

HARYANA

IN-HR



Photo: Otto Pfister

Haryana is under intense cultivation but some of the wetland IBAs are extremely important for waterbirds.

Haryana (27° 39' - 30° 55' N and 74° 27' - 77° 36' E), an agriculturally rich State in northwest India covering an area of 4.42 million ha which is 1.3% of the country's geographical area, is divided into two natural zones, the Shiwalik and the Aravalli hills, and the Indo-Gangetic plains. The Yamuna and the Ghaggar rivers are its lifelines. Haryana is bounded by Uttar Pradesh in the east, Punjab in the west, Himachal Pradesh in the north and Rajasthan in the south. Haryana adjoins Delhi on three sides.

The modern State of Haryana came into being on November 1, 1966 as a result of the reorganization of the old Punjab State into two separate entities. The Hindi-speaking areas were included in the State of Haryana. There are 19 districts.

The population of the State is 21.08 million, that is 2.1% of the country's population (2001 census). The rural population is 71% and the urban population 29%. The average population density is 477 persons per sq. km. The literacy rate is 55%. Haryana is the first State to have electrified all its villages. About 11% of the soldiers from the Indian Army hail from Haryana (Mathew 2003).

The rainfall is meagre, particularly in the districts of Mahendragarh and Hissar. The rainfall varies from 213 mm in the southwest to 1,400 mm in the northeast. The annual mean temperature varies between 22.5 °C and 25 °C. The southwest of Haryana is dry, sandy and barren.

Vegetation

The State is under intense cultivation and therefore it is deficient in natural forests. According to the Forest Survey of India report of 2001, the recorded forest area is 1,75,400 ha which is 3.5% of the geographical area of the State. By legal classification, reserved forest constitutes 16.1%, protected forest 74.5% and unclassed forest 9.5% of the recorded forest area. The forests are mainly distributed in the northeastern and southeastern districts. There are three forest types: the Tropical Dry Deciduous in the eastern part, Tropical Moist Deciduous in the Shiwalik region and Tropical Thorn Forests in the western part of the State. Dense forest accounts for 1,13,900 ha and open forest 61,500 ha (Ministry of Environment and Forest 2001).

According to the Forest Survey of India report of 2001, there is an overall increase of 7,900 ha of dense forest. This is the result of an improvement of 1800 ha of open forest, 1,700 ha of scrub and 6,100 ha of non-forest to dense forest. This is partly offset by degradation of 300 ha to open forest and 1,400 ha of dense forest to non-forest (Ministry of Environment and Forest 2001).

IBAs AND PROTECTED AREAS

One national park and nine wildlife sanctuaries in Haryana cover an area of 27,975 ha which constitutes 0.63% of the geographical area (Rodger *et al.* 2000). Only five of the following protected areas qualify the IBA criteria.

Number of IBAs and IBA criteria

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A1= Threatened species; A2 = Restricted Range species; A3= Biome species; A4=Congregatory species

IBAs of Haryana

IBA site codes	IBA site names	IBA criteria
IN-HR-01	Basai Wetlands	A1, A4i, A4iii
IN-HR-02	Bhindawas Wildlife Sanctuary	A1, A4i, A4iii
IN-HR-03	Kalesar Wildlife Sanctuary	A1, A3
IN-HR-04	Sultanpur National Park	A1, A4i, A4iii
IN-HR-05	Wetlands of Yamuna River	A4iii

AVIFAUNA

Basai, Sultanpur, Bhindawas and the wetlands of the Yamuna harbour rich avifauna where more than 200 species have been recorded by Bill Harvey, Nikhil Devasar and other members of the Delhi Bird Club. Many birds were also recorded during the BNHS bird-ringing camp in 2001. Some of the Vulnerable species found in Harayana are: Marbled Teal *Marmaronetta angustirostris*, Sarus Crane *Grus antigone*, Eastern Imperial Eagle *Aquila heliaca*, Greater Spotted Eagle *A. clanga*, Lesser Spotted Eagle *A. pomarina* and Lesser Kestrel *Falco naumanni*.

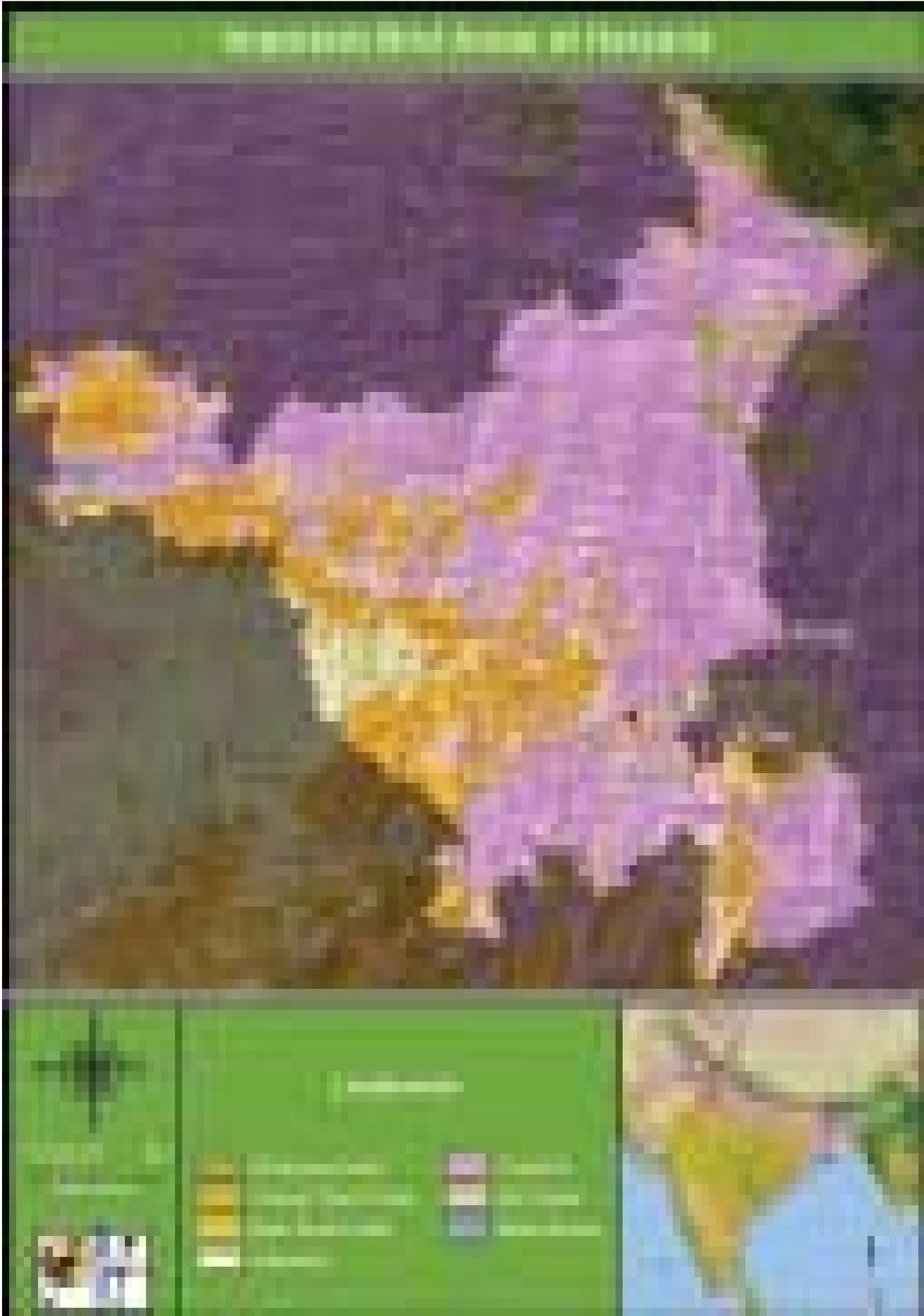
In Bhindawas, 265 species of birds have been recorded (Suresh Sharma and Bill Harvey *pers. comm.* 2003). In good years, the lake has attracted over 30,000 birds on passage and in winter. Wildfowl are particularly significant, and include in recent years, large flocks of Bar-headed Goose (up to 830) and Greylag Goose *A. anser* (up to 1,320).

