



## NATIONAL TIGER CONSERVATION AUTHORITY / PROJECT TIGER

Statutory Body under the Ministry of Environment, Forests and Climate Change  
(Government of India)

### Valmiki Tiger Reserve

Valmiki Tiger Reserve is located in the foothills of Himalayas on the north-west corner of Bihar, spread over Northern part of the West Champaran district. The terrain is undulating with a rich soil. Rivers Gandak, Pandai, Manor, Harha, Masan and Bhapsa flow through various parts of the reserve. By and large, the reserve is spread over lower Shivalik region with a deep water table. The tract is porous with boulders and sand deposits.

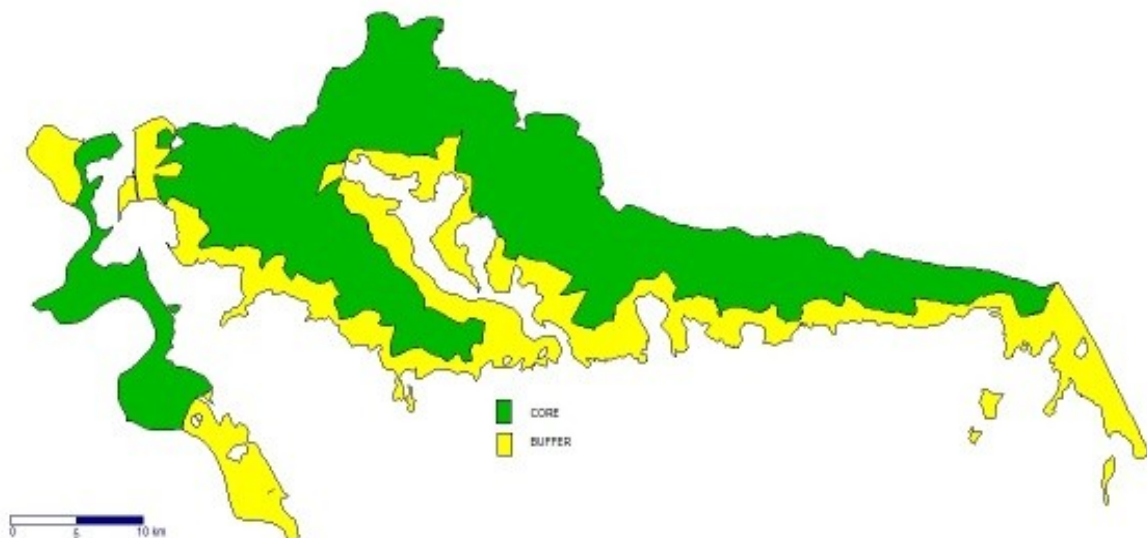
### Area of the tiger reserve

Core/critical tiger habitat	:	598.45 sq km
Buffer/peripheral area	:	300.93 sq km
Total	:	899.38 sq km

### Location

Latitudes	:	27 <sup>0</sup> 10' N to 27 <sup>0</sup> 03' N
Longitudes	:	83 <sup>0</sup> 50' E to 84 <sup>0</sup> 10' E

### Map



## Habitat Attributes

### Flora

As per Champion and Seth's classification there are seven forest types in the Tiger Reserve, owing to its diverse topographical and edaphic factors. The vegetation types include mainly Moist mixed deciduous, Open-land vegetation, Sub-mountainous semi-evergreen formation, Freshwater swamps, Riparian fringes, Alluvial grasslands, high hill savannah and Wetlands.

In general, the vegetation comprises of sal and mixed forests, interspersed with grasslands and riparian vegetation. There are more than 100 tree and 50 shrub species.

The mixed moist deciduous vegetation along the alluvial plains of the Gandak River is dominated by sal (*Shorea robusta*), rohini (*Mallotus philipensis*) and sihor (*Strebulus asper*). *Terminalia tomentosa*, *Terminalia belerica*, *Adina cordifolia*, *Dalbergia latifolia*, *Mitragyna parviflora*, *Ehretia laevis*, *Anogeissus latifolia* are some of the important associates of Sal forests. The natural forests are interspersed with plantations of teak (*Tectona grandis*), bamboo, semal (*Salmalia malabarica*), shisham (*Dalbergia sissoo*) and khair (*Acacia catechu*). In hilly regions apart from Sal, Piyal (*Buchanania lanzon*), Mandar (*Dillenia aurea*), Banjan (*Anogeissus latifolia*), Bhelwa (*Semicarpus anacadium*), Harra (*Terminalia chebula*), Boderia (*Eugenia operculata*), etc tree species are found.

The sub-mountainous semi-evergreen forests are dominated by Jamun (*Syzygium cumini*), *Ficus* sp. and Agai (*Dillenia pentagyna*). Common tree associates of freshwater swampy areas are Jamun (*Syzygium cumini*), Sihor (*Streblus asper*) and Gular (*Ficus glomerata*). The unique low altitude Chir Pine trees are found in pockets of Raghia hills. Cane brakes (*Calamus tenuis*, locally known as Betth) are conspicuous feature of Madanpur forest range.

