

हंसः पद्मवनं समिच्छति यथा नीलांबुदं चातकः कोकः कोकनदप्रियं प्रतिदिनं चन्द्रं चकोरस्तथा चेतो वाञ्छति मामकं पशुपते चिन्मार्गमृग्यं विभो गौरीनाथ भवत्पदाब्जयुगलं कैवल्यसौख्यप्रदम् ..."O Lord of all beings! Consort of Gauri! The Allpervading! Just like the Hans longs for the lotus forest, the Chataka bird longs for the dark clouds, the Koka longs for the lotus, and the Chakora bird longs for the Moon, my heart intensely longs for your lotus feet, sought by following the path of knowledge and leading to the bliss of kaivalya, the state of Absolute Unity of everything."

# Dedicated to Dr. Sálim Moizuddin Abdul Ali



**The Birdman of India** (12 November 1896 - 20 June 1987)



# wings of ganga

PART 1

## **Content**

#### Preface 05



Ruddy shelduck 08



Northern pintail 10



Common pochard 12



Falcated duck 14



African comb duck Knob-billed duck 16



Red-crested pochard 18



Goosander 20



Bar-headed goose 22



Indian Sarus crane 24



Eurasian coot 26



Painted stork 28



Asian Woolly-necked stork 30



Black-necked stork 32



Lesser adjutant stork 34



Grey heron 36



- Black-headed ibis 38
- Eurasian spoonbill 40
- Dalmatian pelican 42
- Oriental darter 44
- Eurasian curlew 46
- Black-tailed godwit 48
- Great stone-curlew Great thick-knee 50
- Little pratincole 52
- River lapwing 54
- Indian skimmer **56**
- River tern 58
- Black-bellied tern 60
- Brown-headed gull 62
- Pied avocet 64
- Osprey 66

The "Wings of Ganga: Part I" under the "Vibrant Ganga: Book Series" includes "River & Wetland Birds of Ganga River". The representative species have been elucidated on the basis of four criteria;

International Union for Conservation of Nature and Natural Resources (IUCN) Red List categories
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices
Convention on the Conservation of Migratory Species of Wild Animals (CMS) Appendices
Indian Wild Life (Protection) Act , 1972 (IWPA) Schedules

This book covers 19 families of riverine and wetland birds of Ganga River represented by 30 species. At least one representative species from each family is illustrated. The species are described through scientific and common names and are categorized according to their families. The book also provides information about the conservation status of species, taxonomy, key identifying features, habit and habitat, reproduction ecology and major threats.



## **PREFACE**

Ganga River, India's National River, the lifeline of Indian civilization with deep rooted religious and cultural beliefs, is one of the largest river systems in the world. The river has been the cradle of Indian civilization from ancient times and witness to the changing history, culture and belief. She flows through 5 states, however her entire catchment provides water to 11 states, nurturing over 500 million people and supporting enormous biodiversity in the three ecologically diverse biogeographic zones, viz. Himalayan Zone, Gangetic Plain and Coastal Zone.

The faunal diversity of Ganga River is represented by the water and water associated birds, amphibians, turtles, gharial and mugger crocodiles and aquatic mammals including Otters and Gangetic River Dolphins.

Being a mega-biodiversity country, India harbours 1301 species of birds. The Gangetic basin supports 177 species of these birds including wetland, riverine and terrestrial species. Some iconic and globally threatened birds also breed along the Ganga. These species are indicators of healthy river ecosystems, as they are vulnerable to habitat alteration, habitat loss, climate change and pollution.

The National Mission for Clean Ganga (NMCG) and Wildlife Institute of India (WII)'s project "Biodiversity Conservation and Ganga Rejuvenation" aims at aquatic species restoration plan through science-based research and knowledge sharing. "Vibrant Ganga" is one such attempt to share the science-based information to the various stakeholders with the aid of print and digital media. Under the "Vibrant Ganga" series a set of brochures and books are being published with the aim to provide information on faunal diversity, their conservation status, ecology and human threats.

#### All species belong to

Kingdom: Animalia, Phylum : Chordata,

Class: Aves

Following colour coding are adopted to describe the conservation status according to IUCN Red List.

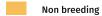








Following codes were used for describing migration status of the species



Breeding

Resident

Possibly resident

Possibly extinct





## **Ruddy shelduck**

## Tadorna ferruginea

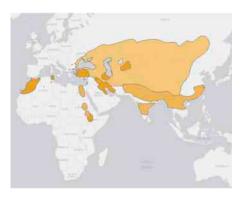
Vernacular name: Surkhab (Hindi),

Chokha-chokhi (Bengali)

Order: **Anseriformes** Anatidae Family: Tadorna Genus: Species: T. ferruginea IUCN Red List: Least Concern Not listed CITES: CMS: Appendix II IWPA, 1972: Schedule IV

Population Trend: Unknown





Early winter migrant in India. Arrives by October and departs by April. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Nocturnal, omnivorous and feeds on grasses, the young shoots of plants, grain and water plants as well as both aquatic and terrestrial invertebrates. Typical breeding habitat is large rivers and wetlands with mud flats and shingle banks.

#### Reproduction

**Breeding Season**: Late April and early June. It breeds in high altitude lakes and swamps in Jammu and Kashmir.

**Nest site/ type**: Nests in hole or cavity, from ground level upward into trees and cliffs (up to heights of 10 m). Lined with down and feathers and a little grass.

Clutch Size: 6-12.

Incubation period: 27-29 days

#### Key identifying features

Size 58 to 70 cm. The male has orange-brown body plumage and a paler, orange-brown head and neck. The rump, flight feathers, tail-coverts and tail feathers are black and inner surfaces of the wings have iridescent green speculum feathers. The bill is black and the legs are dark grey. Females are paler.

#### Major threats

Local population fluctuates in numbers and is vulnerable to climatic shifts, hydrology alteration and pollution.

LC



# **Northern pintail**

Anas acuta

Vernacular name: Seenkh-par battak (Hindi),

Dig haans (Bengali)

Order: Anseriformes
Family: Anatidae
Genus: Anas
Species: A. acuta

IUCN Red List: Least Concern
CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A winter migrant in India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Crepuscular and nocturnal feeding. Feeds on seeds of grasses, sedges, aquatic plants, and also mollusks, crustaceans, amphibians, small fish. Mostly found in rivers, shallow freshwater lakes, marshes, open grasslands with cover available rather than wooded areas. Often found in coastal areas in winter.

