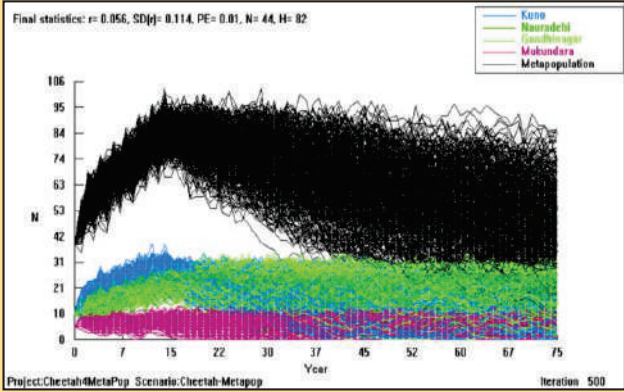


Carnivore reintroduction/ conservation translocation is an appropriate conservation strategy to restore the integrity of ecosystems. It is a rapidly growing science which, if carried out appropriately, has the potential to be a valuable component of the conservationist's toolkit. However, many pitfalls exist if not addressed adequately can result in the total or partial failure of a reintroduction/ conservation translocation program and can potentially waste valuable and limited resources.

Action Plan for introduction of cheetah in India is developed in accordance with the IUCN guidelines on reintroductions and conservation translocations 2013 aims to implement the cheetah introduction program in Kuno and other cheetah introduction sites based on science and pro-active management.