In Sultanpur National Park, 323 species of birds have been recorded (B. Harvey *pers. comm.* 2003), which is a very important wintering ground for the waterfowl. In years of adequate rainfall, it has supported over 20,000 individuals of migratory birds but in the dry periods of 2000-03, the total never exceeded 3,000. Sultanpur also has a significant waterbird breeding colony, including the Painted Stork and Darter *Anhinga melanogaster*. The adjoining dry flats are important wintering grounds for several lark and wheatear species, while there are breeding populations of the Indian Courser *Cursorius coromandelicus*, the Yellow-wattled Lapwing *Vanellus malabaricus* and the Chestnut-bellied Sandgrouse *Pterocles exustus*. Recent unusual visitors have been the Stoliczka's Bushchat *Saxicola macrorhyncha* (2001), the Cream-coloured Courser *Cursorius cursor* (2002) and the Lesser Kestrel *Falco naumanni* (2003) (N. Davasar *pers. comm.* 2003).

List of threatened birds with IBA site codes

Critically Endangered		
Oriental White-backed Vulture	<i>Gyps bengalensis</i>	IN-HR-01, 02, 03, 04
Long-billed Vulture	<i>Gyps indicus</i>	IN-HR-02, 04
Slender-billed Vulture	<i>Gyps tenuirostris</i>	IN-HR-03
Endangered		
Greater Adjutant	<i>Leptoptilos dubius</i>	IN-HR-02
Vulnerable		
Spot-billed Pelican	<i>Pelecanus philippensis</i>	IN-HR-02, 04
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-HR-02, 04
Lesser White-fronted Goose	<i>Anser erythropus</i>	IN-HR-02
Marbled Teal	<i>Marmaronetta angustirostris</i>	IN-HR-01
Baer's Pochard	<i>Aythya baeri</i>	IN-HR-02
Pallas's Fish Eagle	<i>Haliaeetus leucoryphus</i>	IN-HR-02, 03
Greater Spotted Eagle	<i>Aquila clanga</i>	IN-HR-01, 02, 04
Eastern Imperial Eagle	<i>Aquila heliaca</i>	IN-HR-01, 04
Lesser Kestrel	<i>Falco naumanni</i>	IN-HR-01, 02, 03, 04
Sarus Crane	<i>Grus antigone</i>	IN-HR-01, 02, 04
Stoliczka's Bushchat	<i>Saxicola macrorhyncha</i>	IN-HR-02, 04
Finn's Weaver	<i>Ploceus megarhynchus</i>	IN-HR-04

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Important Bird Areas in India - Haryana

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Near Threatened		
Darter	<i>Anhinga melanogaster</i>	IN-HR-01, 02, 04
Painted Stork	<i>Mycteria leucocephala</i>	IN-HR-01, 02, 03, 04
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	IN-HR-01, 02, 04
Oriental White Ibis	<i>Threskiornis melanocephalus</i>	IN-HR-01, 02, 04
Lesser Flamingo	<i>Phoenicopterus minor</i>	IN-HR-04
Ferruginous Pochard	<i>Aythya nyroca</i>	IN-HR-01, 02, 04
Lesser Grey-headed Fish-Eagle	<i>Ichthyophaga humilis</i>	IN-HR-04
Red-headed Vulture	<i>Sarcogyps calvus</i>	IN-HR-01, 02, 03, 04
Pallid Harrier	<i>Circus macrourus</i>	IN-HR-01, 02, 03, 04
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	IN-HR-01, 02
Black-bellied Tern	<i>Sterna acuticauda</i>	IN-HR-04

THREATS AND CONSERVATION ISSUES

Most IBAs of Haryana fall under the Biome-11 (Indo-Gangetic plains) and support large congregations of birds, especially in winter. Basai, Sultanpur Jheel, Bhindawas, and the Wetlands of the Yamuna river qualify the A4iii criterion of congregation. Only the Kalesar Wildlife Sanctuary was identified mainly on the basis of biome criteria. The main problems of the wetland sites are poaching, sewage disposal, urbanisation, closure of the water sources and overgrazing by livestock. Sometimes, lack of water is also a problem for these IBAs.