#### Reproduction

Breeding Season: Late April to May.

Nest site/ type: On the ground, loosely concealed in vegetation, built from dry vegetation and lined with down and feathers.

Clutch Size: 6-12.

Incubation period: 22-24 days

#### **Key identifying features**

Size 51-74 cm. Male: head chocolate brown, hind neck darker; white lower foreneck makes stripes at sides of neck and merge to white central breast and abdomen. Female: head and neck pale brown with fine black spotting, breast and abdomen pale and spotted.

#### **Major threats**

The species is vulnerable to habitat loss, pollution, environmental toxicants and predation by feral animals at its breeding and wintering grounds.

LC

## **Common pochard**

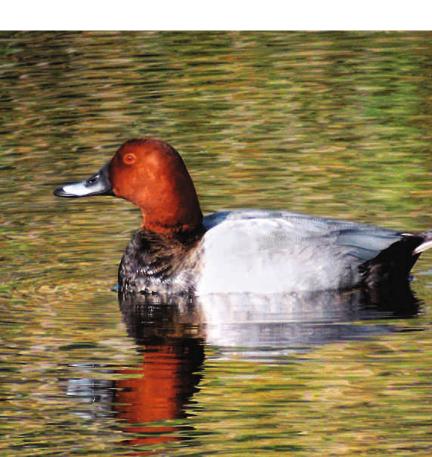
Aythya ferina

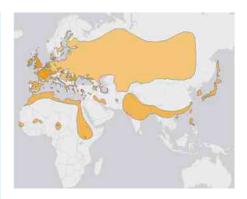
Vernacular name: Burar nar, Lal sir (Hindi),

Ranga muri (Bengali)

Order: Anseriformes
Family: Anatidae
Genus: Aythya
Species: A. ferina
IUCN Red List: Vulnerable
CITES: Not listed

CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A winter migrant, common in western, central and southern India. Found in upper and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious outside nesting season. Feeds on seeds, vegetation, roots of aquatic plants, grasses, sedges, also small aquatic invertebrates, amphibians and fish. Mostly occur in slow flowing rivers, shallow to deep freshwater lakes with good fringe or emergent vegetation and also in swamps, marshes.

#### Reproduction

Breeding Season: April to May.

**Nest site/type**: Nest made of heap of grass, reeds and leaves, concealed in vegetation on ground or in water.

Clutch Size: 6-10.

Incubation period: 24-28 days

#### Key identifying features

Size 46-58 cm. Male: head with dark grey base, head and neck chestnut; chest, tail and rump black; underparts and upperparts vermiculated pale grey. Female: head dark grey/blackish, narrow pale grey sub-terminal band, poorly defined paler throat and facial stripes.

#### **Major threats**

The species is vulnerable to habitat loss, human interference, hunting, river and wetland pollution, and occasional drowning in fishing nets.





## **Falcated duck**

Mareca falcata Syn: Anas falcata

Vernacular name: Kala sinkhur (Hindi)

Order: Anseriformes
Family: Anatidae
Genus: Anas

Species: M. falcata

IUCN Red List: Near Threatened

CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A winter migrant and rare in India. Found in upper and middle stretches of the Ganga River.

#### **Habit & Habitat**

Feeds on seeds, green parts of aquatic plants and aquatic invertebrates. Mostly found in freshwater lakes, pond, lagoons, rivers often with wooded areas and coasts.

#### Reproduction

**Breeding Season**: May to June.

**Nest site/ type**: Nests on the ground at banks with tall grass or in bushes near water.

Clutch Size: 6-9.

Incubation period: 24-26 days

#### Key identifying features

Size 46-53 cm. Male: head iridescent green and purple with long crest, white spot on forehead; chin, throat and fore-neck white with black collar. Breast grey with black scaling. Female: head and neck grey-brown with dark streaking and slight nape crest. Breast and underparts brown with darker markings.

#### Major threats

The species is vulnerable to habitat loss and hunting for food in the non-breeding regions.



# **African comb duck** Knob-billed duck Sarkidiornis melanotos

Vernacular name: Nakta (Hindi & Bengali)

**Anseriformes** Order:

Anatidae Family:

Genus: Sarkidiornis

Species: S. melanotos

IUCN Red List: Not listed

CITES: Appendix II

CMS:

Appendix II Schedule IV

IWPA, 1972: Population Trend: Decreasing





Widespread resident bird throughout India, Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Crepascular, feeds on vegetation, seeds of grasses, sedges and aquatic plants by grazing or dabbling, occasionally small fish, terrestrial and aquatic insects. Mainly found in rivers, wetlands, swamps and lakes and forages in agricultural fields.

#### Reproduction

Breeding Season: July to September.

**Nest site/ type:** In tree hollows e.g. 20-30 feet above ground level, occasionally on the ground in tall grass or reeds or amongst stones.

Clutch Size: 6-20.

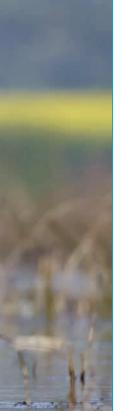
Incubation period: 28-30 days

#### Key identifying features

Size 56 to 76 cm. Male has a knob on upperbill, white spot with back, yellow-tinge on back of head and neck in breeding season. Upperparts including flanks iridescent bluegreen black, with stripe down side of breast. Wing metallic green/black. Female without knob and head has more spots.

#### **Major threats**

The species is vulnerable to hunting, deforestation and poisoning by pesticides used in paddy fields.



## **Red-crested pochard**

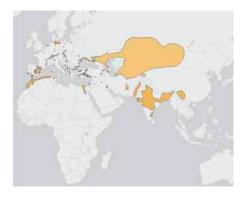
Netta rufina

Vernacular name: Laal chonch (Hindi),

Bada Rangamuri (Bengali)

Order: **Anseriformes** Family: Anatidae Genus: Netta Species: N. rufina IUCN Red List: Least Concern CITES: Not listed Appendix II CMS: IWPA, 1972: Schedule IV Population Trend: Unknown





A winter migrant and common throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, feeds on the roots, seeds and vegetative parts of aquatic plants by means of dive, up-end, head-dip, and surface dabbling. Occurs in large rivers, deep freshwater lakes and lagoons with abundant bordering vegetation.

#### Reproduction

Breeding Season: April to May.

