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CENTRAL ASIAN MAMMALS INITIATIVE: SAVING THE LAST MIGRATIONS



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CENTRAL ASIAN MAMMALS INITIATIVE: SAVING THE LAST MIGRATIONS

PREFACE

Central Asia is a region with vast steppe, desert and mountain landscapes and is home to some of the world's most fascinating animals such as the charismatic Snow leopard, the impressive Argali mountain sheep or the exceptionally looking Saiga antelope.

Its open plains are the largest remaining habitats on Earth that still support large mammal migrations, which are not only a wonderful spectacle, but also play an important role in maintaining the structure of the ecosystems. But compared with the wildebeest movements in Africa's Serengeti-Mara, the mass migrations of Saiga antelope, Mongolian gazelles, Chiru and Khulan are far less known – and still largely neglected by international conservation efforts.

Central Asia is therefore of special concern to the Convention on Migratory Species (CMS), the only treaty addressing animal migrations. This publication highlights just how vital this region and the 15 large mammal species are, which are included in a new CMS Initiative to protect those animals, called the Central Asian Mammals Initiative (CAMI). The publication explains what can be done to address the threats the animals are facing. Increasing awareness and understanding about the uniqueness of the region and its fascinating species, is all the more important as Central Asia and its migratory mammals have been neglected by international attention for too long already.

While the expanse, remoteness and difficult terrain of the region have left large parts untouched by modern civilization, migratory mammals are in decline. With habitat fragmentation, illegal hunting and illicit trade all increasing alarmingly, coupled with large infrastructure and mining developments, urgent attention is needed to minimize the negative consequences for wildlife.

You only care about what you know – I hope that this publication helps to spread the word, to mobilize support and to help CMS and its partners take decisive action to conserve these species and their habitats while they are still relatively intact. Now is the time for action.



Bradnee Chambers
Executive Secretary
CMS Secretariat



SUMMARY

Central Asia is home to some of the most spectacular and ecologically important mammal migrations in the world. Dubbed the “Serengeti of the North”, the vast deserts, semi-deserts, grasslands and high mountains of Central Asia and adjacent regions, support some of the world’s last remaining large mammal migrations. However, those migrations are in peril as poaching, illegal trade, habitat loss, infrastructure development and barriers to migration, as well as disease, and climate change are challenging their very existence.

Addressing these threats requires science-based and internationally coordinated conservation measures across Range States to ensure the survival of the species, their migrations and habitats, as well as sustainable benefits to people. The Central Asian Mammals Initiative (CAMI) was developed under the Convention on the Conservation of Migratory Species of Wild Animals (CMS) to provide a strategic framework for the conservation of migratory mammals in the region. The initiative targets eleven CMS listed species and four other Asian long-distance migrants which might benefit from CMS listing. The distribution of those species comprises 14 countries, eight of which have ratified the Convention (India, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan and Uzbekistan), and another six countries are not yet CMS Parties (Afghanistan, Bhutan, China, Nepal, Russian Federation, Turkmenistan).

Conserving these different migratory mammal species requires coordinated planning across borders. Each of the countries and stakeholders concerned must commit to taking measures to eliminate barriers to migration, protect habitat from degradation and fight poaching and illegal trade. Concerted efforts and partnerships among concerned governments and stakeholders, including the private sector and local communities are essential. CMS through the CAMI can support countries in those efforts and bring all stakeholders together to coordinate and agree on key actions.

PRIORITY ACTIONS FOR SAVING MAMMAL MIGRATIONS IN CENTRAL ASIA

In September 2014, Range States and concerned stakeholders came together in the Kyrgyz capital, Bishkek, to agree on a joint Programme of Work (POW) for the CMS Central Asian Mammals Initiative (CAMI). They discussed ways to strengthen transboundary collaboration and joint conservation efforts for large mammals and developed actions to address key threats to the species.

Participants identified activities for implementation until 2020, centred around four objectives:

1. To address main threats and issues currently not (sufficiently) covered by existing work programmes and stakeholders.
2. To guide planning and implementation of prioritized conservation actions on a regional scale.
3. To facilitate knowledge exchange, communication and the promotion of synergies.
4. To support implementation, coordination and resourcing of the CAMI.

The POW accordingly outlines key activities needed to address main threats from illegal hunting and trade, pressure from overgrazing and livestock competition as well as negative impacts from industry and infrastructure development. They agreed to work towards more effective and transparent governance of natural resource management, to advance research and scientific knowledge about the ecology of the species, integrate and take into account the needs of local communities in conservation measures as well as to foster transboundary cooperation. Under objective 2 they identified key landscapes and critical sites for single species and sets of species as well as ways to ensure their protection. Participants agreed on the need to establish a coordination mechanism for CAMI, including the opportunity to draw on the expertise and experience of existing specialist groups and species networks. In their Meeting Declaration, they confirmed that Central Asia is a region of global importance for many endangered migratory mammals that rely on interconnected and non-fragmented steppe, desert and mountain ecosystems for their survival.¹



¹ Further information including the Meeting Declaration and the full Programme of Work is available here: www.cms.int/en/meeting/stakeholder-meeting-conservation-large-mammals-central-asia

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1. INTRODUCTION

The Central Asian region is home to some of the most spectacular and ecologically important mammal migrations in the world. Dubbed as the “Serengeti of the North”, the vast deserts, semi-deserts, grasslands and high mountains of Central Asia and adjacent regions, support one of the world’s last remaining large mammal migrations.

Wild open spaces are what Central Asia is known for. Fragmentation is still very low allowing migratory animals to roam relatively freely today, including across international borders. Saiga antelope (*Saiga tatarica*), Chiru (*Pantholops hodgsonii*), Asiatic wild ass, or Khulan, (*Equus hemionus*) and Mongolian gazelle (*Procapra gutturosa*) travel in large herds, their migrations spanning hundreds of kilometres (Harris *et al.* 2009). Other species, such as the Wild camel (*Camelus bactrianus*), Argali (*Ovis ammon*), Goitered gazelle (*Gazella subgutturosa*), Bukhara deer (*Cervus elaphus yarkandensis*), Asiatic cheetah (*Acinonyx jubatus*) and the Snow leopard (*Uncia uncia*) can equally travel over great distances. Some of these animals such as the Saiga antelope undertake cyclical migrations from north to south and back again within loosely defined ranges. These routes can change, but appear to have some consistency. Others, such as the Mongolian gazelle and khulan are nomadic, their movements from site to site between seasons are relatively unpredictable and dependent on a suite of environmental conditions.

