# Companions in & around GANGA



## About Wildlife Institute of India

Wildlife Institute of India (WII), established in 1982, is an autonomous Institute under the Ministry of Environment, Forest and Climate Change. Its mission is to nurture the development of wildlife science and promote its application in conservation, in consonance with the cultural and socio-economic milieu. The mandate of the Institute is to build capacity through training, education, research and advisory services to the Central and State governments in the area of wildlife conservation. The Institute has been recognized as category 2 Centre of the UNESCO for imparting training to the managers of the Natural World Heritage Sites in the Asia-Pacific region. At the apex of the Institute's governance is the Society, chaired by the Union Minister of Environment, Forest & Climate Change. The executive arm of the Institute is the Governing Body chaired by the Secretary of the Ministry.

## Our Mission

Nurture the development of wildlife science and promote its applications in the field in a manner that accords with our economic and socio-cultural milieu.

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NAMAMI GANGE



राष्ट्रीय स्वच्छ गंगा मिशन
National Mission for Clean Ganga
गंगा सेवा भारत सेवा

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

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# PREFACE

The Ganga River or Ganga is a great river of the plains of the northern Indian sub-continent. Rising in the Himalayas and draining into the Bay of Bengal, it drains one-fourth of India's territory and its basin supports hundreds of millions of people.

The Ganga basin is a home to a wide range of rare and threatened floral and faunal species. The aquatic wildlife of the Ganga basin is under stress on account of reduction in water levels, pollution and over exploitation of riverine resources.

The Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India has launched the National Mission for Clean Ganga (NMCG) to deal with the challenges posed by ganga basin management and to ensure that viable populations of all endemic and endangered aquatic species are maintained and river health is restored. The Wildlife Institute of India has initiated a project on 'Biodiversity Conservation and Ganga Rejuvenation' as an integral part of NMCG.

Raising awareness at the plight of our national river and making citizens particularly youth and children know the role that they can play is crucial. “Companions in and around Ganga” is a compiled fact sheet of the species found in and around the ganga basin for local people, students and tourists. It talks about how certain small things done by us can affect these species and how can we alter such situations.



3rd October, 2018
Dehradun

Dr. V.B. Mathur
Director, Wildlife Institute of India



# Introduction to Ganga

Originating from Gomukh, the River Ganga travels a distance of 2525 kms in five states, before she ends her journey in the Bay of Bengal at Gangasagar. Ganga is considered the symbol of purity and is worshipped. On the other hand it is being polluted everyday by chemical waste, untreated sewage, decaying animal carcasses and human corpses. This not only affects the life of the river but also affects the health of the people living in the river basin.

Ganga harbors more than 158 species of fishes including the rare Ganges shark, 2 species of crocodiles (mugger and gharial) and our national aquatic animal – Ganges River Dolphin.

The ultimate goal of the Aquatic Biodiversity Conservation Project is to achieve the NMCG's (National Mission for Clean Ganga) long term vision for Ganga River Conservation, in which viable populations of all endemic and endangered aquatic species occupy their full historical range and fulfill their role in maintaining the integrity of the Ganga River ecosystems.




**Ghats of Varanasi**

**CONSERVATION STATUS**

**IUCN**
Critically endangered
**CITES**
Appendix I
**WPA**
Schedule I

# Gharial

*Gavial gangeticus*

Gharials are one of the largest species of crocodiles, having a long snout with a pot “ghara” from where they derive the name gharial. They spend most of their time in the water and leaves the water only to bask and lay eggs on sandy riverbanks.

## LIFE CYCLE

- Mating takes place during November to February.
- Nesting and laying of eggs takes place in the dry season of March to May as the rivers shrink slightly and sandy banks are available for nesting.
- A female Gharial lays 30-50 eggs in the hole dug by her on sandy riverbanks. She covers the eggs with sand to hide them from predators such as jackals, lizards and mongoose.
- Baby gharials come out of the eggs after around 3 months.
- Mother protects the young in the water for a few days.

## GHARIAL IN INDIAN MYTHOLOGY

- Traditionally, Gharial is known as the *Vahana* of goddess Ganga.
- Some revere it as the *vahana* of Varuna- the God of water.
- It is also known as the ‘River Guardian’.

## DIET

- Gharials have 102 to 110 sharp and slender teeth. They swallow the food instead of chewing.
- Prefer to eat slower moving fish which are generally predatory fish.

**Adults:** fish, small crustaceans (mud crabs)

**Juveniles:** insects, tadpoles, small fish and frogs

## IMPORTANCE

Gharials prefer to eat slower moving, larger predatory fish such as catfish. This would mean they are helpful to fisheries, since they are eating the predators that normally eat commercially valuable fish.






## GHARIAL CONSERVATION

- Project crocodile began in 1975. The project included an intensive captive breeding and rearing program intended to restock habitats with low numbers of gharial.
- There are 9 Protected Areas for Gharials in India which are inked to both captive breeding and 'ranching' operations where eggs collected from wild are raised in captivity and then released back into the wild.

## FACTS

- At about age 12, a wart like appendage grows on the tip of its snout. The "ghara" presses down on the nostrils and when the male breathes forecefully, it produces a loud flatulent noise. This buzz serves two purpose - to attract females and warn off rivals.
- The pot acts as sound amplifier – carrying the buzzing sound for long distances across waters.
- Help females identify mature males.

**THREATS**

**Gharials are poached for their skin, meat and gharas. Their habitat is being modified into agricultural and industrial areas.**

CONSERVATION STATUS

IUCN
Vulnerable
CITES
Appendix II

# Smooth-coated Otter

*Lutrogale perspicillata*

There are 13 species of Otters found around the world except Australia, Antarctica and oceanic islands, out of which 3 species are found in the Indian subcontinent namely Eurasian, smooth-coated and Oriental small-clawed Otter. Otter body is elongated and built for vigorous swimming. The limbs are short and the paws are webbed. The tail is fully haired, thick at the base and horizontally flattened. There are numerous stiff whiskers around the nose and the nostrils are closed under water.

## HABITAT

It is an aquatic and terrestrial mammal. Along the large rivers in India, it shows greater preference for rocky stretches in all the seasons as they provide sites for den and resting.

## BREEDING

Mating takes place during the months of August-November followed by gestation period of 60-62 days. Reaches sexual maturity at the age of 22 months and give first litter at the age of 4 years.

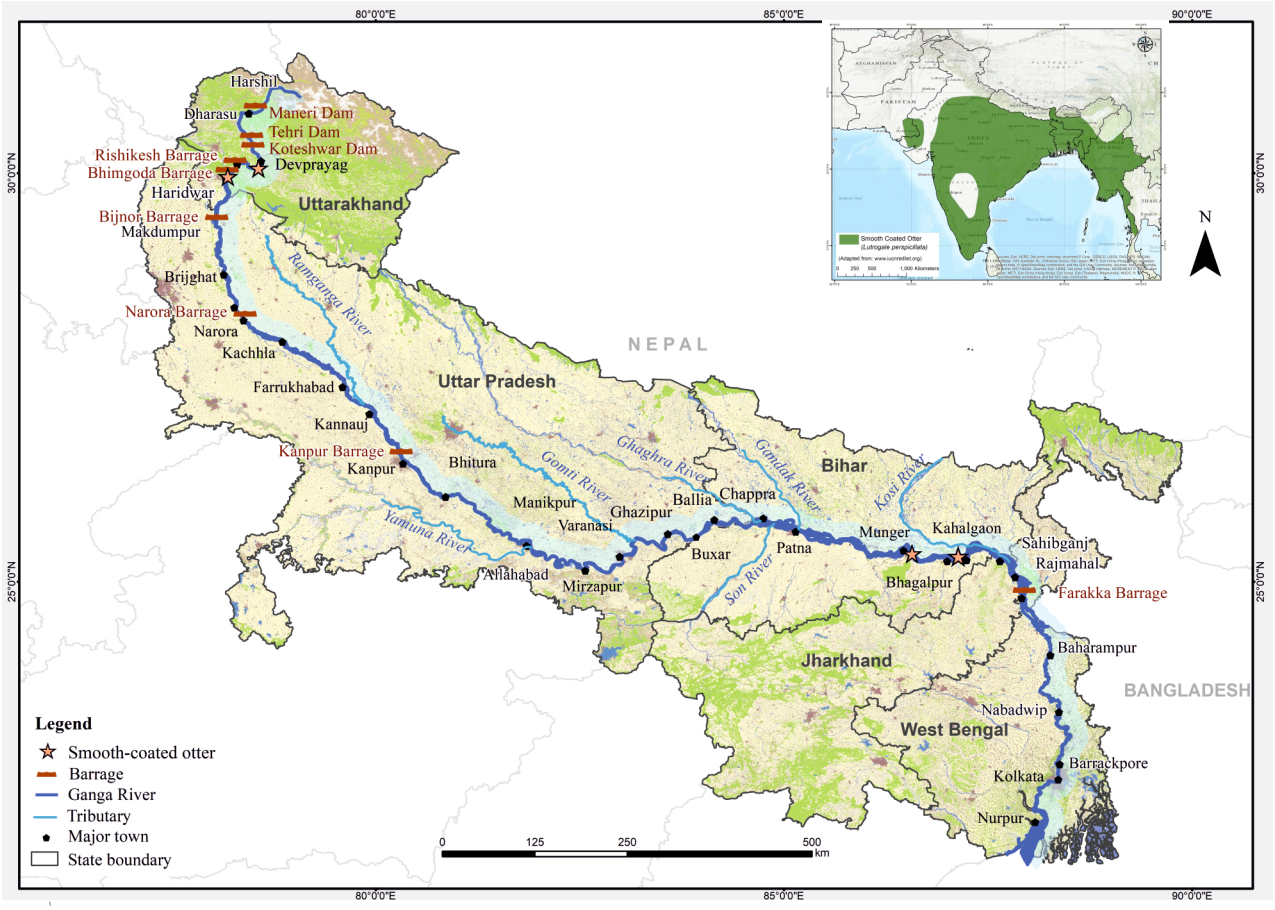
## DIET

Otters mainly eat fish, but also catch frogs, crayfish and crabs. Otters have an unusually high metabolic rate, probably to meet the special demand of their habitat. They hunt in groups.

