

Colonization Pattern and Growth of Reintroduced Tiger (*Panthera tigris*) Population at Central India

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Abstract : There is growing recognition of several important roles played by tigers for maintaining sustainable biodiversity at diverse ecosystems in South and South-East Asia. Only <3200 individuals are left in the wild because of poaching and habitat loss. Thus, restoring wild population is an emerging as well as important conservation initiative, but such efforts still remain challenging due to their elusive and solitary behavior. After careful translocation of few individuals, how reintroduced individuals colonize into suitable habitat and achieve stable stage population through reproduction is vital information for forest managers and policy makers of its 13 distribution range countries. Four wild and two captive radio collared tigers were reintroduced at Panna Tiger Reserve, Madhya-pradesh, India during 2009-2014. We critically examined their settlement behavior and population growth over the period. Results from long term telemetry data showed that male explored larger areas rapidly in short time span, while females explored small area in long time period and with significant high rate of movement in both sexes during exploratory period. Significant difference in home range sizes of tigers were observed in exploratory and settlement period. Though all reintroduced tigers preferred densely vegetated undisturbed forest patches within the core area of tiger reserve, a niche based k select analysis showed that individual variation in habitat selection was prominent among reintroduced tigers. Total 18 litter of >42 known cubs were born with low mortality rate, high maternity rate, high observed growth rate and short generation time in both the sexes. The population achieved its carrying capacity in a very short time span, marking success of this current tiger conservation programme. Our study information could provide significant insights on the tiger biology of translocated tigers with implication for future conservation strategies that consider translocation based recovery in their range countries.

Keywords : reintroduction, tiger, home range, demography

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