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PROPOSAL FOR THE INCLUSION OF THE STRIPED HYENA *(Hyaena hyaena)* ON APPENDIX I AND II OF THE CONVENTION*

Summary:

The Governments of the Republic of Tajikistan and the Republic of Uzbekistan have jointly submitted the attached proposal for the inclusion of the striped hyena *(Hyaena hyaena)* on Appendix I and II of CMS.

*The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CMS Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

PROPOSAL FOR INCLUSION OF THE STRIPED HYENA (Hyaena hyaena) ON APPENDIX I AND II OF THE CONVENTION

A. PROPOSAL

Inclusion of the striped hyena (*Hyaena hyaena*), including all geographic populations and subspecies on the Convention of Migratory Species of Wild Animals (CMS) Appendix I and II.

B. PROPONENT

Tajikistan & Uzbekistan

C. SUPPORTING STATEMENT

1. Taxonomy

1.1. Class: Mammalia

1.2. Order: Carnivora

1.3. Family: Hyaenidae

1.4. Genus, species or subspecies, including author and year:
Hyaena hyaena (Linnaeus, 1758)

1.5. Scientific synonyms: None

1.6. Common name(s), in all applicable languages used by the Convention:
English: Striped Hyena
Spanish: Hiena Rayada
French: Hyène rayée

2. Overview

The IUCN Red List (2020) currently classifies the striped hyena as *Near Threatened* at the global level and as *Vulnerable* within the Mediterranean region. The global population is estimated to range between 5,000 and 9,999 mature individuals (AbiSaid & Dloniak, 2015; Jdeidi et al., 2010). A continuing population decline has been documented, and the species is believed to be approaching the threshold for global Vulnerable status under criterion C1, indicating a projected reduction of at least 10% over the next three generations. However, the current assessment is constrained by limited and outdated data, highlighting the need for a comprehensive update (AbiSaid & Dloniak, 2015). Population densities are naturally low, making them highly vulnerable to local extinction.

The striped hyena inhabits a wide range of environments across Asia and Africa, including savannas, grasslands, semi-deserts, open woodlands, and mountainous region (Hofer & Mills, 1998). The species faces several threats including habitat loss and fragmentation due to agricultural expansion, urbanization, and infrastructure development, reduced prey availability following the decline if other large carnivores and changes in livestock practices, as well as illegal hunting and trade (AbiSaid & Dloniak, 2015; Hofer & Mills, 1998). Persecution often occurs due to human-wildlife conflict (HWC) with herders or owners of crops, often driven by negative perceptions across much of its range.

The species exhibits divers movement patterns including long-distance dispersal events and seasonal or nomadic movements in response to prey availability and environmental conditions. (Hofer & Mills, 1998; Wagner, 2006; Kucheruk, 1995). In arid and semi-arid regions, where resources are scarce and patchily distributed, striped hyenas may range widely

and crossing international borders in search of food and water. Seasonal influxes have been locally recorded following the migrations of domestic and wild ungulates, indicating a strong ecological link to transboundary species movements (Hofer & Mills, 1998; Kucheruk, 1995). Such mobility is critical for maintaining genetic connectivity, recolonizing depleted areas, and ensuring long-term population viability. Evidence indicates that striped hyenas occupy multiple transboundary regions across their range, including parts of Africa, the Middle East, and Central Asia. Occurrences in key transboundary corridors, such as those identified under the Central Asian Mammals Initiative (CAMI), demonstrate the species' dependence on cross-border connectivity. These patterns underline the importance of coordinated international conservation measures, placing the striped hyena within the scope of the CMS mandate for collaborative conservation of migratory species.

Therefore, this proposal seeks to include the striped hyena in Appendix I and II under Article III of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) despite its outdated IUCN listing as *Near Threatened*. Listing under both Appendices would provide the highest level of international protection, obligating member states to implement measures to safeguard the species and its habitats. It would also enable local governments with stronger policy frameworks, helping to overcome bureaucratic barriers that currently limit effective conservation. By facilitating coordinated transboundary conservation actions, the amendment would contribute to stabilizing and ultimately increasing striped hyena populations across their range, ensuring the species' survival for future generations.

3. Migrations

3.1 Kinds of movement, distance, the cyclical and predicable nature of the migration

Striped hyenas exhibit a range of movement patterns, from daily foraging to long-distance dispersal, which play an important role in maintaining gene flow and population viability. However, due to their elusive and largely nocturnal behaviour, data on movement patterns remain scarce.

Daily and Seasonal Movements
In Kenya, striped hyenas were recorded traveling an average of 12.4 km in a 24-hour period, with activity levels averaging 31.5% over the daily cycle. Males were generally more active than females, traveling greater distances per hour, per night, and showing higher nightly net displacement, which the peak activity occurring during the night. Males also spent a greater proportion of time in natural habitats, while females were more often found in human-dominated areas (Kolowski et al., 2007; Bar-Ziv et al., 2022). In arid environments, where food and water are scarce and patchily distributed, striped hyenas may range widely and cross international borders in search of resources. They are known to congregate and disperse in response to food availability (Wagner et al., 2008).

Dispersal Movements
Dispersal is critical for maintaining connectivity between populations. In India, an individual was documented dispersing 85 km from its initial capture location (Latafat et al., 2025). Reported home ranges vary considerably, with estimates of 44 km² and 72 km² in the Serengeti (Kruuk, 1976). In Turkmenistan, it was observed that striped hyenas have larger home ranges outside the breeding season, with younger individuals often leading a more "nomadic" lifestyle, and showing wide-ranging dispersal (Kucheruk, 1995).