## HOW TO HELP

- Do not buy illegal products with derivatives from Otters such as meat and fur.
- Use organic fertilizers.
- Stop destruction of riverine forests.
- Discourage large scale fishing and sand mining.
- Do not dump sewage and chemical wastes into the river.






## FACTS

- Female holds the dominance in the group.
- Fishermen in Pakistan and Bangladesh train smooth-coated otters to chase fish into the fishing nets.
- They swim upstream in a 'V' formation.

## NOTES

## THREATS

**Habitat loss and degradation. Pollution because of agricultural run offs, industrial and sewage wastes. Poaching for meat and fur. Construction of large hydroelectric projects.**

CONSERVATION STATUS

IUCN
Endangered
CITES
Appendix I
WPA
Schedule I

# Gangetic Dolphin

*Platanista gangetica*

There are four fresh water dolphin species found in the world among which Gangetic River Dolphin is found in the Ganga. Grayish brown in color with long thin snout, rounded belly and large flippers while the calves are darker when born. Also known as 'susu' because of the sound it produces while breathing.

## HABITAT

Favors deep pools. Shares habitat with crocodiles, fresh water turtles and wetland birds.

## DIET

Variety of fishes like carps, gobies and invertebrates like prawns, clans, catfish.

## BREEDING

- Mating takes place during the months of August-November followed by gestation period of 60-62 days.
- Reaches sexual maturity at the age of 22 months and gives first litter at the age of 4 years.

## DISTRIBUTION AND POPULATION

Ganga-Brahmaputra and Karnaphuli-Sangu river systems in India and Nepal as well as in the Meghna river in Bangladesh (Estimated around 1200-1800 individuals). Sub population in the Karnali river in Nepal having tens of animals only.

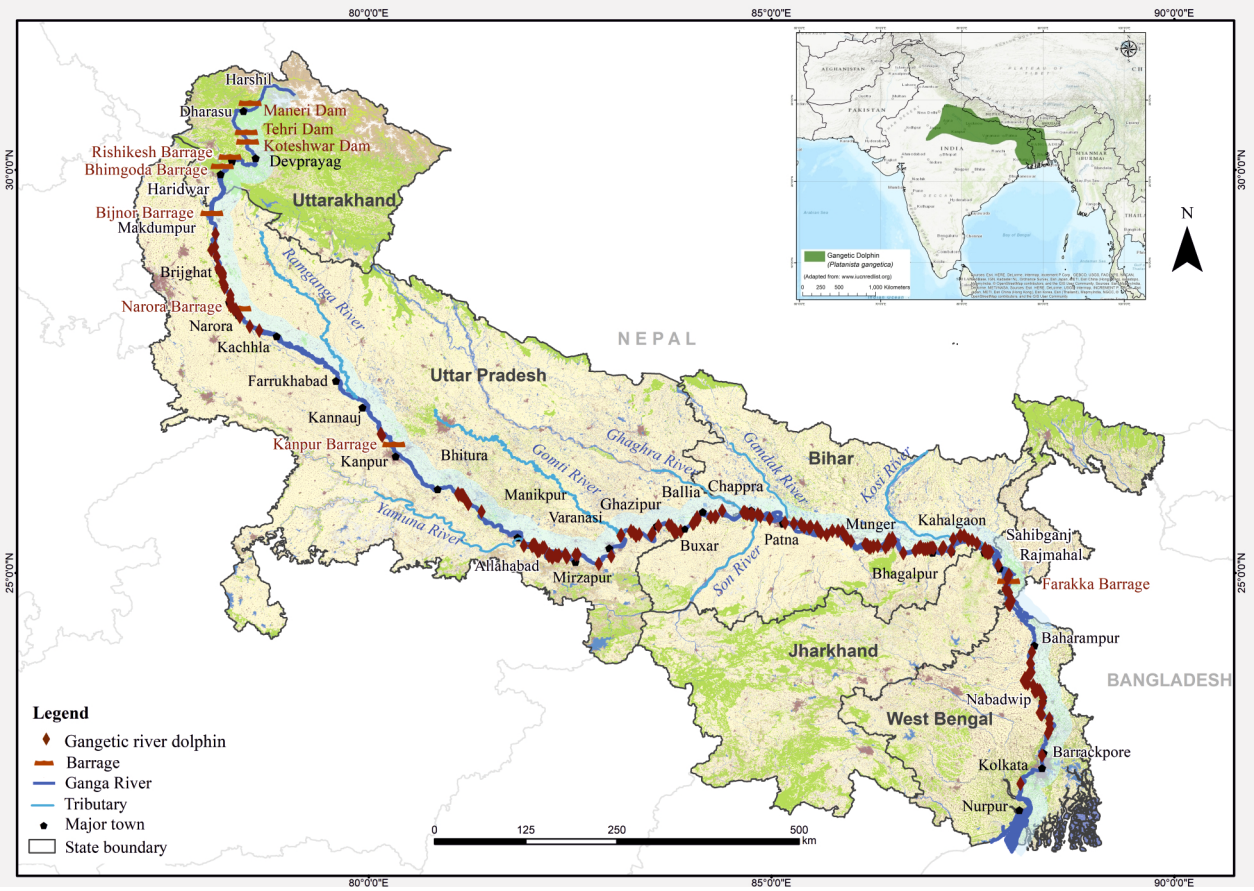
## INDIAN HISTORY AND MYTHOLOGY

Gangetic dolphin is described as 'Gangapuputaka' in Indian mythology which is regarded as the vehicle of the goddess Ganga. King Piyadasi declared Gangapuputaka protected for 26 years during his rule. Emperor Asoka had provided highest level of protection to the Gangetic dolphin.

## HOW TO HELP

- Do not purchase dolphin oil.
- Use organic fertilizers.
- Stop destruction of riverine forests.
- Do not dump sewage and chemical wastes into the river.
- Discourage large dams and barrages, commercial fishing and sand mining in the critical dolphin habitats.






## Our National aquatic animal.

### FACTS

The atrophied eyes of the Ganges dolphins lack a lens, leaving these species unable to resolve images. The sonar abilities of the dolphin is highly developed, enabling them to detect prey. The Ganges dolphin is known to be a side swimmer i.e. after surfacing to breathe, it immediately rolls on one side, feeling for the bottom with a flipper while scanning the area ahead with constant clicking sound.

### NOTES

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### THREATS

**Habitat loss and degradation. Pollution because of agricultural run offs, industrial and sewage wastes. Fish nets. Poaching for meat and oil. Dams also impede their natural movements.**

CONSERVATION STATUS

IUCN
Vulnerable
CITES
Appendix II
WPA
Schedule IV

# Sarus Crane

*Antigone antigone*

**State Bird of Uttar Pradesh.**

There are 15 different species of cranes around the world out of which, 6 are found in India. Sarus is the only resident crane, seen throughout the year in India.

## HABITAT

They forage on marshes and wetlands with little depths as they get enough food as well as protection from ground predators.

