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Larger gains from improved management over sparing–sharing for tropical forests

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Abstract

Tropical forests are globally significant for both biodiversity conservation and the production of economically valuable wood products. To deliver both simultaneously, two contrasting approaches have been suggested; one partitions forests (sparing), the other integrates both objectives in the same location (sharing). To date, the ‘sparing or sharing’ debate has focused on agricultural landscapes, with scant attention paid to forest management. We explore the delivery of biodiversity and wood products, in a continuum of sparing-to-sharing scenarios, using spatial optimisation with set economic returns in East Kalimantan, Indonesia – a biodiversity hotspot. We found that neither sparing nor sharing extremes are optimal, although the greatest conservation value was attained towards the sparing end of the continuum. Critically, improved management strategies, such as reduced-impact logging, provided larger conservation gains than altering the balance between sparing and sharing, particularly for endangered species. Ultimately, debating sparing versus sharing has limited value while larger gains remain from improving forest management.