

Nont Khewwan 2008: Density and Distribution Assesments of Large Mammals in the Upper Phetchaburi Watershed. Master of Science (Forestry), Major Field: Forest Biology, Department of Forest Biology. Thesis Advisor: Mr. Anak Pattanavibool, Ph.D. 142 pages.

The assessments of density and distribution of large mammals in the upper Phetchaburi watershed has 3 objectives. First I want to compare the large ungulate's track densities between less and more the human disturbed areas in wet and dry periods. Second objective is to study distribution and probability of presence of large ungulate species related to many environmental factors that affect habitat use. Finally the study is to evaluate the threats to wildlife in the area. The entire survey was conducted at the upper part of Phetchaburi river watershed and including 5 km<sup>2</sup> at the park boundary. To compare wildlife track densities in the disturbed and undisturbed areas, 6 transects of 0.5 km in length were set up in each of the two areas. Six repeated survey of seventeen plots (with the size of 2×10 m<sup>2</sup>.) along each of six transects were conducted. Survey was conducted between November, 2006-June, 2007. To evaluate probability of the presence of large ungulate. Recce surveys were conducted and the UTM locations of presences of wildlife species and threats collected from January to July, 2006. The total survey walk was 1,035 kilometers. Threats to wildlife were analyzed by using the Composite Threat Index.

T-test showed that average Samba's track density in the dry season in area with a low human disturbance was significant higher than that of high human disturbance (P = 0.003). The study found that there was low concentration of large ungulate species. Elephant use the landscape were 6.65% and gaur (8.66%) and samba (8.31%) at the upper Phetchaburi river watershed. The medium concentrations were found in wild boars (30.47%) and muntjac (40.37%). The Maximum Entropy analysis revealed that the low traffic road was the environmental factors that affected the most on the probability of habitat use of wild elephant (percent contribution 39.60%). Permanent stream affected gaur (42.60%), samba (54.80%) and muntjac (51%) and saltlick for wild boar (55.90%).

I found that the upper part of Phetchaburi watershed is under serious concern due to the high and medium threats level to wildlife (covering 78.64 % of the landscape).The human threats to wildlife species have happened continuously. The output of this study can be adapted in the sustainable management plan of upper part of Phetchaburi watershed for wildlife conservation.

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Thesis Advisor's signature

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