## SARUS IN INDIAN HISTORY AND MYTHOLOGY

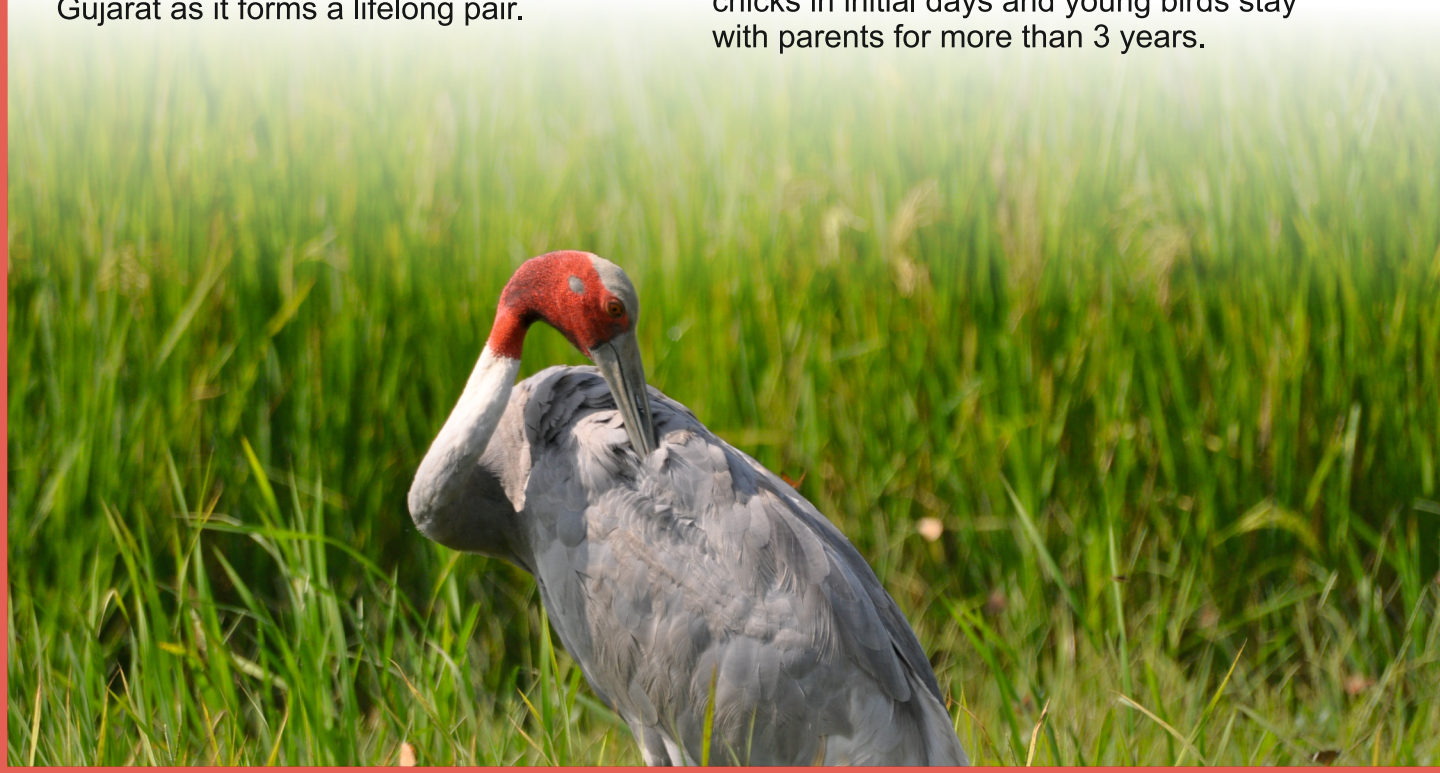
Sarus crane was bred in captivity and documented for the first time by Mughal emperor Jahangir during 17th century. Sarus crane was described as 'Krauncha' in Ramayana. It is considered sacred bird by Gond tribe of Madhya Pradesh and is a symbol of marital virtue in parts of Gujarat as it forms a lifelong pair.

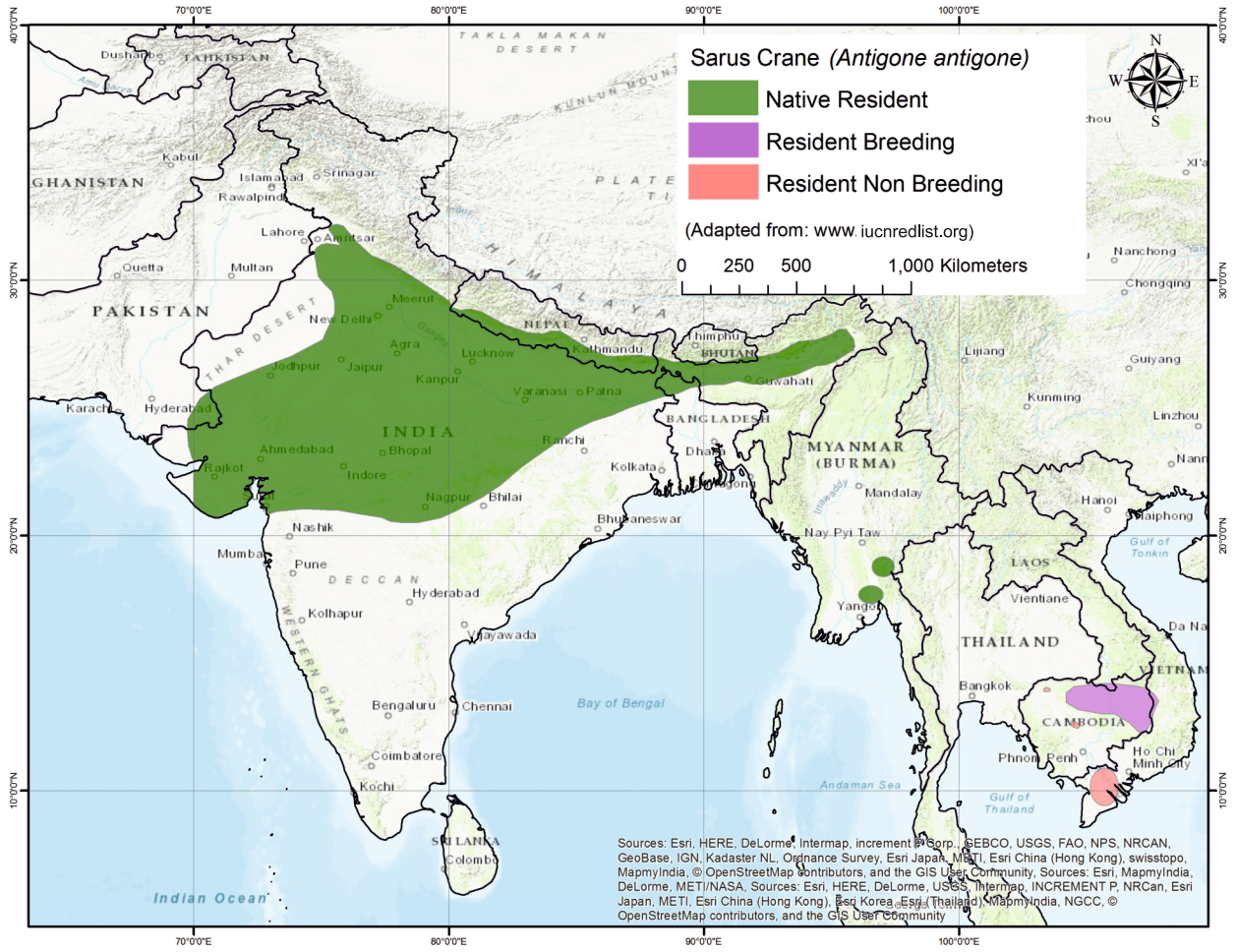
## DISTRIBUTION IN INDIA

Found in the flood plains of Ganga including 55 districts of Uttar Pradesh. 90% of the sarus crane population is found outside the protected areas.

## LIFE CYCLE

They form long lasting pairs. Breeding pairs and non-breeding birds congregate separately. They have high site fidelity and lay two eggs. Incubation is done by both the parents for about 4-5 weeks. After hatching, the egg-shells are either swallowed by the parents or removed away from the nest. Parents feed the chicks in initial days and young birds stay with parents for more than 3 years.






## HOW TO HELP

- Identify the 'Rural Protection Groups' to conserve the animal at local level.
- Do not encroach the natural wetlands.
- Do not let anyone steal eggs of the Sarus.
- Avoid doing 'Singhara' cultivation.

## DIET

Omnivorous in nature and eat range of foods.

## NOTES

## THREATS

**Habitat destruction mainly due to 'Singhara' cultivation as it destroys natural wetlands which is the home of Sarus.**

**Poaching for meat.**

**Pesticides on crops affects every stage of cranes' life.**

**Deaths by power lines.**

CONSERVATION STATUS

IUCN
Vulnerable
CITES
Not Listed
WPA
Not Listed

# Indian Skimmer

*Rynchops albicollis*

The Indian skimmer is one of the three species of genus *Rynchops* in the world and the only one that is found in the Indian subcontinent. This fish eating bird has a unique adaptive feature: uneven bills. The lower mandible is longer than the upper.

## HABITAT

Indian skimmers are found mainly on large rivers with sandbanks and also in reservoirs. It forages singly or in flocks, roosts communally on sandbanks.

## DIET

Fish, shrimp, aquatic insects, insect larvae. They feed mostly in the early mornings or near dusk, but is also active on bright moonlit nights.

## BREEDING

Breeding season is from February to May in the Indian subcontinent. The clutch may consist of three to five eggs. Both parents attend to nest duties periodically. Breeds colonially on exposed sand bars and islands.

