2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Mongolia, Russian Federation
Inscribed in: 2003
Criteria: (ix) (x)

The Uvs Nuur Basin (1,068,853 ha), is the northernmost of the enclosed basins of Central Asia. It takes its name from Uvs Nuur Lake, a large, shallow and very saline lake, important for migrating birds, waterfowl and seabirds. The site is made up of twelve protected areas representing the major biomes of eastern Eurasia. The steppe ecosystem supports a rich diversity of birds and the desert is home to a number of rare gerbil, jerboas and the marbled polecat. The mountains are an important refuge for the globally endangered snow leopard, mountain sheep (argali) and the Asiatic ibex. © UNESCO

SUMMARY

2020 Conservation Outlook

GOOD WITH SOME CONCERNS

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Overall the conservation outlook for Uvs Nuur Basin is good, but certain concerns exist. The main issue is related to continuous shrinking and degradation of the habitat of some endangered species such as argali due to expansion of areas used for livestock grazing. The long-term impact of climate change on the vegetation and hydrological regime of the site remains uncertain, but might be negative. Significant glacial retreat and desertification has already been observed in the area in response to increasing temperatures and climate change. Illegal hunting and forest fires constitute some lesser threats. A management framework is in place, but budget constraints prevent the responsible protected areas administrations from carrying out conservation and research activities effectively. Protection of the site could be further strengthened through more sustainable financing and increased staff capacity. Furthermore, there is a need for the establishment of a joint management framework between Mongolia and Russia. An updated joint management plan for the whole site was approved in 2018, which is positive. If this is effectively implemented, it may improve the conservation status of the site.
FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ Diversity of landscapes, ecosystems and habitats

Uvs Nuur basin is an ancient lake bed in the centre of Asia. It is remote, enclosed and pristine, and comprises a wide range of interconnected landscapes, ecosystems and habitats that jointly contribute to its Outstanding Universal Value under World Heritage criterion ix; the ecosystems enclose high-mountain, subalpine, tundra, mountain taiga, various steppe formations, river valleys with associated wetlands, and saline lakes (UNEP-WCMC, 2011). The closed salt lake system of Uvs Nuur is of international scientific importance because of its climatic and hydrological regimes. Because of the unchanging nature of the nomadic pastoral use of the grasslands within the basin over thousands of years, current research programmes should be able to unravel the rate at which Uvs Nuur (and other smaller lakes within the basin) have become saline (and eutrophic). These processes are on-going and because of its unique geophysical and biological characteristics, the basin has been chosen as an IGBP site for monitoring global warming (World Heritage Centre, 2014).

▶ Threatened and endemic plants

The flora and vegetation of Uvs Nuur reflects its wide range of habitats: 552 plant species have been recorded, 234 of them restricted to the mountains of southern Siberia and northern Mongolia; 52 are relict species, 19 are recorded as endemic to Mongolia and Tuva, but only five are endemic to Uvs Nuur: Astragalus polozhinae, Juncus salsuginous ssp.tuvinicum, Stipa barhanica, Astragalus tuvinicus and Zygophyllum pterocaprum ssp.tuvinicum (UNEP-WCMC, 2011). The vegetation zones are clearly layered by altitude. The joint management plan of the site lists even higher species numbers, among them many “rare” ones (Joint management plan, 2010).

▶ Rare and threatened bird species

The avifauna of the Uvs Nuur Basin series is similarly complex and habitat-depended as its mammal fauna. 359 bird species have been recorded (IUCN, 2003). Many of these are of international conservation importance, including the globally critically endangered Siberian Crane (Leucogeranus leucogeranus), the globally endangered Red-crowned Crane (Grus japonensis), the globally vulnerable Dalmatian Pelican (Pelecanus crispus), the globally endangered White-headed Duck (Oxyura leucocephala), the globally , vulnerable Great and Asian Houbara Bustards (Otis tarda and Chlamydotis macqueenii), the globally vulnerable Relict Gull (Larus relictus), the globally vulnerable Eastern Imperial Eagle (Aquila heliaca), the globally near-threatened Asian Dowitcher (Limnodromus semipalmatus) and both Cinnereus and Bearded Vultures (Aegypius monachus and Gypaetus barbatus, both near-threatened) (IUCN, 2017; UNEP-WCMC, 2011). Some of the migrating birds that use Uvs Nuur as a temporary habitat are rare: Bewick’s Swan (Cygnus columbianus), the globally vulnerable Lesser White-fronted and Red-breasted Geese (Anser erythrophus and Branta ruficollis), and the Baikal Teal (IUCN, 2017; UNEP-WCMC, 2011).