The shrub layer of the Valmiki forests is mainly dominated by *Colebrookea oppositifolia*, *Murraya koenigii*, *Bridelia retusa*, *Ziziphus* sp., *Indigofera pulchella*, *Leea asiatica*, and *Phoenix humilis*. Among grasses, *Imperata cylindrica*, *Saccharum spontaneum*, *Eulaliopsis binata*, *Vetiveria zizanoides*, *Capillipedum assimile*, *Chrysopogon aciculatus*, *Phragmites karka*, *Themada* sp., *Typha angustata* are commonly found species of Valmiki forests. *Acacia pennata*, *Bauhinia vahlii*, *Smilax parviflora*, *Caesalpinia cucculata* are common climbers of the sanctuary.

There are several medicinal plants found in VTR. Some of them are Satawar (*Asparagus racemosus*), Safed Musli, Dudhkoraiya (*Holarrahenia antidysenterica*), Amla (*Embllica officinalis*), Piper (*Piper longum*), etc.

## Fauna

Diverse habitats of the Sanctuary support a variety of faunal life forms. Tigers, Leopards and Indian Wild Dogs are the large predators. Leopard cat and fishing cat are also found in patches. Deer species are represented by spotted deer, sambar, barking deer and hog deer. Indian bison (Gaur), Nilgai and wild boar are other ungulates found in these forests. Rhesus macaque and common Langur are primates of the sanctuary. Zoological Survey of India (ZSI) has recorded fifty three mammal species in the sanctuary. Recently Crab-eating mongoose, Yellow-throated marten and a Himalayan serow have been sighted in the VTR. Python, crocodile, king cobra, krait, monitor lizard, hill turtle are some common reptiles. The ZSI has recorded 10 species of amphibians, 27 species of reptiles and 75 species of insects.

Avian fauna of the sanctuary is diverse and it is represented by several species exclusive to Himalayan terai belt. Kaleej Pheasant, hill myna, paradise fly catcher, Himalayan bulbul, lesser adjutant stork, white backed and slender billed vultures are some exclusive birds of the sanctuary. Water bodies in and around the sanctuary also attracts winter migrants such as common pochard, red crested pochard, pintail, brahmyn duck and black necked stork. 241 birds spp have been reported so far from VTR.

## Tiger Status

Valmiki Tiger Reserve (VTR) is the 18th tiger reserve in the country. The reserve has a very good potential of harboring tigers subsequent to development of suitable habitats with scientific management interventions. As per 2010 country level assessment using refined methodology, the tiger estimate for the Valmiki landscape was 8. Recently the tiger count as concluded through camera trap method has gone up to 23, which is an encouraging sign for VTR.

## Core

Most of VTR comprises of core area and the problematic part is that the core area starts just 2-3 kilometers from the fringe revenue villages. The situation is aggravated by the intense biotic pressure from about 140 villages located just within a few kilometers of the reserve boundary. The Madanpur range has suitable habitat for tiger and herbivores, but is separated from the main tiger reserve area. Likewise, removal of weeds and creation of new as well as management of existing grasslands can help in increasing the carrying capacity of the habitat in the context of the tiger and its prey base. Soil and moisture conservation works with their tremendous scope of improving soil and water regime are to be taken on priority basis.

## Buffer

The buffer area in VTR is mostly in its southern portion and consists of a very thin patch of forest along forest boundary with heavy exploitation by the local people. There is intense biotic pressure from about 140 villages on the periphery of the buffer. About 74% of the villagers depend on forest for fuel wood, bamboo and small timber. While agriculture is the main source of livelihood, about 95% of the villagers rear cattle of local inferior breeds, with about 40% of them dependent on the forest for fodder. About 90% of the villagers consider forest as a source for firewood, fodder and housing material. At some places sand and stones are occasionally excavated. Bordering area of the reserve is also facing problems of encroachment. There are some religious sites inside the buffer area like Jata Shankar temple, Nardevi, and Sofa mandir. Periphery of buffer areas have been heavily used for public infrastructure in the forms of roads, railway lines, markets, electrical transmission lines, mobile towers and related development. Eco-tourism activities are confined to the buffer areas.

## Corridor

VTR boundary in the north borders Royal Chitwan National park and Parsa wildlife sanctuary of Nepal. The Madanpur is completely fragmented from the reserve due to road, railway lines and settlements.

## Managerial Issues

The porous international boundary with Nepal, intense biotic pressure, encroachment, weed invasion (dwarf *Phoenix* etc.), lack of availability of grassland, heavy soil-erosion from mighty rivers flowing through the reserve, involving local people in protection measures and eco-tourism are the major managerial issues of the VTR.

## Good Practices

Phase-IV monitoring, creation of camera trap photo ID database of tigers, 24X7 monitoring with the help of patrolling parties, tiger trackers and staff of anti-poaching camps, wireless surveillance, long range patrolling with SSB personnel, weed removal, Eco-tourism, soil-moisture conservation works, grassland management are ongoing managerial priorities. To generate good-will and reduce man-animal conflict issues the management has adopted prompt ex-gratia/compensation payment method. Safeguards on roads/rail lines particularly in Madanpur and Manguraha range, is another important focus area. A rapid response unit vehicle and a motor-boat have been deployed for quick action to address human-wildlife interface problems.