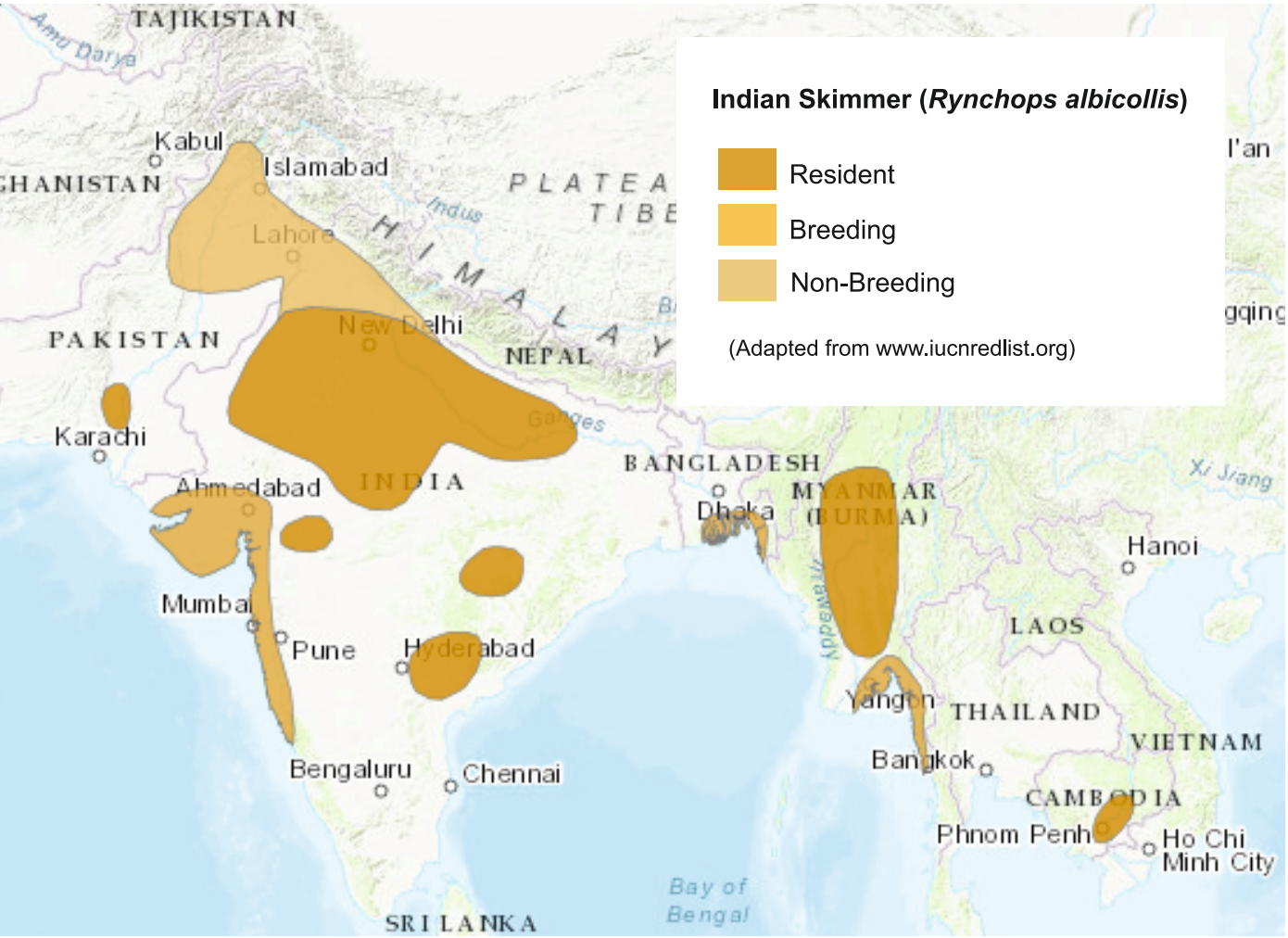
## DISTRIBUTION IN INDIA

It is found in Uttar Pradesh, Bihar, Jharkhand and West Bengal along the Ganga River Basin and in Indus River in Kashmir. The species has a widespread distribution in winter and is found in Karwar, on the western coast, and in Chennai and Pondicherry on the eastern coast.

## HOW TO HELP

- Do not encroach the riverine and wetland ecosystems for agriculture.
- Reduce human disturbance.
- Improve the rivers and lakes by keeping a check on fishing, transportation, irrigation and pollution.
- Decrease sand mining which is a major cause in reducing reproductive and foraging success.






## FACTS

- The Indian skimmer was once known as the Indian Scissor-bill because of its strange bill.
- Males and females are similar in appearance, however, males are slightly larger in size.
- Indian skimmers are sometimes mistaken for Terns as they are similar in appearance.

## THREATS

**The main threats to Indian skimmers are due to increase in human disturbance, exploitation and degradation of rivers through fishing, transportation, irrigation, pollution from agricultural and industrial chemicals. An emerging threat for breeding colonies is from sand mining and local fishing boats.**

CONSERVATION STATUS

IUCN
Critically endangered
CITES
Not Listed
WPA
Not Listed

# Snow Trout

*Schizothorax richardsonii*

Also known as ‘scaly usman’, the snow trout has slender head, elongated body, streamlined to resist strong water currents. The body is covered by small silvery cycloid scales and the abdomen by large brown scales. The snout bears a nuptial tubercle with four barbels. Lateral line is associated with 85 to 110 scales.

## HABITAT

The snow trout prefers cold waters between 7.2-22°C. Adults prefer pools (1-3 m depth) and rapids. They prefer boulders and mature cobbles covered with slimy algal material as substratum.

## DIET

The snow trout is a herbivorous detritophagic bottom feeder fish. It is exclusively adapted for scraping algal slimes and detritus from the surface of the stones.

## DISTRIBUTION

Snow Trout inhabits clean, cold and pollution free waters. In river Ganga and its important tributaries, snow trout is restricted in the stretch between Harsil to Devprayag in the main stem (river Bhagirathi) and downstream of Vishnuprayag to Devprayag in river Alaknanda.

## BREEDING

The Snow Trout migrates to lower reaches of stream for breeding in July-August and spawns during August-October. The eggs are laid in clear water with rocky bottom at the banks in shallow areas with 30-60 cm of depth where eggs hatch in 50-55 hours.





## FACTS

- Snow trout is bottom dwelling fish that migrates within the fresh waters only.
- It can reach upto the size of 60 cm but majority of them are sized around 20-25.5 cm.
- They are graded as the most important, keystone fish in the reach which controls other species as well as function of ecosystem in general.

## NOTES

## THREATS

**Due to changes in flow pattern of the river and existence of a number of hydro-electric reservoirs and diversions, the longitudinal and lateral connectivity has been impaired which has obliterated the migration routes and has disturbed the migration and breeding cycle.**

CONSERVATION STATUS

IUCN
Near Threatened
CITES
Not Listed
WPA
Not Listed

# Rohu

*Labeo rohita*

The body is laterally compressed and fusiform with black hue at the back, silvery on sides and beneath. Head is prominent with blunt snout and large eyes . Body is covered with overlapping cycloid scales. There are 40-42 scales are found along lateral line.

## HABITAT

Rohu is eurythermal in nature that grows best at temperature >14 degree Celsius. It prefers moderate deep waters on sandy substrate.

## DIET

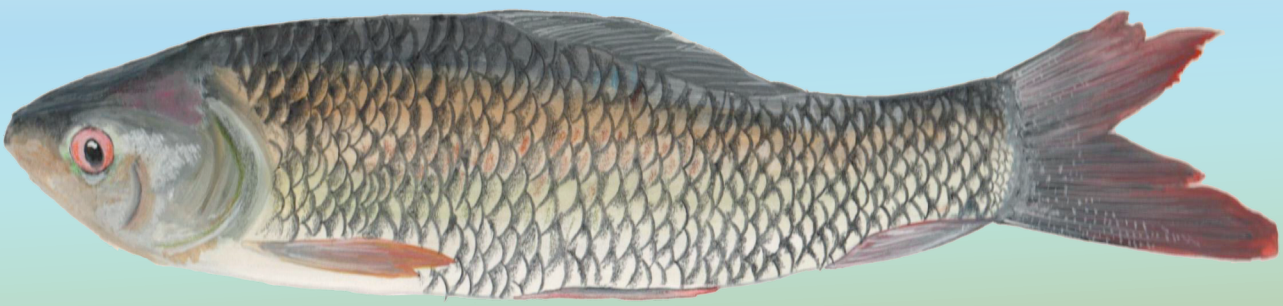
Rohu's food habits change with age. The main food for Rohu is algae and submerged vegetation. Even after being a column feeder, it explores other layers of water where it feeds on decayed organic matter.

## BREEDING

Complete maturity is attained in males after four years and in females after five years of age. Rohu spawns only once a year in the shallow and marginal areas of the river. Number of eggs produced varies from 2,26,000-27,94,000 depending upon size and weight of the fish.

## DISTRIBUTION

Rohu is native to Gangetic river system. The species is heavily stocked in reservoirs of India to promote fishery production. Currently, they are found in rivers, reservoirs, lakes and water tanks throughout India.



## FACTS

- Rohu is one of the most important food fish for the people of India.
- The maximum size and weight recorded is 200 cm and 45 kg respectively.

## NOTES

**THREATS**

**The major threats to Rohu is construction of barrages and hydro power plants that hinders their movement.**

**Over fishing and the contamination of water bodies by industrial and agricultural run offs also cause severe threats to them.**

CONSERVATION STATUS

IUCN
Least Concern
CITES
Not Listed
WPA
Not Listed

# Mrigal

*Cirrhinus mrigala*

The body is elongated and streamlined, with grayish or greenish color on the back and silvery at the sides and below.

## HABITAT

Mrigal is found in fresh water bodies. Its common habitat are ponds, rivers, lake, canals, ditches and floodplains. Like other members of Carp, it prefers sandy substrate and moderate current.

## DISTRIBUTION

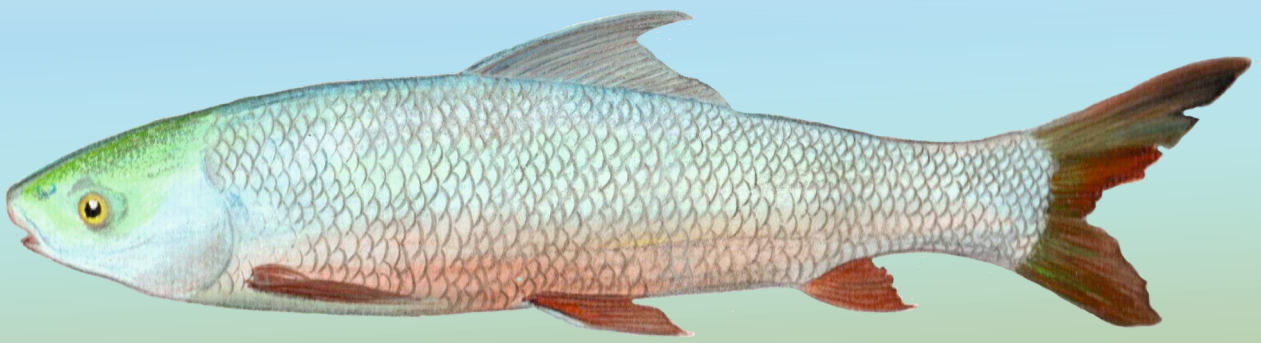
It is native to Gangetic river system. This species is heavily stocked in reservoirs of India to promote fishery production. Currently, they are found in rivers, reservoirs, lakes and water tanks throughout India.

