



What do we do with the Leopards?

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The monsoon showers in the Junnar taluka in Maharashtra provide a spectacular display of nature's beauty and power as the rough winds whip up the soil and the clouds sweep past the wide Sahyadri valley, towards the crestline of the Western Ghats. The rain that falls over the crest of the Ghats finds its way down to the valleys between the Bhimashankar Wildlife Sanctuary and the Malshej Ghat, through a myriad streams and canals that crisscross the landscape. As I walk through, enjoying the fragrance of the rain drenched soil, it never ceases to surprise me that this is an area where leopards have attacked 49 people in the last three years, and where around 100 leopards were trapped.

Presence of the leopard in an area which predominantly consists of human habitation and farmlands is indeed surprising

The reason I cannot reconcile to the presence of the leopard in this area is because it is a region which predominantly consists of human habitation and farmland – crops of sugarcane, onion, grapes; plantations, villages, schools, markets, but no forests. The only natural forest land is the small strip about 15 km wide along the crest of the Western Ghats from the Bhimashankar Wildlife Sanctuary that lies at the southwest corner to the Malshej Ghats, which form the northwest boundary of the Junnar Forest Division.



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The only natural forest land in the region is a small strip about 15 km wide

The leopard - human conflict is not near the forests, but down the valleys right up to the Shirur taluka, which with its dry soil, probably acts as a barrier to the movement of leopards.

The region's vegetation has changed immensely since the construction of many dams in the early 1970s. Now lush crops, clothe what was a dry area. Sugarcane is the most important crop especially in the valley of Narayangaon, which also has been the leopard - human conflict hotspot in the last three years. From 5 attacks on humans in the Narayangaon Range between 1995 and 2001, it suddenly increased to 16 in 2002, and this area is most distant from the forests.

In order to make any sense of the drastic increase in conflict levels in this region, we (Vidya Athreya, Sanjay Thakur, Sujoy Chaudhury and Dr. Aniruddha Belsare) from Ecollage, Pune and the Wildlife Protection Society of India, New Delhi (WPSI) with permission of the Maharashtra State Forest Department undertook a year long study on this issue. The study relies on ecological, sociological and topological information obtained from each of the sites where livestock and humans have been attacked, as



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well as where leopards have been trapped, over the last three years. This information is then complemented with the GIS tool to obtain a better understanding of the conflict in relation to the landscape features. However, it is also very important that telemetric studies be carried out, especially on the fringes of human habitation, to better understand the biology of this beautiful species.

In recent times, leopards are increasingly being implicated as the major cause of conflict between wild carnivores and people throughout India. This is possibly because of their greater adaptability to survive and reproduce even in landscapes highly modified by humans. From Nepal, through the tea estates of northern West Bengal, Himachal Pradesh, Garhwal hills, through Gujarat, Maharashtra and Karnataka, there are instances of leopards turning into problem animals for humans. Interestingly, leopard - human conflict in our country is an issue only in pockets close to some protected areas and not others. This in itself suggests that there are factors unique to the particular place regarding the conflict, and it is imperative that we understand the nature of the conflict in each of the conflict sites.



The increasing attacks on humans and livestock led to intensive trapping efforts for leopards by the Junnar Forest Department

To deal with the increasing attacks on humans and livestock by leopards, the Junnar Forest Department increased their trapping efforts manifold and did what is usually done the country over — trapping and translocation of the animals from conflict areas. Initially, the trapped leopards were left in nearby forested areas, but because that is likely to have aggravated the problem, the animals are now left in far-off wildlife sanctuaries in the state — Melghat, Yawal and Radhanagari. As part of our project, the animals meant for translocation have been marked with transponder chips (see box) which would allow us to monitor the animals, in case of recapture at their new site of release, in a low cost and unobtrusive fashion.

