

## **Project Update: June 2011**

A comprehensive survey of the occurrence of mammals was done in four areas in Arunachal Pradesh. The areas sampled were mainly in and around Eaglenest Wildlife Sanctuary, Sessa Orchid Sanctuary, the lower reaches (100 to 300 m ASL) and the higher altitudes of Pakke Tiger Reserve (above 1000 m ASL). Except for the community forests adjacent to Sessa Orchid Sanctuary, my sampling covered areas both within the wildlife sanctuary/tiger reserve park as well as community forests lying in the adjacent areas. While I was in the community forests near Sessa Orchid Sanctuary, there was a murder and other logistical difficulties that didn't allow me to complete sampling at that one site. However, I have sampled areas within the protected area, i.e. Sessa Orchid Sanctuary.

A variety of methods have been used, including sign surveys for transects, camera trapping and opportunistic interviews with local people. This has taken me approximately 150 days of strenuous field sampling. My transect data indicates that there is a higher number of species in protected areas compared to the community forest. Although for mammal species such as the Asiatic elephant (*Elephas maximus*) and barking deer (*Muntiacus muntjak*), there was a significant interaction between habitat degradation and protection status. This indicates that the presence of elephant signs depends not only on the level of habitat degradation but also the protection regime (i.e. protected area or community forest).

To supplement my main transect data, I also have been doing a preliminary and low intensity camera trapping survey in Eaglenest Wildlife Sanctuary. So far we have recorded species such as golden cat (*Catopuma temmincki*), wild dog (*Cuon alpinus*), gaur (*Bos gaurus*), yellow-throated marten (*Martes flavigula*), Himalayan palm civet (*Paguma larvata*), Himalayan crestless porcupine (*Hystrix brachyura*), Arunachal macaque (*Macaca munzala*), barking deer, common hill partridge (*Arborophila torqueola*), rufous-throated hill partridge (*Arborophila rufogularis*), Khaleej pheasant (*Lophura leucomelanos*), spotted laughingthrush (*Garrulax ocellatus*) and snowy-browed flycatcher (*Ficedula hyperythra*).

After a second round of walking the same transects in Eaglenest Wildlife Sanctuary in October 2012, a manuscript will shortly be submitted to an international peer-reviewed journal.

### **Future work:**

1. Second round of field survey in Eaglenest Wildlife Sanctuary and other protected areas later this year.
2. Key informant, household and socio-economic surveys to understand dependence and use of the forest in different protection regimes.

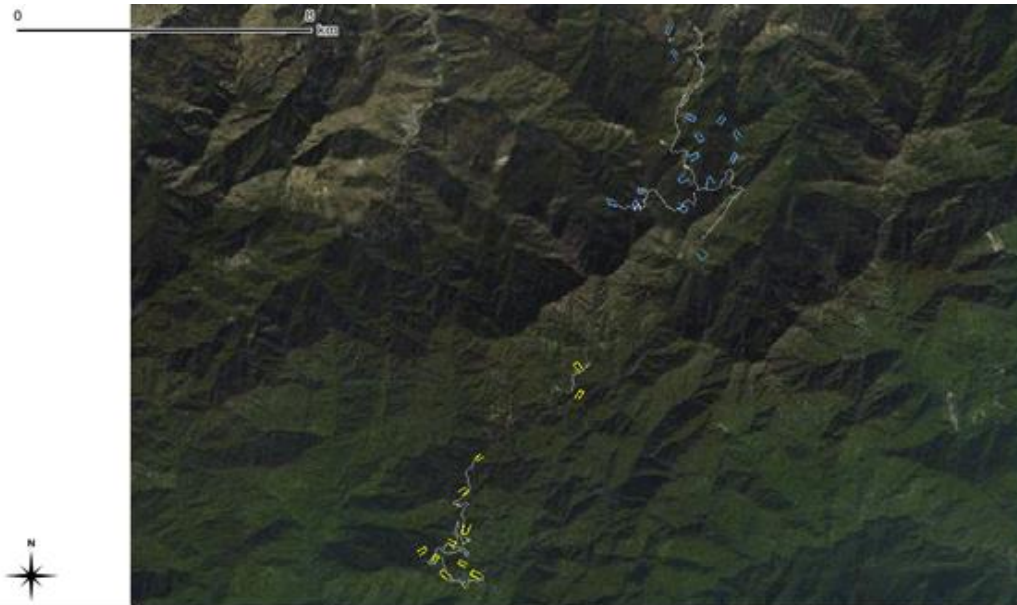


Fig. 1: Map of transects done in Eaglnest WLS (blue) and the adjacent community-forests (yellow)

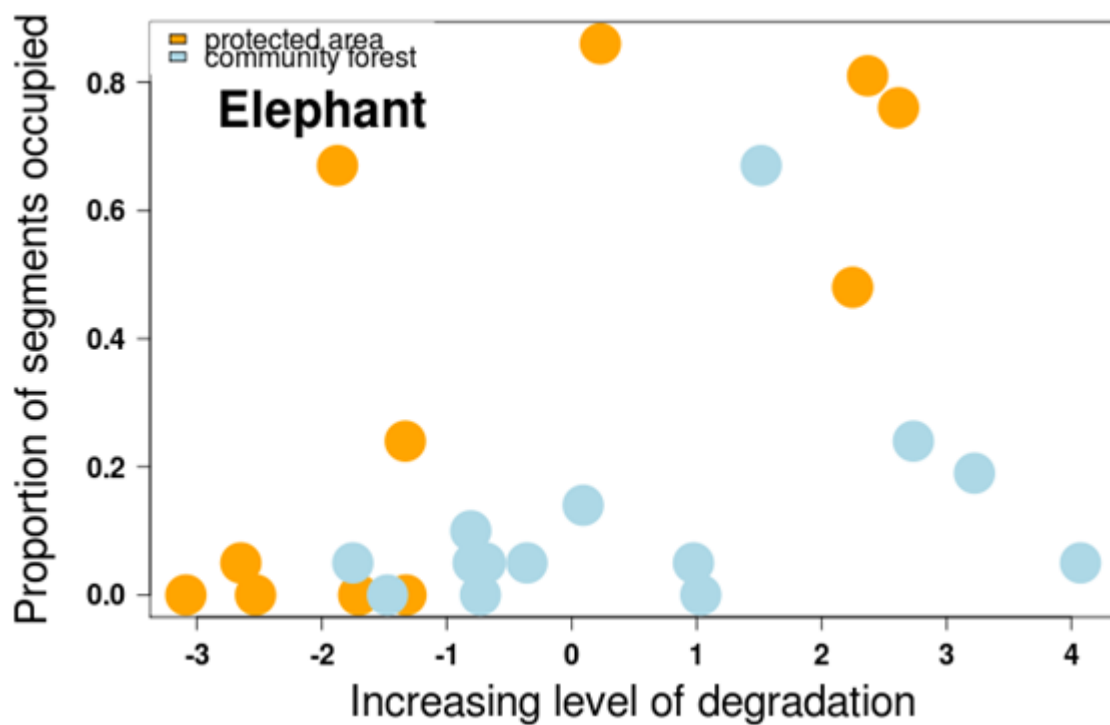


Fig. 2 shows that proportion of elephant signs varied significantly between protected area and community forests (ANOVA,  $F_{3,21} = 8.778$ ;  $p < 0.05$ ) and revealed a significant interaction between habitat degradation and protection status ( $p < 0.05$ ). This indicates that the presence of elephant signs depends not only on the level of habitat degradation but also the protection regime (i.e. protected area or community forest).