## BREEDING

It attains maturity in about one to two years. Spawning occurs during June-August. Heavy monsoon floods are capable of inundating vast shallow areas, which form the breeding grounds of the fish. The optimum temperature of spawning ground ranges between 22-31°C.

## DIET

It is a bottom feeder that mainly feeds on dead and decayed materials.



## FACTS

- Mrigal is native to Indo-Gangetic riverine systems.
- It has been introduced in many parts of India.
- It can reach upto 1 meter of length and 12.7 kg of weight.

## NOTES

## THREATS

**Indiscriminate fishing of juveniles. Contamination of the water bodies due to industrial effluents and agricultural run offs also causes threats to the natural habitat of the fish.**

CONSERVATION STATUS

IUCN
Vulnerable
CITES
Not Listed
WPA
Not Listed

# Golden Mahseer

*Tor putitora*

Commonly known as Golden mahseer, Yellow mahseer or Thick mahseer. Body color is golden on dorsal side and fins are yellowish with red shade. This can be easily distinguish from other groups of fishes by presence of large scales and thick powerful protrucible jaw.

## DISTRIBUTION

Widely distributed in the foothills of Himalayas, this has been introduced into the high altitude lakes such as Nainital and Bhimtal in Uttarakhand.

## BREEDING

Breeding usually occur after the monsoon. It migrates upstream for spawning. It produces as low as 6,000-10,000 eggs/kg body weight.

## DIET

Young ones are algal feeders and mainly feed on unicellular diatoms and periphytons. Adults are omnivorous; feed on crustaceans, molluscs, insects and small fishes.

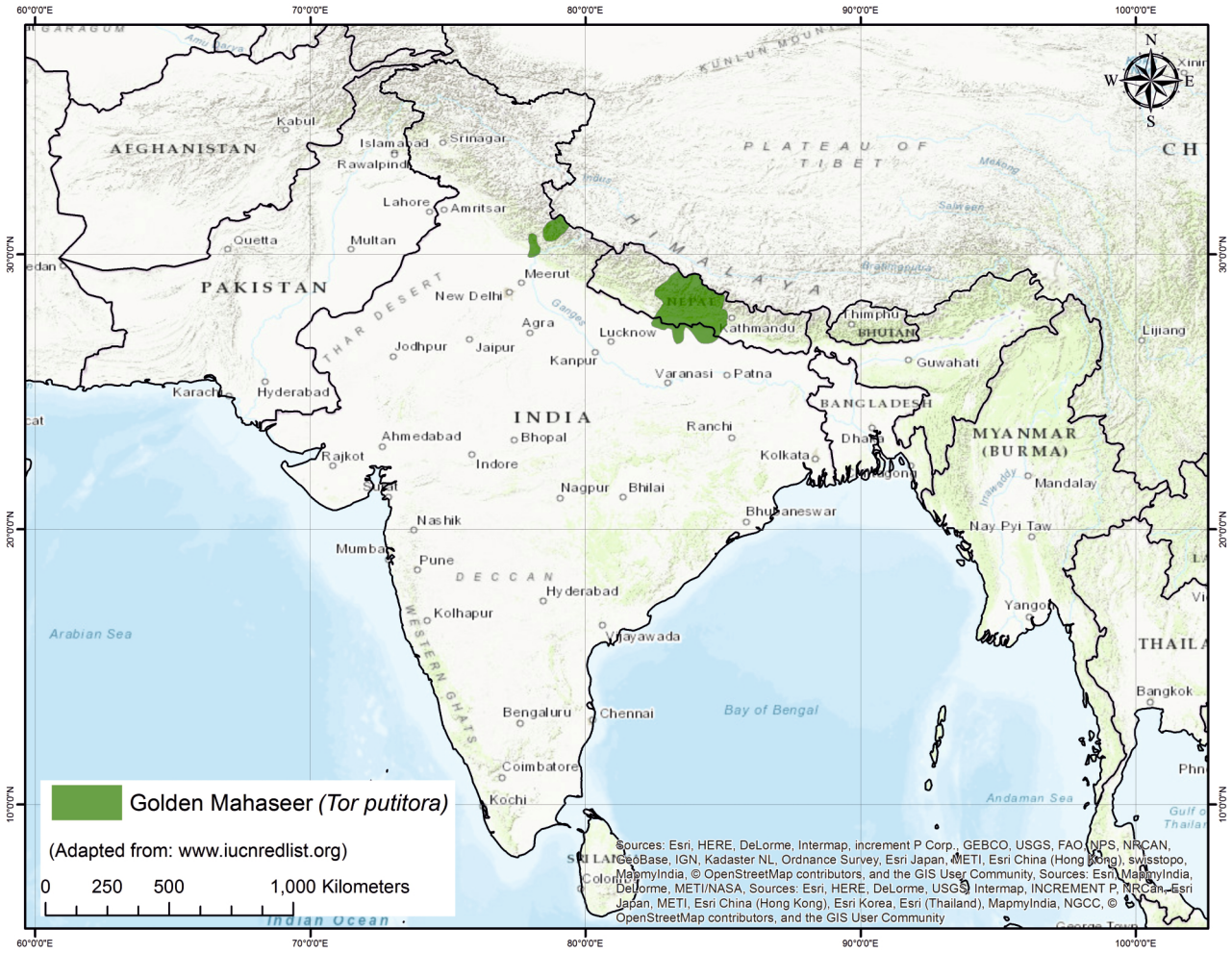
## HABITAT

Inhabits rapid streams with rocky bottom and river stretches with rocky pools.



## FACTS

Mahseer roughly translates *Mahi* (Fish) and *Sher* (Tiger) and hence it is referred as King among fresh water fishes. It is one of the most famous angling fishes of India. It reaches 2.74 m in length and 50 kg of weight. But currently, 2-5 kg size fishes occur in native ranges which is mainly due to reduction of freshwater flow and habitat loss.




## NOTES

**THREATS**

**Pollution in the rivers and destructive fishing practices. Construction of dams and barrages that hinder their breeding and migration. Non selective fishing gears.**

CONSERVATION STATUS

IUCN
Least Concern
CITES
Not Listed
WPA
Not Listed

# Hilsa

*Tenualosa ilisa*

Hilsa has silver colored body with gold and purple shots. It has a distinct median notch in the upper jaw. Dorsal fin with 18-21 soft rays and spines are absent in fins. Females are usually larger in size than males.

## HABITAT

Adults live in Marine water, however, for breeding purposes, it migrates into the fresh water. Young ones spend some time in the fresh and brackish water habitat, then reach to marine water.

## BREEDING

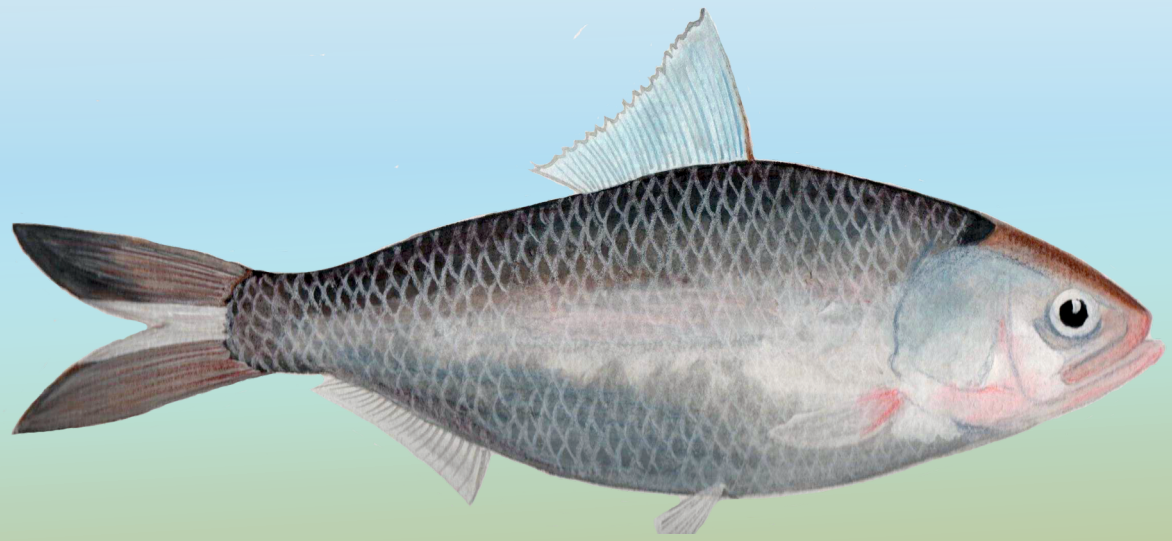
Hilsa breeds mainly in rivers, migrates upstream to about 50 km to several kms in the Ganges (younger fishes may breed in the tidal zone of rivers). Breeding season is from January to February. Sometimes it extends upto March.

