

## **Density and habitat use of the leopard cat (*Prionailurus bengalensis*) in three commercial forest reserves in Sabah, Malaysian Borneo**

### **Abstract**

The small (2- to 7-kg) leopard cat (*Prionailurus bengalensis*) is the most common cat species in Asia. Although it occurs in a wide range of habitats and seems to adapt well to anthropogenic habitat changes, surprisingly little is known about this species in the wild. All studies have focused on protected areas, although a large proportion of Southeast Asian forests are timber concessions. During this study, we used large camera-trapping data sets (783 records of 124 individuals) from 3 commercially used forests to investigate consequences of different logging regimes on density and habitat associations of the leopard cat. We applied spatial capture-recapture models accounting for the location of camera-traps (on or off road) to obtain estimates of leopard cat density. Density was higher in the 2 more disturbed forest reserves ( $\bar{X} = 12.4$  individuals/100 km<sup>2</sup>  $\pm$  1.6 SE and 16.5  $\pm$  2 individuals/100 km<sup>2</sup>) than in the sustainably managed forest (9.6  $\pm$  1.7 individuals/100 km<sup>2</sup>). Encounter rates with off-road traps were only 3.6-9.1% of those for on-road traps. Occupancy models, which accounted for spatial autocorrelation between sampling sites by using a conditional autoregressive model, revealed that canopy closure and ratio of climax to pioneer trees had a significantly negative impact on leopard cat occurrence. Our results confirm that the leopard cat is doing well in modified landscapes and even seems to benefit from the opening of forests. With such flexibility the leopard cat is an exception among tropical rain-forest carnivores. © 2013 American Society of Mammalogists.