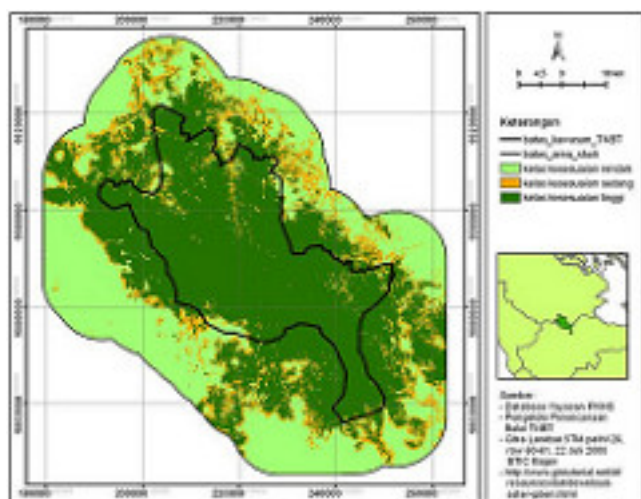


Master Thesis : Spasial Modeling for Habitat Suitability of Sumatran Tiger (*Panthera tigris sumatrae*) in Bukit Tigapuluh National Park and Its Surrounding areas)

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Sumatran tiger is one of eight sub-species tiger in the world. Their distribution is limited in island of Sumatra. Their habitat and population were threatened by land conversion activities and also legal and illegal logging. Bukit Tigapuluh National Park is part of Bukit Tigapuluh landscape. This area designated as a global protection priority area for Sumatran tigers. Therefore, it is an urgent need to study their habitat suitability for management purposed. Geographical Information System and Remote Sensing can be used to achieve the objective. It can be applied for large area scale. This study aims to identify broad areas that are still suitable for tiger habitat. In the same time they can be utilized also to clarify the impact of land use change on sumatran tiger habitats. The logistic regression equation was used for habitat suitability prediction models. Logistic regression utilized absence and presence data. Presence of tiger indicated by location of the camera trap that caught tiger as well as secondary markers, such as traces, scrape and dirt. Pseudo-absence data was set randomly at a buffer outside the area of presence. One hundred and six pairs of presence and pseudo-absence data used in this study. Environmental data was obtained from digital maps, ASTER GDEM, and Landsat 5TM. Six predictor variables were used are elevation, slope, distance from river, distance from roads, distance from settlements and NDVI. Research results indicate that altitude, slope, distance from rivers and NDVI have a significant influence on the models. Habitats with low suitability (201.265,56 ha) is greater than medium suitability (52.754,49 ha) and the high suitability is 263.164,95 ha. Extrapolation models on the time sequence image shows the influence of forest land cover changes on the appropriate area for tiger habitat.

Keywords: habitat suitability, logistic regression, Sumatran tiger, Bukit Tigapuluh National Park, GIS and RS

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