**Nest site/ type**: Nests constructed from roots, twigs, leaves with thick downy lining, on ground in thick vegetation near water's edge.

Clutch Size: 6-14.

Incubation period: 26-28 days

#### **Key identifying features**

Size 53-58 cm. Male: Head and throat rusty orange, hind-neck, lower neck, breast, underparts and upper tail coverts black. Wings brown with white leading edge. Beak red. Female: crown down to eye and hindneck brown, throat and upper neck very pale grey. Beak grey-brown with pink tip.

#### **Major threats**

The species is vulnerable to habitat degradation, pollution of inland freshwater ecosystems and hunting.

## Goosander

## Mergus merganser

Vernacular name: Samanya Samndra Badak (Hindi)

Order: Anseriformes
Family: Anatidae
Genus: Mergus

Species: M. merganser

IUCN Red List: Least Concern

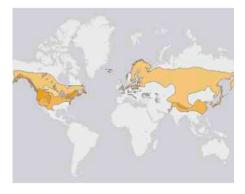
CITES: Not listed

CMS: Appendix II

IWPA, 1972: Schedule IV

Population Trend: Increasing





A winter migrant in Northern and Eastern part of India. Found in upper and middle stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, crepuscular, dives from surface. Fish forms main part of diet, also feeds on aquatic invertebrates, amphibians and little plant material.

#### Reproduction

Breeding Season: March to May.

**Nest site/ type**: Holes excavated by large woodpeckers or natural cavities in mature hardwood trees.

Clutch Size: 6-17.

Incubation period: 30-32 days

#### **Key identifying features**

Size 51-68 cm. Male: head and upper neck glossy green-black with smooth 'puffy' crest. Lower neck, breast, flanks, underparts creamy. Female: head and upper neck, cinnamon, including slightly-ragged crest.

#### **Major threats**

The species is threatened due to habitat degradation, pollution, drowning in fishing nets.

LC

## **Bar-headed goose**

Anser indicus

Vernacular name: Hans, Birwa (Hindi)

Order: Anseriformes

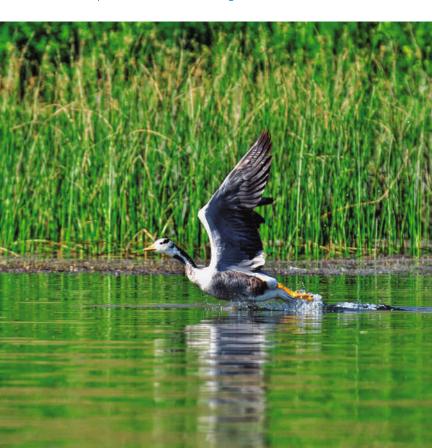
Family: Anatidae
Genus: Anser

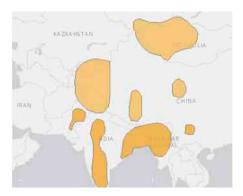
Species: A. indicus

IUCN Red List: Least Concern

CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV

Population Trend: Decreasing





A winter migrant and locally common in India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

One of the world's highest-flying birds peaking at an altitude of around 6,400 m. Highly gregarious, herbivorous, graze on grassland and agricultural fields. Feed mainly on leaves of aquatic plants and sedges, occasionally on insect larvae. Mostly occurs in large rivers, natural wetlands, lakes and freshwater marshes.

#### Reproduction

Breeding Season: Late May to June.

Nest site/ type: Mainly in the marshes and

wetlands of the Tibetan Plateau.

Clutch Size: 2-8.

Incubation period: 27-30 days

#### Key identifying features

Size 71–76 cm. Head and sides of neck white, with two horizontal black bars. Body generally silvery grey, tail grey with white border.

#### Maior threats

The species is vulnerable to hunting, lower reproductive success due to egg collection and habitat loss.





## **Indian Sarus crane**

Antigone antigone

Vernacular name: Saras (Hindi & Bengali)

Order: Gruiformes Gruidae Family: Genus: Antigone Species: A. antigone IUCN Red List: Vulnerable CITES: Appendix II CMS. Appendix II IWPA, 1972: Schedule IV Population Trend: Decreasing





A residential bird of northern and central India. Found in upper and middle stretches of the Ganga River.

#### **Habit & Habitat**

Omnivorous and feeds on aquatic plants, sedges, invertebrates and small vertebrates. Occurs in large rivers, natural wetlands, small seasonal marshes, floodplains, fallow and cultivated lands and paddy fields.

#### Reproduction

Breeding Season: June to September.

**Nest site/ type:** Nests in agriculture land, dry grassland. Nests are built with reeds and grasses and can reach roughly two meters above the water surface.

Clutch Size: 2-3.

Incubation period: 28-31 days

#### **Key identifying features**

The largest Indian Crane with naked red head and upper neck, grey plumage, greenish horny bill, and red legs. Sexes alike, female slightly smaller than male.

#### **Major threats**

Loss and degradation of wetlands, as a result of drainage and conversion to agriculture, ingestion of pesticides and in some occasion hunting of adults and collection of eggs and chicks for trade, food and medicinal purposes.





## **Eurasian coot**

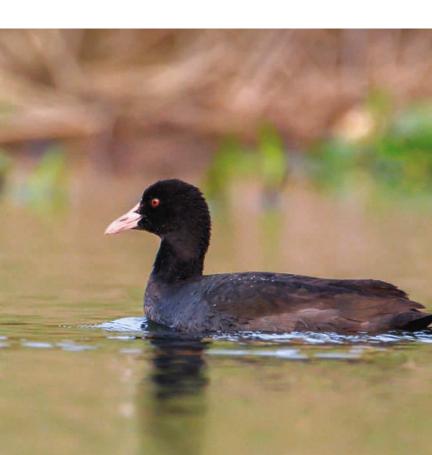
### Fulica atra

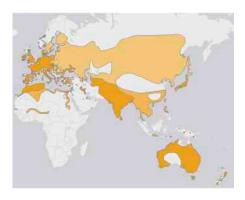
Vernacular name: Dasari, Aari, Thekari (Hindi);

Jal kukkut, Karandab (Bengali)

Order: Gruiformes
Family: Rallidae
Genus: Fulica
Species: F. atra

IUCN Red List: Least Concern
CITES: Not listed
CMS: Not listed
IWPA, 1972: Schedule IV
Population Trend: Increasing





Common resident and winter migrant and widely distributed all over India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, gathers in very large flocks during winter. Diurnal, forages on aquatic vegetation, mollusks and aquatic insects in open waters. Occurs in large rivers, ponds, lakes and other wetlands.

