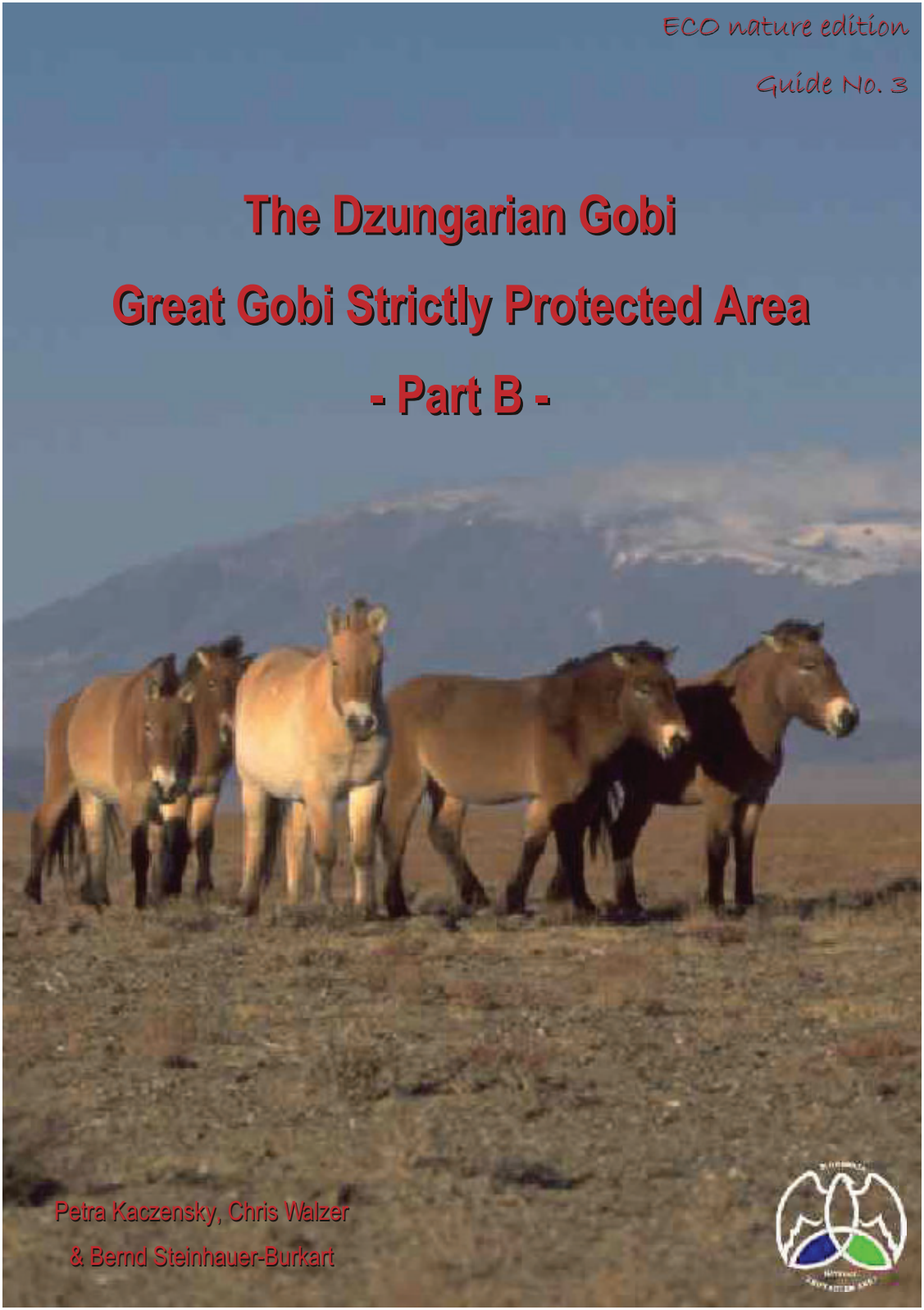
ECO nature edition

Guide No. 3

The Dzungarian Gobi

Great Gobi Strictly Protected Area

- Part B -



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Protected Areas in Mongolia

National Parks	area (km²)	Strictly Protected Areas	area (km²)
Siilkhem Mnt. - B	779	Uvs Lake	5,725
Siilkhem Mnt. - A	699	Tsagaan Shuvuut Mnt.	234
Altai Tavan Bogd	6,592	Turgen Mnt.	1,206
Khan Khokhii Mnt.	2,218	Altan Els	1,502
Khyargas Lake	3,415	Khokh Serkh Mnt.	758
Tsambagarav Mnt.	1,138	Khasagt Khairkhan Mnt.	268
Khar Us Lake	8,537	Great Gobi - B	9,259
Khovsgol Lake	8,453	Great Gobi - A	46,369
Tarvagatai Mnt.	5,481	Khoridol Saridag Mnt.	1,886
Myangan Ugalzat Mnt.	652	Otgontenger Mnt.	906
Tujiin Nars	717	Bogd Khan Mnt.	414
Onon Balj - B	1,065	Daguuriin Mongol - A	904
Onon Balj - A	2,954	Daguuriin Mongol - B	153
Gorkhi - Terelj	2,920	Khan Khentii Mnt.	12,311
Khorgo Trekhiin Tsagaan Nuur	770	Nomrog Mnt.	3,211
Noyon Khangai	567	Domod Mongol	5,890
Khangain Mnt.	9,077	Gobi Small - B	6,818
Gobi Gurvan Saikhan Mnt.	26,994	Gobi Small - A	11,500
	83,028		**109,315**

Complying with international regulations since 1992, Mongolia classifies its protected areas in four categories. Of these, map shows the Strictly Protected Areas and the National Parks (area per 1,000 ha).

In addition, there are **16 Nature Reserves** with a total area of **1,813,290 ha** and **6 Natural and Historical Monuments** with a total area of **79,305 ha**.

FOREWORD

The idea of nature conservation has undergone changes over time, and varies with human settings. Between the idea of leaving nature to herself, and subduing nature to human use, an attitude of reconciling nature with man, today seems the golden midway. Mongolians have kept their strong bonds with nature across all changes in development of society and political systems. Maybe this is why here, we can find models for this kind of environmental sound co-existence nowadays.

In Mongolia presently 13 percent of the territory enjoy a national protection status. Another one million hectares are locally protected. Sustainable development measures are taking place in buffer zones, which serve as transition zones between protected areas and the outside. Here, local people produce valuable goods like prime quality cashmere, camel wool or traditional dairy products. In part this is only possible because of the many endemic plants on which the livestock feeds. To the development of the protected area network in Mongolia, substantial contributions have been made by the international donor community. Support has been granted by UNDP, UNEP and World Bank, as much as by the German and Netherlands' governments through GFF, GTZ and other bodies.

Since Nature has her own dynamics nobody can tell if conservation will achieve to keep her in a static state. Invasive activities of Mongolians, such as hunting, have mostly been absorbed by nature's regulatory mechanisms. Yet, where human action has exhausted nature's adaptability it is our duty to try and correct the imbalance. The reintroduction of the takhi (Equus przewalski) back into its native habitat is such an action. Poaching and other man-induced factors had brought these believed-to-be wild ancestors of our domestic horse to the brink of extinction. The project described in this booklet aims to bring the takhi back. After the early successful history of reintroducing ungulate species like the oryx to Oman and Tunisia in 1980s, the re-introduction of the takhi to Mongolia is another worldwide unrivalled experiment.

This endeavour has been successful thanks to tireless efforts by many people from all over the world. From the Mongolian side success was guaranteed by enthusiastic politicians like Dr. D. Maidar, professionals and naturalists like O. Dorjraa and J. Tserendeleg, whose lifelong dedicated service on behalf of the takhi and other endangered species is well known in Mongolia.

Mongolia has a lot of scientific literature about nature conservation and environmental protection. But in the good tradition of ECO Nature guides, this portrayal of part B of the Great Gobi Strictly Protected Area is the third booklet to introduce the interested reader to the treasures of Mongolia's protected areas and national parks. I am confident that this very informative and colorful brochure will find many readers among our visitors and guests, students and young scholars, and of course among the general public who love pristine landscape and local culture.

Dr Z.Batjargal,
The Society for National Parks of Mongolia

Mongolia Facts

Location: Central Asia, between China and Russia

Geographic coordinates: 46.00 N, 105.00 E

Area: 1.565 million km² (slightly smaller than Alaska, more than 4 times larger than Germany)

Land boundaries:
total: 8,114 km, no coastline (landlocked)
border countries: China (4,673 km shared borderline), Russia (3,441 km shared borderline)

Climate: desert; continental (large daily and seasonal temperature ranges)

Terrain: semi-desert and desert plains; mountains in west and southwest; Gobi Desert in southeast

Elevation extremes:
lowest point: Hoh Nuur 518 m
highest point: Tavan Bogd Uul 4,374 m

Natural resources: oil, coal, copper, molybdenum, tungsten, phosphates, tin, nickel, zinc, wolfram, fluorspar, gold

Land use:
arable land: 1%
permanent pastures: 80%
forests and woodland: 9%
other: 10%

Population: 2,617,379

Population growth rate: 1.45%

Total fertility rate: 2.6 children born/woman

Life expectancy at birth: 61.81 years

Ethnic groups: Mongol 90%, Kazakh 4%, Chinese 2%, Russian 2%, other 2%

Religions: predominantly Tibetan Buddhist, Muslim 4%
(religious activity was suppressed in communist times)

Languages: Khalkha Mongol 90%, Turkic, Russian, Chinese

Contents

The Great Gobi Ecosystem

The Great Gobi Strictly Protected Area (SPA) was established in 1975 and encompasses 53,000 km² of fragile desert steppe and desert habitat. In 1991, the United Nations designated the Great Gobi an international Biosphere Reserve, the largest in Asia and the forth largest in the world. The Gobi desert is home to several rare or globally threatened large wildlife species such as the Bactrian camel (*Camelus bactrianus ferus*), the Asiatic wild ass or khulan (*Hemionus hemionus spec.*), the Przewalski's horse or takhi (*Equus przewalskii*), the black tailed gazelle (*Gazella subgutturosa*), the argali sheep (*Ovis ammon*), the Gobi brown bear (*Ursus arctos gobiensis*), and the snow leopard (*Uncia uncia*). In total, scientists have identified 410 different plants species, 49 mammals, 15 reptiles and amphibians and over 150 birds. The Great Gobi SPA consists of two distinct parts: the Great Gobi A (Southern Altai Gobi) with ~44,000 km² and the Great Gobi B (Dzungarian Gobi) with ~9,000 km² **(Map I)**. The Great Gobi SPA stretches over three provinces: Bayanhongor, Gobi-Altai, and Khovd.

