confused with those of pumas <i>P. concolor <i>making it difficult to determine priority areas. There has been some attempts to obtain a formula to differentiate between the two species however this can be time consuming and requires some experience. We propose the use of a computer based image processing system in order to facilitate studies with these species. A set of 44 footprints from jaguar (23) and puma (21) was obtained in Sonora.
These footprints were used to generate a program based in a Generalized Linear Model (GLM) that uses two shape descriptors (a boundary based orientability measure and boundary length) to classify the footprints. From the existing data set, the GLM was able to classify the footprints with an accuracy of 75%. A larger data set is expected to increase the classification accuracy. Additional shape descriptors may be added for further improvement. This will provide a method of easy access to carry further studies at a really low cost.

314902 EVALUATING THE STATUS OF TIGERS IN INDIA

Yadvendradev V Jhala, Qamar Qureshi, Rajesh Gopal

We estimate tiger occupancy, individual population extent, size, and connectivity in 17 Indian states. All forests were surveyed at approximately 20 km2 (beat) resolution using 88,000 personnel working for 10 days (Nov. 2005 - March 2006) for quantifying carnivore signs on trails, prey encounters on transects, anthropogenic pressures, and habitat parameters. Twenty layers of information were generated in a GIS from remotely sensed and attribute data on landscape characteristics and the "human footprint". Tiger density using camera traps and ungulate abundance using distance sampling were estimated at 29 sites. Indices of tiger abundance and covariate data were then regressed against tiger densities to predict tiger abundance in a double sampling framework. Tiger occupancy and density were determined by prey abundance, human impact, landscape and habitat characteristics. From 300,000 km2 of potential tiger habitat 93,700 km2 was occupied. The Shivalik-Ganegic Plain landscape had 9 tiger populations with 5177 km2 occupied by 259-335 tigers. Central Indian and Eastern Ghat Landscape had 19 populations with 48,600 km2 occupied by 486-718 tigers. The Western Ghat Landscape has 6 populations with 34,100 km2 occupied by 336-487 tigers. The North Eastern Hills and the Brahmaputra Flood Plains has an occupancy of 4,230 km2, while Sunderbans has a tiger occupancy of 1586 km2.

METHODS: Land use planning for conservation

306063 CHALLENGES FOR CONSERVATION: ADDITIONAL ISSUES IN DEVELOPING STRATEGIES AND ACTIONS FOR CONSERVING BIODIVERSITY

Carlos Frederico Duarte Rocha, Helena Godoy Bergallo, Elaine C. C. Fidalgo, Maria Alice S Alves, Marta B Costa, Monique Van Sluys, Mariella Camardelli Uzêda, Thomaz C.C. Costa, Marcos A Santos, Antonio C.R. Cozzolino

World Biota and environments have experienced a high erosion of biological diversity due to human actions. In the last decades, criteria to identify priority areas for conservation have been refined based on the cumulative body of knowledge, which drove conservation strategies and actions to protect biological diversity. In many cases these strategies were predominantly based on the occurrence of remarkable local species richness and/or occurrence of endemics or threatened species. Here, we describe our experience as an

additional way of thinking conservation which focuses on the fact that regions of a political unit differ in socioeconomic and biological aspects, which in turn, should generate specific sets of conservation strategies. Our target was Rio de Janeiro State, Brazil (an area with high biological diversity under extreme human pressure). Our approach was based on how defining strategies and actions for conservation is a quite complex process which should involve a large set of aspects, that must be considered together, including biological, sociological, ecological, geomorphological, climatological, hydrological, economical and the actual landscape status among others. Along three years we gathered georeferenced data on all these aspects, complemented by biodiversity inventories in the field. The dataset were interrelated showing that the nine regions differed remarkably among them and, generated a different set of strategies to accommodate regional realities.

METHODS: Population viability analysis

315144 A NOVEL APPROACH TO HABITAT MODELING SPECIES VIABILITY

Mark R. Lethbridge

In fluctuating environments such as semi-arid areas, herbivore populations respond directly to fluctuations in food resources. Such fluctuations are principally determined by rainfall. Thus it is often useful to model annual herbivore population growth rates directly with rainfall. Bioclimatic envelopes and regression approaches, which relate species occurrence to environmental variables, have traditionally been used to construct species-specific habitat models. In this study the Ivlev numerical response model was used to model the annual population growth rates of the threatened Yellow-footed Rock-wallaby (Petrogale xanthopus xanthopus) with rainfall. Positive growth rates were found to be associated with higher rainfalls, while negative growth rates were associated with lower rainfalls. In a novel approach, the long-term population growth rates were then interpolated across the landscape in a GIS using rainfall gauge information to create a habitat model. This model was used to test a range of climate change scenarios on the future viability of this threatened species. These models suggest that in the absence of threat abatement, this species is likely to decline in areas where there is a predicted future decrease in rainfall

METHODS: Protected area planning and design

314924 ESTABLISHING A COMMUNITY-MANAGED WILDLIFE SANCTUARY ON CALAYAN ISLAND, NORTHERN PHILIPPINES

Cynthia Adeline A. Layusa, Carl H. Oliveros, Noreen Marie G. Follosco

The island of Calayan in northern Philippines is exceptional, retaining forest that covers 60% of its 196 sq km land area. It harbors an island-endemic species of forest bird, the Calayan Rail, and most likely, other undescribed endemic taxa. However, it is under pressure from timber poaching, slash-and-burn farming and land conversion. The unique forest on this island currently does not have any protected area status. The establishment of a locally-managed wildlife sanctuary was initiated to offer protection to the island's watershed and wildlife resources. A participatory approach was employed to ensure the involvement of the local community: a Participatory Resource Mapping (PRM) of important physical, socio-cultural and economic features within the proposed site, SWOT analysis of local capacity, and a meeting with legislators and key local government agencies to get legislative support. As a result, a list of rules and regulations, volunteer wardens,

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ABSTRACT

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