▶ Rare and threatened mammals

The various ecosystems of this complex serial property have distinct mammal faunas. 173 species of mammals have been reported for the Mongolian part of the property alone, while the corresponding number for the Tuvan reserves appears to be 72 (UNEP-WCMC, 2011). These include the globally endangered Snow Leopard (Uncia uncia) (IUCN, 2017). There is active research into the conservation of this species (Anonymous 2010). Other mammal species of global conservation concern include the globally endangered Siberian Marmot (Marmota sibirica), the globally vulnerable Siberian Musk Deer
(Moschus moschiferus), the globally vulnerable Marbled Polecat (Vormela peregusna), the globally near-
threatened Argali (Ovis ammon), the globally near-threatened Pallas’s Cat (Otocolobus manul), the
globally near-threatened Eurasian Otter (Lutra lutra) and the rare Mongolian Gazelle (Procapra
gutturosa) (IUCN, 2017; UNEP-WCMC, 2011). The presence of the globally endangered Asiatic Wild Dog
(Cuon alpinus) is questionable (IUCN, 2010, 2017). There are also many other charismatic mammal
species typical for their habitats, including carnivores such as the Brown Bear and Eurasian Lynx,
herbivores such as Siberian Ibex, Reindeer, small mammals and bats. Monitoring of large mammals in
the two protected areas indicated that Turgen Uul contains around 7,000 ibex and 200 argali, while
Tsagaan Shuvuut probably holds 2,000 ibex and 800 argali (IUCN, 2003).

▶ Other rare and threatened fauna

Uvs Nuur basin also holds globally important herpetofauna, ichthyofauna and entomofauna. 16 out of
the 20 rarely met species of beetle are endemic. Two endemic fish species (Oreoleuciscus potanini and
O. pewzowi) have been recorded. There are also four isolated populations of reptiles: Toad-headed
Agama (Phrynocephalus versicolor), Multicellated Racerunner (Eremias multicellata), Gobi Racerunner
(Eremias przewalskii), and patterned Grass Snake (Elaphe dione).

Assessment information

Threats

Current Threats

The low level of urban population, negligible human impact and complete lack of industry in both Tuvan
and Mongolian sectors of the site still ensure the protection of the site; its geographic isolation, climatic
extremes, the limited surface water flow make it an unattractive locality for agricultural industries. Except
the over-grazing, which only affects some of the ecosystems of the site, there are very few serious threats
to the natural environment of Uvs Nuur basin. Illegal hunting is of some concern, but its impact on the
population of target species appears to be relatively low. Fires cause harm to the forest in and around the
site, but are currently perceived as a low threat. However, for some of the threats, such as river pollution,
illegal logging and gathering of wild plants there is clearly a need for reliable data to quantify and better
understand their impacts on the Outstanding Universal Values and integrity of the site.

▶ Tourism/ visitors/ recreation

(Uncontrolled tourism)

Controlled and uncontrolled tourism activities are affecting some of the component areas of this serial
site, such as Tore-Khol Lake (IUCN Consultation, 2017) and could cause a negative impact on the natural
and cultural values of the site (Schuerholz et al., 2007). However, the opportunities for large-scale
tourism in the basin are currently very limited, due to its remoteness and lack of tourism infrastructure.
In addition, research on tourism resources and capacity of the Uvs Nuur Basin undertaken in 2018,
showed that the tourism numbers are still well within the carrying capacity of the site and the risk is
perceived as very low (IUCN Consultation, 2020a).

▶ Livestock Farming / Grazing

(Overgrazing)

With the emergence of individual peasant economies after the collapse of collective system of animal
husbandry, the number of moves and distance between seasonal pastures has decreased substantially.
This creates concentrations of domestic animals in the vicinity of water sources. However, despite there
being relatively few people with livestock living in the area (IUCN Consultation, 2020), competition for
pasture is generally increasing and the habitat area available to wild ungulates, in particular Argali, is
shrinking. Livestock can directly impact on the reduction of grassland areas and thus convert these to
bare land, especially when accompanied with serious water stress (Jamsran et al., 2019). The water
level in wetlands has lowered due to overgrazing, steppe fire and disturbance of the water regime of the
rivers, streams and their sources (IUCN Consultation, 2013).

► Mining/ Quarrying
(Small scale mining)

Small scale mining operates in the transition zone on both the Mongolian and Russian parts of the site (Schuerholz et al., 2007; Butorin, 2005). Illegal vehicle traffic from the salt mine traverses the northern section of the Special Protected Area (SPA) on the Mongolian side.

► Water Pollution
(River pollution)

Recreational activities occur at the Lake Tore-Khol (Tsugeer Els cluster) during the summer season. As a result river and streams are polluted by domestic garbage and petrol from vehicles (Butorin 2005). The exact impact of this needs to be quantified.

► Logging/ Wood Harvesting
(Illegal logging)

There is little potential for commercial forestry in the site and the forest use has been limited by the collection of non-timber forest products, firewood and poles and fencing for livestock keeping (IUCN Consultation, 2020). However, there are concerns about illegal logging in some areas of the World Heritage site (World Heritage Committee, 2014), which need to be understood better. With the increase of domestic need for timber, the forest use could increase significantly. In a study of land cover change in the Uvs Lake Basin ecoregion, Jamsran et al. (2019) found that between 1995 and 2015, the forest area in the basin decreased by almost 25%, mostly due to illegal logging, but also forest fires and pest damage.

