AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

A. Proposal

Transfer from Appendix II to Appendix I of *Saiga tatarica* in accordance with Resolution Conf. 9.24 (Rev. CoP17), Annex 1: Paragraph C.

B. Proponent

Mongolia

C. Supporting Statement

1. Taxonomy

1.1 Class: *Mammalia*
1.2 Order: *Artiodactyla*
1.3 Family: *Bovidae*
1.4 Genus and Species: *Saiga tatarica*
1.5 Scientific synonyms: There are two recognized subspecies: *Saiga tatarica tatarica* and *Saiga tatarica mongolica*
1.6 Common Names: English: Saiga, Mongolian Saiga, Saiga Antelope
French: Saiga
Spanish: Antilope Sagia
German: Saiga

1.7 Code Numbers: Need to add

2. Overview

The saiga antelope (*Saiga tatarica)* has experienced marked population declines throughout its range, which includes areas of Mongolia, Kazakhstan, Uzbekistan, Turkmenistan and the Russian Federation. The saiga antelope has been listed as Critically Endangered in the IUCN Red List of Threatened Species since 2002, and it has been considered the most threatened antelope in Asia (Mallon 2008). The basis for this classification is that "the population has shown an observed decline of over 80% over the last 10 years and the decline is continuing. Severely skewed sex ratios are leading to reproductive collapse" (Mallon, 2008).

The saiga antelope (*Saiga tatarica*) is a member of the *Bovidae* family that inhabits the open steppe/grassland habitats of Central Asia in nomadic herds (up to 1,000 individuals), and undertakes irregular seasonal migrations (sometimes between range States) (Mallon 2008). There are two known subspecies of *Saiga tatarica*, *S. tatarica tatarica* and *S. tatarica mongolica*. *Saiga tatarica tatarica*, the nominate subspecies, occurs in four major populations, one in Russia and three others found primarily in Kazakhstan (although they sometimes reach Turkmenistan and Uzbekistan during seasonal migrations). *Saiga tatarica mongolica* is found in Mongolia and is separated from *Saiga tatarica tatarica* by the Gobi Altai mountain range. The global population of *S. t. tatarica* is estimated to be at around 152,600 individuals, down from 1.25 million in the 1970s (Grachev 2017). Saiga antelope populations show drastic population declines in excess of over 80% in the past 30 years, as populations are under 15 percent of 1980s levels (von Meibom et al. 2010, Kalmykov 2015) (see Section 4.4). The Usyurt (found in Kazakhstan, Uzbekistan and sometimes Turkmenistan, see

Section 3.1) population has declined by 69% in the past five years (see Section 4.4). Throughout history, this population has been prone to massive die-offs (Kattsov et al. 2008). These mortality events, killing up to 60 percent of a subpopulation in less than a month, are caused by disease and certain climatic conditions, which are projected to increase throughout saiga range in the future (Kock et al. 2018, IPCC 2014). To sustain viable numbers that can withstand these perturbations, saiga population numbers need to be large and wide ranging (Milner-Gulland 2009).

Parts and derivatives of the saiga antelope are traded in large numbers. Horns are the main target of poaching. As only male saiga have horns, this causes massive sex skewed ratios in populations. The subspecies *S. t. tatarica* ranges from 5.1 to 13.6 percent male (von Meibom et al. 2010) (see Section 4.3). Combined with low population numbers, the skewed sex ratios have caused a decline in saiga (Milner-Gulland et al. 2003).

Saiga horns and derivatives are primarily traded to East and Southeast Asia, for use in traditional Asian medicine. According to Theng, Glikman, and Milner-Gulland (2018), the most commonly used saiga horn product was bottled 'fresh' saiga water (49%), followed by shavings (40%), bottled 'supermarket' saiga water (20%) and tablets in Singapore. Studies show that even with a drastic reduction of saiga population numbers, market demand has remained stable, and "that consumers of traditional Chinese medicine are willing to pay high prices for wild-sourced animal products because they believe that these products are more potent" (Theng, Glikman, Milner-Gulland, 2018).

The species was formerly widespread and numbered well over 1 million individuals as recently as the 1970s; it repeatedly experienced drastic declines during the late 20th Century as a result of habitat degradation, the installation of infrastructure that presented barriers to migration, changing climatic conditions that altered food availability, and, significantly, illegal hunting of males for their horns that has led to extremely skewed sex ratios and to resultant reproductive collapse. According to the 2008 IUCN Red List of Threatened Species assessment, the species experienced an 80% decline between 1998 and 2008; it is currently listed on the IUCN Red List as Critically Endangered. A recent high-profile mortality event in 2015-16 resulted in the deaths of more than 200,000 saiga in Kazakhstan, two-thirds of the global population at the time. This event was thought to be exacerbated by climatic variation, suggesting increasing threats from climate change in the future.

