

STATUS AND CONSERVATION ISSUES OF HIMALAYAN BROWN BEAR (*Ursus arctos isabellinus*) IN BASHQAR GOL, DISTRICT CHITRAL, PAKISTAN

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Bashqar Gol (Photo: Courtesy of Ajaz Ahjmed)

Introduction

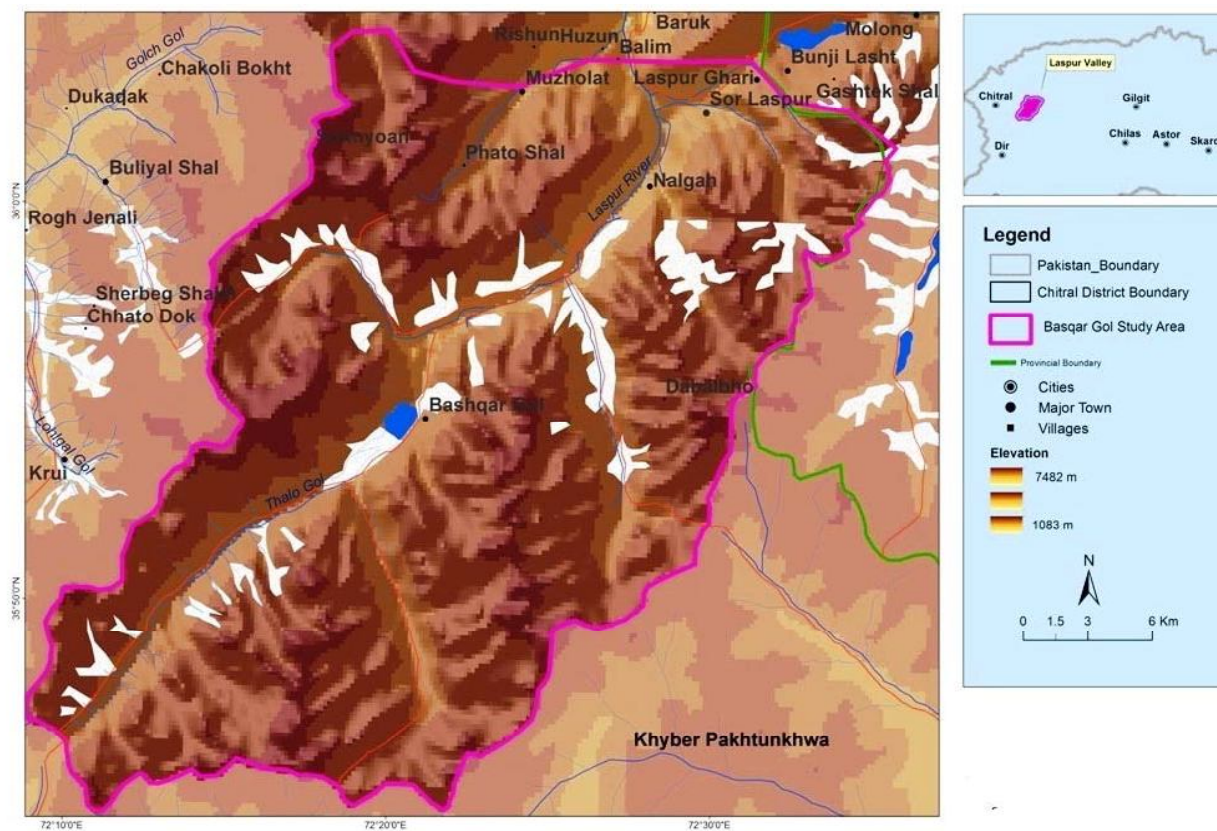
The Himalayan brown bear (*Ursus arctos isabellinus*) is restricted to the alpine meadows and sub-alpine scrub zone above the tree line between 3,900 m to 5,100 m elevation. Both black and brown bear are reported in Chitral district. The Himalayan brown bears occupy the Hindu Kush Range in the northern part of the Chitral District, the Kalam area in Swat Kohistan, Kaghan Valley, and Palas Valley in Indus Kohistan (Arshad, 2003). There are 3 populations (Kalam, Indus Kohistan, and Kaghan) and 2 subpopulations (Tirch Mir, Chitral) of the Hindu Kush range in Khyber Pakhtunkhwa. A population reported from SiranNalla in Hazara District, and the subpopulation in Chitral Gol National Park are extinct (Schaller, 1977, Mirza, 2003). A small subpopulation of Tirch Mir still persists at the headwaters of Yarkhun and along the Afghan border. Fulton (1903) reported that brown bears were common in the Turkho and Yarkhun valleys, and Schaller (1977) also observed some signs in that area. The Kalash people practiced bear hunting and it was considered as

sign of bravery, strength and courage. Bears were also hunted for their fats which was used in local medicines and to stimulate hair growth.

