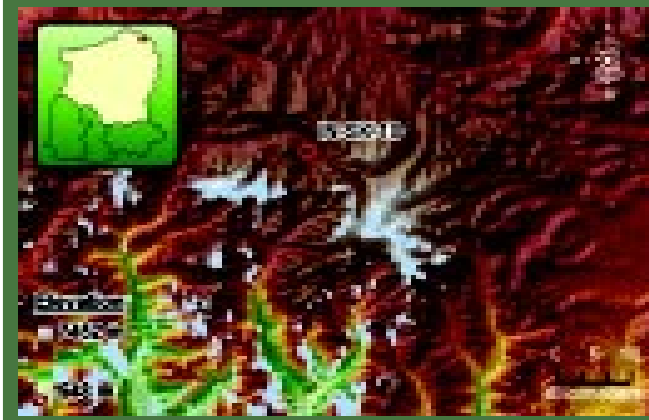


TSO LHAMO PLATEAU- LASHAR- SEBU LA- YUMESAMDONG COMPLEX



IBA Site Code	: I N-SK-10
State	: Si kki m
District	: North Si kki m
Coordinates	: 28° 01' 43" N, 88° 45' 17" E
Ownership	: State Forest Department
Area	: c. 50,000 ha
Altitude	: 4,500 - 7,000m
Rainfall	: Not available
Temperature	: -20 °C to 25 °C
Biogeographic Zone	: Trans-Himalaya
Habitats	: Alpine Arid Pasture and Alpine Dry Scrub

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas; Endemic Bird Area 133: Tibetan Plateau); A3 (Biome-5: Eurasian High Montane; Biome-7: Sino-Himalayan Temperate Forest)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Tso Lhamo Plateau, Lashar, Sebu La and Yumesamdong complex is typical cold desert on Tibetan Plateau and trans-Himalayan facies, with high snow mountains and glaciers, lakes and geothermal springs and vast valleys with grasses, sedges, cushionoid vegetation, lichens and associated fauna. In this Reserve Forest on the international border with Tibet (China), heavy military deployment has caused a network of roads on the plateau with military establishment mostly near glacial lakes of Gyam Tsona and Tso Lhamo. The area has a short growing season from May to October with peak in July-August when most of the birds breed. This eco-region has not yet been included in the protected area network of the State and is perhaps the most threatened as it contains many endangered species (protected under Schedules I and II of the Indian Wildlife (Protection) Act 1972, such as the Tibetan Wild Ass or Kiang *Equus kiang*, Nayan *Ovis ammon* and Black-necked Crane *Grus nigricollis*).

This IBA seeks to link the Tso Lhamo Plateau with the Lashar, Sebu La Yumesamdong section, reaching southwards to touch the Sino-Himalayan Temperate Forests below Yumesamdong and around Thangu in North Sikkim.

AVIFAUNA

A total of around 227 birds have been recorded from this c. 500 sq. km area, including four globally threatened species, three Restricted Range species and 93 Biome-restricted species (Ganguli-Lachungpa and Rahmani 2003). One of these, Babax *waddelli*, is reported only from extreme northeast Sikkim from 2,700-4,400 m in the Tibetan Plateau facies (EBA-133) in *Hippophae* thickets. It is found in dense deciduous scrub above tree-line and edge of coniferous forest (Stattersfield et al. 1998). It is reported as 'locally common' (Ali and Ripley 1987).

This site in the Eastern Himalayas Endemic Bird Area is the highest altitude eco-region in Sikkim spanning two biomes, Sino-Himalayan Temperate Forest (Biome-7) and Eurasian High Montane (Alpine and Tibetan) (Biome-5) as described by BirdLife International (undated).

Of the 48 Biome-5 (Eurasian High Montane - Alpine and Tibetan) species, 35 occur here and of the 112 Biome-7 (Sino-Himalayan Temperate Forest) species, at least 12 are from here. More are likely to be found after detailed investigations.