Both parts differ not only in size but also in respect to climate, flora and fauna and most important in the intensity of human use.
The Gobi A is largely untouched by people, due to the remoteness of the area and the scarcity of water **(1)**, and is probably best known for two highly threatened wildlife Species: the wild bactrian camel **(2)** and the Gobi bear **(3)**.
The Gobi B is and always has been an important grazing area for nomadic herders - about 100 families with about 60,000 heads of livestock use the park mostly in winter and during the spring and fall migration **(4+5)**. Wildlife for which the Gobi B is best known are two Equid species: the Przewalski's horse **(6)** and the Asiatic wild ass.

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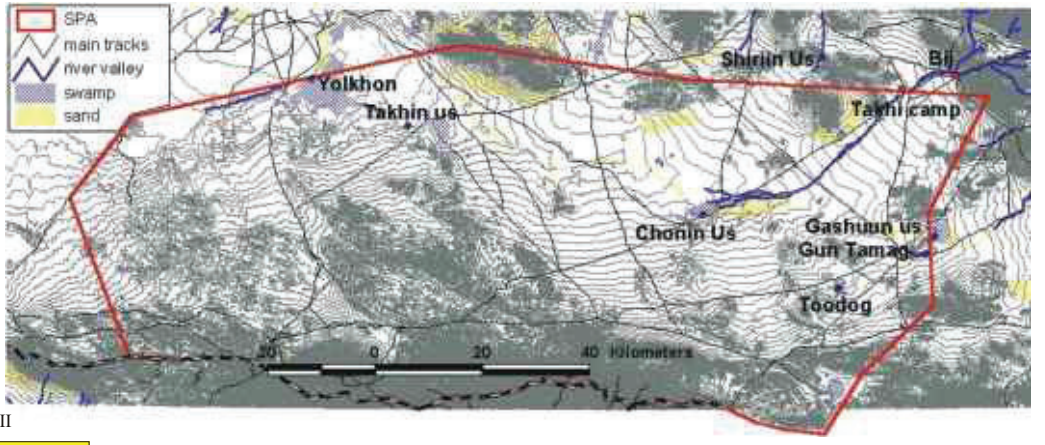
The Gobi B Strictly Protected Area (SPA)

There are six large water points (Yolkhon, Takhin Us, Chonin Us, Gashuun Us, Gun Tamag and Toodog) and one intermittent river (Bij river) in the park. The heart of the park are the water points of which Chonin Us and Takhin Us both stretch over several kilometres and are unoccupied by people **(Map II)**.

The Bij river is dammed where it leaves the high mountains, just behind Bij village. The water is used to irrigate small fields near Bij and powers an aging turbine that provides the village of Bij with a few hours of electricity most evenings. Depending on water availability and demand, the Bij river is temporarily allowed to flow a few kilometers into the park.

The area is dominated by plains with relic low mountains in the east and rolling hills country in the west. Elevations range from 1,000 m near the north-western corner of the park up to 2,900 m along the Mongolian-Chinese border in the south-central part. Ninety-nine percent of the national park is a semi-arid to arid desert of rocks, wind-blown sand and local alkali flats, of which over 70% is semi-arid steppe. **(7+8)**



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Climate

The climate of the Gobi B SPA is extreme, continental with long cold winters and short, hot summers. The temperatures range from -40°C in winter to +40°C in

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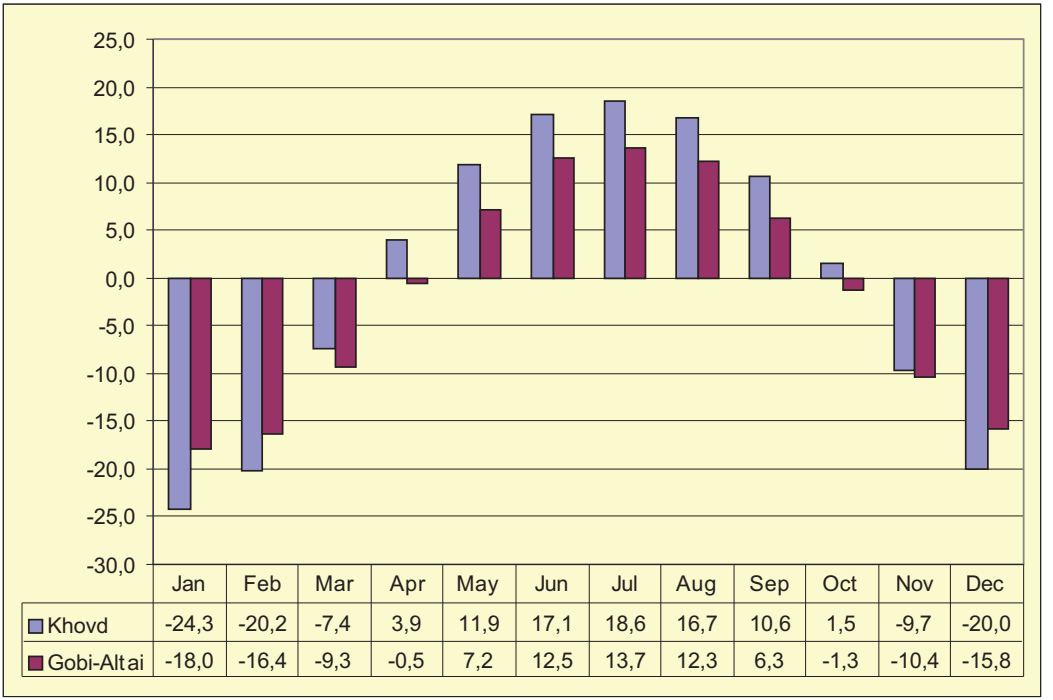
average monthly temperatures



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Khovd	-24,3	-20,2	-7,4	3,9	11,9	17,1	18,6	16,7	10,6	1,5	-9,7	-20,0
Gobi-Altai	-18,0	-16,4	-9,3	-0,5	7,2	12,5	13,7	12,3	6,3	-1,3	-10,4	-15,8

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summer **(9+III)**. Average yearly rainfall is in the magnitude of 100 mm throughout the park, with most precipitation during the summer months **(10+IV)**.

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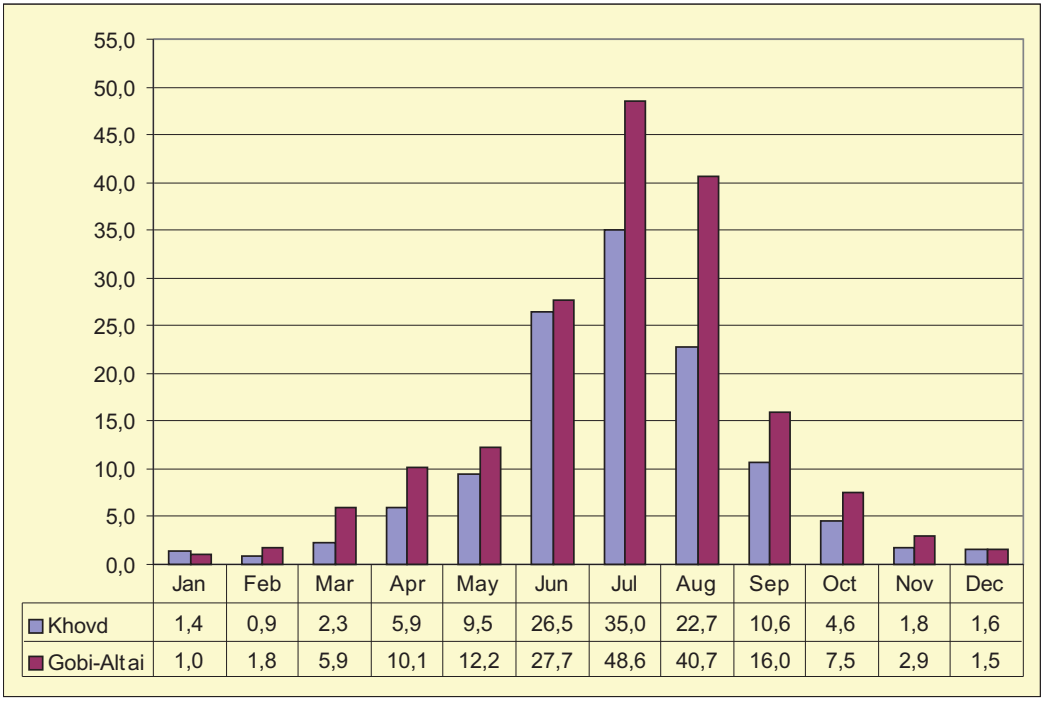
average monthly rainfall



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Khovd	1,4	0,9	2,3	5,9	9,5	26,5	35,0	22,7	10,6	4,6	1,8	1,6
Gobi-Altai	1,0	1,8	5,9	10,1	12,2	27,7	48,6	40,7	16,0	7,5	2,9	1,5