#### Reproduction

Breeding Season: May to December

Nest site/ type: Nest of dead reeds or grasses

beside river bank. **Clutch Size**: 10.

#### Key identifying features

Slaty-black waterbird with stout pointed ivory-white bill, white frontal shield and green legs; head, neck and throat black; upper plumage slaty-black with steel-blue sheen; under plumage slaty grey with dark vent and under tail-coverts.

#### **Major threats**

Loss of wetland habitats, loss of nesting sites and water pollution.





## **Painted stork**

Mycteria leucocephala

Vernacular name: Kanth saras, Janghil, Kankri (Hindi),

Ranga manik-jor (Bengali)

Order: Ciconiiformes
Family: Ciconiidae
Genus: Mycteria

Species: M. leucocephala
IUCN Red List: Near Threatened

CITES: Not listed
CMS: Not listed
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A residential bird widespread throughout India. Found in middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Forages in day, feeds on small fish, frogs, occasionally snake. Occurs in freshwater marshes, lakes and reservoirs, river banks and wetlands areas.

#### Reproduction

**Breeding Season**: August to October. **Nest site/ type**: Colonial tree nester often with other species.

Clutch Size: 3-4.

Incubation period: 30 days

#### **Key identifying features**

Pure white body, coverts of the wings are black, the tail are pink. Head of the adult is bare and orange or reddish. Bill long, yelloworange, broad at base. Long legs, semi–palmated feet.

#### **Major threats**

Habitat loss and degradation, pollution, disturbance to breeding colonies resulting from hunting of adults and collection of eggs and nestlings from colonies.





# **Asian Woolly-necked stork**

Ciconia episcopus

Vernacular name: Haji laq laq (Hindi),

Manik jor (Bengali)

Order: Ciconiiformes Ciconiidae Family: Ciconia Genus: Species: C. episcopus IUCN Red List: Vulnerable CITES: Not listed CMS: Appendix II IWPA, 1972: Schedule IV

Population Trend: Decreasing





It is a resident breeder in India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Carnivorous, feeds on fish, frogs, toads, snakes, lizards, large insects and larvae, crabs, mollusks and marine invertebrates. Occurs in rivers, seasonal and perennial reservoirs and marshes, crop lands, and irrigation canals.

#### Reproduction

Breeding Season: July to October.

Nest site/ type: A large stick platform built about 10-30 m (and sometimes up to 50 m) above the ground or over water.

Clutch Size: 3-4.

#### **Key identifying features**

Size 75–92 cm. The stork is glistening black overall with a black "skull cap", a downy white neck. The lower belly and under-tail coverts are white, fore-neck are iridescent with a coppery-purple tinge, long red legs and a heavy, blackish bill.

#### **Major threats**

Habitat loss and degradation, hunting, disturbance and possibly the use of agrochemicals.





## **Black-necked stork**

## Ephippiorhynchus asiaticus

Vernacular name: Loharjang, Loha sarang (Hindi)

Order: Ciconiiformes
Family: Ciconiidae

Genus: Ephippiorhynchus

Species: E. asiaticus

IUCN Red List: Near Threatened

CITES: Appendix I

CMS: Not listed

IWPA, 1972: Schedule IV

Population Trend: Decreasing





It is a resident breeder in north, north-east and north-west India. Found in upper and middle stretches of the Ganga River.

#### **Habit & Habitat**

Feeds on fish, reptiles and frogs, turtle eggs, crabs, mollusks, insects, arthropods sometimes waterfowl, using tactile feeding methods. Inhabits large rivers, freshwater marshes and lakes, pools in open forest and flooded grassland, and occasionally uses mangroves and coastal habitats.

#### Reproduction

Breeding Season: September to October.

Nest site/ type: Nests on large isolated trees, made up of sticks, branches and lined with rushes, water-plants and sometimes with a mud plaster on the edges.

Clutch Size: 1-4.

Incubation period: 30 days

#### Key identifying features

Size 129–150 cm. A glossy bluish-black iridescent head, neck, secondary flight feathers and tail; a coppery-brown crown; a bright white back and belly; bill black with a slightly concave upper edge; and bright red legs. The adult female has a yellow iris while the adult male has it brown.

#### Major threats

Drainage of wetlands for development, encroachment for agriculture or aquaculture, overfishing, overgrazing, hunting, felling of nest trees and consecutive years of drought.





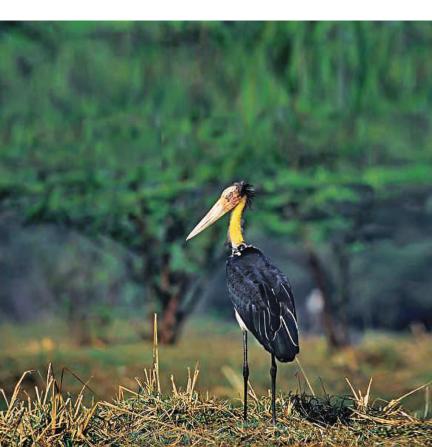
# **Lesser adjutant stork**

Leptoptilos javanicus

Vernacular name: Chinjara, Chhota Garud (Hindi),

Madanchur, Madantak (Bengali)

Order: Ciconiiformes Ciconiidae Family: Leptoptilos Genus: L. javanicus Species: IUCN Red List: Vulnerable Not listed CITES: CMS: Not listed IWPA, 1972: Schedule IV Population Trend: Decreasing





It is a resident breeder in central, north-east and eastern India. Found in middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Carnivorous, feeds on frogs, fish, small reptiles and aquatic crustaceans by walking in shallow puddles. Occurs mostly in large rivers and lakes inside well wooded regions, in freshwater wetlands in agricultural areas, and coastal wetlands including mudflats and mangroves.

#### Reproduction

Breeding Season: November to January,

beginning as early as July.

**Nest site/ type:** A large, flat platform of sticks lodged between thick branches of a tall tree.

Clutch Size: 1-4.

Incubation period: 29-30 days

#### **Key identifying features**

Size 87-93 cm. Large bird with upright stance, a bare head and neck without a pendant pouch. The skullcap is paler and the upper plumage appearing black. The nearly naked head and neck have a few scattered hair-like feathers, yellow but red in breeding male. The belly and undertail are white. Bill is broad at base and tapering to the end.

