



# Threatened Species of *Jharkhand*



**Jharkhand Biodiversity Board**

138/C, Vidyalaya Marg -C, Ashok Nagar, Road No. 4, Ranchi - 834002

Website : [www.jbb.jharkhand.gov.in](http://www.jbb.jharkhand.gov.in); E-mail : [jbbbranchi@gmail.com](mailto:jbbbranchi@gmail.com)

Ph. : 0651-3511152





# Preface

**B**iodiversity is the outcome of over 3.5 million years of natural evolutionary process influenced by human actions. It sustains the web of life and humans fully depends on it. Therefore, conservation of biodiversity is the basis for our survival.

India has a remarkable assemblage of biological resources in its diverse habitats and ecosystems that has made it one of the 12 mega diversity countries of the world and one of the four in Asia.

Biodiversity is the very basis of the life on earth. Without it, the functioning of ecosystems which provide as with products and services, could not be possible.

The state is geographically known as Chotanagpur Plateau, which forms the north eastern portion of peninsular plateau of India spreading over an area of 7.97 million hectares, with a population as per 2011 census is 32,988,134 .Out of this total population about 28% belongs to the schedule tribes.

Total recorded forest area of the state is 23,605 km<sup>2</sup> which is 29.61% of the geographical area of the state. The huge forest cover signified the name Jharkhand which literally mean “the region of forest.” A number of plants are used by the tribals in some form or other for the treatment of their various ailments.

The state of Jharkhand is a part of biodiversity rich regions of India because of its diverse physiographic and climatic conditions. More than 70% of the total population of the state is exclusively dependent on the herbs and traditional healers for maintaining a reasonable level of health.

The state Government is committed to conserve its biodiversity. The conservation efforts are reflected in budgetary and infrastructural support that the state government is extending to this cause. Jharkhand is no exception; according to the FSI (Forest Survey of India) Report there has been an increase in forest cover of Jharkhand. In spite of all those efforts plant species are disappearing due to various factors and the red list becoming larger. This present write-up deals with IUCN Status like Critically Endangered, Endangered, Vulnerable and Near Threatened Fauna Species of Jharkhand.

(Shri Sarvesh Singhal.IFS)  
Chairman  
Jharkhand Biodiversity Board, Ranchi

# Introduction

The IUCN Red List Categories and Criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction. The general aim of the system is to provide an explicit, objective framework for the classification of the broadest range of species according to their extinction risk. However, while the Red List may focus attention on those taxa at the highest risk, it is not the sole means of setting priorities for conservation measures for their protection. The IUCN Red List Categories and Criteria were designed for global taxon assessments. There are several categories of extinction which is as follows

**EXTINCT (EX)** A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), and throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

**EXTINCT IN THE WILD (EW)** A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), and throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

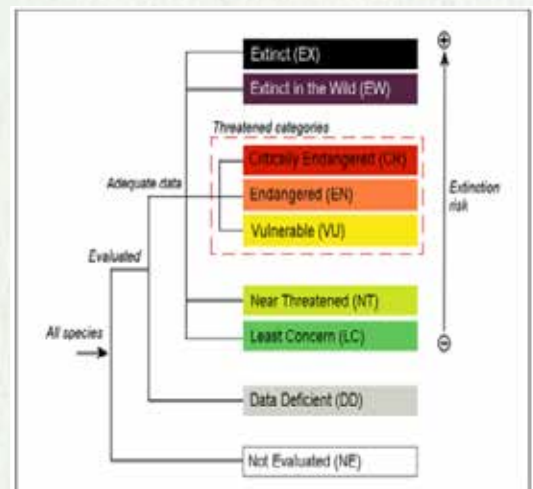
**CRITICALLY ENDANGERED (CR)** A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

