

Project Update: January 2011

Objective 1: To determine deforestation risk within tiger habitats under different road expansion scenarios

We have downloaded 190 LANDSAT images between 1988 and 2009 covering three priority tiger landscapes in Malaysia. For one of them, Belum-Temengor, we processed images for two time stamps, 1994 and 2006, to calculate deforestation rates using a supervised decision tree-based classification algorithm in program ENVI Version 4.7. Our classification estimated the annual deforestation rate to be around $0.68\% \text{ yr}^{-1}$, which is slightly higher than the proportional rate of loss of $0.52\% \text{ yr}^{-1}$ for humid tropical forests. We will model the impacts of new roads once we improve the accuracy of deforestation rate estimates with more time stamps.

Objective 2: To determine whether encroachment pressure is greater at viaduct access routes

We have conducted indirect sign surveys totalling at least 52 km at 13 out of 30 possible encroachment access routes along the Kuala Berang highway. Seven encroachment camps and two snares were found at seven viaduct access routes, while seven encroachment camps and five snares were found at six other access routes. For the moment, encroachment pressure at viaducts access routes appears to be as high as other access routes. More surveys over greater sampling occasions will be conducted at the other 17 access routes.

Objective 3: To determine whether viaducts facilitate movement of tigers and their prey

We have only detected two tiger signs to date, but they lie outside our 92 km^2 sampling block. Fewer than four out of seven sampled viaducts (10 in total); we have detected at least three ungulate species that are potential tiger prey: Asian tapir (*Tapirus indicus*), barking deer (*Muntiacus muntjak*) and wild boar (*Sus scrofa*). Other wildlife spotted near the road includes leopard (*Panthera pardus*), Asian elephant (*Elephas maximus*) and white-handed gibbon (*Hylobates lar*).



Left: Camera trap photo of Asian Elephant along a viaduct access route. ©Rimba. Right: Encroachment camp below one of the viaducts. ©Rimba & Reuben Clements.