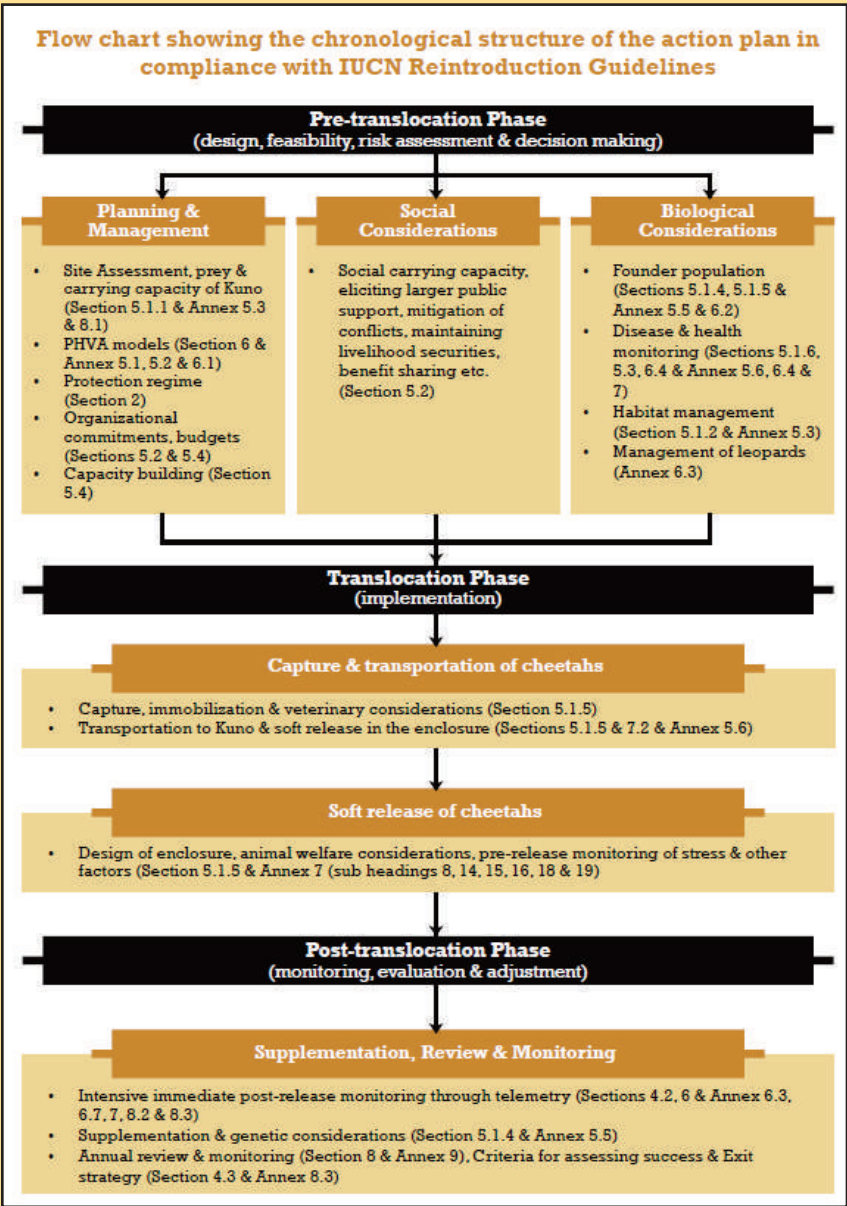


A Population viability analysis of four cheetah populations managed as a metapopulation in India having carrying capacities (K) between 8-30 cheetah, cub mortality ranging from 30-60%, adult mortality ranging from 12-15%, and supplementation of 2-4 cheetah from Africa done at an interval from 1-4 years for next 15 years. Individual cheetah population that has carrying capacity over 25 individuals has a higher chance of persistence over the long-term with appropriate augmentation and management. Managing different site populations as a metapopulation enhanced their chances for long term survival, as well as maintained genetic diversity.

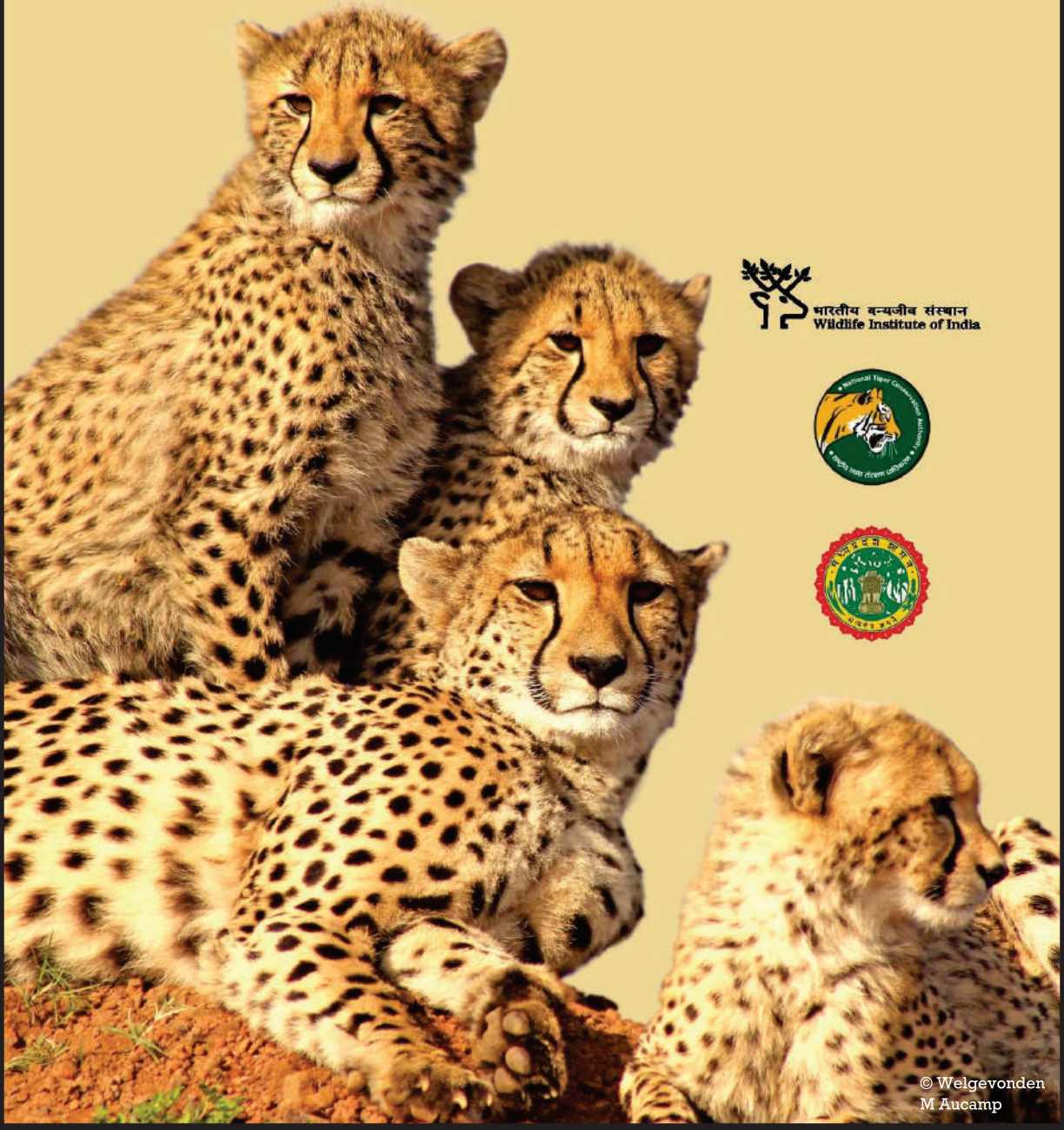
After a cheetah population is established in Kuno NP, reintroduction of the lion or colonization by tigers would not be detrimental for cheetah persistence. Kuno offers the prospect of housing four large felids of India tiger, lion, leopard and cheetah to coexist as they did in the past. Simultaneously, restorative investments in other selected areas (Nauradehi and Gandhisagar Protected Areas) have commenced in the form of incentivized voluntary relocation of human settlements, prey supplementation, and habitat management through weed removal and livestock grazing control.