The saiga antelope was included on CITES Appendix II at CoP9 (Ft. Lauderdale, USA, 1994); today it clearly meets the biological criteria for inclusion in CITES Appendix I, pursuant to Resolution Conf. 9.24 (Rev. CoP17) Annex 1 (observed declines over time and as a result of distinct mortality events; fluctuations in population size; vulnerability to climate change; demand for horns, skin and meat; and habitat fragmentation due to linear infrastructure development). Inclusion of this species on CITES Appendix I will help ensure that international trade for primarily commercial purposes will not contribute to further declines, and will help range, transit, and importing Parties combat any illegal trade whereby newly hunted saiga are laundered through stockpiles.

3. Species Characteristics

3.1 Distribution

In the Pleistocene period, saiga antelope grazed the steppes of Europe and Asia, from England through Germany and Russia as far as Siberia, Kamchatka and Alaska. In the 16th and 17th Centuries, the lower hills of the Carpathian Mountains and the Bug River were their western limit (CITES 1994). Their global distribution has declined drastically since this time.

Saiga antelope currently occur only in five populations throughout southeastern Europe and Central Asia. Four of these populations are the subspecies *Saiga tatarica tatarica*: north-west Pre-Caspian (or Kalmykia), Ural, Ustyurt, and Betpak-Dala. The Ural, Betpak-Dala, and Ustyurt populations are in Kazakhstan, with the Ustyurt population also in Uzbekistan and sometimes Turkmenistan (Milner-Gulland and Singh 2016, von Meibom et al. 2010). The northwest pre-Caspian population is in the Republic of Kalmykia in the Russian Federation. There is minimal interaction between the populations of *S. t. tatarica*. Another population of *S. t. tatarica* went extinct in China during the 1960s (Cui et al. 2017).

The subspecies *S. t. mongolica* is isolated from the other subspecies by the Gobi Altai range. The fifth population is found only in the Great Lakes Depression of Western Mongolia, including the Shargiin Gobi, Khuisiin Gobi and Durgun valley (Amgala et al. 2006, Chimeddorj and Buuveibaatar 2017).

3.2 Habitat

Saiga tatarica are adapted to living in the open, arid and semi-arid steppe ecosystems of Eastern Europe and Central Asia. They occur from sea level to approximately 1500 meters elevation. The Mongolian subspecies often occur in arid conditions, characterized by grasses and low shrubs. This subspecies exists at higher elevations, averaging 1000-1900 meters.

3.3 Biological characteristics

Saiga antelope are long distance migratory, herd species. In general, its summer pastures are in the northern parts of its range, where births occur, with saiga penetrating further north in drought years. Females aggregate in large numbers to give birth (Fadeev and Sludskii, 1982). Later in the year, the population gradually moves south in loose aggregations of both sexes to areas in which it overwinters and mates (Milner-Gulland, 1994). This migration from summer to the winter grounds is a massive migration. Mongolian saiga do not migrate long distances, staying in the same relative area, but seasonally change their pastures (Adyasuren, 1994).

Males become sexually mature at about 19 months, while females reach sexual maturity at around 8 months (Bekenov et al. 1998). Females frequently produce twins, with two-thirds of females doing so, and have a long reproductive life (Kuhl et al. 2007). Saiga are polygamous, and females exhibit a high level of fertility. It is estimated that 95% of adults and 80% of young females conceive in an average year (Teer, 1991). Selective hunting of males has caused a severely biased female sex ratio (Milner-Gulland et al. 2003).

An important characteristic of saiga populations is that they are prone to large die-offs caused by disease, with over 11 such events occurring in Kazakhstan since the 1950s

(Bekenov et al. 1998; Kock et al. 2012; Cui et al. 2017). Foot and Mouth Disease and pasteurellosis have been the primary cause of the die-off events (Kock et al. 2012). Though large proportions of saiga populations are lost in these die-offs, saiga can rebound quickly if the population size is large enough (and other factors, such as illegal killing, do not compound the threat). After populations fell in the 1990s below 50,000, conservation efforts allowed the species to rebound to several hundred thousand. The species has the potential to recover rapidly from mortality events due to its unusually high birth rate (Milner-Gulland 2009). It is argued that the inclusion of the species in CITES Appendix II in 1994 contributed to this recovery.

3.4 Morphological characteristics

Saiga are the size of domesticated goat or sheep. Their most striking adaptation is their large proboscis with large nasal chambers that are supplied with blood vessels and mucus glands with which it filters sand and dust, and warms and humidifies air. Only males have horns, and they are clear and amber. *S. t. mongolica* is smaller (head and horns) and stockier than the other subspecies (von Meibom et al. 2010).

3.5 Role of the species in the ecosystem

Saiga antelope are important for nutrient cycling in the Eurasian Steppe. Grazing the landscape, saiga allow for the rapid release of nutrients. Without grazing by saiga (as is true for other native ungulates), dead vegetation accumulates on the soil, nitrogen is lost to the biological cycle and the soil is less fertile (Abaturov, 1984, Augustine and Mcnaughton 2006, Hobbs 1996). This impacts the amount, location and diversity of vegetation. This is important for local herders who depend on a healthy steppe landscape. This also impacts the biomass of higher trophic levels (Zhirnov 1985, Bai et al. 2012, Benekov et al. 1998). In addition to nutrient cycling, saiga serve as prey for raptors and wolves (Buuveibaatar et al. 2013).