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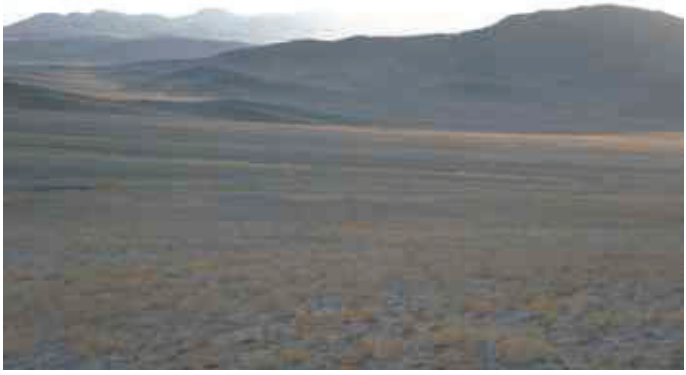
Steppe and mountain steppe areas

Most people probably picture the Gobi as a vast flat landscape **(14)** largely covered with sand. However, sandy areas are rather rare.
In the Gobi B the steppe is



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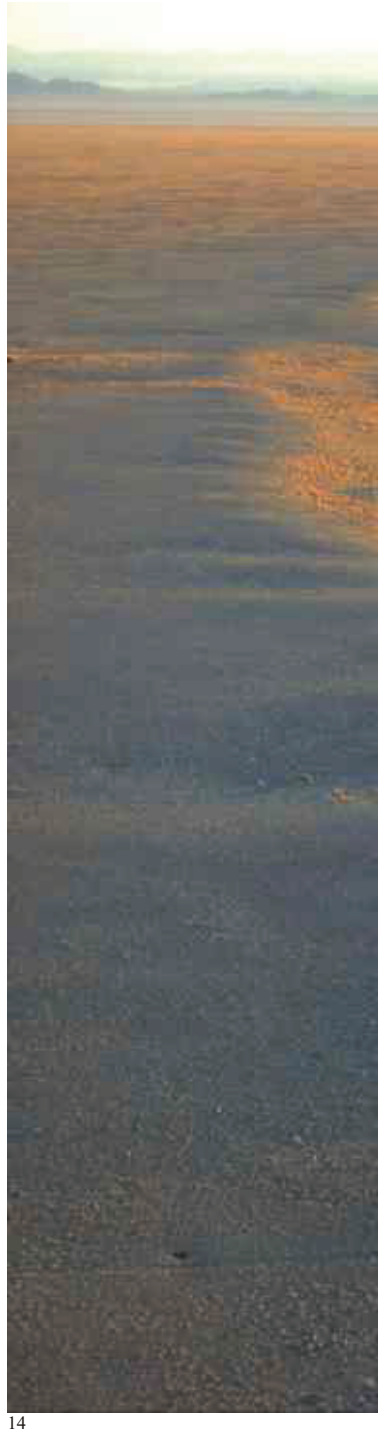

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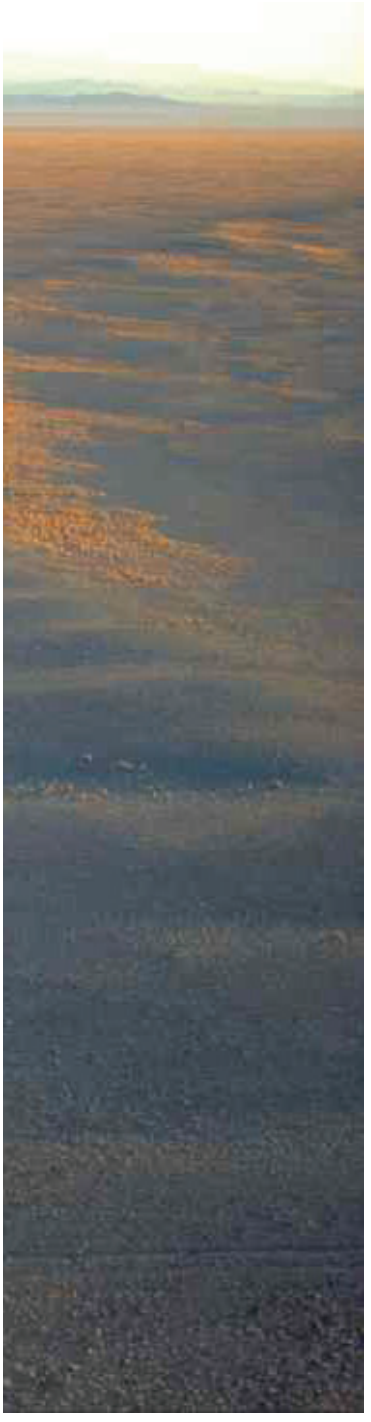

intermingled with small mountain ranges in the east **(11,12,13,16,17)** and consists largely of rolling hill country in the west **(15)**. The park is flanked by high mountains: the southern tip of the Altai range along the northern border and the Takhin shar nuruu range in the south.

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Water points

In the desert steppes of the gobi, plant and animal life is closely linked to water. Therefore the large water points like Chonin Us, Takhin Us and Yolkhon are the heart of the park. Chonin Us and Takhi Us are of particular importance as they are the only water points were there is no gers all year round. The water holes, pastures and saxaul *(Haloxylon ammoden-dron)*, a woody shrub steppe around Chonin Us are impor-tant winter habitat for takhi **(18)** and are inten-sively used by gazelles and wild ass during the summer. Multiple shorebirds and duck species can be found here in summer and during spring and fall migration. Takhin Us the "spring of the takhi" has in the past been an important area for the wild horses. With the Takhi population growing in Takhin Tal, this water point will hopefully be used by takhis again in the near future.

Yolkhon consists of a mix of salt marshes, sedge and grass steppe and fresh water holes. To the north, Yolkhon is bordered by a band of sand dunes **(21)**. Along these dunes downy poplars grow **(22)** and more than 20 families spend the winter month sheltered by the dunes. At the northern tip of Yolkhon there is a salt pen, where people produce high quality salt for human consumption. Almost all people living in the vicinity of the park receive their salt from here. Due to the high evaporation rate, salt crusts build around most water points, as seen near Toodog **(19+20)**.

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Plant life

The Mongolian researcher G. Tserenbaljid recorded 204 plant species from 42 families in the Takhin Tal region in 1991-92 and classified their economical value: 113 medicinal plants, 83 bee plants, 16 species with ether substances, 15 food plants, 33 poisonous plants, 2 technical plants, 12 decorative plants, and 7 anti-sand movement and soil protection plants. Dominant plant families are grasses (Poaceae, e.g. *Stipa*), daisy or sunflower plants (Asteraceae, e.g. *Artemisia*), legume plants (Fabaceae, e.g. *Caragana*, *Halimodendron*(**25**)), and goosefoot plants

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(Chenopodiaceae, e.g. *Haloxylon*). In spring time wild onions (*Allium polyrrhizum*) cover the steppe and lilies (*Iris tenuifolia* **(24)**) are found in the sandy areas. Wild rhubarb (*Rheum nanum* **(26)**) is a sought food plant for both humans and animals.

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In the central and north-western parts of the park you will find large areas mostly covered by saxaul **(27)**. Most saxaul bushes are rather small and overuse by humans might threaten the future of this woody bush that exists only in Central Asia.

The sand dunes at the northern edge of Yolkhon are one of the few places where you will find trees, downy poplars (*Populus diversifolia*) in the Gobi B SPA **(28)**.

In spring time a slight green tone starts to mingle into the dominant brown and yellow of the gobi desert **(29)** and an unexpected variety of small flowers starts to show up.

Along springs and water points lush green vegetation can be found during the summer months **(30)**. Only few wild ungulates stay in the immediate vicinity of the water because of an overabundance of bloodthirsty insects.

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Mammals & Reptiles

Many small creatures inhabit the Gobi B SPA, most of which are active at night, like the long-eared hedgehog (*Erinaceus auritus* **(31)**).

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However, it is the rodents, that dominate the Great Gobi B ecosystem. Twenty-five different species can be found, among those 9 different jerboas, 4 jerbis **(32+33)** and 6 different hamsters. Commonly observed can be the midday jerbil *(Meriones meridianus)***(32)** sometimes even in the ger .

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The hare family is represented by two species: the Tolai hare (*Lepus tolai*) and the Mongolian pika (*Ochotona pallasii*). Besides these small creatures several ungulate species inhabit the park, the most common being the black-tailed gazelles (*Gazella subgutturosa*). The fawns are born in June and during their first days of life it is camouflage they relay on for protection **(34)**. With increasing age fawns follow their mothers and soon become as fast runners as the adults **(35)**, able to outrun predators like the grey wolf (*Canis lupus*). Wolves can be found throughout the park, but due to intensive persecution, they are wary of humans. Most often only tracks **(36)** and scats **(37)** tell of their presence.

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The same is true for the cats species inhabiting the park. In the very south-western corner of the park there is a small population of snow leopards *(Uncia uncia)* and lynx (*Lynx lynx*). Pallas cats (*Felis manul*) seem to be rather common, but are difficult to spot. Foxes on the other hand, both red fox (*Vulpes vulpes*) and Korsac fox (*Vulpes corsak*) can be regularly seen. The small and large mountain ranges are inhabited by Siberian ibex (*Capra sibirica*) and a few argali sheep (*Ovis amon*). If you are lucky you may find old rock carvings of animals like ibex **(38)**.

The reptile fauna is quite limited and only 6 species can be found. Whereas most species are rarely seen, the toad-headed Agama or horned lizard (*Phrynocephalus versicolor* **(39+40)**) seems to be everywhere during the summer time.