All such migrations, frequently crossing international borders, are a survival strategy: the movements of these species follow the seasonal and shifting patterns of green vegetation over expanses of deserts, steppes, grasslands and mountains throughout the year. The animals also move to avoid deep snows or ice during winter, reach appropriate calving grounds in spring, escape predators and disease-carrying insects, reproduce or establish home ranges.

Plains occupy most of the region’s territory, while mountains enclose its southern borders. The region’s ecosystems were largely intact until the middle of the 20th century, with relatively low human population pressure. Large-scale expansion of agriculture and livestock production and other developments since then have brought a new set of threats to the migrations of Central Asian

mammals. Overhunting and illegal trade increased after the collapse of the Soviet Union in 1991 and the opening of new markets led to the decimation of many populations of these mammals. Saiga numbers, for example, decreased by 95 per cent within a decade because of poaching of the males’ horns for use in Traditional Chinese Medicine resulting in reproductive collapse (Milner-Gulland *et al.* 2003). Key threats to Central Asian mammal include overhunting, degradation and loss of habitat due to overgrazing by livestock and conversion to agriculture and industrial development. Barriers to the animal’s movements such as border fences and heavily used roads and railways often exclude animals from forage and water, limit genetic exchange between populations and cause mortalities (Harris *et al.* 2009; Olson 2013). Barbed wire fences along the Chinese-Mongolian and Kazakhstan-Uzbekistan borders severely hinder the seasonal movements of the Mongolian gazelle (Karlstetter and Mallon 2014) and Saiga antelope (Olson 2013).
















The recent boom in the economies of some of the region’s countries has also driven a greater push for oil and gas exploration and minerals extraction, each of them creating new infrastructure further threatening the survival of migratory mammals. The construction of new railways and roads to facilitate mining and other industrial development was found to affect the movements of Mongolian gazelle and Khulan, creating further habitat fragmentation by dividing the remaining non-fragmented ecosystems into smaller pieces (Ito *et al.* 2013).

Finally, while its impacts on migratory mammals are still poorly understood, climate change may also affect the length, timing and location of migration. More importantly, it is unclear how these animals can adapt to climate change while in the midst of other threats to their survival (Robinson *et al.* 2005).





Table 1. Large Migratory Mammals occurring in the Region

	Common and Latin name	CMS Appendix	CITES Appendix	IUCN status/trend ²	Range States
	Bukhara/ Yarkand deer (<i>Cervus elaphus yarkandensis</i>)	I/II*	II	LC on species level; status on subsp. level not assessed	Afghanistan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan.
	Wild camel (<i>Camelus bactrianus</i>)	I	–	CR	China and Mongolia
	Wild yak (<i>Bos grunniens</i>)	I	I	VU	China
	Asiatic cheetah (<i>Acinonyx jubatus venaticus</i>)	I**	I	CR	Iran (Islamic Republic of)
	Snow leopard (<i>Uncia uncia</i>)	I	I	EN	India, Pakistan, Nepal, Bhutan, China, Afghanistan, Tajikistan, Uzbekistan, Kyrgyzstan, Kazakhstan, Mongolia and Russian Federation
	Saiga antelope (<i>Saiga tatarica</i> and <i>S. borealis mongolica</i>)	II	II	CR (actually increasing)	Kazakhstan, Mongolia, Russian Federation, Turkmenistan and Uzbekistan.
	Argali (<i>Ovis ammon</i>)	II	I/II***	NT	Afghanistan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russian Federation, Uzbekistan, and Tajikistan.
	Mongolian gazelle (<i>Procapra gutturosa</i>)	II	–	LC?	Mongolia, China and Russian Federation.
	Goitered gazelle (<i>Gazella subgutturosa</i>)	II	–	VU	Afghanistan, China, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan and Uzbekistan
	Khulan (<i>Equus hemionus</i>)	II	I/II****	EN	Mongolia, China, India, Turkmenistan and Iran (Islamic Republic of). Populations have been re-established in Kazakhstan, Uzbekistan and Turkmenistan.
	Kiang (<i>Equus kiang</i>)	II	II	LC	China, Pakistan, India and Nepal.
	Chiru (<i>Pantholops hodgsonii</i>)	–	I	EN	China
	Przewalski's horse (<i>Equus caballus przewalskii</i>)	–	I	EN (2011)	China and Mongolia
	Tibetan gazelle (<i>Procapra picticaudata</i>)	–	–	NT	China
	Chinkara (<i>Gazella bennettii</i>)	–	III (Pakistan)	LC	India; Iran (Islamic Republic of); Pakistan

² According to the IUCN Red List of Threatened Species: LC: Least Concern, NT: Near Threatened, VU: Vulnerable, EN: Endangered, CR: Critically Endangered, EW: Extinct in the Wild, EX: Extinct

* Populations in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Afghanistan.

** Excluding populations in Botswana, Namibia & Zimbabwe.

*** *O.a. hodgsonii* and *O.a. nigrimontana* I/A, all other subsps. II/B.

**** *E.h. hemionus* and *E.h. khur* I, all other subsps. II.



2. SPECIES IN THE SPOTLIGHT

Among the large mammals that move across the region are species that are perfectly adapted to the harsh cold deserts and steppes that stretch across Mongolia, China and Kazakhstan, such as the Khulan, Mongolian gazelle, Saiga and Wild camel. Species such as the Argali and Snow leopard roam the region's impressive mountain ranges. The following section puts some of those species in the spotlight, each of them representing a different type of habitat.



2.1. Mountain Species

The mountains of Central Asia store and release water into several river systems benefiting much of the world's human population.

The mountain ranges of the Himalaya, Karakorum, the Pamir and Tien-Shan are among the highest in the world. With peaks up to 7,700 metres, the Pamir was known to early Persians as the "roof of the world". Together with the wildlife they host, such as the Argali and the Snow leopard, these mountain ecosystems are under threat as human population pressure increases, including human uses of the land such as livestock grazing and natural resource extraction. Climate change is also radically changing this habitat as more and more glaciers are melting away.

Argali

Argali are the largest of the world's wild sheep and are distributed widely throughout Central Asia. They are a critical species for identifying transboundary ecological networks of conservation importance that in turn benefit a variety of animal and plant species. They are an important prey species for Snow leopards.

Argali prefer high-mountain steppe-like areas. They occur in open habitats in and around more isolated mountain massifs, as in the Gobi Desert in Mongolia. They are very sensitive to deep snow and will migrate from high mountain habitats during winter in search of better forage opportunities. Argali feed on

grasses, sedges and some herbs and lichens, and live in groups of up to several hundred individuals. Females give birth to one offspring per year. Argali have long legs which help them travel swiftly from place to place and also flee from predators. They can give out a warning hiss and whistle, by blowing air through their nostrils, to alert the herd of impending dangers. The massive, curled horns of the adult males are highly valued as a trophy and argali are a species with considerable economic potential. Key threats include overhunting and illegal subsistence and commercial hunting, as well as loss and degradation of habitat. Whereas habitat characteristics change, the threats vary little across the range countries.