This strategy of trapping and translocation, however, does not find favour with most of the scientists who have researched wild cat behaviour and ecology. Leopards, like other wild felids, have very strong homing instincts and are known to travel up to 100 km to return to their site of capture. Thus, simply trapping a leopard and leaving it in the nearest forest may not be worth the time and money invested in the operation,

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Tracking the released leopards

In order to keep a track of the leopards caught in Junnar and released in far-off protected areas in Maharashtra, life long identification chips (a passive transponder) were inserted into the animals. A total of 22 leopards (19 from Junnar Forest Division and 3 from Nagar) were marked with similar chips the size of a long grain of rice. These are used throughout the west for pets and captive animals. Even Indian zoos, like the Rajiv Gandhi Zoological Park, Pune, have begun marking their animals in this fashion. The sterile chip contains a unique code, such as 00-063B3F95. A syringe places the chip subcutaneously and can be read by a pocket-sized reader from above the skin. Its easy use, low cost (each chip costs about Rs 300) and life long function is of enormous help to the leopard, as well as the people managing them. In fact, its use can also spill over to beyond the life of the leopard. In the USA, a hunter was convicted based on the chip present in the pelt of the wolf found with him.

It is important that the make of the chip and the place of insertion are standardized for a given species. The chip that is currently being used is TROVAN ID 100 and has been recommended for use by the Captive Specialist Breeding Group. We decided to insert the chip at the base of the tail (where the tail meets the body), since it was found on occasion that if a caged leopard is distracted from the front, a person with a reader could obtain the reading from behind without the animal being held immobile in a squeeze cage or being tranquilised, causing no distress. So far, three animals of the 19 translocated from Junnar have been re-trapped at their site of release and their place of origin could be confirmed because of the chip.

More importantly, it gives us a basis to confidently state that leopards translocated to far off areas from conflict areas do come into conflict at the site of release and that a debate is required to modify the policy that dictates translocation as the main option for dealing with problem leopards.



Identification chips were inserted into the captured leopards before releasing them



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as they are likely to come right back. Which again brings us to the issue that any such large carnivores capable of inflicting injuries to people should be radio-collared on release. This will allow for a fool-proof method of monitoring the individual and to ascertain if the translocation has been a success, or if they are creating problems at their new sites of release.

There is also another issue, which is of great importance, and has a strong relation to the conservation of our tigers, and other rare and threatened fauna at the sites of release. Leopards from a human dominated landscape, like Junnar, are likely to feed heavily on domestic animals. For example, a study on leopard diet

that live in his territory. We are likely to be creating havoc in the natural functioning of resident leopard populations at the sites of release. Worse still, the translocated animal might take to the fringes, since that is the only habitat he or she knows, leading to attacks on cattle, and human conflict in an area which never had it. This has been validated by our study which found that an animal re-trapped at the site of release in northern Maharashtra, after human casualties had taken place, contained the transponder chip. This indicates that the strategy of trapping and translocating is likely to result only in a shift in the focus of conflict from one area to another.

It is important for the leopard that we think of it as a beautiful wild cat that needs to be conserved, and not a pest that prowls in our areas and needs to be shot!



from scats carried out by Advait Edgaonkar and Ravi Chellam in the Sanjay Gandhi National Park (SGNP) found that despite the presence of natural prey species, dogs were the most common prey of the SGNP leopards. Therefore, while translocating leopards from places like Junnar, where they are exposed to pathogens from livestock and dogs, we are making our already endangered tigers and other native wildlife species, that inhabit our prime wildlife sanctuaries, more susceptible to diseases brought in from outside.

Finally, what of the resident population of leopards at the site of translocation? Territorial felids like leopards are not altruistic and do not reduce their territories in order to accommodate newcomers. There are likely to be fights and deaths. The death of a male territory holder usually implies infanticide of the cubs

If we are indeed shifting the problem and introducing it to areas which never reported conflict, it is time we provide the Forest Department with other options of dealing with an animal as dangerous as the leopard, when it takes to living among humans. We have to remember that it is not a benign creature we are dealing with, but one which can pick up a child from the doorstep of its house and leave no trace, with a species that is intelligent enough to elude a trap set for it, with a species that can survive quite well with a prey base of mainly domestic animals. It is very important for the conservation of the leopard that the majority of people in our country think of it as a beautiful wild cat that needs to be conserved, and not a pest that prowls in their villages and needs to be shot.