

TIBETAN PLATEAU



THE many high-altitude lakes and marshlands on the Tibetan plateau support one unique waterbird species, Black-necked Crane, which is widely distributed during the breeding season but moves to the relatively low eastern and southern parts of the plateau for the winter. Baer's Pochard and Pallas's Fish-eagle also occur on the southern and eastern fringes of the plateau.

- **Key habitats** High altitude lakes and marshland.
- **Countries and territories** **China** (Xinjiang, Tibet, Qinghai, Gansu, Sichuan, Yunnan, Guizhou); **India** (Jammu and Kashmir [Ladakh], Sikkim, Arunachal Pradesh); **Bhutan**.

	Threatened species			Total
	CR	EN	VU	
●	—	—	2	2
✈	—	—	—	—
🐦	—	—	1	1
Total	—	—	3	3

Key: ● = breeding in this wetland region.
✈ = passage migrant.
🐦 = non-breeding visitor.

Black-necked Crane is unique to the high altitude wetlands of the Tibetan plateau.

PHOTO: OTTO PFISTER



OUTSTANDING IBAs FOR THREATENED BIRDS (see Table 1)

Nine IBAs have been selected, including three important breeding areas and six important non-breeding concentrations of Black-necked Crane.

CURRENT STATUS OF HABITATS AND THREATENED SPECIES

The human population density on the Tibetan plateau is very low, and many areas are relatively undisturbed. However, the wetlands are locally under pressure from wetland drainage, overgrazing, peat mining, reservoir construction, pesticide use and changes in agricultural practices, particularly in the relatively low-altitude areas in the south and east of the plateau.

CONSERVATION ISSUES AND STRATEGIC SOLUTIONS (summarised in Table 3)

Habitat loss and degradation

■ WETLAND DRAINAGE

Some of the high-altitude wetlands used by Black-necked Cranes are being converted into wet grasslands, and then gradually into steppe and arid land. Habitat pressures are heaviest in the species's wintering range, because it is at relatively low altitudes and more densely populated, with many areas in Yunnan and Guizhou being affected by drainage and damming. This wetland drainage is mainly to create new pastureland, but wetlands around Lhasa are being converted to croplands and urbanised. There is therefore a need for improved protection and management of the crane's main breeding and wintering sites, to minimise further conversion of their wetland habitat.