► Other Biological Resource Use
(Gathering of wild plants)

Some wild plants, such as Altai onion and nuts, are gathered in unspecified quantity within the site. There is reportedly a boom in non-timber forest product collection in the region (IUCN Consultation, 2017), which needs to be understood better in quantitative terms.

► Fire/ Fire Suppression
(Forest fires)

Forest fires cause harm to the forest areas in the site (Uvs Basin Management Plan, 2000; Jamsran et al., 2019). The incidence and frequency of forest and steppe fires increased in recent years due to dryness in overall climate and negligent human attitudes. However, measures such as strict anti-logging laws, improved conservation management and expanded training and ecological education have been implemented to mitigate against human induced forest fires (IUCN Consultation, 2020a).

► Hunting and trapping
(Poaching)

Low-level subsistence and possibly recreational poaching exists on the territory of the site (UNEP-WCMC, 2011). Weak enforcement capacity in combination with increasing visitation (at least on the Russian side) leads to an increase in poaching (IUCN Consultation, 2017). WWF Russia supports anti-poaching activities in the area.

Potential Threats

Overall increase in annual temperature has been observed throughout the whole region and climate change might ultimately result in dryness of the area and increased frequency of forest and steppe fires, as well as desertification. It has been shown that the area is sensitive to environmental changes and that
dramatic changes may occur in the near future. Although more data is needed for the area to make predictions of climate change impact, based on long-term monitoring and research on the natural environment of the site, climate change and increasing temperatures is seen as a potentially high threat to the values of the site.

**Temperature extremes**

*Climate change*

The rise in annual temperature and occurrence of consecutive dry years might cause increased risk of forest and steppe fire, as well as desertification, which ultimately may pose a threat to the OUV of the site (IUCN Consultation, 2013). In their reconstruction of climate change in the Altai mountain region, Ganyushkin et al. (2018) showed that the landscape, glaciers and forests have reacted sensitively to environmental changes and that dramatic changes may occur in the near future. The glaciers of the Altai Mountains are estimated to have receded by over 40% in reaction to increasing summer temperature trends in the last 30 years (Pan et al., 2017). During the last two decades, global warming and extreme drought (in combination with soil degradation, eolian processes and overgrazing) have caused an almost 5 times increase in the area covered by sand, having a profound effect on the Uvs Lake Basin ecoregion (Jamsran et al., 2019). However, more data on the projected climate change and its impacts in the region are still needed.

**Hunting and trapping**

*Commercial hunting*

Limited trophy hunting of Argali and Siberian Ibex has been allowed in the Mongolian sector of the site, with quotas strictly controlled by the Ministry and not deemed detrimental for the species survival. However, it is currently unclear whether this activity is still being undertaken in the Uvs Nuur Basin.

**Roads/ Railroads**

*Road infrastructure development*

The area is important as a migration corridor for Argali and Snow Leopard. The planned 65km long unpaved road through the northern part of Ubsunur Basin from Mongun-Taiga (Tuva) to Kosh-Agach (Altai) would open year-round transport passage (Tyvaavtodor, 2018). It may lead also to irreversible transformation of sensitive high mountain ecosystems. There will be an increase in cargo and passenger traffic and therefore human pressure (wildlife disturbance and poaching) will also increase (IUCN Consultation, 2020b).

**Mining/ Quarrying**

*Potential mining exploration in the buffer zone*

In the beginning of 2019, information emerged that a company Resource Ltd. Co. from the Republic of Buryatia applied for a license for geological exploration and chrome ore mining on the Agar-Dag ridge in the buffer zone of the Yamaalyg cluster. The Department for Mineral Resources in the Central Siberian District (Tsentrsibnedra) requested permission from the reserve’s management for geological exploration, study, prospecting and assessing chrome ore deposits in the Uvs-Nuur basin. The scientific and technical council of the reserve unanimously decided not to grant such a permission, noting that geological exploration and development of the deposit could lead to environmental degradation of the Agar-Dag ridge. In addition, part of this site is a sacred natural territory for the local population, and geological work here would violate the traditional principles and customs for caring for sacred natural territories (IUCN Consultation, 2020c).

**Overall assessment of threats**

The low level of urban population, negligible human impact and lack of major industries in both Tuvan and Mongolian parts of the site ensure good protection of the site. Its geographic isolation, climatic extremes, the limited surface water flow make it an unattractive locality for agriculture, although...
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Increase in livestock numbers, which results in the expansion of rangeland for domestic animals and overgrazing, is of serious concern. Overall increase in annual temperature observed throughout the whole region might ultimately result in dryness of the area and increased frequency of forest and steppe fires, as well as desertification. Illegal hunting is of some concern, however, its impact on the population of target species appears low. However, for some of the threats, such as river pollution, illegal logging and gathering of wild plants, there is clearly a need for reliable data to better understand their impacts on the Outstanding Universal Values and integrity of the site.

