

# The Cheetal Deer (*Axis axis*) Ecology and Population Status in Corbett Tiger Reserve: A Study Based on Data Analysis (From 1992 to 2008), Ramnagar, Uttarakhand

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**Abstract:** Cheetal deer (*Axis axis*) is most abundance species of deer found in Corbett Tiger Reserve. Cheetal have a good and strong sense, hearing and vision power, they are highly active deer. Cheetal behaviour to detect and communicate danger are the alert posture, with tail being raised, thrumping ground by foreleg, scanning for danger, alarm call and forming tightly branched group. Cheetal is polygynous in nature. In breeding season the hinds segregate from herd to give birth in selected tall grass areas. The fawning peak occurs in April and May. Cheetal is a good grazer so helps in controlling the overgrowth of chaur in Corbett National Park. Cheetal is the main source of food of tiger (*Panthera tigris*). The most abundance of population of Cheetal found in Jim Corbett National Park area (80.06%) than in the Sonanadi Wildlife Sanctuary (10.37%) and remaining in buffer area (9.57%) and also resulted that the population of Cheetal is increased in these years (2003-2008).

**Keywords:** Hind, Polygynous, Grazer, Chaur, Dimorphic

## 1. Introduction

The Corbett Tiger Reserve (CTR) located in the foothills of Himalaya (Bhabar tract) in Nainital and Pauri Garhwal district of Uttarakhand State. The total area of Corbett tiger reserve is 1288.32 sq.km. in which Jim Corbett National Park 520.82 sq.km. Sonanadi Wildlife Sanctuary 301.18 sq.km., and Buffer Zone (Reserve Forest) is 466.32 sq.km. Its altitude 400mt.-1200mt. Longitude -78°33'E-78°46'W. Latitude is 29°13'N - 29°35'N.

**Wildlife of Corbett Tiger Reserve :** The habitat of the tiger reserves supports many mammalian species including herbivores like deers-cheetal (*Axis axis*), Sambar (*Cervus unicolor*), Hog deer (*Axis porcinus*), Barking deer (*Muntiacus muntjak*). The predator animals are Tiger (*Panthera tigris*), Leopard (*panther pardus*), Sloth bear (*Melursus ursinus*), Jungle cat (*Felis chaus*), Asiatic jackal (*canis auris*), other animals like Elephant (*Elephas maximus*), Wild pig (*Susscrofa cristatus*), Goral (*Nanorhaedus gooral*), Indian rat (*rattus rattus*), Fruit bat (*Cynopterus sphinx sphinx*), Rhesus Macaque (*Mucaca mulata*) and Langur (*Presbytis entrlus schistacus*).

**Vegetation of Corbett Tiger Reserve:** Many vegetation found in the Corbett tiger reserve which are as follows, In trees sal forest (*Shorea robusta*) 80% in Corbett and other like Rohini (*Mallotus phillippensis*), Haldu (*Adina cordifolia*), Shisham (*Dalbergia sisso*), Khair (*Acacia catechu*), Kanju (*Haloptelia itrigrifolia*), Amla (*Emblia officinalis*), Ber (*Ziziphus mauritiana*), Bel (*Aegle marmelus*), Jamun (*Syzygium cumini*), Gular (*Ficus glomerata*), Bakuli (*Anogeissus latifolia*), Sembal (*Bombex seba*), Tendu (*Diaceferus termentoa*), Baheda (*Terminaria baherika*), Badh (*Ficus bagalensis*), Harda (*Terminaria*

chabula), Pipal (*Ficus infectoria*), seerus (*Albeja lebac*), Bamboo (*Bambusa vulgaris*). In shrubs, kuri (*Lantana canara*), kari patta (*Moraiya coinegi*), Bhanua (*Chlorodendron* spp.), Basingha (*Odotora bassica*), and Jukai (*Helicotri mycora*) are found. In grasses the Dub grass (*Cynadon dactylus*), Kansi (*Themenda arundinaceae*), Tiger grass (*Thysanolaena maxima*), Vetiveria zizanioidis, Vicoa indica, *Trichodesma indicum*, *Lactuca* spp. *Crotolaria* spp., and *Desmodium* spp. are found in Corbett National Park.

**Description of animal:** Cheetal deer (*Axis axis*) also known as Spotted Deer. Cheetal deer has white spotted reddish brown colour coat all over body and under parts are white, a black dorsal stripe that runs down their backs. The species is dimorphic, males are larger than females, a fully grown male reaches nearly 90cm at the shoulder and weighs about 75 kg and lighter female weighs about 45 kg. The antlers are present only on males which are about 75cm long, they shed them annually. These antlers are used in mating displays and for the purpose of protection. They are most active in morning and late evening. Cheetal have a good and strong sense, hearing and vision power so they are highly active in comparison to other spp. of deers. Cheetal behaviour to detect and communicate danger are the alert posture, with tail being raised, thrumping ground by foreleg, scanning for danger, alarm call and forming tightly branched group.

In breeding time male throws their heads back and lets out mating calls during this period. Cheetal is polygynous, males and females have linear hierarchy and during rut males tend to defend females in estrous. Females usually give birth to a single child after a gestation period of 7 to 8 months, twins are rare. The fawn is nursed by their mother (Schaller 1967, Martin 1977, Qureshi et al. 1995).

## 2. Materials and Methods

Data had been collected from Office of Corbett Research Range (Shodh range ) Ramnagar. The data is in the form of total no. of population of Cheetal, not shown in sex wise but categories in National Park Area, Buffer zone (Reserve Forest) and Sonanadi Wildlife Sanctuary .The data from 1992 to 2008 (in between 16 year) were analysed (Table 1).

