



Convention on the Conservation of Migratory Species of Wild Animals

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CENTRAL EURASIAN ARIDLAND CONCERTED ACTION

(Submitted by Dr. Pierre Devillers, Scientific Councillor for the European Community)

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OBJECTIVES

Restore the large mammal fauna of the arid lands of Eurasia and their peripheral biomes to a substantial amount of its past magnificence, ensuring at least

- That the fauna regains a richness and abundance sufficient to ensure its emotional and aesthetic appeal
- That key-stone constituents of the fauna are in sufficient numbers to enable them to completely fulfil their role
- That the major processes that underpin its functioning, and, in particular, eco-ethological interactions and migratory phenomena are able to take place and be enjoyed un-impeded;

Organize this restoration around a network of secure and adequately protected areas, distributed throughout the region, and holding viable populations of each of the species within all, or at least a large part, of the historical range of each species.

Link in due course these areas by ecologically adequate corridors, adapted to the needs of each relevant species, to avoid fragmentation of populations and favour large scale migrations.

Base the needed re-deployment of the fauna on facilitation and encouragement of natural recolonisation whenever possible, on reinforcement or reintroduction with original material otherwise, on use of surrogates only if no original material exists and sufficiently satisfactory surrogates are available. Found all these steps on a sound evaluation of historical ranges and past environmental conditions so as to ensure solid cultural, aesthetic and ecological authenticity and credibility to the restored fauna.

Promote the restored megafauna as an essential part of the regional heritage. Link this promotion closely to the cultural, archaeological, artistic and literary heritage the large mammal fauna has inspired in each of the regions concerned. Insure that these closely associated natural and cultural heritages constitute for the countries, regions and communities concerned a major resource and a pole of attraction, interest and visibility that radiates widely to other assets.

CONTEXT: ARID LANDS AND CMS

Eurasia and North Africa are traversed by the largest and most complex continuous belt of arid lands on earth, comprising an entirely interconnected ensemble of hot deserts, cold deserts, semi-deserts, sub-desert steppes, temperate steppes and cold steppes. These extraordinary biomes and their associated rivers and mountains have seen the earliest manifestation of many endeavours of mankind, the birth of several great civilisations, of

urban life, of writing, of alphabets. They are the cradle of most major domestication events. They harbour an inestimable cultural and natural heritage, unique cultural landscapes, prestigious architectural and artistic legacies of civilisations going back over ten millennia, striking signs of past climate changes, impressive testimonies of ingenious, imaginative and ambitious ways to cope with challenging environments as well as catastrophic examples of misuse provoked by irresponsible economic and social models, a fauna and flora of prodigious beauty and fascinating adaptations. The desert, more than any other ecosystem, has, by the very nature of the challenges it provides, generated extraordinarily elaborate responses both by the process of biological evolution and by that of human technological and cultural development. The achievements of these processes can still be admired today in animal and plant species of unique emblematic value as well as in manifestations of traditional cultural know-how.

This exceptional heritage is gravely threatened, in part by ignorance of its significance. Deserts have a negative image in dominant socio-economic models, even among organisations concerned with environment and sustainable development. The high value of their biological diversity is mostly that of beta-diversity, reflecting differential diversity, not that of alpha-diversity, measuring local richness. They thus escape the attention of many actors of biodiversity conservation, increasingly focused on centres of species richness, or biodiversity "hotspots". Specific efforts to identify the processes vital to the conservation of their distinctive species and communities are thus necessary, urgent and overdue. This message is clearly formulated by several international organisations that have the conservation of the heritage as main preoccupation, such as the UN convention on Migratory Species or on the Protection of the World Cultural and Natural Heritage.

The development of the Sahelo-Saharan Antelopes Concerted Action has shown that the arid lands are a privileged domain of activity for CMS. The Convention has, over the years, acquired a considerable experience in addressing the highly specific requirements of their environment and their fauna. Moreover, it has held a unique position in that field, as most other organisations and funding agencies have preferred to focus on biomes of higher biological diversity, such as tropical forests. The arid zones, though their species richness is comparatively low, harbour a number of highly emblematic, uniquely adapted species. Particularly remarkable is their array of large mammals, for the most part forced by the very nature of the resources they exploit to undertake migrations, often of a complex and atypical nature. Indeed, migration, seasonal, opportunistic, multi-annual, has been for all times a strategy particularly characteristic of arid lands, developed by many organisms, in particular, large mammals, including man.