**ENDANGERED (EN)** A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild

**VULNERABLE (VU)** A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.

**NEAR THREATENED (NT)** A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

**LEAST CONCERN (LC)** A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.



Minister Prakash Javadekar provided the information to the Rajya Sabha on May 9 in reply to a question raised by Rajya Sabha member Parimal Nathwani. The minister declare with the consultation of Zoological survey of India that Jharkhand has 36 endangered species namely Tiger, Ganges river dolphin, Sloth Bear, Asian Elephant, Indian Giant squirrel, Flying squirrel, Mouse Deer, Marsh Harriers, Darter, White necked stork, Fulvous whistling Duck, Ferruginous pochard, Bengal Florican, Greater Adjutant, lesser Adjutant, Nordmann's Greenshank, Black-bellied Tern, Egyptian Vulture , Red-headed Vulture, Himalayan Vulture, White-rumped Vulture, Indian Vulture, Indian Spotted Eagle, Greater Spotted Eagle, Eastern Imperial Eagle, Pallas's Fish Eagle, Green Avadavat, Bristled Grass Warbler, River lapwing, lesser adjutant, River Tern, Oriental white ibis, Black bellied tern, Flap Shell turtles, Crat and Russell Viper.

Enumeration of Endangered Fauna by secondary source is listed below and Photograph is also downloaded by internet.

### Threatened Species in Jharkhand

SI.No	Common Name	Scientific Name	Global Status	Assessment year
1	White Rumped Vulture	<i>Gyps bengalensis</i>	CR	07/07/2021
2	Red Headed Vulture	<i>Sarcogyps calvus</i>	CR	15/07/2021
3	Bengal Florican	<i>Houbaropsis bengalensis</i>	CR	07/08/2018
4	Indian vulture	<i>Gyps indicus</i>	CR	09/07/2021
5	Asian Elephant	<i>Elephas maximus</i>	EN	18/09/2021
6	Egyptian Vulture	<i>Neophron percnopterus</i>	EN	21/07/2021
7	Tiger	<i>Panthera tigris</i>	EN	15/12/2021
8	Greater Adjutant	<i>Leptoptilos dubius</i>	EN	01/10/2016
9	Pallas Fish Eagle	<i>Haliaeetus leucoryphus</i>	EN	06/04/2021
10	South Asian River Dolphin	<i>Platanista gangetica</i>	EN	01/08/2021
11	Black Headed Ibis	<i>Threskiornis melanocephalus</i>	NT	01/10/2016
12	Oriental Darter	<i>Anhinga melanogaster</i>	NT	01/10/2016
13	River Lapwing	<i>Vanellus duvaucelii</i>	NT	01/10/2016
14	Himalayan vulture	<i>Gyps himalayensis</i>	NT	08/07/2021
15	Indian Flapshell Turtle	<i>Lissemys punctata</i>	VU	12/03/2018
16	Lesser Adjutant	<i>Leptoptilos javanicus</i>	VU	01/10/2016
17	Indian Spotted Eagle	<i>Clanga hastata</i>	VU	01/10/2016
18	Greater Spotted Eagle	<i>Clanga clanga</i>	VU	01/07/2021
19	River Tern	<i>Sterna aurantia</i>	VU	27/07/2020
20	Sloth Bear	<i>Melursus ursinus</i>	VU	18/03/2016
21	Eastern Imperial Eagle	<i>Aquila heliaca</i>	VU	01/10/2016
22	Green Avadavat	<i>Amandava formosa</i>	VU	09/08/2018
23	Bristled Grass Warbler	<i>Schoenicola striatus</i>	VU	01/10/2016

## *Gyps bengalensis*, White-rumped Vulture

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Gyps bengalensis</i> (Gmelin, 1788)
Common Name(s)	White-rumped Vulture
IUCN Status	Critically Endangered



### General Information

75-85 cm. Medium-sized, dark vulture. Adult has blackish plumage, white neck-ruff, rump and underwing-coverts, silvery panel on upper surface of secondaries, dark head and neck, and rather short, heavy, mostly silver bill. Juvenile dark brown with prominent white shaft-streaks, especially below. White down on head and neck and usually a brownish nape-patch. Subadult drabber brown. This species qualifies as Critically Endangered because it has suffered an extremely rapid population decline of >99% over three generations, primarily as a result of feeding on carcasses of animals treated with the veterinary drug diclofenac.

