Principal fauna of the Sikkim Himalaya from past to present

The Sikkim Himalaya was known for the diversity of fauna and flora (Cowan & Cowan 1929; Biswas & Chopra 1956). The bioresoures are augmented in the different regions according to the ranges of hills and mountains. The Sikkim Himalaya is bounded by the mountainous hill and at the top, it has the Tibetan plateau. It is acting as the buffer area for the tropical and sub-tropical belts of other Indian States and adjoining countries. Way back in 1909, some of the fauna were recorded from the Sikkim Himalaya (White 1909). Earlier to this, there was no such documentation of the faunal resources of Sikkim with remarks. Notably, in the record, there was the availability of following species in the Sikkim Himalaya.

At present, the few faunal species are not present and are extinct from the natural habitats of Sikkim Himalayan belt. Possibly, the reason of its extinction from natural habit is its habitat destruction. In later 19th century, there was rapid mobilization of resources from the Himalayan belt (Pradhan 2020). Although it was the step of the industrial revolution in the Himalayan belt, the massive destruction of the Himalayan forest resources for the timber and mining were noted. At the same point of time, the railway, in the Himalayan Darjeeling region, was set up for the transportation of the resources (Bell 1909, 1910–1911).

In terms of industrialization process, several species were cleared from the habitats of Sikkim Himalaya. Additionally, there was the policy of Game Law that allowed hunting in the regions (Pradhan 2020). Having said this background, several species were hunted which was prevalent till late 20th Century. High dignitaries and the state guests used to go for hunting for their adventures, which were reflected in several past documentaries. It was also noted that the array of hunters from the world renounced specialist of the gun makers to native hunters visited the Sikkim forest for their adventure trips (Pradhan 2024). Such facts created the cascading effects on the habitat destruction and therefore, might be responsible for the massive depletion of the principal faunal species in the Sikkim Himalaya.

The Sikkim Himalaya is geographical small state and was representing the diversity of species (Cowan & Cowan 1929). The data of the past 115 years depicted the existence of several principal animals in the Sikkim Himalaya, however, with the advent of time, Sikkim lost several valued species and are not found their natural habitat. Referring to this study, the author suggests that the prospective planning must focus on the research and development of the state for the conservation and prevention of the fauna and flora with the proper mitigation plant and the follow up mechanism.

Out of the recorded 15 principal animals by White (1909), six species are extinct from the natural habitat. Thus, the percentage rate of

Depicting some fauna of Sikkim Himalaya (White 1909).

	Principal fauna	Remarks on habitat and elevation (in 1909)	Present status
1	Asian Elephant *Elephas maximus indicus*	1. Lower hills and across the Doars of present West Bengal. 2. In the rainy season, it was penetrating towards the hills up to the elevation of 3,333 m (11,000 ft).	Currently, there is no movement of elephants toward the hills during the rainy season.
2	Rhinoceros *Rhinoceros unicornis*	1. Up to 900 m (3,000 ft) or lower valley 2. Status was not common or rare.	It is now confined to Kaziranga National Park & northern Bengal.
3	Gaur *Bos gaurus*	Up to 900 m (3,000 ft) or lower valley.	Uncommon. It has recently been reported in North Sikkim.
4	Gayal or Mithun *Bos frontalis*	Up to 900 m (3,000 ft) or lower valley.	In the past 10 years, only two cases have been reported, and in both instances, the trapped Mithun did not survive due to medical complications.
5	Tiger *Panthera tigris*	Outer hills, valleys and occasionally in the lower valleys up to 2,700 m (9,000 ft).	It is uncommon and nearly absent from the forest habitats of the Sikkim Himalaya. However, in some instances, the roaring of Tiger has been heard in Pangolakha Wildlife Sanctuary, which shares boundaries with Neora Valley National Park and Bhutan.
6 a	Common Leopard *Panthera pardus*	Throughout the hills up to an elevation of 2,400 m (8,000 ft).	It is not found in Sikkim and is now restricted to Mahananda Wildlife Sanctuary in northern Bengal.
6b	Black Leopard *Panthera pardus*	Rare. But met at the dense jungles at elevation of 900–1,200 m (3,000–4,000 ft).	This species is no longer found in its natural habitat.
7	Clouded Leopard *Neofelis nebulosa*	At elevation from 1,200–1,800 m (4,000–6,000 ft).	Rare
8	Snow Leopard *Panthera uncia*	It is rare and is found only at high elevations above 3,333 m (11,000 ft).	This species still exists in the alpine valleys and snowy belt of the Sikkim Himalaya.
9	Lynx *Lynx lynx*	Rare. Only at high elevation bordering on Tibet over 4,800 m (16,000 ft).	This species is no longer found in its natural habitat.
10	Wolf *Canis lupus*	Rare. Only at high elevation bordering on Tibet over 4,800 m (16,000 ft).	Endangered. Uncommon.
11	Jackal *Canis aureus*	It is introduced from the plains of India and is occasionally seen at elevations of up to 1,800 m (6,000 ft).	There is no introduction of this species, and it is observed at elevations of up to 1,800 m (6,000 ft).
12	Indian Wild Dog (Dhole) *Cuon alpinus*	It is not very common and is found in packs from the lower plains up to elevations of about 1,800 m (6,000 ft).	As it was creating panic across farmlands, it was reported that the population of Dhole declined due to food poisoning in Fambong Lho Wildlife Sanctuary during the 1990s. A small population of this species is still found in Kyongnosla Alpine Sanctuary.
13	Shau *Cervus affines*	Inhabits a tract to the north-east of the Chumbi Valley.	North-east of the Chumbi Valley and Alpine Valley.
14	Sambar *Rusa unicolor*	In all lower hills	Found in Fambonglho Wildlife Sanctuary and Pangalakha Wildlife Sanctuary

extinction from natural habitat of principal animals is estimated 40% from the date of 1909 A.D. till present date. It is alarming and this pace of extinction from natural habitat must be slowed down or stopped with the proper strategies and valuable measures. Therefore, this study warrants further research on the conservation of principal and ecologically supporting animals of Sikkim Himalaya.

Out of the 14 principal animals recorded by White (1909), six species—Asian Elephant, Indian Rhinoceros, Tiger, Leopard (common and black forms), Lynx—are no longer found in their natural habitats.

Thus, the rate of loss from the natural habitat of these principal animals is estimated at 40% from 1909 to the present. This is alarming, and the pace of such decline must be slowed or halted through effective strategies and conservation measures. Therefore, further research is urgently needed on the conservation of principal and ecologically significant fauna of the Sikkim Himalaya.

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