

Integrating Social and LULCC Data to Assess Community-Based Conservation: A Study of the Community Baboon Sanctuary, Belize

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Established in 1985, the Community Baboon Sanctuary (CBS) protects one of the few black howler monkey populations (*Alouatta pigra*) in Belize. For 20 years the CBS communities have been participating in tourism and a voluntary, written pledge for private landowners to leave riparian forests intact and forested corridors that provide habitat connectivity for howlers, the main tourism attraction. Little is known, however, about the effectiveness of these initiatives on forest conservation.

This study evaluated conservation from two perspectives: the landowner (place-based meanings and perceptions of benefits) and the forest (deforestation and fragmentation of the CBS and riparian buffer). Methods included change detection and landscape metric analyses from the development of a time series of land cover maps based on LANDSAT imagery from 1989, 1994, 2000, and 2004, as well as household interviews on place attachment and benefits of riparian forests.

Results show a relationship between initiative involvement and higher perceived benefits (importance) and place attachment towards riparian forests and conservation, despite a disparity in benefit distribution. Additionally, there has been a 23% decrease in forest cover from 1989 to 2004 but connectivity between habitat patches has remained high indicating dispersal and colonizing potential between most forest patches has not been jeopardized. Nevertheless, one concern is that earlier protection of *A. pigra* and its habitat might be compromised because residents have realized few financial benefits from these initiatives and reiterates the lesson that the success of any conservation initiative must be linked to local communities benefiting from their conservation of biodiversity.

Keywords: LULCC, community-based conservation, place attachment

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