Study area

The present survey focused on the status and conservation issues of brown bear in Bashqar Gol, which is one of the socio-ecologically important watersheds of Laspur valley in Chitral district, Khyber Pakhtunkhwa Pakistan. The valley has borders with Swat, Gilgit-Baltistan and Golain Valley of Chitral. Bashqar Gol is famous for scenic views, wetlands and biological diversity. Bashqar Gol lies out of the monsoon rains and has arid, temperate and alpine zones. The precipitation in winter is in the form of snow, while in summer there is occasional rainfall. December and January are the coldest months during which the entire area get covered with snow and temperatures fall several degrees below freezing point. The study area comprises different types of habitats including sub-alpine scrub, alpine meadows and tundra. There are seasonal settlements and cultivated

Map of the Study Area.



areas around Garik (3,343 m). The stream bed of Bashqar Gol is characterized as sub-alpine scrub which supports vegetation like *Artemisia brevifolium*, *Salix tetrasperma*, *Bitula utilis*, *Populus ciliata*, *Juniperus communis*, *Hippophae rhamnoides* (Sea buckthorn), *Tamarix* spp and *Rosa webbiana*. The alpine zone of Bashqar Gol includes the area around Bashqar Gol Lake and the surrounding semi-hilly terrains support *Ephedraea gerardiana*, *Artemisia brevifolium*, *Artemisia maritime*, *Metricaria chamomile*, *Chenopodium album*, *Astragalus* spp, *Carexdivisia*, *Geranium* spp, *Euphorbia* spp, *Bunium persicum* and other wild berries.

Habitat type and quality are key factors for wildlife distribution. Bashqar Gol has several species of wildlife that are ecologically, economically and scientifically very important, including Snow leopard (*Uncia uncia*), Brown bear (*Ursus arctos*), Wolf (*Canis lupus*), Himalayan ibex (*Capra ibex*). Chinese birch mouse (*Sicista caudata*), Pika (*Ochotona* spp), Snow cock

(*Tetraogallus himalayensis*), Chakur partridge (*Alectoris chukar*), Bearded vulture (*Gypaetus barbatus*) and Golden eagle (*Aquila chrysaetos*). In Bashqar Gol, presently Himalayan ibex is the only herbivore comprising the prey base for carnivores, but according to the local people Musk deer also inhabited the area. The most prominent feature of Bashqar Gol is a biologically active soligenous lake (Bashqar Chaat) which is located at an elevation of 3,679 m above sea level. The lake covers about 200 ha has its inflow towards Laspur Valley.

Methodology

Questionnaires and observations to assess the occurrence and distribution of predators have been widely used in Europe and North America (Fuller *et al.*, 1992; Martizanis, 1994). Focused group interviews and semi-structured questionnaires were used as survey tools to obtain information on sightings, depredations and major threats to the brown bear in the survey area.

Counts of tracks or scats have been widely used to assess the relative abundance of wildlife ranging from Elephants to Bobcats (Jackson and Hunter, 1996). The survey was conducted between August 1, 2012 to August 7, 2012 in Bashqar Gol, one of the important watersheds of Laspur Valley, District Chitral. During the survey 20 transects were marked out at the selected potential sites of Brown bear, ranging from 300 m to 950 m depending upon the terrain and topography. Data was decoded as per the Snow Leopard Information Management System (SLIMS) standards (Jackson and Hunter, 1996), which was used as a survey protocol to estimate the relative density of Brown bear.

Results

The survey team directly observed Brown bear in Bashqar Gol and looked for other evidences such as feces, pugmarks and fur. During the

survey a total of 15 signs of Brown bear were recorded consisting of pugmarks (60%), feces (27%), and fur (13%). Sign density was 1.26 signs per kilometer, indicating low carnivore density in the study area. It was also observed that most of the signs were fresh (45%), followed by old (25%) and very old (30%) respectively. According to the local people's perception, about 80% of the respondents' categorized Brown bear as common, 5% as rare and only 6% said it is absent in the valley. The local people displayed a positive attitude toward Brown bear and did not consider it a threat to their livestock. It was also confirmed by the locals that in the study area the population of Brown bear is declining at alarming rate due to habitat loss, fragmentation, human-induced mortality, commercial poaching for the sale of bears parts and retaliatory poisoning. Details of the SLIMS finding of the study area are given in Table 1.