Since the mid-1990s, it has suffered a catastrophic decline (over 99%) across the Indian Subcontinent (the majority of its historic range), first noticed by villagers in northern India in 1996-97 (A. Rahmani *in litt.* 2016).

### Habitat and Ecology

It occurs mostly in plains and less frequently in hilly regions where it utilizes light woodland, villages, cities, and open areas. It feeds on carrion, both putrid and fresh. While feeding considerable aggregations can form, and regular communal roost sites are used. It is social and usually found in conspecific flocks. It breeds in colonies in tall trees (e.g. in Himanchal Pradesh it is restricted to pine forest/plantations [Thakur 2015, M. Thakur *in litt.* 2016]), often near human habitation. Movements are poorly known, although satellite-tagged birds have shown that they will forage over a vast range. The degree of connectivity of apparently separate populations is not known. Vultures also play a key role in the wider landscape as providers of ecosystem services, as they were previously heavily relied upon to help dispose of animal and human remains in South Asia.

### Threats

By mid-2000, *Gyps* vultures were being found dead and dying in Nepal, Pakistan, Bangladesh and throughout India, and major declines and local extirpations were being reported (Prakash *et al.* 2003, 2007, Gilbert *et al.* 2006). The non-steroidal anti-inflammatory drug (NSAID) diclofenac, used to treat domestic livestock, has been identified as the cause of mortality. Vultures are exposed to diclofenac and other NSAIDs through scavenging on the carcasses of largely cattle and buffalo that had been treated prior to death (often as part of palliative care) and left for scavengers to consume.



## *Houbaropsis bengalensis*, Bengal Florican

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Otidiformes
Family	Otididae
Taxon Name	<i>Houbaropsis bengalensis</i> (Gmelin, 1789)
Common Name(s)	English: Bengal Florican, Bengal Bustard
IUCN Status	Critically Endangered



### General Information

Identification Information: 66-68 cm. Mostly black bustard with largely white wings. In flight, wings entirely white except for black tips. Female and immature are buff-brown to sandy-rufous, and have buffish-white wing-coverts with fine, dark barring.

Range Description: The species has two disjunct populations, one in the Indian Subcontinent, the other in South-East Asia (BirdLife International 2001). The former occurs from Uttar Pradesh, India.

### Habitat and Ecology

It inhabits lowland dry, or seasonally inundated, natural and semi-natural grasslands, often interspersed with scattered scrub or patchy open forest. Some Indian populations appear to be resident, but the species may make short distance movements away from breeding areas with the arrival of the monsoon as vegetation becomes too dense for it (R. Jha in litt. 2016, Jha et al. 2018). These movements may take the species into areas of low human density with short-grazed grasslands and low-intensity agriculture (A. Rahmani and R. Jha in litt. 2016, Jha et al. 2018).

### Threats

In South Asia, most populations are small, isolated and vulnerable to local extirpation. The key threats are the extensive loss and modification of grasslands through drainage, conversion to agriculture and plantations, overgrazing, inappropriate cutting, burning and ploughing regimes, heavy flooding, invasion of alien species, scrub expansion, dam construction and inappropriate and illegal development (Brahma and Lahkar 2009, Evans et al. 2009, van Zalinge et al. 2009, Ibbett et al. 2017).

### Distribution Map

*Houbaropsis bengalensis*



Range  
 Yellow: Extant (resident)  
 Red: Possibly Extinct

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2001)



© The IUCN Red List of Threatened Species: *Houbaropsis bengalensis* – published in 2018.  
<http://dx.doi.org/10.2305/IUCN.LK.2018-2.RLTS.723692015A.L1318AB96.en>

## *Gyps indicus*, Indian Vulture

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Gyps indicus</i> (Scopoli, 1786)
Common Name(s)	Indian Vulture
IUCN Status	Critically Endangered



### General Information

92 cm. Typical *Gyps* vulture. Robust, strong features giving eagle-like bearing. Perched adults have pale yellowish bill and cere; pale eyerings; large white neck-ruff; and buff back and upperwing coverts. The stout blackish neck has pale down. Juveniles have dark bill with pale culmen; pinkish head and neck covered in pale down and dingy heavily streaked underparts. In flight thighs are heavily feathered and concolourous with the rest of the underparts.

