelopes. *Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans* 119-128.
- Hamadanian, A. (2005). Onagers (*Equus hemionus onager*) in Iran, wild and captive. *Der Zoologische Garten* **75(2): 126-128**

- Hare, J. (2002). *Camelus bactrianus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Hare, J. (2007). Personal communication. Founder of the Wild Camel Protection Foundation (www.wildcamels.org). Harecamel@aol.com.
- Harris, R. B. (2003). *Pseudois nayaur*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Harris, R. B. and Loggers, C. O. (2004). Status of Tibetan plateau mammals in Yeniugou, China. *Wildlife Biology* **10(2)**: 91-99.
- Hedges, S. (1996). *Bubalus bubalis*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **15 June 2007**.
- Hedges, S. (2000). *Bos grunniens*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **15 June 2007**.
- Hemami, M. H. (2001). Iran. In: D.P. Mallon and S.K. Kingswood (comp.). Antelopes. *Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans* 114-118.
- Hemami, M. R. and Rabiei, A. (2002). The conservation of Persian Fallow Deer (Dama dama mesopotamica). *5th International Deer Biology Congress*.
- Judíková, N. (2000). The decline of the Tatra Chamois. *Caprinae* **dec. 2000:** 4-6.
- Kaczensky P., Sheehy, D. P., Walzer, C., Johnson, D. E., Lhkavasuren, D. and Sheehy, C. M. (2006). Room to roam? The threat to Khulan (Wild Ass) from Human Intrusion. *Mongolia Discussion Papers.* East Asia and Pacific Environment and Social Development Department. Washington, D.C.: World Bank.
- Kaczensky, P. (2007). Personal communication. Researcher at Department of Wildlife Ecology and Management at the University of Freiburg, Germany (www.khulan.org). petra.kaczensky@wildlife.uni-freiburg.de.
- Kiabi B. H., Ghaemi R. A., Jahanshahi M. and Sassani A. (2004). Population status, biology and ecology of the Maral, Cervus elaphus maral, in Golestan National Park, Iran. *Zoology in the Middle East* **33**: 125-138.
- King, S. R. B. (2005). Extinct in the Wild to Endangered: the History of Przewalski's Horse (*Equus ferus przewalskii)* and its Future Conservation. *Mongolian Journal of Biological Sciences* **3(2):** 37-41
- King, S. R. B. (2007). Personal communication. Steppe Forward Programme, Faculty of Biology, National University Mongolia. Sarah.king@zsl.org.
- Lafontaine, R-M., Beudels-Jamar, R. C. and Devillers, P. (2005). *Gazella cuvieri*. In: Beudels, R. C., Devillers, P., Lafontaine, R-M., Devillers-Terschuren, J. and Beudels, M-O. (Eds). Sahelo-Saharan Antelopes. Status and Perspectives. Report on the conservation status of the six Sahelo-Saharan Antelopes. *CMS SSA Concerted Action. 1st edition.* CMS Technical Series Publication **10:** 77-86.
- Lomanov, I. K., Lomanova N. V. (2004). Moose. *Game animals of Russia* **6**: 12-22.
- Lukarevsky V. S., Efimenko N. N., Gorelov Yu. K., Khodjamuradov Kh. I. (2000). Recent situation with urial in Turkmenistan. *Problems of deserts* **4**: 40-46 (in Russian).
- Lukarevsky, V. S. (2002). The status of markhor *Capra falconeri*

in Kugitang mountains. *World Conf. on Mountain Ungulates* ***3:*** 96.
- Magomedov M-R. D., Abaturov B. D., Akhmedov E. G., Yarovenko Y. A., Wall W. A., Subbotin A. E. (2002). The present-day status of the Pamir Argali Population (*Ovis Ammon Polii*, Blyth, 1840) In Tajikistan. SCI Foundation (SCIF), Asian Conservation Fund (ACF), World Wildlife Fund (WWF).
- Mallon, D. and Kingswood, S. (2000a). *Gazella dorcas*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Mallon, D. and Kingswood, S. (2000b). *Oryx dammah*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **11 June 2007.**
- Mallon, D. (2005a). *Gazella subgutturosa*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Mallon, D. (2005b). *Saiga tatarica* ssp. *mongolica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Mallon, D. P. (2003a). *Gazella arabica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007.**
- Mallon, D. P. (2003b). *Gazella gazella*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Mallon, D. P. (2003c). *Gazella gazella* ssp. *cora*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Mallon, D. P. (2003d). *Procapra gutturosa*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Mallon, D. P. (2003e). *Procapra picticaudata*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Mallon, D. P. (2003f). *Procapra przewalskii*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007.**
- Mallon, D. P. (2003g). *Boselaphus tragocamelus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **15 June 2007**.
- Mallon, D. P. and Kingswood, S.C. (comp.) (2001). Antelopes. *Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans*. SSC Antelope Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- Maroney, R. L. and Paltsyn, M. Y. (2003). Altai Argali status and distributions in Western Mongolia and the Altai-Sayan. *Caprinae* ***octobre 2003***: 4-7.
- Maroney, R. L. (2003). Argali (*Ovis ammon*) conservation in Western Mongolia and the Altai-Sayan.
- Maroney, R. L. (2006). Community Based Wildlife Management Planning in Protected Areas: the Case of Altai argali in Mongolia. *USDA Forest Service Proceeding* **39:** 37-49.
- Maudet, C. Miller, C., Bassano, B., Breitenmoser- Würsten, C., Gauthier, D., Obexer-Ruff, G., Michallet, J., Taberlet, P. And Luikart, G. (2002). Microsatellite DNA and recent statistical methods in wildlife conservation management: applications in Alpine ibex (*Capra ibex* (ibex)). *Molecular Ecology* **11**: 421-436.
- Millner-Gulland, E. J. (2006). Revised overview report of the Convention on Migratory Species.

- Milner-Gulland, E. J., Bukreeva, O. M., Coulson, T., Lushchekina, A. A., Kholodova, M. V., Bekenov, A. B. and Grachev, Iu. A. (2003). Reproductive collapse in saiga antelope harems. *Nature* **422:** 135.
- Milner-Gulland, E. J., Kholodova, M. V., Bekenov, A., Bukreeva, O. M., Grachev, Iu. A., Amgalan, L. and Lushchekina, A. A. (2001). Dramatic declines in saiga antelope populations. *Oryx* **35**: 340-345.
- Mirutenko, V. S. (2004). Roe deer. *Game animals of Russia* **6**: 33-39.
- Moço, G., Guerreiro, M., Farreira, A. F., Rebelo, A., Loureiro, A., Petrucci-Fonsenca, F. and Pérez, J. M. (2006). Short Communication: The ibex *Capra pyrenaica* returns to its former Portuguese range. *Oryx* **40**: 351–354.
- Moehlman, P. D. (ed.) (2002). Equids: Zebras, Asses and Horses. *Status Survey and Conservation Action Plan.* IUCN/SSC Equid Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK, ix + 190 pp.
- Moehlman, P. & Feh, C. (2002a). *Equus hemionus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Moehlman, P. & Feh, C. (2002b). *Equus hemionus* ssp. *luteus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Moehlman, P. & Feh, C. (2002c). *Equus hemionus* ssp. *hemionus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**.
- Moehlman, P. & Feh, C. (2002d). *Equus hemionus* ssp. *onager*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Moehlman, P. & Feh, C. (2002e). *Equus hemionus* ssp. *kulan*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Moehlman, P. & Feh, C. (2002f). *Equus hemionus* ssp. *hemippus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Mosheva, T. S. Musk deer. *Game animals of Russia* **6**: 39-43.
- Mysterud, A., Barton, K., Jêdrzejewska, B., Krasinski, Z., Niedzialkowska, M., Kamler, J. F., Yoccoz, N. G., and Stenseth, N. C. (2007). Population ecology and conservation of endangered megafauna: the case of European bison in Białowieża Primeval Forest, Poland. *Animal Conservation* **10(1)**: 77-87.
- Newby, J. & Wacher, T. (2005). *Addax nasomaculatus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **12 June 2007**
- Newby, J., Wacher, T. & Lamarque, F. (2005). *Gazella dama*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **11 June 2007**.
- Nowak, R. M. (1991). *Walker's Mammals of the World. Fifth Edition*. Volume Two. Johns Hopkins University Press, Baltimore.
- Oliver, W. L. R., Brisbin, L. L. and Takahashi, S. (1993). The Eurasian Wild Pig, *Sus scrofa.* In *Pigs, Peccaries and Hippos: Status Survey and Conservation action Plan.* Oliver W. L. R. (ed.) IUCN. Gland, Switzerland.
- Paponov, V. A. (2004). Wild Reindeer. *Game animals of Russia* **6**: 44-50.
- Participants at 4th International Conservation Workshop for

the Threatened Fauna of Arabia 2003. *Gazella gazella* ssp. *farasani*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.