Threats to IBAs

A=Agriculture intensification/expansion; B=Dams/Dykes; C=Disturbance to Birds; D=Firewood Collection;
E=Industrialisation/Urbanisation; F=Unsustainable exploitation; G=Others; H=Natural Events

In Basai, if the breach in the water channel is stopped and the Haryana Urban Development Authority (HUDA) extend their housing project west of the railways, it would constitute a major threat to the wetlands. Shooting and trapping at night has been a problem in winter. Although it comes under the jurisdiction of the Sultanpur National Park, the site is not under any formal protection.

In the Bhindawas Wildlife Sanctuary, the major problem in recent years has been the unreliability of water supply due to failure of the monsoon and excessive use for agriculture. The wetland was infested with Water Hyacinth *Eichhornia crassipes*, as a result of which the habitat was degrading rapidly, but the dry conditions in 2002 enabled a major clearance of this prolific weed. The surrounding area is heavily cultivated, grazed and for the most part degraded. This results in siltation and pollution by pesticides from the agricultural runoff.

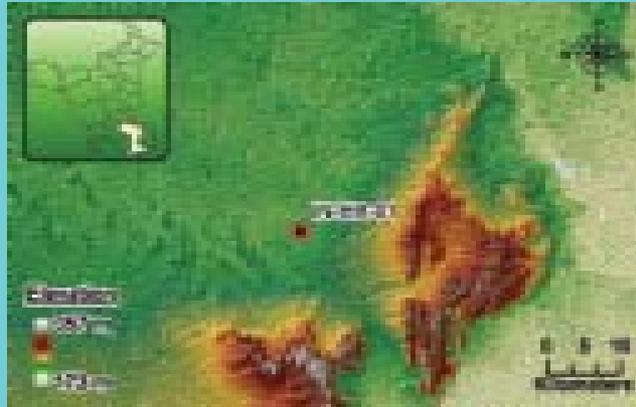
Near Kalesar, small villages are located along the southwestern border of the Sanctuary. The primary sources of livelihood of the people in these villages are animal husbandry and agriculture. Firewood collection is a problem. Invasion of the exotic weed *Lantana camara* has occurred along the fire lines and could spread to the interior of the forest.

The climate and the soil in the environs of Sultanpur Jheel are not conducive to the existence of permanent water-bodies. In the recent years of low rainfall, only a few pools were found after the monsoon and the *jheel* is predominantly dry. Pumping ground water has been undertaken since 2001 to maintain some waterfowl habitat during the winter. However, because of urbanisation and industrial development in the surrounding areas, water, an increasingly scarce commodity, has been diverted to the rapidly growing urban areas around the Park. While the core area of the lake (143 ha) is under the jurisdiction of the Haryana Forest Department, the buffer zone is under private or *Gram Panchayat* (Village Council) control. These areas are cultivated, heavily grazed and for the most part, heavily degraded. The buffer zone has 17 villages. Grazing and collection of aquatic vegetation for thatching and fodder is rampant. Tourist activity causes a high level of disturbance. Sand mining for the nearby brick and lime industries is also a major concern.

REFERENCES

- Mathew, K. M. (ed.) (2003) *Manorama Yearbook 2003*. Malayana Manorama, Kottayam.
- Ministry of Environment and Forest (2001) *State of Forest Report 2001*. Forest Survey of India, Dehra Dun.
- Rodgers, W. A., Panwar, H. S. and Mathur, V. B. (2000) *Wildlife Protected Area Network in India: A Review (Executive Summary)*. Wildlife Institute of India, Dehra Dun. 44 pp.

BASAI WETLANDS



IBA Site Code	: IN-HR-01
State	: Haryana
District	: Gurgaon
Coordinates	: 28° 28' 60" N, 76° 58' 60" E
Ownership	: Private and Village
Area	: 100 ha
Altitude	: 216 - 219 m
Rainfall	: 800 mm
Temperature	: 7 °C to 43 °C
Biogeographic Zone	: Semi-Arid
Habitats	: Freshwater Swamp

IBA CRITERIA: A1 (Threatened Species), A4i ($\geq 1\%$ biogeographic population), A4iii ($\geq 20,000$ waterbirds)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Basai wetlands are located close to Delhi, about 2 km west of Gurgaon and 8 km east of Sultanpur National Park, in Haryana state. One of the outstanding features of the site is the relative tameness of the birds that utilize it.

The main source of water is from a breached water channel bringing waste water and supposedly treated sewage from the Gurgaon Water and Sewage Works. This has created a permanent shallow wetland of about 250 acres comprising open water, Water Hyacinth and *Typha* reed beds. Rain water and the channeling of the water by farmers to irrigate their crops (particularly rice) regularly floods an area of up to 1 sq. km in the monsoon. *Paspalum* sp. grows extensively, and is cut for fodder by villagers. This provides an ideal grazing sward for a significant flock of wintering Bar-headed Geese *Anser indicus*. There are several bare, salt-laden fallow fields and some low thorn scrub. Along the railway line, borrow pits have formed small ponds and reed beds. Gurgaon Water and Sewage Works have recently constructed a deep-water reservoir close to the Ashram on the Sultanpur road, which now attracts diving duck, cormorants and grebes.

The core area is predominantly covered with Water Hyacinth, large *Typha* reed beds and some fields of *Paspalum* grass. Adjoining it are areas of poor agricultural land, given over seasonally to rice, wheat and mustard. There is also infertile fallow land with *Salicornia* and *Acacia* scrub, particularly in the borrow pits. There are very few trees, but they include fruiting figs near the Temple and the Ashram.

The Basai wetlands attracts more than 20,000 waterbirds in a year.



Photo: Otto Pfister

The members of the Delhi Bird Club regularly monitor the bird population of this IBA. Bird ringing camps, with the collaboration of BNHS, are organized twice a year.

