

The response of bird diversity on reduced impact logging in segaluid lokan forest reserve

ABSTRACT

Forest is one of the vital revenues in South Asia especially for developing countries. Reduced Impact Logging (RIL) was developed due to the need of improving forest management on the international fora due to the continuing deforestation. Birds are one of the important taxa of tropical ecosystems. Bird community also act as one of the agents in balancing the ecosystem by control the pest population in the forest. Timber harvest system such as RIL considered as a logging activity that can reduce negative impacts on biodiversity. Logging activities may give uncertain effect on avian community. This study investigates the species diversity during pre-harvest, harvest and post-harvest period in order to study the immediate response of avian community on RIL. The study site that was selected for this research was at Segaliud Lokan Forest Reserve, Sabah. Methods used for this study was adopted from past research on bird studies using line transect of which point count stations were established. The data collection during the pre-harvest was conducted from October 2017 to April 2018. The bird population diversity was analyzed using Shannon-Weiner index of diversity and Diversity ttest was employed test for significant differences between pre-harvest with harvest period; and between pre-harvest with post-harvest period. The Shannon-Weiner diversity index at post-harvest ($H' = 0.39$) was lower as compared to that at harvest ($H' = 4.27$) and Post -harvest (4.24). The results of the diversity t -test for birds between pre-harvest and harvest was very significantly different ($t = 5.7978$; $df = 944.19$; $p = 9.1574E-09^{**}$) and between pre-harvest and post-harvest was also very significantly different ($t = 5.8713$; $df = 951.99$; $p = 5.9668E-09^{**}$). The study shows the bird responded during the RIL and soon after RIL operation by the increased of their species diversity as they were flushed out from their normal territory.