



## Mitigation measures to reduce wildlife mortality due to roads in the corridor connecting Nagarahole and Bandipur Tiger Reserves

*Sanjay Gubbi & Ravi Chellam, Wildlife Conservation Society-India Program*

India's rapid economic growth has resulted in a dramatic increase in the number of automobiles which in turn has led to a vociferous demand for improved roads as well as a much better road network. Several international donor and lending agencies are providing economic impetus for the expansion of the road network that includes highways as well as rural roads. However this road development will negatively impact critical tiger habitats through increased fragmentation, road mortality due to speeding vehicles (both tiger and its prey), modification of wildlife behaviour and restricting the movement of animals by acting as physical barriers. Since highways fragment and isolate wildlife populations they could directly and negatively impact the genetic diversity of a population. This is especially true for wide-ranging and large mammalian carnivores such as tigers.

The Mysore-Mananthavadi state highway (SH 17D) cuts across the critical wildlife corridor between Nagarahole and Bandipur Tiger Reserves. This road which is now converted to a high speed road could have a long-term impact on the movement of tigers and other wildlife. Hence this project with generous support from 21<sup>st</sup> Century Tiger tried to understand how traffic density affects the usage of an area by wildlife especially tiger, leopard and their prey species. We also examined if existing culverts built for hydrological purposes can serve as underpasses for wildlife to move across the highway.

We carried out camera trapping to assess frequency of crossing of the highway by our target species. Analysis of animal tracks on specially placed sand track plots and faecal matter of wildlife gave us information on the usage of culverts as underpasses by wildlife. We monitored three different sectors of the highway i. That had no day or night time vehicular traffic, ii. A sector that had only day time traffic, and iii. A sector of the highway that had day time traffic and human habitations.



Preliminary results of this study have given interesting insights. Traffic density and human habitations seem to result in avoidance of these areas by wildlife especially tigers, elephants, gaur and other species that are sensitive to disturbance.



Within a 12.2 km road stretch we photo captured four different individual tigers indicating high usage of this area by these felids. This highlights the importance of this corridor for tiger conservation hence making a stronger case to control and reduce the impacts of this highway on wildlife and its habitat. Interestingly our camera trap showed that the same animal trails were being used by two different adult male tigers. This

possibly is because a transient male was moving through the territory of a resident tiger.

Based on our work the Government is taking measures to divert a part of this highway to outside the national park limits, thereby minimising the impact of the highway on this important corridor.

During the period of camera trapping we lost three camera traps. Protective shell of one camera trap was damaged by an inquisitive elephant and two camera traps (along with protective shells) were the target of thieves.