- Pereladova O. B. (2002). The goitred gazelle in Central Asia. *Russian Conservation News* **28:** 19-20.
- Pereladova O. B., Lukarevskii V. V., Marmazinskaja N. V., Baidavletov R. J., Sidorenko E. V., Ukrainskii V. V., Grachev Yu. A. (2007). The role of measures of special protection in conservation and restoration of ungulates populations. (Results of 7 years of WWF projects implementation). *Teriology of Russia and bordering territories, Moscow,* 380 pp.
- Pereladova, O. (2007). Personal communication. WWF Russian Programma Office Representative. opereladova@wwfnet.org.
- Pérez, J. M., Granados, J. E., Soriguer, R. C., Fandos, P., Marquez, F. J. and Crampe, J. P. (2002). Distribution, status and conservation problems of the Spanish Ibex, *Capra pyrenaica* (Mammalia: Artiodactyla). *Mammal Review* **32:** 26-39.
- Pigs & Peccaries Specialist Group 1996. *Sus scrofa ssp. riukiuanus*. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on **14 June 2007**.
- Pucek, Z. (ed.) in Pucek, Z. Belousa, I.P., Krasinska, M., Krasinski, Z.A. and Olech, W. (comps.). (2004). *European Bison. Status Survey and Conservation Action Plan.* IUCN/SSC Bison Specialist Group. IUCN, Gland, Switzerlans and Cambridge, UK. ix + 54 pp.
- Pucek, Z. 2000. *Bison bonasus*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **15 June 2007**.
- Rabiei, A. (2004). Mammals Database, Status of Persian Fallow Deer in Iran. Unpublished report.
- Rabiei, A. (2005). *Dama dama* ssp. *mesopotamica*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species.* <www.iucnredlist.org>. Downloaded on **13 June 2007**.
- Rahmani, A. R. (2001). India. In Mallon, D. P. and Kingswood, S.C. (comp.) (2001). *Antelopes. Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans*, 178-187.
- Rasool, G. (1999) in litt. to U. Grimm, 6.09.1999. In: Caprinae Specialist Group 1999. Proposal for the inclusion of all subspecies of Ovis vignei (not yet listed by CITES) in Appendix I of CITES.
- Reading, R. (2007). Personal communication. Denver Zoological Foundation. rreading@du.edu.
- Reading, R. P., Amgalanbataar, S. and Lhagvasuren, L. (1999). Biological assessment of Three Beauties of the Gobi National Conservation Park, Mongolia. *Biodiversity and Conservation* **8**: 1115–1137.
- Reading, R., Mix, H., Lhagvasuren, B., Feh, C., Kane, D., Dulamtseren, S. and Enkhbold, S. (2001). Status and distribution of khulan (*Equus hemionus*) in Mongolia. *Journal of Zoology* **254**: 381-389.
- Röhrs, M. (1999). *Ovis ammon*. In: Mitchell-Jones, A. J., Amori, G., Bogdanowicz, W., Krystufek, B., Reijnders, P. J. H., Spitzenberger, F., Stubbe, M., Thissen, J. B. M., Vohralík, V., and Zima, J. (eds.). The Atlas of European Mammals. Academic Press, London.

- Romashin, A. V. (2001). Ecological-populational analysis of highland ungulates of the West Caucasus and their sustainable use. Ministry for Nature Protection, Sochi (in Russian).
- Roucher, F. (1999). The fate of the Chartreuse chamois. *Caprinae Newsletter* **Jan. 1999:** 4-5.
- Roucher, F. (2000). The decline of the Tatra chamois. *Caprinae Newsletter* **Dec. 2000:** 4-6.
- Saltz, D. and Rubenstein, D. I. (1995). Population Dynamics of a Reintroduced Asiatic Wild Ass (*Equus Hemionus*) Herd. *Ecological Applications* **5(2):** 327-335.
- Saltz, D. (1998). A long-term systematic approach to planning reintroductions: the Persian fallow deer and the Arabian oryx in Israel. *Animal Conservation* **1**.
- Schaller, G. B. and Wulin, L. (1996). Distribution, status, and conservation of wild yak (*Bos grunniens*). *Biological Conservation* **76(1):** 1-8.
- Schaller, G. B. (1998). 4; Tibetan Argali. *Wildlife of the Tibetan Steppe*. The University of Chicago Press, Chicago, IL, USA, 94pp.
- Shackleton, D. M. (ed. (1997). *Wild Sheep and Goats and their relatives: Status Survey and Conservation Action Plan*. IUCN/SSC Caprinae Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- Sidorov S. V. (2004). Bighorn sheep, caucasian turs, siberian ibex. *Game animals of Russia*, **6**: 62-65.
- Tatin, L., Darreh-Shoori, B. F., Tourenq, C., Tatin, D. and Azmayesh, B. (2003). The last populations of the Critically Endangered onager *Equus hemionus onager* in Iran: urgent requirements for protection and study. *Oryx* **37(4):** 488-491.
- Vlasakker, J. W. G. van de (2004), Population Trends for Large Herbivores, *LHF report 2004*.001, The Large Herbivore Foundation, Voorschoten, The Netherlands.
- Volker Homes (ed.) (2004). No license to kill: the population and harvest of musk deer and trade in musk in the Russian federation and Mongolia. *Traffic Europe*, 100 pp.
- Wacher, T., Baha el Din, S., Mikhail, G. and Baha el Din, M. (2002). Short Communication. New observations of the 'extinct' Barbary sheep *Ammotragus lervia ornata* in Egypt. *Oryx* **36:** 301-306.
- Wallace A. R. (1876). The geographical distribution of animals: with a study of the relations of living and extinct faunas as elucidating from the past changes of the earth's surface. New York, Harper & Brothers, in two volumes.
- Walzer, C. and Kaczensky, P. (2005). Wild camel training and collaring mission for the Great Gobi strictly Protected Areas in Mongolia. *Report to the United Nations Development Programme (UNDP, Ulaanbaatar)*.
- Wang, S. (1998). China red data book of endangered animals: mammals. Science Press, Beijing.
- Wang, X. M., Peng, J. T. and H. M. Zhou. (2000). Preliminary observations on the distribution and status of dwarf blue sheep *Pseudois schaeferi*. *Oryx* **34(1)**: 21-26.
- Weinberg, P. J. (2002). *Capra cylindricornis*. *Mammalian species* **695:** 1-9.
- Weinberg, P. J. (2003). Wild sheep and goat surveys in Uzbekistan and Tajikistan in 2002. *Caprinae* **November 2003**: 1-4.
- Weinberg, P. J. (2007). Personal communication. North Ossetian State Nature Reserve, Russia. tur@osetia.ru.

