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Diversity, Structure and Regeneration Pattern of Tree Communities in Kanawar Wildlife Sanctuary of Himachal Pradesh, North West Himalaya, India

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Abstract: The protected areas of the Indian Himalayan Region are mostly under or unexplored. The present study was conducted in Kanawar Wildlife Sanctuary, Himachal Pradesh, to; assess the vegetation for community diversity, regeneration pattern, impact of climate change and suggest the management options. Total 69 sites were assessed, between, 1620-3460m amsl and 35 tree communities were recorded. *Picea smithiana* was dominant community. *Cupressus torulosa* community represented maximum tree density (680.0 Ind ha^{-1}) whereas, *Taxus wallichiana-Abies pindrow* mixed community had maximum total basal area (111.44 m^2ha^{-1}). Highest diversity of trees was in *Aesculus indica-Prunus cornuta-Cornus macrophylla* mixed (2.50) whereas, its maximum values for seedlings and saplings were in *Picea smithiana* and *Cedrus deodara* communities. The regeneration patterns of tree species within the communities indicated different patterns of seedlings and saplings. *Abies pindrow*, *Quercus semecarpifolia*, and *Pinus wallichiana* communities showed altitudinal shift changing pattern of community compositions. This could be as a consequence of climate change. Therefore, monitoring of these communities, awareness programmes for the local inhabitants and involvement of local communities and forest department in the restoration of degraded forest are suggested.

Keywords: Diversity, Conservation, Species richness, Regeneration pattern, Kanawar wildlife sanctuary