







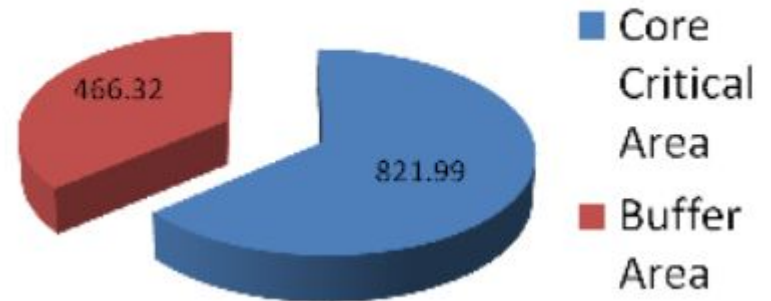
# Flora of Jim Corbett National Park: Important trees and their description



# Introduction

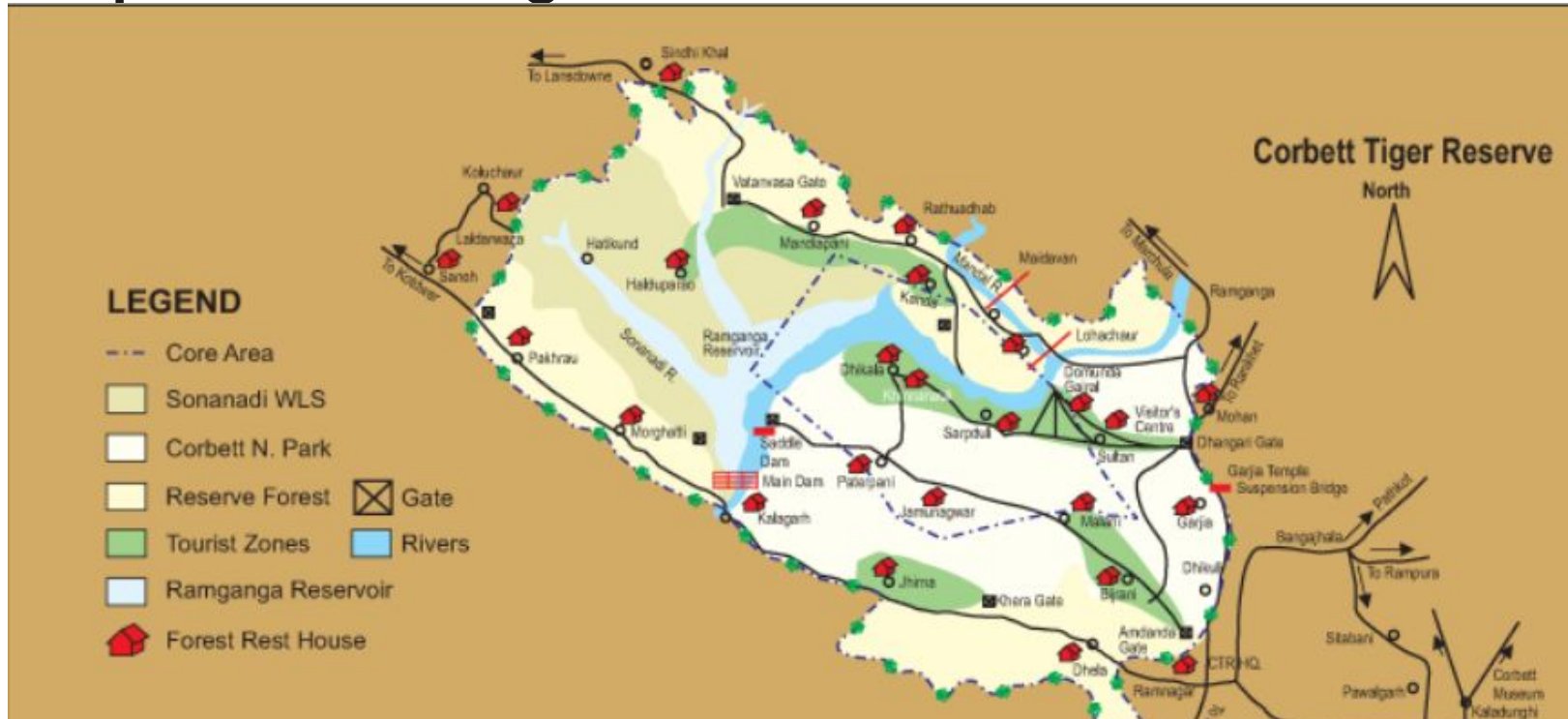
- Prior to years 1815 of British rule, forests of Corbett National Park were the private property of the local rulers. In 1820, The ownership had passed onto British rulers.
- Established on 8 th August 1936 in an area of 323.75 Sq. Km under U.P National Parks Act -1935
- Sir William Malcolm Hailey then Governor of the United Provinces, Jim Corbett and Smithies played major role in the establishment of Park.
- Was initially named as Haily National Park and it became Asia's 1st and World's 3rd National Park

