

Status, Distribution and Management of Mountain Ungulates in Uttaranchal

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1. Introduction

Uttaranchal is very rich in Biodiversity and is represented by Biogeographic Zones 2B Western Himalaya and 7B Siwaliks in this region. The uniqueness of ecological diversity from high alpine areas to the Terai region interspersed with numerous rivers is unparalleled. Different forest types can be identified in the state that spreads over 34,661 Km². The Forest Department controls about 23,988 Km² (64.81%). About 18.7% of the total area under the Forest Department has been clearly earmarked for Biodiversity conservation by the creation and management of 12 Protected Areas (PA) in the state. These PAs are:

National Parks (NP):

Sl NO	Name of the PA	Year of Establishment	Area (Km ²)	District(s)
1.	Corbett NP	1936	521	Garhwal
2.	Nanda Devi NP	1982	630	Chamoli
3.	Valley of Flowers NP	1982	87	Chamoli
4.	Rajaji NP	1983	820	Dehradun & Haridwar
5.	Gangotri NP	1989	2,390	Uttarkasi
6.	Govind NP	1990	472	Uttarkasi

Wildlife Sanctuaries (WLS):

SIN o	Name of the PA	Year of Establishment	Area (Km ²)	District
1.	Govind WLS	1955	521	Uttarkasi
2.	Kedarnath WLS	1972	957	Chamoli
3.	Askot WLS	1986	600	Pithoragarh
4.	Sonanadi WLS	1987	301	Garhwal
5.	Binsar WLS	1988	46	Almora
6.	Musoorie WLS	1993	11	Dehradun

The mammalian diversity in Uttaranchal is one of the richest in the country, exceeding 75 species; about 50% of these are threatened. A detailed analysis of the data shows that 37.8% of species fall under lower risk least concern category and 19.51% under lower risk not threatened status. The critically endangered species constitute 6.09%, while vulnerable species account for 12.91%.

The Mountain ungulates are quite varied in Uttaranchal. They are mostly distributed in Seven Protected Areas located in the Western Himalayas viz., Gangotri NP, Govind WLS and Govind NP, Kedarnath WLS, Nanda Devi NP, Valley of Flowers NP, Binsar WLS and Askot WLS. The species include Himalayan Musk Deer

(*Moschus chrysogaster*) Himalayan, Tahr (*Hemitragus jemlahicus*), Blue Sheep (*Pseudois nayur*), Serow (*Nemorhaedus sumatrensis*) and Goral (*Nemorhaedus goral*). Sambar (*Cervus unicolor*) and Barking Deer (*Muntiacus muntjac*) also occur in the region, generally below 2,700m.



2. Status & Distribution:

The distribution and status of mountain ungulates in Uttaranchal in different PAs are as under (as per the record contained in the management plans of the PAs and information collected from the field).

Name of the Protected area	Name of the species	Status		
		Rare	Common	Abundant
Gangotri NP	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Barking deer 6. Blue sheep	?	? ? ? ?	?
Kedarnath WLS	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Barking deer 6. Blue sheep *	?	? ? ?	?
Nanda Devi NP	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Blue sheep	? ?		? ? ?
Govind WLS and Govind NP	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Blue sheep	?	? ? ?	?
Valley of Flowers NP	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Blue sheep	? ? ? ?	?	
Binsar WLS	1. Tahr 2. Serow 3. Goral 4. Musk deer 5. Barking deer 6. Blue sheep	? ? ? ? ?	? ?	

* Status unknow

The following areas of Uttaranchal are mainly known to have Musk deer. However, these areas are only representative areas and further research and surveys are required to know the site specific locations and number of animals present in these areas.

In a survey conducted in 1968-72 the following estimates were made for some

of the Musk Deer rich areas of Uttaranchal on the basis of field reports.

1. Almora Kapkot *Between 20 and 30*
2. Pithoragarh Dharchula *Between 25 and 40*
3. Tihri Garhwal Bhilangana *Between 25 and 40*
4. Uttarkasi - Purola & Naogaon *Between 24 and 36*
5. Chamoli - Raksi *Between 15 and 30*
6. Ukhimath *Between 10 and 15*
7. Tahrali *Between 10 and 15*

This survey was conducted many years ago. However on the basis of sightings and on the basis of frequency of sightings the number of three species have been steadily growing. These are Goral , Blue sheep and Tahr . The numbers of Barking deer is also on the rise. True status of Musk deer is still not very

clear. However their number in the strictly protected areas like Nanda Devi NP has definitely taken an upward trend.