An Action Plan for the Conservation of Argali

A Single Species Action Plan was developed under the Convention on the Conservation of Migratory Species of Wild Animals (CMS) during a workshop in 2012 and an extensive process of review throughout 2014. The goal of the Action Plan is to maintain and restore Argali populations to a favourable conservation status throughout their range. Four objectives have been identified: 1. Stabilize argali numbers and range and reverse negative trends; 2. Maintain and restore intact argali habitat and migration routes; 3. Fill knowledge and information gaps; and 4. Ensure effective implementation of the Action Plan





Snow Leopard

Snow leopards are among the most enigmatic of wild cats. With estimates of as few as 4,500-6,000 animals remaining in the wild today, they are also among the most threatened. Their long-term survival is far from assured, and despite being protected and included in the Red Data Books in each of the twelve countries in which they occur, the species has already been extirpated from some parts of its historic range.

Smoky grey and blurred black markings on a pale grey or cream-coloured background provide the Snow leopard with excellent camouflage in the mountains. They are largely solitary and move to different altitudes ranging from 600 to more than 5,000 metres above sea level along with the summer and winter migrations of their prey animals. The estimated size of their range is about 1.8 million km², with the largest share (60 per cent) in the Tibetan Plateau of China. Some of Central Asian countries may have lost over 40 per cent of their Snow leopards in the past two decades as economic hardship even forced rangers working in protected area to poach and sell wildlife to feed their families. Conservation of the species is a challenge because there is limited knowledge about these populations and specific threats including habitat loss, poaching and human and Snow leopard conflict.

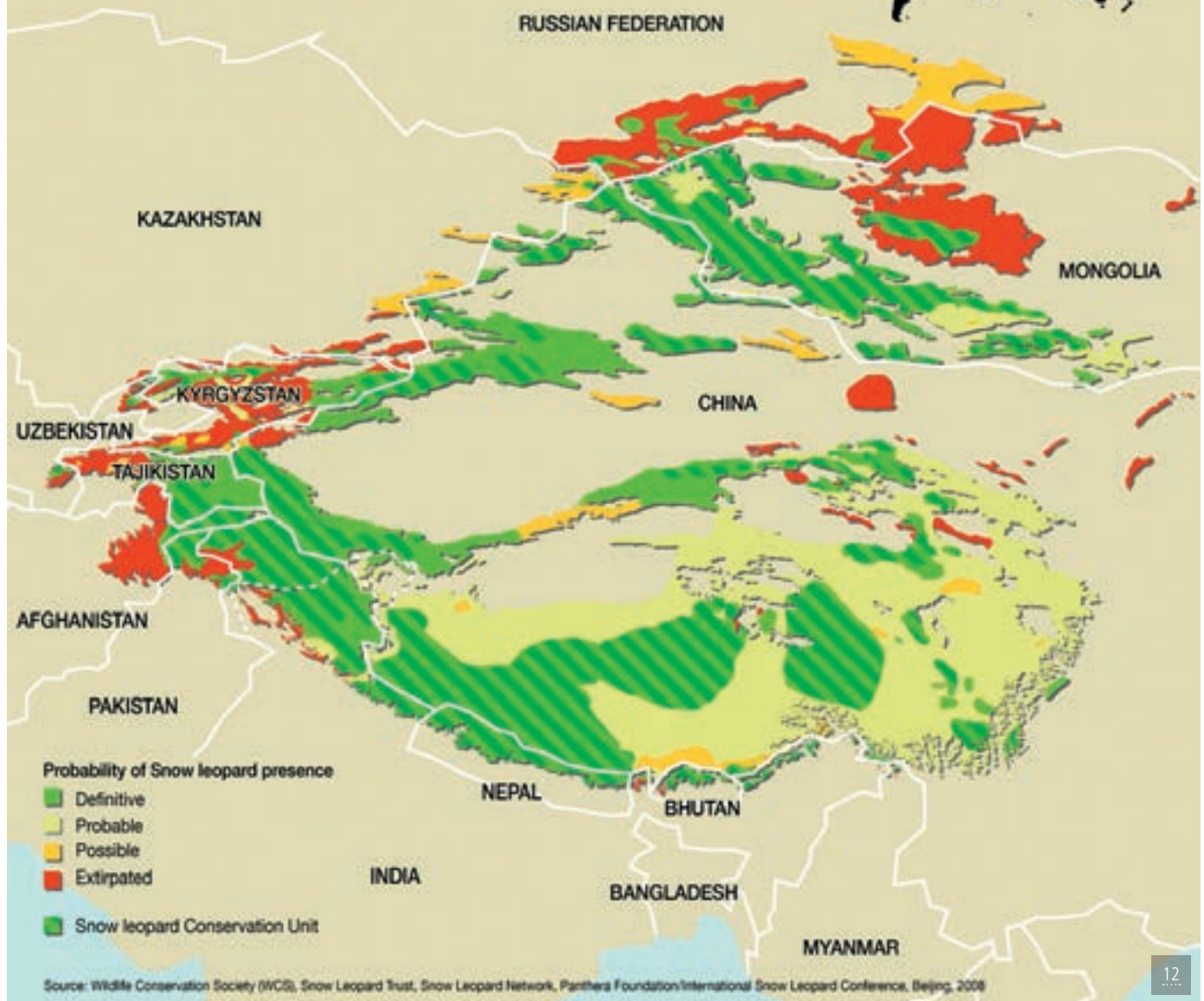
A Global Programme to Protect Snow Leopards

In 2012, the Kyrgyz Government with support of the World Bank's Global Tiger Initiative initiated a process to develop a Global Snow Leopard and Ecosystem Protection Program (GSLEP). The 2013 Global Snow Leopard Conservation Forum, attended by representatives from all 12 Snow Leopard Range States, endorsed the GSLEP to address high-mountain development issues using the conservation of the Snow leopard as a flagship. It brought together range country governments, non-governmental and inter-governmental organizations, local communities, and the private sector around a shared vision to conserve Snow leopards and high-mountain ecosystems. The goal of the GSLEP is to secure at least 20 important Snow leopard landscapes across the species' range by 2020.





Snow leopard range in Asia





Chiru

The Chiru, or Tibetan antelope, inhabits high altitude plains, undulating hills, plateaus and montane valleys. Many populations are highly migratory, moving hundreds of kilometres between summer and winter ranges.