4. Status and Trends

4.1 Habitat trends

Estimates of change in the availability of suitable habitat for *S. tatarica* have not been made, though the primary conversion of concern is from grassland to agriculture. Historically, agricultural activity has caused range restriction, limited migration and led to the division of the Kazakhstan population (Bekenov et al. 1998). Today, much of their natural habitat is being converted for agricultural use and saiga often have to compete with livestock for habitat and resources (Bayarbaatar et al. 2013). In Mongolia, due to the privatization of livestock, the ratio of saiga to livestock is 1:50 (Bayarbaatar et al. 2012). In 2010, an average of 70 percent of Mongolian pasture lands were degraded (to some extent) and have overgrazing issues (MSRM, 2010). For the past decade, 78 percent of Mongolia was used for livestock grazing (FAO 2005).

Another problematic trend occurring in the Eurasian steppes is the construction of fences, roads and railways that prevent movement of saiga (including eliminating migration routes) and cause population declines. In Kazakhstan, several roadways cut across saiga habitat, at the core of the population (Singh et al. 2010; Zuther 2014). The Kazakhstan border fence, before retrofitting to allow for passage through the wall, also had negatively impacted saiga movement and population size, as occurred with the Uzbekistan border fence (Millner-Gulland 2012, Kamp et al. 2016). Saiga rarely cross

railroad tracks and Kazakhstan and Mongolia are quickly expanding their road and train network which poses a future threat to the existence of saiga (Olson et al. 2015).
As these barriers to migration are increasingly problematic for many central Asian migratory species, legislation has been enacted to focus on these issues. In 2014, 14 Asian countries agreed to the Central Asian Mammals Initiative (CAMI) under the Convention on Migratory Species of Wild Animals (CMS). CAMI is a "coherent regional strategy to guide implementation of CMS and its instruments targeting central Asian migratory mammals" (CAMI 2014). In 2017, CMS, with close cooperation of conservation NGOs, and under the Saiga Memorandum of Understanding, created the first atlas of central Asian migration routes of 10 affected wildlife species along with planned and constructed infrastructure. This is an important database to inform infrastructure decisions and reduce harm to wildlife (CMS 2017). The CMS policies also focus on removing migratory barriers, creating transboundary ecological networks to maintain animal migration throughout central Asia (CAMI 2014).

4.2 Population size

Based on an aerial survey of saiga in Kazakhstan in April, 2017, there are 152,600 saiga individuals in Kazakhstan. There are 51,700 in Betpak-Dala, 2,700 in Ustyurt and 98,200 in the Ural population (Grachev 2017). In 2016, roughly 4000 to 8000 individuals existed in Kalmykia. The Mongolian subspecies is at only around 4,900 individuals, as of summer 2017 (Chimeddorj and Buuveibaatar 2017).

4.3 Population structure

The newborn sex ratio of saiga is 1:1 (Sokolov and Zhirnov 1998, Milner-Gulland 1994) and as the population ages, the male ratio declines from 50 to 20-30 percent (von Meibom et al. 2010). However, hunting pressures on males have caused a further skewed sex ratio towards a higher proportion of females. Within the Kazakhstan populations, adult males (older than 11 months) make up 5.1 to 13.6 percent of the population. Since 1998, Russian populations have fluctuated between 0.9 and 12.7 percent males. The decline in number of males was followed by a decrease in number of offspring in subsequent years (von Meibom et al. 2010). These skewed sex ratios lead to reproductive collapse (Milner-Gulland et al. 2003).

4.4 Population trends

The species has decline throughout its entire geographic range, with all populations significantly below numbers in 1980. All 6 populations are below 15% of population levels seen in the 1980s (Grachev 2017, Milner-Gulland et al. 2003, Milner-Gulland 2012, Mallon 2008). In 2003, the species had declined by 95% in the ten years before 2003. In the mid-1970s S*aiga t. tatarica* was estimated at 1,250,00 individuals; it was down to 152,600 individuals in 2017 (von Meibom et al. 2010, Grachev 2017). The subpopulations of S. t. tatarica were once highly connected, unlike current populations. The reduction in population and range is also seen in a sixth population, that of S*. t. tatarica* in northwest China, which became extinct in the 1960s.

The Mongolian population shows a declining trend. In 2014, there were estimated to be 11,000 to 20,000 western Mongolian saiga. While this is larger than the past estimates (5,000 to 7000 individuals in 2006 from Amgalan et al. 2008), different monitoring methods make it hard to infer trends between the recent and older data. Buuveibaatar et al. 2015 suggested that the Mongolian population had increased in the last decade.