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Birds

During field work in the western part of the Gobi B SPA ninety-seven different species of birds were observed. Some of them are breeders and stay in the area during spring and summer time or even the whole year round, some can be seen only during migration.
The most common bird species are the Isabelline wheatear (*Oenanthe isabellina* **(41)**) and the Horned lark (*Eremophila alpestris* **(42)**). The Horned lark is one of the few open breeders, i.e., it builds its nest on the ground. The majority of the songbirds, however, breeds well hidden below stones or in the burrows of small mammals. The Isabelline wheatear, for example, raises its brood up to 3 metres away from the entrance of a burrow. This is probably the best and only way to escape the negative impacts of heavy winds and extreme temperatures. Typical species of hills and mountains are the Rock thrush *(Monticola saxatilis),* the Grey-necked bunting *(Emberiza buchanani),* or the Desert wheatear *(Oenanthe deserti)*. Like most songbirds, they are not abundant. This is probably because their food is generally scarce. These birds mainly feed on insects, which are quite rare as a consequence of the harsh environmental conditions.

In spring, large flocks of Demoiselle cranes (*Anthropoides virgo* **(43)**) can be seen and several pairs even breed in the park. The nest of these impressive birds consists of small pebbles only. A female normally lays two eggs and both parents breed for four weeks. The offspring leave the nest within a few hours after

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hatching and are regularly brooded by the adults afterwards. In addition to the breeding pairs, some flocks of non-breeders spend the summer in the area. In Mongolia, cranes are considered auspicious birds and are therefore protected by cultural tradition.

Twelve species of raptors can be seen in this area **(44** Upland buzard**, 45** Griffon vulture**)**, the most impressive being the Black vulture *(Aegypius monachus)* **(46)**, the Bearded vulture (*Gypaetus barbatus*), the Steppe eagle *(Aquila nipalensis)* and the Golden eagle (*Aquila chrysaetos*). Considering the large distances and the scarcity of many species of birds, observations are most success-fully done by telescope, the use of a scope is highly recommended. This is the best way to see many species but to avoid disturbances in this fragile ecosystem.

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A typical bird of the dry steppes of Central Asia is the Pallas' sandgrouse *(Syrrhaptes paradoxus)* **(47+48)**. Because of its herbivorous diet, the birds must visit water places during hot weather. Large flocks can be observed at springs twice a day, mainly in the morning and evening hours. They breed on the ground in the dessert steppe, many kilometers away from water. they fetch water for the young from the nearest water source in their speacelly adapted chest feathers.

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Species (english)	Species (latin)	Status
Blyth's Reed Warbler	*Acrocephalus dumetorum*	breeding
Common Sandpiper	*Actitis hypoleucos*	unknown
Black Vulture	*Aegypius monachus*	breeding
Skylark	*Alauda arvensis*	breeding
Shoveler	*Anas clypeata*	migratory
Wigeon	*Anas penelope*	migratory
Mallard	*Anas platyrhynchos*	unknown
Bar-headed Goose	*Anser indicus*	migratory
Demoiselle Crane	*Anthropoides virgo*	Breeding
Richard's Pipit	*Anthus richardi*	migratory
Water Pipit	*Anthus spinoletta*	migratory
Swift	*Apus apus*	breeding
Pacific Swift	*Apus pacificus*	unknown
Golden Eagle	*Aquila chrysaetos*	unknown
Steppe Eagle	*Aquila nipalensis*	breeding
Grey Heron	*Ardea cinerea*	Migratory
Little Owl	*Athene noctua*	breeding
Pochard	*Aythya ferina*	migratory
Tufted Duck	*Aythya fuligula*	migratory
Eagle Owl	*Bubo bubo*	breeding
Mongolian Trumpeter Finch	*Bucanetes mongolicus*	breeding
Goldeneye	*Bucephala clangula*	migratory
Upland Bussard	*Buteo hemilasius*	breeding
Greater Short-toed Lark	*Calandrella brachydactyla*	Breeding
Scarlet Rosefinch	*Carpodacus erythrinus*	breeding
Little Ringed Plover	*Charadrius dubius*	unknown
Ringed Plover	*Charadrius hiaticula*	unknown
Greater Sand Plover	*Charadrius leschenaultii*	breeding
Marsh Harrier	*Circus aeruginosus*	migratory
Rock Dove	*Columba livia*	breeding
Raven	*Corvus corax*	breeding
Carrion Crow	*Corvus corone*	unknown
Eurasian Cuckoo	*Cuculus canorus*	migratory
House Martin	*Delichon urbica*	breeding
Grey-necked Bunting	*Emberiza buchanani*	breeding
Reed Bunting	*Emberiza schoeniclus*	unknown
Horned Lark	*Eremophila alpestris*	breeding
Saker Falcon	*Falco cherrug*	breeding
Lesser Kestrel	*Falco naumanni*	breeding
Peregrin Falcon	*Falco peregrinus*	breeding
Kestrel	*Falco tinnunculus*	breeding
Snipe	*Gallinago sp*	migratory
Bearded Vulture	*Gypaetus barbatus*	breeding
Griffon Vulture	*Gyps fulvus*	migratory
Himalayan Vulture	*Gyps himalayensis*	migratory
Black-winged Stilt	*Himantopus himantopus*	migratory
Swallow	*Hirundo Rustica*	breeding
Great Grey Shrike	*Lanius excubitor*	breeding
Isabelline Shrike	*Lanius isabellinus*	breeding
Black-headed Gull	*Larus ridibundus*	Unknown
Bluethroat	*Luscinia svecica*	migratory
Smew	*Mergus albellus*	migratory
Black Kite	*Milvus migrans*	unknown
Rock Thrush	*Monticola saxatilis*	breeding
Snow Finch	*Montifringilla nivalis*	breeding

Species (english)	Species (latin)	Status
Grey Wagtail	*Motacilla cinerea*	unknown
Citrine Wagtail	*Motacilla citreola*	unknown
Curlew	*Numenius arquata*	migratory
Little Whimbrel (?)	*Numenius minutus*	migratory
Desert Wheatear	*Oenanthe deserti*	breeding
Isabelline Wheatear	*Oenanthe isabellina*	breeding
Northern Wheatear	*Oenanthe oenanthe*	breeding
Pied Wheatear	*Oenanthe pleschanka*	migratory
Eurasian Scops Owl	*Otus scops*	breeding
House Sparrow	*Passer domesticus*	breeding
Tree Sparrow	*Passer montanus*	unknown
Gray Partridge (?)	*Perdix perdix*	unknown
Rock Sparrow	*Petronia petronia*	breeding
Cormorant	*Phalacrocorax carbo*	migratory
Evermann's Redstart	*Phoenicurus erythronota*	migratory
Güldenstädt's Redstart	*Phoenicurus erythrogaster*	migratory
Black Redstart	*Phoenicurus ochruros*	breeding
Redstart	*Phoenicurus phoenicurus*	migratory
Chiffchaff	*Phylloscopus collybita*	migratory
Sulphur-bellied Warbler	*Phylloscopus griseolus*	breeding
Pallas's Leaf Warbler/Yellow-browed Warbler	*Phylloscopus inornatus/proregulus*	Migratory
Magpie	*Pica pica*	unknown
Brown Accentor	*Prunella fulvescens*	unknown
Black-bellied Sandgrouse	*Pterocles orientalis*	migratory
Crag Martin	*Ptyonoprogne rupestris*	breeding
Chough	*Pyrrhocorax pyrrhocorax*	unknown
Red-fronted Serin	*Serinus pusillus*	unknown
Common Tern	*Sterna hirundo*	unknown
Rose-coloured Starling	*Sturnus roseus*	breeding
Lesser Whitethroat	*Sylvia curruca*	migratory
Desert Warbler	*Sylvia nana*	Unknown
Palla's Sandgrouse	*Syrrhaptes paradoxus*	breeding
Ruddy Shelduck	*Tadorna ferruginea*	unknown
Red-billed Shellduck	*Tadorna tadorna*	unknown
Altai Snowcock	*Tetraogallus altai*	unknown
Wallcreaper	*Tichodroma muraria*	unknown
Green Sandpiper	*Tringa glareola*	unknown
Greenshank	*Tringa nebularia*	migratory
Redshank	*Tringa totanus*	migratory
Black-throated Thrush	*Turdus ruficollis*	migratory
Hoopoe	*Upupa epops*	Migratory

Przewalski's horse extinction and return

It was the eminent Polish explorer Colonel Nicolai Przewalski who by order of Czar Alexander the second was exploring central Asia that rediscovered the wild horse for the western world. Having received a skull and the coat of an animal as a gift he brought it back to St. Petersburg where the museum conservator I.A. Poliakov concluded 1881 that they belonged to a newly discovered species. In honour of its discoverer it was named the Przewalski's horse (*Equus przewalskii*). A mere eighty years later the Przewalski's horse became extinct in the wild. The last recorded sightings of Przewalski horses or takhi in Mongolian, occurred in the Dzungarian Gobi in SW Mongolia.

The takhi only survived due to captive breeding. Based on 13 individuals and after many years of unsuccessful reproduction in zoos the captive population increased considerably by the end of the 1960s following the establishment of an international studbook. With the establishment of cooperative breeding programs such as the European Endangered Species Program (EEP) the takhi population boomed. The EEP now provides the stock for the reintroduction program to the Gobi B**(49)**.

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The Takhin Tal Project was initiated by the German businessman Christian Oswald and the Mongolian Society for the Conservation of Rare animals (MSCRA) of the Ministry of Environment with the support of various international sponsors. In 1999 the International Takhi Group was established to continue and extend this project in accordance with the IUCN reintroduction guidelines and based on sound science. In 1992 the first group of zoo born Takhi arrived at the Takhin Tal site at the edge of the 9000 km^2 Gobi B Strictly Protected Area and International Biosphere Reserve. Subsequent transports were carried out in the following years and to date a total of 73 horses have been transported. Transporting the horses to this remote area is a logistic challenge. The horses are loaded into crates in Switzerland and then flown with a large cargo plane directly to Ulaanbaatar. Here the horses have to be transferred to smaller airplanes which then fly the final 4-hour stretch and land directly on the desert strip in Takhin Tal **(50-53)**.