## DISTRIBUTION

Hilsa is found in Indian ocean including west and east coasts of India. A few populations are found in the river stretches in Ganga between Jharkhand and Bihar. These populations got isolated after the construction of Farraka barrage.

## DIET

Hilsa mainly feeds on zooplankton by filtering layers. It some times feeds on invertebrates and small fishes.



## FACTS

- Historically Hilsa was called '*Matsyaraja*'-The king of fishes.
- Hilsa is a fast swimmer, it can easily cover around 71 km in a day. The maximum size and weight recorded for male is 43 cm and 0.68 kg respectively while for female it is 60 cm and 2.49 kg.
- The farakkha barrage lacks proper fish passes, restricting the Hilsa that grows in a marine environment to migrate to freshwater for breeding - this has affected the Hilsa population badly.

## NOTES

## THREATS

**This species is facing a serious problem of over exploitation by commercial fisheries. Other than that, loss of breeding habitat especially in Ganga due to barrages, reduced water flow and pollution.**

CONSERVATION STATUS

IUCN
Least Concern
CITES
Not Listed
WPA
Not Listed

# Calbasu

*Labeo calbasu*

Calbasu has a uniformly dark colored body. Dorsal fin has 16 soft rays and anal fin bears 8 soft rays. It has a small, inferior mouth which is surrounded by fleshy lips.

## BREEDING

Calbasu normally spawn between July-August. Both male and female prefer shallow water for spawning. Number of eggs produced ranges from 1,93,000 to 2,38,000.

## DISTRIBUTION

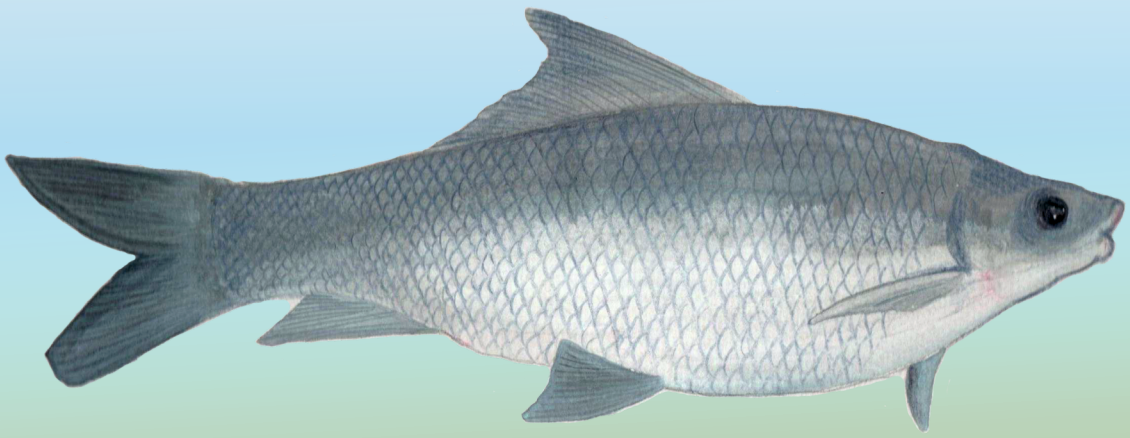
Calbasu is native to Gangetic river system. The species has been heavily stocked in reservoirs of India to promote fishery production in peninsular India. It is found in the major river systems of India such as the Ganga, Brahmaputra, Kaveri, Godavari and Krishna.

## HABITAT

Calbasu grows well with other members of Carps in rivers and ponds. It prefers sandy substrate with moderately flowing water.

## DIET

The food consists of decaying organic matter, molluscs, diatoms, plant matter, blue green algae, green algae and zooplanktons. The fish is omnivorous in nature and feed selectively.



## FACTS

- Calbasu is one of the most important Indian Major Carps.
- It is also known as 'Black Rohu' at several places.
- It has a record of reaching upto 90 cm in length.
- As it feeds on dead and decaying matter, it helps to improve the sanitation in the sea.

## NOTES

## THREATS

**The major threats to Calbasu is construction of barrages and hydro power plants. Over fishing and the contamination of water bodies by industrial and agricultural run offs also cause severe threats to them.**

CONSERVATION STATUS

IUCN
Near Threatened
CITES
Not Listed
WPA
Not Listed

# Goonch

*Bagarius bagarius*

Commonly known as Goonch, Devil Catfish or Sand Shark. It is an important food fish. It has a large, inferior mouth also called as sub-terminal or ventral mouth.

## HABITAT

Goonch prefers fresh water habitats. It inhabits a variety of fluviatile habitats although it is typically associated with swift, clear rivers with a substrate of rocks and sand.

## DISTRIBUTION

Because of taxonomic confusion there is not much data available showing the distribution of Goonch but further studies in this direction may reveal that it is restricted to Indian subcontinent.

## BREEDING

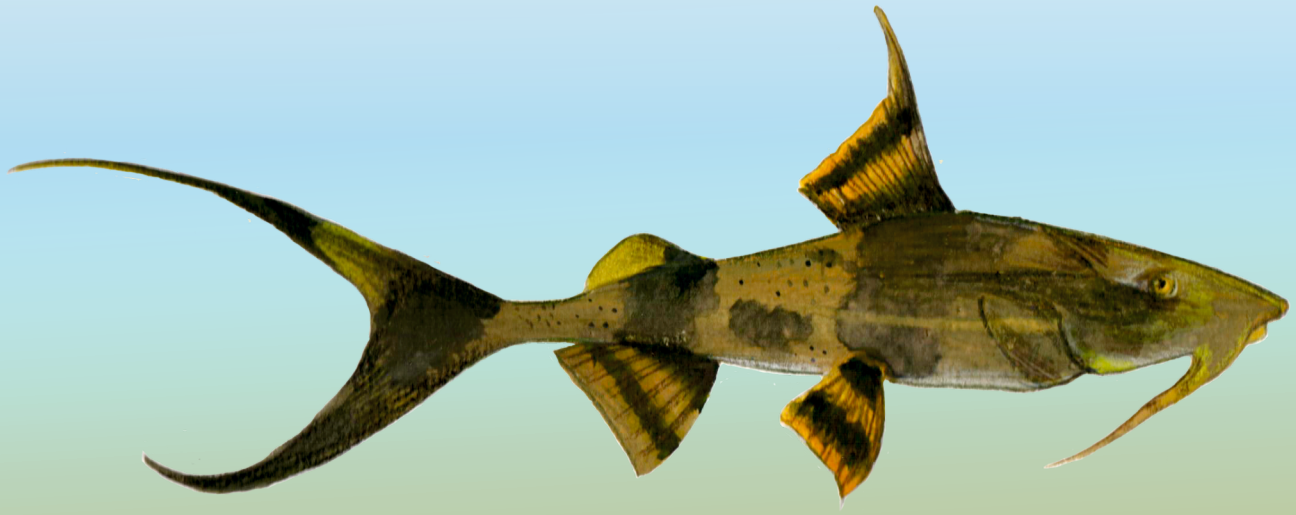
Breed in rivers prior to the beginning of the annual flood season.

## DIET

Goonch primarily feeds on insects, small fishes, frogs and shrimps. It also scavenges on half-burnt human corpses.

## FACTS

- It is harvested heavily in different parts of its range as food fish and for ornamental trade and as sport fish.
- The maximum length recorded for Goonch is 200 cm.



Due to taxonomic confusion between *Bagarius bagarius* and *Bagarius yarelli*, there is lack of information about the distribution, breeding and habitat of the species.

## NOTES

**THREATS**

**This species is in danger of being over-exploited. The effects of other potential anthropogenic threats such as habitat destruction and competition from alien species also threaten it more. Juveniles and sub adults are often caught for the ornamental fish trade.**

**CONSERVATION STATUS**

**IUCN**
Near Threatened
**CITES**
Not Listed
**WPA**
Not Listed

# Catla

*Gibelion catla*

A stoutly built fish with deep body and large head. The mouth is wide and upturned with a prominent protruding lower jaw. Scales along the lateral line ranges from 40 to 43 scales. Color is grayish on back and flanks, silvery-white below; fins dusky grey color.

## HABITAT

Catla grows best at water temperatures between 25-32 degree celsius. The minimum temperature tolerance limit is -14 degree celsius. Generally inhabit in weedy and turbid waters on sandy substrate.

## DISTRIBUTION

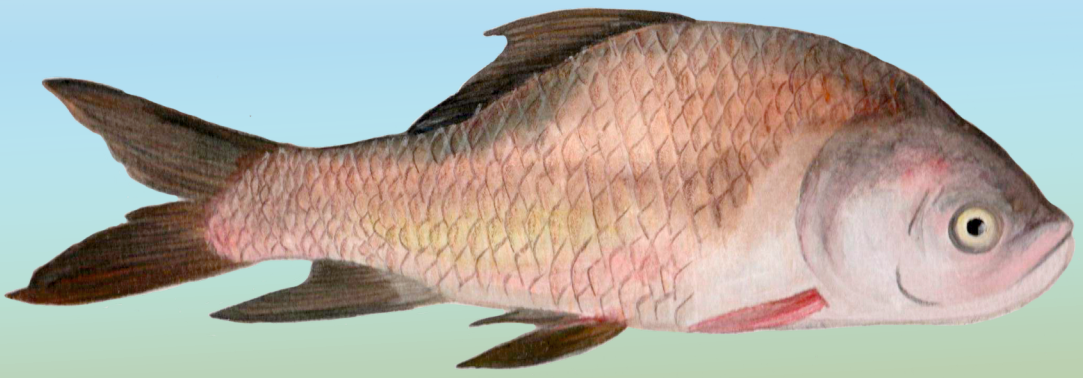
Catla is known as the Gangetic carp as they are native to the Gangetic river system. The species is heavily stocked in reservoirs of India to promote fishery production. Currently, they are found in rivers, reservoirs, lakes and water tanks throughout India.