Another study in January 2017 estimated there were 10,907 individuals (Chimeddorj and Buuveibaatar 2017). However, in March 2017, 5000 *Saiga t*. *mongolica* died from the virus peste des petits ruminants (PPR or goat plague). This left the population at 4,961 individuals, representing a 54.5% population decline (Chimeddorj and Buuveibaatar 2017).

In 2015 the largest population of *Saiga t. tatarica* (Betpak-Dala) faced a massive die-off of 211,000 individuals. This represented a 62% decline of this population, equating to more than half of the global population lost in a 3 week time period. The *Pasteurella* bacteria coinciding with environmental factors caused the deaths (Kock et al. 2018).

The Ustyurt population has decreased drastically in the past 10 years. The number of saiga recorded in 2017 was 2,700 individuals, which is 69% less than in 2013 (5,400 saiga), representing a further decline from the 10,400 recorded in 2008 (SCA 2008).

The north-west pre-Caspian population, estimated to be 700,000-800,000 in the 1970s, is now 4,000-8,000 individuals (Mallon 2008, Grachev 2017). This population has declined 15 fold in the past 10 years, with few males observed in recent years. In 2007, 15,000 individuals came together for calving and 20,000 saiga for rutting. In 2014, these numbers declined greatly to 4,500 and 2,000 respectively. With this, most calving and rutting of this population occurs within the Stepnoi sanctuary (Kalmykov 2015).

While still well below 2013 levels, the Betpak-Dala population is believed to have increased from 2016 to 2017 by 42.8%, the Ustyurt population by 42.1% and the Ural population by 39.8%. Though encouraging, the population still is significantly reduced from historical levels. The total number of saiga in Kazakhstan is believed to have increased by 40.9% compared to 2016 (Grachev 2017). For *Saiga t. tatarica,* two of the five existing populations show a potentially stable trend; however, it is unknown if these increases reflect actual population increases or if they are due to sampling bias (Grachev 2017). With this, none of the populations have populations that meet the effective population size, due to the human-caused skewed sex ratios (von Meibom et al. 2010).

Population trends by range State

Range State	Summary
Mongolia	Declining. 54.5% of the population was lost in 2017 alone from the goat plague (PPR).
Kazakhstan	All three subpopulations (Betpak-Dala, Ustyurt and Ural) are below 15% of the population level seen in the 1980s and do not meet the effective population size. Sub-Population: Betpak-Dala. Stable. The largest subpopulation of Saiga antelope faced a 62% decline (211,000 individuals dead) over 3 weeks in 2015 caused by the *Pasteurella* bacteria. Since 2016, the Betpak-Dala population has not shown a decline. Sub-population: Ustyurt. This sub population has been in drastic decline in the past 10 years, with a 69% decrease since 2013. In 2008, 10,400 individuals were recorded, and

Range State	Summary
	in 2017 only 2,700 were found. Subpopulation: Ural. Increasing or stable. This population saw an increase of 39.8 percent from 2016 to 2017.
Uzbekistan	Unclear, likely declining as the rest of Ustyurt population is declining. A report indicates that no Saiga were seen in 2017 (Fergana News Agency 2017).
Turkmenistan	Unclear.
Russian Federation	Declining. This population has seen a 15-fold decrease in the past 10 years. This population is primarily concentrated in the Stepnoi sanctuary.

5. Threats

The primary threat to the species is illegal hunting for national and international trade, driven by the market for saiga horns and meat in primarily Asian markets. Only male saiga have horns, such that males are hunted selectively. This has altered the sex ratio, favoring females and causing collapses in the population due to reproductive failure (Milner-Gulland et al. 2003). With continued hunting pressure, the reproductive viability of these populations will continue to diminish.

Loss of habitat to grazing livestock land is also problematic because livestock transmit deadly diseases and parasites to saiga antelope (Morgan et al. 2006, Bayarbaatar et al. 2013). Diseases have caused several mass die-off events in saiga populations in the last five years, which are cause of concern. Climate related changes have recently been linked to the disease infections, such that the combination of disease and climate change pose major threats to the saiga populations.

In 2015 the Betpak-Dala population faced a massive die-off of 211,000 individuals. The *Pasteurella multocida* bacteria coinciding with environmental factors caused these deaths. The *P. multocida* infections, and recent die-off events, have been linked to higher than usual humidity and temperature (Kock et al. 2018). Mass mortality of saiga will likely be exacerbated in the future due to changing environmental conditions, with projected increased temperature and precipitation (leading to higher humidity) in Kazakhstan (Kattsov et al. 2008, IPCC 2014).

A final threat to the movement and population size of saiga is fences, roads and railways that act as barriers to migration and reduce movement and population size of saiga antelope (see section 4.1). This linear infrastructure blocks migration routes, diminishes naturally large ranges that are critical to maintaining viable population sizes and have caused population declines (Millner-Gulland 2012, Singh et al. 2010; Zuther 2014). Border fences have been hugely problematic for saiga (and other migratory ungulates in the region). In 2012, a border fence between Kazakhstan and Uzbekistan completely blocked the migratory route of saiga (Bykova 2017, Kamp et al. 2016). These fences also facilitate illegal hunting/poaching by channeling saiga into a few crossing points (CMS 2015). Roadways have been constructed to bisect across saiga habitat. Road and train networks are quickly expanding in all range States, especially Kazakhstan and Mongolia. Saiga have been shown to rarely cross tracks, which poses a further threat to their existence (Olson et al. 2015).