...short ITG, is an international trust founded in 1999. Members are various trusts, zoos and private people. ITG co-operates closely with the European Endangered Species Program (EEP), the Species Survival Programs (SSPs) and the IUCN Equid Specialist Group (IUCN = International Union for the Conservation of Nature, an organization of the UN) and the Mongolian Ministry of Environment. The Mongolian counterpart of ITG is the Mongolian Commission for the Conservation of Rare Animals. Together these two institutions run a research station in Takhin Tal at the NW corner of the Gobi B Strictly Protected Area.

More information about ITG And the research activities in Takhin Tal under:

http://www.takhi.org

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In 1997 the first harem group was released into the national park from the adaptation enclosures and two years later the first foals were successfully raised in the wild. In the spring of 2003 sixty-two Przewalski's horses were living in the Gobi B area. Whereas several horses are still in the adaptation enclosures awaiting there release, thirty-eight horses belonging to 3 harems and 1-bachelor group range freely in the Gobi B SPA **(54)**. The pale yellow horses with their distinctive eel-stripes can be

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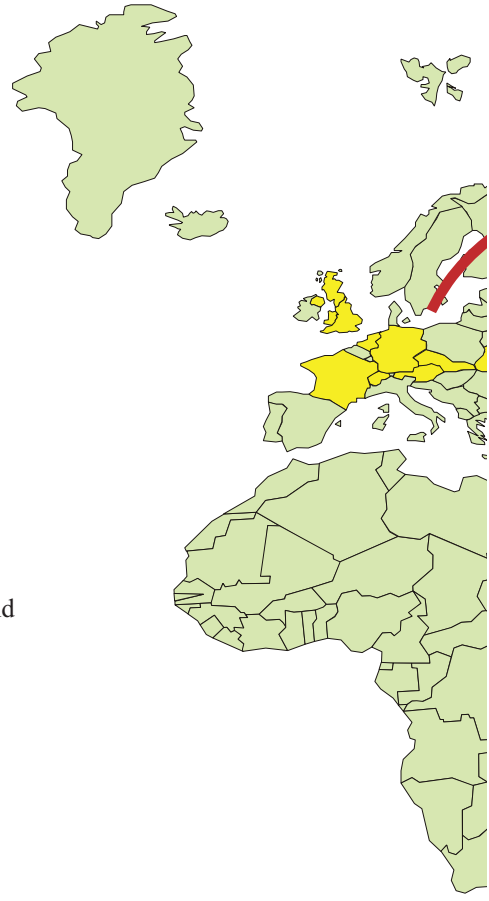
observed in the north-eastern area of the SPA **(55+56)**. They are easily confused with the Asiatic wild ass that is similar in stature and colour. In order to facilitate viewing it is best to visit the research centre and organize one of the local national park rangers as a guide. The weekly positions of the horses and wild asses are monitored by satellite telemetry and can be viewed at www.takhi.org

The following institutions have provided horses for the takhi re-introduction project in Takhin Tal, Gobi B Strictly Protected Area:

Dubbo Zoo, Australia
Monarto Zoo, Australia
Zoo Salzburg, Austria
Zoo Vienna, Austria
Zoo Prag, Czech Republik
Parc de Haute Touche, France
Saupark Springe, Germany
Wilhelma Zoo in Stuttgart, Germany
Zoo Berlin, Germany
Zoo Chemnitz, Germany
Zoo Halle, Germany
Zoo Karlsruhe, Germany
Zoo Köln, Germany
Zoo Nürnberg, Germany
Zoo Sababurg, Germany
Zoo Schwerin, Germany
Zoo Rotterdam, Netherlands
Zoo Bratislava, Slovakia
Wild Animal Park Bruderhaus at Winterthur, Switzerland
Wild Animal Park Langenberg, Switzerland
Werner Stamm Stiftung, Switzerland
Biosphere Reserve Askania Nova, Ukraine
Marwell Zoo, England
Whipsnade Wild Animal Park, England



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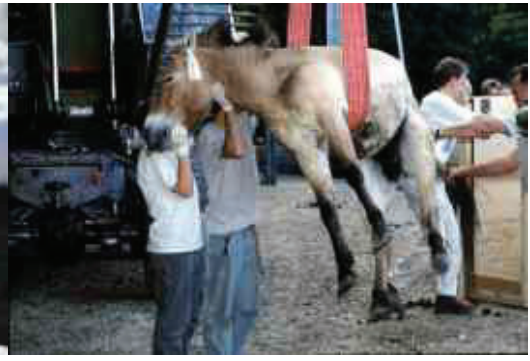

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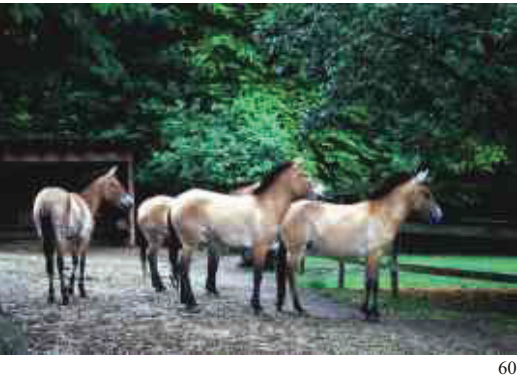