The conservation and restoration of the unique megafauna of arid lands can be a major and ambitious endeavour of the Convention. Its approach is based on admiration, praise, respect, passion and a desire not to change the nature of the arid zones but to conserve and enhance their value. To achieve that objective there is a need to take very practical, in-the-field action to preserve the emblematic species that are such an essential element of arid land heritage, painted, carved, sculpted, used, hunted, worshiped by millennia of brilliant civilisations, but also to considerably raise the world awareness of their significance. These goals need the co-operation of many actors. The Convention wishes to join forces and develop partnerships with like-minded conservation organisations to rise to the level of its prestigious objective.

COP SUPPORTING RECOMMENDATION

Adopted by the Conference of the Parties at its Eighth Meeting (Nairobi, 20-25 November 2005)

Recognising that the large mammal fauna of the arid lands of Eurasia and North Africa have many species with threatened populations that are in a profoundly unsatisfactory state of conservation;

Noting with satisfaction the progress made by the Sahelo-Saharan Antelopes Concerted Action;

Conscious that the arid lands, with their exceptional natural and cultural heritage and their unique migration phenomena, are a crucial area for the action of the Convention;

Grateful to the Republic of Mongolia for drawing attention to the particular plight of the fauna of the temperate arid lands of Eurasia;

Welcoming the support of the other Parties situated within the temperate desert, semi desert, steppe and associated mountains of Eurasia;

Noting that several species found in that biome are on Appendix I of the Convention;

Noting also that several more species are on Appendix II of the Convention;

Further noting that single-species Convention instruments already exist for two taxa belonging to the temperate Eurasian aridland fauna; and

Acknowledging the recommendation of the 12th and 13th meetings of the Scientific Council to undertake a Concerted Action on Central Asian and Caucasian mammals;

The Conference of the Parties to the

Convention on the Conservation of Migratory Species of Wild Animals

1. *Requests* the Scientific Council, in cooperation with the Secretariat, the Republic of Mongolia and other concerned Parties to initiate a CENTRAL EURASIAN ARIDLAND CONCERTED ACTION and associated Cooperative Action, that will in due course cover all threatened migratory large mammals of the temperate and cold deserts, semi-deserts, steppes and associated mountains of Central Asia, the Northern Indian sub-continent, Western Asia, the Caucasus and Eastern Europe. The Action will include an Action Plan and status reports for all species concerned, and will initially be centred on *Camelus bactrianus*, *Bos grunniens*, *Uncia uncia*, and subject to its inclusion on Appendix I, on *Cervus elaphus bactrianus*, for the CONCERTED ACTION; and on *Equus hemionus* s.l., *Gazella subgutturosa*, *Procapra gutturosa* for the Cooperative Action. The action will also take into account, and link to, other existing Convention instruments as well as actions already taken by Range States and Convention partners;

2. *Encourages* Range States and other interested Parties to prepare, in cooperation with the Scientific Council and the Secretariat, the necessary proposals to include in Appendix I or Appendix II threatened species that would benefit from the Action;

3. *Encourages* the Secretariat to pursue efforts to bring into the Convention Range States of the Central Eurasian fauna that are not yet Parties, and to liaise with other concerned Conventions to enhance synergies;

4. *Urges* non-Party Range States to support the Action, in recognition of its global significance; and

5. *Requests* the Scientific Council and the Secretariat to report on the progress of the action to the next Conference of the Parties.

GEOGRAPHICAL AREA

Definition of region

Meaningful outer geographical limits for the Old World arid zones can be drawn by including all lands with a phytomass of less than 50 tons per hectare. Thus defined, the zone engulfs isolated islands of temperate, usually montane or sub-montane, non desert biomes. These are either entirely surrounded by deserts or are inserted between them and the seas of southern temperate Eurasia and sub-tropical Western Asia. They should be included within the area of concern, as their mammalian fauna is either related to that of the surrounding arid land, or has been strongly influenced by the progression of the deserts and the resulting fragmentation and isolation of the enclaves.

The area in which the Concerted Action is developed is thus principally that of the steppes and the cold and temperate deserts of Asia and Europe (Zohary, 1973; Walter, 1974; Walter and Breckle, 1999). Enclosed mediterranean and montane areas are principally those of Anatolia, the Caucasus, the Zagros, the Elburz, the Central Asian Mountains and the Himalayan system. In the southwest the line of demarcation between cool deserts, semi-deserts and steppes of the Irano-Turanian zone and hot deserts of the Saharo-Arabian zone leaves all of Syria and northern Iraq in the northern region, most of Jordan and southern Iraq in the southern region. Lebanon is thus inserted in the northern region. East of the Euphrates and the Persian Gulf it appears faunistically and operationally coherent to include the narrow band of hot deserts and dry woodlands which fringes the region in southern Iran, Pakistan and northwestern India within the scope of the action so as to preserve the unity of the arid lands of these three states.