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- It was rechristened as Ramganga and Corbett National Park in 1954 and 1956 respectively.
  - CNP was also the launching site of Project Tiger from where the Scheme was launched in 1973.
  - The Present day Area of the Tiger Reserve is 1288.31 Sq.Km





# Map of Corbett Tiger reserve





# Biodiversity of CNP

The Reserve has rich biodiversity. Both **Himalayan and peninsular floral and faunal elements** are found. **Champion and Seth (1968)** have classified the forest vegetation of the CTR in to the following types:

## **A. Northern Moist Deciduous Forests**

Moist Shiwalik Sal Forest

Moist Bhabar Dun Sal Forest

Western Gangetic Moist Mixed Deciduous Forests

Alluvial Savannah woodland





## **B. Northern Tropical Dry Deciduous Forests**

Dry Shiwalik Sal

Northern Dry Mixed Deciduous Forest

Khair-Sissoo Forest

## **C. Himalayan Subtropical Pine Forests**

Lower Shiwalik Chir Pine Forest



# Flora





# Flora

Biodiversity in Corbett National Park is characteristic of Sub-Himalayan region.

## Description of Flora

- 617 species of flora under 410 genera
- 111 families of Angiosperms (Monocot 132, dicots 462)
- 1 Gymnosperm and 22 Fern and fern allies
- More than 110 tree species Eg: sal (*Shorea robusta*), rohini (*Mallotus philippensis*), sain (*Terminalia tomentosa*), bakli (*Anogeissus latifolia*)



# Fauna



Picture credits: Tulsi Das





## Fauna

- 49 species of mammals
- 685 species of birds
- 39 reptilian species, 10 amphibians and 36 species of Pisces amongst vertebrate
- The reserve has highest density of wild tigers in the world and supports an equally high density of prey species





# Grasslands



Shot on OnePlus  
Powered by Dual Camera





## GRASSES IN CTR

Grasses form largest group of plant species in Jim Corbett National Park with more than 70 species recorded. They occupy different habitats, especially chauras.

The major grass species are:

1. *Saccharum munja* (munja)
2. *Saccharum spontaneum* (kansi grass)
3. *Themeda arundinacea* (hathi grass)
4. *Phragmites karka* (Narkul)



Munja grass



kansi grass



Hathi grass



Narkul grass





*Vetiveria zizanoides*(khus grass)



*Heteropogon contortus*(spear grass)



*Setaria glauca*



*Thysanolaena latifolia*(Tiger grass)

# Sal Tree (Shorea Robusta)

-Sal Forests cover over **35 % of Corbett Tiger Reserve.**

- Family - **Dipterocarpaceae**

- In some areas, other tree species are associated with sal rendering

It Sal mixed forests. The Sal Forests support plethora of wildlife

ranging from Elephants, tigers, large herbivores, to birdlife that

include hornbills, woodpeckers etc.

- Hardwood timber **tree**, up to 30-35 m tall. The crown is spreading and spherical. Leaves are 20 cm long, simple, shiny , broadly oval at the base.

-**Sal** is believed to be the “House of Tribal Goddess” and is valued as a holy **tree**. It has religious, medicinal as well as commercial significance and its **wood** is used in the furniture industry. **Sal** is generally used to prevent diarrhea and dysentery due to its astringent property.





# Teak Tree (Sagwan Tree)

-**Teak (*Tectona grandis*)** is a tropical hardwood tree species in the family Verbenaceae.

- It is a large, deciduous tree that occurs in mixed hardwood forests.

- *Tectona grandis* has small, fragrant white flowers arranged in dense clusters

(panicles) at the end of the branches.

-Buttresses are often found at the base of the trees. Bark is thick, grey or lightish brown, fibrous with shallow longitudinal fissures. Leaves are large (25 - 50cm in length and 15-35 cm in width), elliptic or obovate; upper side green to dark green in colour; underside dense has whitish to tawny matt of wooly hairs.

-Leaf arrangement is opposite

-Teak wood is globally renowned for its strength, durability, dimensional stability, working quality and non-corrosive property when in contact with metal

-The seeds contain oil to the extent of 44.5% and the oil is used in soap manufacture. Teak leaves are often used as platters.