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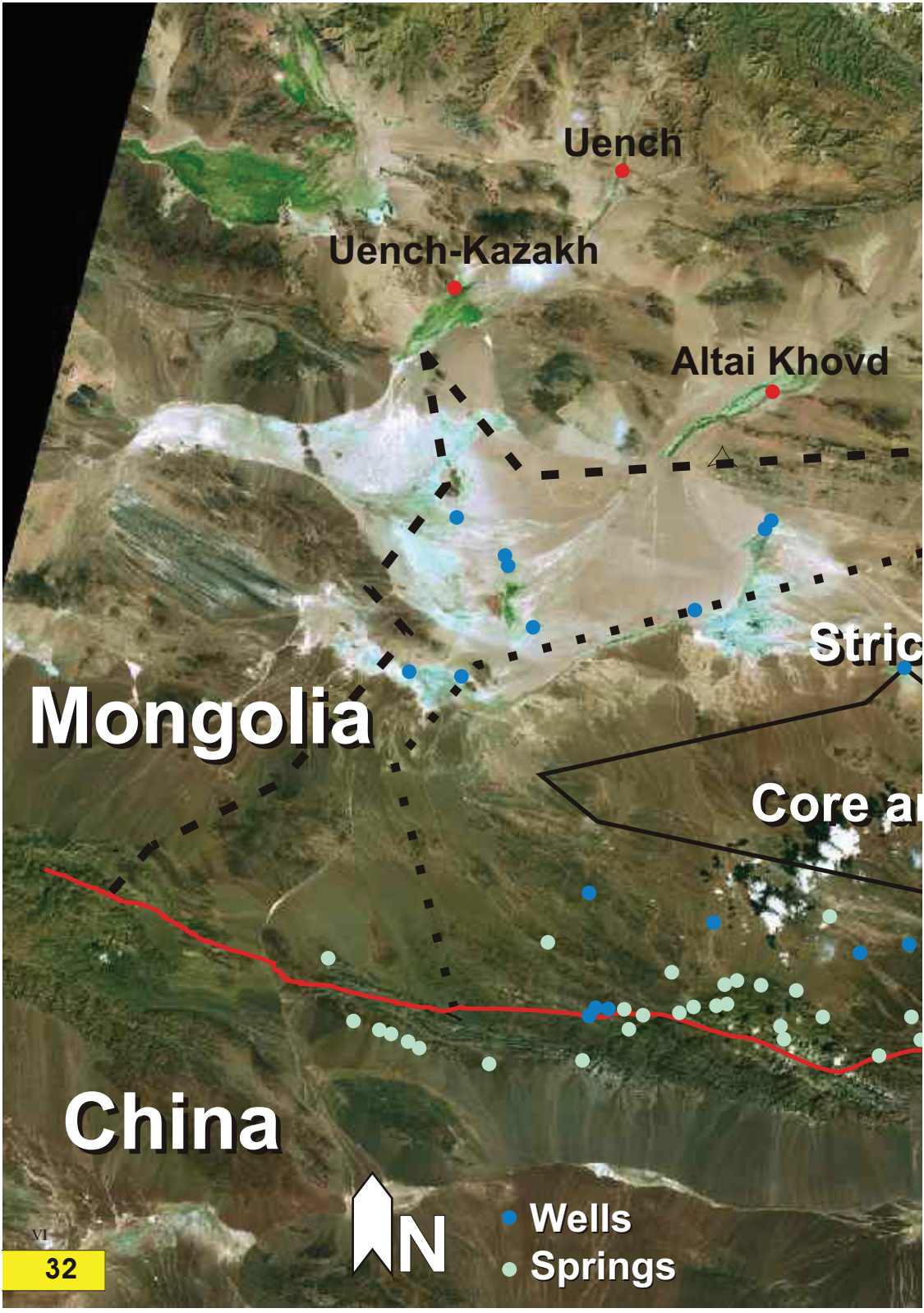
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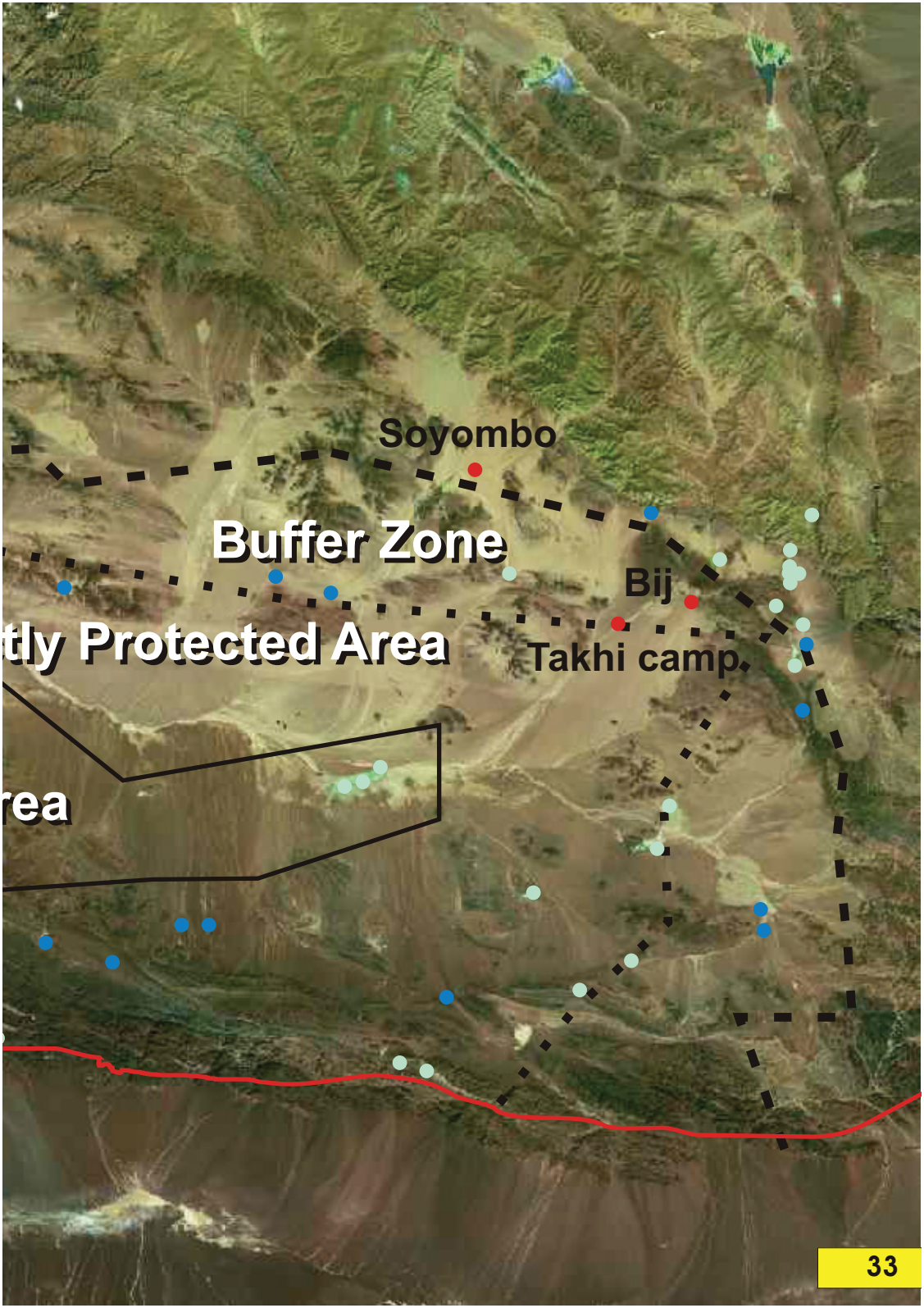
Soyombo
Buffer Zone
Bij
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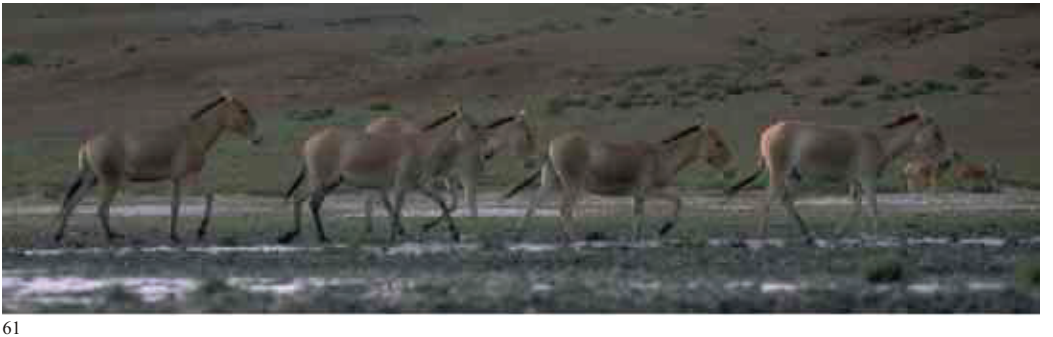
Takhi camp
rea

Asiatic wild ass the fast runner

Internationally the Asiatic wild ass **(61+62)** is listed in appendix I of the Convention of International Trade of Endangered Species (CITES) and in appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS). In the Equid Action Plan the status of the Gobi wild ass *(Equus hemionus)* called "khulan" by the Mongols - is qualified as "insufficiently known" and the species is listed as vulnerable. The latest population estimate is 19,000 to 20,000 and thus, southern Mongolia is nevertheless the most important stronghold of the Asiatic wild ass **(61)** globally. The Gobi B SPA is an important reserve for the khulan, being home to more than 1,500 animals.



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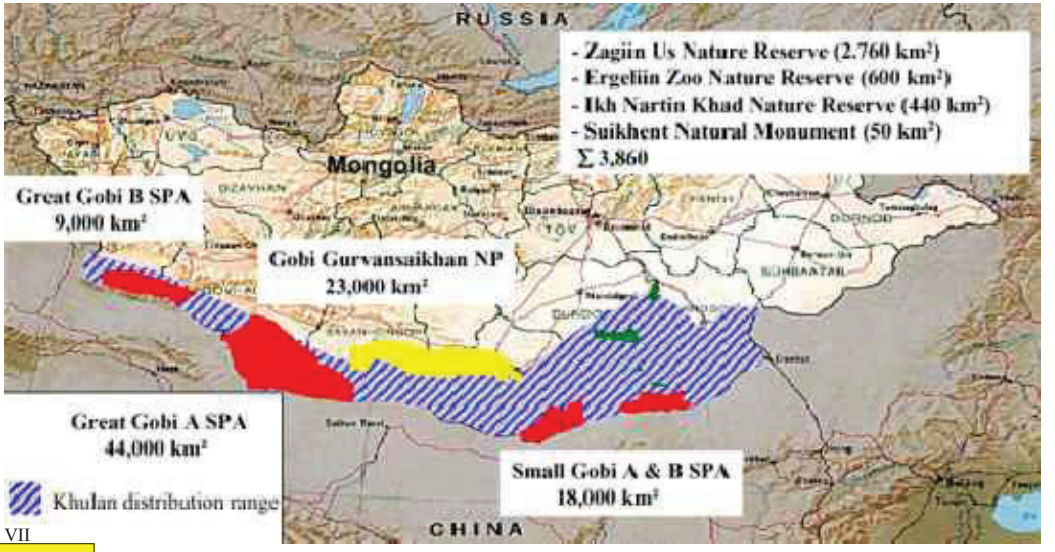
Hunting of khulan is prohibited since 1953 in all of Mongolia and the species has been included in the Red Data Book of Mongolia. However, due to human population growth in conjunction with severe winters in the past years, the occurrence of herder - khulan conflicts seems on the rise: *(1)* The presence of herders and their livestock at water points potentially interferes with khulan access to this vital resource, *(2)* Khulan populations are believed to grow and herders view khulans as pasture competitors for livestock resulting in increased pressure on the government to allow a reduction in khulan numbers,



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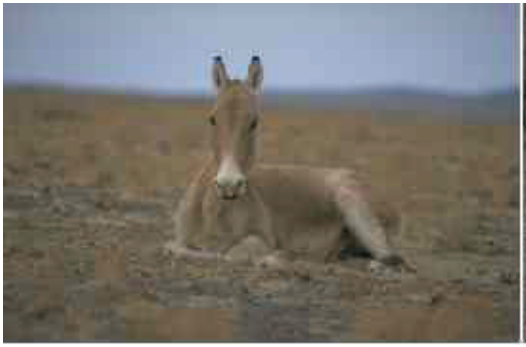

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(3) Massive livestock losses during the past years have led to an increased poaching pres-sure on khulans for meat **(63)**.
Research is an important pre-requisite to address herder-khulan conflicts and find compromises that guarantee the long-term survival of the khulan in Mongolia.