AVIFAUNA

The Basai wetlands harbour a rich avifauna; no less than 239 species have been recorded since February 2001. In 5 days in September 2001, 154 species of birds were recorded during a BNHS bird ringing camp. Marbled Duck *Marmaronetta angustirostris*, Sarus Crane *Grus antigone*, Imperial Eagle *Aquila heliaca*, Greater Spotted Eagle *Aquila clanga*, Lesser Spotted Eagle *Aquila pomarina hastate* and Lesser Kestrel *Falco naumanni* are threatened species that have been recorded at the site. Near Threatened species include the Black-necked Stork *Ephippiorhynchus asiaticus*, Painted Stork *Mycteria leucocephala*, Black-headed Ibis or Oriental White Ibis *Threskiornis melanocephalus*, Asian Dowitcher *Limnodromus semipalmatus* and Pallid Harrier *Circus macrourus*. A Black-necked Stork pair breeds in the vicinity of Basai. It was seen with juvenile in the year 2001 (B. Harvey pers. comm. 2002).

At its peak, the wintering Bar-headed Goose flock has reached 1,100, while the peak spring and autumn passage brings up to 5,000 ducks of 18 species and 10,000 waders of 36 species. Number of many species is much above the 1% threshold estimated by Wetlands International (2002). For example, the 1% biogeographic threshold of Bar-headed Goose is 560, while at Basai, almost double this number have been seen.

Cattle Egrets *Bubulcus ibis* exceed 1,000 in certain months and breed in Basai village. Flocks of Glossy Ibis *Plegadis falcinellus* and Purple Swampphen *Porphyrio porphyrio* regularly exceed 200 birds. The latter together with Purple Heron *Ardea purpurea*, Black Bittern *Dupetor flavicollis*, Cinnamon Bittern *Ixobrychus cinnamomeus* and Yellow Bittern *I. sinensis* breed in the reedbeds. Unusual wintering species include Water Rail *Rallus aquaticus* and Great Bittern *Botaurus stellaris* while Baillon's Crake *Porzana pusilla* and Moustached Warblers *Acrocephalus melanopogon* winter in numbers significant for NW India and may even breed. There is a winter roost of several thousand Yellow wagtails *Motacilla flava* and Citrine Wagtails *M. citreola*. The Sind Sparrow *Passer pyrrhonotus* (a recent colonist of Haryana) has recently been sighted in this roost in September (B. Harvey pers. comm. 2003).

The Basai wetlands easily fit A1 (Threatened Species) and A4i (1% population threshold) criteria. Although, at one time, it may not have $\geq 20,000$ waterbirds (A4iii criteria), much more than 20,000 birds use this IBA in a year.

The Basai wetlands have also shown that with protection, even a sewage waterspread could attract thousands of waterbirds. This is particularly important as most of natural shallow wetlands of the Gangetic plains have been drained for cultivation or polluted and we need to create new wetlands and restore the natural ones.

Critically Endangered	
Oriental White-backed Vulture	<i>Gyps bengalensis</i>
Vulnerable	
Marbled Teal	<i>Marmaronetta angustirostris</i>
Greater Spotted Eagle	<i>Aquila clanga</i>
Eastern Imperial Eagle	<i>Aquila heliaca</i>
Lesser Kestrel	<i>Falco naumanni</i>
Sarus Crane	<i>Grus antigone</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>
Painted Stork	<i>Mycteria leucocephala</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Oriental White Ibis	<i>Threskiornis melanocephalus</i>
Ferruginous Pochard	<i>Aythya nyroca</i>
Red-headed Vulture	<i>Sarcogyps calvus</i>
Pallid Harrier	<i>Circus macrourus</i>
Asian Dowitcher	<i>Limnodromus semipalmatus</i>

OTHER KEY FAUNA

A breeding herd of up to 14 Nilgai *Boselaphus tragocamelus* is regularly seen, whereas Indian Mongoose *Herpestes edwardsii* and Jungle Cat *Felis chaus* commonly occur. There are numerous water snakes and amphibians in the permanent swamps.

LAND USE

- ☐ Agriculture
- ☐ Water management

THREATS AND CONSERVATION ISSUES

- ☐ Closure of the water source
- ☐ Urbanization
- ☐ Poaching
- ☐ Sewage disposal

If the water channel breach is stopped and the Haryana Urban Development Authority (HUDA) extend their housing project west of the railway, it would constitute a major threat to the wetland. Current agricultural practices are beneficial as they create a variety of wet habitats and do not threaten the core wetland. Grazing is particularly beneficial, as it keeps the grass short and suitable for grazing geese and ducks.

Most of the local villagers are very proud of “their” birds and do not harm them. However, shooting and trapping at night has been a problem in winter, but the police have apprehended the culprits. The site is not under any formal protection although it comes under the jurisdiction of the Sultanpur National Park. Signboards in Hindi emphasize the penalties for shooting the birds. However, the site faces immense pressure due to the increasing demand for land in its vicinity.

KEY CONTRIBUTORS

Bill Harvey, Nikhil Devasar and members of the *Delhibird Club*

KEY REFERENCE

Wetlands International (2002) *Waterbird Population Estimates - Third Edition*. Wetlands International Global Series No. 12. Wageningen, the Netherlands.

BHINDAWAS WILDLIFE SANCTUARY



Site Code	: IN-HR-02
State	: Haryana
District	: Rohtak
Coordinates	: 28° 37' 29" N, 76° 40' 60" E
Ownership	: State
Area	: 412 ha
Altitude	: 200 m
Rainfall	: 800 mm
Temperature	: 7 °C to 43 °C
Biogeographic Zone	: Semi-Arid
Habitats	: Freshwater Swamp

IBA CRITERIA: A1 (Threatened Species), A4i (≥1% biogeographic population), A4iii (≥20,000 waterbirds)

PROTECTION STATUS: Wildlife Sanctuary, established in 1986

GENERAL DESCRIPTION

Bhindawas Bird Sanctuary is the largest wetland in Haryana, spread over 412 ha, with a periphery of 12 km. An area of 513 ha has been declared as a sanctuary for the protection of waterfowl. The Sanctuary is located in Rohtak district about 80 km west of Delhi. The villages Kanawah, Nawada, Shajadpur, Chadwana and Redhuwas surround the Sanctuary, the village Bhindawas lies a little away from the Sanctuary. *Eucalyptus*, *Acacia*, *Azadirachta* and *Zizyphus* are planted around the lake. Cormorants, egrets and storks use them for roosting and nesting.

Bhindawas wetlands harbour all the vegetation found in a typical wetland of the Gangetic plains, including submerged *Hydrilla*, and *Typha* on the fringes.

