

POPULATION ESTIMATION AND DEMOGRAPHY OF THE RAJAJI NATIONAL PARK ELEPHANTS, NORTH-WEST INDIA¹

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The Asian Elephant (*Elephas maximus*) population in Rajaji National Park, north-west India is an important part of India's heritage, but has not been intensively studied until recently. Understanding the population dynamics is important for managers if the population is to remain viable. We used marked adult male Asian Elephants in a mark re-sight method to estimate the male segment of the population and the estimated number of female and associated young using their proportions relative to the adult male segment from classification data. We collected data on inter-calving period and calf survival from adult females present in groups with radio collared females. The number of adult males in the study area was estimated to be 31 (95% CI = 23-41). We computed the relative proportions of other age-sex classes to the adult males and estimated 188 elephants (95% CI = 139-248). Ninety per cent of the adult males had tusks (tuskers) and the adult male to adult female ratio was 1:1.87. This is one of the least skewed sex ratios reported for Asian Elephants and is comparable to areas in Sri Lanka where 95% of males are tuskless. Over 90% of the adult females were accompanied by juveniles or calves <5 years old. We estimated the inter-calving period to be around 4.23 years and the calf survival over the first year was almost 100%. One calf was killed when hit by a train. The high proportion of males, low inter-calving period, and high neonate survival of the Rajaji elephant population indicates that the population is demographically healthy. However, more adult elephants died in train accidents than due to natural causes and viability of this small population could be seriously threatened if losses to train accidents continue.

Key words: Asian Elephant, inter-calving period, radio collared females, Rajaji National Park, population estimation, demography