

Bhadra Wildlife Sanctuary – Detailed Summary

Bhadra Wildlife Sanctuary, also known as Bhadra Tiger Reserve, is a protected area located in the Chikkamagaluru District of Karnataka, India. It covers an area of approximately 892.46 km² and is governed by the Government of India under Project Tiger. The sanctuary is named after the Bhadra River, which flows through its western part, and it forms part of the Western Ghats biodiversity hotspot.

Geography

Bhadra Wildlife Sanctuary lies between latitudes 13°22' to 13°47' N and longitudes 75°29' to 75°47' E. It consists of two main sections – the Lakkavalli-Muthodi (western) and Bababudangiri (eastern) ranges. The elevation varies from 615 m to 1,875 m above mean sea level, with the highest peak being Kallathigiri on the eastern boundary. Nearby prominent peaks include Mullayanagiri (1,930 m), Hebbegiri, Gangegiri, and Bababudangiri hills. Major water features include the Hebbe Falls (168 m high), the Manikyadhara Falls, and the Bhadra River tributaries. The sanctuary's western border forms part of the Bhadra Reservoir catchment area, spanning 1,968 km².

Climate

The sanctuary experiences temperatures ranging from 10°C to 35°C and receives annual rainfall between 1200 mm and 2600 mm. Average summer temperature is 32°C, while the average winter temperature is 19°C.

History

The region was first declared as the Jagara Valley Wildlife Sanctuary in 1951. In 1974, it was expanded and renamed as Bhadra Wildlife Sanctuary. In 1998, it was included under India's Project Tiger initiative. Bhadra is notable for being the first tiger reserve in India to complete a full village relocation program — 26 villages were successfully relocated by 2002 to M.C. Halli, 50 km away, to reduce human–wildlife conflict.

Flora and Fauna

Bhadra is rich in biodiversity, with wet and moist deciduous forests and patches of evergreen and shola forests. The sanctuary supports more than 120 plant species including teak, rosewood, bamboo, kadam, and Indian kino tree. Faunal diversity includes an estimated 33 tigers, 203 elephants, 186 gaurs, 780 chital, and 518 sambar deer according to census records. It also hosts leopards, sloth bears, wild boars, macaques, pangolins, and over 300 bird species such as hornbills, Malabar parakeets, and Ospreys.

Threats and Conservation

Key threats to the sanctuary include human encroachment, cattle grazing, poaching, and forest fires. Past outbreaks like rinderpest severely reduced the Gaur population, though conservation and inoculation programs have helped recovery. Forest management efforts focus on habitat improvement, anti-poaching measures, and forest boundary protection. Timber smuggling and illegal collection of non-timber forest products remain challenges.

AI Heat Map Integration

As part of the AI-powered Forest Management Assistant, the sanctuary's detailed geospatial and ecological data can be visualized through dynamic heat maps. These heat maps highlight high-biodiversity regions, deforestation risk zones, and critical areas

requiring restoration or monitoring. Using data such as wildlife population density, tree cover, and soil health, the AI model identifies optimal intervention points for forest officials to act upon, ensuring proactive conservation and resource allocation.