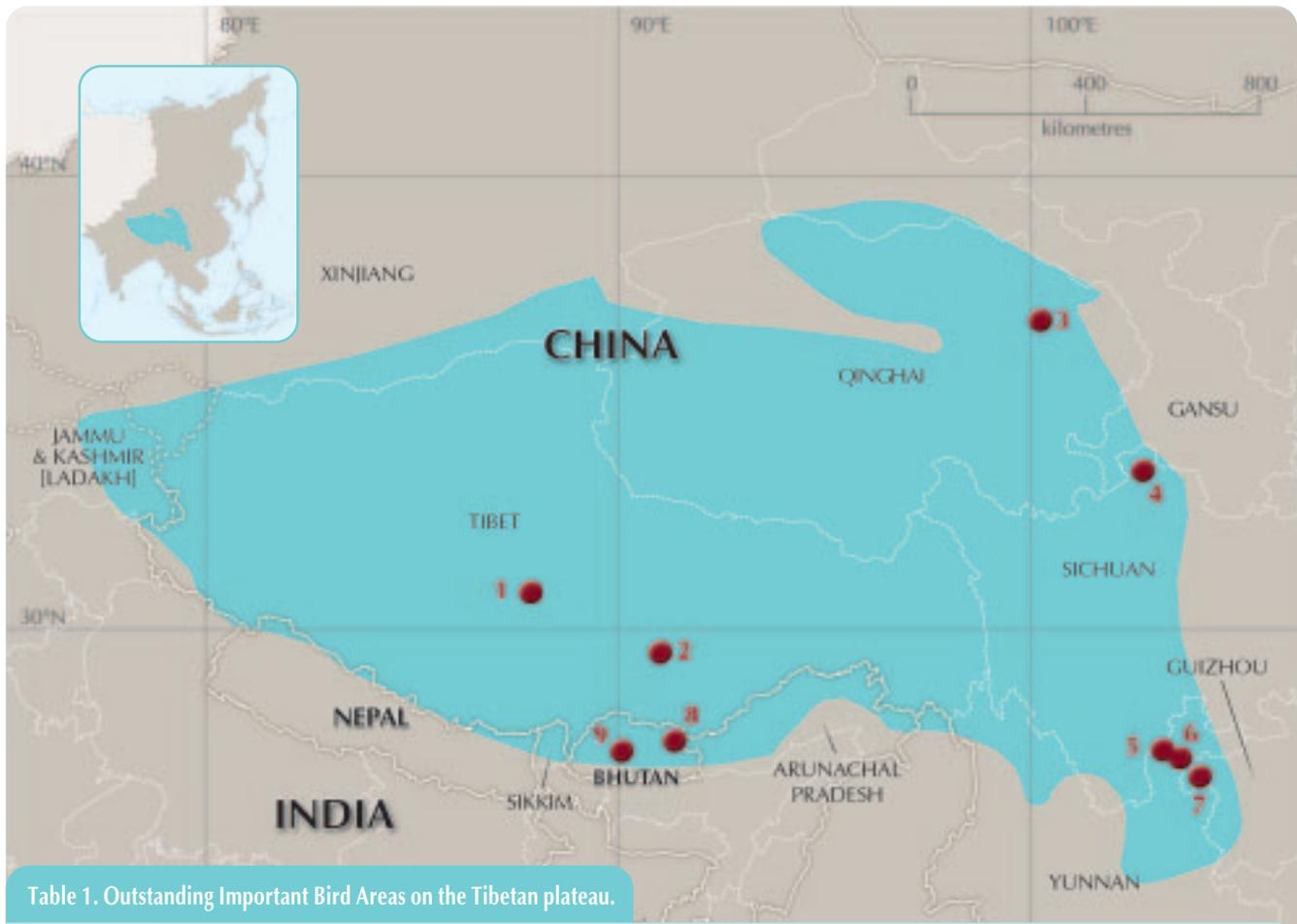


Table 1. Outstanding Important Bird Areas on the Tibetan plateau.

IBA name	Status	Territory	Threatened species
1 Shengzha NR	PA	Tibet	Breeding Black-necked Crane
2 Yarlung Zangbo valley (near Lhasa)	(PA)	Tibet	Non-breeding Black-necked Crane and Pallas's Fish-eagle
3 Qinghai Lake	(PA) ^R	Qinghai	Breeding Black-necked Crane and Pallas's Fish-eagle
4 Zoigê marshes	(PA)	Sichuan	Breeding Black-necked Crane, also Pallas's Fish-eagle
5 Dashanbao NR	PA	Yunnan	Non-breeding Black-necked Crane
6 Huize NR	PA	Yunnan	Non-breeding Black-necked Crane
7 Cao Hai NNR	PA ^{AP}	Guizhou	Non-breeding Black-necked Crane
8 Bumdeling	PA	Bhutan	Non-breeding Black-necked Crane
9 Phobjikha valley	PA	Bhutan	Non-breeding Black-necked Crane

Note that more IBAs in this region will be included in the *Important Bird Areas in Asia*, due to be published in early 2004.

Key IBA name: NR = Nature Reserve.

Status: PA = IBA is a protected area; (PA) = IBA partially protected; — = unprotected; AP = IBA is wholly or partially an Asia-Pacific waterbird network site (see p.35);

R = IBA is wholly or partially a Ramsar Site (see pp.31–32).

Table 2. Threatened birds of the Tibetan plateau.

Species	Distribution and population		
Baer's Pochard <i>Aythya baeri</i>		VU	Rare winter visitor to the eastern edge of the Tibetan plateau
Pallas's Fish-eagle <i>Haliaeetus leucoryphus</i>		VU	Occurs on the southern and eastern edges of the Tibetan plateau
Black-necked Crane <i>Grus nigricollis</i>		VU	Widely distributed on the Tibetan plateau during the breeding season, in winter tends to concentrate in the relatively low eastern and southern parts

Other threatened waterbirds recorded from this region as rare visitors are: Black-faced Spoonbill *Platalea minor*, Scaly-sided Merganser *Mergus squamatus*, Hooded Crane *Grus monacha* and Red-crowned Crane *G. japonensis*.

● = region estimated to support >90% of global breeding population, ○ = <10%; = region estimated to support <10% of global non-breeding population

■ PEAT EXTRACTION

Peat is mined near Zoigê marsh in Sichuan and elsewhere in the region, which could lead to localised loss of Black-necked Cranes breeding and wintering habitat. This activity needs to be carefully controlled at important sites for the species.