Once a successful reintroduction has been demonstrated and a metapopulation established at the above mentioned sites, cheetah could then be considered for reintroduction within other states like the Kachchh region of Gujarat, Jaisalmer in Rajasthan, parts of Andhra Pradesh and Karnataka after proper studies and ecological restorative inputs. This would achieve the full potential of the project in restoring the ecosystem services from these cheetah conservation landscapes and restore the lost natural heritage of India.

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Action Plan for Introduction of Cheetah in India



For further information-
Wildlife Institute of India
Webpage- <https://wii.gov.in/>

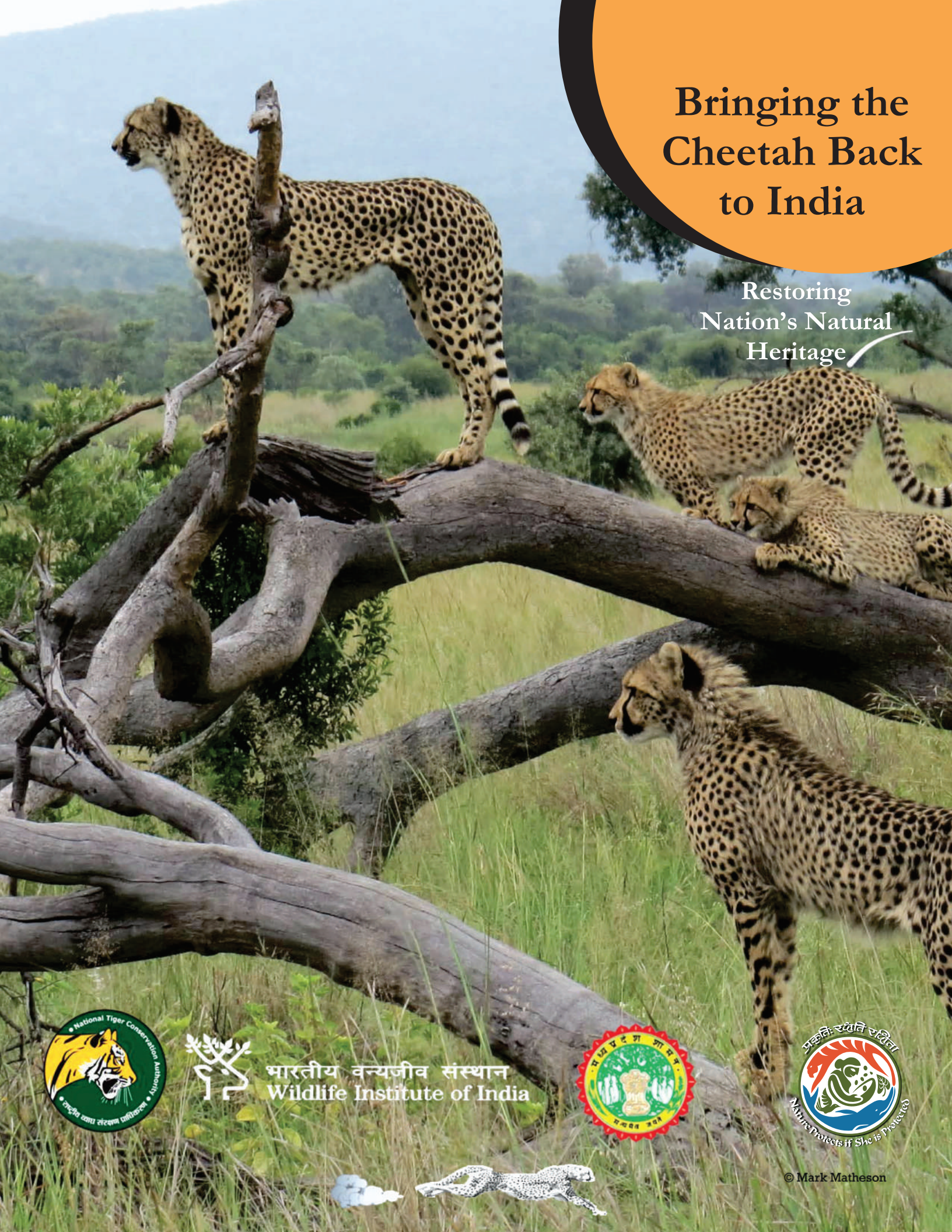
National Tiger Conservation Authority
Webpage- <https://ntca.gov.in/>