Genetic evidence points to a natural capacity for wide-ranging movements over evolutionary timescales. Striped hyenas emigrated from Africa into Eurasia less than 100,000 years ago, leading to a substantial geographical and rapid range extension. Identical mtDNA sequences found thousands of kilometers apart suggesting high rates of long-distance dispersal during

both the Pleistocene and Holocene, underscoring the species capacity for wide-ranging dispersal despite currently low genetic diversity (Rohland et al., 2005).

3.2 Proportion of the population migrating, and why that is a significant proportion

Although precise data on the proportion of striped hyena populations which undertake long-distance or seasonal movement is lacking, it can be indicated that such movements may involve a significant proportion of local populations in certain regions. As striped hyenas primarily inhabit arid and semi-arid environments, the scarcity and seasonal variability of resources are likely to drive such movements, which include potentially crossing international borders during daily or annual foraging activities. Moreover, due to their naturally low densities, even if only a fraction of individuals migrates, this represents likely a biologically significant proportion of the population. Therefore, threats affecting migration and dispersal can have severe impacts on local population viability. Furthermore, anticipated impacts of climate change in arid environments are likely to increase the need for striped hyenas to migrate longer distances during foraging and in search of suitable habitats and water sources.

In addition, recent data indicate that striped hyena populations are more interconnected across their range than previously assumed. Occurrence records suggest a largely continuous and extant distribution extending from coastal Oman through Yemen and northwards along the western mountain belt of Saudi Arabia to Jordan and Israel. From this region, the range appears to remain connected through Syria into Türkiye and Iraq. Consequently, rather than existing as discrete population clusters, the species exhibits contiguous distribution across multiple countries, making transboundary movements likely (IUCN Hyaena Specialist Group, pers. comm., October 2025).

Expert consultations with members of the IUCN Hyaena Specialist Group (October 2025, pers. comm.) further indicate that following populations likely depend on cross-border connectivity to maintain viable numbers and genetic exchange:

- **Oman / Yemen / Saudi Arabia:** The Oman population appears increasingly isolated and may rely on maintaining connectivity with Yemen, while the western mountains of Saudi Arabia likely serve as an ecological corridor.

- **Lebanon / Israel:** Israel may function as a source population, supporting smaller, lower-density groups in neighboring parts of Lebanon.

- **Georgia / Azerbaijan:** Although records are scarce, it is possible that a small population persists along the southern edge of the Caucasus Mountains spanning both countries

- **Armenia / Azerbaijan / Iran:** Populations in Iran likely support individuals occurring along the southern borders of Armenia and Azerbaijan.

- **Turkmenistan / Iran:** The shared border zone, particularly in and around the Badkhyz Nature Reserve, is considered an important transboundary range for the species in Central Asia.

- **Algeria / Morocco / Tunisia:** Algeria likely supports declining or smaller populations in Morocco and Tunisia.

- **Libya / Egypt:** A small, possibly residual population may occur across this border area, requiring further field research and cooperation.

- **Burkina Faso / Benin / Niger:** The W–Arly–Pendjari (WAP) national park complex population is inherently transboundary.

- **Senegal / Mali / Mauritania:** Connectivity among these countries sustains the species at the southwestern edge of its range.

- **Egypt / Sudan / Eritrea:** The mountain chain along the Red Sea forms an important corridor connecting populations across these countries including Djibouti and Ethiopia.

- **Djibouti / Ethiopia:** Given Djibouti's small size, any population present there is likely dependent on immigration from Ethiopia.

Additionally, there are several confirmed occurrences of striped hyenas within transboundary regions, particularly in areas defined as priority Transboundary Conservation Regions (PTCRs) under CAMI. CAMI provides a common strategic framework for the conservation of CMS-listed mammals and their habitats across the wider Central Asian region. The species has been recorded within the PTCR Kopetdag, which spans Turkmenistan and Iran and includes several protected areas (Conservation X-Labs, pers. Comm., October 2025). Additional occurrences are documented from the PTCR Western and Southern Ustyurt, covering parts of Turkmenistan and Uzbekistan. Further evidence from the Badhyz State Nature Reserve in Turkmenistan, which is located near the borders with Iran and Afghanistan also highlights the species' presence in transboundary landscapes (Conservation X-Labs, pers. Comm., October 2025). Beyond Central Asia, recent findings from Nepal display the striped hyena's occurrence in the Terai ecosystem, situated in the southern part of the country near the Indian border, suggesting likely cross-border movements (Devkota et al., 2025).

Collectively, these records and expert insights demonstrate that the striped hyena occupies multiple transboundary regions and undertakes wide-ranging movements and dispersal events. This underlines the importance of coordinated, cross-border conservation measures. While the proportion of individuals engaging in long distance or seasonal movements might require further quantification, these patterns clearly place the species within the scope of the CMS mandate for coordinated international conservation action. Further research, such as expanded GPS telemetry, cross border data sharing, and systematic mapping of corridors and barriers will be crucial, and these efforts can be most effectively advanced under a CMS Appendix I and II listing.

