Short communication: effect of skid trails on the regeneration of commercial tree species at Balah Forest Reserve, Kelantan, Malaysia

ABSTRACT

Skidding operation has been reported as one of the factor to forest soil degradation and vegetation disturbance. Assessing tree regeneration by the effect of the skid trail from harvest operation is important to determine the recovery rate of the forest stand. A study was conducted to accomplish the following objectives, (i) to measure the tree regeneration rates at different distance from skid trails, and (ii) to evaluate the dominance and species diversity of regenerated trees. A total of five plots with size of 50 m by 2 m were established in two skid trails of natural forest that has been logged in 2012. Each plot contains five sub-plots of 2 m by 2 m in different locations namely skid track, edge and forest. The number of seedlings and saplings, species richness and diversity, and dominance regeneration were analyzed. Results showed that the number of species regeneration was not significantly different in both skid trails. For skid trail 1 the number of seedling and saplings was highest on skid trail tracks (mean species diversity = 0.45). Meanwhile skid trail 2 showed the greatest species regeneration at edges (mean species diversity =0.65). Frequency value for Elateriospermum tapos was high due to the existence of mother tree in the area that provide a great number of seedlings. The dominance regeneration in both skid trails originated from non-dipterocarp families. There were 42 non-dipterocarp seedling and saplings in skid trail 1, and 182 in skid trail 2. While only 2 dipterocarp seedling and saplings in skid trail 1, and 8 in skid trail 2. Enrichment planting is suggested as dipterocarp species have low growth rate compared to the non-dipterocarp species.

Keyword: Malaysia; Species diversity; Skid trails; Tree regeneration