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## Indian Coral Tree

- *Erythrina variegata*
- Family- Fabaceae
- Species *variegata* means irregularly colored and refers to the leaves. It is extensively planted as a street or garden tree.
- Coral tree is , thorny, much branched, medium-sized, deciduous tree that grows about 60-80 ft.
- It thrives best in full sun on a deep, well-drained, sandy loam, but they tolerate a wide range of soil conditions from sands to clays. It can tolerate brief periods of waterlogging.
- Coral tree has nothing to do with coral reefs – the name comes from the stunning bright red color of its flowers, which appear on the tree in profusion when it is still without leaves.
- Medicinal benefits- **Reduce cholesterol, Help cure worm infestation, Treat swelling and inflammations( Bark).**





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## Dhak (Butea Monosperma)

Commonly called as **Flame of Forest**, Palash tree

- Family - **Fabaceae**

-The plant grows as a medium-sized tree and is a native to India. The tree grows up to 40 feet high and has a distinctive appearance due to its grey bark, irregular branches and crooked trunk. The pinnate leaves have three leaflets each, which also brings to the very famous Hindi saying, '*dhaak ke teen paat.*'

-It can be used to manage diarrhoea as it has antimicrobial and **astrigent properties**. It also helps to manage **liver** disorders due to its antioxidant **properties**.

-Palash bark is applied externally to treat wounds and cuts.



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## Amaltas (Cassia Fistula)

- Commonly Called as **Golden Shower Tree**,

-Family- **Fabaceae**

-Cassia fistula is a medium sized deciduous tree, 10 m tall with a straight trunk to 5 m, 1 m diameter and spreading branches. Stem bark pale grey, smooth and slender when young and dark brown and rough when old.

- The tree can withstand moderate amount of shade, is drought resistant, but not frost hardy.

-Amaltas fruits are used in the treatment of **diabetes**. It is antipyretic, decreases inflammation and heat of the body useful in chest complaints, throat troubles, **liver** complaints and diseases of eye and gripping. The pulp of the fruit around the seeds is a mild purgative.





# *Dalbergia sissoo*

**Family :** Fabaceae

**Common Name-** Shisham

## **Description**

- medium to large deciduous tree with a light crown which reproduces by seeds and suckers.
- can grow up to a maximum of 25 m (82 ft) in height and 2 to 3 m in diameter
- native to the foothills of the Himalayas ranging from Afghanistan in west to Bihar, India in the east. It is primarily found growing along river banks below 900 metre

## **Uses :**

Timber, Fuel wood, Teeth brushing, Pesticide and Construction



# *Acacia catechu*

- **Family :** Fabaceae
- **Common Name-** Khair

## **Description**

- deciduous, thorny tree which grows up to 15 m (50 ft) in height
- light feathery crown and dark brown, glabrous, slender, thorny, shining branchlets, usually crooked
- widely distributed throughout the greater part of India except the most humid, cold and the driest regions. It is common in the sub-Himalayan tract and outer Himalayas ascending from 900 to 1,200 m from Jammu to Assam

## **Uses :**

Kattha, Fodder, traditional medicine, firewood and charcoal





# *Mallotus philippensis*

**Common Name-Rohini Tree**

**Family- Euphorbiaceae**

**Description:**

- small or medium-sized tree, up to 25 metres tall and a trunk diameter of 40 cm
- trunk is fluted and irregular at the base
- Closest associate species of Sal among trees
- Alternately arranged, ovate or rhombic ovate
- leaves are rusty-velvety.
- Male and female flowers occur in different trees

**Usage :**

- powder, obtained from the skins of the fruits, is used as anthelmint
- Seed oil is used in paints and varnishes



# *Bahunia vahlii*

Family- Fabaceae

Local name- Maldhan

## Description

- vigorous climbing shrub
- evergreen Climber growing up to 30 m long and 20 cm in diameter.
- Native to the southern Himalayas of Nepal and India; also in the lowlands of eastern India, and extending to Burma (Tenasserim)

## Usage:

- The inner bark is a source of fibre used in making ropes. The stems are used for basketry, matting, and wickerwork. The leaves are used as a thatch