4. Biological data (other than migration)

4.1 Distribution (current and historical)

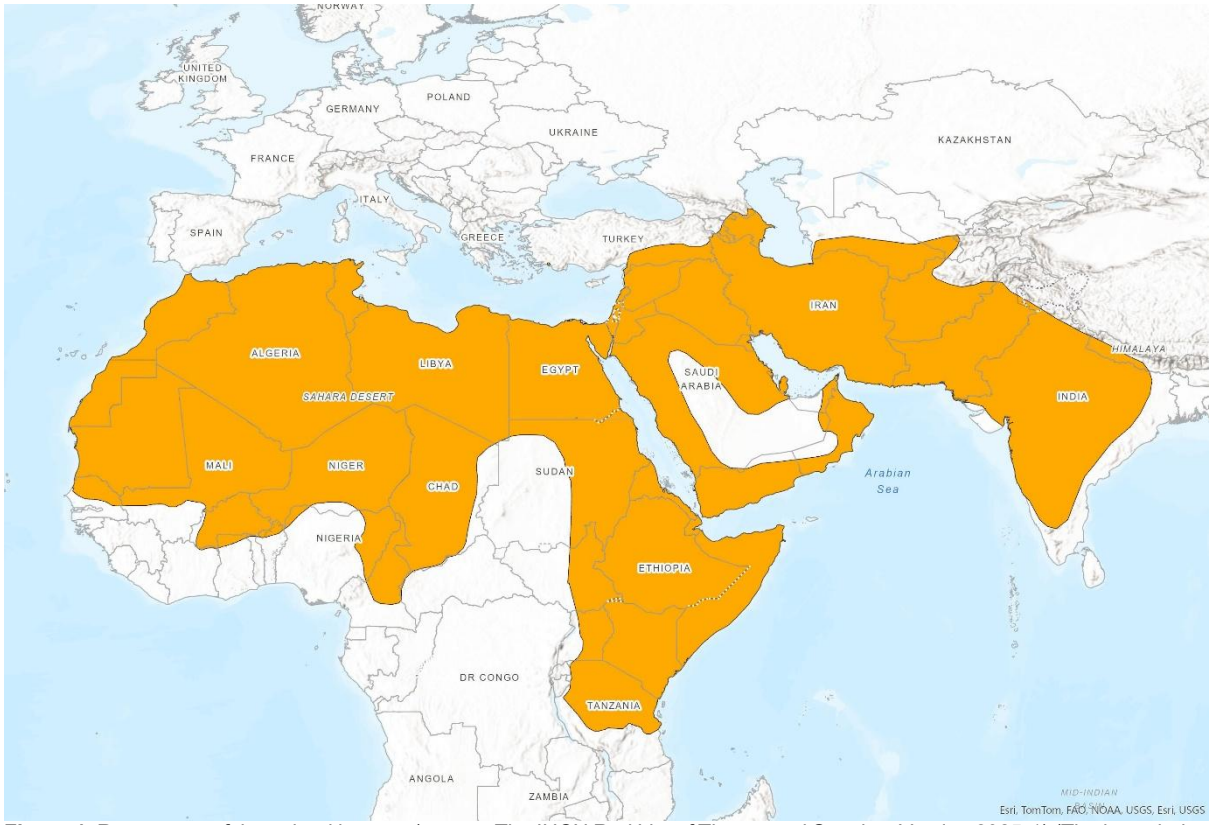

Figure 1. Range map of the striped hyaena (source: The IUCN Red List of Threatened Species. Version 2025-1) (The boundaries and names shown and the designations used in this map might not imply official endorsement or acceptance by the United Nations.)

The striped hyena has a wide but increasingly patchy distribution, spanning parts of Africa, the Middle East, South Asia and the Mediterranean basin as far as Türkiye (AbiSaid & Dloniak, 2015; Hofer & Mills, 1998; Kasparek et. al., 2004). In Africa, it occurs north of and including the Sahel, with more continuous populations in countries such as Ethiopia, Kenya and Tanzania, but missing in the Congo basin and southern Africa (AbiSaid & Dloniak, 2015). Although no records exist from the Central African Republic, the species may potentially occur within the northern savannah ecosystems (Wagner, 2006). Elsewhere, particularly in West Africa, the Sahara, and parts of the Middle East, the Arabian Peninsula, the Caucasus region, and Central Asia, populations tend to be small (Hofer & Mills, 1998). In South Asia, the species, extends across the Indian subcontinent but is absent from regions such as Assam, Bhutan and Myanmar and did not enter the Himalayan range or the Hindukush in Afghanistan. However, recent studies indicate a historical distribution extending into Bangladesh and the species is currently recorded as far east as 87° longitude, thereby extending the currently documented range of striped hyenas by nearly 1,000 km2 (Akash et al., 2021). Although historically present, there are few reliable recent records of occurrence in Sudan, Eritrea, Somalia, Qatar, Kuwait, and the United Arab Emirates (AbiSaid & Dloniak, 2015; Cunningham, 2004).

4.2 Population (estimates and trends)

The global population is estimated to be at approximately 5,000 to no more than 10,000 mature individuals according to the 2015 IUCN Red List assessment (AbiSaid & Dloniak, 2015). Population estimates vary across regions, with some areas having critically low

numbers and often fragmented populations reported in parts of North Africa, the Middle East and Central Asia. According to Hofer and Mills (1998) the African population is estimated at 2,450 to 7,850 individuals, representing roughly half of the global population based on their worldwide estimate of 5,000 to 14,000 individuals. Although outdated, this study remains the most comprehensive population assessment for the species to date. The IUCN Red List assessment is currently annotated as “needs updating”, which highlights the urgent need for updated population estimates. Accurate population estimates are challenging due to the species’ elusive nature and nocturnal habits. However, field studies and surveys indicate that the population is declining in most parts of its range. Conservation efforts need to focus on improving population monitoring to obtain more reliable data (Akash et al., 2021). Currently, the only evidence-based reports of increasing subpopulations come from Israel, where the striped hyena population appears to be growing (Hadad et al., 2023).