## **Major threats**

Hunting, loss of nesting trees, conversion and degradation of wetlands and agricultural intensification.





# **Grey heron**

## Ardea cinerea

Vernacular name: Nari, Sain (Hindi),

Sada Kaak (Bengali)

Schedule IV

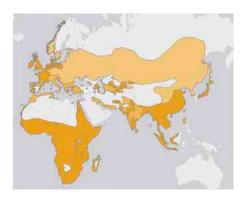
Order: Pelecaniformes

Family: Ardeidae
Genus: Ardea
Species: A. cinerea
IUCN Red List: Least Concern
CITES: Not listed
CMS: Not listed

Population Trend: Unknown

IWPA, 1972:





Widespread resident bird throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Solitary, crepuscular, carnivorous, feeds mostly on fishes. Generalist in its habitat and occurs in estuaries, rivers, streams, lakes, or marshes.

#### Reproduction

Breeding Season: Late February to early June. Nest site/ type: Found in branches of tall trees and also have been reported in dense undergrowth and occasionally on bare ground.

Clutch Size: 3-5.

Incubation period: 25-26 days

## **Key identifying features**

Size 90 to 98 cm. Head is white, long black feathers that extend from the eyes to the beginning of the neck, yellow bill, and has a large, impressive crest.

#### **Major threats**

The species is vulnerable to persistent pollutants and habitat loss.





# **Black-headed ibis**

Threskiornis melanocephalus

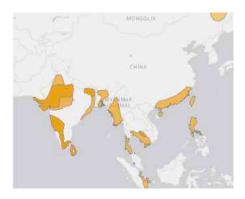
Vernacular name: Munda, Safed baza (Hindi),

Sada Kastechura (Bengali)

Order: Pelecaniformes
Family: Threskiornithidae
Genus: Threskiornis
Species: T. melanocephalus
IUCN Red List: Near Threatened

CITES: Not listed
CMS: Not listed
IWPA, 1972: Schedule IV
Population Trend: Decreasing





It is resident, widespread and locally common in central and western India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, carnivorous, feeds on fish, frogs, mollusks and aquatic insects. Inhabits rivers, freshwater marshes, lakes, flooded grasslands, paddy fields, tidal creeks, intertidal mudflats, mangroves, salt-marshes and coastal lagoons.

#### Reproduction

**Breeding Season**: February to June.

**Nest site/ type**: Platform of stick nest on a tree

Clutch Size: 2-4.

## Key identifying features

Size 75 cm. plumage white, with some greyer areas on the wings. The bald head, the neck and legs are black. The thick down curved bill is dusky yellow.

### **Major threats**

It is vulnerable to wetland drainage, agricultural conversion, human disturbance, pollution, destruction of roosting and nesting sites, hunting and collection of eggs and nestlings from colonies.





# **Eurasian spoonbill**

Platalea leucorodia

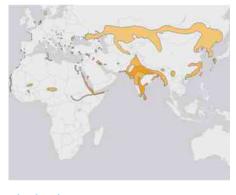
Vernacular name: Chamach baza (Hindi),

Khunte bak (Bengali)

Order: Pelecaniformes
Family: Threskiornithidae

Genus: Platalea
Species: P. leucorodia
IUCN Red List: Least Concern
CITES: Appendix II
CMS: Appendix II
IWPA, 1972: Schedule I
Population Trend: Unknown





A widespread winter visitor and resident in India. Found in upper and middle stretches of the Ganga River.

#### **Habit & Habitat**

Forages singly or in small flocks, feeds on aquatic insects, mollusks, newts, crustaceans, frogs, tadpoles and small fish. Prefers extensive shallow wetlands with muddy, clay or fine sandy beds.

### Reproduction

Breeding Season: Monsoon.

Nest site/ type: Nest is a platform of sticks and vegetation, constructed on the ground, on islands in lakes and rivers, or in dense stands of reeds, bushes, mangroves or deciduous trees.

Clutch Size: 3-4.

Incubation period: 24-25 days

## Key identifying features

Size 80-90 cm. A white heron-like bird with spoon-shaped bill. Breeding bird is all white except for its dark legs, black bill with a yellow tip, and a yellow breast patch.

## **Major threats**

Habitat degradation through drainage and pollution, disappearance of wetlands due to agricultural and hydroelectric development, over-fishing and human disturbance.

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# Dalmatian pelican

Pelecanus crispus

Vernacular name: Hawasil (Hindi),

Gaganber (Bengali)

Pelecaniformes Order: Family: Pelecanidae Genus: Pelecanus Species: P. crispus IUCN Red List: Vulnerable Appendix I CITES: Appendix I & II CMS: IWPA, 1972: Schedule IV Population Trend: Decreasing





A winter migrant to India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, migratory bird seen in dense colonies. Feeds almost entirely on fish. Occurs mainly in large rivers, inland freshwater wetlands, coastal lagoons, river deltas and estuaries.

#### Reproduction

Essentially migratory in Asia and breeds in Russia.

### Key identifying features

Size 160 to 183 cm. It has curly nape feathers, grey legs and silvery-white plumage. In winter brownish-grey cream colour, orange-red lower mandible and pouch against a yellow upper mandible.

#### **Major threats**

Wetland drainage, water pollution, shooting and persecution by fishermen and over-exploitation of fish stocks.





# **Oriental darter**

Anhinga melanogaster

Vernacular name: Pandubbi (Hindi),

Goyar (Bengali)

Order: Suliformes
Family: Anhingidae
Genus: Anhinga

Species: A. melanogaster
IUCN Red List: Near Threatened

CITES: Not listed
CMS: Not listed
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A resident species almost throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Occurs singly, in twos or small flocks. Feeds chiefly on fish. Preferred habitats are large rivers, deepwater lakes, marshes and mangroves.

### Reproduction

Breeding Season: July to December.

**Nest site/ type**: Nests of dry and green twigs are built at the forking of big branches or closer to the main trunks of large trees.

Clutch Size: 3-6.

## **Key identifying features**

Size 28-32 cm. Long slender snake-like neck; narrow head; pointed and small daggershaped bill and fan-shaped stiff tail. A white streak from eye to sides of the neck; white chin and throat, back and wings longitudinally streaked and speckled with silver-grey below, including legs.

