

Identifying trees species dominance in Hulu Sedili Forest Reserve, Peninsular Malaysia based on lithology type using Geographic Information System.

ABSTRACT

Lowland tropical forest in Peninsular Malaysia consist a valuable dipterocarp timber species. In fact, dipterocarp tree species growth well when the ecology is maintained and their growth are dependent on the micro climate and also affected by lithology types. This study was carried out to identify and map tree species dominancy by lithology types at Hulu Sedili Forest Reserve (HSFR) using Geographic Information System (GIS) technique. Different lithology type maps were derived namely Igneous, Sedimentary and Limestone. Through GIS operations tree species data collected from pre-felling inventory and ground survey were overlaid with lithology features. Results showed that at Sedimentary and Igneous types, the presence of dipterocarpaceae family is only 3.09%, and non-dipterocarpaceae family was 96.91%. *Syzygium* spp. (19.83%) was the most abundance in Igneous and Sedimentary. Meanwhile, *Elateriospermum tapos* (9.92%) and Lauraceae's family (7.22%) were found to be the most dominant species in Sedimentary types, *Macaranga* spp. (11.21%) and *Elateriospermum tapos* (11.02%) in igneous types. However, a Limestone type was discarded from analysis due to unavailable pre-felling data. Thus, this study indicated that there was variation in species dominancy of different lithology types. On the other hand, GIS demonstrated its capability as a useful tool in identifying and maps the location of trees species based on lithology types.

Keyword: GIS (Geographic Information System); Forest reserve; Lithology types; Dominance species; Mapping.