Dissertations

Distributions of Large Mammal Assemblages in Thailand with a Focus on Dhole (Cuon alpinus) Conservation

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Abstract
Biodiversity monitoring and predictions of species occurrence are essential to develop outcome-oriented conservation management plans for endangered species and assess their success over time. To assess distribution and patterns of habitat use of large mammal assemblages in Thailand, with a focus on the endangered dhole (Cuon alpinus), I first implemented a long-term camera-trapping project carried out with park rangers from October 2003 through October 2007 in Khao Yai National Park. This project was extremely successful and may serve as a regional model for wildlife conservation. I found significantly lower relative abundance indices for carnivore species, and collectively for all mammals compared to data obtained in 1999-2000, suggesting population declines resulting from increased human activity. I integrated this data into maximum entropy modeling (Maxent) to further evaluate whether ranger stations reduced poaching activity and increased wildlife diversity and

abundances. I then conducted a focused camera trap survey from January 2008 through February 2010 in Khao Ang Rue Nai Wildlife Sanctuary to gather critical baseline information on dholes, one of the predator species that seemed to have declined over time and that is exposed to continued pressure from humans. Additionally, I led a collaborative effort with other colleagues in the field to collate and integrate camera trap data from 15 protected areas to build a country-wide habitat suitability map for dholes, other predators, and their major prey species. The predicted presence probability for sambar (Rusa unicolor) and leopards (Panthera pardus) were the most important variables in predicting dhole presence countrywide. Based on my experience from these different field ecological surveys and endeavors, it became clear that local people's beliefs may have a strong influence on dhole management and conservation. Thus, I conducted villager interview surveys to identify local attitudes towards dholes, document the status of dholes in wildlife sanctuaries adjacent to Cambodia, and determine the best approach to improve local support for dhole conservation before proceeding with further field studies of the species in Thailand. A photograph of a dhole was correctly identified by only 20% of the respondents. My studies provide evidence that some protected areas in Thailand continue to support a diversity of carnivore speices of conservation concern, including clouded leopards (Neofelis nebulosa), dholes, and small felids. However, dholes' impact on prey populations may be increasing as tiger (Panthera tigris) and leopards are extripated from protected areas. The next step in dhole conservation is to estimate the size and stability of their fragmented populations and also focus on maintaining adequate prey bases that would support both large felids and dholes