AVIFAUNA

A total of 265 species of birds have been recorded in the Sanctuary (S. C. Sharma and B. Harvey pers. comm. 2003). In good years, the lake has attracted over 30,000 birds on passage and in winter. Wildfowl are particularly significant and include

in recent years, large flocks of Barheaded Goose *Anser indicus* (up to 830) and Greylag Goose *A. anser* (up to 1,320). Ducks such as Mallard *Anas platyrhynchos*, Red-crested Pochard *Rhodonessa rufina*, Ferruginous Duck *Aythya nyroca* and Baer's Pochard *A. baeri* were recorded 2001-2003. The Greater Spotted *Aquila clanga* and Imperial Eagle *A. heliaca* winter regularly. Subject to water conditions, large flocks of Great White Pelicans *Pelecanus onocrotalus*, Glossy Ibis *Plegadis falcinellus*, Black-headed Ibis *Threskiornis melanocephalus*, Eurasian Spoonbill *Platalea leucorodia* and Greater Flamingos *Phoenicopterus ruber* can be seen.

Equally important is the breeding colony of up to 5,000 pairs of herons, egrets and cormorants, which include 20 pairs of Darters *Anhinga melanogaster* and up to 120 pairs of Great Cormorants *Phalacrocorax carbo* roosting in the Eucalyptus trees. Two pairs of Sarus Cranes *Grus antigone* and a pair of Black-necked Stork *Ephippiorhynchus asiaticus* are resident and the former have been breeding in recent years.

An important recent addition is Haryana's largest known colony of the Sind Sparrow *Passer pyrrhonotus* (S. C. Sharma and B. Harvey pers. comm. 2003).

Beside fulfilling A1 and A4iii criteria, this site also fulfils A4i (1% population threshold) criteria, as biogeographic populations of many species would be much more than the 1% population threshold determined by the Wetlands International (2002). For example, Wetlands International (2002) estimates that the total population of Bar-headed Goose is between 52,000 and 60,000, and taking average of these numbers, 1% population would be 560. In Bhindawas, more than 800 are seen. Similarly, the non-breeding population of Greylag Goose (subspecies *rubrirostris*), which breeds in Central Asia and winters in Central and South Asia, is about 15,000 and 1% is 150. Almost 10% of this population is seen in Bhindawas.

Beside the usual ducks and geese found in the Gangetic plains, Bhindawas has a unique distinction that some uncommon (in India) birds were also seen here. For instance, Greater White-fronted Goose *Anser albifrons*, rare winter vagrant, was noted by S. C. Sharma and B. Harvey (*in litt.* 2002). They also reported sighting of a Lesser White-fronted Goose *Anser erythropus* by Nirmal Ghosh. Possibly, these birds are found in many more wetlands but over-looked.

There has been 97% decline in the number of Gyps vultures during the last 10 years.



Photo: Otto Fflisgar

The Demoiselle Crane *Grus virgo* is a rare passage migrant through Bhindawas, while the Common Crane *Grus grus* winters here in small numbers.

One species that is of global concern is the Pallas's Fish Eagle *Haliaeetus leucoryphus* (BirdLife International 2001). Formerly, it was a rare winter visitor to Bhindawas but there is no recent record (S. C. Sharma and H. Harvey *in litt.* 2003). This species has disappeared from many wetlands, either as a breeding bird (e.g. Keoladeo NP in Rajasthan) or as winter migrant. In Haryana, it is reported only from one site in recent years, i.e. Sultanpur National Park, although historically it had been reported from Ambala, Hissar and other areas (BirdLife International 2001, and the reference therein).

Critically Endangered	
Oriental White-backed Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps tenuirostris</i>
Endangered	
Greater Adjutant	<i>Leptoptilos dubius</i>
Vulnerable	
Spot-billed Pelican	<i>Pelecanus philippensis</i>
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Baer's Pochard	<i>Aythya baeri</i>
Pallas's Fish- Eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Aquila clanga</i>
Lesser Kestrel	<i>Falco naumanni</i>
Sarus Crane	<i>Grus antigone</i>
Stoliczka's Bushchat	<i>Saxicola macrorhyncha</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>
Painted Stork	<i>Mycteria leucocephala</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Oriental White Ibis	<i>Threskiornis melanocephalus</i>
Ferruginous Pochard	<i>Aythya nyroca</i>
Red-headed Vulture	<i>Sarcogyps calvus</i>
Pallid Harrier	<i>Circus macrourus</i>
Asian Dowitcher	<i>Limnodromus semipalmatus</i>

OTHER KEY FAUNA

As the wetland is surrounded by agricultural fields and villages, there is no large mammal of conservation concern. Nilgai *Boselaphus tragocamelus*, Golden Jackal *Canis aureus*, Common Mongoose *Herpestes edwardsi*, and Black-naped Hare *Lepus nigricollis* are some of the mammals reported from this Sanctuary.

LAND USE

- ☐ Water management
- ☐ Tourism and recreation

THREATS AND CONSERVATION ISSUES

- ☐ Natural events
- ☐ Presence of Water Hyacinth *Eichhornia crassipes*
- ☐ Disturbance by domestic livestock and dogs
- ☐ Grazing

The major problem in recent years has been the unreliability of the water supply due to failure of the monsoon and excessive extraction for agriculture. The winters of 2001-02 and 2002-03 attracted rather low numbers of wetland birds for that reason. However, water was pumped in from the canal in early 2003, which substantially improved the situation.

The wetland was infested with Water Hyacinth *Eichhornia crassipes*, as a result of which the habitat was fast becoming degraded, but the dry conditions in 2002 enabled clearance of much of this prolific weed. While grass-cutting for fodder probably improves the sward for geese in particular, too many cattle, horses and buffalo compete with the wild Nilgai for grass in dry conditions and the graziers accompanying them also bring in dogs that can cause much disturbance. The surrounding area is heavily cultivated, grazed and for the most part degraded. This results in siltation and pollution by pesticides from agricultural runoff.

Being close to Delhi and towns of Haryana, Bhindawas could easily become a major tourist attraction. A walk or drive on the bund circling the Sanctuary could become a major draw, if the road is repaired and watchtowers are strategically placed. However, the most important task is to see that water is supplied to the wetland from the nearby canal, especially during drought years. An interpretation centre needs to be built at the entrance. Much like Sultanpur National Park, which is now a major tourist attraction of Haryana, Bhindawas could be built up into an excellent waterfowl refuge.

