

14. Thinning after selective logging facilitates floristic composition recovery in a tropical rain forests of Central Africa

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In the Congo Basin, where most timber species are light-demanding, low logging intensities commonly implemented (1-2 trees harvested ha⁻¹) do not provide sufficient canopy gaps to ensure species regeneration. The regeneration of light-demanding timber species may therefore benefit from more intensive logging, or from post-harvest treatments such as thinning using poison girdling that increases light penetration. Little is known of the impact of post-harvest treatments on the floristic composition of tropical moist forests. This study therefore aimed to assess the effects of low and high selective logging, followed or not by thinning, on the floristic composition of a tropical moist forest in the Central African Republic, from 7 to 23 years after logging. We analyzed abundance data for 110 tree genera recorded every year for 14 years in 25 1-ha permanent subplots and we compared floristic composition recovery between thinned and unthinned subplots, using unlogged subplots as a reference characterizing the pre-logging floristic composition. We discuss the results and their potential implication for forest management.

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Tropical forest management, floristic composition, selective logging, thinning, Central African Republic

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