Chiru can tolerate extreme cold temperatures due to a layer of dense, fine wool next to the skin, called "shahtoosh." Shahtoosh translates roughly as "from nature and fit for a king". Females typically give birth to a single calf. Chiru wintering areas are well known, but most calving areas are still not adequately documented or protected. Chiru have long been hunted for the shahtoosh, which is renowned for its quality and which has traditionally been transported to Srinagar in Kashmir, where it is woven into an extremely fine fabric used to make shawls. This hunting escalated to a commercial scale in the late 1980s and 1990s, becoming the major threat to Chiru and leading to a severe decline in numbers. Horns of the males have also been traditionally used as gun rests, and to a limited extent, in Traditional Chinese Medicine. Other important threats include expansion of livestock herding into remote and previously unused areas and the increase in fencing that may limit important seasonal movements.

2.2. Steppe and Desert Species

The Central Asian steppes and deserts, lost in the remote hinterlands of the Eurasian continent have seen centuries of cultivation and overgrazing by animals.

The Kazakh steppe encompasses one of the world's largest dry steppe regions. Before the 1950s, when large areas were ploughed for crops, the region's steppe landscape was a continuous grassland belt stretching from the Ural River in the west to the Altai foothills in the east (Karlstetter and Mallon 2013). They are today a barren-looking landscape of dry, short-grass plains and arid shrublands, hot in summer and cold in winter, with much sunshine and very little precipitation. Yet many species thrive. Other than those highlighted below, the regions deserts and steppes are also home to the Przewalski's horse, Goitered gazelle, Wild camel and Wild yak, the Kiang, as well as the Asiatic cheetah which occurs in the Islamic Republic of Iran.





Khulan

The Khulan, or Wild Ass, inhabits mountain steppe, steppe, semi-desert and desert plains. The search for water sources is a driver of migration.



Khulan are among the most mobile of terrestrial mammals, ranging over thousands of square kilometres each year, a behaviour that enables them to follow the unpredictable rainfall that characterizes their habitat and to escape extreme winter weather events which are typical of the region. Recent mining-related infrastructure development, if not carefully managed, could fragment the range of this nomadic species in Mongolia, a range-limiting effect that occurred previously, in the 1950s, with the development of the trans-Mongolian railway.

Research undertaken by scientists of the University of Veterinary Medicine Vienna, Austria, and the Wildlife Conservation Society (WCS) proves the enormous mobility of these animals: within just the first month of their research project during which 20 khulan were fitted with collars, the animals had travelled over more than 80,000 km², an area equal to the size of Austria. The extent of these initial movements dwarfs the world-famous migration of wildebeest and zebra within the 25,000 km² of Africa's Serengeti-Mara ecosystem³.

³ Link to the research project: www.vetmeduni.ac.at/en/research-institute-of-wildlife-ecology/forschung/projects/gobiprojekt/khulan-movement

Mongolian Gazelle

Mongolian gazelles inhabit rolling steppes and plains. They move constantly over their range, except during the rut and birth seasons.

They avoid rocky or broken terrain, narrow valleys, high-altitude steppes, forest, shrub thickets and sand dunes, unless driven there by exceptional circumstances.

During the breeding season, males develop a swollen throat, which resembles the condition of goiter. Only males carry the dark grey, lyre-shaped horns, which curl backwards from the forehead and then run virtually parallel to the back and turn upward again at the tip. Part of the population used to cross the Mongolian-Chinese border annually, migrating to China in March-April and back to Mongolia in August-October. Because of the strong border fences almost no gazelles move into China any longer, and those that do never come back. There are still northern movements into the Russian Federation that occur every few years, possibly due to drought and winter conditions in Mongolia, although the driving force is not entirely clear. While migrating, gazelles can easily cover 40-80 km per day.

Illegal hunting is increasingly a threat. The species is sought for its meat and hides. The Ulaanbaatar-Beijing railway is double-fenced and has effectively cut off the smaller western populations from the core population in eastern Mongolia. Finally, outbreaks of disease and severe winters have resulted in heavy mortality.





Saiga antelope

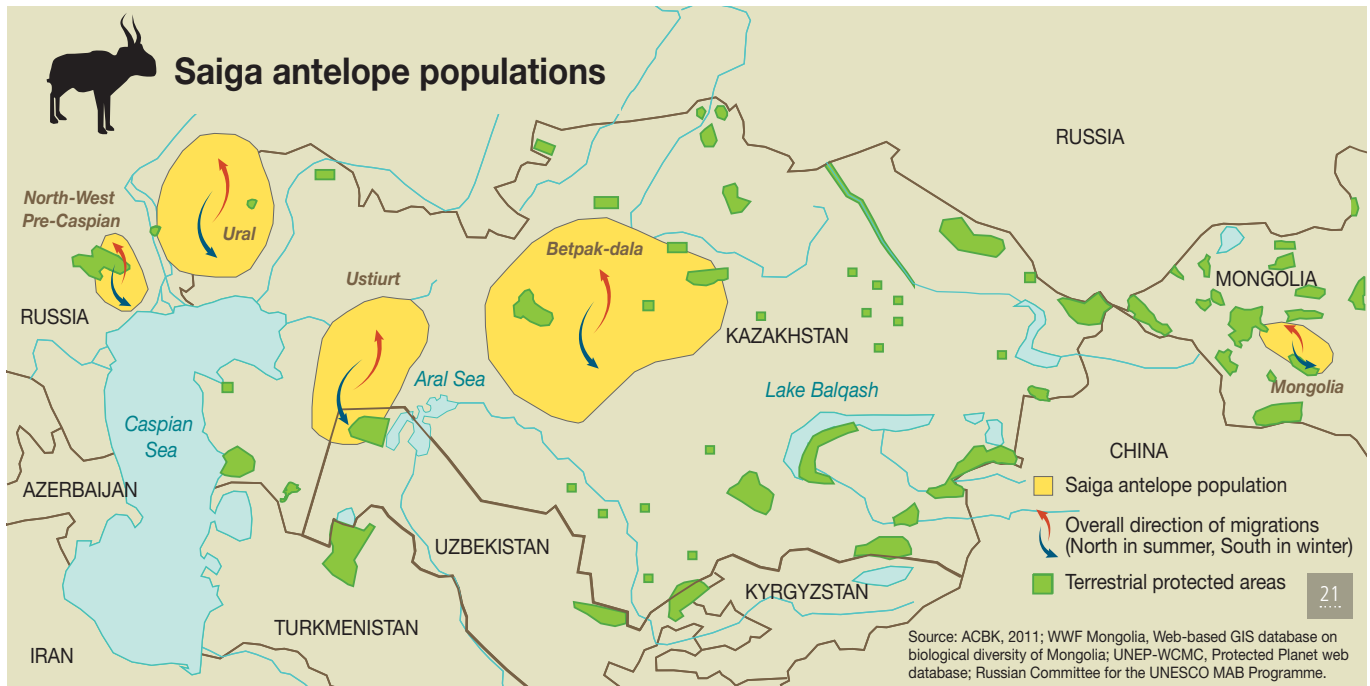
The Saiga antelope is a migratory herbivore of Central Asia, capable of travelling hundreds of kilometres north to south and back again on its annual migrations. Saiga antelopes form very large herds that graze in semi-deserts, steppes, grasslands and sometimes open woodlands.