# *Bombax ceiba*

Family: Malvaceae

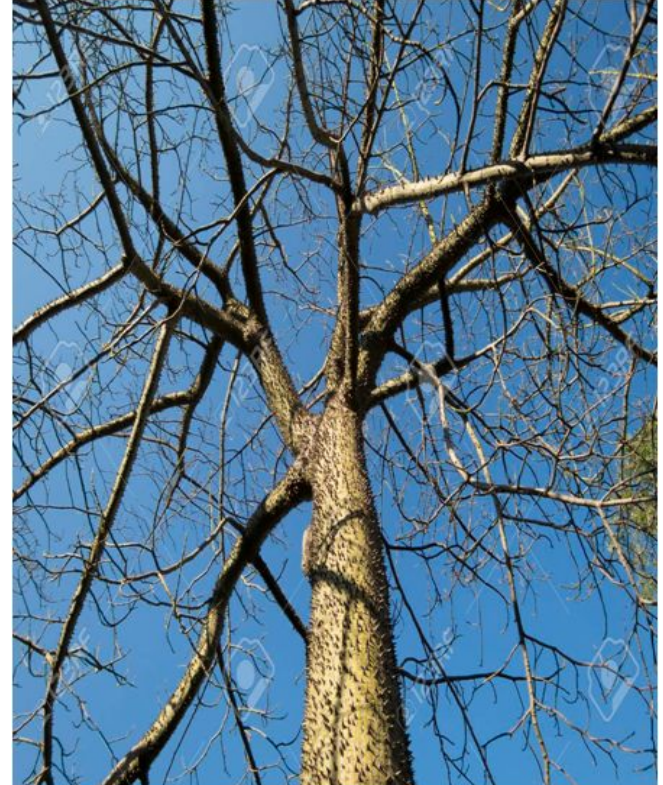
Common Name : Semal, Silk Cotton Tree

## **Description**

- Tall deciduous tree with a spreading crown
- Grows to an average of 20 meters
- Trunk and limb bear numerous conical spines particularly when young
- Bloom Time: February to April
- Leaves are palmate with about 6 leaflets radiating from a central point

## **Uses**

- Oil obtained from the seed is used to make soap and can be used as substitute for cottonseed oil
- The fibrous bark is used for making ropes
- Young roots are diuretic and tonic as they are used in the treatment of cholera, coughs etc.



# *Pinus roxburghii*

Family: Pinaceae

Common Name : Chir Pine

## **Description**

- Extends from Tibet and Afghanistan through Pakistan, across northern India.
- Generally occurs at lower altitudes than other pines in the Himalaya, from 500–2,000 m
- Large tree reaching 30–50 m with a trunk diameter of up to 2 m
- The leaves are needle-like, in fascicles of three, very slender, 20–35 cm
- New needles appear in February–March and old needles fall in May–June.
- Cones take 25 months to mature. They begin to open in April or May.

## **Uses**

- Chir pine yields a good quality oleo resin
- Needles are used as packing wool in vegetable and fruit boxes and as bedding material in cowsheds
- The turpentine obtained from the resin of all pine trees is antiseptic, diuretic, rubefacient and vermifuge.





# *Syzygium cumini*

Family: Myrtaceae

Common Name: Jamun, Black Plum

## Description

- Native Indian evergreen tree that reaches up to 20 feet tall.
- Flowering:** March--May
- Fruiting:** June--August
- Oblong opposite leaves that are smooth, glossy and having a terpenine smell.
- Fragrant white flowers in branched clusters at stem tips and purplish-black oval edible berries.

## Uses

- The leaves are antibacterial, and are used for strengthening the teeth and gums.
- The fruit and seeds are sweet, acrid, sour, tonic, and cooling, and are used in diabetis, diarrhoea and ringworm.
- The bark is astringent, sweet sour, diuretic, digestive and anthelmintic.



# *Phyllanthus emblica*

Family: Phyllanthaceae

Common Name: Aonla, Amla

## **Description**

- Amla is a small to medium sized deciduous tree, reaching 8 to 18 m in height
- The leaves are like a tamarind tree or a fern-like, oblong but narrow, up to 2 cm
- The flowers are bisexual and appear in clusters. Fruits are smaller in size with a diameter up to 3 cm, in greenish-yellow color that changes into orange-brown after maturity. The flesh is tart, juicy, and crisp and contains 1 or 2 small seeds.

## **Uses**

- Fruits are more commonly used to make jams, jellies, tarts, chutneys etc . Rich in pectin and richest natural sources of vitamin C.
- Used for treatment of diverse ailments, especially those associated with the digestive organs.



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# Challenges & Management solutions

## 1. Invasive species

- *Lantana camara*



- *Shorea robusta* (Sal)







In the corbett National park, over 8000 hectares of lantana invaded areas have been restored into healthy grassland habitats.



# Challenges & Management solutions

## 2 . Grassland management

- **Shorea robusta (Sal) invades grassland ecosystem**
- **Huge herbivore population**
- **Target of 15%-20% area under grasses**



## Broadcasting of Seed balls in Grassland







Plantation of Grass  
tufts

Plantation of  
**Sacchrum munja** at  
kalagarh divison





# Challenges & Management solutions

## 3. Fire protection

- Critical period : March-June
- Between 2005 to 2015 , Corbett National park witnessed 196 incidents
- Firewatchers

# Controlled burning



# Challenges & Management solutions

## 4 . Illegal felling of trees

- Mostly buffer areas, areas adjacent to habitations.
- Steps taken
  - Patrolling teams
    - human footprints etc.
  - Drones [drone unit]
  - GPS [with entire staff]







**Thank you**