KEY CONTRIBUTORS

Bill Harvey, Suresh C. Sharma, and members of the *Delhibird Club*

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, U.K.
- Wetlands International (2002) *Waterbird Population Estimates - Third Edition*. Wetlands International Global Series No. 12. Wageningen, the Netherlands.

KALESAR WILDLIFE SANCTUARY



IBA Site Code	: IN-HR-03
State	: Haryana
District	: Kurukshetra
Coordinates	: 30° 21' 54" N, 77° 32' 39" E
Ownership	: State
Area	: 10,088 ha
Altitude	: 240 - 700 m
Rainfall	: 1,350 mm
Temperature	: 5 °C to 45 °C
Biogeographic Zone	: Semi-Arid
Habitats	: Tropical Dry Deciduous

IBA CRITERIA: A1 (Threatened Species),
A3 (Biome-11: Indo-Malayan Dry Zone; Biome-12: Indo-Gangetic Plains).
PROTECTION STATUS: Wildlife Sanctuary since December 1992

GENERAL DESCRIPTION

Kalesar Wildlife Sanctuary, an important IBA of Haryana State, was selected mainly for Biome-restricted species, as Kalesar represents the last stand of Broadleaf Deciduous Forest in the state. Kalesar is the largest wildlife sanctuary in Haryana covering 13,300 ha of the lower Shivalik in the Himalayan foothills. It is primarily Sal *Shorea robusta* forest of varying height and density and open scrub with broad, stony storm-watercourses, which are usually dry. The Yamuna River runs to the east. The site can easily be reached from Delhi via Yamunanagar (200 km) or from Dehra Dun or Chandigarh via Paonta Sahib. It is at the junction of the states of Haryana, Himachal Pradesh, Uttaranchal and Uttar Pradesh (Sharma 2002).

The topography varies from plains to hills up to an elevation of 700 m, interspersed with narrow valleys locally called 'kholes' between the hills. These valleys house seasonal rivulets locally called 'soats' which remain dry for most of the year. The Sanctuary has a number of natural and manmade waterbodies. It is linked by a metalled road with some villages located along the southwestern border of the Sanctuary.

AVIFAUNA

A total of 304 bird species have been reported from this IBA (Sharma 2002) and the site fully earns its IBA status. As Kalesar is located, just at the foothills of the Himalayas, locally called *Bhabar*, it is at the junction of two biomes: Sino-Himalayan Subtropical Forests (Biome-8) and Indo-Gangetic Plains (Biome-12). But as Kalesar is relatively dry, many species of Indo-Malayan Tropical Dry Zone (Biome-11) are also present. As can be seen from Table, Kalesar has more species of Biome-11 than Biome-12 or Biome-8. In winter, many species of Sino-Himalayan Temperate Forest (Biome-7) also descend to these forests, as passage migrants or to spend the winter. Some interesting birds reported by S. Sharma and B. Harvey (*pers. comm.* 2003) are Brown-fronted Woodpecker *Dendrocopos nanus*, Great Barbet *Megalaima viridis*, Great Hornbill *Buceros bicornis*, Northern Goshawk *Accipiter gentilis*, Bronzed Drongo *Dicrurus aeneus*, Rufous-gorgeted Flycatcher *Ficedula strophitata*, Orange-flanked Bush Robin *Tarsiger cyanurus*, Eurasian Treecreeper *Certhia familiaris*, Grey-sided

Bush Warbler *Cettia brunnifrons*, Lemon-rumped Warbler *Phylloscopus chloronotus*, Gold-spectacled Flycatcher Warbler *Seicercus burkii*, Black-chinned Babbler *Stachyris pyrrhops*, Whiskered Yuhina *Yuhina flavicollis* and Black-throated Accentor *Prunella atrogularis*.

Kalsi (1998) studied this site from 1993-95 but his checklist contains only 161 species. There are a remarkable number of surprising omissions of species that are clearly common. There are also a few surprising inclusions (given the habitat) and where they have not been confirmed by later observers such as S. C. Sharma and Bill Harvey. One uncommon species, the Long-tailed or Rufous-vented Prinia *Prinia burnesii*, was described by Kalsi as a common resident but this would be the first location for it in Haryana. It is probably a case of mistaken identity (Sharma 2002). BirdLife International (2001) considers it as Near Threatened. This Prinia is found in long grasses, mainly in the vicinity of large rivers (Ali and Ripley 1987, Grimmett *et al.* 1998). Such habitat is lacking in Kalesar and adjoining areas.

Kalesar's relative accessibility and its position at the junction of the Indo-Gangetic Plains and the Western Himalayan make it likely that other species will be added. Indeed, recently Ruby-cheeked Sunbird *Anthreptes singalensis* and Snowy-browed Flycatcher *Ficedula hyperythra* have been found suggesting some range expansion westwards (Sharma 2002).

Kalesar also has some globally threatened species as listed by BirdLife International (2001). These include Pallas's Fish-Eagle *Haliaeetus leucoryphus* and Greater Spotted Eagle *Aquila clanga* (Sharma 2002). It also has many Near Threatened species.

Probably, pure breed of wild Red Junglefowl *Gallus gallus* is found in Kalesar but this needs further confirmation. Kaleej Pheasant *Lophura leucomelanos* is quite common.