## BREEDING

Catla attains maturity at the age of 2 years. Mating occurs with vigorously splashing of water and it breeds in ponds, reservoirs and rivers. Spawning season of catla is June-September in North India and May-August in Eastern India.

## FOOD HABITS

Catla is a surface feeder, mainly feed on zooplanktons.



## FACTS

- Catla is one of the fastest growing species among Indian Major Carp.
- It is native to India and is introduced in many tropical countries as cultivable fish.
- This species is one of the most productive food fishes in India.
- It can reach upto 1.8 m of length and 38.6 kg of weight.

## NOTES

## THREATS

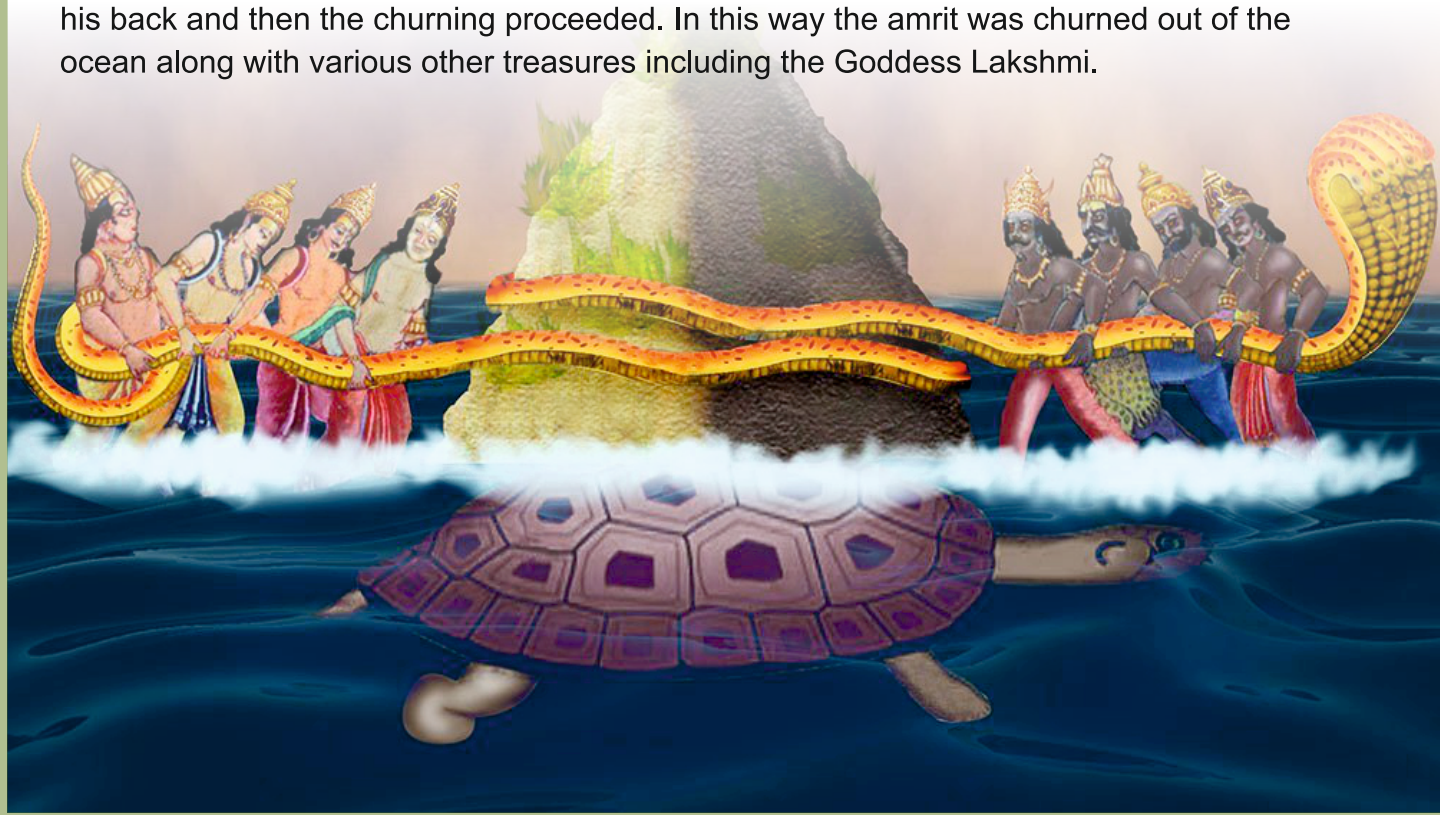
**There is no known threat for Catla.**

# TURTLES IN MYTHOLOGY AS THE KURMA AVATAR

According to Hindu mythology, all demigods and demons together decided to churn the ocean, kshir-sagar, the ocean of milk, to get the *amrit* (holy nectar). This was known as the great churning.

The Meru Mountain used as the hub, and Vasuki, the king of snakes, was chosen as the rope to churn the ocean with. Twining the divine snake around the mountain, the ocean was to be churned in a manner in which traditionally butter is churned- twilling the mountain by pulling the snake.

The demigods and demons tried to churn the ocean but could not do so, as the mountain was sinking into the sea and was unstable. All the demigods and demons went to Lord Vishnu and asked him for help. The Lord accepted their plea and took the incarnation of Kurma, the giant turtle. He dived into the ocean and took Mount Meru on his back and then the churning proceeded. In this way the amrit was churned out of the ocean along with various other treasures including the Goddess Lakshmi.



# THREATS TO TURTLES

- Poaching and illegal trade.
- Collection of eggs.
- Pollution and loss of habitat including nesting beaches.
- Declining mangrove forests and their diet.
- Accidental death resulting from power boats.
- Destructive fishing practices, siltation and sedimentation due to watershed activities such as logging.
- Irrigation and irregular flow from the upstream dams and reservoirs.
- Sand mining and growing of seasonal crops along Ganga River are affecting the sandbars that are used by the species for nesting.
- Habitat loss due to land fillings and conversion of the lentic water bodies into agricultural land such as rice fields and for human settlements.



# FACTS ABOUT TURTLES

- Turtles are found everywhere in the world except Antarctica.
- Turtles are as old as dinosaurs.
- Temperature of the nest in which turtles lay their eggs, defines the gender of the newborn turtle.
- Turtles don't have any teeth and depend on their sharp jaw to cut down their food.
- Turtles are not quite beings. Some make sounds like an electric motor, some makes sound like burps and some bark like dogs.
- Crowned river turtles spend most of their time relaxing on sand banks. If they sense any danger, they burry themselves in the mud.
- Indian narrow headed softshell turtles are poached for their meat and medicinal uses.



# NOTES

CONSERVATION STATUS

IUCN
Critically Endangered
CITES
Appendix II
WPA
Schedule I

# Northern River Terrapin

*Batagur baska*

## SIZE

Maximum length 24 inches.
Females and juveniles are olive grey in color with grey to brown eyes. Males are darker in color. Males have longer and thicker tails but are smaller in size to some extent.

## DISTRIBUTION

In India, Northern river terrapins are found in Ganga. They are also found in Bangladesh, Cambodia, Indonesia, Malaysia and Nepal.

## BREEDING SEASON

The species breeds between December to March. Males completely turn black with yellow or white eyes. It lays 10-30.eggs.

## DIET

Fruits, aquatic vegetation, mollusks, crustaceans and fishes.

## HABITAT

Estuaries, large river, freshwater lakes and canals and coast near river mouths, but not found in the sea.



# Red-crowned Roofed Turtle

*Batagur kachuga*

**CONSERVATION STATUS**

**IUCN**
Critically Endangered
**CITES**
Appendix II
**WPA**
Schedule I

## SIZE

Maximum shell length 19.8 inches. The males are shorter and reach only half their length. It lays 11-30 eggs.

## BREEDING SEASON

Breeding takes place between March-April. Males in breeding season have seven red stripes along the neck, the head becomes red on top and bluish on sides.

## HABITAT

Deep flowing rivers with terrestrial nest sites.

## DISTRIBUTION

Historically, the species was widespread in the Ganga River, both in India and Bangladesh. It also occurs in the Brahmaputra basin. Currently in India, the National Chambal River Gharial Sanctuary is the only area with substantial population of the species.

## DIET

Aquatic vegetation



CONSERVATION STATUS

IUCN
Endangered
CITES
Appendix II
WPA
Schedule I

# Three-striped Roofed Turtle

*Batagur dhongoka*

## SIZE

Maximum shell length 16 inches, females can reach up to 48 cm while males is only 26 cm.

## BREEDING SEASON

Breeding takes place between March and April. It lays 30-35 eggs.

## HABITAT

Moderate to large rivers and nest on sand banks.

## DISTRIBUTION

Found in Indian states of Assam, Bihar, Madhya Pradesh, Rjasthan, Uttar Pradesh and West Bengal. It is endemic to South Asia. Found in Ganga River; Chambal River; Brahmaputra River.
Trans boundary distribution: Bangladesh

## DIET

Aquatic vegetation.