- Weinberg, P. J., Valdez, R. and Fedoshenko, A. K. (1997). Status of the Heptner's markhor (*Capra falconeri heptneri*) in Turkmenistan. *Journal of Mammalogy* **78**: 826-829.
- Whitehead, G. K. (1972). Deer of the World. *Constable & Company, Ltd., London*.
- Wilson, D. E., and Reeder D. M. (eds.) (2005). Mammal Species of the World: A Taxonomic and Geographic Reference. 3rd ed. Johns Hopkins University Press, Baltimore, Maryland, USA.
- Wingard J. R. and Zahler P. (2006). Silent Steppe: The Illegal Wildlife Trade Crisis in Mongolia. *Mongolia Discussion Papers, East Asia and Pacific Environment and Social Development Department. Washington, D.C.: World Bank*.
- WWF (2004). Workshop on Illegal Trade of Wildlife and its Monitoring, Bayan-Ulgii Aimag December 12-13, 2004. WWF Mongolia Programme Office, State Specialized Inspection Agency, Mongolian Central Customs Authority, and Mongolian CITES Commission.
- Yakushkin G. D. (1998). The musk ox in Taymyr. Naucho-Issledovatelsky Institut Krainego Severa, Novosibirsk (in Russian).
- Yang, Q., Meng, X., Xia, L. and Feng. Z. (2003). Conservation status and causes of decline of musk deer (Moschus spp.) in China. *Biological Conservation* **109:** 333-342.
- Yarovenko, Y. (2007) Personal communication. Caspian Institute of Biological Resources, Daghestan Research Center, Russian Academy of Sciences, Russia. yarovenko2004@mail.ru.
- Yasynetska, N. I., Zharkikh, T. L. and Zvegintsova, N. S. (2002). Conservation and breeding of the Kulan in Ukraine. *Zoologische Garten* **72(4):** 225-237.
- Zahler, P., Lkhagvasuren, B., Reading, R. P., Wingard, J. R., Amgalanbaatar, S., Gombobaatar, S., Barton, N. and Onon, Y. (2004). Illegal and Unsustainable Wildlife Hunting and Trade in Mongolia. *Mongolian Journal of Biological Sciences* **2(2):** 23 - 31.
- Zeng, Z. G., Zhong, W. Q., Song, Y. L., Li, J. S. Guo, F. (2002) Group size, composition and stability of golden takin in Shaanxi Foping Nature Reserve, China. *Folia zoologica* **51**: 289-298.
- Zhi-Gao, Z., Hui-Sheng, G., Yan-Ling, S., Tao, M. and Shun-Rong, M. (2005). A new distribution record of Sichuan takin *Budorcas taxixolor tibetana* in Qinling Mountains in Shaanxi, China. *Acta Zoologica Sinica* **51:** 743-747.

Websites:

- IUCN pphsg website. Pig, peccaries and hippos specialist group http://iucn.org/themes/ssc/sgs/pphsg/Status.htm. Last visited 15-6-2007.
- www.animalinfo.org Rare, Threatened and Endangered Mammals. Last Visited 29-6-2007
- www.answers.com. Answers.com. http://www.answers.com/topic/bovids-vi-sheep-goats-and-relatives-caprinae-biological-family?cat=technology. Last visited 12-6-2007.
- www.balkani.org. Balkani Wildlife Society. http://www.balkani.org/final.php?makevarz=ok&project=8&language=en&show=20. Last visited 11-6-2007.
- www.bhutan2008.blogspot.com. Takin, Bhutan national animal.

http://bhutan2008.blogspot.com/2007/04/takin-bhutan-national-animal.html. Last visited 12-6-2007

- www.ec.europa.eu. European Mammal Assessment. http://ec.europa.eu/environment/nature/conservation/species/ema/. Last visited 14-6-2007.
- www.esri.com. Arcexplorer web edition. http://www.esri.com/software/arcexplorer/about/arcexplorer-web.html. Last visited 16-6-2007.
- www.funet.fi. Finnish University and Research Network. http://www.funet.fi/pub/sci/bio/life/warp/mammals-list.html Last visited 12-6-2007.
- www.nacres.org. Nacres biodiversity and Research. http://www.nacres.org/larg_mam.html. Last visited 13-6-2007.
- www.sopsr.sk. Štátna Ochrana Prírody Slovenskej Republiky. http://www.sopsr.sk/index.php?lang=de&page=infoservis/biota/zivocichy/kamzik&. Last visited 11-6-2007.
- www.Takh.org. The Przewalski Horse Association. http://www.takh.org/equidae/equidae_en.html. Last visited 13-6-2007.
- www.ultimateungulate.com. www.ultimateungulate.com –your guide to the worlds hoofed mammals-. http://www.ultimateungulate.com/ungulates.html. Last visited 12-6-2007.
- www.waza.org. World Association of Zoos and Aquariums. http://www.waza.org/virtualzoo/species_list_index.php?choose=mammals. Last visited 13-6-2007.
- www.wcs.org. Wildlife Conservation Society. http://www.wcs.org/international/Asia/pakistan/flarehornedmarkhor Last visited 13-6-2007.
- www.wildcamels.com. Wild Camel Protection Foundation (WCPF). www.wildcamels.com. Last visited 14-6-2007.
- www.wildlifeofpakistan.com. Wildlife of Pakistan. http://www.wildlifeofpakistan.com/ungulates_gs.html Last visited 14-6-07.
- www.wwf.ru. World Wide Fund for nature (WWF) Russia http://www.wwf.ru/species/eng/. Last visited 14-6-2007.
- www.zoo.org. Animalfactsheet. http://www.zoo.org/factsheets/sichuan_takin/sichuanTakin.html Last visited 15-6-2007.

6. APPENDICES

LARGE HERBIVORE FOUNDATION

INTERNATIONAL AGREEMENTS EXPLAINED

The subsequent pages respectively list an explanation on the mentioned international agreements, IUCN Categories and Criteria, a list of contracting Parties to CITES, to the Bern Convention and to the Bonn convention

APPENDIX 1: explanation on mentioned international agreements

IUCN Red List of Threatened Animals

In order to draw attention to taxa that are threatened with extinction and promote their conservation, the Species Survival Commission (SSC) of the World Conservation Union (IUCN) has been assessing the conservation status of species, subspecies, varieties and even subpopulations on a global scale, for more than four decades now. The IUCN Red List of Threatened Animals is the product of this work, and is compiled by the 7,000 species experts from the SSC network in co-operation with partner organizations, being BirdLife International, the Center for Applied Biodiversity Science (CABS) at Conservation International (CI), NatureServe, and the Institute of Zoology at the Zoological Society of London.

The IUCN Red List Categories and Criteria have several specific aims, which are, as described on the IUCN Red List website:

- to provide a system that can be applied consistently by different people;
- to improve objectivity by providing users with clear guidance on how to evaluate different factors which affect the risk of extinction;
- to provide a system which will facilitate comparisons across widely different taxa;
- to give people using threatened species lists a better understanding of how individual species were classified.

The IUCN Red List Categories and Criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction. The general aim of the system is to provide an explicit, objective framework for the classification of the broadest range of species according to their extinction risk. However, while the Red List may focus attention on those taxa at the highest risk, it is not the sole means of setting priorities for conservation measures for their protection.

The status of the species described in the Red List is indicated by 9 different categories: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near threatened (NT), Least Concern (LC), Data Deficient (DD) and Not Evaluated (NE). Classification into the categories for species that are threatened with extinction (Vulnerable, Endangered, and Critically Endangered) is based on a set of five selective criteria, being rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation. A description of these 9 categories and the selective criteria can be found in appendix 2 of this report.

The IUCN Red List data is analyzed periodically and the results are published once every four years. The last update, the one used for this report, dates from 2004. The next major analysis is due to be published in 2008. More information regarding the IUCN Red List can be found on the IUCN Red list page: http://www.iucnredlist.org.

The IUCN can be very valuable for the Large Herbivore Foundation, mainly in the sense that it can serve as a reliable source of information on the biology and current conservation status of

species. This regards information provided by the IUCN Red List itself as well as the knowledge that is provided by the Species Specialist Groups, either through their Status Plans and Action Surveys or directly by means of contact with any of their species experts.

CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted as a result of a resolution adopted in 1963 at a meeting of IUCN members. On 3 March 1973 CITES was signed at a meeting of representatives of 80 countries in Washington, D.C., United States of America and it entered in force on 1 July 1975. CITES is an international and worldwide agreement between governments and is joined by countries voluntarily. Although it is legally binding on the Parties involved, it does not replace national laws. Each party has to adapt its own legislation to implement CITES.

International wildlife trade is worth billions of dollars annually and includes hundreds of millions of specimens. To avoid over-exploitation, it is recognized that international co-operation is needed. The aim of CITES is not as to abolish international trade in flora and fauna completely but works with the sole purpose of regulating the trade, to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Since it only concentrates on international trade it does not concern any local affairs with respect to the trade of animal and plant species.
Each joined Party designates at least one Management Authority (MA) that administers a licensing system. That MA is advised by at least one Scientific Authority (SA) that advises them on the status of the species and the effects of trade on the status. This control is embodied by three appendices (I, II and III). Species in these appendices are subjected to different degrees of control, as described at the website: http://www.cites.org/eng/disc/how.shtml; and quoted below:

Appendix I: includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances
An import permit issued by the Management Authority of the State of import is required. This may be issued only if the specimen is not to be used for primarily commercial purposes and if the import will be for purposes that are not detrimental to the survival of the species. In the case of a live animal or plant, the Scientific Authority must be satisfied that the proposed recipient is suitably equipped to house and care for it.
An export permit or re-export certificate issued by the Management Authority of the state of export or re-export is also required. An export permit may be issued only if the specimen was legally obtained; the trade will not be detrimental to the survival of the species; and an import permit has already been issued.
A re-export certificate may be issued only if the specimen was imported in accordance with the provisions of the Convention and, in the case of a live animal or plant, if an import permit has been issued. In the case of a live animal or plant, it must be prepared and shipped to minimize any risk of injury, damage to health or cruel treatment.

Appendix II: includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.
An export permit or re-export certificate issued by the Management Authority of the State of export or re-export is required.
An export permit may be issued only if the specimen was legally obtained and if the export will not be detrimental to the survival of the species.
A re-export certificate may be issued only if the specimen was imported in accordance with the Convention.
In the case of a live animal or plant, it must be prepared and shipped to minimize any risk of injury, damage to health or cruel treatment.
No import permit is needed unless required by national law.

Appendix III: contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.
In the case of trade from a State that included the species in Appendix III, an export permit issued by the Management Authority of that State is required. This may be issued only if the specimen was legally obtained and, in the case of a live animal or plant, if it will be prepared and shipped to minimize any risk of injury, damage to health or cruel treatment.
In the case of export from any other State, a certificate of origin issued by its Management Authority is required.
In the case of re-export, a re-export certificate issued by the State of re-export is required
In its Article VII, the Convention allows or requires Parties to make certain exceptions to the general principles described above.

For more detailed information, see the WebPages of the Convention: www.cites.org. For the whole text of the Convention, see http://www.cites.org/eng/disc/text.shtml. Appendix 3 of this report shows the parties to the Convention, see also http://www.cites.org/eng/disc/parties/index.shtml. At this webpage, the amendments to the appendices of the Convention can be found too. Those amendments are discussed by means of proposals, written by Parties to the Convention, on the Conference of the Parties, held once every two years (June 2007 the 14th Conference of the Parties was held in The Hague).

CITES is relevant for the Large Herbivore Foundation in particular regarding species that are threatened by international trade. This concerns two species in particular; the Saiga Antelope, and the Musk Deer. The Saiga Antelope suffers from heavy poaching, mainly for meat and horns that is used for Chinese traditional medicinal purposes. The second example, the Musk Deer, still suffers from a steady decline in Mongolia, mainly due to poverty induced poaching for Musk. Strict international control in the trade of musk is still needed to secure the survival of this species. The trophy hunting business is also a point of interest for both the LHF and CITES. Several species of the foundation are wanted trophy species and CITES can help to control this business. Because of the economic potential of trophy hunting, it should be used as a way to promote conservation. In this respect, CITES should be presented as a control measure and not as an anti-hunt Convention. (Cromsigt, 2000)

EU Regulation 338/97

The European Union Wildlife Trade Regulation, Council Regulation (EC) No. 338/97 came into effect on 1 June 1997. The aim of the Regulation is to protect wild animals and plants currently or likely to become threatened by international trade, by regulating the trade in these species. It enforces CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) within the EU and provides additional measures for the conservation of species in trade. In full, the Regulation reads 'Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein'. Subsequent regulations have been produced that correct, implement or amend Council Regulation (EC) No. 338/97. Whenever the list of species listed in the Annexes to Council Regulation (EC) No. 338/97 changes this is done through a Commission amending Regulation.

The main difference between this Regulation and CITES is that it contains 4 annexes instead of the 3 appendices of CITES. These annexes represent the following:

Annex A includes:
- All CITES Appendix I species, except where an EU Member State has entered a reservation
- Some CITES Appendix II and III species, for which the EU has adopted stricter domestic measures
- Some non-CITES species

Annex B includes:
- All other CITES Appendix II species, except where an EU Member State has entered a reservation
- Some CITES Appendix III species
- Some non-CITES species

Annex C includes:
- All other CITES Appendix III species, except where an EU Member State has entered a reservation

Annex D includes:
- Some CITES Appendix III species for which the EU holds a reservation
- Some non-CITES species

More information and the exact text of the Regulation can be found on the WebPages of the United Nations Environment Programme and World Conservation Monitoring Centre: http://www.unep-wcmc.org/species/trade/eu/tradereg.html.

The relevance of this Regulation for the Large Herbivore Initiative is the same as explained for CITES.

Bern Convention

The Convention on the conservation of European Wildlife and Natural Habitats (in short 'Bern Convention') was adopted on 19 September 1979 in Bern and came into force on 1 June 1982.
The aims of this convention are to conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several States, and to

promote such co-operation. Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species.

The Convention lists protected species on four Appendices: Appendix I lists strictly protected flora species, appendix II lists strictly protected fauna species, Appendix III lists protected fauna species, and Appendix IV lists prohibited means and methods of killing, capture and other forms of exploitation.

Each contracting Party is obliged to take appropriate and necessary legislative and administrative measures to ensure the special protection of the wild fauna species specified in Appendices II and III. Any exceptions that are made regarding these measures need to be reported to the Standing Committee every two years.
More information and the whole text of the Convention can be found on the WebPages of the Council of Europe: http://conventions.coe.int/Treaty/EN/Treaties/Html/104.htm.

The number of Contracting Parties to this Convention is limited and is generally restricted to the members of the Council of Europe. For this reason, the majority of the species that are of importance to the LHF are not covered by the Bern Convention. Since this concerns species that occur in Russia, the Central Asian states and Mongolia in particular, these countries should be encouraged to sign the Convention.
Of special value for the LHF is article 11 paragraph 2a of the Convention stating: 'Each Contracting Party undertakes to encourage the reintroduction of native species of wild flora and fauna when this would contribute to the conservation of an endangered species, provided that a study is first made in the light of the experiences of other Contracting Parties to establish that such reintroduction would be effective and acceptable.' This paragraph encourages the reintroduction of large herbivore species into their former range, like the European Bison, the Elk and the Onager (Cromsigt, 2000).

Bonn Convention

The objective of the convention on the Conservation of Migratory Species and Wild Animals (also known as the Bonn convention or CMS) is the conservation of wild animals throughout their range, with the emphasis on terrestrial, marine and avian migratory species. Migratory species are defined by the CMS as "the entire population or any geographically separate part of the population of any species or lower taxon of wild animals a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries". The CMS or Bonn Convention was signed in 1979 in Bonn and entered into force on 1 November 1983. As of 1 January 2007 it includes 101 parties form Africa, Central and South America, Asia and Oceania. The full list of Parties is given in Appendix 5 of this report. More information can be found on the webpages of the Bonn convention: http://www.cms.int/about/index.htm. The whole text of the convention can be found on http://www.cms.int/documents/convtxt/cms_convtxt.htm.