3. Management issues:

3.1 Main issues:

- Large scale killing of mountain ungulates in the past century specially musk deer, Tahr and Blue sheep.





- In winter the snow line drops. This is also the time of rutting. Some mountain ungulates migrate down to lower reaches and this provides an easy opportunity for the poachers to kill the animal.
- Degradation of habitat due to increase in biotic pressure.
- Lack of funds and infrastructure.
- Lack of intra state and inter state communication between the PAs and well chalked out conservation plan.
- Lack of special high altitude training and working facilities for the staff.
- Captive bred animals are not being utilized for optimum use.

3.2 On going measures.

Creation of Protected areas

Seven protected areas viz., Gangotri NP, Nanda Devi NP, Govind NP, Valley of Flowers NP, Kedarnath WLS, Askot WLS and Govind Pashu Vihar WLS have been created and special protection measures are being undertaken for the conservation of all the ungulates along with the associated flora and fauna in Uttaranchal. Eco-development programmes are being taken up for better management of buffer zones so that local activities, such as livestock grazing, agriculture and the collection of forest produce, are contained within certain areas, while others, including representative patches of habitats of endangered ungulates such as the musk deer, are left undisturbed as "strict natural" or "wilderness" areas.

Preparation of landscape Management plans.

Landscape management plans for all the seven PAs are being prepared taking into account all the areas near the PAs and the concerned stakeholders who have a bearing on conservation to facilitate better understanding and better awareness among all concerned parties.

Ex situ Conservation Management in Uttaranchal.

In Uttaranchal, two Himalayan Musk deer Breeding Centres viz., Kanchula Kharakh (Chamoli) and Dharmaghar (Almora) have been created and managed. A few mountain ungulate species along with other high altitude fauna are housed and managed in the Naini Tal Zoo.

The status of these breeding centres are as follows:

Name of the Centre	Date of Establishment	Admn. Authority	Area	Elevation	Temp Rang	Number Animals
Musk Deer Research Centre, Almora	1971	Central Council for Research in Ayurveda & Siddha	2 Acre	7,500 ft.	Max - 31 C Min- Below freezing	13.15.0 [mm.ff.yy]
Kanchula Kharakh Chamoli	1982	Forest Department	20 Ha.	9000 ft.	Max - 31 C Min- Below freezing	9.6.0

3.3 The Challenges & the Conservation strategy:

Most PAs of Uttaranchal lack the financial and manpower resources to adequately protect the mountain ungulates and it's apex predator snow leopard and/or Common leopard. Additional constraints include extremely remote and rugged range, harsh climatic and environmental conditions that prevail in many areas, the long international borders that are accordingly difficult to patrol, and a severe lack of trained and motivated staff to conduct surveys, logistic and

infrastructural support and management plans.

A large number of wild animals, including Musk deer, are found outside existing PAs. According to an estimate, 80% of wild animals may venture outside the PAs. Presence of animals such as the Blue Sheep, Serow, Black Bear, Musk deer, Goral occurring outside the PAs is quite common. Presence of wild animals particularly in the periphery is not only due to lack of prey animals and foraging site inside the park but due to sharp edge effects created by the villagers. Effective monitoring of ungulate populations outside PAs and proper documentation of every case of animal lifting, human loss or poaching will also help reduce the conflict with park managers

Bulk of the people of the region depend on cattle rearing. The potential impacts of excessive grazing by livestock include depletion of the scarce forage for wildlife, habitat degradation and disease transfer.

Abundance or population estimation of high altitude ungulates is a specialized job and it cannot be done in a routine way. Not only specialized equipments like light and powerful field glasses and cameras

are required, but also involvement of technical staff and researchers is a must. For proper maintenance of records and analysis of field data Computers and Statistical software are also required.

General perception of the local people about endangered species and their importance in the ecosystem is poor. Efforts are needed to highlight biological and morphological importance of the PA in the context of human existence. Education camps and special trainings for the local N.G.Os, youth club members, Mahila Mangal Dal (Womens' Group) members will have to be provided. In addition to these, capacity of the local staff will also have to be developed to arrange grass root training camps on their own.

The mountain ungulates of Uttaranchal not only hold a great ecological value but they are also part and parcel of cultural ethos and heritage of this Himalayan state. All concerted efforts are being made to save them for posterity and for the healthy sustainable ecological balance. Challenges are many but the Wildlife wing of the Forest Department of Uttaranchal is all set to successfully handle these challenges.