Table 1: SLIMS findings of Bashqar Gol

	Sites	All signs	Pugmarks	Feces	Fur
Total	15	15	9	4	2
Average	0.75	0.75	0.45	0.2	0.1
Minimum	0	0	0	0	0
Maximum	4	4	3	2	1
Signs/km		1.26	0.76	0.33	0.17

Discussion

Brown bear was observed in Bashqar Gol in the evening in close proximity of juniper scrub forest at Garik. In the study area Brown bear also descends to the lower parts in birch and Salix forest in search of succulent plants. The bulk of their diet is made up of vegetable matter, including sedge leaves and succulent rhizomes. During the survey it was reported by the wildlife watchers of the area and the local people that they had seen Brown bear feed upon bulbs, roots and sometimes they turned over the stones and rocks in search of insects. They usually feed for one or two hours before sunrise and again in the afternoon. Brown bear can also develop the habit of killing domestic

livestock; The brown bear is under continuous threat to its survival in Pakistan in general and Chitral in particular. The Brown bear has been listed as Critically Endangered in Pakistan.

Some of the threats/conservation issues identified in the study are as follows.

1. Loss of habitat

A great threat to wildlife, including the Brown bear, in Bashqar Gol is the disappearance of habitat or the competition with domestic grazing animals. During the survey it was confirmed that the sub-alpine scrub of Bashqar Gol is shrinking at a high rate. Pressure on forests for fuelwood collection is degrading the natural alpine vegetation.

Encroachment for agriculture and excessive grazing by domestic animals is also a major threat to the habitat of the wildlife of Bashqar Gol

2. Retaliatory poisoning

According to the local community, in 2010-2011 a total of 82 depredation cases attributed to three carnivore species (Snow leopard, Wolf and Brown bear) were reported in the area affecting 28 households. For the damage to their agriculture fields the local communities made claims for compensation but in most cases the Wildlife Department was not in the position to compensate the affected community. As a result, the locals still keep their livestock in the Bashqar Gol and as such, grazing has not been stopped in area. The presence of livestock in the area attracts carnivore predators towards more easy prey like goats, sheep and yaks. When a Snow leopard, Wolf or Brown bear kills a grazing animal, the owner of the herd poisons the carcass to kill the predators. This leads to the death of not only the attacking predator but also many other carnivores and scavengers who are dependent on the left-over hunt. This situation has resulted in reducing the number of wildlife to an alarming level in Bashqar Gol.

3. Over-grazing

Heavy grazing in the different ecological zones of Bashqar Gol is also one of the major threats to the wildlife of the area. The huge number of domestic animals including sheep, goats and yaks consume all available forage of an area while moving to another place, thus leaving nothing for wild ungulates and posing tough competition for the wild animals.

4. Weak law enforcement

The rules and regulations that have been framed regarding the protection and conservation of natural resources have typically not been implemented properly due to weak law enforcement. Therefore illegal hunting and shooting still exist. Now the government has started to work with stakeholders and concerned communities for the protection, conservation and sustainable use of wildlife by providing some enforcement.

5. Limited resources

Chitral Wildlife Division through the Ranger Office Wildlife, Wildlife Range Booni is responsible for the conservation and protection of wildlife in the area. There is inadequate field staff and lack of proper training of existing staff, combined with limited funds, which means that they cannot perform their duties effectively.

Recommendations

- A long term awareness programme should be initiated to increase the level of awareness of students, teachers, and local communities, the government, non-governmental organizations and law enforcement agencies regarding the Brown bear population status, habitat conservation needs and their role in the ecosystem.
- The northern part of District Chitral provides a good habitat for Brown bear and other associated wildlife species. The existing protected areas are insufficient both in numbers and sizes to provide adequate refuge and food to Brown bear. The only protected area in this part of Chitral is Broghil National Park which was established in 2009, but the Wildlife Department has insufficient capacity to properly manage this national park. There is a need for the establishment of protected areas like national parks, and game sanctuaries especially focusing on Brown bear, and a need to improve the capacity of the Wildlife Department to manage the existing protected areas and create new ones.
- The existing rules are not properly implemented because of certain loopholes and weaknesses. It is noteworthy that the total area of district Chitral is 14,850 km² and there are only 52 wildlife field staffs for the whole district, which means a single wildlife staff is covering an area of 286 km². The Wildlife Department should strengthen both the financial and human resources. Community participation in wildlife conservation, especially of Brown bear, should be ensured.
- The conservation of Brown bear is difficult to handle through isolated efforts; joint actions would be required on the part of major stakeholders. The government institutions, being the custodians, have a crucial role, while

others have important roles too. However, such roles can only be effectively realized if there is proper co-ordination between all these institutions. This is possible only if a strategic direction is determined with an agreed action plan, determined through general consensus to guide all interventions related to Brown bear conservation in its natural habitats.

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