

Human Considerations in Determining Conservation Priorities
Letter to the Editor, *Science*
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We applaud the intent and innovations of C. Kremen et al. ("Aligning Conservation Priorities Across Taxa in Madagascar with High-Resolution Planning Tools", 11 April, p.222-6), but are deeply concerned by their omission of human considerations in determining "conservation priorities" for Madagascar. One mere sub-clause ("delineation of protected areas requires taking socioeconomic factors into account," p.224) acknowledges that people matter to the location and consequences of biodiversity conservation. Yet just as "any conservation prioritization based on a single surrogate taxon would be of limited utility" (p.223), so will any prioritization that omits the keystone species: humans.

Conservation efforts that do not put humans at the center of the planning process routinely fail, and often harm the rural poor. The design of protected area networks can hardly be deemed "efficient" if it ignores the likelihood of success of conservation efforts or their costs and benefits for local peoples (1, 2). The spatial heterogeneity that motivates Kremen et al.'s modeling strategy equally characterizes human behavior and well-being in Madagascar, as elsewhere (3, 4, 5, 6). The size of the local population, their income opportunities, and institutional arrangements (e.g., land tenure) all heavily impact conservation incentives and performance independent of an area's protected status (7, 8, 9, 10). Externally imposed changes in land use for conservation often face understandable resistance by affected populations, can disrupt human institutional arrangements that protect nature (11, 12), and beget considerable negative spillover effects on local residents (13). One cannot possibly "optimally" identify complements to the existing reserve network without data on human behaviors or well-being.

Conservation science that does not recognize the choices and goals of the peoples who inhabit biodiverse lands is likely to fail when translated into practice, with potentially severe human and biological consequences.

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