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Phytosociological structure of an intensively logged forest in the Amazon, Brazil.

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The study area belongs to the dense rain forest of terra-firme located in Dom Eliseu in southeast State of Pará, Brazil. The 535ha forest area is considered a “Reserva Legal” area, under the Brazilian Forest Code which was repeatedly logged in the past. In the present we evaluated its timber stock in order to manage its structure and to promote its conservation. The floristic inventory evaluated all trees species with DBH ≥ 5 cm in 50 permanent plots (50x50m), totaling 12.5 ha sampling area. The gaps, created by the last intervention (2004), were enriched with *Schizolobium parahyba* var. *amazonicum*. We observed a high species richness (> 400 species), high population density (1,271.4 trees ha⁻¹) and a basal area of 22.8m² ha⁻¹. Additionally, it was observed that trees under 35 cm dbh represent 96.6% of the total individuals and 66.5% of total basal area. These results show the high intensity of exploitation that occurred in the past and initial recovery stage of the forest characterized by the predominance of pioneer species, such as of genus *Cecropia* pioneer species (*C. palmata*, *C. sciadophylla*, *C. distachia*, *C. obtusa*) and the heliophyla planted *S. parahyba* var. *amazonicum* species which occupy 11.1% and 2.5% of tree density and 15.2% and 11.6% of basal area of the forest community, respectively. Therefore, we observed that the remaining timber stock of the forest is composed of a rich species diversity and trees of small diameter, and finally, a typical dominance of pioneer species.

Keywords: Amazon tropical forest, intensive logging. timber storage, pioneer species