This species is classified as Critically Endangered because it has suffered an extremely rapid population decline as a result of mortality from feeding on carcasses of animals treated with the veterinary drug diclofenac.

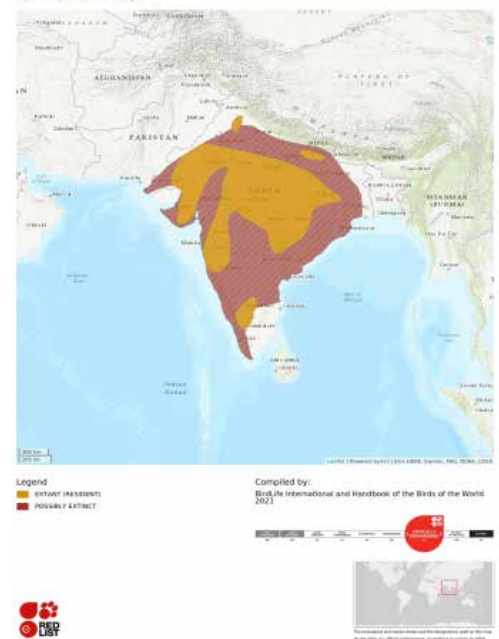
### Habitat and Ecology

It is found in cities, towns and villages near cultivated areas, and in open and wooded areas. This species feeds almost entirely on carrion, and often associates with White-rumped Vulture *G. bengalensis* when scavenging at carcass dumps and slaughterhouses. It nests almost exclusively in colonies on cliffs and ruins, although in one area, where cliffs are absent, it has been reported nesting in trees. Vultures also play a key role in the wider landscape as providers of ecosystem services, and were previously heavily relied upon to help dispose of animal and human remains in India, which in turn reduces the amount of food available for potentially problematic species, such as feral dogs (Prakash *et al.* 2012b).

### Threats

By mid-2000, *Gyps* vultures were being found dead and dying in Pakistan and throughout India, and major declines and local extirpations were being reported (Prakash *et al.* 2003, 2007, Gilbert *et al.* 2006). The non-steroidal anti-inflammatory drug (NSAID) diclofenac, used to treat domestic livestock, has been identified as the cause of mortality, with renal failure resulting in visceral gout found in the vast majority of examined vultures (Oaks *et al.* 2004a, Shultz *et al.* 2004, Swan *et al.* 2006b, Gilbert *et al.* 2006). Vultures are exposed to diclofenac and other NSAIDs through scavenging on the carcasses of largely cattle and buffalo that have been treated with the drugs prior to death and left for scavengers to consume (as is tradition in Hindu cultures). Vultures are unable to process diclofenac and other vulturetoxic NSAIDs that then cause renal failure and death.

Distribution Map



## *Sarcogyps calvus*, Red-headed Vulture

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Sarcogyps calvus</i> (Scopoli, 1786)
Common Name(s)	Red-headed Vulture
IUCN Status	Critically Endangered

### General Information

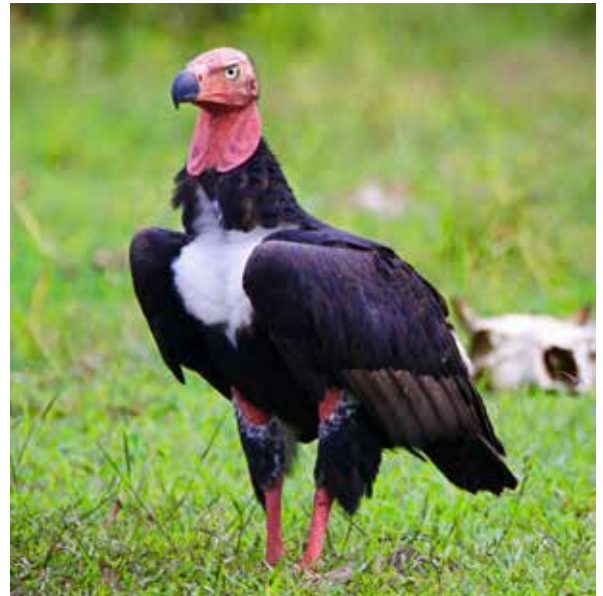
This species has suffered an extremely rapid population reduction in the recent past which is likely to continue into the near future, probably largely as a result of feeding on carcasses of animals treated with the veterinary drug diclofenac, perhaps in combination with other causes. For this reason it is classified as Critically Endangered.