Map



Sub-regions

The area can be conveniently divided into ten sub-areas, each as a distinctive faunal assemblage. These are:

1. Western steppes in Ukraine and Russia
2. Central steppes in Russia and the central Asian republics
3. Eastern steppes and deserts in Russia, Mongolia and China
4. Anatolia and upper-Mesopotamia, Turkey, Syria, Irak
5. Irano-afghan plateau in Iran and Afghanistan
6. Central Asian mountains
7. Himalayas and Tibetan plateau
8. Levantine coast and mountains
9. Mesopotamian and gulf lowlands
10. Arid lowland and hill north western India and Indus basin

Range States

Parties and non Parties on the territory of which the Concerted Action will be conducted are China, Mongolia, Russia, Nepal, Bhutan, India, Pakistan, Afghanistan, Iran, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, Azerbaijan, Georgia, Armenia, Turkey, Syria, Irak, Lebanon, Ukraine.

MEGAFAUNAL RESTORATION

Principles:

Large mammal communities are the component of biological diversity that has suffered and suffers the most in the course of the extinction crisis that we are living. Their loss has serious ecological consequences as they often include keystone species capable of shaping the evolution of ecosystems, their vegetation and the communities of smaller animals they support. These keystone species, both large grazers and top predators, are essential, particularly in the open habitats characteristic of the arid belts, in preserving or promoting overall richness and diversity and preventing take-over by successful, exogenous or endogenous, invasive species, the "pests and weeds". Large mammals are also an essential part of the cultural heritage of mankind, entirely comparable to the greatest monuments and the most important repositories of knowledge. Their disappearance leads to a considerable impoverishment and loss of originality of local patrimonial values. They are the organisms whose affective and cultural perception is the most vivid, as exemplified by the place they take in the world of toys, of decorations, of objects, of films, of literature, and their pivotal importance in the attraction of tourism. National Parks and nature reserves that hold large mammals have a much higher frequentation and generate much greater benefits from distant visitors than those devoid of it. On a world scale such parks rank among the major attractions, irrespective of the continent on which are located. Large mammals have an unparalleled attraction potential, extending well beyond the generation of tourism as a source of cultural, scientific and recreational interest in the land. They are particularly adequate as flagship species whose presence in an area guarantees a high level and continuity of conservation efforts.

Mankind's special relation with other species of large mammals has existed at all periods of human cultural and social evolution. As a result mammals are by far the animal group most closely linked to the cultural heritage. They have been an essential source of inspiration for traditions, myths and artistic expression in many cultures, particularly of the steppes and semi-deserts, and their prominence in artistic testimonies is totally out of proportion with their representation in local faunas.

Baselines

In order to succeed, however, megafaunal restoration must be founded on sound ecological evaluation and a sense of ownership among the local actors. The animals restored must have a record of past occupation of the area, but this occupation must have taken place in biogeographical and ecological conditions that are not too distant from those of today. If components of the past fauna are lost everywhere, so that no adequate material can be translocated, any substitutes proposed must be reasonable counterparts, both in their ecological role and in their overall appearance, of lost fauna, so that the emotional content, the distinctness and the uniqueness of the restored heritage are preserved. Authenticity is a key to cultural identification and cultural identification is essential to public support for what are space-consuming and potentially high-impact efforts.

Cultural and biogeographical authenticity provide a strong frame of reference for the choice of time-baselines, a prerequisite for any restoration project and yet one of the most difficult, controversial and debated aspect often expressed in terms of biological integrity and environmental health, notions that are difficult to define. Megafaunal richness and diversity should be maximised, in keeping with the basic objectives of the scheme, but within limits set by eco-ethological and biogeographical plausibility on the one hand, by the relevance of cultural identification and the likelihood of patrimonial appropriation, on the other.

In the arid lands of western Asia, of the Iranian Plateau, of southwestern Central Asia and of northwestern India, a baseline extending back to 11000 BCE is legitimate. Subsequent climate changes have been relatively minor, successive drought crises provoked shifts in isohyets that had profound local effects, both on human occupants and, surely, on faunal composition, but little impact on the region as a whole. Steppe and dry woodland types, still present today, occupied varying but contiguous surfaces, with little qualitative modification. Marine transgressions provoked minor rearrangements of coastlines. No connection with major faunas external to the region opened at any moment as a consequence of these climatic vicissitudes. A profusion of artistic and cultural testimonies to the megafauna, generated by the prestigious past of human populations that continuously occupied the area, provides an ample foundation for cultural identification and appropriation throughout the period.