Madhya Pradesh Forest Department
Webpage- <https://mpforest.gov.in/>

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Bringing the Cheetah Back to India

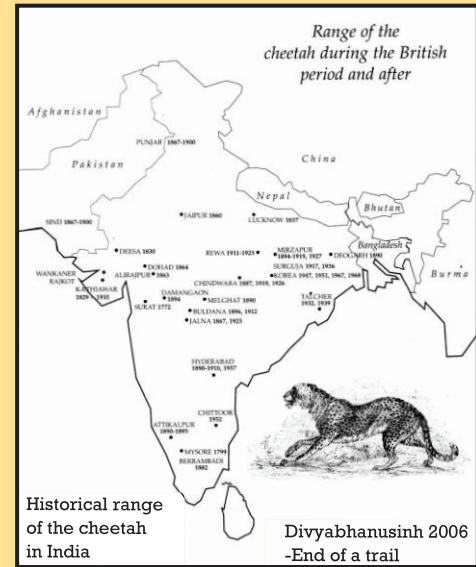
Restoring Nation's Natural Heritage



© Mark Matheson

Reintroductions/ conservation translocations of large carnivores have increasingly been recognised as a strategy to conserve threatened species and restore ecosystem functions. The cheetah (*Acinonyx jubatus*) is the only large carnivore that has been extirpated, mainly by over-hunting and loss of habitat in India in historical times. The animal, charismatic in its own right, therefore, also has a very special significance for the national conservation ethic and ethos. The very name of the animal “*Cheetah*” originates from Sanskrit meaning “the spotted one” and Neolithic cave paintings in central India as ancient as 10-20 kBP depict the cheetah. The cheetah has mention in the Rigveda and Atharvaveda; it is ironical that the species no longer exists in India.

India now has the economic ability to consider restoring its lost natural heritage for ethical, ecological, as well as economic reasons.



Cheetah restoration will be part of a prototype or model for restoration of original cheetah habitats and their biodiversity, helping to stem the degradation and rapid loss of biodiversity now underway. Lessons learnt from this process will benefit the management of these ecotypes, the most overused, least managed and yet the most productive biomes in the country.

Dry grasslands and open forests are under-represented in the national network of Protected Areas. The National Wildlife Action Plan of India calls for appropriate bio-diversity representation in the country's Protected Area Network. The National Forest Commission of Government of India also strongly recommends further protection of grasslands and associated flagship species. This is particularly relevant to India, which has the largest livestock population in the world, majority of which is free-ranging.

Among large carnivores, conflict with human interests are lowest for cheetahs, as they are not a threat to humans (there is no record of a wild cheetah attacking a human) and usually do not attack large livestock.