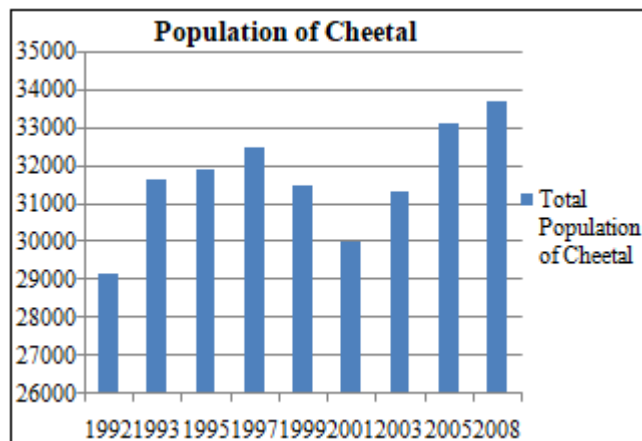
## 3. Study Area

The Corbett tiger reserve is chosen for the data based study.

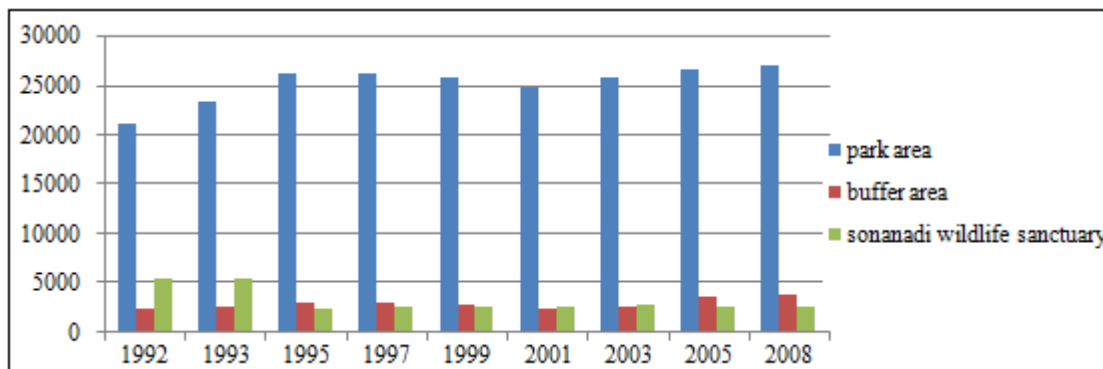
**Table 1:** Population of Cheetal deer in corbett Tiger Reserve from 1992 to 2008

Year	Park area	Buffer area	Sonanadi Wildlife Sanctuary	Total
1992	21199	2459	5500	29158
1993	23497	2625	5503	31625
1995	26315	3092	2512	31919
1997	26390	3054	2615	32466
1999	25821	2926	2719	31466
2001	24836	2403	2750	29989
2003	25822	2632	2850	31304
2005	26765	3638	2679	33082
2008	27161	3954	2581	33696

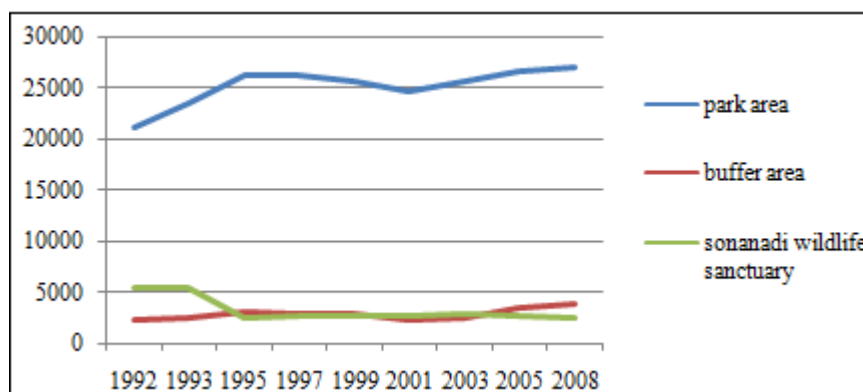
Source-Corbett Research Range (Official)



**Figure 1:** The total population of Cheetal in CTR from 1992- 2008



**Figure 2:** The distribution of Cheetals in Park area, Sonanadi Wildlife Sanc. and Buffer Area



**Figure 3:** Population of cheetal in Park area, Sonanadi Wildlife Sanctuary and Buffer area.

## 4. Result and Discussion

1) The figure.1 shows that there is slightly increase in population from 1993 to 1997 than decrease in

population and in 2001 there is minimum no. of population recorded. In 2003 to 2008 further increase in population and peak is found in 2008.

- 2) The figure.2 shows that in 1995 and 1997 the number of Cheetal are increase in National park area and decrease in Sonanadi Wildlife Sanctuary, it may be possible that the Cheetal from Sonanadi Wildlife Sanctuary migrate to National park area.
- 3) The figure.3 shows that from 1992 to 2008 the population of Cheetal deers is much higher in National Park Area , this may be deu to a good and natural habitat in core and tourist zone of National Park area. And the population of Cheetal in buffer area is slightly increase in study period 1992 to 2008.

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## 5. Conclusion

The age of sexual maturity of Cheetal deer is between 12-18 months for females and 18-30 months in males .They breed throughout the year but peak in april to may. The overall study concludes that due to a well natural habitat and good vegetation specially in the Corbett National Park the population of Cheetal deer is increase in study period.

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