## Forest Cover Change and Biodiversity Conservation in Central Coastal Ecuador's Fragmented Forests

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Understanding changes in forest cover, their implications for biodiversity, and strategies to promote conservation is crucial in fragmented landscapes. This presentation summarizes research conducted in northern Manabí province, coastal Ecuador, focusing on these critical aspects. Remote sensing analyses, utilizing Landsat data, reveal that in certain areas, up to 50% of forests present in 1990 were cleared by 2015. The current landscapes are predominantly composed of an agricultural matrix, including cattle ranching, interspersed with forest fragments, many of which are degraded or secondary.

Coupled plot inventories and remote sensing analyses reveal an overall negative impact on tree species diversity when old-growth forest is lost to secondary or degraded forests. However, detailed analyses indicate that some tree species, including endemics, can persist in secondary forests. Camera trap-based analyses reveal unique responses of mammals to fragmentation. Mammal species richness and occupancy remain consistent across areas with 40 to 98% forest cover. This stability is likely attributed to the extirpation of sensitive species that were not captured in our surveys.

While biodiversity is negatively affected by land-cover changes, surveys and focal groups with local landowners suggest that promoting more biodiversity-friendly land uses, such as cacao or citrus farms, as alternatives to pastures, could significantly enhance biodiversity conservation. Likewise, bamboo cultivation emerges as a promising land use, promoting the conservation of some species while simultaneously offering a source of income, especially in areas where forests have been completely cleared. This research contributes to understanding forest and biodiversity conservation in highly fragmented, human-impacted landscapes.

Key words: biodiversity, conservation, fragmentation, land use, forest

## Literature:

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