# Indian Tent Turtle

*Pangshura tentoria*

**CONSERVATION STATUS**

**IUCN**
Lower risk/ least concern
**CITES**
Appendix II
**WPA**
Schedule I

## SIZE

Maximum shell length 9 inches. The males are smaller than the females in size and have longer and thicker tails.

## DISTRIBUTION

Rivers in India: Ganga, Godavari, Krishna and Mahanadi.
Trans boundary distribution: Bangladesh; Nepal; Pakistan.

## BREEDING SEASON

Breeding takes place in November and December. The males swims in circles around the females fanning their front claws. It lays 4-9 eggs.

## DIET

Omnivorous, both on animal and vegetable matter. They are fond of watercress and water hyacinth.



CONSERVATION STATUS

IUCN
Lower risk/ near threatened
CITES
Appendix II
WPA
Schedule I

# Brown Roofed Turtle

*Pangshura smithii*

## SIZE

Maximum shell length 9 inches.

## BREEDING SEASON

Breeding takes place in November and December. It lays 4-9 eggs.

## HABITAT

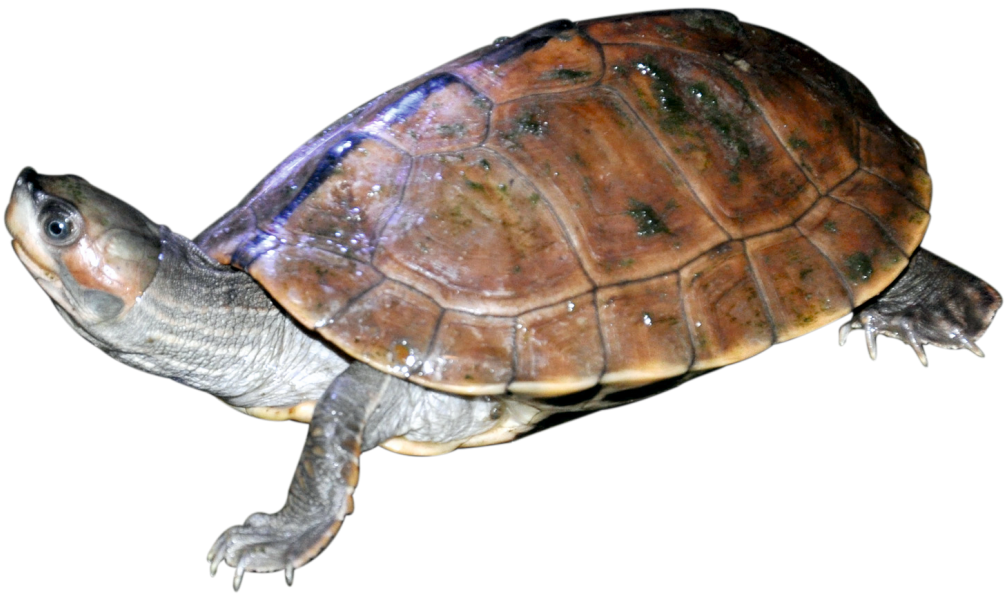
Rivers

## DISTRIBUTION

In India they are found in Ganga.
Trans-boundary distribution: Bangladesh; Pakistan.

## DIET

Omnivorous, both on animal and vegetable matter.



# Indian Roofed Turtle

*Pangshura tecta*

**CONSERVATION STATUS**

**IUCN**
Least concern
**CITES**
Appendix I
**WPA**
Schedule I

## SIZE
Maximum shell length 9 inches.

## BREEDING SEASON
Breeding takes place between October to March. It lays 3-14 eggs.

## HABITAT
Rivers and wetlands.

## DISTRIBUTION
Rivers in India: Ganga, Brahmaputra
Transboundary distribution: Bangladesh; Nepal; Pakistan.

## DIET
Vegetable matter sometimes, Insects as favorite food.



CONSERVATION STATUS

IUCN
Vunerable
CITES
Not Listed
WPA
Schedule IV

# Crowned River Turtle

*Hardella thurjii*

## SIZE

Maximum shell length  24 inches
Males are one-third of the females in size.
Males upto 18cm and females upto 53cm.

## DISTRIBUTION

Found in Ganga; Chambal, Brahmaputra in India.
Trans-boundary distribution: Bangladesh; Nepal; Pakistan.

## BREEDING SEASON

Breeding takes place between October to March.

## DIET

Grasses and marsh plants.
Occasionally feeds on freshwater shrimp, small fish and frogs.

## HABITAT

Semi-aquatic. Rivers and ponds; prefers slow moving or stagnant water.



# Indian Eyed Turtle

*Morenia petersi*

**CONSERVATION STATUS**

**IUCN**
Vulnerable
**CITES**
Not Listed
**WPA**
Not Listed

## SIZE

Maximum shell length 7.9 inches. Males are smaller than the females but having longer nails than females.

## DISTRIBUTION

Found in the Ganga in India. They are endemic to South Asia.

## BREEDING SEASON

Breeding takes place between October to March.

## DIET

Grasses and marsh plants.

## HABITAT

Rivers



CONSERVATION STATUS

IUCN
Vunerable
CITES
Appendix I
WPA
Schedule I

# Spotted Pond Turtle

*Geoclemys hamiltonii*

## SIZE

Maximum shell length 14 inches. The females are slightly larger than the males. However, the males have a thicker tail and concave plastra.

## DISTRIBUTION

Found in Ganga; Brahmaputra in India. Trans-boundary distribution: Bangladesh; Nepal; Pakistan.

## BREEDING SEASON

Breeding takes place between March-May. It lays 18-30 eggs.

## DIET

Snails. Accept meat in captivity but not vegetable matter.

## HABITAT

Large rivers, forest ponds, marshy areas- Favouring clean and shallow waters.



# Indian Black Turtle

*Melanochelys trijuga*

**CONSERVATION STATUS**

**IUCN**
Near Threatened
**CITES**
Appendix II
**WPA**
Schedule IV

## SIZE

Maximum shell length 6 inches.

## BREEDING SEASON

Breeding takes place between August-October. It lays 2-6 eggs.

## HABITAT

Pond, river and land.

## DISTRIBUTION

Found in the Ganga in India. Trans-boundary distribution: Bangladesh; British Indian Ocean Territory; Maldives; Myanmar; Nepal; Sri Lanka

## DIET

Omnivores; Feeds on aquatic plants, invertebrate and carrion.



CONSERVATION STATUS

IUCN
Lower risk/ least concern
CITES
Appendix II
WPA
Schedule I

# Indian Flapshell Turtle

*Lissemys punctata*

## SIZE

Maximum shell length 14 inches.

## BREEDING SEASON

Breeding takes place between July-November (two or three times in a year). It lays 4-15 eggs.

## HABITAT

Ponds, reservoirs or slow waters, rarely in fast waters.

## DISTRIBUTION

Found in the Ganga; Chambal in India. Trans-boundary distribution: Bangladesh; Myanmar; Nepal; Pakistan; Sri Lanka

## DIET

Small fishes, insects, tadpoles, earthworms, mosquito larvae and carrion.



# Indian Narrow-headed Softshell Turtle

*Chitra indica*

**CONSERVATION STATUS**

**IUCN**
**Endangered**
**CITES**
**Appendix II**
**WPA**
**Schedule II**

## SIZE

Maximum shell lengths 72 inches, males have comparatively longer tails and thicker bases.

## BREEDING SEASON

Breeding takes place during the monsoon in central India alone and during the dry seasons in rest of its distribution. It lays 65-193 eggs

## HABITAT

Moderate to large rivers with low turbidity and sandy bottoms.

## DISTRIBUTION

Found in the Ganga, Godavari, Coleroon, Mahanadi in India. Trans-boundary distribution: Bangladesh; Myanmar; Pakistan.

## DIET

Fishes, mollusks and crustaceans.



CONSERVATION STATUS

IUCN
Vunerable
CITES
Appendix I
WPA
Schedule I

# Indian Softshell Turtle

*Nilssonia gangetica*

## SIZE

Maximum shell length 28 inches.

## BREEDING SEASON

Breeding takes place between August-November. It lays 8-47 eggs.

## HABITAT

Rivers and large reservoirs, streams, canals, ponds, lakes with a bed of mud/sand.

## DISTRIBUTION

Found in the Ganga and Mahanadi River in India.
Trans-boundary distribution: Bangladesh; Pakistan.

## DIET

Omnivorous, eating not only mollusks, insects, fish, amphibians, waterfowl and carrion, but aquatic plants as well. Sometimes they feed in large groups.



# Indian Peacock Softshell Turtle

*Nilssonia hurum*

**CONSERVATION STATUS**

**IUCN**
Vulnerable
**CITES**
Appendix I
**WPA**
Schedule I

## SIZE

Maximum shell length 23.5 inches. Males possess relatively longer and thicker tails than females, with the cloaca situated close to the tail-tip

## BREEDING SEASON

Breeding takes place between August-November. It lays 20-30 eggs.

## HABITAT

Rivers, streams, lakes and ponds with mud or sand bottoms.

## DISTRIBUTION

Found in the Ganga, Brahmaputra, Chambal rivers in India.
Trans-boundary distribution: Bangladesh; Nepal; Pakistan

## DIET

Omnivorous, juveniles observed feeding on mosquito larvae and fish, while adults consume snails, earthworms, prawns, fish, frogs, carrion, and vegetation.



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National Mission for Clean Ganga

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Wildlife Institute of India