4.3 Habitat (short description and trends)

The striped hyena occupies a broad range of habitats across arid and semi-arid environments, showing a strong preference for open terrain, such as light thorn bush, savannahs, and open woodlands (AbiSaid & Dloniak, 2015). It typically avoids extreme desert interiors, dense forests, and high-altitude regions, although it has been recorded at elevations up to 3,300 meters in some areas (AbiSaid & Dloniak, 2015; Roberts, 1977). The species is adaptable and can inhabit mountainous regions, rocky valleys, riverine areas, and bushy terrain, provided there are sufficient denning sites such as caves or thickets (Hofer & Mills, 1998). In some parts of its range, the striped hyena also occurs near human settlements outside protected areas in peri-urban and agricultural mosaics, where it may scavenge for food, demonstrating a degree of tolerance to anthropogenic environments (Abi-Said & Marrouche Abi-Said, 2007; Alam et al., 2014; Panda et al., 2022). For example, a recent study from Nepal predicted that only 23.15% of suitable habitat for striped hyenas falls within protected areas of the country (Devkota et al., 2025). However, its distribution within its possible habitats remains patchy, influenced by climate constraints, particularly cold temperatures and prolonged frost, and the availability of suitable shelter and food sources (Hofer & Mills, 1998).

4.4 Biological characteristics

The striped hyena is primarily solitary, though small groups may occasionally form, especially among larger subspecies. Home ranges can be extensive and often overlap, with little evidence of territoriality. In Turkmenistan, striped hyenas were historically observed living in small of up to 10-15 individuals, and sometimes more, occupying dens spaced 400- 500 m apart or less (Kucheruk, 1995). Over the past 10-15 years, however, such groups have declined in size, and many previously occupied denning networks have been abandoned, which is most likely attributable to increased persecution and extermination of many such groups. In Kenya home range sizes were estimated at 68.9 km^2 (Wagner, 2006), while in the Serengeti, reported ranges for one male and one female were 44 km^2 and 72km^2, respectively (Kruuk, 1976). Additionally, a study from Israel found that females traveled less than males per hour and per night, indicating sex-based differences in movement patterns and time allocation within the species (Bar-Ziv, 2022). Communication involves scent marking, visual displays using the mane, and ritualized greetings such as sniffing and licking (Hofer & Mills, 1998).

Breeding occurs year-round, with litters of one to four cubs born after a gestation period of about 90 days. Cubs are born blind and dependent, with weaning occurring after several months. The cubs are raised in dens, natural caves or simple rock depressions (Wagner, 2006). Both parents may help provide food, and sexual maturity is typically reached by two to three years of age (Hofer & Mills, 1998). However, observations from Israel have documented cases of alloparental care, with daughters from a previous litter assisting in rearing of younger cubs. This behaviour typically began when cubs are around one month old and continues until

they begin foraging at 10-12 months of age. The same study found that females supported by alloparental helpers tended to rear more cubs compared to females with fewer helpers (Hadad et al., 2023). Body mass ranges from 26 to 41 kg in males and 26 to 34 kg in females (Hofer & Mills, 1998).

Diet is mainly scavenged carrion, though some populations hunt small to medium-sized animals, including livestock. The species also feeds on fruits, invertebrates, small mammals, birds and human refuse, showing a high degree of dietary flexibility (Hofer & Mills, 1998).

4.5 Role of the taxon in its ecosystem

The species is primarily nocturnal and scavenges for food, playing an important ecological role in ecosystems by consuming carrion, aiding in nutrient cycling and preventing the spread of diseases. Its strong jaws and digestive system allow it to consume bones and other tough materials that other predators might leave behind. This scavenging behavior helps to clean the environment and reduce the spread of diseases. Striped hyenas often follow herders, consuming the carcasses of dead animals, and they also follow large carnivores such as leopards, cheetahs, lions, wolves, spotted hyenas and tigers, benefiting from the remains of their kills (Hofer & Mills, 1998). Moreover, studies have shown that replacing scavengers with artificial carcass disposal can lead to substantial environmental costs by emitting significant tons of CO^2 annually, highlighting the ecosystem services provided by scavengers like the striped hyena (Morales-Reyes et al., 2015).

Striped hyenas interact with other carnivores primarily through dominance hierarchies and competition rather than predation of smaller carnivores. They are typically subordinate to lions and spotted hyenas, while interaction with cheetahs and leopards are less predictable, though these species generally hold dominance over striped hyenas (Wagner, 2006). In Turkmenistan they are ecologically subordinate to Persian leopards. They often closely follow them and scavenging from their kills once the carcass has been abandoned. Notably, there are no documented cases of predation by Persian leopards on striped hyenas in Turkmenistan.

5. Conservation status and threats

5.1 IUCN Red List Assessment (if available)

The striped hyena is currently listed as Near Threatened on the global IUCN Red List (AbiSaid & Dloniak, 2015), while a regional assessment for the Mediterranean population classifies the species in this region as Vulnerable (Jdeidi et al., 2010). These assessments are based on ongoing population declines driven by deliberate and incidental persecution, reduced prey availability, and a small, fragmented wild population. The species is considered to be approaching the threshold for global Vulnerable status under Criterion C1, which indicates a projected population decline of at least 10% over the next three generations (AbiSaid & Dloniak, 2015). The Mediterranean assessment already meets this threshold based on observed declines exceeding 10% over three generations (Jdeidi et al., 2010). The global assessment, last updated in 2015, is annotated as “needs updating”, reflecting its reliance on outdated data, information and literature. This is a clear basis for precautionary action for a coordinated, range-wide reassessment and monitoring framework under CMS.