With a baseline of 11000 BCE, the megafauna of the arid belt of Eurasia comprises about 65 species or Significant Evolutionary Units, listed below. Of these, about 51, or three-quarters, survive in some part of the region, though more than half of them are now represented by relict populations restricted to a minute fraction of the historic range, with very small populations. Of the missing 14 species, 3 have already been reintroduced to one or another part of the range, completely adequate extra-regional material exists for a further 5, slightly less adequate for 2, and feral populations very similar to ancestral ones exist within the region for another 2.

Species concepts

The units considered in the project will be, as appears adequate for a large scale geographical project of this nature, Ecologically Significant Units (ESU) or phylogenetic species. These are the units listed in the table below. For legal purposes of course, the entities will be named in accordance with current CMS taxonomic references. Scientific names in the table below are to be regarded as working tools within the framework of the projects.

Potential target taxonomic units

Scientific name	English name	IUCN Red List 2004	CMS listing
Carnivora: Canidae			
<i>Cuon alpinus</i>	Dhole, Asiatic wild dog	EN	
<i>Canis (lupus) lupus</i>	Grey Wolf		
<i>Canis (lupus) laniger</i>	Himalayan Wolf		
<i>Canis (lupus) pallipes</i>	Indian Wolf		
Carnivora: Felidae			
<i>Acinonyx jubatus venaticus</i>	Asiatic cheetah	CR	
<i>Felis lynx</i>	Eurasian Lynx		
<i>Felis caracal</i>	Caracal		
<i>Panthera leo persica</i>	Asian lion	CR	
<i>Panthera pardus saxicolor</i>	North Persian leopard	EN	
<i>Panthera pardus tulliana</i>	Anatolian leopard	CR	
<i>Panthera tigris virgata</i>	Caspian tiger	EX (probably extinct)	
<i>Uncia uncia</i>	Snow leopard	EN	App.I
Carnivora: Hyaenidae			
<i>Hyaena hyaena</i>	Striped hyaena	LR/nt	
Carnivora: Ursidae			
<i>Ursus arctos</i>	Brown Bear		
<i>Ursus (arctos) gobiensis</i>	Gobi Bear	EN	
<i>Ursus thibetanus</i>	Asiatic Bear	VU	
Perissodactyla: Equidae			
<i>Equus africanus</i>	African Wild Ass	CR	
<i>Equus caballus</i>	Tarpan †		
<i>Equus przewalskii</i>	Przewalski's horse	EW (reintroduced)	
<i>Equus hemionus</i>	Mongolian kulan	VU	App.II as <i>Equus hemionus</i> s.l.
<i>Equus kiang</i>	Kiang	DD-LR	App.II as <i>Equus hemionus</i> s.l.
<i>Equus onager</i>	Onager	CR	App.II as <i>Equus hemionus</i> s.l.
<i>Equus khur</i>	Khur	EN	App.II as <i>Equus hemionus</i> s.l.
<i>Equus hemippus</i>	Syrian onager	EW	App.II as <i>Equus hemionus</i> s.l.
Perissodactyla: Rhinocerotidae			
<i>Rhinoceros unicornis</i>	Indian Rhinoceros	EN	
Artiodactyla: Camelidae			
<i>Camelus ferus</i>	Asian camel	CR	App.I
<i>Camelus dromedarius</i>	Dromedary †		
Artiodactyla: Cervidae			
<i>Cervus albirostris</i>	White-lipped deer	VU	
<i>Cervus (elaphus) bactrianus</i>	Bukhara deer	VU	App I
<i>Cervus (elaphus) yarkandensis</i>	Yarkand deer	EN	
<i>Cervus (elaphus) wallichi</i>	Tibetan red deer	DD	
<i>Cervus (elaphus) affinis</i>	Shou	DD	
<i>Cervus (elaphus) hanglu</i>	Hangul	EN	
<i>Cervus (elaphus) maral</i>	Maral		
<i>Dama mesopotamica</i>	Mesopotamian fallow deer	VU	
<i>Dama dama</i>	Fallow deer		