Critically Endangered

Oriental White-backed Vulture	<i>Gyps bengalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>

Vulnerable

Pallas's Fish-Eagle	<i>Haliaeetus leucoryphus</i>
Lesser Kestrel	<i>Falco naumanni</i>

Near Threatened

Painted Stork	<i>Mycteria leucocephala</i>
Red-headed Vulture	<i>Sarcogyps calvus</i>
Pallid Harrier	<i>Circus macrourus</i>

Biome-11: Indo-Malayan Dry Zone

Plum-headed Parakeet	<i>Psittacula cynocephala</i>
Common Indian Nightjar	<i>Caprimulgus asiaticus</i>
Indian Grey Hornbill	<i>Ocyeros birostris</i>
Brown-headed Barbet	<i>Megalaima zeylanica</i>
Yellow-fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
Lesser golden-backed woodpecker	<i>Dinopium benghalense</i>
Red-winged Bush-Lark	<i>Mirafra erythroptera</i>
Indian Short-toed Lark	<i>Calandrella raytal</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Indian Robin	<i>Saxicoloides fulicata</i>
Large Grey Babbler	<i>Turdoides malcolmi</i>
Jungle Babbler	<i>Turdoides striatus</i>
Rufous-fronted Prinia	<i>Prinia buchanani</i>
Jungle Prinia	<i>Prinia sylvatica</i>
Ashy Prinia	<i>Prinia socialis</i>
White-browed Fantail- Flycatcher	<i>Rhipidura aureola</i>
Brahminy Starling	<i>Sturnus pagodarum</i>
White-bellied Drongo	<i>Dicrurus caeruleus</i>
Ashy Woodswallow	<i>Artamus fuscus</i>

Biome-12: Indo-Gangetic Plains

Striated Babbler	<i>Turdoides earlei</i>
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Biome-13: Saharo-Sindian desert

Sykes's Nightjar	<i>Caprimulgus mahrattensis</i>
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OTHER KEY FAUNA

Kalesar forest harbours Leopard *Panthera pardus*, Sloth Bear *Melursus ursinus*, Hyena *Hyaena hyaena* among the large predators. Recently, pugmarks of Tiger *Panthera tigris* have been seen after a gap of several decades. Cheetal or Spotted Deer *Axis axis*, Sambar *Cervus unicolor* and Barking Deer *Muntiacus muntjak* are the common ungulates. Common Langur *Semnopithecus entellus* is also found.

LAND USE

- q Tourism and recreation

THREATS AND CONSERVATION ISSUES

- q Invasion by exotic species
- q Burning of vegetation
- q Firewood collection
- q Livestock grazing

Sykes's Nightjar *Caprimulgus mahrattensis* of Biome-13 is seen in this IBA.



Photo: Octo Pflister

Small villages are located along the southwestern border of the Sanctuary. The primary sources of livelihood of the people in these villages are animal husbandry and agriculture. Forest fires occur occasionally. Firewood collection is a problem. Invasion of the exotic weed *Lantana camara* has occurred along the fire lines and could spread to the interior of the forest.

Rodgers and Panwar (1988) have suggested declaring 10,000 ha of core area as national park to further safeguard the dry deciduous forest and animal communities.

KEY CONTRIBUTORS

Suresh Sharma, Bill Harvey, Ram Jakati, Rajiv Kalsi and Nikhil Devasar

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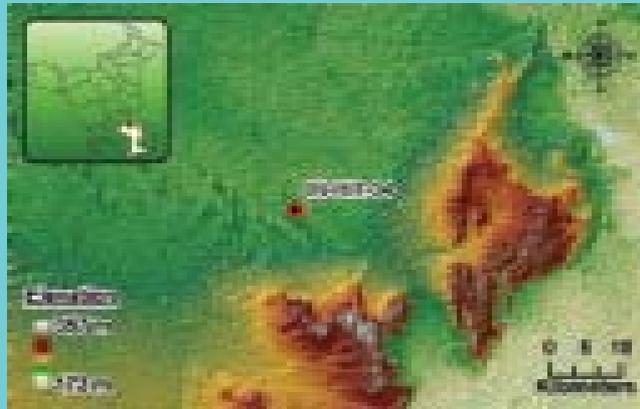
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SULTANPUR NATIONAL PARK



IBA Site Code	: IN-HR-04
State	: Haryana
District	: Gurgaon
Coordinates	: 28° 28' 00" N, 76° 55' 00" E
Ownership	: State
Area	: 143 ha
Altitude	: c. 220 m
Rainfall	: 800 mm
Temperature	: 7 °C to 43 °C
Biogeographic Zone	: Semi-Arid
Habitat	: Wetland

IBA CRITERIA A1 (Threatened Species),
A4i (>1% biogeographic population), A4iii (>20,000 waterbirds)
PROTECTION STATUS: National Park, established in July 1989

GENERAL DESCRIPTION

The Sultanpur Bird Sanctuary and National Park in Gurgaon district of Haryana occupy an area of 13,727 ha as Sanctuary, including a core area of 143 ha as the National Park. We have considered the National Park as an IBA. It is located just off the Gurgaon-Farrukhnagar road, 45 km southwest of Delhi. The Sultanpur Lake forms the core area. This shallow lake is fed by the overflow from neighbouring canals and agricultural fields, and replenished by saline ground water. The Park has seasonal aquatic vegetation and open grasslands, dotted with artificial islands planted with *Acacia nilotica*. The Park experiences extreme weather conditions.

The Sanctuary contains cultivated fields and pastures. There are small areas of *Typha* and *Phragmites* around the lakes, and some emergent vegetation within the lakes, particularly in the core area. Extensive marshes covered with sedge, to the north of the main lake, form a mosaic with areas of dry grassland. The natural vegetation of the region is semi-arid scrub, but 78 % of the buffer zone is under cultivation.

AVIFAUNA

More than 320 species of birds have been recorded from the Park (Harvey 2003). This is a very important wintering ground for

waterfowl. In years of adequate rainfall, it has supported over 20,000 individuals of migratory, birds but in the period 2000-03, the total never exceeded 3,000.

The transient nature of the ecosystems at Sultanpur probably explains this high percentage of "old" records as much as real scarcity of species. Water levels are a major factor and there have been lean years recently. In 2002, regular winter pumping restored the *jheel* to its former glory and it is planned to continue with this. When water is inadequate, there is much interchange of birds with the nearby and more reliable wetlands at Basai (8 km east) and Bhindawas (30 km west) (both IBAs), particularly of raptors and larger waterbirds. Other factors for the decline of waterfowl and some other species include the growth in trees to the exclusion of scrub, the thick tall growth of grass when water is shallow or absent and the encroachment of agricultural fields (Harvey 2003).

