

The Role of Remnant Forest in Conserving Bird Diversity in Acacia Plantation in Indonesia.

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The impact of decreasing ecosystem services in tropical rain forest is habitat loss. Maintaining biodiversity requires adequate landscape structure or management procedure. In South-east Asia, large-scale plantation as *Acacia mangium*, Oil palm, and rubber already spread over land, and it could be one of the reasons of habitat loss, since usually one tree species is planted. Our objective is to clarify the bird species diversity differences in *Acacia mangium* plantation and conserved secondary forests. We then aim to propose an adequate landscape structure to maintain avifauna original to that region. Our study site is located in 260,000 ha Acacia plantation in PT. Musi Hutan Persada, South Sumatra, Indonesia. We conducted bird survey in the conserved secondary forest and in several Acacia plantation sites with different distance (0.5km, 1-2km, 6-7km, 10-15km) from the nearest conserved secondary forest. Similar survey was conducted at Acacia plantation with different age (0-1 year, 4-5 year) in the same distance from conserved secondary forest.

Three methods were used for bird survey. (1) Point-count method; we recorded species during ten minutes' standing at the point, and count number of individuals within 25m radius. (2) Bird calls recording, whenever possible we used IC-recorder during point-count to record bird calls for the later identification. (3) Infrared rays camera; throughout our stay, we set 4 automatic cameras with infrared rays sensor at the height of 1~2m.

From point-count census, we have observed 32 bird species in young acacia plantation, 36 species in mature Acacia plantation, and 55 species in conserved secondary forest. Significant differences in avifauna were observed between Acacia plantation and conserved secondary forest, and declining number of species were indicated according to the distance from the conserved secondary forest. But in some point, relatively high species number is observed in young Acacia plantation, since we counted birds in the remnant forest which is close to Acacia plantation. The remnant forest spreads widely in the region, probably being a good habitat for birds.