The important breeding bird species recorded here are Tibetan Snowcock *Tetraogallus tibetanus*, Black-necked Crane *Grus nigricollis*, Brahminy Shelduck *Tadorna ferruginea*, Common Redshank *Tringa totanus*, Tibetan Sandgrouse *Syrhaptes tibetanus*, Snow Pigeon *Columba leuconota*, Robin Accentor *Prunella rubeculoides*, Guldenstadt's Redstart *Phoenicurus erythrogaster*, Plain Mountain Finch *Leucosticte nemoricola*, Black-headed Mountain Finch *Leucosticte brandti*, Mandelli's Snowfinch *Pyrgilauda taczanowskii*, Tibetan Snowfinch *Montifringilla adamsi*, Plain-backed Snowfinch *Pyrgilauda blanfordi*, Rufous-necked Snowfinch *Pyrgilauda ruficollis*, Hume's Groundpecker *Pseudopodoces humilis*, Yellow-billed Chough *Pyrrhocorax graculus*, Lesser Sand Plover *Charadrius mongolus*, Golden Eagle *Aquila chrysaetos* and Little Owl *Athene noctua*.

Some of the non-breeding birds are Lesser Kestrel *Falco naumanni*, Bar-headed Goose *Anser indicus* and Common Hoopoe *Upupa epops*. A pair of Brown-headed Gull *Larus brunnicephalus* was sighted on Lake Tso Lhamo in May 2003 (U. Lachungpa pers. comm. 2003).

The Vulnerable Lesser Kestrel *Falco naumanni* is seen in this IBA.



Photo: Valeri Mosaklin

Important Bird Areas in India - Sikkim

Vulnerable

Greater Spotted Eagle	<i>Aquila clanga</i>
Lesser Kestrel	<i>Falco naumanni</i>
Black-necked Crane	<i>Grus nigricollis</i>
Wood Snipe	<i>Gallinago nemoricola</i>

Endemic Bird Area- 130: Eastern Himalayas

Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>
Giant Babax	<i>Babax waddelli</i>

Bio-me- 5: Eurasian High Montane (Alpine and Tibetan)

Himalayan Griffon	<i>Gyps himalayensis</i>
Snow Partridge	<i>Lerwa lerwa</i>
Tibetan Snowcock	<i>Tetraogallus tibetanus</i>
Tibetan Partridge	<i>Perdix hodgsoniae</i>
Solitary Snipe	<i>Gallinago solitaria</i>
Ibisbill	<i>Ibidorhyncha struthersii</i>
Brown-headed Gull	<i>Larus brunnicapillus</i>
Tibetan Sandgrouse	<i>Syrrhaptes tibetanus</i>
Snow Pigeon	<i>Columba leuconota</i>
Long-billed Calandra Lark	<i>Melanocorypha maxima</i>
Hume's Short-toed Lark	<i>Calandrella acutirostris</i>
Rosy Pipit	<i>Anthus roseatus</i>
Grey-backed Shrike	<i>Lanius tephronotus</i>
Alpine Accentor	<i>Prunella collaris</i>
Altai Accentor	<i>Prunella himalayana</i>
Robin Accentor	<i>Prunella rubeculoides</i>
Brown Accentor	<i>Prunella fulvescens</i>
Plain-backed Thrush	<i>Zoothera mollissima</i>
Guldenstadt's Redstart	<i>Phoenicurus erythrogaster</i>
Grandala	<i>Grandala coelicolor</i>
Smoky Warbler	<i>Phylloscopus fulgiventis</i>
Tickell's Warbler	<i>Phylloscopus affinis</i>
Wallcreeper	<i>Tichodroma muraria</i>
Hodgson's Mountain-Finch	<i>Leucosticte nemoricola</i>
Black-headed Mountain-Finch	<i>Leucosticte brandti</i>
Beautiful Rosefinch	<i>Carpodacus pulcherrimus</i>
Red-mantled Rosefinch	<i>Carpodacus rhodochlamys</i>
Streaked Great Rosefinch	<i>Carpodacus rubicilloides</i>
Red-fronted Rosefinch	<i>Carpodacus puniceus</i>
Tibetan Snowfinch	<i>Montifringilla adamsi</i>
Mandelli's Snowfinch	<i>Pyrgilauda taczanowskii</i>
Rufous-necked Snowfinch	<i>Pyrgilauda ruficollis</i>
Plain-backed Snowfinch	<i>Pyrgilauda blanfordi</i>
Hume's Groundpecker	<i>Pseudopodoces humilis</i>
Yellow-billed Chough	<i>Pyrrhocorax graculus</i>
Blood Pheasant	<i>Ithaginis cruentus</i>

