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Happy Hornbills, Healthy Forests

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Composition of the Great Hornbill Nesting Habitat in the Southern Western Ghats for Ecosystem-based Species and Habitat Management

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The degradation of moist tropical habitats in its extent and quality has been the major reason for the decline of Great Hornbill populations in the Western Ghats. Studies indicated the removal of old-growth nesting trees, large-scale conversion of forest for non-forest purposes, degradation of primary forest and traditional hunting as the major reasons. The traditional hunting factor can be reduced with proper community involvement in conservation but the degradation of the forest habitat is a persistent threat. Great Hornbill nest locations were overlaid on a vegetation map, and were found to be in wet evergreen primary forest, wet evergreen secondary forest, secondary moist deciduous forest, forest plantation and forest converted agro-industrial plantations within the evergreen and wet evergreen bioclimate. We conducted stratified random sampling of 24 plots of 0.3ha size, around nesting trees across the identified various vegetation types of the Southern Western Ghats, India. The nest plot vegetation data were clustered based on species similarity (Bray-Curtis) and 11 different vegetation clusters were obtained. These include the composition of climax tree species found in the wet evergreen forest of the Western Ghats such as *Palaquium ellipticum – Cullenia exarillata* type with high species diversity, density and climax species dominance index. This also includes primary low-elevation forest compositions, such as *Vateria indica* and *Chukrasia tabularis* type. Others represent various degradation types of the rainforest formations inferred with less species diversity, density and climax species dominance index. The *Ochlandra travancorica* dominated composition indicates the highly degraded forest region with isolated old-growth nesting trees. The composition of nesting habitats in the secondary moist deciduous forest, forest plantation and agro-industrial plantation also comes within the low- and medium-elevation tropical rain forest biome. The detailed vegetation composition around the nests ranging from the heavily degraded to primary forest habitat can be used as scale for site-specific conservation plans and ecological restoration of degraded hornbill nesting habitats in the Western Ghats.

Keywords: Tropical forest, Conservation, Great Hornbill, Western Ghats, Nest site

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