The Bonn convention has adopted two appendices, as described below:

Appendix I: Endangered migratory species
Migratory species that have been categorized as being in danger of extinction throughout all or a significant proportion of their range are listed on Appendix I of the Convention.
States strive towards strictly protecting these animals, conserving or restoring the habitats in which they live, mitigating obstacles to migration and controlling other factors that might endanger them.
Additional migratory species can be listed on Appendix I if a Party considers that they are endangered, and submits a proposal, which meets the requirements of Resolution 1.5 (Bonn, 1985). Upon the recommendation of the Scientific Council, the Conference of the Parties (COP) would then decide whether to adopt the proposed in accordance with Art. XI.
Migratory species can be removed from Appendix I when the Conference of the Parties (COP) determines that there is either reliable evidence, including the best scientific evidence available, that the species is no longer endangered and that it is not likely to become endangered again.

Appendix II: Migratory species conserved through Agreements
Migratory species that have an unfavourable conservation status or would benefit significantly from international co-operation organised by tailored agreements are listed in Appendix II to the Convention. For this reason, the Convention encourages the Range States to conclude global or regional Agreements for the conservation and management of individual species or, more often, of a group of species listed on Appendix II.
In this respect, CMS acts as a framework convention from which independent instruments evolve. The Agreements may range from legally binding treaties to less formal instruments, such as Memoranda of Understanding, and can be adapted to the requirements of particular regions. The development of models tailored according to the conservation needs throughout the migratory range is a unique capacity of CMS.
Such agreements have the great advantage that the Range States themselves decide on a tailored and structured action plan that includes the organization of joint research, monitoring activities and harmonisation of legislation.

The number of countries that signed the agreements of this convention has grown reasonably over the last years. Several countries that are of interest to the Large Herbivore Foundation (because certain threatened herbivore species habitat those countries) are recently added to the list of Parties (e.g. Kazakhstan and Belarus). Because of this expansion of the Geographical Perspective of this Convention, the number of herbivore species that are listed in the appendices of the CMS has grown as well, and now includes among others several wild equid species such as the Onager and the Kulan, as well as the Saiga antelope.
Further co-operation between the LHF and the Convention could be valuable and further extension of important range states such as Russia and China should be encouraged.

EU Habitat Directive

In full this Directive reads 'Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora'. This Directive aims for the maintenance of biodiversity within the

territory of the member states to which this treaty applies, which are all the member states of the European Union. This is done through the conservation of natural habitats and of wild flora and fauna.
All measures taken pursuant to the EU Habitat Directive are designed to restore or maintain natural habitats and species of wild flora and fauna of EU interest. Economic, social and cultural requirements are taken into account, as well as regional and local characteristics.

For this purpose, six different appendices have been created:

- Annex I: natural habitat types of community interest whose conservation requires the designation of special areas of conservation
- Annex II: animal and plant species community interest whose conservation requires the designation of special areas of conservation
- Annex III: criteria for selecting sites eligible for identification as sites of community importance and designation of special areas of conservation
- Annex IV: animal and plant species of community interest in need of strict protection
- Annex V: animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures
- Annex VI: prohibited methods and means of capture and killing and modes of transport

Annexes II, IV and V are of interest to this report. For species that occur in one or more of those lists it is indicated in which list at the species fact sheet.

A specific outcome of the Directive is the planned establishment of the European ecological network known as 'Natura 2000'. Member States of the EU are obliged to draw up a list of sites with habitat types mentioned in annex I and species mentioned in annex II that are native to its territory. Criteria for selecting sites to include in annex are found in annex III. Member States have to develop conservation measures to avoid deterioration of the mentioned sites. In circumstances of overriding public interest a site may be adversely affected, but compensation measures have to be taken. Furthermore Member States must establish a system of protection to conserve the listed species. The species which are of community interest and therefore in need of strict protection are mentioned in annex IV. Some species which may already be subject to management measures (annex V). Annex VI finally gives the prohibited methods and means of capture, killing and transport.

More information and the exact text of the Directive can be found on the WebPages of the European Union:
http://ec.europa.eu/environment/nature/nature_conservation/eu_nature_legislation/habitats_directive/index_en.htm.

The relevance of this Directive is clear in that it aims at conserving habitats for among others large herbivore species. However, the Directive is only relevant for the territory of the Member States of the European Union and therefore not relevant for all species in this report. The status of most of the species in the European Union range is generally relatively well. They are not immediately threatened with extinction. Main strength of the Directive lies in the fact that it stimulates the reduction of habitat fragmentation, which is a problem for most large herbivores in the territory of the EU. This results in relatively weak local populations or on the contrary

overpopulation (e.g. Red Deer, Roe Deer, Chamois). Large herbivore species could be good model species to develop ecological network orientated projects. Besides the already started projects of the LHF, other projects can be developed to improve connections between fragmented habitats. Not only large herbivores benefit from this, also other animal species.

APPENDIX 2: IUCN Categories and Criteria

1. The categories

Extinct (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Extinct in wild (EW)

A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Critically endangered (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.

Vulnerable (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.

Near threatened (NT)

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

Least concern (LC)

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

Data deficient (DD)

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

Not evaluated (NE)

A taxon is Not Evaluated when it is has not yet been evaluated against the criteria.

2. The criteria for critically endangered, endangered and vulnerable

Critically endangered (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing an extremely high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of ≥90% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

    (a) direct observation
    (b) an index of abundance appropriate to the taxon
    (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
    (d) actual or potential levels of exploitation
    (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of ≥80% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of ≥80%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of ≥80% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 100 kmÂ², and estimates indicating at least two of a-c:

    a. Severely fragmented or known to exist at only a single location.
    b. Continuing decline, observed, inferred or projected, in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) area, extent and/or quality of habitat
        (iv) number of locations or subpopulations
        (v) number of mature individuals.
    c. Extreme fluctuations in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) number of locations or subpopulations
        (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 10 kmÂ², and estimates indicating at least two of a-c:

    a. Severely fragmented or known to exist at only a single location.
    b. Continuing decline, observed, inferred or projected, in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) area, extent and/or quality of habitat
        (iv) number of locations or subpopulations
        (v) number of mature individuals.
    c. Extreme fluctuations in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) number of locations or subpopulations
        (iv) number of mature individuals.

C. Population size estimated to number fewer than 250 mature individuals and either:

1. An estimated continuing decline of at least 25% within three years or one generation, whichever is longer, (up to a maximum of 100 years in the future) OR

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):

(a) Population structure in the form of one of the following:

(i) no subpopulation estimated to contain more than 50 mature individuals, OR
(ii) at least 90% of mature individuals in one subpopulation.

(b) Extreme fluctuations in number of mature individuals.

D. Population size estimated to number fewer than 50 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is the longer (up to a maximum of 100 years).

Endangered (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a very high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of ≥70% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

   (a) direct observation
   (b) an index of abundance appropriate to the taxon
   (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
   (d) actual or potential levels of exploitation
   (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of ≥50% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of ≥50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of ≥50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence)

OR B2 (area of occupancy) OR
both:

1. Extent of occurrence estimated to be less than 5000 kmÂ², and estimates indicating at least two of a-c:

    a. Severely fragmented or known to exist at no more than five locations.

    b. Continuing decline, observed, inferred or projected, in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) area, extent and/or quality of habitat
        (iv) number of locations or subpopulations
        (v) number of mature individuals.
    c. Extreme fluctuations in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) number of locations or subpopulations
        (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 500 kmÂ², and estimates indicating at least two of a-c:

    a. Severely fragmented or known to exist at no more than five locations.
    b. Continuing decline, observed, inferred or projected, in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) area, extent and/or quality of habitat
        (iv) number of locations or subpopulations
        (v) number of mature individuals.
    c. Extreme fluctuations in any of the following:
        (i) extent of occurrence
        (ii) area of occupancy
        (iii) number of locations or subpopulations
        (iv) number of mature individuals.