This IBA has a significant waterbird breeding colony, including Painted Stork *Mycteria leucocephala* (50 pairs), Darter *Anhinga melanogaster* (8 pairs) and Black-headed or Oriental White Ibis *Threskiornis melanocephala* (50 pairs), all considered Near Threatened by BirdLife International (2001). The adjoining dry flats are important wintering grounds for several lark and wheatear species, while there are breeding populations of Indian Courser *Cursorius coromandelicus*, Yellow-wattled Lapwing *Vanellus malabaricus* and Chestnut-bellied Sandgrouse *Pterocles exustus*. Recent unusual visitors are Stolizcka's Bushchat *Saxicola macrorhyncha* (in 2001) Cream-coloured Courser *Cursorius cursor* (in 2002) and the Lesser Kestrel *Falco naumanni* (in 2003) (Harvey 2003).

The Park also qualifies A4i criteria as it regularly holds more than 1% biogeographic populations of some species. For example, Wetlands International (2002) estimates that the non-breeding population of Greylag Goose (subspecies *rubrirostris*), which breeds in Central Asia and winters in Central and South Asia, is about 15,000. Therefore, its 1% would be 150. Twice this number are seen in Sultanpur.



Photo: Sarpal Gardhi

Thousands of waterbirds are seen in Sultanpur, including the Greylag Goose *Anser anser*.

Critically Endangered

Oriental White-backed Vulture	<i>Gyps bengalensis</i>
Long-billed Vulture	<i>Gyps indicus</i>

Vulnerable

Spot-billed Pelican	<i>Pelecanus philippensis</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Greater Spotted Eagle	<i>Aquila clanga</i>
Eastern Imperial Eagle	<i>Aquila heliaca</i>
Lesser Kestrel	<i>Falco naumanni</i>
Sarus Crane	<i>Grus antigone</i>
Stoliczka's Bushchat	<i>Saxicola macrorhyncha</i>
Finn's Weaver (old record)	<i>Ploceus megarhynchus</i>

Near Threatened

Darter	<i>Anhinga melanogaster</i>
Painted Stork	<i>Mycteria leucocephala</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Oriental White Ibis	<i>Threskiornis melanocephalus</i>
Lesser Flamingo	<i>Phoenicopterus minor</i>
Ferruginous Pochard	<i>Aythya nyroca</i>
Lesser Grey-headed Fish-Eagle	<i>Ichthyophaga humilis</i>
Red-headed Vulture	<i>Sarcogyps calvus</i>
Pallid Harrier	<i>Circus macrourus</i>
Black-bellied Tern	<i>Sterna acuticauda</i>

OTHER KEY FAUNA

There is no large wild mammal of conservation concern in this Park. Nilgai *Boselaphus tragocamelus* is the major wild ungulate. Golden Jackals *Canis aureus* are still common, although the Park is now surrounded by rapidly growing urban colonies. How long they would survive, it is only a question of time. No information is available on reptile and amphibian fauna.

LAND USE

- q Tourism and recreation
- q Nature conservation and research

THREATS AND CONSERVATION ISSUES

- q Natural event
- q Agricultural intensification and expansion
- q Industrialisation / Urbanisation
- q Disturbance to birds
- q Mining
- q Firewood collection
- q Grazing
- q Tourism and Recreation

The climate and soil in the environs of Sultanpur Jheel are not conducive to the existence of permanent waterbodies. In recent years of low rainfall, only a few pools remain by mid winter and

the *jheel* is predominantly dry. Land use practices in the catchment areas have impeded the natural flow of water into the lake. Pumping in ground water has been undertaken since 2001 to maintain some waterfowl habitat during the winter. However, due to urbanisation and industrial development in the surrounding areas, water, an increasingly scarce commodity, has been diverted to the rapidly growing urban areas around the Park. This, along with monsoon failure, has resulted in the lake remaining dry for long periods in recent years.

While the core area of the lake (143 ha) is under the jurisdiction of the Haryana Forest Department, the buffer zone is under private or Gram Panchayat or village council control. These areas are cultivated, heavily grazed and for the most part heavily degraded. The buffer zone has 17 villages, grazing and collection of aquatic vegetation for thatching and fodder is rampant. Tourist activity causes a high level of disturbance. Siltation due to soil erosion in the catchment area and windblown dust is on the increase. Mining of sand for the nearby brick and quick lime industries is also a major concern.

KEY CONTRIBUTORS

Nikhil Devasar, Bill Harvey, Suresh Sharma, members of the *Delhibird Club*

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Stoliczka's Bushchat *Saxicola macrorhyncha* is also seen in this IEA.



Photo: Otto Pfisterer

Wetlands of Yamuna River



IBA Site Code	: IN-HR-05
State	: Haryana
District	: Yamuna Nagar
Coordinates	: 28° 52' 08" N, 77° 10' 47" E
Ownership	: State
Area	: 20,000 ha
Altitude	: 210 m
Rainfall	: 635 mm
Temperature	: 16 °C to 32 °C
Biogeographic Zone	: Semi-Arid
Habitat	: Freshwater Swamp

IBA CRITERIA: A4iii (>20,000 waterbirds), Data Deficient
PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

These narrow floodplains lie along a 35 km stretch of the Yamuna River in the environs of Delhi. Several dams and barrages provide relatively large areas of open water. Sand banks and mud flats are exposed at low water levels. Small areas of marshes are present in a mosaic of arable land, pasture, and urban development. There are undoubtedly other stretches of the Yamuna River that are as rich in wildlife, but no information is available on these. We have considered this as Data Deficient site.

AVIFAUNA

These wetlands are a very important feeding, roosting and breeding area for a variety of both resident and migratory waterfowl, and Bill Harvey has reported 236 species of birds from this area. Over 20,000 birds have been reported regularly from these wetlands and the site qualifies for the A4iii (congregatory) criteria.

OTHER KEY FAUNA

There is no information available on other key fauna from this IBA.

LAND USE

- ☐ Agriculture
- ☐ Water management

THREATS AND CONSERVATION ISSUES

- ☐ Agriculture intensification and expansion
- ☐ Pollution
- ☐ Urbanization
- ☐ Shooting /killing of birds

There are large stretches of water over run by Water Hyacinth *Eichhornia crassipes*, particularly near the reed beds and barrages. Pollution from domestic and industrial sources is a growing problem. Some illegal shooting and netting of waterfowl occurs occasionally.

KEY CONTRIBUTORS

Bill Harvey, Rajiv Kalsi, Nikhil Devasar and Suresh C. Sharma

KEY REFERENCE

None