5.2 Equivalent information relevant to conservation status assessment

The current IUCN Red List assessment estimates the global population at 5,000 – 9,999 mature individuals. However, these figures are largely derived from “Hyeanas: Status Survey and Conservation Action Plan” by Hofer and Mills (1998), which itself relies on even earlier sources. Since then, there have been significant changes in the species’ habitat, population dynamics and threats, which are not reflected in the current IUCN listing, underscoring the

urgent need for a comprehensive updated assessment as there is no evidence that the situation has improved and threats have decreased. As the current population estimates are based on limited data and carry a high degree of uncertainty, it is advisable to rely on the lower bound of the estimate, as it represents the most precautionary scenario and helps avoid underestimating the risks to the species, particularly when informing conservation strategies.

5.3 Threats to the population (factors, intensity)

The primary threats to the striped hyena include habitat loss and fragmentation, human-wildlife conflict, direct persecution and illegal trade (AbiSaid & Dloniak, 2015; Hofer & Mills, 1998). Many subpopulations persist at naturally low densities, elevating local extinction risk and underscoring the value of Appendix I and II measures. Although the key threats to striped hyenas are well recognized, the knowledge of intensity is hard to assess due to limited research and monitoring.

Habitat Loss & Fragmentation is driven by agricultural expansion, urbanization and infrastructure development. These processes not only reduce the availability of suitable habitats and prey, which is further exacerbated by the decline of other large carnivores such as wolves, leopards, lions or tigers, which leads to a reduction in carrion availability. Additionally, shifting livestock practices further contributed to this decline in carrion resources (AbiSaid & Dloniak, 2015; Hofer & Mills, 1998). In addition, striped hyenas typically occur at low densities with relatively large home ranges, making them susceptible to habitat fragmentation (Hofer & Mills, 1998). Striped hyenas are vulnerable to human population growth and habitat destruction because they largely exist outside of protected areas in agricultural landscapes (Wagner, 2006). Moreover, striped hyenas are disproportionally affected in some regions by vehicle collision, the majority of which result in fatalities (Hadad et al, 2023; Tourani et al., 2012). In Israel in particular, such collisions have become a leading cause of mortality. The species faces elevated risk because individuals are often attracted to roads while scavenging, leading to an increase in such incidents. Given the naturally low population densities of striped hyenas, each fatality imposes a significant demographic cost. This threat further compounds in regions, where high human population density and limited open spaces are intersected by dense road networks. This underscores that linear infrastructure represents a direct threat to the species and mitigation should be treated as a central implementation priority in affected regions. Integrating ecological corridors, including those spanning national borders, will be essential to reduce mortality and maintain connectivity.

Human-Wildlife Conflicts often arise when striped hyenas prey on livestock or cause damage to agricultural crops such as watermelons, which leads to retaliatory killings from farmers. Such conflicts are particularly prevalent in regions where pastoralism is widespread (AbiSaid & Dloniak, 2015; Wagner, 2006). Across their assessed range, humans have been identified as the primary cause of striped hyenas' mortality, driven by several negative superstitions and associations as grave robbers (AbiSaid & Dloniak, 2015).

Direct Persecution is partly driven by negative superstitions and human-wildlife conflicts leading to intentional direct poisoning, destruction or blockage of dens, and the use of fire as a deterrent (AbiSaid & Dloniak, 2015). Historically striped hyenas have been the subject of numerous superstitious beliefs across various cultures worldwide (Moures-Nouri et al., 2023). Moreover, there are localized documented cases of striped hyenas being captured in remote tribal regions and subjected to training for use in illegal dog fighting activities. Additionally, it is widely exploited and commercially hunted for its body parts, which are believed to have medicinal or magical properties (AbiSaid & Dloniak, 2015). The use of illegal poisons to control conflict-prone species due to damage to agriculture or livestock represents a serious problem across some of the striped hyena's range. Such non-selective toxicants can cause high levels

of collateral mortality among non-target species, especially scavengers such as striped hyenas.

The Illegal Wildlife Trade poses a significant and ongoing threat to the striped hyena, with various body parts such as bones, skins and organs being used in traditional medicine, as aphrodisiacs, and for other purposes. Notably, the sexual organs and rectum of female spotted and striped hyenas have been used until recently in practices of love magic in eastern Africa, Iran, Turkmenistan and Afghanistan (Hofer & Mills, 1998). In some range countries, black markets specifically target anatomical parts, including eyes, which are traded for use in traditional remedies claimed to treat chronic diseases, including cancer. Additionally, hyena cubs are often captured by poachers and sold to private pet shops or zoos for display purposes. These practices continue to drive illegal hunting and trade, further threatening the species.

5.4 Threats connected especially with migrations

Striped hyenas occupy large home ranges and frequently move between different key habitats and close to human settlements. These movements expose them to several threats directly related to migration. Habitat loss and fragmentation, particularly due to urban expansion and infrastructure development, disrupt essential movement corridors. This is especially critical as striped hyenas occur at low densities and isolated populations can become small and non-viable (Hofer & Mills, 1998). In Turkmenistan, striped hyenas inhabit arid landscapes, which makes them dependent on water sources. Ongoing reductions in water availability, driven by climate change, are likely to increase their movement across larger areas. This may include cross-border dispersal in search of water resources.

Linear infrastructure, such as roads and highways, also poses a significant risk. Striped hyenas are disproportionately involved in wildlife-vehicle collisions due to their scavenging behavior, and such incidents are increasing locally (Hadad et al., 2023). Given their low population densities, such mortality events can have a considerable local impact on isolated populations.

Furthermore, the species' wide distribution leads it to cross international borders, including those within conflict zones or militarized areas. In such areas, physical barriers such as border walls and fences can severely hinder natural dispersal and genetic exchange between populations. This not only intensifies habitat fragmentation but also increases the risk of local population decline or extinction.