Protection and management

Assessing Protection and Management

Management system

The component protected areas were given a status of Specially Protected Area in 1993. Since then, they have been under the management of their respective park administrations, which are financed by the state budget. The park management is appointed by the relevant Ministries and reports to the Protected Area Department at the Ministry. The management plan for the Tuvan section (Russian Federation) was approved in 2007 and covered the period of 2008-2012. It is not clear if a new management plan was developed and approved since. The latest management plan for the Mongolian section was developed and approved in 2019, covering the activities until 2025 (IUCN Consultation, 2020a). A first joint management plan was approved by both Governments in 2010 and an update was approved in 2018, covering the period of 2018-2022. In both countries, the components of the World Heritage sites lie within biosphere reserves, which are working together and in their respective territories to ensure the implementation of the joint management plan, which by the end of 2019 had been implemented by 55% (IUCN Consultation, 2020a). The content provides an overview of essential ecosystems, communities (lakes, steppes, glaciers) and species and management based on the conservation strategy of guarding the territories, expansion of species' migration corridors, education and awareness raising activities, development of scientific research and monitoring, as well as the development of ecotourism (Ubsunurskaya Kotlovina State Biosphere Reserve, 2020).

Effectiveness of management system

There is no record of a formal protected areas management effectiveness assessment for either the Russian or the Mongolian component parts of this transboundary site. The administration of the Russian components listed imperfections of the legal basis (particularly regarding financial and legal obligations of land users), a lack of equipment of the protection service (vehicles, communications equipment, office equipment, uniforms and field clothing), a high staff turnover and low wages, and lack of qualified staff as factors limiting management effectiveness (Ubsunurskaya Kotlovina State Biosphere Reserve, 2017). It has also been noted that the geographical distance of the administration (based in the Kyzyl, the capital of the Tuva Republic) from the actual component areas, compromises effective management. No information on the management effectiveness of the Mongolian components is currently available. The transboundary location of the Uvs Nuur Basin site creates difficulties in management since it involves cooperation between administrations in two different countries (Butorin 2005). In 2008 the Ministry of Environment Protection and Natural Resources of the Russian Federation and the Ministry of Nature and Environment of Mongolia, signed a protocol on establishment of trans-boundary Uvs Nuur Basin SPA. However, no such decision had been made by 2014 (see also Enkhtsetseg 2009). But an application for a transboundary reserve nomination currently is in preparation (Ubsunurskaya Kotlovina, State Biosphere Reserve, 2020).

Boundaries

Park boundaries are marked at the main entrance points with signboards. Back in 2005, the participants of the workshop on the “Management problems and development perspectives of the Uvs Nuur Basin World Heritage site” noted that in the Tuvan side, the boundaries of the site were not well marked
In order to develop the natural conservation management, "border columns" and information boards have been set up in the strictly protected areas (IUCN Consultation, 2020). There is an agreement between Mongolian and Russian parts of the site to conduct joint inspection along the both sides of the frontier, exchanging information on law infringement (Butorin, 2005).

**Integration into regional and national planning systems**

On the Russian side, the nature reserve is poorly integrated into the regional programmes (socio-economic, conservation and educational). Although in connection with the expansion of the Reserve in 2000 (new clusters "Kara-Khol" and "Khan-Deer" covering Snow Leopard habitats were created), the Reserve's office was transferred to Kyzyl, the capital of the republic, a point equidistant from all clusters and district inspections. Located in Kyzyl, the Reserve has improved its interaction with the republican authorities and public organizations (IUCN Consultation, 2020b).

**Relationships with local people**

It has been noted that the management authority on the Russian side does not pay sufficient attention to the needs of local population wishing to generate income through their traditional ways of livelihood in the areas neighbouring to the site (Butorin, 2005). There seems to have been a general lack of cooperation with local self-government structures, and probably also with local inhabitants and resource users (IUCN Consultation, 2017; UNEP-WCMC, 2011). The park authority on the Mongolian part of the site is engaging local people in the conservation activities by allowing non-detrimental traditional use of natural resources. In addition, it is collaborating with local communities in the tourism development, by supporting traditional handicraft making of the local people for the sale to tourists. Since 2009, in partnership with the WWF Mongolia Program Office, the Altai-Sayan Project, and the Climate Change Project, the "Community Development and Partnership" event has been organized annually at local levels. Community members are empowered and learning from each other. There are also some 30 volunteer rangers who work together on conservation activities, which is important for effective monitoring. Although there are some concerns in the Russian component parts, the relationship with local people on the Mongolian side seem effective, and is therefore overall this aspect is assessed as "Mostly Effective".

