Joint International Symposium
The 6th International Symposium on Primatology and Wildlife Science
The 5th CCT–Bio International Workshop on Tropical Biodiversity and Conservation

Occupation and probability detection of Amazonian manatee (*Trichechus inunguis*) in floodplain and ria lakes in a Sustainable Development Reserve, Central Amazon, Brazil

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Studies on habitat use of species provide important information for planning of strategies for conservation. The Amazonian manatee (*Trichechus inunguis*) is the only exclusive freshwater and one of the least known sirenian species due to its cryptic behavior and turbidity of water rivers in the Amazon. In this study were used information on presence/absence analyzed with hierarchical models based on imperfect detection and environmental factors associated to estimate the occupancy and probability of detection of the *T. inunguis* in floodplain and ria lakes in the Piagaçu-Purus Sustainable Development Reserve, Central Amazon, Brazil. Data collection consisted of monthly visits to 33 sample points, between August and November 2014, which corresponds to the Purus River low water season. To detect the presence of the manatee were used two sampling methods. The active search method for sighting of animals (direct evidence) and the transect method to find feeding traces and acoustic signals (indirect evidence). Each method was used one hour at each sampling point per visit. Within 265h of observation effort, 91 manatee evidences were recorded. The macrophyte coverage was the most important variable to detect the species, increasing the probability of manatee detection in sampling points with the greater macrophyte coverage abundance. Contrary to our initial hypothesis, the species highest occupancy estimates were located closer to human communities, possibly related to greater connection of this region with permanent water bodies and the proximity to the Purus river main channel. Apparently, the results show that generated impacts by residents of the studied communities, such fishing activities and transit of vessels, are not interfering in manatee occupation. Our pioneering findings may support future manatee monitoring effort in the area, using the results as a baseline to assess the long-term population trends of the species in the Reserve.