PRELIMINARY REPORT

(October, 2016 – January, 2017)

During the period since the commencement of this project in mid-October, 2016, I am pleased to report that the following activities have been undertaken successfully:

1. A preliminary survey of Parsa Wildlife Reserve.
2. Social surveys and questionnaires.
3. Design of awareness materials (posters, leaflets, caps, T-shirts).
4. Transect surveys to determine evidence of Hispid hare activity.
5. Identification of threats to Hispid hare habitats.

1. Preliminary survey of Parsa Wildlife Reserve.

A preliminary visit was made by the field team to Parsa Wildlife Reserve in late October, 2016 in order to identify: (1) suitable habitat that would be likely to support Hispid hare populations; (2) potential sites for the placement of camera traps; and (3) the most appropriate areas in which to undertake line transects.

Two principal target areas were identified and these comprised one grassland site and one grassland/riverine site. The two sites covered an area of nearly 40 hectares and both supported the grassland vegetation known to be favoured by Hispid hares (Fig. 1).

Fig. 1. A grassland/riverine site in Parsa Wildlife Reserve identified as containing vegetation known support Hispid hares elsewhere in their range.

2. Social surveys and questionnaires.

Social surveys and questionnaires were mainly focused on the two villages of Amambhauri and Bhata (Fig. 2). The reason for the selection of these two village communities was because both of them had recently been relocated from the core area where my study area was selected with the result that the villagers had direct knowledge of the project site. During interviews with the villagers, photographs of *Caprolagus hispidus* were shown to them and the differences between the Hispid hare and the more commonly encountered Indian hare were explained. We also described the current endangered status of *C. hispidus*, its very restricted distribution, the threats to its habitat, and the importance of conserving known populations. Only 10% of villagers questioned were aware of the Hispid hare. Ninety per cent had no knowledge of the species at all and had not heard its local name ("Lagukarna Kharayo").

Fig. 2. Conducting questionnaires in Bhata village.

3. Design of awareness materials (posters, leaflets, caps, T-shirts).

Posters, leaflets, caps, and T-shirts were designed with the purpose of raising awareness of the Hispid hare within Parsa Wildlife Reserve and the Buffer Zone Community Forest. It is intended that the completed items will be ready to be used during Nepal's Wildlife Week in April, and, later in the year, on World Environment Day (5th. June) and on

National Conservation Day (23rd. September). An example of one of the Hispid hare designs and a completed T-shirt are shown in Fig. 3.

Fig. 3. Left: One of the Hispid hare designs to be printed on posters, leaflets, caps, and T-shirts to raise awareness of the species. The ears of the Hispid hare are much shorter than those of the sympatric Indian hare (*Lepus nigricollis*). Right: a completed T-shirt.

4. Transect surveys to determine evidence of Hispid hare activity.

Main transect lines of 50 m were plotted with strip transects of 20 m in length and 2 m in breadth on either side in four major habitat types, namely tall grassland, short grassland, shrubland, and riparian forest (including dry river beds) (Figs. 4 and 5). Thirty-seven transects were carried out to obtain data on hare activity and pellet distribution. Pellets were abundant in all types of habitat but their size would indicate that they were more likely to be pellets of the Indian hare rather than the Hispid hare (Figs. 6 and 7). For the purposes of accurate taxonomic identification, thirty pellet samples were collected with GPS points of each and were sent for verification at the Center for Molecular Dynamics Nepal (CMDN) in Kathmandu. The results of these tests are awaited.

Signs of larger mammals such as jackals and wildcats were abundant. Signs of Dhole (*Cuon alpinus*) were prevalent along the dry river bed at Bhata (Fig. 8).

Fig. 4. Conducting a transect survey in tall grassland near Aambhauri.

Fig. 5. Plotting a main transect line in tall grassland near Bhata.

Fig. 6. Faecal pellets recorded in Parsa Wildlife Reserve.


Fig. 7. Collecting pellet samples from the dry river bed at Bhata.

Fig. 8. A pugmark of the Dhole (*Cuon alpinus*).

5. Identification of threats to Hispid hare habitats.

The principal threats to Hispid hare habitats identified during the course of field surveys were fivefold:

1. Burning of grasslands. This is carried out annually to improve the quality of the soil but it is an activity that has a direct, detrimental effect on small mammal habitats (Fig. 9).
2. Grazing of cattle. Overgrazing of existing grassland sites prevents regeneration of these areas (Fig. 10). Farmers utilise the Reserve as a source of fodder for their domestic herds.
3. Collection of grass for thatching roofs. This is a common and widespread practice amongst villagers in the Terai. The long grasses provide an ideal and cost-free thatch for roofs of dwellings and cattle sheds (Fig. 11).
4. Erosion. The erosion of riparian habitats is an ongoing concern in lowland areas of Nepal, which are particularly affected during and after the monsoon season, when river levels rise, and in the spring, when meltwater from the upper reaches of the country's watercourses swells the rivers' lower sections. Reinforcement of river banks is undertaken in many areas (Fig. 12) but this activity, itself, causes short-term damage to adjacent habitats.
5. Pollution. Increased use and disposal of non-biodegradable plastics together with insufficient levels of waste management and environmental education are causing heightened levels of pollution in the rivers of the Terai (Fig. 13).

Fig. 9. Burning of grassland at Aambhauri.

Fig. 10. Cattle being herded into Parsa Wildlife Reserve to graze.

Fig. 11. Grasses collected from Parsa Wildlife Reserve by Aambhauri villagers for roof thatch.


Fig. 12. Construction of Gabion box defences on the Bhata River to protect the banks from erosion.

Fig. 13. Discarded plastic bottles are a visible form of pollution in the Bhata River.

The following activities are scheduled to take place in the next phase of the project:

- Camera trapping
- Further transects to collect hare activity data
- Further pellet collection and identification
- Further social surveys and questionnaires
- Conduct of the awareness programme
- Statistical analysis
- GIS Mapping