5.5 National and international utilization

Although the full scale of illegal trade is difficult to quantify, numerous reports from range states confirm its persistence and growth. The species is frequently targeted for body parts, such as bones, skin, eyes and organs, used in traditional medicine and aphrodisiac properties. B (Hofer & Mills, 1998; Frembgen et al., 1998; Thakur, 2024). Demand for these products drives illegal hunting and trafficking, posing a significant threat to wild populations [In AbiSaid & Dloniak 2015 (G. Serra pers. comm. 2014)].

Moreover, cubs are captured and sold into the exotic pet trade or to unregulated zoos, often under poor welfare conditions and weak enforcement. Additionally, there are documented cases of hyenas being captured for illegal dog fighting activities. The absence of systematic data and comprehensive trade records hinders accurate assessments of the scale and volume of trafficking in many countries.

According to the CITES Trade Database, between 2014 and 2023, various specimens were reported as imported and/or exported by Parties. These records include confiscated or seized

specimens, individuals taken from the wild, animals born in captivity or not meeting the criteria for “bred in captivity, as well as parts and derivatives thereof, and pre-convention specimens.

Table. 1: CITES Trade Database overview of *H.hyaena* from 2014 – 2024 distinguished between importer and exporter reported quantity. (accessed 10.07.2025).

Term	Importer Reported Quantity	Exporter reported quantity
Live	31	41
Trophies	27	30
Specimens	4	3
Skin pieces	0,33	1,33
Skins	0	4
Rug	0	1
Skulls	1	0

6. Protection status and species management

6.1 National protection status

The striped hyena is protected under national laws in Tajikistan and many range countries. These laws vary in their effectiveness and enforcement, with some countries having stronger protection than others. National laws protecting the striped hyena include hunting bans, habitat protection measures, and penalties for illegal trade. However, the effectiveness of these laws depends on the capacity and commitment of wildlife protection agencies to enforce them.
The conservation status of the striped hyena varies nationally across its range, with designations often differing from the global IUCN Red List assessment of *Near Threatened*. Furthermore, many national assessments do not align with IUCN criteria, making direct comparisons difficult. However, in most countries the species is considered at greater risk than its global IUCN status, highlighting the need for an updated global IUCN assessment.

In the regional Mediterranean IUCN assessment, which includes Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Tunisia, Syrian Arabic Republic and Türkiye, the striped hyena is assessed as *Vulnerable*, although national classifications may differ. For example, in Türkiye there is no Red List classification, but the species is included on a fully protected species list in the country, which poses a very high protection status and might refer to *Endangered* or *Critically Endangered*. In the Arabian Peninsula, including Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates and Yemen the species is considered as *Endangered*, although national classifications may differ here as well.

Some countries list the species as *Critically Endangered*, including Armenia, Georgia, Pakistan, Tajikistan, Uganda and Uzbekistan. In Nepal and Azerbaijan, it is listed as *Endangered*. Chad and Iraq consider the species *Near Threatened*, as does India, where it is included in Schedule III of the national Wildlife Protection Act, a designation roughly comparable to *Near Threatened*. Kenya and Turkmenistan classify the striped hyena as *Vulnerable.*

In several countries, such as Afghanistan, Burkina Faso, Cameroon, Djibouti, Ethiopia, Islamic Republic of Iran, Mali, Mauritania, and United Republic of Tanzania, no official protection status exists due to a lack of data, and the species is considered *Data Deficient*. Additionally, in Niger, Nigeria and Senegal the species is generally categorized as “*Threatened*”, a term that does not correspond directly to the IUCN system and thus complicates international comparison.

Overall, the majority of range states consider the striped hyenas nationally at greater risk than reflected in the global IUCN status. This discrepancy highlights the need for an updated global IUCN Red List assessment.

6.2 International protection status

The striped hyena is currently listed under Appendix III of CITES, following a request by Pakistan in 2014. Recently, efforts have been initiated to uplist the species to Appendix I, with a formal proposal submitted for consideration at the upcoming CITES CoP 20 in November 2025. Regardless of the outcome, this initiative reflects the growing recognition of the species' vulnerability and the need for increasing international commitment to its protection. There has been limited international focus and efforts dedicated to the conservation of the species, and existing measures remain insufficient to mitigate the threats it faces. Furthermore, the IUCN assessment for the species is outdated and currently marked as "needs updating". Additionally, to the global IUCN Red List Assessment there is a regional IUCN assessment for the mediterranean basin, which list the striped hyena as Vulnerable.

The species is currently not listed in the CMS.

6.3 Management measures

Conservation programs for the striped hyena are lacking in many of its range countries. In most areas, there is limited focus on habitat protection and conflict mitigation, although in Tajikistan, there are ideas for conservation initiatives including habitat restoration projects, anti-poaching efforts, population monitoring and community engagement. However, current community-based initiatives, anti-poaching efforts, and habitat restoration projects are either insufficient or non-existent across much of the species' range.

Effective management measures, such as the establishment and maintenance of protected areas, community-based conservation programs, and initiatives to reduce human-wildlife conflict, are not adequately supported. Additionally, there are no significant widespread efforts to improve public perception of the striped hyena, which continues to fuel negative attitudes and contributes to human-wildlife conflict.

Globally, data on species is lacking or remains outdated. The most comprehensive reference is still the IUCN document "Hyaenas: Status Survey and Conservation Action Plan" from 1998, which relies on even older data. In addition, the current IUCN assessment is marked as "needs updating". There is a clear need for increased funding, capacity building, and coordinated stakeholder engagement to address the deficiencies and to improve long-term conservation efforts.

