

18. Current knowledge of general patterns of biomass dynamics after logging in Amazonian forests

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Sustainable management of tropical forests for timber production has been proposed as a potential tool for the conservation of large areas of tropical forest. The key is to identify practices that promote repeated extraction of forest goods (timber and non timber forests products) without compromising important forest services (e.g., biodiversity and carbon). Currently, 350 million hectares of tropical moist forests worldwide are designated as production forests, about a quarter of which is managed by rural communities and indigenous people. Yet general management guidelines remain elusive, in large part because not only harvesting practices but also forest types vary broadly both within and among regions. For example, the Amazon region shows a strong east-west gradient in both floristic composition and forest dynamics. This paper presents a literature review of our present knowledge of the biomass dynamics of tropical forests in the Amazon after logging. The objectives are (i) to disentangle the mechanisms behind different types of responses in different forests; and (ii) to propose research priorities to improve forest management guidelines so that they better reflect the gradient of forest types across the region.

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