

**SECOND RANGE STATE MEETING OF THE CMS  
CENTRAL ASIAN MAMMALS INITIATIVE (CAMI)**

*25 - 28 September 2019, Ulaanbaatar, Mongolia*

---

UNEP/CMS/CAMI2/Inf.6

**PROPOSAL TO INCLUDE THE LEOPARD *PANTHERA PARDUS* IN THE  
PROGRAMME OF WORK 2021-2026 FOR THE CENTRAL ASIAN MAMMALS INITIATIVE**

*(Prepared by the Islamic Republic of Iran)*

## Proposal

To revise Resolution 11.24 (UNEP/CMS/COP11) to include the leopard *Panthera pardus* in the Programme of Work 2020-2026 for the Central Asian Mammals Initiative (CAMI) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS)

### Proponent

Government of I. R. Iran

### Supporting statement

The leopard, *Panthera pardus* is already listed under CMS Appendix II. The Persian leopard (*P. pardus saxicolor*), a subspecies of *P. pardus*, was assessed as Endangered on the IUCN Red List of Threatened Species in 2008 (Khorozyan 2008; Khorozyan et al. 2006) given an estimated 871-1290 individuals remaining. According to Kitchener et al. (2017), *P. pardus ciscaucasica* and *P. pardus saxicolor* have been included into one subspecies *P. pardus tulliana*, but since this has yet to be reflected in an IUCN Red List of Threatened Species assessment of the subspecies, this proposal will refer to *P. pardus saxicolor* as described in Stein et al. (2016).

Persian leopards were once distributed across the whole Caucasus region, the Iranian and Anatolian Plateaus and the southern parts of Central Asia. A rapid decline in leopard range and numbers occurred due to hunting, persecution, trapping, poisoning, habitat destruction and loss of prey in the 18<sup>th</sup> and 19<sup>th</sup> centuries. By the mid-20<sup>th</sup> century leopards had disappeared from large parts of their range, which historically included Russian Federation, Turkey, Georgia, Armenia, Azerbaijan, Iran, Iraq, Lebanon, Syria, Afghanistan, Turkmenistan, Uzbekistan, Tajikistan and western Pakistan (Khorozyan 2008). It appears that this subspecies has lost around 72-84% of its historical range (Jacobson et al. 2016). The main population is distributed in Iran (Kiabi et al. 2002) and partly in Turkmenistan (Lukarevsky 2001; T. Rosen *pers. comm.*). Around 26% of the extant ranges of Persian leopards occur in borderlands (Farhadinia et al. In press), with increasing records of transboundary movement of leopards (Farhadinia et al. 2018, Askerov et al. 2015, Maharramova et al. 2018). The numbers in the Caucasus region, Iraq and Turkey are very low and dependent on dispersals from Iran (Askerov et al. 2015; Avgan et al. 2016). In 2018, a live leopard was recorded for the first time in Kazakhstan (Pestov et al. 2019), likely connected to the populations in northern Turkmenistan (T. Rosen *pers. comm.*). There are no recent records of Persian leopard from Uzbekistan and Tajikistan. Moreover, the distribution range is nowadays strongly fragmented. Many known remnant populations are transboundary, and any natural recovery will require cross-border dispersal from the few remaining source populations.

Persian leopards have the largest ever studied home ranges comparing to other leopard subspecies, with a mean of  $103.4 \pm SE 51.8 \text{ km}^2$  for resident males along the Iran-Turkmenistan borderland (Farhadinia et al. 2018), indicating their large spatial requirements. Also, they are known to move long distances, for example over 150 km between Caucasian countries (Askerov et al. 2015). A young, possibly a dispersing young male, showed the largest range use, expanding from Iran into

Turkmenistan, resulting in an elongated range with 81.6 km between farthest fixes (Farhadinia et al. 2018).

Table 1 Details of populations and legal status of Persian leopards. Abbreviations: NA – not available, PA – protected area (obtained from Farhadinia et al. In press).

Extant country	Population size	% country range in borderlands	Reference for population size
<b>Persian leopard</b>			
Iran	550-850	28.2	Kiabi et al. 2002
Iraq	< 10	100	Avgan et al. 2016
Russia	< 10	100	Khorozyan 2008
Georgia	< 3	100	Askerov et al. 2015
Azerbaijan	< 10	100	Askerov et al. 2015
Armenia	< 10	100	Askerov et al. 2015
Turkey	< 10	100	Avgan et al. 2016
Turkmenistan	100-105	91.1	O. Pereladova pers.comm
Afghanistan	200-300	17.5	Khorozyan 2008
Pakistan	NA	74.8	NA
Uzbekistan	NA	100	NA
Kazakhstan	NA	100	Pestov et al. 2019
Tajikistan	NA	100	NA