6.4 Habitat conservation

Due to their typically low population densities and large home ranges, striped hyenas are particularly vulnerable to habitat fragmentation and often occur outside formally protected areas. While they are present in many protected areas across their broad range, they frequently inhabit human-dominated landscapes where conservation efforts are limited. (Bhandari & Khanal, 2017; Hofer and Mills, 1998). As they are rarely the focus species of conservation management plans, and few initiatives target the species specifically, the use of Other Effective Area-Based Conservation Measures (OECMs) may offer valuable opportunities for supporting striped hyena conservation beyond traditional reserves. CMS guidance on coexistence including waste management, rapid carcass removal near roads and rapid conflict response are needed to complement protected areas. In addition, efforts are

needed to protect and restore habitats, particularly in transboundary areas, where coordinated cross-border conservation actions can enhance habitat connectivity and population viability.

6.5 Population monitoring

Monitoring programs are broadly limited and need to be expanded to provide accurate population estimates and distribution, detect trends and assess the effectiveness of conservation measures. Improved monitoring techniques, such as camera trapping and genetic analysis, are essential and needed for collecting reliable data to inform conservation strategies. However, effective monitoring is challenging due to the species' elusive and nocturnal behavior, low population densities, and preference for rugged terrain, which make systematic surveys difficult. (Hofer & Mills, 1998; Wagner, 2006). Additionally, striped hyenas are frequently misidentified as spotted hyenas (*Crocuta crocuta*) in regions where both species overlap, further complicating reliable data collection (Wagner, 2006). In Israel, unconventionally road kills of striped hyenas were used to assess local distribution and population trends of the species (Hadad et al., 2023).

7. Effects of the proposed amendment

7.1 Anticipated benefits of the amendment

Listing the striped hyena in both Appendices of the CMS would activate the Conventions strongest protection and raise international recognition of the species' conservation needs which enables to promote coordinated transboundary efforts and international cooperation to reduce barriers of movement. This can turn to improved legislation and policy frameworks essential for its long-term conservation. Range states would be encouraged to prioritize the species in national conservation strategies and management plans, including the development of standardized monitoring protocols. Additionally, Parties may benefit from establishing clear guidelines for managing human–wildlife conflicts, aligned with the obligations of a CMS listing, particularly in peri-urban and agricultural settings where coexistence challenges are most acute. Inclusion into both Appendices would also likely facilitate access to technical support and increase opportunities for financial funding for conservation measures. Furthermore, it would promote research to address critical data gaps and promote awareness and education initiatives aiming to mitigate human-wildlife-conflict based on developed national or local action programms for striped hyenas. Overall, the amendment would contribute to the long-term viability of striped hyena populations across their range.

7.2 Potential risks of the amendment

As striped hyenas also occur in peri-urban areas near human settlements, conservation measures must be extended to these environments. However, implementing such conservation measures in human-dominated landscapes can be challenging, as they may contradict local needs and interests. Despite these challenges, integrating conservation efforts into these areas is essential for the long-term conservation of the species.

7.3 Intention of the proponent concerning development of an Agreement or Concerted Action

The proponents intend to initiate a Concerted Action in order to include the striped hyena (*Hyaena hyaena*) in the CAMI Work Programme 2026-2032conained in Resolution 11.24. (COP13) proposed for amendment by COP15, following its inclusion in Appendix I and II of the Convention. This inclusion would facilitate coordinated, transboundary conservation efforts for the species across Central Asia, building upon the existing framework and collaborative mechanisms of the CAMI WP. As the current Work Programme already encompasses

activities consistent with this proposal, the integration of the striped hyena is expected to be both feasible and complementary to ongoing efforts.

8. Range States

The current IUCN Red List assessment lists the following range states:

Extant (resident):
Afghanistan; Algeria; Armenia; Azerbaijan; Burkina Faso; Cameroon; Chad; Djibouti; Egypt; Ethiopia; Georgia; India; Islamic Republic of Iran; Iraq; Israel; Jordan; Kenya; Lebanon; Libya; Mali; Mauritania; Morocco; Nepal; Niger; Nigeria; Oman; Pakistan; Saudi Arabia; Senegal; Syrian Arab Republic; Tajikistan; United Republic of Tanzania; Tunisia; Turkmenistan; Türkiye; Uganda; Uzbekistan; Western Sahara (non-self-governing territory); Yemen.

Presence Uncertain:
Benin; Central African Republic, Eritrea, Guinea, Kuwait, Qatar, Somalia, Sudan, United Arab Emirates

9. Consultations

Consultations were conducted with CMS National Focal Points of Range State Parties for the striped hyena. A summary of all comments received in sufficient time to enable their inclusion in the supporting statement are provided in Annex 1. Other comments than the listed ones were not received. In addition, consultations involved various stakeholders, including members of the IUCN Hyena Specialist Group (HSG) and other national, regional and international experts in the field of striped hyena research and conservation. Further consultations were undertaken with international and national non-governmental organizations (INGOs & NGOs) such as the Germany-based Nature And Biodiversity Conservation Union (NABU), Conservation X-Labs and the Tajikistan Nature Foundation (TNF).

10. Additional remarks

As noted above, the current IUCN Red List assessment for the striped hyena is outdated and marked with “needs updating.” In addition, there is a general lack of research on the species, particularly with regard to global and national population estimates. Existing threats and the effectiveness of conservation measures to address them also require systematic evaluation to ensure adequate protection. Therefore, in addition to updating the Red List status, it is advisable also to undertake the first Green List assessment for the species. Such an assessment could help stimulate further research, attract funding, and guide more effective conservation action to halt both regional and global declines.