C. Population size estimated to number fewer than 2500 mature individuals and either:

1. An estimated continuing decline of at least 20% within five years or two generations, whichever is longer, (up to a maximum of 100 years in the future) OR

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):

    (a) Population structure in the form of one of the following:
        (i) no subpopulation estimated to contain more than 250 mature individuals, OR
        (ii) at least 95% of mature individuals in one subpopulation.
    (b) Extreme fluctuations in number of mature individuals.

D. Population size estimated to number fewer than 250 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).

Vulnerable (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of ≥50% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are: clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

    (a) direct observation
    (b) an index of abundance appropriate to the taxon
    (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
    (d) actual or potential levels of exploitation
    (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of ≥30% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of ≥30%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of ≥30% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 20,000 kmÂ², and estimates indicating at least two of a-c:

    a. Severely fragmented or known to exist at no more than 10 locations.

b. Continuing decline, observed, inferred or projected, in any of the following:
(i) extent of occurrence
(ii) area of occupancy
(iii) area, extent and/or quality of habitat
(iv) number of locations or subpopulations
(v) number of mature individuals.
c. Extreme fluctuations in any of the following:
(i) extent of occurrence
(ii) area of occupancy
(iii) number of locations or subpopulations
(iv) number of mature individuals.

2. Area of occupancy estimated to be less than 2000 kmÂ², and estimates indicating at least two of a-c:

a. Severely fragmented or known to exist at no more than 10 locations.
b. Continuing decline, observed, inferred or projected, in any of the following:
(i) extent of occurrence
(ii) area of occupancy
(iii) area, extent and/or quality of habitat
(iv) number of locations or subpopulations
(v) number of mature individuals.
c. Extreme fluctuations in any of the following:
(i) extent of occurrence
(ii) area of occupancy
(iii) number of locations or subpopulations
(iv) number of mature individuals.

C. Population size estimated to number fewer than 10,000 mature individuals and either:

1. An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, (up to a maximum of 100 years in the future) OR

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):
(a) Population structure in the form of one of the following:
(i) no subpopulation estimated to contain more than 1000 mature individuals, OR
(ii) all mature individuals are in one subpopulation.
(b) Extreme fluctuations in number of mature individuals.

D. Population very small or restricted in the form of either of the following:

1. Population size estimated to number fewer than 1000 mature individuals.

2. Population with a very restricted area of occupancy (typically less than 20 kmÂ²) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short time period in an

uncertain future, and is thus capable of becoming Critically Endangered or even Extinct in a very short time period.

E. Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

APPENDIX 3: Contracting Parties to CITES, June 2007

State	ISO	Date 1	Date 2
Afghanistan	AF	30/10/1985 (A)	28-1-1986
Albania	AL	27/06/2003 (A)	25-9-2003
Algeria	DZ	23/11/1983 (A)	21-2-1984
Antigua and Barbuda	AG	08/07/1997 (A)	6-10-1997
Argentina	AR	08/01/1981 (R)	8-4-1981
Australia	AU	29/07/1976 (R)	27-10-1976
Austria	AT	27/01/1982 (A)	27-4-1982
Azerbaijan	AZ	23/11/1998 (A)	21-2-1999
Bahamas	BS	20/06/1979 (A)	18-9-1979
Bangladesh	BD	20/11/1981 (R)	18-2-1982
Barbados	BB	09/12/1992 (A)	9-3-1993
Belarus	BY	10/08/1995 (A)	8-11-1995
Belgium	BE	03/10/1983 (R)	1-1-1984
Belize	BZ	19/08/1986 (S)	21-9-1981
Benin	BJ	28/02/1984 (A)	28-5-1984
Bhutan	BT	15/08/2002(A)	13-11-2002
Bolivia	BO	06/07/1979 (R)	4-10-1979
Botswana	BW	14/11/1977 (A)	12-2-1978
Brazil	BR	06/08/1975 (R)	4-11-1975
Brunei Darussalam	BN	04/05/1990 (A)	2-8-1990
Bulgaria	BG	16/01/1991 (A)	16-4-1991
Burkina Faso	BF	13/10/1989 (A)	11-1-1990
Burundi	BI	08/08/1988 (A)	6-11-1988
Cambodia	KH	04/07/1997 (R)	2-10-1997
Cameroon	CM	05/06/1981 (A)	3-9-1981
Canada	CA	10/04/1975 (R)	9-7-1975
Cape Verde	CV	10/08/2005 (A)	8-11-2005
Central African Republic	CF	27/08/1980 (A)	25-11-1980
Chad	TD	02/02/1989 (A)	3-5-1989
Chile	CL	14/02/1975 (R)	1-7-1975
China	CN	08/01/1981 (A)	8-4-1981
Colombia	CO	31/08/1981 (R)	29-11-1981
Comoros	KM	23/11/1994 (A)	21-2-1995
Congo	CG	31/01/1983 (A)	1-5-1983
Costa Rica	CR	30/06/1975 (R)	28-9-1975
Côte d'Ivoire	CI	21/11/1994 (A)	19-2-1995
Croatia	HR	14/03/2000 (A)	12-6-2000
Cuba	CU	20/04/1990 (A)	19-7-1990
Cyprus	CY	18/10/1974 (R)	1-7-1975
Czech Republic	CZ	14/04/1993 (S)	1-1-1993
Democratic Republic of the Congo	CD	20/07/1976 (A)	18-10-1976
Denmark	DK	26/07/1977 (R)	24-10-1977
Djibouti	DJ	07/02/1992 (A)	7-5-1992
Dominica	DM	04/08/1995 (A)	2-11-1995
Dominican Republic	DO	17/12/1986 (A)	17-3-1987
Ecuador	EC	11/02/1975 (R)	1-7-1975
Egypt	EG	04/01/1978 (A)	4-4-1978
El Salvador	SV	30/04/1987 (A)	29-7-1987

Equatorial Guinea	GQ	10/03/1992 (A)	8-6-1992
Eritrea	ER	24/10/1994 (A)	22-1-1995
Estonia	EE	22/07/1992 (A)	20-10-1992
Ethiopia	ET	05/04/1989 (A)	4-7-1989
Fiji	FJ	30/09/1997 (A)	29-12-1997
Finland	FI	10/05/1976 (A)	8-8-1976
France	FR	11/05/1978 (Ap)	9-8-1978
Gabon	GA	13/02/1989 (A)	14-5-1989
Gambia	GM	26/08/1977 (A)	24-11-1977
Georgia	GE	13/09/1996 (A)	12-12-1996
Germany	DE	22/03/1976 (R)	20-6-1976
Ghana	GH	14/11/1975 (R)	12-2-1976
Greece	GR	08/10/1992 (A)	6-1-1993
Grenada	GD	30/08/1999 (A)	28-11-1999
Guatemala	GT	07/11/1979 (R)	5-2-1980
Guinea	GN	21/09/1981 (A)	20-12-1981
Guinea-Bissau	GW	16/05/1990 (A)	14-8-1990
Guyana	GY	27/05/1977 (A)	25-8-1977
Honduras	HN	15/03/1985 (A)	13-6-1985
Hungary	HU	29/05/1985 (A)	27-8-1985
Iceland	IS	03/01/2000 (A)	2-4-2000
India	IN	20/07/1976 (R)	18-10-1976
Indonesia	ID	28/12/1978 (A)	28-3-1979
Iran (Islamic Republic of)	IR	03/08/1976 (R)	1-11-1976
Ireland	IE	08/01/2002 (R)	8-4-2002
Israel	IL	18/12/1979 (R)	17-3-1980
Italy	IT	02/10/1979 (R)	31-12-1979
Jamaica	JM	23/04/1997 (A)	22-7-1997
Japan	JP	06/08/1980 (Ac)	4-11-1980
Jordan	JO	14/12/1978 (A)	14-3-1979
Kazakhstan	KZ	20/01/2000 (A)	19-4-2000
Kenya	KE	13/12/1978 (R)	13-3-1979
Kuwait	KW	12/08/2002(R)	10-11-2002
Lao People's Democratic Republic	LA	01/03/2004 (A)	30-5-2004
Latvia	LV	11/02/1997 (A)	12-5-1997
Lesotho	LS	01/10/2003 (R)	30-12-2003
Liberia	LR	11/03/1981 (A)	9-6-1981
Libyan Arab Jamahiriya	LY	28/01/2003(A)	28-4-2003
Liechtenstein	LI	30/11/1979 (A)	28-2-1980
Lithuania	LT	10/12/2001 (A)	9-3-2002
Luxembourg	LU	13/12/1983 (R)	12-3-1984
Madagascar	MG	20/08/1975 (R)	18-11-1975
Malawi	MW	05/02/1982 (A)	6-5-1982
Malaysia	MY	20/10/1977 (A)	18-1-1978
Mali	ML	18/07/1994 (A)	16-10-1994
Malta	MT	17/04/1989 (A)	16-7-1989
Mauritania	MR	13/03/1998 (A)	11-6-1998
Mauritius	MU	28/04/1975 (R)	27-7-1975
Mexico	MX	02/07/1991 (A)	30-9-1991
Monaco	MC	19/04/1978 (A)	18-7-1978
Mongolia	MN	05/01/1996 (A)	4-4-1996
Montenegro	ME	26/03/2007(S)	3-6-2006

