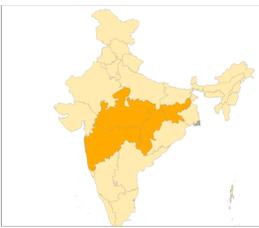


# IMPACT OF COAL MINING ON TIGER HABITATS IN INDIA



## INTRODUCTION



As India's population is rising, so is its energy demand and dependency on coal. For India,

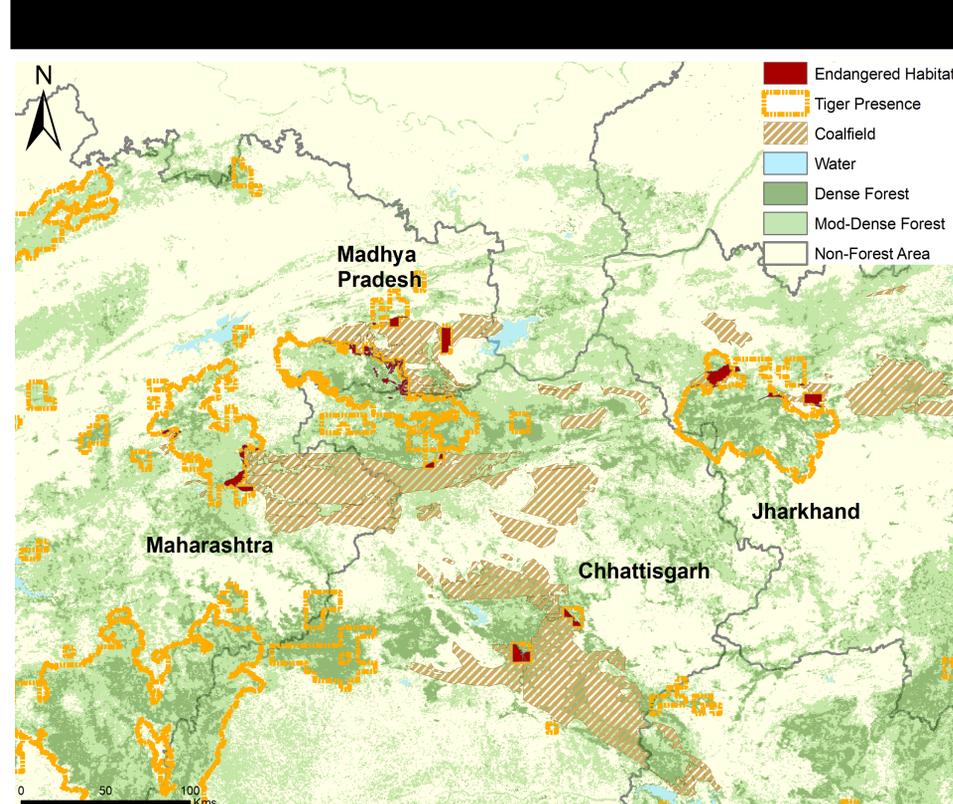
coal is the primary source of energy because it is inexpensive and abundantly available as a natural resource. However, extraction of coal is not only carbon intensive but also requires diversion of large scale forestlands. Importantly, the loss of forestlands have huge repercussions on the tiger population.

The purpose of this project is to produce a map identifying the most number of coalfields impacting Tiger habitats. As a number of coal reserves lie in the central region of India which are also home to 35% of Tigers, the project is studying the states of Madhya Pradesh, Jharkhand, Chhattisgarh and Maharashtra while giving sample results from three coal fields: Singrauli (Madhya Pradesh), and Hutar and Auranga (Jharkhand).

