Reply to Feeley and Silman: Extinction risk estimates are approximations but are not invalid

Feeley and Silman (1) call our extinction risk estimates (2) "invalid." They are not. They are approximations. Ranges of species with $>10^6$ individuals are sufficiently large to avoid extinction even under Laurance *et al*.'s (3) pessimistic scenario, irrespective of range shape. Range shapes of species with $<10^3$ individuals are also irrelevant (ranges $<$ 100 km^2, the minimum spatial scale). Ranges for all tree species are expected to obey abundance-range size power laws. These power laws fully account for the complex, multifractal geometry of natural populations of tropical trees on multiple scales (4). We say this with considerable confidence because these power laws are precise (typically $R^2 > 0.999$), irrespective of abundance, for all available population data (2). Feeley and Silman cite Rabinowitz to reject our analysis. Her only semi-quantitative article on multiple forms of rarity (5) used untutored student judges to classify distributions of rare British plant species into 8 named but undefined qualitative categories. This heuristic approach says nothing quantitative about species ranges. In contrast, we offer a quantitative, repeatable, data-based, power-law method for estimating range size. Our planned incorporation of Amazonian gradients awaits better species-level data on α and β diversity across these gradients (2) but should reduce our extinction estimates somewhat. The accuracy of the land use forecasts (3, 6) and species' responses to them are our biggest concerns (2). Our article is not a practical guide to Amazonian conservation and should not be so construed or judged. Improvements in our estimates are welcomed.

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