Morocco	MA	16/10/1975 (R)	14-1-1976
Mozambique	MZ	25/03/1981 (A)	23-6-1981
Myanmar	MM	13/06/1997 (A)	11-9-1997
Namibia	NA	18/12/1990 (A)	18-3-1991
Nepal	NP	18/06/1975 (A)	16-9-1975
Netherlands	NL	19/04/1984 (R)	18-7-1984
New Zealand	NZ	10/05/1989 (A)	8-8-1989
Nicaragua	NI	06/08/1977 (A)	4-11-1977
Niger	NE	08/09/1975 (R)	7-12-1975
Nigeria	NG	09/05/1974 (R)	1-7-1975
Norway	NO	27/07/1976 (R)	25-10-1976
Pakistan	PK	20/04/1976 (A)	19-7-1976
Palau	PW	16/04/2004 (A)	15-7-2004
Panama	PA	17/08/1978 (R)	15-11-1978
Papua New Guinea	PG	12/12/1975 (A)	11-3-1976
Paraguay	PY	15/11/1976 (R)	13-2-1977
Peru	PE	27/06/1975 (R)	25-9-1975
Philippines	PH	18/08/1981 (R)	16-11-1981
Poland	PL	12/12/1989 (R)	12-3-1990
Portugal	PT	11/12/1980 (R)	11-3-1981
Qatar	QA	08/05/2001 (A)	6-8-2001
Republic of Korea	KR	09/07/1993 (A)	7-10-1993
Republic of Moldova	MD	29/03/2001 (A)	27-6-2001
Romania	RO	18/08/1994 (A)	16-11-1994
Russian Federation	RU	13/01/1992 (C)	1-1-1992
Rwanda	RW	20/10/1980 (A)	18-1-1981
Saint Kitts and Nevis	KN	14/02/1994 (A)	15-5-1994
Saint Lucia	LC	15/12/1982 (A)	15-3-1983
Saint Vincent and the Grenadines	VC	30/11/1988 (A)	28-2-1989
Samoa	WS	09/11/2004 (A)	7-2-2005
San Marino	SM	22/07/2005 (Ac)	20-10-2005
Sao Tome and Principe	ST	09/08/2001 (A)	7-11-2001
Saudi Arabia	SA	12/03/1996 (A)	10-6-1996
Senegal	SN	05/08/1977 (A)	3-11-1977
Serbia	RS	06/06/2006 (C)	3-6-2006
Seychelles	SC	08/02/1977 (A)	9-5-1977
Sierra Leone	SL	28/10/1994 (A)	26-1-1995
Singapore	SG	30/11/1986 (A)	28-2-1987
Slovakia	SK	02/03/1993 (S)	1-1-1993
Slovenia	SI	24/01/2000 (A)	23-4-2000
Solomon Islands	SB	26/03/2007 (A)	24-6-2007
Somalia	SO	02/12/1985 (A)	2-3-1986
South Africa	ZA	15/07/1975 (R)	13-10-1975
Spain	ES	30/05/1986 (A)	28-8-1986
Sri Lanka	LK	04/05/1979 (A)	2-8-1979
Sudan	SD	26/10/1982 (R)	24-1-1983
Suriname	SR	17/11/1980 (A)	15-2-1981
Swaziland	SZ	26/02/1997 (A)	27-5-1997
Sweden	SE	20/08/1974 (R)	1-7-1975
Switzerland	CH	09/07/1974 (R)	1-7-1975
Syrian Arab Republic	SY	30/04/2003(A)	29-7-2003
Thailand	TH	21/01/1983 (R)	21-4-1983

The former Yugoslav Republic of Macedonia	MK	04/07/2000 (A)	2-10-2000
Togo	TG	23/10/1978 (R)	21-1-1979
Trinidad and Tobago	TT	19/01/1984 (A)	18-4-1984
Tunisia	TN	10/07/1974 (R)	1-7-1975
Turkey	TR	23/09/1996 (A)	22-12-1996
Uganda	UG	18/07/1991 (A)	16-10-1991
Ukraine	UA	30/12/1999 (A)	29-3-2000
United Arab Emirates	AE	08/02/1990 (A)	9-5-1990
United Kingdom of Great Britain and Northern Ireland	GB	02/08/1976 (R)	31-10-1976
United Republic of Tanzania	TZ	29/11/1979 (R)	27-2-1980
United States of America	US	14/01/1974 (R)	1-7-1975
Uruguay	UY	02/04/1975 (R)	1-7-1975
Uzbekistan	UZ	10/07/1997 (A)	8-10-1997
Vanuatu	VU	17/07/1989 (A)	15-10-1989
Venezuela (Bolivarian Republic of)	VE	24/10/1977 (R)	22-1-1978
Viet Nam	VN	20/01/1994 (A)	20-4-1994
Yemen	YE	05/05/1997 (A)	3-8-1997
Zambia	ZM	24/11/1980 (A)	22-2-1981
Zimbabwe	ZW	19/05/1981 (A)	17-8-1981

Legend: ISO: Two-letter ISO country code
Date 1:
- (R) Ratification
- (A) Accession
- (Ap) Approval
- (Ac) Acceptance
- (Ds) Declaration of succession

Date 2: Date of entry into force

APPENDIX 4: Contracting parties to Bern Convention, June 2007

Member States	Signature	Ratification	Entry into force
Albania	31-10-1995	13/1/1999	1/5/1999
Andorra	11/5/2000	13/10/2000	1/2/2001
Armenia	13/3/2006		
Austria	19/9/1979	2/5/1983	1/9/1983
Azerbaijan		28/3/2000 a	1/7/2000
Belgium	19/9/1979	24/8/1990	1-12-1990
Bosnia and Herzegovina			
Bulgaria		31/1/1991 a	1/5/1991
Croatia	3/11/1999	3/7/2000	1-11-2000
Cyprus	21-10-1981	16/5/1988	1/9/1988
Czech Republic	8/10/1997	25/2/1998	1/6/1998
Denmark	19/9/1979	8/9/1982	1/1/1983
Estonia		3/8/1992 a	1-12-1992
Finland	19/9/1979	9/12/1985	1/4/1986
France	19/9/1979	26/4/1990	1/8/1990
Georgia			
Germany	19/9/1979	13/12/1984	1/4/1985
Greece	19/9/1979	13/6/1983	1-10-1983
Hungary		16/11/1989 a	1/3/1990
Iceland	17/6/1993	17/6/1993	1-10-1993
Ireland	19/9/1979	23/4/1982	1/8/1982
Italy	19/9/1979	11/2/1982	1/6/1982
Latvia	23/1/1997	23/1/1997	1/5/1997
Liechtenstein	19/9/1979	30/10/1980	1/6/1982
Lithuania	28/9/1994	5/9/1996	1/1/1997
Luxembourg	19/9/1979	23/3/1982	1/7/1982
Malta	26-11-1993	26-11-1993	1-3-1994
Moldova		24/5/1994 a	1-9-1994
Monaco		7/2/1994 a	1/6/1994
Montenegro			
Netherlands	19/9/1979	28/10/1980	1/6/1982
Norway	19/9/1979	27/5/1986	1/9/1986
Poland	24/3/1995	13/9/1995	1/1/1996
Portugal	19/9/1979	3/2/1982	1/6/1982
Romania		18/5/1993 a	1/9/1993
Russia			
San Marino			
Serbia			
Slovakia	28/4/1994	23/9/1996	1/1/1997
Slovenia	20-10-1998	29/9/1999	1/1/2000
Spain	19/9/1979	27/5/1986	1/9/1986
Sweden	19-9-1979	14/6/1983	1-10-1983
Switzerland	19/9/1979	12/3/1981	1/6/1982
the former Yugoslav Republic of Macedonia	17-12-1998	17-12-1998	1-4-1999
Turkey	19/9/1979	2/5/1984	1/9/1984