Artiodactyla: Bovidae			
<i>Antilope cervicapra</i>	Blackbuck	VU	
<i>Bison bonasus</i>	European Bison	EN	
<i>Boselaphus tragocamelus</i>	Nilgai	CD	
<i>Bos gaurus</i>	Gaur	VU	
<i>Bos mutus</i>	Yak	VU	App.I
<i>Bos primigenius</i>	Aurochs †		
<i>Bubalus arnee</i>	Water Buffalo	VU	
<i>Capra caucasica</i>	West Caucasian tur	EN	
<i>Capra cylindricornis</i>	East Caucasian tur	VU	
<i>Capra falconeri</i>	Markhor	EN	
<i>Capra aegagrus</i>	Wild goat	VU - CR	
<i>Capra nubiana</i>	Nubian ibex	EN	
<i>Capra sibirica</i>	Siberian ibex	Not listed	
<i>Gazella subgutturosa</i>	Goitered gazelle	NT	App.II
<i>Gazella bennettii</i>	Indian gazelle		
<i>Naemorhedus goral</i>	Goral	LR/nt	
<i>Ovis ammon</i>	Argali	VU-EN-CR	
<i>Ovis arkal</i>	Arkal	VU-EN-CR	
<i>Ovis gmelini</i>	Mouflon	VU	
<i>Ovis vignei</i>	Urial	VU-EN	
<i>Pantholops hodgsoni</i>	Chiru, Tibetan gazelle	EN	
<i>Procapra gutturosa</i>	Mongolian gazelle	not listed	App.II
<i>Procapra picticaudata</i>	Tibetan gazelle	not listed	
<i>Procapra przewalskii</i>	Przewalski's gazelle	CR	
<i>Pseudois nayaur</i>	Bharal, Blue sheep	not listed	
<i>Saiga tatarica</i>	Saiga antelope	CR	App.II (only <i>S.t.tatarica</i>)
<i>Oryx leucoryx</i>			
	Arabian Oryx	CR	
Uranotheria: Elephantidae			
<i>Elephas maxima</i>	Asian Elephant	EN	

STRUCTURE OF THE ACTION

Network of protected areas

Suitable protected areas exist in all range states. A limited number of additional ones, or extension of existing ones, are needed in practically all of them to insure sufficient surfaces or redeployment of locally extinct faunal assemblages. Habitat rehabilitation will be needed in several of the existing areas. Coordination of management measures will have to be considered.

Corridors

Corridors linking protected areas are an essential part of a large mammal rehabilitation project. They are missing or insufficient almost everywhere. Their establishment will take time but planning and feasibility studies must be initiated.

Cultural heritage and megafauna

The arid belt of Eurasia is bestowed with one of the greatest cultural heritages in the world, testimony to events that have uniquely shaped the history of mankind. The sites that hold the first signs of sedentary village life and use of domesticated plants are in Syria and neighbouring areas. Urban life and writing were born in Iraq and neighbouring Iran. The first archaeological traces of sheep, goat, cow, horse domestication are in Syria, Iran, Anatolia or Ukraine. Most of these processes were intimately tied to the megafauna and its significance is superbly illustrated by Mesopotamian and Iranian monumental sculpture, by Mesopotamian, Iranian and Indus glyptic, by the vivid animal art of the great steppe cultures of Central Eurasia, by the rich Roman mosaics of Syria. Many archaeological sites at which a direct experience of these processes can be obtained, with its potent emotional and intellectual content, are scattered within areas of great natural beauty, in unique habitats where the megafauna that inspired them once roamed, in cultural landscapes where unparalleled techniques of coping with the arid environment were successfully developed millennia ago. These sites are scattered over great distances and, except for a very few in or close to major urban concentrations, they are very little visited. Their notoriety outside of specialist groups is so minimal that some have been obliterated with little world outcry. Particularly in an area of scattered distribution of sites, as the arid zone is, the combination of several poles of attraction is indispensable to reach a sufficient threshold of socio-economic visibility. The fabulous cultural heritage of the arid zone is probably too sparsely distributed to be a major source of revenues. Linking its main archaeological and historical sites with natural sites of unique quality, through the theme of the great mammals, is a particularly promising approach to the revalorization of resources of drylands, first through quality tourism and its immediate by-products, then by the longer-terms notoriety effects it generates.

Protected area promotion

A particular effort is needed to create or enhance the promotion of the participating protected areas and to raise their profile. In some areas, major infrastructure work is needed, and must be envisaged in synergy with development projects. In other areas, infrastructures are basically satisfactory but exploitation of the tourism related potential still needs to be greatly expanded or improved. Links with the cultural heritage and synergies with distribution of global or local artisanal productions need to be established.

Partnership

At least in a first stage, a partnership under UN, conceived as broadly as possible, appears to be the best way to take the action forward. Potential partners include environment, natural resources, culture and tourism authorities and science bodies of Range States, Co-operation, environment, natural resources, culture and tourism authorities of the European Union, France, Sweden, Germany, Switzerland, conventions on the Protection of the World Cultural and Natural Heritage and on Desertification, Ramsar, IUCN SSC, WWF, WCS, CI, IFAW, AZA, EAZA, CIC, LHI, LCI, CCF, ICS, CENESTA, SLT, TF, ZSL.