

Snow Leopard and Prey Species Workshop in Bhutan

Full Text:

Bhutanese conservation officials met at a workshop in Jigme Dorji National Park in May for training in snow leopard and highaltitude prey species survey and conservation techniques.

The workshop, the Fourth SLIMS (Snow Leopard Information Management System) Workshop and Field Training Session, was co-sponsored by the International Snow Leopard Trust (ISLT), WWFBhutan Program (WWF) and the Nature Conservation Section (NCS) of the Forest Services Division of Bhutan's Ministry of Agriculture.

Rodney Jackson, ISLT's Conservation Director and Joseph L. Fox, an ungulate specialist with the University of Tromsø, Norway, directed the training, with the assistance of the Park Manager of Jigme Dorji NP, Tashi Wangchuk, and WWF Program Officer, Mr. Ugen Norbu.

Dasho Dr. Kinzang Dorji, Secretary of the Ministry of Agriculture, opened the workshop, stressing the importance of welltrained staff if Bhutan was to remain the Asian leader in nature conservation especially in terms of the amount of protected area set aside and forests left intact.

Following three days of classroom presentations and group exercises, 15 trainees representing all regions of Bhutan's mountains with potential snow leopard habitat made the threeday trek to Chomolari base camp at the foot of the Bhutan's highest peak. Here we provided "hands-on" training in how to detect snow leopard sign and to count blue sheep herds which blend into the surrounding rock and rolling grassland. We interviewed local herders and learned that hard winters rather than predation by leopard or wolf were the main threat to their livelihood, at least in this part of Bhutan. Several pastoralists hoped that more tourists would visit Jigme Dorji, so that they could rent their yaks as pack animals and earn additional income as guides.

We tallied over 1,000 blue sheep during our 10-day field training trip, often seeing groups in excess of 80-100 individuals. Interestingly, blue sheep venture relatively far from cliffs compared to other parts of the Himalaya, a behavior that is possibly indicative of low wolf predation pressures. They may also have been avoiding snow leopards, which tend to stay close to cliffs and other broken areas. Although not abundant, snow leopard sign was found in most valleys, including the very fresh tracks of a female with a fairly large cub meandering across a glacial riverbed. The vast rolling alpine grasslands were intermingled with birch scrub, preferred habitat for the rare musk deer, another key prey species.

Back in Thimphu, workshop participants reported their findings to senior government officials. All agreed that current knowledge of the snow leopard's status and distribution in Bhutan was quite limited, and that more field surveys were urgently needed. Toward this end, a special questionnaire has been prepared to supplement methods described in the Snow Leopard Survey and Conservation Handbook.

A total of five or six parks and reserves have been established within potential snow leopard range in Bhutan, which covers the entire northern edge of the country above the continuous mixed conifer/rhododendron forestbelt. In the eastern Himalaya, this equates to land areas above 3,300 to 3,700 m, and more likely above 4,000 m, but below the permanent snow line and glaciers at 5,200 to 5,500 m. Presence has been confirmed in the Jigme Dorji National Park, Bhutan's flagship mountain protected area, which formerly covered the entire northern border region with Tibet (China), but has now been reduced to a more manageable size. Nevertheless, it contains eight of the 11 major vegetation types found in Bhutan. Many endangered species which are extinct or on the verge of extinction in other areas of the Himalaya are said to exist in healthy populations in these habitat types, notably takin, black bear, red panda, several pheasant species, and musk deer as well as snow leopard and tiger. Certainly, snow leopards seem to be widely distributed in the park, although densities are not as high as some arid and snowfree areas located in the Himalaya, Mongolia and along ranges penetrating the Tibetan Plateau.

According to information presented at the workshop, local people have reported the presence of snow leopards in the Torsa Strict Nature Reserve (650 km²), Kulongchhu Wildlife Sanctuary (1,184 km²), and the Sakteng Wildlife Sanctuary (755 km²). However, these sightings need to be confirmed using the more scientific, standardized survey methods demonstrated at the workshop. Two other parks are located along the edge of snow leopard range, but are probably too heavily forested (Thrumshingla National Park, 890 km²) or too isolated from main Himalayan distributional range (Black Mountain National Park 1,730 km²) to be occupied by the species. Both protected areas contain common leopard (*Panthera pardus*) which may have a competitive advantage over snow leopard in forested habitats. In addition, there seems to be a close correlation between the presence of blue sheep and snow leopard: to our knowledge, blue sheep are absent from both of these parks, being usually found above 3,800 m in alpine scrub, pastures and scree slopes.

The total amount of potential snow leopard habitat is roughly estimated at 710,000 km²; assuming a density of one cat per 100 km², there are about 100 snow leopards in Bhutan. However, this a very crude estimate and ground surveys to confirm presence/absence, followed by relative abundance transects, are urgently needed. Principal threats to the species are thought to be incidental poaching and retributive killing by herdsmen in the face of livestock depredation although participants said that there was no evidence to suggest much trade in pelts or bones was taking place, as may be the case for tiger. Little information is available on the extent to which snow leopard prey upon domestic stock, although a number of depredation hotspots have been identified. One of these is located near Gasa in the Jigme Dorji National Park. Tigers have been seen in this area, evidence that the distribution of snow leopard and tiger may overlap slightly during some seasons of the year. Of course direct contact between the two cats is very unlikely, with tiger staying closer to woody vegetative cover than snow leopard.

Clearly, the workshop's enthusiastic forest guards face a daunting task, given the remoteness, high elevations and ruggedness of snow leopard habitat and the difficulty of detecting a snow leopard scrape or pugmark in places where vegetation is so lush and rainfall so prodigious. Although ISLT's partnership with WWFBhutan and the Nature Conservation Section of His Majesty's Government of Bhutan is very new, we look forward to a long and productive relationship.

In expressing continued International Snow Leopard Trust support for such innovative initiatives, Conservation Director Rodney Jackson focused on the role of the snow leopard as a "Flagship Species" for conserving highaltitude ecosystems throughout the Himalaya. Park Manager Tashi Wangchuk provided a graphic overview of the Jigme Dorji National Park, which covers a 4,349 km² area located within one of the world's ten globally most significant biodiversity "hotspots". Pema Gyamtsho, Head of the Ministry of Agriculture's Policy and Planning section, offered an informative account of pastoralism in the Jigme Dorji National Park. He reported the widespread belief among herders that blue sheep complete with livestock (primarily yak) for forage, and that some people felt there were too many blue sheep in some areas. Whether or not populations are excessive cannot be determined until a systematic blue sheep census has been conducted, so the collaborative workshop is opportune.

SLIMS is part of ISLT's Project Snow Leopard, a multifaceted, multinational training, conservation and education program initiated at the 7th International Snow Leopard Symposium held in China in 1992, and aimed at helping to conserve the overall biodiversity of Central Asia's high mountains. The first workshop was held in China in 1993, followed by others in Pakistan and Mongolia.

¹Conservation Director, International Snow Leopard Trust; ²Department of Ecology/Zoology, University of Tromsø, Norway