



A more realistic portrayal of tropical forestry: response to Kormos and Zimmerman

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In their response to our recent article (Putz *et al.* 2012), Kormos and Zimmerman (K&Z) do not take issue with the result of our meta-analysis of more than 100 published studies that biodiversity and carbon stocks are mostly retained in selectively logged tropical forests. Instead, they object to what they misconstrue as our advocacy of subsidies for logging operations. To be clear, what we advocate is support for efforts to improve tropical forest management and the safety of forest workers. For example, we endorse efforts to restrict logging in riparian buffer zones and on steep slopes, to promote careful planning of harvesting operations, and to provide worker training and safety gear. K&Z disregard the contributions

of groups like the Forest Stewardship Council (FSC), the Tropical Forest Foundation, the Borneo Initiative, and the various environmental and social welfare groups that are helping to develop ways to compensate companies and communities for the costs of retaining more carbon in living trees through REDD+ and other mechanisms.

K&Z's portrayal of all tropical forests as lawless frontiers is not accurate. Tropical forest logging is admittedly a messy business and apparently the areas in Brazil where K&Z's work are particularly problematic, but control over production forests is often substantial. Evidence for this claim is accumulating from government-issued forest concessions in Indonesia (Gaveau *et al.* 2012) to

community-managed forests in Mexico (Duran-Medina *et al.* 2005) and elsewhere in the tropics (Porter-Bolland *et al.* 2012). Furthermore, while governance failures still occur far too frequently, steady increase in the area of natural tropical forest certified as responsibly managed by the FSC (now >13 million hectares) provides evidence that forest owners are increasingly able to protect and manage their resources.

We applaud K&Z's advocacy of community-based forest management but question their assumptions about the fates of forests under community control. Although in many places in the tropics, rural livelihoods can only be maintained by forest clearing for agriculture, under some conditions communities try to retain their forest. To derive financial benefits from these forests and to mobilize logging capacity, communities increasingly employ industrial forestry models, often by partnering with industrial forestry firms, which means that the focus on good management practices should remain a priority. What should be avoided are community–company contracts that are unsatisfactory on either environmental or social grounds (e.g., Pokorny *et al.* 2010). Fortunately, there are already good examples of communities working effectively with industrial forestry firms under clear and well-defined contracts (Benneker 2008).

Given the unlikelihood of huge expansions of strictly protected areas in the tropics, it seems logical to focus conservation efforts on forests from which timber will be harvested. Substantial improvements in management practices are possible, but their implementation will require the concerted efforts of the full range of environmental advocates (Sabogal & Casaza 2010). Disregard of these opportunities benefits no one (Sheil & Meijaard 2010). We agree with K&Z that some forests should be spared from logging, but where the likely and lucrative alternative to forest management for timber involves conversion, efforts should be made to increase the financial value of standing forests for all of their benefits, including their wood resources. Finally, given that wood is one of the lowest carbon-footprint structural materials (Perez-Garcia *et al.* 2005), banning industrial logging would have some perverse environmental outcomes.

Although forest management has been widely demonized, and often for good reason, we should be prepared

to look beyond weak generalizations and examine the evidence. Providing evidence for the conservation values of selectively logged tropical forests was exactly the aim of the meta-analysis in our 2012 article (Putz *et al.* 2012). Now the challenge is to discover the best ways to improve management practices so that even more of these values are maintained.

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