#### **Major threats**

Vulnerable to degradation of foraging wetlands and rivers, felling of nesting trees, water pollution, hunting and egg collection.





# **Eurasian curlew**

## Numenius arquata

Vernacular name: Goar, Goungh, Bada Gulinda (Hindi),

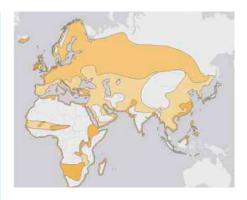
Kastechura (Bengali)

Order: Charadriiformes
Family: Scolopacidae
Genus: Numenius
Species: N. arquata

IUCN Red List: Near Threatened

CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A winter migrant to the whole of the subcontinent, migrates mainly from large rivers to the coastal areas. Mostly found in middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Carnivorous, feeds on fiddler and sand crabs, crustaceans and insects. Prefers large sandy river banks, marshes and wet grasslands.

## Reproduction

Breeds in West, Central & East Siberia.

#### **Key identifying features**

Size 50–60 cm. Long, slender and strongly down-curved dark brown bill, bluish-grey legs and feet, plumage, streaked buff and brown, abdomen whitish and streaked with black, white lower back and rump.

#### **Major threats**

Vulnerable to habitat fragmentation and habitat loss. Egg loss and chick mortalities due to higher predation rates and human disturbance.



# **Black-tailed godwit**

Limosa limosa

Vernacular name: Kalidum ka Gudera, Gairiya, Jangral (Hindi),

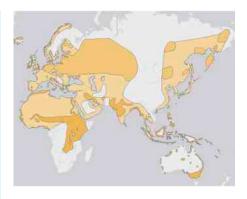
Jaurali (Bengali)

Order: Charadriiformes
Family: Scolopacidae
Genus: Limosa
Species: L. limosa

IUCN Red List: Near Threatened

CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A locally common and widespread winter migrant to India extending eastward up to West Bengal. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, carnivorous, feeds on mollusks, crustaceans and seeds of aquatic plants.
Occurs in large flocks in wetlands, marshes and river banks.

### Reproduction

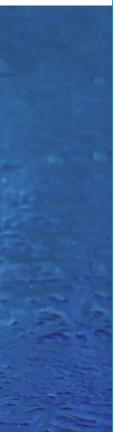
Breeds in Central Asia, disjunct areas in Central & East Siberia. Winters in South & South-East Asia, Philippines to Australia.

### **Key identifying features**

Size 42 cm. Sexes alike but female slightly larger, bill long, slender and straight with red base and dusky tip; upperparts grey-brown, with white upper tail-coverts; underparts white; legs and feet greyish-green.

## **Major threats**

Vulnerable to loss of nesting habitat, hydrological alteration in wintering wetlands and human disturbance.



# **Great stone-curlew Great thick-knee**Esacus recurvirostris

Vernacular name: Chamach baza (Hindi),

Khunte bak (Bengali)

Order: Charadriiformes

Burhinidae Family:

Genus: Esacus

Species: E. recurvirostris IUCN Red List: Near Threatened

CITES: Not listed CMS: Not listed IWPA, 1972: Schedule IV Population Trend: Decreasing





A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Crepuscular and nocturnal. Feeds on crabs and mollusks. Mainly found in sandy river bank, mid-river islands, rocky out-crops in large rivers. Sometimes ventures into agricultural fields for foraging.

### Reproduction

Breeding Season: February to June.

Nest site/ type: Nests on exposed sandbank

on riverbeds. **Clutch Size**: 2.

## **Key identifying features**

Size 49–55 cm. Large, thick-headed longlegged plover, heavy upturned yellow and black beak, big yellow eyes and peculiar black and white facial pattern.

#### **Major threats**

Habitat destruction, habitat loss, alteration in river hydrology, nest predation by dogs, disturbance by fishermen and cattle.





# Little pratincole

Glareola lactea

Vernacular name: Bauni titahri (Hindi),

Choto babuibatan (Bengali)

Order: Charadriiformes
Family: Glareolidae
Genus: Glareola
Species: G. lactea
IUCN Red List: Least Concern

CITES: Not listed
CMS: Not listed
IWPA, 1972: Not listed
Population Trend: Unknown





A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Gregarious, crepuscular, insectivorous. Its short bill is an adaptation to aerial feeding. Mostly found at large river banks, natural wetlands and coastal marshes.

#### Reproduction

Breeding Season: March to May/

February to April.

**Nest site/ type**: Colonial nester, nests on the sandy river bank, mid-river sandy islands.

Clutch Size: 2-3.

## **Key identifying features**

Size 16.5-18.5 cm. Sandy grey body, very shallow forked tail, short legs. The tail is white with a black terminal triangle.

#### **Major threats**

Habitat destruction, habitat loss, river hydrology alteration, nest predation by feral dogs, disturbance by fishermen and cattle.

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# **River lapwing**

Vanellus duvaucelii

Vernacular name: Titeeri (Hindi),

Kata titi (Bengali)

Order: Charadriiformes
Family: Charadriidae
Genus: Vanellus
Species: V. duvaucelii
IUCN Red List: Near Threatened

CITES: Not listed
CMS: Appendix II
IWPA, 1972: Schedule IV
Population Trend: Decreasing





A resident species widespread in Northern, East and Central India. Found in upper, middle and lower stretches of the Ganga River

#### **Habit & Habitat**

Primarily feeds on crustaceans, insects and small frogs. Feeds at the banks of large rivers and lakes with sand banks or gravel bars and islands.

## Reproduction

Breeding Season: March to June.

Nest site/ type: Small depressions in shingle

and sand banks of the riverside.

Clutch Size: 2.

Incubation period: 28-30 days

#### **Key identifying features**

Size 29–32 cm. Bill, head and occipital crest black; underparts sandy grey-brown; upper tail coverts and tail white. Legs and feet reddish black.

#### **Major threats**

Alteration of river hydrology by dams, habitat degradation due to encroachment and excessive disturbance, incidental nest drowning and disturbance caused by human, livestock and dogs.





# **Indian skimmer**

Rynchops albicollis

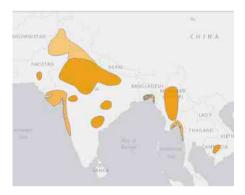
Vernacular name: Panchhira (Hindi),

Gang chasha (Bengali)

Order: Charadriiformes

Family: Laridae
Genus: Rynchops
Species: R. albicollis
IUCN Red List: Vulnerable
CITES: Not listed
CMS: Not listed
IWPA, 1972: Not listed
Population Trend: Decreasing





A resident species found in large rivers of western and eastern India, coastal estuaries. Found in middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Skims over water surface, feeds on surfacedwelling fish, small crustaceans and insect larvae. Preferred habitats are sandy mid-river islands, sandy banks of large rivers and lakes, swamps and coastal wetlands such as estuaries.

