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Title: Identifying regions for conservation of sloth bears through occupancy modelling in north-eastern

Karnataka, India

Authors: Sen, Sharmi (/jspui/browse?type=author&value=Sen%2C+Sharmi)

Keywords: Anthropogenic pressure

Northeastern Karnataka, India Melursus ursinus Occupancy modelling

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Abstract:

In the absence of information on species in decline with contracting ranges, management should emphasize remaining populations and protection of their habitats. Threatened by anthropogenic pressure including habitat degradation and loss, sloth bears (Melursus ursinus) in India have become limited in range, habitat, and population size. We identified ecological and anthropogenic determinants of occurrence within an occupancy framework to evaluate habitat suitability of nonprotected regions (with sloth bears) in northeastern Karnataka, India. We employed a systematic sampling methodology to yield presence-absence data to examine a priori hypotheses of determinants that affected occupancy. These covariates were broadly classified as habitat or anthropogenic factors. Mean number of termite mounds and trees positively influenced sloth bear occupancy, and grazing pressure expounded by mean number of livestock dung affected it negatively. Also, mean percentage of shrub coverage had no impact on bear inhabitance. The best fitting model further predicted habitats in Bukkasagara, Agoli, and Benakal reserved forests to have 38%, 75%, and 88%, respectively, of their sampled grid cells with high occupancies (>0.70) albeit little or no legal protection. We recommend a conservation strategy that includes protection of vegetation stand-structure, maintenance of soil moisture, and enrichment of habitat for the long-term welfare of this species.

Description: Only IISERM authors are available in the record.

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