Monitoring of three khulans - two mares and one stallion - with ARGOS satellite collars in the Gobi B SPA shows the huge spatial requirements this species has **(65+66)**. Within six month each of the animals roamed over an area in excess of 5,000 km² and made use of all large water points in the park **(VIII)**. During late spring and summer, khulan predominantly stay in the eastern part of the park **(64)**, while in winter the majority of the khulans moves to the rolling hill country in the western part of the park. However, move-ments are almost exclusively confined to the 9,000 km² of the Gobi B SPA and khulan are rarely

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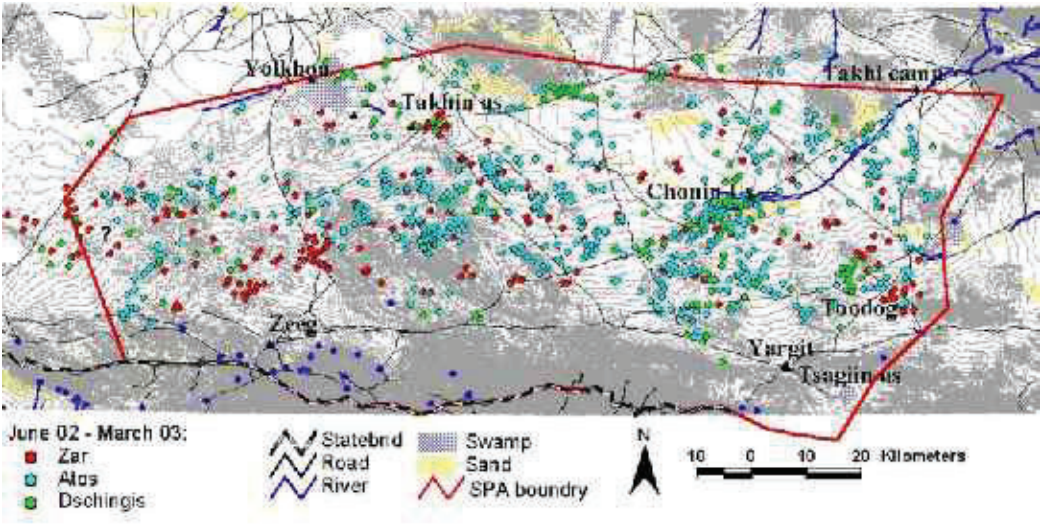
observed outside of the park.

In the Gobi B SPA khulan live in large herds of changing composition. The only stable unit seems the mare and her foal. Most foals are born in mid June and mares are bred again shortly after giving birth **(67)**. Breeding time is a time of heavy fighting between rivaling stallions. Where khulans aggregate, the air is filled with the dust from animals chasing each other and their donkey-like vocalizat-ions. Khulan are very shy probably due to illegal hunting and mostly run from a jeep when the vehicle is still several kilometers away. Khulans suffer great stress from being chased by vehicles, even if chasing means just diving parallel to the running animal. The best way to observe khulans is from a blind on hills near water points **(68)**. However care should be taken not to disturb the animals and not to block their access to the water.



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Livestock capital and threat

The Gobi B SPA is and has always been an important livestock grazing area **(69)**. Instead of a pristine wilderness the park is a cultural landscape sparsely populated, but not untouched by humans and their demands. The challenge of the Gobi B SPA is to integrate traditional Mongolian lifestyle and nature conservation. A contradiction? Not necessarily, as only the sustainable use of this unique ecosystem will provide a firm base for the Mongolian herding tradition.

In the Gobi desert almost 99% of the desert and desert steppe arid and semi-arid zones are used as natural pastures. The high growth rate of the human population (1.5%) and the attraction towards urban centres has resulted in a sharp increase of nomad families around urban centres, inten-sifying grazing pressure in these areas.

Desertification the spread of unproductive land deprived of vegetation is one of the main concerns in Mongolia. It has been estimated that over 78% of the total territory of Mongolia is under risk of desertification, of which nearly 60% is classified as highly vulnerable.

Although livestock grazing within the park has been great-ly restricted, around 100 herder families with close to 60,000 heads of livestock stay in the park during the winter months and use the traditional spring and fall migration routes through the park. All summer camps are located in the high mountains north of the park, but the military livestock and a large portion of the camel stock remain year round in the park. The status of the pastures in the Gobi B SPA has not been assessed, but compared to other parts of Mongolia pasture condition

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seems to be rather good. The most important livestock for a herder family are goats **(72)** and sheep. On average a herder family in the Gobi B SPA owns 450 sheep and goats, which provide the family with the most important products of every day life: meat, milk, cashmere, wool and hides. Fresh meat is the main diet in the fall and winter and is dried for consumption in spring and summer. Milk is an important ingredient of the traditional salty milk tea and is turned into various milk products like cheese **(70)**, curt, cream and yoghurt. Fermented milk is even destilled into vodka. Sheep wool is used to make felt or spun into wool. Wool, hides and cashmere are sold and generate the main cash income for most rural families in the Gobi B area. Sheep and goats are accompanied by a shepherd and his dogs during the day and come back to sleep around the ger, sometimes in a corral, during the night. Lambs and kids are kept close to the ger during

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their first days of life and often even spend the cold spring nights together with the family in the ger.
The average herder family also owns an additional 30 horses, 9 camels and 8 cattle or yaks. Horses are an important means of transportation and a fast racing horse is the pride of a herder family **(73)**. Some families milk the mares to produce the famous airag, the national drink of Mongolia. Cows and yaks are raised for meat and milk **(74)**.

Camels are well adapted for a live in the gobi. Contrary to horses and cows they can go without water for up to several days. Their thick winter fur protects them well from the cold, but is shed in summer time **(75+76+79+80)**. The wool is sheared off and spun with simple drop spindles to make rops and strings **(78)**. Camels were traditionally used to transport the gers and other belongings of the herder families and for riding during the cold winter month. Nowadays, most families move by truck **(77)**.

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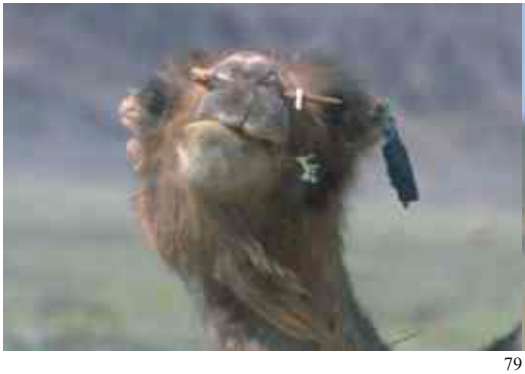

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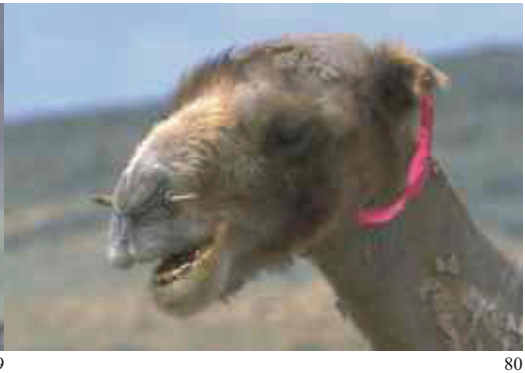

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Cashmere the gold of the Gobi

Around 50% of the Mongolian population depend on income generated by animal husban-dry and this sector generates 30% of the nation's GDP. Low world market prices for sheep wool and meat and the difficult economic situation in the former Soviet Union, the main export market for Mongolia in the past, resulted in a shift in livestock composition towards a higher percentage of cashmere goats **(81)**. With 3,000 tonnes of cashmere produced per year Mongolia is the second largest producer of cashmere in the world, second only to China, and provides about 21% of the world market. The Gobi region is the production centre of the cashmere industry in Mongolia. Cashmere originates from Kashmiri goats found in the Himalayas. The cashmere wool comes from the downy underfur of the goats' winter coat. In spring-time (mid/end of May) the goats are combed once, thereby removing the shedding underfur **(82-85)**. The average harvest is 250-300 grams of cashmere wool per year and goat. The quality of cashmere wool is measured by its length, texture, and the diameter of the fiber (16.5 microns in diameter is the international standard for defining goat hair as cash-mere) and is affected by the climate, and the quality of the pasture. Only when exposed to the harsh climate and rough fodder of the Gobi do the goats grow the high quality cash-mere. In 2002 one kilogram of cashmere sold for 20 US$.

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Most cashmere goats are white or light brown and produce the high priced white cashmere. Black goats, on the other hand, fetch lower prices because they have black underfur which is much harder to dye.

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Mongolian kitchen

Mongolian cooking is largely based on animal products: meat and milk in combination with rice, noodles and some vegetables like potatoes, beans, carrots and cabbage. Sheep are mainly slaughtered in fall, when they are the fattest. The most common breed is the fat-tailed sheep, which stores large amount of fat, a reserve for the long and cold winter, at the base of its tail. When slaughtering a sheep, people lay the animal on the back, cut a small slit in the belly and reach for the main artery which is quickly transected with the fingers. In this way the animal dies quickly and no blood is lost.

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Goat as a whole

Cut a hole at the backside of a freshly-killed goat and carefully remove all intestines, meat and bones (except head and lower legs) through the hole. Clean the bones of all meat and cut the meat in good-sized chunks. Start a fire and heat round rocks (~25 x 5 cm) until they are red-hot. Refill the goatskin Alternately with meat, some spices and the hot rocks. Close the back hole with wire and either position the filled goat on the hot ashes of your fire or use petrol torches to flame away the body hair and scrape the filled goat clean of hair on the

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outside. Wait for 45 min than cut open the goat and enjoy the meal! The hot rocks are good luck charms and handed to the guests.

Boots

Cut the meat in small pieces or grind with a meat grinder and add some salt (for foreigners: the spices you like, some onion and garlic). Prepare noodle dough by mixing flour, salt and water. Make a roll and cut off even sized slices. Roll slices thin (~2 mm) and round (~ 10 cm diameter). Fill with the raw meat and fold the edges together so that they form a nice pattern there are many different patterns! Steam for 20 min.

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Another typical Mongolian food is flour made of roasted barley. First the grains are roasted in the wok. Than the grains are crushed in a bowl and finally grinded by hand with the help of two grinding stones. The pole for turning the upper grinding stone is fixed at one of the ger roof poles, thus allowing smooth and regular grinding.

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flour is often mixed in the tea, stirred until it forms a gray paste to which sugar is added. Candies are always welcome and at the same time generously offered to guests.