**Legal framework**

The five Tuvan cluster areas making up the Uvs Nuur Zapovednik in the Russian Federation were given protected area status by both the governments of the Republic of Tuva and the Russian Federation in 1993. In 2000, two clusters were added, expanding the territory of the Reserve ("Kara-Khol" and "Khan-Deer" covering Snow Leopard habitats); however, this has not been reflected yet in the configuration of the World Heritage site. The four cluster areas in Mongolia were listed under the Mongolian Law on Protected Areas as Strictly Protected Areas. Although, the current legislation does not ensure the sustainable financing for the parks (Joint management plan, 2010), overall, the legal framework for the Uvs Nuur Basin World Heritage Site is mostly effective (IUCN Consultation, 2020a).

**Law enforcement**

Detailed information on enforcement effectiveness – such as on the number of violations detected and brought to court, long term statistics in infringements etc. – is not available. According to the website of the Russian component PA, there is a lack of equipment for effective enforcement in some of the remote component areas of the series in Tuva Republic (Ubsunurskaya Kotlovina State Biosphere Reserve 2017). The geographical distance of the administration from the component areas, as well as the high staff turnover and lack of qualified staff have also been noted (IUCN Consultation, 2017), and are likely to limit enforcement effectiveness. It has been reported that weak enforcement capacity in combination with increasing visitation (at least on the Russian side) has lead to an increase in poaching (IUCN Consultation, 2017). There are also concerns about illegal logging in some areas of the property (WHC, 2014). Recently, stricter penalties for environmental crimes, joint inspections, as well as better advocacy and monitoring have been implemented to combat illegal activities (IUCN Consultation, 2020a), however, some concern regarding law enforcement still exist.
Implementation of Committee decisions and recommendations

Mostly Effective

The 27th Committee decisions and recommendations focused on (1) upgrading the Tes River Specially Protected Area in Mongolia, protected at a provincial level at that time, to a Specially Protected Area under State legislation, which has since been implemented (World Heritage Committee, 2014); and (2) encouraging States Parties to ensure adequate resources made available quickly and maintained for the effective implementation of the management plans (this seems to have not fully been addressed yet – IUCN Consultation, 2017).

Sustainable use

Data Deficient

Local people are allowed to carry out non-detrimental traditional use of natural resources, particularly through grazing. Land use and waste management agreements have been set up with the households and livestock livestock farmers in the transition areas of the site, which are evaluated once a year (IUCN Consultation, 2020). However, there is a need to regulate this more pro-actively (World Heritage Committee, 2014). It has also been noted that there is a boom in harvesting of non-timber forest products in the region (IUCN Consultation, 2017), which also suggests a need for a more systematic, regulated approach. There may be potential for increased sustainable nature-based tourism in the region (IUCN Consultation, 2017). No detailed information about the arrangements for and extent of these uses is available.

Sustainable finance

Some Concern

Due to the small state budget for PA conservation work, the site management cooperate with international and domestic environmental projects and programs (IUCN Consultation, 2020). However, there are no up-to-date figures available on the annual budget of the component PAs of the cluster in any of the recent documents (IUCN Consultation 2017, Ubsunurskaya Kotlovina State Biosphere Reserve 2017, UNEP-WCMC 2011, WHC 2014). This makes it difficult to assess the sustainability of current financing levels. However, there is concern because the high number of clusters that are remote requires effective transport and communication devices (Butorin 2005). Lack of investment into the infrastructure can negatively impact the monitoring and protection activities of the park administration (IUCN Consultation, 2013). In addition, the website of the Tuvan component PA states that there are resourcing shortfalls on equipment, infrastructure and salaries (Ubsunurskaya Kotlovina State Biosphere Reserve 2017), which suggests that the financing level is not fully sustainable long-term.

Staff capacity, training, and development

Some Concern

The reserve on the Tuvan side of the World Heritage site had 83 staff in 2013. The remoteness of the site and the high cost for travel to the training centres limit professional training and capacity building of site managers and staff. Furthermore, the low level of remuneration for the park staff negatively influences the quality of their performance, leads to high staff turnover and hence to frequent losses of experienced staff (IUCN Consultation, 2013, 2017, Ubsunurskaya Kotlovina State Biosphere Reserve 2017). The size of the area monitored by each ranger is very large (between 7,500 and 22,000 ha per ranger, depending on PA category - Ubsunurskaya Kotlovina State Biosphere Reserve 2017). This discourages rangers to be committed for a long term (Enkhtsetsteg 2009). Some training has been organized twice a year for the Protected Areas administration specialists, rangers and volunteer rangers (IUCN Consultation, 2020) and although overall the training program was considered satisfactory in 2014, it needs to be further improved with the integration of new subjects on monitoring, research, GIS and remote sensing. Uvs Nuur Basin SPA administration has been paying particular attention to its staff development through providing external training at training institutions (Enkhtsetseg 2009).