### Reproduction

**Breeding Season**: February to May. **Nest site/ type**: Colonial, island nester on sandy beaches of mid-river islands.

Clutch Size: 3-4.

### **Key identifying features**

Unique bill with much longer lower mandible, deep orange with yellow tip. Black and white plumage, black upper body, white underpart and bright red legs.

#### Major threats

Alteration and degradation of habitats through dam constructions, fishing, sand mining, agriculture, grazing and pollution from agricultural and industrial chemicals. Nest destruction by unpredicted water release from dams, predation by corvids and stray dogs.





# **River tern**

## Sterna aurantia

Vernacular name: Dariyai tehri (Hindi),

Pan paira (Bengali)

Order: Charadriiformes

Family: Laridae Genus: Sterna

Species: S. aurantia

IUCN Red List: Near Threatened

CITES: Not listed
CMS: Not listed
IWPA, 1972: Not listed
Population Trend: Decreasing





A resident species widespread throughout India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Predominantly feeds on fish, small crustaceans and insects. Resident breeder, prefers sandy beaches and mid-river islands of large perennial rivers.

#### Reproduction

Breeding Season: March to June.

Nest site/ type: Sand banks, sandy mid-river

islands.

Clutch Size: 2-3.

#### **Key identifying features**

Size 38–43 cm. Fluviatile pale grey and white bird with pointed bright yellow bill, deeply forked swallow tail and short red legs.

## **Major threats**

Alteration and degradation of habitats through dams, fishing, sand mining, agriculture, grazing and pollution from agricultural and industrial chemicals. Nest destruction by unpredicted water release from dams, predation by corvids, stray and domestic dogs.





# **Black-bellied tern**

Sterna acuticauda

Vernacular name: Kali tohri (Hindi),

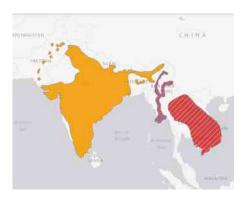
Kalopet Panpaira (Bengali)

Order: Charadriiformes

Family: Laridae Genus: Sterna

Species: S. acuticauda
IUCN Red List: Endangered
CITES: Not listed
CMS: Not listed
IWPA, 1972: Not listed
Population Trend: Decreasing





A resident species found in major rivers systems in India. Found in middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Skims over the surface of water and ground to pick up insects and plunges at an angle into the water to feed on crustaceans, tadpoles and fish. Occurs in sandy banks and mid-river sandy islands of lowland rivers and marshes.

## Reproduction

**Breeding Season**: February to April. **Nest site/ type**: Colonial island nester on sandy beaches of mid-river islands.

Clutch Size: 2-3.

## **Key identifying features**

Adults have orange bill, black cap and nape, dark grey breast and blackish belly and vent. Breeding birds show a whitish belly and lack tail streamers.

#### **Major threats**

Alteration of breeding habitats, river bank and river island agriculture, sudden release of water from dams, water pollution, nest predation by cats, dogs and corvids.





# **Brown-headed gull**

Larus brunnicephalus

Vernacular name: Bhuri ganga chilli (Hindi),

Gang chil (Bengali)

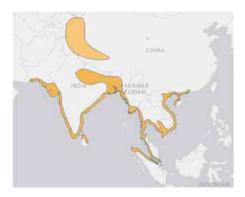
Order: Charadriiformes

Family: Laridae Genus: Larus

Population Trend: Stable

Species: L. brunnicephalus
IUCN Red List: Least Concern
CITES: Not listed
CMS: Not listed
IWPA, 1972: Schedule IV





It is a winter migrant at large rivers, inland lakes and on the coasts in India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Highly gregarious, mainly piscivorous. Found in coastal or inland water bodies like large rivers, lakes and estuaries.

### Reproduction

Breeds in the high plateaus of central Asia from Tajikistan to Ordos in Inner Mongolia

#### **Key identifying features**

Size 42 cm. A pale brown head, a pale grey body, and red bill and legs. The black tips to the primary wing feathers have conspicuous white "mirrors". The under wing is grey with black flight feathers.

#### **Major threats**

Habitat loss and fragmentation, human disturbances and pollution.



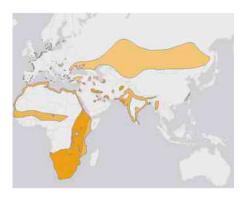


# **Pied avocet**

## Recurvirostra avosetta

Vernacular name: Kusya chaha (Hindi) Order: Charadriiformes Family: Recurvirostridae Genus: Recurvirostra Species: R. avosetta IUCN Red List: Least Concern Not listed CITES: CMS. Appendix II IWPA, 1972: Schedule IV Population Trend: Unknown





A locally common winter and passage migrant to NW India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Carnivorous, feeds on aquatic insects by sweeping bill from side to side on water surface or mud. Generally found in shallow water of large river, islands and mudflats.

#### Reproduction

Breeds in Central Asia

## **Key identifying features**

Size 41.9–45.1 cm. Up-curved long black bill; dark red iris, glistening white body, black head, hind neck and two wing-bands, and bluish-grey legs.

### **Major threats**

Habitat alterations and loss due to development activities, pollution, human disturbances and reduced river flow





# **Osprey**

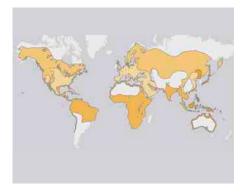
## Pandion haliaetus

Vernacular name: Chota Machhlimaar (Hindi),

Machhmarol (Bengali)

Accipitriformes Order: Family: Pandionidae Pandion Genus: P. haliaetus Species: IUCN Red List: Least Concern CITES: Appendix II CMS: Appendix II IWPA, 1972: Schedule I Population Trend: Increasing





A widespread winter visitor and resident in India. Found in upper, middle and lower stretches of the Ganga River.

#### **Habit & Habitat**

Carnivorous, solitary and monogamous. Fish makes upto 99% of the Osprey's diet. It prefers shallow, fresh, brackish or marine habitats. It is found fishing in ponds, lakes, marshes, lagoons and creeks.