■ CHANGING AGRICULTURAL PRACTICES

In south-central Tibet and north-east Yunnan, many farmers now prefer a higher-yield winter wheat to the traditional barley, spring wheat and broadbean, and in winter this wheat has no grain for the cranes to eat. With the increased emphasis on autumn ploughing for the cultivation of winter wheat and to control insects, less waste grain and other surface residues are available for the cranes, perhaps causing the birds to switch to the winter wheat seedlings. Traditional farming practices should be promoted in the main wintering sites of the cranes, possibly with compensation to farmers for any lost income. Well-managed ecotourism could provide an alternative income for local people at some wintering sites, and an incentive to leave the fields unploughed in winter.

■ LIVESTOCK GRAZING

High-altitude vegetation is slow-growing and sensitive to disturbance, and increasing livestock densities have degraded grasslands in some areas, for example in Ladakh, and this constant diminution of undisturbed foraging and breeding areas could lead to the extinction of the small Indian population. Improved management of grazing is required at the crane's main breeding and wintering sites.

■ DEVELOPMENT (URBAN, INDUSTRIAL, ETC.)

The human population is increasing rapidly in some areas, for example in Ladakh and near Lhasa, and associated development could negatively affect the Black-necked Cranes. Road building is causing disturbance and opening up remote areas, while telephone and electricity wires pose a hazard to flying cranes. In north-east Yunnan, most wintering areas are in wetlands near reservoirs built for irrigation, but in other areas reservoir construction is reducing the shallow water areas needed for wading birds like cranes. For example, a proposed dam on the Lhasa River could have a tremendous impact on the 1,000+ cranes that winter there. Environmental impact assessments should be conducted for development projects near the crane's main breeding and wintering sites.

■ POLLUTION/PESTICIDES

In Tibet, pesticides used by farmers have caused crane mortalities in at least one area, and intensive use of pesticides may have affected this species on its breeding grounds at Zoigê marshes. Pesticides used to control rodents

in China have also poisoned Pallas's Fish-eagles. Industrial pollution from new zinc furnaces has increased in the Cao Hai lake watershed in Guizhou, and refuse disposal and sewage from nearby towns are a problem there and in Ladakh. The use of pesticides and herbicides should be legally regulated, with measures to control other forms of pollution around the key sites for cranes.

■ DISTURBANCE

As they are often fairly tame, Black-necked Cranes are perhaps less susceptible to disturbance than other crane species. However, as human populations increase in their wintering and breeding sites, problems are arising with greater frequency. Increased disturbance from tourists may be a factor in the decline in summering cranes at Qinghai Hu lake, and the development of new tourist destinations in Ladakh may disrupt important crane breeding and feeding areas. In Bhutan, most crane roost sites are accessible to increasing numbers of tourists wanting to approach the birds too closely. Human and livestock activity keeps cranes off their nests in Ladakh, and, in combination with an increase in egg-predating Common Ravens *Corvus corax* around human settlements, has reduced the breeding success of the cranes. There is a need to control human access and activities at the main breeding and wintering sites of the cranes, particularly near nests and roost sites.

Protected areas coverage and management

■ GAPS IN PROTECTED AREAS SYSTEM

In China, most Black-necked Cranes nest outside protected areas, but a few nature reserves hold small breeding populations, and several hold important non-breeding concentrations. Some of the cranes in Ladakh breed within the Changthang Cold Desert Wildlife Sanctuary, and the

The human population is increasing rapidly in some parts of this region, for example near Lhasa, and development could negatively affect Black-necked Crane.



PHOTO: JOHN HOLMES

main wintering sites in Bhutan are inside protected areas. Pallas's Fish-eagle is known from several protected areas, but it is unclear whether any reserves support significant populations. More nature reserves are needed to protect breeding Black-necked Cranes in China and India, including in the Xiamen region of the Zoigê marshes and in several areas of Ladakh. New reserves should also be considered at unprotected wintering sites in Yunnan. However, the establishment of community-based monitoring and protection schemes may be more appropriate at sites where the cranes winter on agricultural land.

WEAKNESSES IN RESERVE MANAGEMENT

Many existing protected areas are remote and have little or no infrastructure. To improve their effectiveness, management plans need to be developed and implemented, with sufficient funding to develop the infrastructure and staffing required to address all threats.