6. Utilization and Trade

6.1 National utilization

Saiga meat, hide, and horns were traditionally used by hunters since prehistoric times (Cui et al., 2017). Today, some local communities still hunt for saiga meat but horns (for trade) are the primary reason for the saiga hunting. For example, a study of local perceptions near the Kalmyk saiga population found that 34% thought locals hunted saiga to supplement income, 25% believed that saiga hunting provided a main source of income, 18% perceived saiga as a supplement to their diet, and 15% perceived the hunting in relation to tourism (Hogg, Milner-Gulland, Samuel, 2014). Markets of saiga horn are found in several countries of South and East Asia, fueling poaching in the saiga ranges of Russia and Kazakhstan (Mallon, 2016). Saiga horns are mainly smuggled by trucks that cross the border between Russia and Kazakhstan into China (van Uhm, 2016). Downstream Asian markets include China, Hong Kong SAR, Japan, Singapore, and Malaysia (Theng, Glikman, Milner-Gulland, 2018). The most commonly found used saiga horn product was bottled 'fresh' saiga water (49%), followed by shavings (40%), bottled 'supermarket' saiga water (20%) and tablets (Theng, Glikman, Milner-Gulland, 2018).

6.2 Legal trade

Regions of Russia, Kazakhstan, and other range States across the saiga range have historically had legal harvests. In 1951, Kalmykia (Russia) began to allow legal kiling of saiga for meat, skin, and horns. At high population sizes, "a group of 12–15 men were capable of culling 10,000–12,000 saigas within three months as part of the USSR saiga management regime" (Kuhl et al., 2009). There was a peak offtake of 201,000 individuals in 1978 in Kalmykia, though legal commercial hunting ended in 1987 (CITES, 1994). In Kazakhstan, saiga have been taken since the 1950s, peaking in 1975 with over 500,000 animals killed (Milner-Gulland, 1994). In 1988, a legal trade was established for saiga in Kazakhstan; in 1989, 10 cooperatives were established in Kazakhstan to export horns to Singapore, driving international demand at a price of US $500-600 in the legal market and promoting increased trade in the illegal black market as well (Milner-Gulland, 1994).

Following the collapse of the Soviet Union, rural economies demanded meat and income (Milner-Gulland et al., 2003). Horns were taken from dead animals, and were bought from locals in exchange for vodka, tea and other goods in short supply, which inevitably encouraged more poaching (Bekenov, Grachevand, Milner-Gulland, 1998). This rapid demand for horns, increased market pressure, and in-turn increased hunting pressures, instigated new management controls in the early 1990s. In response to population declines and the need to regulate international trade in the species, in 1995 the Saiga antelope was included in CITES Appendix II (adopted at CITES CoP9 in 1994) (CITES, 1994). During the 10-year period from 1995-2004, in which there was legal international trade in saiga parts and products, 87,449 kilograms of saiga horn were reported to be exported to China (34,851 kg), Singapore (17,186 kg), and Japan (13,312 kg) (Theng, Glikman, Milner-Gulland, 2018). However, by 2005, the Convention on the Conservation of Migratory Species of Wild Animals (CMS) developed a Memorandum of Understanding (MOU) that provided a non-legally binding instrument for the conservation of saiga antelope (Section 7.2). Further developments in trade in this species took place at CITES COP16 in Bangkok (March 2013), where

representatives from China and the Chinese Traditional Medicine industry participated in a meeting with representatives from range States that trade in and consume saiga products, to discuss ways to address the threats to the species, particularly from international trade (CMS 2014b). By 2015, every range State had implemented a ban or moratorium on hunting (see Section 7.1).

6.3 Parts and derivatives in trade

Saiga meat is mostly consumed by local communities, while horns are taken for purposes of international trade (Hogg, Milner-Gulland, Samuel, 2014). According to Theng, Glikman, and Milner-Gulland (2018) the most commonly used saiga horn product was bottled 'fresh' saiga water (49%), followed by shavings (40%), bottled 'supermarket' saiga water (20%) and tablets in Singapore. Studies show that even with a drastic reduction of saiga population numbers, market pressure have remained stable - in fact, "that consumers of traditional Chinese medicine are willing to pay high prices for wild-sourced animal products because they believe that these products are more potent" (Theng, Glikman, Milner-Gulland, 2018). Horns are perceived to cure many diseases and its use in Chinese medicine is now one of the greatest factors driving poaching and illegal trade (Cui et al., 2017), and thereby further endangering the species.