Saiga are recognizable by an extremely unusual, over-sized and flexible nose, the internal structure of which is composed much like a filter. During summer migrations it helps filter out dust kicked up by the herd and cools the animal's blood. During the winter it heats up the frigid air before it is taken into the lungs. In spring the females gather in large herds and migrate to an appropriate breeding area where they give birth to twins (in about two thirds of all cases) or one single foal. In the summer, they break up into smaller groups. Large groups form again in the autumn, when the southward migration takes them back to the winter grounds, sometimes over 1,000 km. Saiga have been hunted traditionally and today poaching remains the primary threat to this species. It is particularly valuable for its horn, used in Chinese Traditional Medicine, but is also hunted for its meat. Following the collapse of the Soviet Union, Saiga populations crashed by more than 95 per cent within a decade which is one of the fastest declines recorded for mammals in recent decades.



A Memorandum of Understanding to Conserve the Saiga Antelope

The Memorandum of Understanding (MOU) concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga spp.*) was developed under the auspices of CMS and has been in force since the First Meeting of Signatories in Almaty, Kazakhstan, in September 2006. All five Saiga Range States have signed the MOU: Kazakhstan, Mongolia, the Russian Federation, Turkmenistan and Uzbekistan, as have a number of cooperating organizations. The MOU comprises a Medium-Term International Work Programme outlining key conservation measures to be undertaken in the period from 2010-2015.



3. MIGRATIONS AT RISK

Central Asia faces great challenges in achieving sustainable development and in maintaining its natural heritage and landscapes ecologically intact. Its ecosystems, as are the species that migrate across them, are increasingly affected by human activities such as poaching, unsustainable land use and large infrastructure projects.

3.1. Poaching: Trends and Drivers

Poaching is one of the overarching threats impacting the survival of all Central Asian migratory mammals. Drivers of poaching include human-wildlife conflict, competition with other uses of the land and demand for species' parts which frequently enter the illegal global trade.

The wild Bactrian camel has suffered severe population declines and range reductions due to persecution as the species has been regarded as competing with domestic camels and livestock for food and water (Mijddorj 2002, Hare 2008). Snow leopards continue to be poached across their range in response to livestock depredations and the demand for snow leopard fur and other products (McCarthy et al 2003). Poaching of Argali for their meat and horns tends to be prevalent in places with weak law enforcement and/or lack

of legal use opportunities (Rosen 2012). Chiru, in demand for their highly valuable shahtoosh wool, continue to be exposed to poaching (Bleich et al. 2009). Their numbers dropped from an estimated one million plus to less than 75,000 (Schaller, 1998; Bolger et al., 2008), then increased to ca. 100,000 due to stringent anti-poaching measures by the Chinese authorities and the establishment of many extensive reserves.



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3.2. Illegal Trade

Demand for products of many Central Asian mammals, including Snow leopard parts and Saiga horn, continues to grow. Illegal trade is a key driver of poaching. In certain cases, trade in some of these wildlife products has been combined with the narcotics and arms trade.

The dramatic decline in Saiga antelopes was mainly driven by poaching for trade in Saiga horns and other products such as meat. The horns, which are only borne by the males, are the main target of poachers and are sold to East and South-east Asia, where they are used in traditional Asian medicine. China is the largest importer of Saiga horns. However, South-east Asia is also known to have a large demand for Saiga horns for use in traditional medicines and to play an important role as a trading or transit region for Saiga horns (von Meibom 2010). Due to anti-poaching and trade controls, the Betpak Dala population of Saiga in Kazakhstan has recovered from an estimated low point of 1,800 animals in 2003 (McConville *et al.* 2009) to 155,000 in 2013 (Grachev 2013). However, other saiga populations are still under poaching pressure and in a critical state.

Snow leopards are also a critically affected species. They are killed and traded for their fur. Snow leopard fur is used for clothing, hats and furnishings. Even the meat is occasionally eaten. Recent evidence indicates that trade is now moving towards rugs, luxury décor and taxidermy. Many Snow leopard range countries have weak wildlife laws and low levels of prosecution even when offenders are apprehended, and underfunding of the wildlife sector is a chronic problem across the Snow leopard's range. Weak border enforcement hinders detection of organized criminal trafficking (GSLEP 2013).

Illegal trade in shahtoosh wool and other Chiru products persists.



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International Policy Response to the Overexploitation Crisis in Central Asia

Combatting illegal trade requires strong intergovernmental collaboration. Partner conventions that join forces with CMS to address the conservation of Central Asian mammals include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD) as well as intergovernmental organizations such as the World Bank.

CITES is an international agreement between governments, which entered into force in 1975, aiming to ensure that international trade in specimens of wild animals and plants does not threaten their survival. CITES has established a number of general cooperation agreements with other organizations. The current Joint Work Programme (2012-2014) between the CMS and CITES Secretariats outlines joint activities, which relate among other things to promoting actions for the conservation and sustainable use of shared species, e.g. for the Central Asian region focusing on the Saiga antelope and Snow leopard.

CITES, the World Bank, INTERPOL, the UN Office on Drugs and Crime and the World Customs Organization established **the International Consortium on Combating Wildlife Crime (ICWC)**, a collaborative effort working to bring coordinated support to the national wildlife law enforcement agencies and to the sub-regional and regional networks that, on a daily basis, act in defense of natural resources. The ICWC seeks to support the development of law enforcement built on socially and environmentally sustainable natural resource policies, taking into consideration the need to provide livelihood support to poor and marginalized rural communities.



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3.3. Habitat Loss

For Central Asian migratory mammals, especially migratory ungulates, habitat loss comes in the form of human presence and disturbance as well as industry and infrastructure development including mining, and oil and gas extraction.