Ukraine	17/8/1998	5/1/1999	1/5/1999
United Kingdom	19/9/1979	28/5/1982	1/9/1982

Non Member States	Signature	Ratification	Entry into force
Belarus			
Burkina Faso		14/6/1990 a	1-10-1990
Morocco		25/4/2001 a	1/8/2001
Senegal		13/4/1987 a	1/8/1987
Tunisia		12/1/1996 a	1/5/1996

Treaty open for signature by the member States, the non-member States which have participated in its elaboration and by the European Community, and for accession by other non-member States

APPENDIX 5: Contracting parties to Bonn Convention, June 2007

		Agreements 1) X = Party (x) = signed, not ratified						**Memoranda** S = MoU Signatory								
Parties: 102	**Entry into force**	AEWA	BAT	ASCO	ACCO	SEAL	ACAP	SIBE	CURL	GBUS	MT-AFR	MT-IOSEA	BUKH	AQW	AFR-ELE	SAIGA
Albania	1.09.01	X	X		X				S	S						
Algeria	1.12.05															
Angola	1.12.06	X									S					
Argentina	1.01.92						(x)									
Australia	1.09.91						X					S				
Austria	1.07.05		X							S						
Bangladesh	1.12.05											S				
Belarus	1.09.03													S		
Belgium	1.10.90	(x)	X	X										S		
Benin	1.04.86	X									S				S	
Bolivia	1.03.03															
Bulgaria	1.09.99	X	X		X				S	S				S		
Burkina Faso	1.01.90														S	
Cameroon	1.11.83										S					
Cape Verde	1.05.06															
Chad	1.09.97															
Chile	1.11.83						(x)									
Congo	1.01.00	X									S					
Cook Islands	1.08.06															
Côte d'Ivoire	1.07.03										S				S	
Croatia	1.10.00	X	X		X				S	S						
Cyprus	1.11.01				(x)				S							
Czech Republic	1.05.94		X													
Dem. Rep. of the Congo	1.09.90										S					
Denmark	1.11.83	X	X	X		X										
Djibouti	1.11.04	X														
Ecuador	1.02.04						X									
Egypt	1.11.83	X							S							
Eritrea	1.02.05											S				
European Community	1.11.83	X		(x)												
Finland	1.01.89	X	X	X												
France	1.07.90	X	X	X	X		(x)									
Gambia	1.08.01	X									S				S	
Georgia	1.06.00	X	X		X				S							

Germany	1.10.84	X	X	X		X				S				S		
Ghana	1.04.88	X									S				S	
Greece	1.10.99	(x)			X				S	S						
Guinea	1.08.93	X									S				S	
Guinea-Bissau	1.09.95										S				S	
Honduras	1.04.07															
Hungary	1.11.83	X	X						S	S				S		
India	1.11.83							S								
Ireland	1.11.83	X	X													
Israel	1.11.83	X														
Italy	1.11.83	X	X		X				S							
Jordan	1.03.01	X														
Kazakhstan	1.05.06							S	S				S			
Kenya	1.05.99	X										S				
Latvia	1.07.99		X											S		
Liberia	1.12.04										S				S	
Libyan Arab Jamahiriya	1.09.02	X			X											
Liechtenstein	1.11.97															
Lithuania	1.02.02	X	X											S		
Luxembourg	1.11.83	X	X													
Mali	1.10.87	X														
Malta	1.06.01		X		X											
Madagascar	1.01.07	X														
Mauritania	1.07.98										S					
Mauritius	1.06.04	X										S				
Monaco	1.06.93	X	X		X											
Mongolia	1.11.99															S
Morocco	1.11.93	(x)			X				S		S					
Netherlands	1.11.83	X	X	X		X										
New Zealand	1.10.00						X									
Niger	1.11.83	X													S	
Nigeria	1.01.87	X									S				S	
Norway	1.08.85		X													
Pakistan	1.12.87							S								
Panama	1.05.89															
Paraguay	1.01.99															
Peru	1.06.97						(x)									
Philippines	1.02.94											S				
Poland	1.05.96		X	X												
Portugal	1.11.83	X	X		X											
Rep. of Moldova	1.04.01	X	X							S						
Romania	1.07.98	X	X		X				S	S						
Rwanda	1.01.05															
Samoa	1.11.05															
Sao Tome and	1.12.01										S					

Principe																
Saudi Arabia	1.03.91											S				
Senegal	1.06.88	X									S			S		
Seychelles	1.08.05											S				
Slovakia	1.03.95	X	X							S						
Slovenia	1.02.99	X	X											S		
Somalia	1.02.86															
South Africa	1.12.91	X					X									
Spain	1.05.85	X			X		X		S					S		
Sri Lanka	1.09.90											S				
Sweden	1.11.83	X	X	X												
Switzerland	1.07.95	X														
Syrian Arab Rep.	1.06.03	X			X											
Tajikistan	1.02.01												S			
The former Yugoslav Republic of Macedonia	1.11.99	X	X							S						
Togo	1.02.96	X									S				S	
Tunisia	1.06.87				X				S							
Uganda	1.08.00	X														
Ukraine	1.11.99	X	X		X				S	S				S		
United Kingdom	1.10.85	X	X	X			X					S		S		
United Rep. of Tanzania	1.07.99	X										S				
Uruguay	1.05.90															
Uzbekistan	1.09.98	X						S	S				S			
Yemen	1.12.06															

There are also four signatories to the Convention: Central African Republic, Jamaica, Madagascar and Turkmenistan.

Legend:

AEWA = Agreement on the Conservation of African-Eurasian Migratory Waterbirds (01.11.1999)
ACCO = Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (01.06.2001)
ASCO = Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (29.03.1994)
BAT = Agreement on the Conservation of Populations of European Bats (16.01.1994)
ACAP = Agreement on the Conservation of Albatrosses and Petrels
GBUS = Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (01.06.2001)
MT-AFR = Memorandum of Understanding concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa (01.07.1999)
MT-IOSEA = Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (01.09.2001)

CURL = Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew (10.09.1994)
SEAL = Agreement on the Conservation of Seals in the Wadden Sea (01.10.1991)
SIBE = Memorandum of Understanding concerning Conservation Measures for the Siberian Crane(01.07.1993)
BUKH = Memorandum of Understanding concerning Conservation and Restoration of the Bukhara Deer (16.05.2002)
AQW = Memorandum of Understanding con concerning Conservation Measures for the Aquatic warbler (30.04.03)
AFR-ELE= Memorandum of Understanding concerning Conservation Measures for the
West African Populations of the African Elephant (22.11.05)
SAIGA= Memorandum of Understanding concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (23.11.05)

1) Agreements which a given CMS Party has ratified or signed. Refer to the legend for Agreement titles and dates of entry into effect (in parentheses).