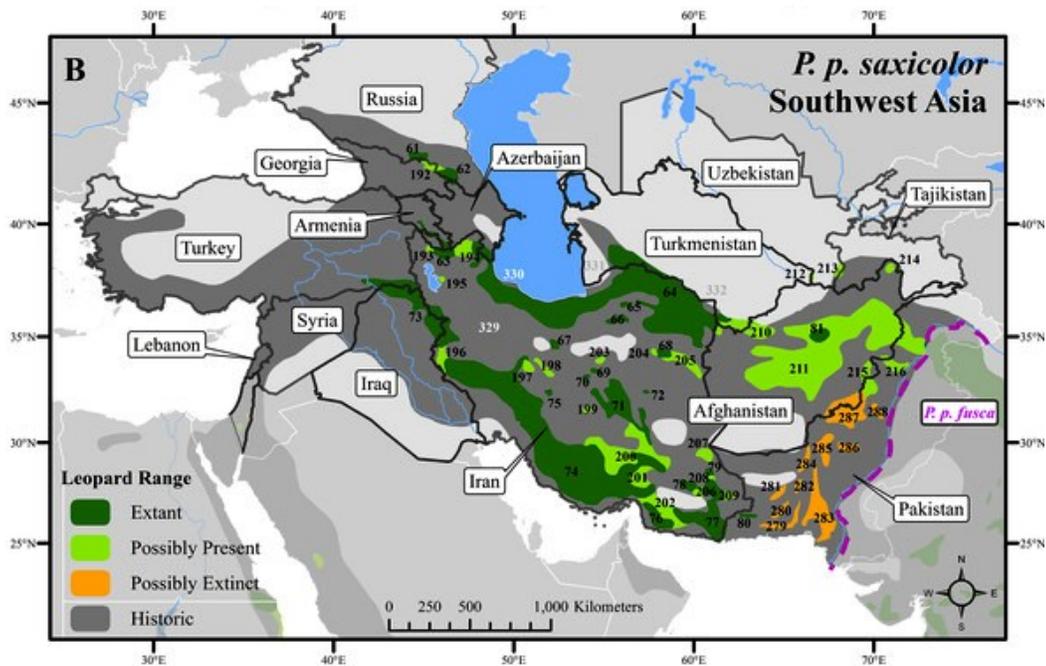


Figure 1: Range of Persian leopard (obtained from Jacobson et al. 2006)

Russian Federation, Iran, Afghanistan, Turkmenistan, Kazakhstan, Uzbekistan, Tajikistan and Pakistan are CAMI range States. Amending the Resolution 11.24 (UNEP/CMS/COP11) to include *P. pardus saxicolor* in the Programme of Work 2020-2026 for the Central Asian Mammals Initiative (CAMI) of CMS, would make it possible to advance the conservation of the Persian leopard in the CAMI range States as well as facilitate transboundary collaboration and conservation.

Currently, except Iran, none of the CAMI Persian leopard range States have a national action plan for its conservation. Kazakhstan, where the leopard is not currently considered extant and thus listed in the Red List of Kazakhstan, is in the process of updating the Red List to include the Persian leopard as well as developing a national conservation action plan. Russian Federation, which launched a leopard reintroduction programme in the Northern Caucasus, does not have a plan or strategy specific to it. Iran national action plan needs to be revised and updated to reflect events on the ground and changes that have occurred since it was prepared. Georgia, Azerbaijan, and Armenia, not CAMI range States, are Persian leopards range States and have national conservation action plans that are informed by the Caucasian Leopard Conservation Strategy from 2017, and it aims to facilitate the recovery of the leopard in the Caucasus, where the species is considered to be Critically Endangered and these action plans can be used to inform the development of plans in the other CAMI range States.

As stated in the section on the anticipated benefits of listing *P. pardus* (UNEP/CMS/COP12/Doc.25.1.4), leopards globally need considerably more awareness and concerted conservation efforts. This is even more so in the case of *P. pardus saxicolor*, one of the most imperilled of the leopard subspecies. The CAMI can provide the umbrella for international conservation strategies to secure the consistent conservation and management for shared populations; as well as initiatives between range States sharing populations aimed at cooperative implementation of conservation measures and action plans. *P. p. saxicolor* also suffers from loss of wild prey, of which several species are listed under CAMI. The bulk of diet for the Iranian leopards are consisting of wild medium-sized to large ungulates, with the major prey species being wild (bezoar) goat *Capra aegagrus* and wild sheep *Ovis* spp., in addition to wild boar *Sus scrofa*, different deer species, and less commonly gazelles *Gazella* spp., small mammals, birds, reptiles and even insects (Sharbafi et al. 2015, Ghoddousi et al. 2016). Adding the leopard would allow better streamlining the conservation of the predator and its prey.

### **Proposed priority activities in relation to the Persian leopard for inclusion in the CAMI Programme of Work 2020-2026**

#### *Action Plans*

Support the CAMI range States in the development / updating of:

- national action conservation plans

Support the CAMI range States in the development of:

- a range-wide Strategy for the Conservation of the Persian Leopard (inclusive of other non-CAMI range States, i.e., Armenia, Azerbaijan, Georgia, Iraq and Turkey)

#### *Hotspots for intervention*

- Identify priority areas for transboundary conservation and collaboration; and
- Establish and/or support a network of well-managed transboundary protected areas, including community-managed areas.