Uncontrolled agriculture, illegal logging, unsustainable mining practices, and overgrazing have resulted in the destruction of the region's wetlands, steppes and pristine forests (www.undp.org). The steppe ecosystems have been highly exploited for their fertile soils and grasses. The Tibetan gazelle (*Procapra picticaudata*) has experienced a population decline of around 20 per cent since 1992 in part due to habitat loss, through a government policy of

fencing rangelands, conversion of rangeland and increase in livestock numbers (Mallon & Bhatnagar 2008). In particular, on the Qinghai-Tibetan Plateau in China, excessive livestock grazing is reported to have caused vegetation degradation and created barren soils over some 70,319 km² (Shang 2007). Argali habitat across parts of its range is lost or degraded due to overgrazing, fuel wood collection and mining (Rosen 2012).



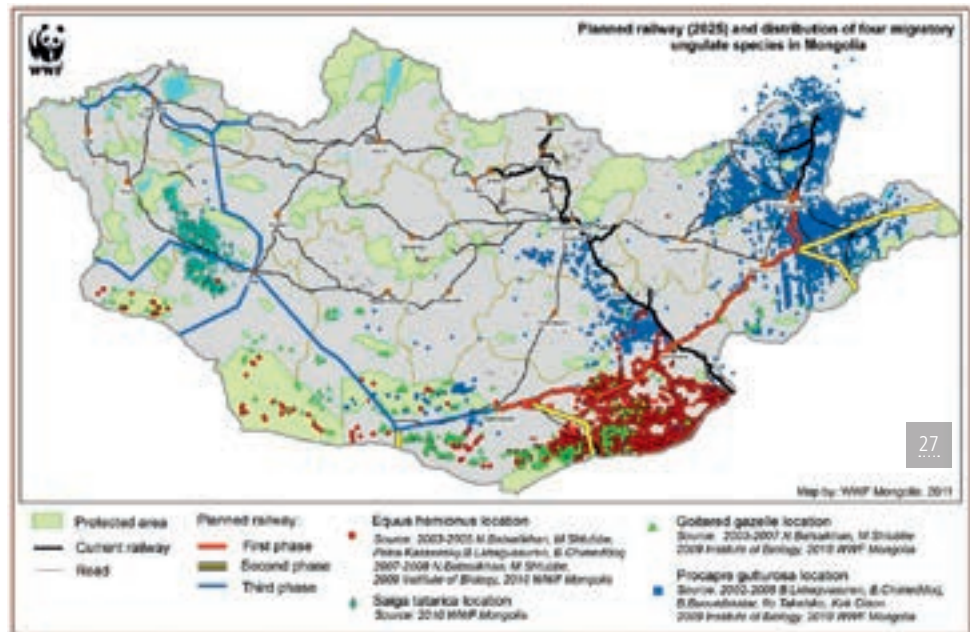
3.4. Infrastructure and Barriers to Migration

Many migrating animals die attempting to cross fences and barriers. Infrastructure projects such as roads, railways, mining sites, pipelines and fences can have especially detrimental effects on migratory gazelles, Khulan and Saiga antelopes, causing not only habitat fragmentation but also direct mortality.

Many countries in Central Asia are planning ambitious programmes of economic development in areas where mammal migrations occur to satisfy the national or international demand for raw materials and the desire to improve the economic well-being of local people, many of whom live at or near the poverty level. However, large-scale infrastructure can have adverse impact and bisect previously intact landscapes, unless it is carefully planned and implemented, including by incorporating measures to mitigate both direct and indirect effects. Besides posing physical barriers, roads and railways also allow easy access by poachers in search of trophies or valued wildlife products. Labourers associated with infrastructure construction and mining often hunt or disturb wildlife. Sound Environmental Impact Assessments and mitigation measures are still in the early stages of development in most of the Central Asian countries.

In Mongolia in particular, the number of planned and constructed large infrastructure projects has increased rapidly in recent years, causing serious threats to migratory ungulates such as Goitered and Mongolian gazelles, Khulan, Wild camel and Saiga. Negative effects include habitat fragmentation, blockage of migration routes, genetic isolation and splitting of populations as well as direct mortality when animals run into vehicles or die tangled up in wire fences. A case study showed that with the construction of a planned railway in 2025, the Mongolian gazelle populations would be divided into nine isolated populations separated by railway and border fences, while the Khulan and

Goitered gazelle would be divided into five and seven populations respectively (Lkhagvasuren et al 2011). The capacity of these species to escape droughts or harsh winters by moving to better areas is reduced by railways, roads and border fences. Population numbers may regionally drop below a critical threshold and may eventually result in regional extirpation (Kaczensky et al. 2006). At the border between Tajikistan, China and Afghanistan, high mortality rates of Argali have been observed along border fences. The map below illustrates the impact of linear infrastructure on selected species in Mongolia.





3.5. Management of Wildlife Health



There is still limited information on the impact of disease on the majority of migratory mammals in Central Asia. The increasing numbers of livestock are a major factor increasing the risk of disease for wild ungulates with greater probability of disease transmission through direct contacts. Predicting movements of migratory species has broad impacts on disease transmission.

Diseases transmitted from domestic livestock have been identified as a threat to several Central Asian migratory mammal species. Heavy mortality due to disease has been recorded in populations of Mongolian gazelle (Mallon 2008). Recently a case of mortality of a Snow

leopard has been observed in China, which is suspected to be caused by the canine distemper virus transmitted from domestic dogs.

Saiga antelopes have experienced mass die-offs in recent years with the most dramatic one occurring in May 2010: 12,000 Saiga antelopes died in the Ural population in Western Kazakhstan, which decimated the already

small Ural population by approximately one third. Another 400 animals were found dead in the same location and time of year in 2011. The reasons for this die-off appear to be a combination of climatic and vegetative conditions as well as possibly of bacterial agents (pasteurellosis).



A Task Force to Address Wildlife Disease

The Food and Agriculture Organization of the UN (FAO) and CMS are seeking to enhance synergies on the issue of wildlife disease. In 2011, FAO and CMS jointly convened a Scientific Task Force on Wildlife and Ecosystem Health (UNEP/CMS 2011) with the specific mandate to identify wildlife diseases of high priority with respect to human, environmental, livestock and wildlife health in the hope of recognizing diseases with devastating potential before they emerge.

3.6. Climate Change

Migratory species are extremely vulnerable to climate change: they depend on complex ecological networks to exist (Kurvits et al 2011) and those networks are at risk of being altered in ways that can threaten their very survival.