Bio-me- 7: Sino-Himalayan Temperate Forest

Himalayan Monal	<i>Lophophorus impejanus</i>
Speckled Wood-Pigeon	<i>Columba hodgsonii</i>
Darjeeling Pied Woodpecker	<i>Dendrocopos darjellensis</i>
Nepal House-Martin	<i>Delichon nipalensis</i>
Rufous-breasted Accentor	<i>Prunella strophiatea</i>
White-collared Blackbird	<i>Turdus albocinctus</i>
Golden Bush-Robin	<i>Tarsiger chrysaesus</i>
White-throated Redstart	<i>Phoenicurus schisticeps</i>
Black-faced Laughingthrush	<i>Garrulax affinis</i>
Stripe-throated Yuhina	<i>Yuhina gularis</i>
Rufous-vented Yuhina	<i>Yuhina occipitalis</i>
Grey-sided Bush-Warbler	<i>Cettia brunnifrons</i>
Orange-barred Leaf-Warbler	<i>Phylloscopus pulcher</i>
Grey-faced Leaf-Warbler	<i>Phylloscopus maculipennis</i>
Large-billed Leaf-Warbler	<i>Phylloscopus magnirostris</i>
Slaty-blue Flycatcher	<i>Ficedula tricolor</i>
Rufous-bellied Crested Tit	<i>Parus rubidiventris</i>
Brown Crested Tit	<i>Parus dichrous</i>
Fire-tailed Sunbird	<i>Aethopyga ignicauda</i>
Dark-rumped Rosefinch	<i>Carpodacus edwardsii</i>
White-browed Rosefinch	<i>Carpodacus thura</i>
Brown Bullfinch	<i>Pyrrhula nipalensis</i>
Red-headed Bullfinch	<i>Pyrrhula erythrocephala</i>
Collared Grosbeak	<i>Mycerobas affinis</i>
White-winged Grosbeak	<i>Mycerobas carnipes</i>

OTHER KEY FAUNA

The larger mammals show local migration in search of food and shelter, while strictly resident animals are generally burrow-dwelling and spend the severe winter hibernating.

Important fauna include Kiang, Nayan, Tibetan Gazelle *Procapra picticaudata*, Blue Sheep *Pseudois nayaur*, Brown Bear *Ursus arctos*, Snow Leopard *Uncia uncia*, Lynx *Lynx lynx*, Red Fox *Vulpes vulpes* and Wolf *Canis lupus*, all nine species protected under Schedule I of the Indian Wild Life (Protection) Act 1972. The Snow Leopard and Nayan are globally threatened. Smaller animals include Woolly Hare *Lepus oiostolus*, Himalayan Marmot *Marmota himalayana*, Himalayan Mouse-Hare *Ochotona roylei*, Voles *Alticola* spp., and Long-eared Bat *Plecotus auritus*. Sikkim Snow Toads *Scutiger sikkimensis* and *S. boulengeri* inhabit almost all the wetlands in the area. Interestingly, Snow Toads are found in the brackish lake Gyam Tsona, the freshwater glacial lake Tso Lhamo and also in thermally active areas like Lake Gurudongmar and the Yumesamdong hot springs found in this IBA.

LAND USE

- q Forestry
- q Military
- q Nature conservation and research
- q Tourism / recreation

THREATS AND CONSERVATION ISSUES

- q Military overuse especially near lakes
- q Extensive road network by GREF
- q Poaching
- q Feral dogs
- q Grazing

The entire IBA is located on the international border with Tibet (China); hence there is massive military deployment for security reasons in the form of manpower and heavy machinery including

Tibetan Wolf *Canis lupus* is an important mammal that needs protection.

