

## WILDLIFE CORRIDOR CONNECTIVITY ANALYSIS: KOSI RIVER CORRIDOR, UTTARKHAND, INDIA

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### Abstract:

Terai-Arc Landscape (TAL), in the Himalayan foothills in northern India, provides vital habitats for tigers besides other endangered large mammals. Growing anthropogenic disturbances in the landscape have led to fragmentation of existing tiger habitats and genetic isolation. Kosi River corridor one of the key corridors in TAL, provides crucial linkage between Corbett Tiger Reserve (CTR) and Ramnagar Forest Division. In the study, change analysis has been done to assess the dynamics in forest cover in the corridor. Land Change Modeler (LCM) was used to model the LULC changes for 2015, 2020 and 2030. Based on the generated LULC maps and vector data representing anthropogenic disturbances, habitat suitability mapping was done with respect to tigers using MAXENT. Later using cost distance module of Arc GIS the connectivity status of existing corridors were studied. The study demonstrates potential of geospatial tools to understand the spatio-temporal forest cover change and generate the future scenario. The maps show the status of landscape connectivity in 2012 and for the predicted scenarios of 2015, 2020 and 2030. Because of increased anthropogenic disturbances only two narrow passages are available to wildlife for approaching the River. This analysis is used to identify priority areas for wildlife management to improve the connectivity between the core protected ecosystems in the Kosi corridor.