Central Asia is warming faster than the global average (Maas et al. 2011). Extreme weather events are also more common. The resulting consequences of these phenomena induced by climate change may compound the existing stresses to which migratory species are subject, as described above. For Wild camels, this might result in drying oases, deteriorating water and forage quality, and food shortages during increasingly frequent harsh winters (Clark et al. 2006, Hare 2008). The change in phenological patterns of vegetation growth can potentially reduce recruitment of young ungulates in the region significantly as already observed in roe deer (*Capreolus capreolus*) and Alpine ibex (*Capra ibex*) populations in Europe (Pettorelli et al 2007). Climate change might also reduce Snow leopard habitat (Forrest et al. 2012). A recent review of existing studies across China since 2008 shows that there are both complex direct and indirect impacts of climate change on Snow leopard populations (Riordan et al 2012). Livestock grazing pressure has tended to increase in intensity and spatial extent in response to lengthening seasons through climate change.





4. CONSERVATION SOLUTIONS

There are many successful examples showing that conservation can work in the region, and which have already made a difference for the species on the ground. This section highlights different ways for solving some of the complex conservation problems in Central Asia and the threats migratory mammals are facing.



4.1. Community-based Wildlife Organizations: Turning Poachers into Wildlife Guardians

Across Central Asia, many community-based wildlife organizations have sprung up with the goal of protecting endangered species. In some cases, local people are motivated by the desire to protect a species that they see as quickly slipping into extinction; in other cases they are motivated by tangible financial benefits.

In Mongolia and Kyrgyzstan, families participating in the Snow Leopard Enterprise programme of the Snow Leopard Trust, which enables them to earn an income from selling handicrafts and commit to protect Snow leopards from poaching. In Tajikistan, the conservation efforts of four community-based conservancies, supported by Panthera and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), motivated by the possibility of bringing income to their villages through legal and sustainable trophy hunting on mountain ungulates, have led to increasing numbers of Snow leopards and in one conservancy where they are present, also of Argali. In Pakistan, the Wildlife Conservation Society (WCS) supported the establishment of 18 community-based conservancies and Project Snow Leopard introduced an insurance scheme whereby local communities commit to protecting the Snow leopard and their prey in return

for the opportunity to insure their domestic livestock by paying a small, subsidized premium.

The Saiga Conservation Alliance is working on the Ustyurdt plateau in Uzbekistan with local communities, building relationships with schools, women's groups, officials and ex-hunters, to promote the conservation of the Saiga antelope across the region.





4.2. Human-Wildlife Conflict: Mitigation Tools

Across Central Asia, snow leopards kill domestic livestock causing economic damage that often provokes swift retaliation. Khulan, Wild yak and Argali compete with herders for habitat which then leads to the killing of these species.



There are a number of successful solutions and practices that have been able to address these forms of conflict. Predator-proof corrals built in Afghanistan, India, Nepal, Pakistan and Tajikistan, with support from the Snow Leopard Conservancy, Panthera, Project Snow Leopard, WCS and WWF have significantly reduced depredations and removed the incentives for retaliation.

Competition between livestock and wildlife is harder to address and requires a strong regulatory and policy action, which is still missing in most of the Central Asian countries. However, there is a project implemented by WCS on the Tibetan Plateau in China, which serves as a good example: it aims at creating buffer zones around existing Wild yak habitat and eliminating livestock grazing by providing financial compensation to approximately 30 herder families.



4.3. Four Paws for Fighting Illegal Trade

Dogs have proven themselves irreplaceable across conservation and law enforcement disciplines. Thanks to their olfactory skills, they are in a position to detect even the faintest smell or traces of illegally traded wildlife products. Some of the Central Asian countries constitute major hubs or transit ways for the smuggling of illegal wildlife products.

At the Regional Canine Training Centre of the Republic of Kazakhstan in Almaty, sniffer dogs are being trained to detect and smell Saiga horn. The training is supported by the "Ustyurt Landscape Conservation Initiative" a five-year programme implemented by the Association of the Conservation of Biodiversity for Kazakhstan (ACBK) and Fauna & Flora International (FFI) with funding from USAID. Some of the Kazakh customs' dog-handler teams have already achieved some successful seizures of Saiga horn. In 2013, three wildlife detection dogs were trained and deployed in China with support from WCO and TRAFFIC.

4.4. Removing Barriers

Addressing the negative effects of linear infrastructure on wildlife in Central Asia has become a key issue addressed under CMS through a range of different activities and partnerships.

Together with the German and Mongolian Governments, CMS organized a workshop to address the impacts from mining and infrastructure on migratory mammals, resulting in a Declaration of Intent and associated Action Plan. Under the Saiga MOU, a study has been initiated to assess the impact of a border fence between Kazakhstan and Uzbekistan as well as the construction of a railroad in Kazakhstan on Saiga. The study developed a range of solutions and recommendations for mitigation, which were presented and discussed with the relevant Kazakh authorities (Olson 2013).

Solutions to address negative impacts of linear infrastructure include: removing fences along railways and wherever they are necessary make them wildlife-friendly, mitigate barriers caused by traffic through road curfews, build over and under-passes, make border fences permeable for wildlife e.g. by removing the bottom two wires to create a 40 cm space between the ground and lower wire (which is considered a space large enough for the animals such as the Saiga antelope to crawl under) or alternatively by incorporating gaps in the fence every kilometre.



Guidelines to Address the Impact of Linear Infrastructure on Large Migratory Mammals

Conservation guidelines to mitigate the impact of linear infrastructure on migratory mammals in Central Asia have been developed under CMS for adoption at the 11th Meeting of the Conference of the Parties (COP11) in 2014. The guidelines describe the application of best practices at the project and national level to maintain connectivity for wildlife populations in the face of growing infrastructure development. They include a review on gaps and needs which shows that the relevant legal framework spans a wide variety of international agreements, national laws and regulations, but that much remains to be done to formalize and harmonize practices and provide the specificity needed to ensure that migratory species issues are addressed at the appropriate stages of planning and development.



5. CENTRAL ASIAN MAMMALS INITIATIVE: SYNERGIES FOR ACTION

Conserving the migrations of Central Asian mammals for future generations requires a science-based and internationally coordinated approach across all Range States. The CMS Central Asian Mammals Initiative (CAMI) aims at addressing the above-mentioned threats by providing a platform for countries and other stakeholders to work together and join efforts for the conservation of migratory mammals in the region.

CAMI targets eleven CMS listed species and other four Asian long-distance migrants not yet listed under CMS (see Table Table 1. above). The distribution of those species comprises 14 countries (see also Map Map 6. above), eight of which have ratified the Convention (India, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, and Uzbekistan), and another six countries are not yet Parties to CMS (Afghanistan, Bhutan, China, Nepal, Russian Federation, Turkmenistan).

CAMI is a tool which creates geographic synergies and cost-effective implementation of overlapping mandates and instruments under CMS – such as existing species MOUs on Saiga antelopes and the Bukhara deer, Action Plans such as for the Argali and Concerted Actions for a number of additional species – as well as programmes outside of CMS such as the GSLEP.

