Editorial

Conservation multitasking in the tropics

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Papers in the 2010 third issue of *Tropical Conservation Science* cover a broad spectrum of conservation issues touching on global, regional, and local geographic scales. In the first three papers, tropical conservation scientists tackle critical conservation concerns such as assessment of payments for environmental services (PES) (**Pirard et al**); the social and economic context of conservation in the Congo basin (**Endamana et al**), the second largest area of rainforest after Amazonia; and the underlying conservation history and predicament of one of the world´s major natural areas and conservation emblems, the Serengeti (**Kideghesho**). Together these papers strongly emphasize the need to simultaneously approach the investigation of conservation problems by considering and assessing the effects of their multifaceted social context, where historical, political, ethnic, demographic, and local and global economic forces are at play.

A fourth paper reports an investigation of the fruit diet of a carnivore, the brown palm civet, in Western Ghats, India. The study provides new information on the natural history of this little known and elusive arboreal mammal and its possible role in rainforest regeneration via the seed dispersal services it provides for the many plants which are its source of fruit. The authors (**Mudappa et al**) report that the brown palm civet´s ability to persist in fragmented landscapes is closely linked to the occurrence of a diversity of fruit tree species in remnant fragments and within other land uses in the surrounding landscape (e.g., shade trees in coffee plantations). They argue that, since some of these areas are poor in other larger mammals and birds as seed dispersal agents due to habitat loss and hunting, the brown palm civet's importance as a disperser persisting in such human-impacted landscapes is highly relevant from a conservation viewpoint.

Additionally, the ensuing paper on reintroduction of tigers in Western India (**Sankar et al**) is an excellent example of local conservation efforts involving large-scale planning by scientists and natural resource administrations in concert with local rural communities and governments. The study illustrates a dire situation in which, to save tigers from local extinction, local people need to make adjustments impacting their livelihoods and persistence of their settlements.

The study on the diversity and abundance of trees and shrubs in the Kasagala reserve in Uganda, Africa, reported in a sixth paper in this issue, stresses the value of research aimed at enriching our databanks of information on tropical diversity with basic inventory and ecological work, which have an important value for conservation management of natural protected areas. The authors (**Gwali et al**) report that the Kasagala forest is an important area of native vegetation facing severe wood extraction for the provision of charcoal and firewood. This is due to its proximity to Uganda's major urban centers, a situation heightened by the steep growth in human populations, high levels of poverty and a corresponding demand for agricultural land that has reduced the buffer zone area of the reserve. The study reports that *Combretum* trees (the bushwillow tree, a genus comprising about 370 species of trees and shrubs, roughly 300 of which are native to Africa) are heavily harvested in Uganda's woodlands on account of the high-quality charcoal they produce. The authors note that unless harvesting is checked, this resource will decline significantly. The authors point out that although enrichment planting is a common practice for replenishing depleted stocks of common tree species in natural high forests, this is not yet the case for savanna woodland tree species for which silvicultural techniques are not yet refined in Uganda. The authors argue that the management and conservation of the vegetation of the reserve require a community conservation approach that includes serious awareness and sensitization to the people around the forest.

The seventh paper of this issue (**Kattan et al**) documents the responses of xylophagus or wood-eating beetles to human-induced forest restoration (via monospecific tree plantations of native and exotic species, and by abandoning lands to natural regeneration) in the Colombian Andes. The study is a fine example illustrating that, in some cases, economically important agro-ecosystems may be useful in sustaining segments of the original wildlife. The authors report that plantations behaved similarly to secondary forests and merged as part of the local habitat heterogeneity, probably facilitating dispersal of bess beetles in the landscape and thus their persistence.

The authors of the eighth paper (**Nagabhatla et al)** emphasize that, while a common practice of conservation research in tropical regions worldwide has been the assessment of habitat value and biodiversity, the incorporation of socio-economic parameters reflecting livelihood dependence has been somewhat limited. They argue that the use of geospatial data has proved to be a useful tool for monitoring changes in vegetation cover throughout the planet, whether those changes are caused by human activity or natural events. Two conceptual key questions embrace their research: *"Do we re-investigate*

agriculture activities as a future threat to the identity of wetlands ecosystems? Or do we try to balance the crop production potential (productivity) of the system while conserving the ecological and hydrological characteristics of wetlands ecosystems?" They point out that the "wise use" framework promulgated by the Ramsar Convention seems a promising theoretical direction, but that in practice it has generated very few case studies. Their study highlights the global and the regional scale representation of wetlands ecosystems using geospatial tools and multiple data sets, as well as the relevance of these for conservation monitoring of wetland ecosystems in India. Specifically, the authors tackle the task of investigating the strength of spatial tools to better understand the relationship between wetlands distribution and agricultural zones, both historically and at the present time. The authors argue that such an approach is fundamental to merging interests in wetlands conservation with existing challenges of food and livelihood security.

In short, the eight papers illustrate the complexity of the conservation problems documented in this issue and note that these require multilevel and simultaneous approaches by conservation scientists. Such approaches may involve basic and applied science research, in which the relevance of historical and of current social circumstances and their link with economic contexts are of paramount importance. Moreover, In seven of the eight papers in this issue, the main author is a native of the tropics, an aspect that denotes an active involvement in well-integrated conservation research and actions by local scientists.

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