6.4 Illegal trade

In 1995 the saiga antelope was included in CITES Appendix II (adopted at CoP9 in 1994) (CITES, 1994), due to the status of the species and the agreed need to regulate its trade. Every saiga range State has now implemented a ban or moratorium on hunting. Kazakhstan has a moratorium on trade, and it is illegal to hunt saiga in the Russian Federation (CMS 2015). However, the market is ongoing in consumer States. Singapore still claims to have a massive stockpile of saiga horns, which fuels domestic use and high-volume exports to China, Hong Kong SAR, and Malaysia (Theng, Glikman, Milner-Gulland, 2018). Today, the average prices for one liang (= 37.5g) of Saiga horn were $US 31.8 in Malaysia and $US 32.9 in Singapore (equivalent to $US 848 per kg and $US 877 per kg, respectively). Market prices for saiga horn have reportedly increased compared to previous years (von Meibom et al., 2010). Between 2010 and 2014, 224 incidents of illegal saiga hunting were recorded in Kazakhstan, and 8,594 horns were confiscated (CMS 2015). As illegal trade drives drastic declines in saiga populations, inclusion of this species on Appendix I will allow necessary focus on increased and improved enforcement of the trade moratoriums in place, and will facilitate efforts to interdict illegal trade and prosecute criminals involved in trafficking of saiga horn.

6.5 Actual or potential impact of trade

Since only males have horns and considerably more meat than females, hunting disproportionately targets males, skewing sex ratios of the population, and contributing to the 95% population decline (Milner-Gulland et al., 2003). From 2009-2017, there has been a combination of poaching and disease outbreaks: Mongolia (declining 54.5% in 2017 alone), and Betpak-Dala (62% decline). Both population declines occurred very rapidly (within three weeks) (Mallon, 2016). Saiga were historically killed mainly in autumn/winter for meat (largely for local consumption); they are now killed year-round for their horns (Kuhl et al., 2009).

In addition to the horns, CITES Parties have also reported trade in various other saiga products. For example, over two million derivatives containing Saiga, 140 specimens reported as trophies, and 193 live animals were traded in 1995–2004 (von Meibom et al. 2010). The Russian Federation exported the majority of these latter categories (131 trophies and 170 live animals). China has been the largest direct importer of saiga horns; it also facilitates large medicinal markets in countries like Japan or Singapore (Theng, Glikman, Milner-Gulland, 2018). China re-exported 1.8 million derivatives between 1995-2004 (Von Meibom et al. 2010).

The CITES Standing Committee recommended that all Parties suspend saiga imports from Kazakhstan and the Russian Federation until these countries had complied with several recommendations (CITES 2001). These recommendations were for both countries to implement a regional conservation strategy for the species, and until it was scientifically justified that exports would not be detrimental to the survival of the species (CITES 2001). However, both Kazakhstan and the Russian Federation have continued to export specimens of Saiga since 2001 (von Meibom et al. 2010, CITES 2004).

In 2004, the Standing Committee urged all range States to sign the CMS Memorandum of Understanding of 2002, to report their actions and results to the Standing Committee, to provide and circulate incentives about the legal use of saiga parts and derivatives, and requested all range States to solve their implementation problems in close cooperation with the Secretariat, other competent Management Authorities and non-governmental organizations (CITES 2004). In 2017, the Standing Committee encouraged Parties to address challenges in controlling illegal trade in saiga horns and derivatives, including ensuring effective stockpile management (CITES 2017).

7. Legal Instruments

7.1 National

The saiga is legally protected in all countries of its breeding range and hunting is illegal in all five range States, at least until 2020 (CMS 2015).

Mongolia: Saiga have been legally protected since 1930 and the species has been listed in the Red Data Book of Mongolia since 1987; therefore, hunting is prohibited (Mallon, 2008).

Uzbekistan: In 2003, Saiga was listed in Appendix I of the Red Data Book of the Republic of Uzbekistan and the species was classified as Vulnerable; however, according to some experts, the species qualifies for being listed as Critically Endangered (Kreutzberg-Mukhina, 2004).

Russian Federation: In July 2013 the saiga was added to the list of particularly valued biological resources; illegal hunting, keeping, procurement, storage, transportation, shipping and selling of saiga and their products entails criminal liability pursuant to article 2581 of the Criminal Code of the Russian Federation (Kalymov 2015). In Kalmykia, Russia, the Ministry of Environment listed saiga in their Red Book of threatened species in 2015 (Kalymkov, 2015).

Kazakhstan: In November 2010, the Order No. 204 of the Minister of Agriculture prohibited the hunting of saiga in the Republic of Kazakhstan until December, 31, 2020

(Aktobe Regional Court, 2016). In 2006, Kazakhstan declared a voluntary moratorium on all exports of saiga horn (Anon. 2006). On July 25, 2012, the Government of the Republic of Kazakhstan, Decree No. 969 banned the use of saiga, their parts and derivatives throughout the territory until 2020, except for scientific purposes. This was incorporated into the Criminal Code of the Republic of Kazakhstan Article 339 with regard to punishment for unlawfully obtaining, acquiring, storing, selling, importing or hunting saiga. Saiga are not included in the Red Book of Kazakhstan.