#### *Conservation activities*

- Test and implement approaches that have had some measure of success in reducing human-leopard conflict (e.g. predator-proof corrals, foxlights, change of husbandry practices, conservation-performances payments, etc.);
- Explore options to address habitat loss, by buying out grazing rights to support recovery of wild prey, conservation easements and other innovative models; and
- Work with relevant national agencies to gain an understanding of corridors and barriers to connectivity, such as border fences, and develop mitigation options including the protection of migration corridors .

#### *Research*

- Develop a uniform system for monitoring leopards and their prey, through camera traps, surveys, DNA sampling and the use of satellite telemetry; and
- Develop a uniform system for monitoring disease in leopards and their prey, as well as first response protocols;
- Develop a communication platform for communicating and analyzing data, especially in case of transboundary populations of leopards.

#### *Capacity-Building*

- Develop training programmes in wildlife conservation in partnership with IUCN SSC Cat Specialist Group for students and emerging conservationists; and
- Launch annual/biannual wildlife conservation meetings for Central Asia as a continuous forum for wildlife conservation in the region.

#### *Awareness Raising*

- Develop curricula K-12 to promote the value and importance of the Persian leopard, its role in connecting countries in the region; and
- Designate a day in the year as Persian leopard day.

#### **Literature cited**

Asad, M., Martoni, F., Ross, J.G., Waseem, M. and Paterson, A.M., 2019. Assessing subspecies status of leopards (*Panthera pardus*) of northern Pakistan using mitochondrial DNA. PeerJ, 7, p.e7243.

Askerov, E., Talibov, T., Manvelyan, K., Zazanashvili, N., Malkhasyan, A., Fatullayev, P. and Heidelberg, A. 2015. South-eastern Lesser Caucasus: the most important landscape for

- conserving the leopard (*Panthera pardus*) in the Caucasus region (Mammalia: Felidae). *Zoology in the Middle East* 61: 95-101.
- Avgan, B., Raza, H., Barzani, M. & Breitenmoser, U. (2016) Do recent leopard *Panthera pardus* records from northern Iraq and south-eastern Turkey reveal an unknown population nucleus in the region? *Zoology in the Middle East* 62(2): 95-104.
- Farhadinia, M.S., Johnson, P.J., Macdonald, D.W. and Hunter, L.T. (2018) Anchoring and adjusting amidst humans: Ranging behavior of Persian leopards along the Iran-Turkmenistan borderland. *PloS one*, 13(5), p.e0196602.
- Farhadinia, M.S., Rostro-García, S, Feng, L, Kamler, J., Spalton, A., Shevtsova, E., Khorozyan, I. (In press). Big cats in borderlands: challenges and implications for transboundary conservation of Asian leopards. *Oryx*.
- Ghoddousi, A., Soofi, M., Kh. Hamidi, A., Lumetsberger, T., Egli, L., Khorozyan, I., H. Kiabi, B. & Waltert, M. (2016) Assessing the role of livestock in big cat prey choice using spatiotemporal availability patterns. *PLoS ONE* 11(4): e0153439.
- Jacobson, A. et al. (2016), Leopard (*Panthera pardus*) status, distribution, and the research efforts across its range. *PeerJ* 4:e1974; DOI 10.7717/peerj.1974
- Khorozyan, I. (2008) *Panthera pardus ssp. saxicolor*. The IUCN Red List of Threatened Species 2008.
- Khorozyan, I.G., Baryshnikov, G.F. & Abramov, A.V. (2006) Taxonomic status of the leopard *Panthera pardus* (Carnivora, Felidae) in the Caucasus and adjacent areas. *Russian Journal of Theriology* 5(1): 41-52
- Kiabi, B.H., Dareshouri, B.F., Ghaemi, R.A. & Jahanashahi, M. (2002) Population status of the Persian leopard (*Panthera pardus saxicolor* Pocock, 1927) in Iran. *Zoology in the Middle East* 26: 41-47.
- Kitchener, A. et al. (2017) A revised taxonomy of the Felidae. The final report of the Cat Classification Task Force of the IUCN/SSC Cat Specialist Group. *Cat News Special Issue* 11, 80pp.
- Lukarevsky, V.S. 2001. The leopard, striped hyena and wolf in Turkmenistan. Signar Publishers, Moscow. (in Russian)
- Maharramova, E. et al. 2018. Transboundary leopard movement between Azerbaijan and Iran in the Southern Caucasus. - *Cat News*: 8–10.
- Pestov, M. V., Nurmukhambetov, Z. E., Mukhashov, A. T., Terentyev, V. A. & Rosen, T. (2019) First camera trap record of Persian leopard in Ustyurt State Nature Reserve, Kazakhstan. *Cat News* 69: 14-16.
- Sharbafi, E., Farhadinia, M.S., Rezaei, H.R. & Braczkowski, A.R. (2015) Prey of the Persian leopard (*Panthera pardus saxicolor*) in a mixed forest-steppe landscape in northeastern Iran (Mammalia: Felidae)
- Stein, A. B. et al. 2016. *Panthera pardus* (errata version published in 2016). - IUCN Red List Threat. Species 2016 e.T15954A102421779