Bringing back a top predator restores historic evolutionary balance resulting in cascading effects on various levels of the ecosystem, which leads to:

(A) Better management and restoration of wildlife habitat (grasslands, scrublands and open forest ecosystems),

(B) Conservation of cheetah's prey and sympatric endangered species and

(C) A top-down effect of a large predator that enhances and maintains the diversity in lower trophic levels of the ecosystems.

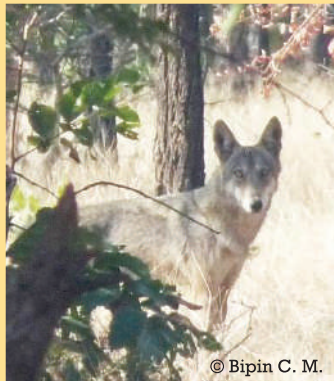
Reviving the dry grasslands and open forests ecosystems and its threatened species



Caracal (*Caracal caracal*)



Great Indian bustard (*Ardeotis nigricaps*)



Indian wolf (*Canis lupus pallipes*)



Blackbuck (*Antelope cervicapra*)



Prehistoric cave painting of a slender spotted feline being hunted at Chaturbhuj Nala, Mandsaur, Madhya Pradesh.

Bringing the cheetah back to India, important in itself, would have equally important conservation ramifications. The cheetah has been the evolutionary natural selection force that has shaped the adaptation of high speeds in Indian antelopes and gazelles. In restoring it one would have to save not only its prey-base comprising certain threatened species, but also other endangered species of the grasslands/ open forest ecosystems, some of which are on the brink of extinction.

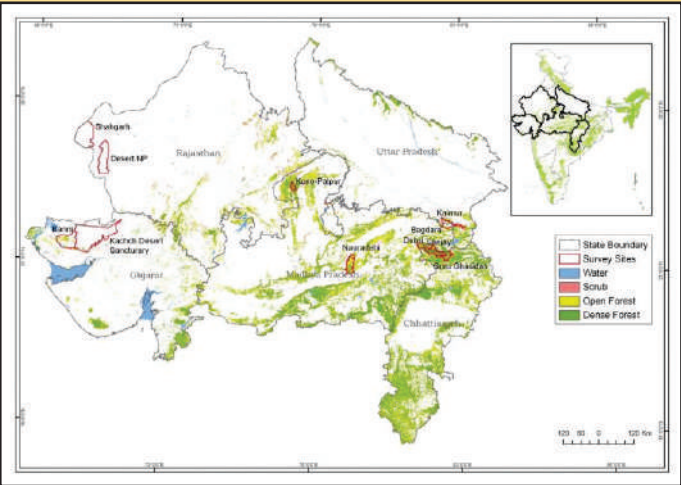
Amongst these are the caracal, the ancient Indian wolf and critically endangered species of the bustard family- the lesser florican (*Sypheotides indica*) and the great Indian bustard (GIB). The grassland/ open forest dependent species, both avifaunal and faunal, have suffered a more drastic decline than any other species adapted to other biomes, simply because these habitats have undergone the most qualitative and quantitative decimation of all ecotypes in the sub-continent as these are ideal for agriculture.



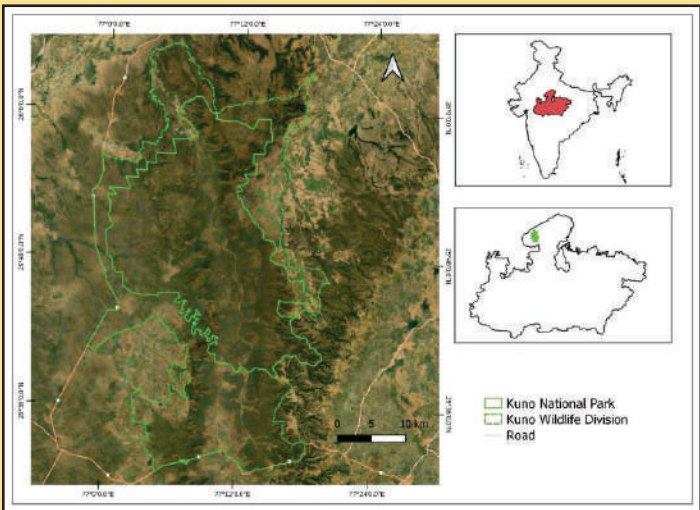
The main reasons for the decline of cheetah in India were large scale capture of animals from the wild for coursing, bounty and sport hunting, extensive habitat conversion along with consequent decline in prey base.