Legal frameworks by range State

Range State	Summary
Mongolia	Legally protected since 1930, and listed in the Red Book of Mongolia since 1987 (Mallon 2008).
Kazakhstan	In 2012, the Republic of Kazakhstan banned the use of saigas, their parts and derivatives throughout the territory until 2020, except for scientific purposes. Hunting is prohibited until 2020.
Uzbekistan	Listed in Appendix I of the Red Data Book of the Republic of Uzbekistan since 2003 (Kreutzberg-Mukhina 2004).
Turkmenistan	In 2011, the Saiga was moved to the Red list (CMS 2015).
Russian Federation	Listed in the Red Book of threatened species since 2015 (Kalymkov, 2015). It was also added to the list of valued biological resources, making it illegal to sell their parts in 2013.

7.2 International

S. tartarica has been included in CITES Appendix II since 1995 (after CoP9). In 2002, the saiga antelope was listed as Critically Endangered on the IUCN Red List of Threatened Species (Mallon, 2008). It is also listed on Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS).

Additionally, the CMS Memorandum of Understanding (MoU) on the Saiga Antelope has been signed by all five range States: Kazakhstan (in 2006), Mongolia (2010), Russian Federation (2009), Turkmenistan (2005) and Uzbekistan (2006). The 10 official cooperating organizations of the Saiga MoU are: CMS Secretariat, Ministry of Nature and Environment of Mongolia, International Council for Game and Wildlife Conservation, IUCN/SSC, WWF International, Fauna and Flora International, Frankfurt Zoological Society, Wildlife Conservation Society, Association for the Conservation of Biodiversity of Kazakhstan and Saiga Conservation Alliance (CMS 2014a). The overall purpose of this MoU (which is a legally non-binding international instrument) is to restore saiga populations, with the goal of population increase (and halting population decline). To achieve this, the MoU focuses on several activities, including: improving and increasing population monitoring; improving protected area networks; reducing poaching; creating alternative livelihoods; captive breeding; and raising awareness at all levels (CMS 2014a). In 2014, 14 Asian countries agreed to the Central Asian Mammals Initiative (CAMI) of CMS, which is a "coherent regional strategy to guide

implementation of CMS and its instruments targeting Central Asian migratory mammals" (CAMI 2014). This focuses on fostering collaboration between all stakeholders and strengthening the implementation of CMS strategies (CAMI 2014). Additionally, CMS CoP11 adopted Guidelines on Mitigating the Impact of Linear Infrastructure and Related Disturbance on Mammals in Central Asia (CMS Resolution 11.24). These are relevant to saiga conservation and are legally binding for all CMS Parties, including Mongolia, Kazakhstan and Uzbekistan (CMS 2015).

In 2017, CMS, pursuant to the Saiga MoU, created the first atlas of central Asian migration routes of 10 affected wildlife species along with planned and constructed infrastructure. This is an important database to inform infrastructure decisions and reduce harm to migratory wildlife (CMS 2017). The CMS policies also focus on removing barriers to migration, and creating transboundary ecological networks to maintain animal migration throughout central Asia (CAMI 2014).

8. Species management

8.1 Management measures

The Red Books of range States provide legal protection in Mongolia, Uzbekistan, and the Russian Federation. Though legally protected, Kazakhstan does not list saiga in their Red Book (see section 7 above).

Since 1997, Russia has banned commercial hunting of saiga (von Meibom et al. 2010); it has also imposed criminal penalties since July 2013 on illegal hunting, keeping, procurement, storage, transportation, shipping and selling of saiga and their parts and products (Kalymov 2015). However, the scientific take of saiga is still allowed. Though poachers are criminally prosecuted in Russia, the majority of cases of saiga poaching remain undetected and not officially recorded (von Meibom et al. 2010).

Since 2005, Kazakhstan has banned the purchase or selling of saiga horns and derivatives. Under the initial directive, six stations were established in saiga home ranges to house mobile teams of inspectors (altogether 55 people) responsible for enforcing regulations and controlling illegal hunting (von Meibom et al. 2010).

Local communities in Uzbekistan have traditionally been allowed to consume meat and use saiga skulls in spiritual rituals. Since 2003, local communities shifted behavior to hunt primarily for meat for sale, with only 20% for consumption (von Meibom et al. 2010). Though Uzbekistan lists saiga in Appendix I of the Red Data Book of the Republic of Uzbekistan as Vulnerable, many of these local hunting traditions still continue.

The Mongolian saiga has been legally protected since 1930. Two protected areas, Sharga NR (286,900 ha) and Mankhan NR (30,000 ha), were designated in 1993 to protect most of the remaining areas of occurrence (Mallon, 2008).

8.2 Population monitoring

Monitoring efforts for saiga have primarily been joint initiatives. The recent aerial surveys of Kazakhstan saiga were commissioned by the Forestry and Wildlife Committee, Ministry of Agriculture of the Republic of Kazakhstan. Researchers,

regional forestry and wildlife inspectorates and State Reserves conducted the surveys (Grachev 2017).

