



United Nations  
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# REGIONAL CENTRE FOR BIOTECHNOLOGY

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## Seminar series

### Assessing India's wildlife health and conservation status- a comprehensive approach.

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Friday, 7th, March, 2014

3:00PM, Seminar Room

#### Abstract

Wild animals are an essential part of a healthy ecosystem. Yet, growing anthropogenic pressures from habitat loss and prey depletion, poaching and human-animal conflict are pushing many of these species into ever-shrinking habitat islands, severely exacerbating their endangered status. Currently most of the large-bodied animal species, and in particular predatory carnivores within the families *Felidae*, *Canidae* and *Ursidae* are among the most threatened species globally. These large carnivores are particularly at risk because of their high trophic level, low population densities, high cub mortality rates, large home range sizes and direct human persecution. The synergy of these forces creates small, disjunct populations that face demographic and genetic challenges to their survival. Simultaneously, these processes increase the probability of disease exposure from domestic species and amplify population susceptibility to infection and extinction. Wildlife health concerns and the threat of disease emergence at the domestic animal and wildlife interface continues to rise with human population growth and associated interactions. It is important to understand how differences in species life histories affect their tolerance, exposures and associated susceptibilities to these anthropogenic disturbances, including exposures to domestic livestock disease and infections. Quantifying species differences in psychological and nutritional stress as well as transmission of emergent diseases associated with these disturbances are critical to understand how these pressures take their toll on health and reproduction of the wild animal species. The relative immediacy of these measures also makes them ideal to identify mitigation strategies and assess the success of their implementation for conservation and management.

In my presentation, I will focus on my plans on addressing wildlife health assessment issue on three of the large endangered carnivores in India, the tiger, leopard and wild dog in the Mysore-Malenad tiger landscape in Western Ghats. With examples from my previous work on a range of wild animal species, I will show how an interdisciplinary approach using non-invasive ecological, genetic and physiological tools can help to quantify hormonal indices of physiological and reproductive health, parasite loads and canine/feline parvovirus prevalence with resource selection and environmental disturbance measures in these species across a geographic gradient of human disturbances in the Western Ghats landscape. Apart from this, I will also present my plans of using forensic tools to combat wildlife poaching for leopard and tigers.

Given the continued global increase in human population growth across wildlife habitats, results from this study will be crucial to adaptively guide mitigation aimed at tiger and leopard conservation to ensure their survival. When combined with other traditional approaches used in wildlife biology, I predict that these powerful tools will become an integral part of conservation efforts for other endangered species across the subcontinent.

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