Education and interpretation programs

Mostly Effective

On the territory of the Mongolian section of the World Heritage site, the environmental information centre is working with the aim to provide local population and visitors with the information on nature conservation, scientific literature and legislative acts. Educational programs are broadcasted regularly through local and national TV and radio. Roundtable discussions are organized with the involvement of
scientists, researchers and protected area staff. Annual events such as visits to the most prominent spots in the site, consultation with the local communities and environmental action days are organized in order to raise public awareness on the site protection (IUCN Consultation, 2013). In the Natural Heritage transition zone, training and advocacy for 7,500 people annually has been organized through four information centers and 14 school Eco-clubs, to disseminate environmental information, support Eco-club teachers and students in the suburbs, to provide opportunities for them to learn from each other and to improve their ecological education. Currently, over 500 children and teachers are have taken part. The Uvs Nuur Basin Special Protected Area has participated for the third year in the “Snow leopard” festival which is organized by the Tuva Biosphere Reserve (IUCN Consultation, 2020a).

The website of the Russian component protected area lists a range of education and awareness raising activities (Ubsunurskaya Kotlovina State Biosphere Reserve, 2017). However, several reports refer to the fact that, overall, the awareness of the local population on environmental issues particularly on the trans-boundary biodiversity conservation, landscape and water conservation (IUCN Consultation, 2013) and ecological knowledge remains low (Butorin, 2005). It has also been noted that, on the Tuva site, there is a need for closer integration of education and awareness raising activities with those of other local and regional players (IUCN Consultation, 2017).

Tourism and visitation management

Although the World Heritage site includes a variety of places representing diverse natural landscapes and historic importance and has a great potential for eco-tourism, its recreational resources are underutilized (IUCN Consultation, 2013). The tourism does not generate tangible benefits and income for local people and protected area management. Furthermore, there are no statistics and related information on the number of tourists, main tourist routes and possible impact caused by the tourism activities. It also appears that there is localized and unregulated tourism pressure in some areas, such as Lake Tore-Khol in the protective zone of “Tsuger Els” cluster, and that unregulated dirt roads are appearing in steppe and sandy areas along Tes-Khem River (IUCN Consultation, 2017). This point to a potential need for more systematic and proactive tourism management at the World Heritage site.

Monitoring

Both reserves authorities carry out monitoring activities on their respective territories (Ubsunurskaya Kotlovina State Biosphere Reserve, 2017; World Heritage Committee, 2014; IUCN Consultation, 2017). However, no details are available on these monitoring programmes. Consultation reveals that the park administration lacks the adequate use of modern monitoring devices that include camera traps, genetic certification, GIS and remote sensing that are required for the monitoring of rare and endangered species (IUCN Consultation, 2013). Furthermore, there is a need to exchange research and monitoring/assessment data on transboundary endangered and migratory wildlife species, but progress in this direction has been slow in the past, due to lack of funding (Enkhtsetsteg 2009). One exception is the joint transboundary Argali sheep study that started in 2008. The population size is estimated during mating season, newborn Argali are captured, collared and telemetry surveys conducted. Results show that Argali populations in the transboundary area are doing well, with seasonal migration between Russia and Mongolia. In 2019 under an agreement with the Border Guard Office for the Republic of Tyva and the Ubsunur Basin reserve, barbed wire fences on the Argali migration routes were dismounted. However, there is a need for resources, capacity and involvement of local conservation communities to address negative factors on virgin high mountain ecosystems, degradation of pasture, infrastructure development, high way construction, illegal hunting and mining activities (IUCN Consultation, 2020a).

Research

Research activities have been undertaken with the support from WWF and UNDP, and in cooperation with a range of research institutions predominantly in Russia (Ubsunurskaya Kotlovina State Biosphere Reserve 2017). There is also scientific cooperation between the Russian and Mongolian component protected areas and their partners. Joint research on snow leopards in transboundary areas started in 2010. Migration and gene flow are important to keep populations healthy, especially for the small Russian population at the northern edge of the world’s snow leopard distribution area. Results show that snow leopards migrate between Mongolia and Russia crossing the Asgat River (IUCN Consultation,
Since 2017, 39 surveys of rare insects, reptiles, birds, and plants, as well as climate change and glaciation studies have been conducted in the Uvs Nuur Basin SPA. These include: Snow Leopard, Argali, Ibex, Beaver, Siberian Sparrowhawk, Central Asian Beaver, Reed Pig, River Otter, Altai Snowcock, Musk Deer, Mongolian Marmot and Plant Research (IUCN Consultation, 2020a). A potential for improvement of research beyond narrow monitoring has been identified for the Russian component areas (IUCN Consultation, 2017).

Every two years since 1989, the two protected areas administrations have been co-organizing the "Uvs Nuur" international symposium “ECOSYSTEM OF CENTRAL ASIA: RESEARCH, CONSERVATION AND SUSTAINABLE USE”, leading to several recommendations and declarations, and actions taken (IUCN Consultation, 2020a).

Overall assessment of protection and management

The Governments of both Mongolia and Russian Federation are providing significant support to the protection and management of this transboundary serial site through an enabling legislative environment and some financing. Furthermore, regional and provincial governments are also involved in the landscape and biodiversity conservation, even if cooperation has been characterized as weak.