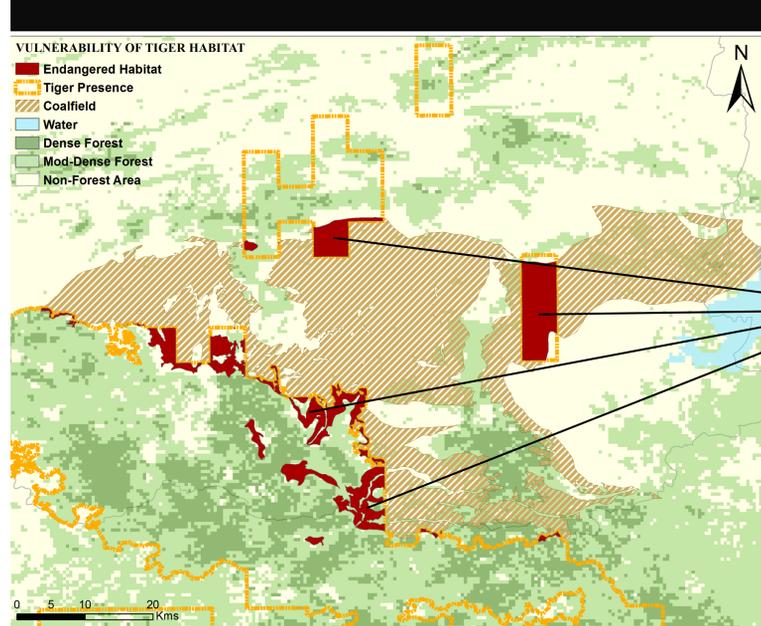
## METHODOLOGY

**Select by attribute** tool was used to choose the three coalfields to study: Singrauli, Hutar and Auranga. **Reclassify** tool was utilized to reclass the values as per water, forests and non-forest areas. **Intersect** tool was used to combine Tiger presence and coalfield layers to show the overlap features. To calculate the area, **calculate geometry** tool was applied to know the area of each coalfield. **Overlay analysis** of Singrauli, Hutar and Auranga coalfields was done by combining the specific coalfields and Tiger presence data. Then the statistics of the Tiger presence and coalfield overlap areas were taken and divided to the total coalfield area.

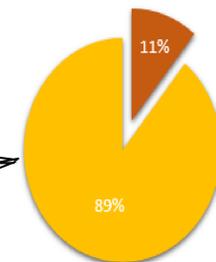
## STATES WITH MOST ENDANGERED TIGER HABITATS



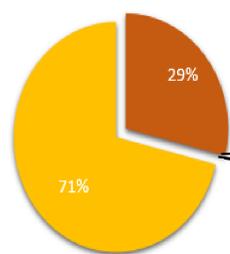
## SINGRAULI COALFIELD RESULTS



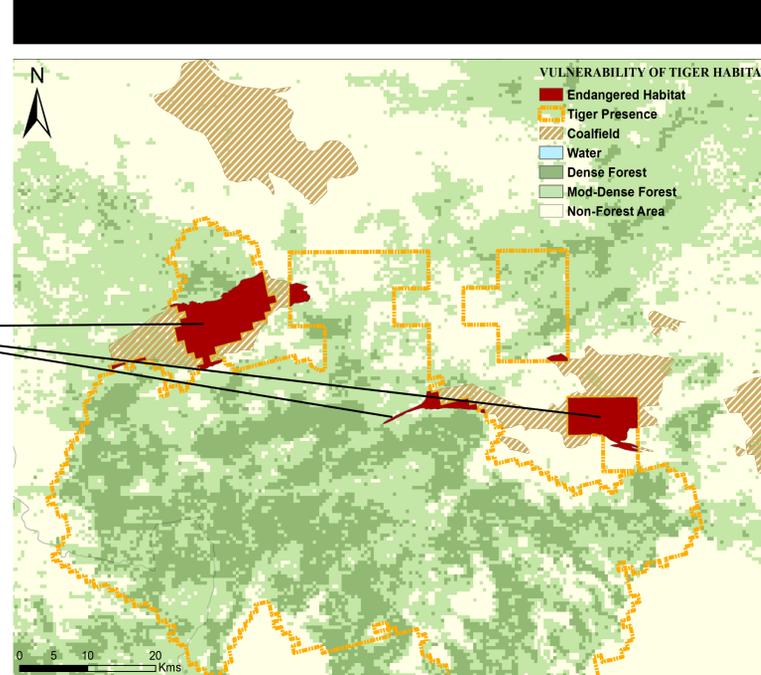
% of Coalfield Overlap on Tiger Habitat



% of Coalfields Overlap on Tiger Habitat



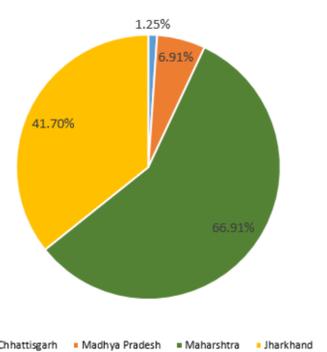
## HUTAR AND AURANGA COALFIELDS



## RESULTS

The Singrauli coalfield data shows that there is 11% of coalfield overlapping on Tiger habitats. Hutar and Auranga area data results prominently display that 29% of area is extending over the Tiger habitat. The rest of the coalfields in both the regions are precariously close to the habitat region, which may have significant impact on the Tiger routes and movements.

States Total % of Coal Overlap on Tiger Habitat



The state with highest percentage of coalfield overlap is Maharashtra with 66.91%. Jharkhand has 41.70% of coalfield extension to Tiger area whereas Madhya Pradesh and Chhattisgarh have 6.91% and 1.25% accordingly.

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