#### Reproduction

Breeding Season: Varies with region.

Nest site/ type: The nests is a platform of

twigs, sticks and plant material.

Clutch Size: 2-4.

### Key identifying features

Size 50–66 cm. The upperparts are a deep, glossy brown, while the breast is white and sometimes streaked with brown, and the underparts are pure white. The head is white with a dark mask across the eyes, reaching to the sides of the neck

#### **Major threats**

Hunting of adult birds, collection of eggs, poisoning by agricultural pesticides, disturbance in breeding habitats and felling of tall trees.

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#### **Team Leaders**

V.B. Mathur, G.S. Rawat

## Concept

S.A. Hussain, Ruchi Badola, Gautam Talukdar

## **Text compilation**

Moumita Chakraborty, Niladri Dasgupta

## **Layout and Editing**

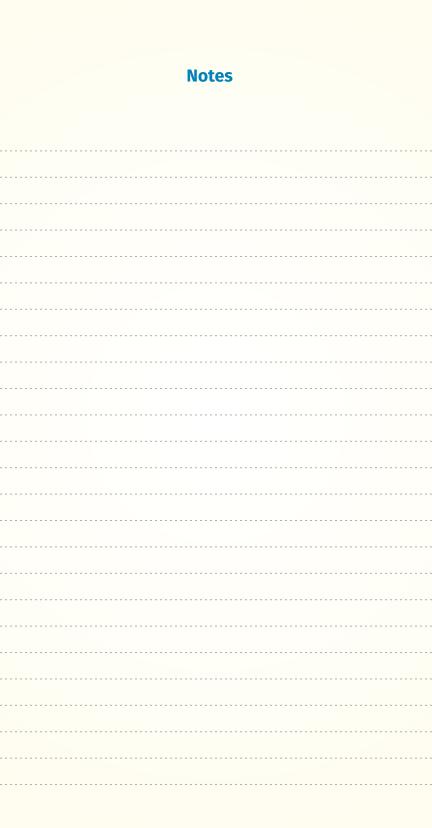
Shivani Barthwal, Michelle Irengbam, Niladri Dasgupta, Megha Shruti

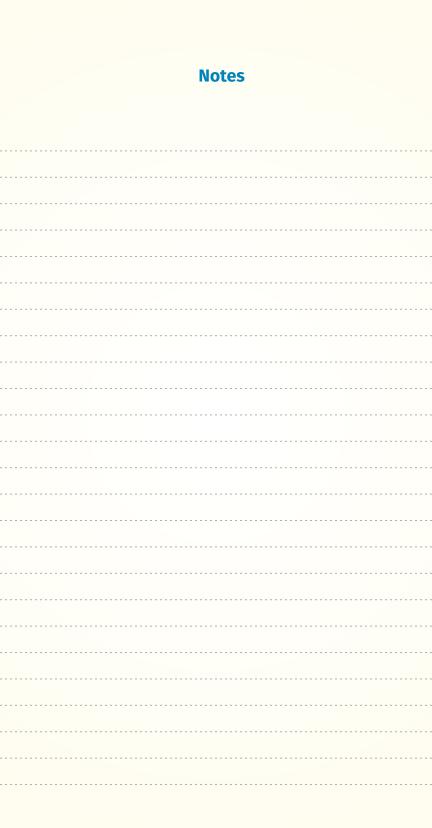
### **Photo credits**

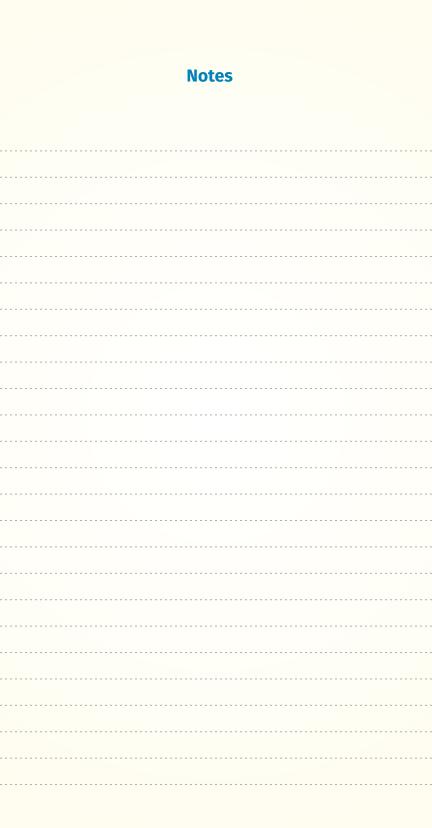
Niladri Dasgupta, Narendra Mohan, Pariva Dobriyal, Gaura Chandra Das, Moumita Chakraborty, Suyash Katdare and miscellaneous sources.

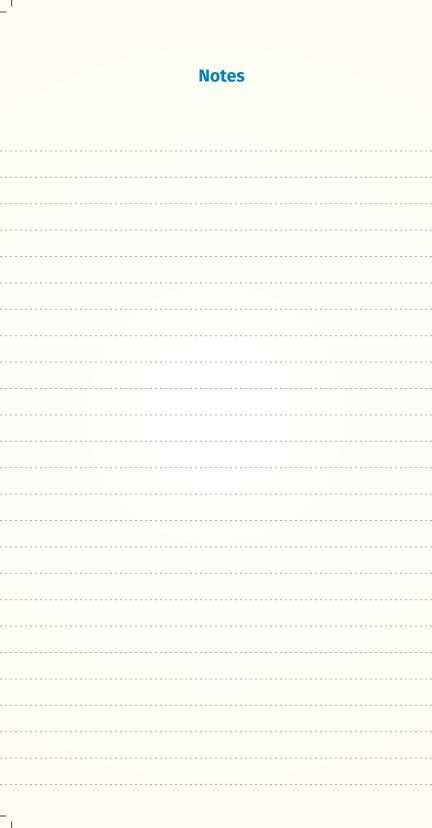
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## **NMCG**

National Mission for Clean Ganga, Ministry of Water Resources, River Development & Ganga Rejuvenation

## **GACMC**

Ganga Aqualife Conservation Monitoring Centre

## Wildlife Institute of India

Chandrabani, Dehradun-248001 Uttarakhand

www.wii.gov.in/national\_mission\_for\_clean\_ganga

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