Thulani Sihle Methula 2014: Species Composition in Burnt and Unburnt Deciduous Dipterocarp Forest at Huai Kha Khaeng Wildlife Sanctuary, Thailand. Master of Science (Tropical Forestry), Major Field: Tropical Forestry, Faculty of Forestry. Thesis Advisor: Assistant Professor Duangchai Sookchaloem, D.Sc. 118 pages

The species composition in burnt and unburnt Deciduous Dipterocarp Forest (DDF) at Huai Kha Khaeng Wildlife Sanctuary (HKKWS) was carried out by identifying and comparing ground flora, seedling and sapling species. The Importance Value Index (IVI), indices for species diversity, similarity, richness and evenness were analyzed. Wildlife abundance was determined by identifying and counting dung and pellet groups of large herbivores.

Fire has an effect on the species composition of understory vegetation (ground flora, seedlings and saplings) in the DDF at HKKWS. There were more species of ground flora, seedlings and saplings in burnt area than in unburnt area. There were 55 species of ground flora found in burnt and unburnt areas. Dominant ground flora species based on the IVI value was *Heteropogon triticeus* (R.Br.) Stapf ex Craib (30.1) in burnt area and *Polyalthia debilis* (Pierre) Finet & Gagnep. (38.4) in unburnt area. Dominant seedling species was *Shorea obtusa* Wall.ex Blume (106.2) in burnt area and *Polyalthia debilis* (Pierre) Finet & Gagnep. (120.3) in unburnt area. Dominant sapling species was *Xylia xylocarpa* (Roxb.) Taub. (63.8) in burnt area and *Terminalia mucronata* Craib & Hutch. (82.3) in unburnt area.

The Menhinick's index showed that the species richness of ground flora, seedlings and saplings was higher in burnt area than in unburnt area. The species similarity of ground flora, seedlings and saplings between burnt and unburnt areas was low.

For analysing herbivore abundance the dung and pellet densities showed that elephant, banteng, Sambar deer and barking deer were more abundant in burnt area than in unburnt area and gaur did not inhabit the study area.

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