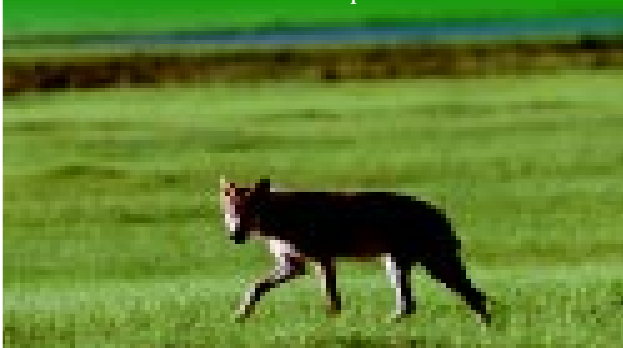


Photo: Otto Pfister

vehicles. Of necessity, most camps are located near water sources, often above them. As a result there is every chance of polluting the water bodies that form the source of Sikkim's lifeline, River Tista. These lakes are stopover sites for migratory waterfowl.

Diversion of the Mirdo spring feeding Lake Gyam Tsona in 1999 has caused the 54 ha lake to dry up into a small pond. This lake was the best in Sikkim for waterfowl and over 200 Northern Pintails *Anas acuta* and other species have been counted here (Ganguli-Lachungpa 2002) in the past. Nowhere else in Sikkim has this number been recorded.

The Garrison Road Engineering Force (GREF) and the Border Roads Organisation (BRO) deploy a large non-native labour force to maintain the extensive road network on the plateau. The labourers maintain shifting camps almost throughout the year. In addition to permanently disrupting the fragile ecology of these alpine grasslands and nesting sites of most of the ground and hole nesting birds, there have been instances of snaring of wildlife and collection of medicinal plants as well as removal of the slow growing Juniper and Rhododendron bushes for fuel wood.

In addition, both the military and GREF/BRO are responsible for the large population of c. 250 stray and feral dogs which can now be seen roaming in small packs over the plateau preying upon Brahminy Shelduck chicks, Himalayan Marmots, Woolly Hare, Voles and other animals. The Tibetan Mastiff, once used as livestock guardian by the yak and sheep herding nomadic graziers (Dokpas), is now extinct from Sikkim (Ganguli-Lachungpa and Rahmani 2002).

A series of minefields laid along the international border are also a cause for concern as their loose fencing needs constant maintenance. Minefield casualties of endangered species of wildlife such as Kiang, Nayan and Tibetan Gazelle, though common are not viewed very sympathetically so far. Surprisingly, a male Guldenstadt's Redstart (Biome-5) was found dead, trapped by its leg in the barbed wire strand of one such fence in May 2003.

These minefields further limit the grazing areas available to the wild herbivores and domestic livestock. They, as a result, put pressure on the sparse grasses and vegetation of the area as well as ground nester birds such as Horned Larks, hole and burrow nesting Snowfinches and also disturb Black-necked Crane feeding areas like Yum Tso. The wild herbivores are trans-border migrants, but their movement is restricted due to military deployment. There is a livestock population of c. 1,000 yaks and 2,000 sheep that are grazed by the nomadic Dokpas.

A new pressure is slowly surfacing with the area being opened up for tourism especially to Gurudongmar Tso (Lake), with its attendant problems of garbage and vehicular diesel pollution.

The State Forest Department has formed Joint Forest Management Committees (JFMC) at Lachen, Thangu and Lachung but there is a need for a Trans-Himalayan JFMC especially for this IBA.

Medicinal Plants Conservation initiatives of the State Forest Department have just begun and there is a vision to develop, over a period of time, home herbal gardens, medicinal plant farms and Tibetan Amji training centres attached to monastery schools. Medicinal Plant Conservation Areas and Medicinal Plant Development Areas are also planned to reduce pressure on the wilderness areas and to provide alternative livelihoods to the tribal people dependent on this IBA.

Alpine Grassland Ecology Project of BNHS was initiated in this IBA since June 2000 with the objective of formulating a conservation strategy for the alpine grasslands. The National Biodiversity Strategy and Action Plan (NBSAP) project of the Ministry of Environment and Forests, Government of India and Kalpavriksh (an NGO) was also initiated during the same period (Anon. 2003), working to resolve some of the above complex issues specific to this special eco-region of Sikkim.

KEY CONTRIBUTORS

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