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SECOND CONFERENCE

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PROGRAMME AND ABSTRACTS

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rearing the livestock of locals and non-locals also. The livestock for rearing was more than double of their own and way to earn hard cash. But at the same time it might increase the pressure on the pastures and the potential for competition with the wild ungulates. This also implies a change in traditional lifestyle which might also result in compromise on managing their own livestock properly.

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Day 3 **POSTER**

Ecological aspects of reintroduced hand-raised Indian rhinoceros in Manas National Park

UJJWAL KUMAR

Abstract

Research area, question and methodology
For the restoration of Manas National Park, Wildlife Trust of India, initiated a Rhino Rehabilitation Project in 2006. Three orphaned hand raised 5-6 years old rhino calves were moved to Manas National Park in Assam for rehabilitation. The elder rhino was 6 year old and named as Mainao while the others two were of 5 years old named as Rose and Manasi, where they were kept for 01 year in a 5.7 ha twin segment boma for acclimatization. In November 2008 all three rhinos (5–6 years old) were released and radio-collared (Telonics) for constant monitoring of their movements and behavior in wild. The studied time period was February to mid of May. All the three rhinos were located using VHF receiver and Yagi antenna. GPS location was recorded at every alternate day to avoid autocorrelation and make it independent.

Results and Discussion
A total of 38 locations for the eldest Mainao and 43 location for the two younger rhinos Rose and Manashi were recorded. Program BIOTAS was used to estimate home range using 100% Minimum Convex Polygon. The study of habitat utilization was done by categorizing the intensive study area into four habitat type according to plant species composition. Chi-square analysis was done between available and observed habitat types. The home range of the Mainao was 07 km^2 while Rose and Manashi showed a home range of 02 km^2, encompassed within the home range of Mainao. For Mainao the chi square test for goodness of fit showed high significant difference between overall availability and usage ($P<0.01$ $\chi 2=51.684$, df 3) preferred swampy

grassland while for Rose and Manashi it showed significant difference (P<0.01 χ2=17.61, df 3) and preferred short alluvial grasses. The major proportion of Mainao's diet comprised of *Saccharum spontaneum* (0.25), while Rose and Manashi's diet comprised of *Imperata cylindrica* (0.19). The major proportion of forage composition of Mainao was chiefly tall and medium size grasses (37% and 29%) followed by small sized grasses (25%). while Rose and Manashi's diet comprised of small sized grasses (39%) followed by Tall (21%) and medium sized grasses (17%). All rhino spent most of time in foraging, Mainao (62%□±7.34 SE) Rose and Manashi (73% ± 4.54 SE). The wallowing activity was comparatively less in youngers (03%±2.04 SE) than Mainao (10%±7.02 SE). Mainao had larger home range due to its wonderlust tendency. The rhinos showed that they spent 3% to 10% time of all observation of day hours in wallowing. The overall study was compared with the similar study done by Laurie, 1982 and Kandel et. al, 2008 in Chitwan National Park Nepal that have almost same habitat type i.e, terai grassland. This comparison concluded that these rhino were showing same type of behavioral pattern in their natural habitat as their wild counterpart

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Day 3 **POSTER**

Conservation of Asiatic lions in human dominated landscapes

KAUSIK BANERJEE & Y.V. JHALA

Abstract

Research Area and Question: Owing to timely and stringent protection and subsequent habitat management, there has been increase in the Asiatic lion population from around 200 to 400 and also a substantial expansion of its range from about 1,400 km^2 to 10,000km^2 in 30 years. Besides the 1,800km^2 of Gir PA, the ranges of the lions cover agrarian-pastoral landscape of 22 tehsils within Saurashtra peninsula.

Objectives and Methodology: We studied lion demography, ranging, dispersal, food habits and analysed our data to understand the economics of lion conservation. We used combination of VHF and satellite/GPS telemetry, predation pattern, scat analysis, mark-recapture methods and structured community interviews to address our objectives.

Results: Many lions outside the Gir were long-ranging and exhibited regular to and fro movement between Gir PA and satellite populations. Analysis of lion habitat-use identified refuge patches outside the PA crucial for the persistence of lions especially breeding lionesses. Population Viability Analysis suggests that the small Girnar population can persist for a long time only by exchanging 1-3 individuals per alternative years with the Gir PA. Habitat connectivity of 1,406 km^2 covering village lands of 90 villages between the Gir and Girnar was identified by telemetry. Wild ungulates composed 70% and 29% of lions' diet in Girnar and eastern landscape respectively.