The site has a joint management plan, but implementation has previously fallen short of expectations due to budget and staff constraints, and has been dependent on additional funding from donor organizations. There is no record of a formal protected areas management effectiveness assessment for either the Russian or the Mongolian component parts. The 85% of Uvs Nuur basin that lies outside the nine protected areas seems to have no specific legal protection status. This issue is of significant concern because of the threat of overgrazing, particularly in the desert steppe landscape around Uvs Nuur. Although aspects such as the legal framework, boundaries, relationships with local people and education and interpretation programs have been assessed as “mostly effective”, there is some concern with other aspects highly important for the protection and management of the site, such as the management system and its effectiveness, as well as the integration into regional and national planning systems, law enforcement, staff training and development, and sustainable finance. This leads to an overall assessment of “some concern”.

Assessment of the effectiveness of protection and management in addressing threats outside the site

Mongolia’s most important sustainable natural resource is its grasslands, and the most important threat from outside the World Heritage site is the continuously increasing stock numbers leading to overgrazing (IUCN, 1999). Since Mongolia privatized grazing herds in 1992, there has been a spectacular increase in the number of domestic livestock population from 20 million 1992 to 40 million in 2010. However, according to a livestock census at the end of 2019, there are no households in the core and buffer zones of the World Heritage Site, and in the transition zone there are 232,688 livestock from 692 households (IUCN Consultation, 2020a). Managing livestock grazing is a key issue in maintaining the integrity of the natural and cultural values of ecosystems of Uvs Nuur, although its direct impact at the level of the property is unclear and in need of further study. Some limits to effective law enforcement have been noted, including lack of equipment, geographical distance between the administration and component areas, as well as the high staff turnover and lack of qualified staff. The size of the area monitored by each ranger is also very large (between 7,500 and 22,000 ha per ranger, depending on PA category). This could compromise the management of threats from, for example, illegal logging, poaching and forest fires.

Best practice examples

Trans-boundary collaboration - The first joint initiative between Russian and Mongolian scientists and conservationists was the “Uvs Lake experiment” survey (1984 – 1988) and the first joint scientific conference was organized in 1989. Since then, many joint research projects, international scientific conferences and conservation works has been carried out, and as a result of joint efforts by the both countries' Governments, researchers, and conservationists, this collaboration is
State and trend of values

Assessing the current state and trend of values

**World Heritage values**

**Diversity of landscapes, ecosystems and habitats**

Low Concern

Trend: Deteriorating

Although it is difficult to predict, increase in the annual temperature might be increasing overall dryness of the area. The process of desertification is gradually shifting from west to east on the Mongolian part of the Uvs Nuur Basin site and starts spreading to areas not previously covered by sand. In a recent study of land cover change in the Uvs Lake Basin, Jamsran et al. (2019) found that over the last two decades there has been an almost 5 time increase in the area covered by sand. Overgrazing in Mongolia (and possibly Tuva Republic) and the agriculture development through intensive use of water irrigation and conversion of natural areas into crop plantation on the Russian side could change the hydrological regime of the lakes (Anonymous 2010). Some small areas have been affected by uncontrolled visitation (IUCN Consultation, 2017). Since 2017, 39 surveys of rare insects, reptiles, birds and plants, as well as climate change and glaciation studies have been conducted in the Uvs Nuur Basin SPA (IUCN Consultation, 2020). However, conclusive results are not yet available. In view of the localized character of these deteriorations, the overall assessment is currently of “Low Concern”, but the trend is deteriorating.

**Threatened and endemic plants**

Data Deficient

Trend: Data Deficient

The problem of overgrazing, disappearance and melting of glaciers, overall dryness in the area and lowering of water level of rivers and streams due to climate change effects are assumed to change the vegetation structure of the area. The situation is likely exacerbated by the anthropological impacts such as illegal artisanal mining, diverting rivers for agriculture use, removal of topsoil for reforestation and gardening activities in the cities and excessive extracting of medicinal plants (Compilation of Research Work, 2011). However, due to the insufficient research data it is difficult to assess the current state of the value.

**Rare and threatened bird species**

Good

Trend: Data Deficient

There are is systematic bird monitoring data to analyze bird population status and trends available, but there is also no evidence of any population decline of bird species and any concern and major problem raised by the park management and/or research communities. Therefore, the assessment of this value is a tentative “Good”, although systematic monitoring data would be very useful to confirm this.