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ANNEX

SUMMARY OF COMMENTS RECEIVED BY RANGE STATES AFTER CONSULTATION

CITES Party	Range State?	Summary of Information Provided
Afghanistan	Y	
Algeria	Y	
Armenia	Y	
Azerbaijan	Y	
Benin*	Uncertain	
Burkina Faso	Y	
Cameroon	Y	
Central African Republic*	Uncertain	
Chad	Y	
Djibouti	Y	
Egypt	Y	
Eritrea*	Uncertain	
Ethiopia	Y	
Georgia	Y	
Guinea*	Uncertain	
India	Y	
Iran (Islamic Republic of)	Y	
Iraq	Y	General Statement Iraq expresses full support for Tajikistan's proposal to include the striped hyena (Hyaena hyaena) in CMS Appendix I. Key Reasons for Support - Significant decline in striped hyena populations. - Limited geographical distribution. - Vulnerability to illegal and unsustainable hunting. Closing Note Iraq reaffirms strong support and readiness to contribute to joint conservation efforts.
Israel	Y	General Statement Israel fully endorses listing the striped hyena (Hyaena hyaena) in CMS Appendix I across its entire range Israel's support is based on scientific evidence from the Israel Nature & Parks Authority (INPA) and its role as a range state with a relatively large but vulnerable population. Scientific Rationale 1. Status & Data Quality: - Globally listed as Near Threatened (IUCN, 2015) with mature population estimated in the low five figures. - Assessment flagged for update; precautionary action and coordinated range-wide monitoring are recommended.

CITES Party	Range State?	Summary of Information Provided
		2. Threats: - Habitat loss and fragmentation, persecution, illegal trade. - Subpopulations at naturally low densities, increasing local extinction risk. 3. Movements & Transboundary Relevance: - Wide-ranging movements, dispersal, and use of cross-border landscapes. - Some uncertainty on long-distance or seasonal movements, highlighting need for further study. 4. Added Value of Appendix I: - Provides strongest CMS protections: prohibitions on take, targeted habitat measures, reduced movement barriers. <u>Priority Implementation Emphasis</u> - Road collisions: Major mortality factor; hotspot mitigation, carcass removal, and wildlife-passage solutions are essential. - Illegal poisoning: Non-selective poisons for conflict-prone species cause collateral mortality among hyenas and vultures; zero-tolerance enforcement recommended. <u>Review and Inputs on Proposal Sections</u> - Support inclusion of all populations/subspecies - <u>Status, Data, Precaution (Sections 2; 5.1–5.2):</u> Recommend CMS-coordinated reassessment, standardized methods, and conservative planning using lower-bound population estimates. - <u>Movements & Connectivity (Section 3):</u> Proposal appropriately highlights knowledge gaps. Recommend additional methods and measures. - <u>Threats & Monitoring (Sections 5.3–5.4; 6.5):</u> Focus on road-collision mitigation, illegal poisoning prevention - <u>Human-Dominated Landscapes & OECMs (Sections 4.3; 6.4):</u> Hyenas persist outside protected areas; recommend CMS guidance on coexistence and expanded use of Other Effective Area-Based Conservation Measures (OECMs). - <u>Anticipated Benefits & Next Steps (Sections 7.1; 7.3):</u> Listing will enhance recognition, transboundary coordination, technical and financial support; Israel supports initiating a Concerted Action under CAMI. - <u>Potential Risks (Section 7.2):</u> Parties should include ground rules for managing human–wildlife conflict in peri-urban/agricultural areas. <u>Prospective Offers of Support</u> - Data & Monitoring: Share observations and methodologies with proponents and Parties. - Connectivity Collaboration: Participate in telemetry, corridor identification, and data-standard discussions. - Coexistence Guidance: Exchange practical experience for peri-urban and agricultural coexistence measures.
Jordan	Y	
Kenya	Y	
Kuwait*	Uncertain	
Lebanon	Y	<u>General Statement</u> Lebanon supports the proposal to include the striped hyena (Hyaena hyaena) in CMS Appendix I.
Libya	Y	
Mali	Y	

CITES Party	Range State?	Summary of Information Provided
Mauritania	Y	
Morocco	Y	
Nepal	Y	
Niger	Y	
Nigeria	Y	
Oman	Y	
Pakistan	Y	
Qatar*	Uncertain	
Saudi Arabia	Y	
Senegal	Y	
Somalia*	Uncertain	
Sudan*	Uncertain	
Syrian Arab Republic	Y	
Tajikistan	Y	
Tunisia	Y	
Turkmenistan	Y	3.1: - Outside the breeding season, striped hyenas have larger home ranges. - Younger individuals often adopt a more nomadic lifestyle with wide-ranging dispersal (Kucheruk, 1995). 4.4: - Historically, groups of 10–15 hyenas (sometimes more) lived in closely spaced dens (400–500 m apart). - In the last 10–15 years, group sizes have declined and many den networks have been abandoned. 4.5: - Striped hyenas are subordinate to Persian leopards, often following them to scavenge prey remains. - No documented cases of leopards preying on striped hyenas. 5.4: - Hyenas inhabit very dry areas and are dependent on water sources. - These water sources are shrinking due to climate change. 6.1: - Listed as Vulnerable in the Red Book of Turkmenistan.
Türkiye	Y	
Uganda	Y	
United Arab Emirates*	Uncertain	
United Republic of Tanzania	Y	
Uzbekistan	Y	
Yemen	Y	

(* presence uncertain according to the IUCN Red List assessment)