

(III)

KILLING OF INDIAN JACKAL (*CANIS AUREUS INDICUS* HODGSON, 1833) BY HEAVY TRAFFIC MOVEMENTS AT HIGHWAYS OF THE TROPICAL FOREST AREAS OF JABALPUR, (INDIA)

Recent years, it has been observed that state and national highway network is expanded and widening to connect all over the country for faster movement and transportation. In India, motorized vehicle have enormously increased on the roads during last 2-3 decades which resulted heavy traffic on the state and national highways of the country. Several states and national highways are passing through national parks, wild life sanctuaries, biosphere reserves, protected and unprotected forest areas of the country. Tropical forest area of Jabalpur is also no exception to it. These highways are the cause of death for number of wild animals and also exert adverse impacts on their population due to road accident by heavy vehicle traffic (Chhangani, 2004; Das *et al.*, 2007; Sheshadri *et al.*, 2009; Paunikar *et al.*, 2010; Paunikar and Tiple, 2011). It has been realized that these highways cause severe impact to wildlife and their habitat (Newmark *et al.*, 1996; Gokula, 1997). It is also proving a major threat to our rich and precious biodiversity.

Jabalpur is one of the most important and fast growing cities of central Indian state Madhya Pradesh. It is well connected by rail and road to other important cities of the country. The several state and national highways are passing through from Jabalpur Forest Division. The national highway No. 12 is passing through Mandla road (79°59'23.50°E and 21°08'54.30°N) and connected with other city like Bilaspur and Raipur. The heavy vehicular traffic loads on this road due to good connectivity to Chhattisgarh state.



Indian Jackal in TFRI, Campus



Road kill of Indian Jackal by heavy traffic

The Tropical Forest Research Institute, Campus, Jabalpur is situated on the banks of the Gour River on Mandla Road about 10 km south east of Jabalpur on NH -

Table : Road kills of Indian Jackal at the highways of Jabalpur

Sr. No.	Month Year (2010-2011)	Road kill at Jabalpur-Raipur Highways, Tilhari to Saliwara , (Mandla Road)	Road kill at Gour Tiraha to Silva Road, passing through TFRI, Campus(Bargi-Nagpur Road)	Total Road kills of Jackal
1	March	11	6	17
2	April	8	7	15
3	May	13	6	19
4	June	9	4	13
5	July	4	3	7
6	August	5	3	8
7	September	6	4	10
8	October	3	2	5
9	November	4	3	7
10	December	3	1	4
11	January	2	1	3
12	February	4	2	6
	Total	72	42	114

12A, Jabalpur-Raipur highway. The both sides of the road are surrounded by reserve forest areas, agricultural field, with rural inhabitation. The water reservoir, poultry farms and the vegetation planted around the institute have created a very good habitat and source of attraction for number of faunal species like insects, amphibians, reptiles, birds and mammals. The TFRI, Campus is shelter and hiding places of several animals including Indian Jackal.

While, traveling in the morning by this road, it was found that death of Indian jackal (*Canis aureus indicus* Hodgson, 1833) is frequently seen on the road. Keeping in this view, the regular surveys were conducted in order to study on road mortality of Indian jackal in morning hours at two highways, Jabalpur-Raipur Highways, Tilhari to Saliwara (Mandla Road) and Gour Tiraha to Silva Road passing through TFRI, Campus (Bargi-Nagpur Road). The road mortality of jackal counted and presented data (Table) on the mortality rate of monthly basis for one year (March -2010 to February 2011).

It was found that death of Indian jackal on the road by accident due to heavy vehicular traffic at night is mostly occurred in and around the Tropical Forest Research Institute (TFRI) campus (Bargi-Nagpur Road)

and near the Bridge of Gour River (Jabalpur- Raipur Road). Both the highways have heavy traffic loads due to good connectivity to other important cities of Madhya Pradesh, Maharashtra and Chhattisgarh.

A total of 114 jackals were killed on both roads in one year. The presented data also indicated that the mortality of road kill of jackal was found mostly in the months of summer season (March-June) as compared to other seasons of the year.

There was a acute shortage of water during summer in the forest areas. Therefore, jackals in the region cross roads to reach the perennial Gour River to drink water. While crossing road they have been killed in the road accidents especially at night time due to more traffic.

It was also observed that road kill of Jackals was more (72 nos.) on Jabalpur-Raipur highway as compared to Gour Tiraha to Silva Road (42). Because of Jabalpur -Raipur is a National highway and very busy with heavy traffic more kills occurred in this road.

The road kill on highways is not only major threat to local population of the Indian jackal but also to threat of faunal biodiversity of the areas.

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