**Rare and threatened mammals**

Low Concern

Trend: Deteriorating

Since 2017, surveys of snow leopard, argali, ibex, beaver, reed pig, river otter, musk deer and Mongolian marmot have been conducted in the Uvs Basin SPA. The Snow Leopard population was estimated to 62 individuals in 2019. Joint monitoring of the transboundary Argali sheep population is undertaken once every two years. The last survey showed that there are 1794 Argali sheep in Uvs province, and a total of 4555 individuals in the transboundary area (IUCN Consultation, 2020). However, there is evidence of illegal hunting of Argali, recorded on the Mongolian part of the site. Furthermore, decrease of the habitat area due to overgrazing and competition for pasture with the domestic livestock has taken its toll on the population growth of Argali. It is likely that this also affects other ungulates and potentially even predators. It is not clear if this should be considered of low or high concern overall, but
because of the large area and low population density of the property, the former is chosen as the assessment category, although the trend is perceived as deteriorating.

**Other rare and threatened fauna**

There is no detailed information about the current conservation state of herpetofauna, entomofauna and ichthyofauna inside the property.

### Summary of the Values

**Assessment of the current state and trend of World Heritage values**

The unique climatic and hydrological regime of the Uvs Nuur Basin might ultimately be affected by on-going climate change process and overall dryness in the area. While more scientific data would be needed to predict changes in the landscape and hydrological regime, climate change has already caused significant glacial retreat and desertification. Though it is apparent that the overgrazing greatly affects the vegetation growth and structure in the basin, there are no sufficient data to make any definite conclusions on the status of the endemic plants. There is no evidence of population decline and/or significant problem recorded for the rare and endangered species of the bird. Due to the large area and low population density of the World Heritage site, the overall state of rare and threatened mammals is currently of low concern, however, illegal hunting and continuous shrinking of habitat area for the endangered mammals in particular argali (wild sheep) is of some concern. Although the trend for some landscape habitats and mammals seem to be deteriorating due to desertification, overgrazing and water stress, the trend for plants and bird species is difficult to assess due to the insufficient research data.

### Additional information

#### Benefits

**Understanding Benefits**

**Water provision (importance for water quantity and quality)**

The site provides water source in the region for domestic use.

Factors negatively affecting provision of this benefit:
- Climate change: Impact level - Low, Trend - Increasing
- Habitat change: Impact level - Low

**Sacred natural sites or landscapes**

Due to their nomadic way of living Mongolian and Tuvan people have a strong linkage and dependence on nature. The World Heritage site includes sacred mountains, mountain passes and worshiped rivers and streams. The area provides a source of livelihood for local people and security, and also holds aesthetic and spiritual values for external people (World Heritage Committee, 2014).

Factors negatively affecting provision of this benefit:
- Pollution: Impact level - Low
- Overexploitation: Impact level - Low
- Habitat change: Impact level - Low
Outdoor recreation and tourism

The unique natural features, the presence of historical, cultural and archaeological monuments, a traditional nomadic lifestyle with its ethnographic peculiarities and traditional crafts provide an ample opportunity for development of various types of tourism. Cultural and ethnic tourism, hiking, trekking, mountaineering and bird watching are the main types of tourism currently developed in the region. There are multiple burial mounds and fields, deer stones, vertical memorial plates, man stone effigies, rock paintings (petroglyphs) and ancient human camps (IUCN, 2003; World Heritage Committee, 2014; IUCN Consultation, 2017).

Factors negatively affecting provision of this benefit:
- Overexploitation: Impact level - Low, Trend - Continuing
- Habitat change: Impact level - Low

Collection of wild plants and mushrooms, Livestock grazing areas

The area is used for extensive traditional grazing, as well as the collection of non-timber forest products (World Heritage Committee, 2014).

Factors negatively affecting provision of this benefit:
- Overexploitation: Impact level - Low, Trend - Increasing

Summary of benefits

Uvs Nuur basin provides considerable benefits to local people through water provision, grazing areas and forest resource collection. It has also huge spiritual and cultural importance to the local people on the Mongolian and Tuvan side and a great potential (as yet only partially fulfilled) to provide benefits related to recreation and tourism to a wider international range of stakeholders. These benefits may be – to different and not always fully understood degrees – subject to threats from overuse, land use change, and climate change.

Projects

Compilation of active conservation projects

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<tr>
<th>№</th>
<th>Organization</th>
<th>Brief description of Active Projects</th>
<th>Website</th>
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<tr>
<td>1</td>
<td>WWF</td>
<td>Research projects on snow leopard, argali, and manul</td>
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<tr>
<td>2</td>
<td>NGO Irbis Army (Republic of Tuva, Russian Federation)</td>
<td>Funded by WWF-Russia, projects aim to reduce the conflict between snow leopard and cattle breeders in Southwest Tuva, where there are cases of predator attacks on livestock (the projects have introduced new methods of herd protection (electric fences and ultrasonic frighteners), and introduced new effective methods of insuring cattle against snow leopard attacks.</td>
<td><a href="https://wwf.ru/resources/news/altay/skotovoda-m-tuvy-pomogut-sokhranit-skot-ot-napadeniy-snezhnogo-barsa/">https://wwf.ru/resources/news/altay/skotovoda-m-tuvy-pomogut-sokhranit-skot-ot-napadeniy-snezhnogo-barsa/</a></td>
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