The plight of the cheetah in India was acknowledged by the Government of India way back in 1952 during the first wildlife board meeting of Independent India “called for assigning special priority for the protection of the cheetah in central India” and a “bold experimentation to preserve the cheetah” was suggested. Subsequently, negotiations had commenced with the Shah of Iran in 1970's for bringing the Asiatic cheetah to India in exchange for the Asiatic lions. Around the same time, the Wildlife (Protection) Act was enacted in 1972 which outlawed all forms of hunting and capturing wild animals in India, except for scientific reasons or when they pose a threat to human life. Subsequently, with the establishment of a network of Protected areas, implementation of effective wildlife legislation and a dramatic change in the conservation ethos and awareness in the country inter alia, the original cause for the extinction of the cheetah in India has been adequately addressed.

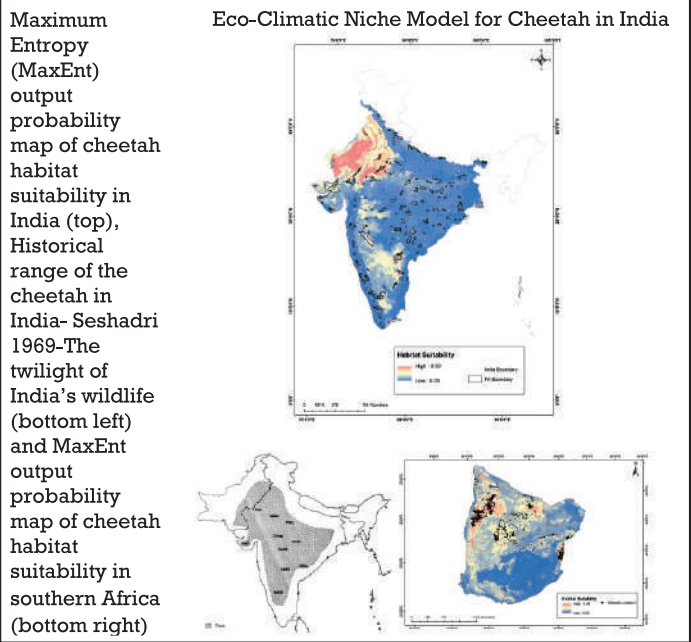
The discussions to bring the cheetah back to India were revived in 2009 by the Wildlife Trust of India who organized a two-day international workshop at Gajner, Rajasthan, India, on September 9th and 10th to deliberate the possible introduction of cheetah into India. This meeting was attended by experts from across the world and officials of the Government of India from the Ministry of Environment and Forests, and representatives of the state governments of the prioritised former cheetah range states- Gujarat, Rajasthan, Chhattisgarh and Madhya Pradesh (MP). The experts were of a considered opinion that establishing cheetah populations in India was feasible, taking into account the presentation made by the Wildlife Institute of India (WII) and others. It was opined that further detailed surveys and analyses be carried out in the areas short-listed to confirm this and, to determine the modalities and the inter-se priority of possible release sites.



The location of potential cheetah re-introduction sites surveyed in the states of Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh and Chhattisgarh in India.



Location of Kuno National Park within the state of Madhya Pradesh, India



From the 10 potential sites evaluated for the feasibility of establishing cheetah populations in India based on IUCN guidelines for reintroductions that consider species viability based on demography, genetics and socio-economics of conflict and livelihoods, Kuno National Park (NP) in the state of Madhya Pradesh was considered ready for receiving cheetah with the least management interventions since a lot of investments had been done in this Protected Area for reintroducing Asiatic lions.

Subsequently, additional five (05) sites- Mukundara Hills Tiger Reserve (TR), Shergarh Wildlife Sanctuary (WLS), Bhainsrorgarh WLS in Rajasthan and Gandhi Sagar WLS and Madhav NP in MP were also assessed based on IUCN guidelines for reintroductions, by the WII on the request of the State Governments along with the reassessment of Kuno NP and Nauradehi WLS during 2020-21.