In September 2014, Range States and concerned stakeholders came together in the Kyrgyz capital, Bishkek, to agree on a joint Programme of Work (POW) for the CMS Central Asian Mammals Initiative (CAMI) in order to strengthen transboundary collaboration and joint conservation efforts for large mammals and outline actions to address key threats to the species. While CAMI is not intended as an additional legal instrument under CMS, should Range States wish to formalize their cooperation through developing CAMI into a legal instrument, this could be considered in accordance with the criteria for new agreements tabled for adoption at CMS COP11.



The successful implementation of the CAMI and its Programme of Work (POW) will depend on the long-term commitment of the States concerned, including the provision of adequate financial and in-kind resources. Coordination to facilitate communication among countries and stakeholders and support the implementation of the POW are critical to its success.

5.1. Assessing Gaps and Needs

The process towards developing the Programme of Work for the CAMI involved a comprehensive consultation process to assess the gaps and needs with regard to the conservation of migratory mammals in Central Asia (Karlstetter and Mallon 2014).

This assessment provides an overview on the species, their habitat and the conservation measures undertaken in the region by various stakeholders. It also reveals that the knowledge available on the species varies considerably.

Reliable knowledge throughout the species' range seems to be available only for the reintroduced and intensely studied Przewalski's horse. Fairly good knowledge on most or all populations was reported to exist for Bukhara deer,

Saiga antelope, Mongolian gazelle, and to a lesser extent for Argali. Knowledge on Goitered gazelle, Snow leopard and Cheetah is patchy and even larger gaps exist for Wild camel, Wild yak, Chiru, Khulan and Tibetan gazelle. Of all categories assessed, for most species the factors driving the movements of the animals seem to be least understood. Overall, the assessment makes clear that while much is ongoing already, most of the threats affecting mammal migrations in Central Asia are not adequately addressed.





Habitat loss, degradation and fragmentation caused by livestock grazing and grazing competition, overgrazing, illegal hunting and barriers to migration are the primary drivers of species declines. Some of the concerns identified in that respect include conflicting interests between livestock owners and conservationists, conflicting policies between

grassland management and wildlife conservation and the ignorance or disregard of relevant legislation by livestock owners. An increase in grazing due to human population growth has also been highlighted as a concern. Reducing habitat loss and degradation requires ensuring adequate undisturbed natural vegetation. Especially for species such as the Przewalski's horse, loss of habitat caused by livestock grazing and grazing competition is highlighted as critical.

The assessment identified limited funding as a major impediment in developing and implementing sustainable management concepts for migratory mammals in the Central Asia region, as well as the need to strengthen law enforcement, address corruption and improve transparency and accountability in order to tackle most of the threats to migratory mammals.

5.2. CMS: Catalyst for Wildlife Conservation beyond Borders

CMS plays a critical role in the conservation of migratory mammals in Central Asia. Participants in the gaps and needs assessment process recognized that CMS plays a key role in fostering dialogue on conserving transboundary populations of wildlife – among countries as well as with the private sector on applying mitigation options to ensure maintaining long-distance movement and migrations.

An International Treaty for Migratory Species of Wild Animals

The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as Bonn Convention, came into force in 1983 and aims to conserve terrestrial, aquatic and avian migratory species throughout their range. CMS is an intergovernmental treaty, concluded under the aegis of the United Nations Environment Programme (UNEP). The CMS Secretariat is located in Bonn, Germany.

Migratory species threatened with extinction are listed on Appendix I of the Convention. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. Any consumptive use is prohibited with a very restricted scope for exceptions. Migratory species with an unfavourable conservation status that need or would significantly benefit from international cooperation are listed in Appendix II of the Convention. For these species, the CMS encourages Range States to conclude global or regional agreements. The decision-making organ of the Convention is the Conference of the Parties (COP), which is made up of representatives from all CMS Parties and meets once every three years.

CMS acts as a framework convention and several specific instruments have been developed under its auspices, ranging from legally binding agreements to less formal Memoranda of Understanding (MOU) and Species Action Plans. The Saiga MOU and the MOU Concerning Conservation and Restoration of the Bukhara Deer as well as the International Single Species Action Plan for the Conservation of the Argali are the most relevant for the Central Asian region. The Central Asian Mammals Initiative (CAMI) is a new regional approach recognizing the importance of the region for wildlife migrations and focussing on combining existing efforts and strengthening the implementation of different mandates to protect large mammals under the Convention.

CMS was thought to be best positioned to prepare best practice guidelines and training manuals in local languages on issues of concern, and support the revision of the legal framework as needed. The strength of CMS rests in its convening power, especially on issues related to developing standardized monitoring methods and coordinating joint monitoring, establishing information exchange, facilitating cooperation and dialogue, supporting mitigation of threats such as removing or modifying border fences, developing species specific transboundary management plans and undertake joint capacity building initiatives.

Being under the auspices of UNEP, in conjunction with other multilateral environmental agreements (MEA), as well as in cooperation with its member countries and partner organizations, CMS is a strong advocate for conserving migratory species and their habitat and for influencing higher level decision-making.





6. CONCLUSIONS: CHALLENGES AND OPPORTUNITIES IN PROTECTING MAMMAL MIGRATIONS IN CENTRAL ASIA

Mammal migrations across Central Asia are at risk of declining. Their persistence is challenged by a swath of disturbances: poaching, illegal trade, habitat loss, infrastructure and barriers to migration and climate change. They need to be addressed with a greater intensity to achieve results for the long-term conservation of the 15 species that the CAMI seeks to protect.

Conserving Central Asian migratory mammal species requires coordinated planning across borders. Sharing of lessons learned, successes as much as failures, can combine strengths from various sectors. The CAMI serves as a guiding framework to support the integration of missing aspects in already existing work of the various stakeholders and initiatives. Its Programme of Work developed by all stakeholders and countries concerned, provides an effective tool and common reference that outlines key actions needed to be implemented by 2020 to ensure that these fascinating species can continue to roam freely. It also fosters mutual support and joint implementation efforts of other existing conservation initiatives, such as the GSLEP.

By agreeing on the joint POW, Range States showed their strong commitment to CAMI and to the conservation of migratory mammals and their ecosystems. Now is the time for action and for taking decisive measures to eliminate barriers to migration, protect habitat from degradation, fight poaching and illegal trade and work together across boundaries. Concerted efforts and partnerships between concerned governments and stakeholders, including the private sector and local communities, are required. CMS through the CAMI can support the countries in those efforts. CMS has brought stakeholders together around one table to talk - now these words need to be

followed by actions and CMS is determined to mobilize any support needed to help countries make their commitments reality.



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