As a guest to a ger one is always offered slightly salted tea. During the milk season it is milk tea (suutei zai) sometimes with a piece of butter, dried cream or cheese; in the wintertime it is just plain black tea. The barley

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Kazakh minority

Near the northwestern corner of the Gobi B SPA 150 Kazakh families settled in 1974. Like their Mongol neighbours they live in gers and raise livestock. However, they are Moslems instead of Buddhists **(103)** and their gers are larger, with steeper roofs **(102)**. These gers are not moved on a regular basis, rather it is only the men that move around with the herds, using tent-like structures while on the move. The gers are richly decorated with embroidering and warm felt mattresses **(101+105+106)**. Contacts between Kazakhs and Mongols are minimal and not free of prejudices: Kazakh gangs raided Mongolian livestock well into the 1970s. In addition, the different religion and a different language hinder easy ex-change.
The Kazakhs probably are best known for their tradition of hunting foxes with an eagle **(104)**.

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Management issues

Poaching

Poaching remains a management problem in the Gobi B SPA. Signs of poaching of khulan **(108)** and black tailed gazelle **(107)** can be found throughout the park and if you find signs of poaching please note date, location and species concerned and inform the park headquarter in Takhin Tal. If you are offered snow leopard pelts refuse the offer and inform the park headquarter or the police. Most poaching seems to take place in fall, when people prepare their winter food. Although local people know that hunting is not allowed in the park, most are not familiar with park regulations, nor aware of the high fines issued in 2002. Poaching black tailed gazelles is fined with 300 US$, poaching of khulan with 100 US$ **(109)**.

Poaching in the park is facilitated by the fact that wolf hunting is legal and that it is no criminal act to drive around with a gun. In addition, poachers have a low risk of being detected, as there are few rangers with limited mobility and no communica-tion system. Better equipment and higher wages are much needed to ensure regular patrols of rangers through the entire park.

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Saxaul collection

Especially in the western part of the Gobi B SPA collection of saxaul (Haloxylon ammodendron) - a woody brush - for firewood is widespread **(110)**. In the Altai-Khovd Aimag mostly saxaul and not animal dung **(112)** is used for heating and cooking in gers and buildings **(111)**. Human population numbers are increasing and so is saxaul consumption. At the present no alternatives to saxaul are provided to local people. With the highly inefficient stoves and the poor insulation of public buildings such as schools and hospitals it is not possible to replace saxaul with dung. Projects focusing on alternative fuel and more efficient stoves are much needed to minimize saxaul collection in the park **(111)**.

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Alternative income

Close to 11,000 people live in the vicinity of the Gobi B SPA and more than 100 families and their livestock use the park. Although this does not seem like many people, the carrying capacity of the fragile desert ecosystem is low.

At the moment main income is from livestock breeding and trade. In the rural communities livestock is the "bank" of the local people and the young animals born every year are the "interest rate" **(114)**. This system results in high stocking numbers and because of a growing human population will eventually result in overgrazing and habitat degradation.

Projects focusing on quality instead of quantity in regard to livestock and alternative income projects need to be initiated. In the long term nature conservation in the Gobi B SPA will only be successful, if it involves local people and provides incentives to cooperate with the park administration.

How to travel to and in the Gobi B SPA

The NW corner of the Gobi B SPA is 1,300 km straight line from Ulaanbaatar. There are two ways to reach the park: by airplane and car (1.5 days, optimal) or by car only (3-4 days, optimal). For the first scenario you fly with Mongolian airline MIAT from Ulaanbaatar to Gobi-Altai. The trip takes about 2.5 hours and in 2004 cost around 120 US$ one way and 210 US$ return. From Gobi-Altai you have to hire a jeep to drive to the Gobi B SPA **(116)**.

Please be aware that there is only about 300 km of paved road between Ulaanbaatar and Gobi-Altai and even those paved stretches are partly in very bad shape! In addition, roads are not marked and in places might be up to a kilometer abroad every driver tries to find a route with the least holes.

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Rivers should not be crossed without local guides and you should never assumed that bridges are in good condition! Always plan on jeep breakdowns **(117+118)** and take along enough spare drinking water (and food) for yourself and your Mongolian guides!

Plenty of cooling water for the jeep and spare petrol might also smooth your trip **(115)**.

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If you choose to travel all the way from Ulaanbaatar to Gobi-Altai you will pass the following landmarks/villages (GPS positions in decimal degrees, WGS 84):

Arvaykheer	town	46.26538 N	102.79164 E
Nariinteel	village	45.95717 N	101.47652 E
Bayanhongor	town	46.18186 N	100.72109 E
Khokhereg	village	45.95708 N	99.82031 E

If you travel to the Gobi B SPA from Gobi-Altai, you have to cross the southern tip of the Altai mountain range **(119)**. In early spring, late fall the track might be blocked by snow and during the summer by runoff water. Several alternative routes are available and information about the pass conditions should be asked from local people in Gobi-Altai. From Gobi-Altai to Takhin Tal you will pass the following landmarks/villages:

Gobi-Altai	town	46.37210 N	96.25310 E
Scharga	village	46.21130 N	95.28160 E
Tugrik	village	45.95470 N	94.98100 E
Bugat	village	45.55840 N	94.36580 E
Bij	village	45.55620 N	93.75630 E

Access to the Gobi B SPA is best from the NE corner through the headquarter **(120)** at Takhin Tal camp / park headquarter. All visitors should register there and discuss their plans and interests with the local rangers and researchers. Park entrance fees are 1,000 Tugrik per day for foreigners and 100 Tugrik per day for accompanying Mongolians. In addition, you have to pay 3,000 Tugrik per day and vehicle.

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Please be aware that off road driving is not allowed in the park. Tracks remain visible for many years and off road vehicle traffic damages the fragile desert vegetation **(121)**. Mongolians might not understand why they should not take a shortcut or want to be helpful by driving you to your destiny as close as possible. But keep in mind that it is your responsibility that your driver stays on the tracks! Also do not chase and harass wildlife. Driving high speed next to a herd of khulans might seem like a playful race, however for the animals it is associated with high stress and they might suffer from the effects for days!

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The following waypoints might be useful during a visit in the park:

Takhi camp	village	93.6517 E	45.5388 N
Ranger gers	village	93.6725 E	45.5470 N
Altai Khovd	town	92.2953 E	45.8078 N
Soyombo	village	93.3929 E	45.7051 N
Uench	town	92.0384 E	46.0560 N
Uench-Kazakh	village	91.7592 E	45.9321 N
Chonin Us	water place	93.1585 E	45.3251 N
Gashuun Us	water place	93.7081 E	45.2857 N
Shiriin Us	water place	93.4418 E	45.5868 N
Takhin Us	water place	92.4547 E	45.4718 N
Toodog Us	water place	93.4791 E	45.2005 N
Yolkhon	water place	92.2239 E	45.5487 N

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Naadam celebration

An important national holiday is the Naadam celebration Mongolia's Independence day on 11 and 12 of July. The biggest celebration is held in the capital Ulaan Baatar, and smaller ones in the province (Aimag) and regional (Sum) centres. On special occasions small Naadam might also be held in the country side. The Naadam celebration typically consists of the three "manly" sports: horse racing, wrestling and archery. The former two being the most important, the latter often missing on the smaller Naadams. For the horse races there are up to 6 different runs: the 1-year old horses, the 2-year old horses, the 3-year old horses, the 4-year old horses, the adult geldings and the adult stallions. Mares are never used for horse races. Due to their light weight, all horses are ridden by children aged 6-15 years **(124-126)**.

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The distances covered during the horse race depend on the terrain and age class of the horse and range between 12 km for the 1-year old horses to 25 km for the adult geldings and stallions. At the finish line the young riders are welcomed by an excited crowd of people: the horse breeders **(127)**, the parents and all other visitors. The fast running horses get decorated with blue scarves **(128)** and the horse breeder as well as the little jockey become much honoured people.

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Wrestling looks odd and highly symbolized to most westerners. The wrestlers wear the “Zodog Shuudag” short panties, a small top and big Mongolian boots. The competition starts with the eagle dance - imitating flying eagles and camel stallions during the rut; a demonstration of strength **(131)**. After the short dance the two rivals give their traditional hats to the referee (Zasuul). The wrestling starts and who touches the ground first with the elbow, knee, head or whole body has lost the competition **(129+130)**. The looser opens the belly string (Eleg bus) and has to dug under the right arm of the winner, gets a clap on the bum and leaves the arena. The winner re-dresses his hat and circles the Mongolian state flag once clock wise. He is than given small pieces of cake, dried curd, cheese, or sugar cubes, good luck charms often thrown into the audience. Winners are given titles on three levels, the National, the Aimak and the Sum. On the Sum level, the winner of 5 rounds gets the

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title “sum's falcon”, the winner the title “sum's elephant”. On the Aimag level it is “aimag's falcon” for 5 rounds, “aimag's elephant” for 7 rounds and “aimag's lion” for the winner. On the national level it is “state's falcon”, “state's elephant”, and “state's lion”. Wrestlers that win the national competition two time are called “state's champions”. Further titles are added until they win more than three times and become “Dalai, dayan, darkhan avarga” - national heroes.

A traditional greeting, which you will frequently see during any Naadam celebration is the exchange of snuff bottles **(132-134)**. The bottles are stored in small embroidered pockets tucked away in the del, the traditional Mongolian coat. The snuff bottles are typically carved out of stone. The lid is made of coral and is decorated with a band of silver, brass or gold and has a small spoon attached to it. A snuff bottle is always handed over by the donor with the right hand and is also accepted with the right hand by the recipient. If both people have a snuff bottle, the bottles are exchanged simultaneously with the right hands only. The recipient most often just slightly lifts the lid and politely sniffs the bottle. However, if you are offered a snuff bottle and feel like trying the snuff, you are welcome to try.

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in
progress

The Authors

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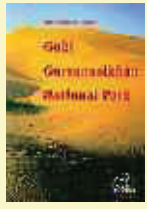

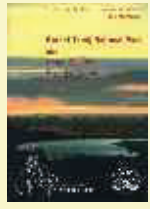

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