As per the directions of the Supreme Court of India in 2020, the cheetah introduction in India is being overseen by the National Tiger Conservation Authority (NTCA), Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India (GoI) guided and directed by the committee of experts designated by the Supreme Court of India comprising of Dr. M.K. Ranjitsinh, Dr. Dhananjai Mohan and Additional Director General (Wildlife), MoEF&CC. The WII was given the task of providing technical assistance and coordinating the project of introducing the cheetah headed by Dr. Y.V. Jhala, with team members- Prof. Qamar Qureshi, Dr. Sutirtha Dutta and Mr. Bipin C.M., by the NTCA and the expert committee on cheetah introduction for a period (phase 1) of five (05) years with a budget of INR Thirty-nine (39) Crores (USD 5 million).



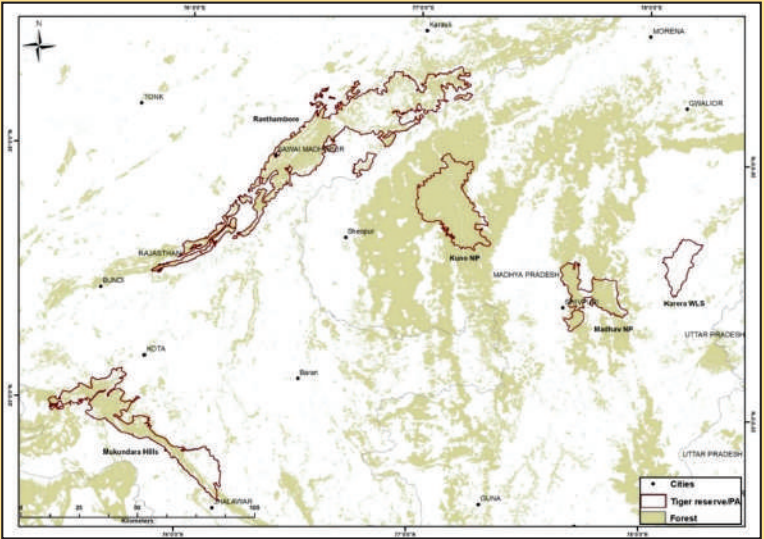
Kuno NP in the State of Madhya Pradesh was rated high on the priority list for considering the introduction of the cheetah because of its suitable habitat, inviolate space and adequate prey base.

Additionally, a lot of restorative investment has already been made at Kuno NP for reintroducing Asiatic lions. Kuno NP today is 748 km², that is devoid of any human settlements and forms part of the larger Sheopur-Shivpuri dry deciduous open forest landscape spanning an area of 6,800 km².

The other recommended sites for reintroduction of cheetah in India based on the 2010 surveys as well as recent assessments are Nauradehi WLS (1197 km², habitat 5500 km²), Gandhi Sagar WLS– Bhainsrorgarh WLS complex (~2500 km²), Shahgarh bulge in Jaisalmer, Rajasthan (4220 km²), and Mukundara TR as fenced enclosure (~80 km²) for holding and conservation breeding of cheetah in controlled wild conditions (permissions from the Government of Rajasthan and NTCA are yet to be obtained for Mukundara TR).

Project Goal-

Establish viable cheetah metapopulation in India that allows the cheetah to perform its functional role as a top predator and provides space for the expansion of the cheetah within its historical range thereby contributing to its global conservation efforts.



The location of Kuno National Park (free of human settlements) within the contiguous landscape of Sheopur-Shivpuri forest spanning 6800 km² of suitable habitat for expansion of the cheetah.

Project Objectives-

1. To establish breeding cheetah populations in safe habitats across its historical range and manage them as a metapopulation.
2. To use the cheetah as a charismatic flagship and umbrella species to garner resources for restoring open forest and savanna systems that will benefit biodiversity and ecosystem services from these ecosystems.
3. To enhance India's capacity to sequester carbon through ecosystem restoration activities in cheetah conservation areas and thereby contribute towards the global climate change mitigation goals.
4. To use the ensuing opportunity for eco-development and eco-tourism to enhance local community livelihoods.
5. To manage any conflict by cheetah or other wildlife with local communities within cheetah conservation areas expediently through compensation, awareness, and management actions to win community support.

Kuno NP was estimated to have a current carrying capacity to sustain 21 cheetahs based on latest prey densities. Once a cheetah population establishes itself within Kuno NP, dispersers would colonize the landscape and potentially hold 36 individuals.



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