Historical reports indicate that it was widespread and generally abundant, but it has undergone a massive population and range decline in recent decades. Recent information indicates that in India the species started undergoing a rapid decline (41% per year) in about 1999, and declined by 91% between the early 1990s and 2003 (Cuthbert *et al.* 2006). Declines in the Indian Subcontinent have followed widely reported and well-researched declines in *Gyps* vultures owing to mortality following ingestion of the non-steroidal anti-inflammatory drug (NSAID) diclofenac, used to treat livestock, and it is hypothesised that this same drug has been responsible for the observed trends in Red-headed Vulture in the region.

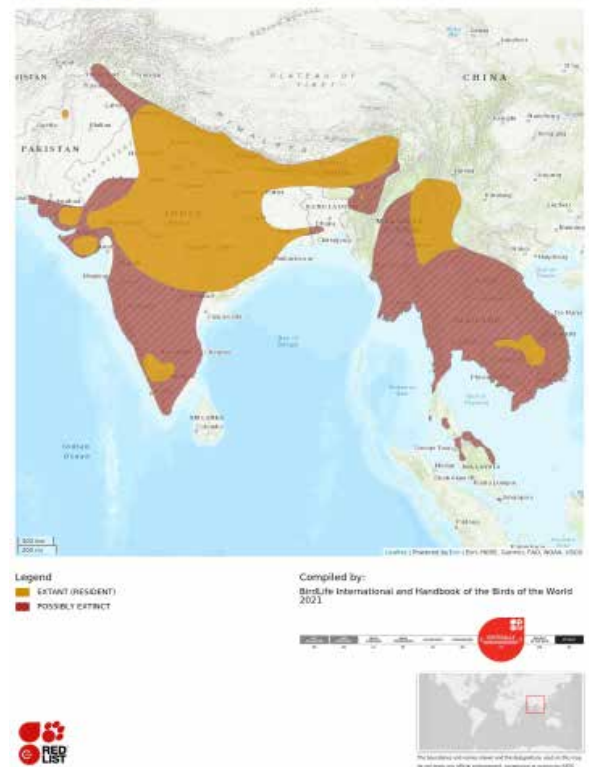
Cuthbert *et al.* (2006) recorded a decline of c.91% (range: 61-98%) in the number of individuals counted during surveys in India during 1992-2003, which equates to a decline of >99% (range: 94.8-99.9%) over three generations (34.53 years [Bird *et al.* 2020]). Similarly, Galligan *et al.* (2014) reported a decline of 94% from 1992 to 2003 in India, although there was evidence of a partial recovery during the late 2000s. The frequency of reports of Red-headed Vulture sightings on eBird declined by c.81% during 2000-2018, further indicating a steep population decline (SoIB 2020).

### Habitat and Ecology

It frequents open country usually away from human habitation, well-wooded hills and dry deciduous forest with rivers, usually below 2,500 m. Nesting has been recorded in tall trees. It occurs at lower density than *Gyps* vultures owing to its predominantly territorial behaviour, and movements are poorly known. Vultures play a key role in the wider landscape as providers of ecosystem services, and were previously heavily relied upon to help dispose of animal and human remains in India.