Exploitation of birds

HUNTING AND EGG COLLECTION

Buddhist beliefs in Tibet, Qinghai, western Yunnan, western Sichuan, Ladakh and Bhutan preclude the hunting of wildlife, including Black-necked Cranes which are regarded as supernatural spirits throughout much of their range,

being frequently depicted in religious imagery and considered symbols of good luck and happiness. Nevertheless, hunting has recently become a significant threat in several areas owing to increases in firearms and improved access to remote areas. Illegal crane hunting and egg-collection occurs at Zoigê marshes in Sichuan and elsewhere, crane hunting has been observed at several wintering sites in Tibet, and birds are killed (sometimes by poisoned bait) for food by farmers at some wintering sites in Yunnan. Wintering cranes sometimes cause damage to crops, which may explain the recent increase in hunting by farmers, and crane wings are sometimes used for scarecrows. In some parts of China, Pallas's Fish-eagle is hunted for its tail feathers. Black-necked Crane and Pallas's Fish-eagle are legally protected in most parts of this region. All breeding and wintering populations need to be protected through improved law enforcement, with special emphasis in parts of Yunnan where this problem is most relevant; rewards should be offered for reporting poaching incidents.

Gaps in knowledge

INADEQUATE DATA ON THREATENED BIRDS

Recent surveys and winter counts have greatly improved knowledge of Black-necked Crane, but many breeding areas still await discovery. The status of Pallas's Fish-eagle on the Tibetan plateau is poorly understood, and studies are required there, possibly including satellite tracking to investigate its seasonal movements.

Other conservation issues

PREDATION BY FERAL DOGS

Predation of eggs and chicks by feral dogs has severely affected the small breeding population in India, especially as they can swim across water to reach nests; of 61 eggs monitored in Ladakh in the 1990s, 35 (57%) did not survive to fledging, and dogs were responsible for 19 (54%) of these failures. A coordinated culling programme appears necessary, but care is needed to respect local traditions on the sanctity of animal life. Alternatively herders' dogs could have a front leg attached to their collars so that they cannot pursue fleeing wildlife, or a dog sterilisation programme might be conducted.

Predation of eggs and chicks by feral dogs is affecting Black-necked Crane in India.



PHOTO: OTTO PFISTER

Table 3. Conservation issues and strategic solutions for birds on the Tibetan plateau.

Conservation issues	Strategic solutions
Habitat loss and degradation	
<ul style="list-style-type: none"> ■ WETLAND DRAINAGE ■ PEAT EXTRACTION ■ CHANGING AGRICULTURAL PRACTICES ■ LIVESTOCK GRAZING ■ DEVELOPMENT (URBAN, INDUSTRIAL, ETC.) ■ POLLUTION/PESTICIDES ■ DISTURBANCE 	<ul style="list-style-type: none"> ➤ Minimise conversion of Black-necked Crane habitat for agricultural and urban expansion ➤ Limit peat extraction at key sites for Black-necked Crane ➤ Promote traditional farming practices which provide food for wintering cranes ➤ Improve the management of grazing at key sites ➤ Assess the environmental impact of development projects near key sites ➤ Legally regulate the use of pesticides and herbicides, and control pollution near key sites ➤ Regulate human activities at key sites, particularly near nests and roost sites
Protected areas coverage and management	
<ul style="list-style-type: none"> ■ GAPS IN PROTECTED AREAS SYSTEM ■ WEAKNESSES IN RESERVE MANAGEMENT 	<ul style="list-style-type: none"> ➤ Establish new protected areas for breeding and wintering Black-necked Cranes in China and India ➤ Develop community-based monitoring and protection schemes at sites where Black-necked Cranes winter on agricultural land ➤ Prepare management plans for existing and new reserves, and develop the infrastructure and staffing required for their implementation
Exploitation of birds	
<ul style="list-style-type: none"> ■ HUNTING AND EGG COLLECTION 	<ul style="list-style-type: none"> ➤ Improve enforcement of hunting laws, particularly in Yunnan
Gaps in knowledge	
<ul style="list-style-type: none"> ■ INADEQUATE DATA ON THREATENED BIRDS 	<ul style="list-style-type: none"> ➤ Investigate the status of Pallas's Fish-eagle on the Tibetan plateau, possibly using satellite tracking
Other conservation issues	
<ul style="list-style-type: none"> ■ PREDATION BY FERAL DOGS 	<ul style="list-style-type: none"> ➤ Conduct a coordinated dog culling and/or sterilisation programme in Ladakh