Kazakhstan has a very comprehensive monitoring program, across almost the entire range area of the country. Satellite tagging of saiga has been the predominant population monitoring methodology in recent years. Since 2009, the Association of the Conservation of Biodiversity of Kazakhstan (ACBK) and the State agency "Okhotzooprom" of the Forestry and Wildlife Committee have jointly satellite-tagged saiga in the Ural and Ustyurt populations.

In 2014, Mongolia conducted several ground surveys (CMS 2015). In Mongolia the 2017 satellite collaring took place through an initiative of the Wildlife Conservation Society (WCS), WWF-Mongolia, the Veterinary department of Govi-Altai, Khovd aimag, and Saiga Conservation Network Team (WWF 2017). Since 2007, the Institute of Wildlife Studies and WCS have partnered to develop and implement monitoring of saiga in Mongolia (Berger et al. 2008).

The Centre for Wild Animals of the Republic of Kalmykia started the Participatory Monitoring Program in 2008 (Doward 2013).

8.3 Control Measures

8.3.1 International

The saiga has been categorized as Critically Endangered on the IUCN Red List of Threatened Species since 2002. The species is currently listed on CITES Appendix II and CMS Appendix II.

8.3.2 Domestic

Since 2005, Kazakhstan has banned the purchase or selling of saiga horns and derivatives. Under the initial directive, six stations were established in saiga home ranges to house mobile teams of inspectors (altogether 55 people) responsible for enforcing regulations and controlling illegal hunting (von Meibom et al. 2010).

8.4 Captive breeding

There are eight known captive centers and breeding centers in the world for saiga (not including zoos) (SDZG and SCA 2017). Six of these occur in the current range of saiga (four in Russia, two in Kazakhstan), and two occur in Ukraine (in a semi-captive reserve) and China. Currently there are 907 saiga in captivity (SDZG and SCA 2017).

In the past, captive breeding in zoos has shown poor success (Enderby 2017, SDZG and Sca 2017). In the past, it was thought that semi-captive breeding reserves had the most success (Gavrilenko 2009), however there has been some captive breeding success more recently (SDZG and SCA 2017). The Centre for Wild Animals of Kalmykia in the Russian Federation was a leading research and breeding program of saiga, however, lack of funding caused a downsizing and it has closed to the public (SCA 2016). In 2014, the other Russian breeding center faced rapid mortality dropping from 95 to 4 individuals over a few weeks in the summer (CMS 2015). In 2003, the Hunting Department of the Russian Ministry of Agriculture created the Saigak Nursery as part of the Astrakhan State Development Hunting Farm (also called Experimental Hunting enterprise). In January 2014, two captive born male saiga were released into

the wild within the Stepnoi reserve with radio collars. Ultimately, both animals died (one by predators and one by humans); it is believed both animals participated in rutting (Franov et al. 2014). In late 2017, five saiga males were to be released into the Stepnoi Reserve (Enderby 2017).

In August 2017, the Saiga Conservation Alliance and San Diego Zoo Global hosted the first
Saiga Conservation Captive Breeding Workshop. Saiga conservationists from Russia, Kazakhstan, Mongolia, China, Uzbekistan, United States, and United Kingdom attended. This meeting concluded that captive breeding can assist with the overall conservation of the saiga, “through breeding for release, education, scientific study and awareness-raising” (SDZG and SCA 2017).

8.5 Habitat conservation

Stepnoi State Nature Reserve in the Astrakhan region of Russia covers an area of 119,000 hectares and is the site of most of the north-west pre-Caspian population breeding. This population also occurs in the Chernye Zemli Biosphere Reserve (CMS 2015)

For the Ustyurt population, the only protected area is the Saigachiy State Sanctuary in Uzbekistan (1,000,000 ha) (CMS 2015).

For the Mongolian population, Sharga-Mankhan Nature Reserve (390,000 ha) was established in 1993 (CMS 2015).

There are several protected areas in the range of the Betpak-Dala population, and the first ecological corridor connecting key protected areas was designated in 2014. This includes the Altyn Dala, a 500,000 hectares reserve in Kazakhstan, created in 2012 (CMS 2015, SCA 2012).

In Kazakhstan, two forms of reserves are proposed to manage hunting and promote conservation: zapovedniks, “nature reserves in which no hunting or other commercial activity is permitted, and no species may be disturbed in any way except for the purposes of scientific research” and zakazniks, nature reserves in which restrictions on hunting apply only to certain species at certain times of the year” (Bekenov, Grachevand, Milner-Gulland, 1998).

8.6 Safeguards

Other than the legal instruments and management efforts previously described, no safeguards are in place for this species.

9. Information on Similar Species

The protuberant nose, which in males swells during rut, distinguishes the saiga from other antelope (Schweiger, 1993).

10. Consultations with range States

To be added

11. Additional Remarks

N/A

12. References

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