Distribution Map



### Threats

The disappearance of vultures from Asia is linked to a suite of factors: notably the demise of wild ungulates, unintentional poisoning, the intensification of agriculture, increased sophistication of waste disposal techniques, direct persecution and disease (Clements *et al.* 2013). However, rapid declines since the turn of the 21st century are believed to have been driven by the pharmaceutical NSAID diclofenac used to treat livestock, which has proven highly toxic to Gyps vultures, causing mortality from renal failure that results in visceral gout (Cuthbert *et al.* 2006). A recent study found that Red-headed Vulture population declines in India had slowed and were possibly increasing following a ban on diclofenac, which suggests that the species is also adversely affected by the drug (Galligan *et al.* 2014).

## *Leptoptilos dubius*, Greater Adjutant

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Ciconiiformes
Order	Aves
Family	Ciconiidae
Taxon Name	<i>Leptoptilos dubius</i> (Gmelin, 1789)
Common Name(s)	English: Greater Adjutan
IUCN Status	Endangered



### General Information

This wide-ranging and long-lived species has a very small population which is declining very rapidly. For these reasons it is classified as Endangered.

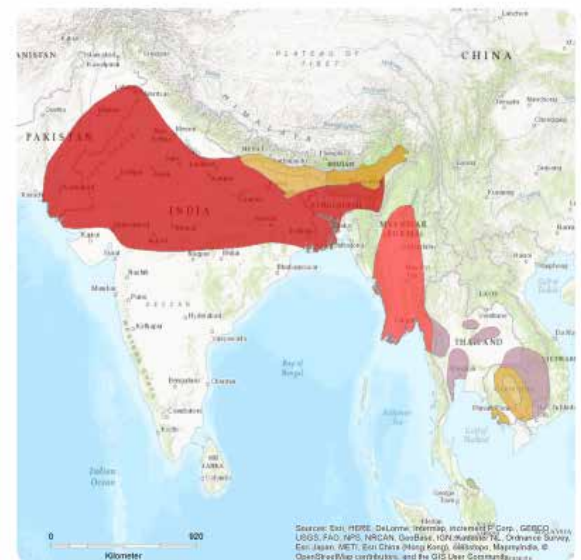
This species was previously widespread and common across much of South and continental South-East Asia but declined dramatically during the first half of the 20th century (Birdlife International 2001). It is known to breed in Assam (at least 650-800 birds, or more [Choudhury 2000]) and Bihar (more than 350 birds [A. Choudhury in litt. 2016]).

### Habitat and Ecology

This species's population is suspected to be decreasing very rapidly, in line with levels of direct exploitation and habitat destruction, particularly lowland deforestation and the felling of nest-trees, and drainage, conversion, pollution and over-exploitation of wetlands. Given the species's longevity, population trends are measured over a three-generation period of 45 years and hence the impacts have been severe. While breeding in the dry season (October-April/May) it inhabits wetlands, nesting in tall trees with closed canopies and bamboo clumps around nesting trees, and historically on cliffs. Breeding is thought to coincide with the dry season in order to take advantage of abundant prey as water levels recede (Singha et al. 2003). In north-east India, it occurs close to and within urban areas (Barman and Sharma in press, A. Choudhury in litt. 2016), feeding around wetlands in the breeding season, and dispersing to scavenge at rubbish dumps, abattoirs and burial grounds at other times.

### Distribution Map

*Leptoptilos dubius*



Range

- Extant & Vagrant (non-breeding)
- Extant (breeding)
- Extant (non-breeding)
- Extant (resident)
- Extinct
- Possibly Extant (non-breeding)
- Possibly Extinct

Compiled by:  
BirdLife International and Handbook of the Birds of the World  
(2010)

© IUCN



© The IUCN Red List of Threatened Species: *Leptoptilos dubius* – published in 2016.  
<http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22697721A9363471.en>

### Threats

The key threats are direct exploitation, particularly at nesting colonies, habitat destruction, including felling of nest-trees, and drainage, conversion, pollution and over-exploitation of wetlands. Additionally, the Indian population is threatened by contaminated open rubbish dumps where pollutants are disposed along with carcasses and foodstuffs and it is also known to accidentally ingest polythene bags if food is wrapped inside (J. Mandal in litt. 2016). Young birds may also become entangled in fishing nets and the species may suffer from the disturbance of arboreal animals, competition for nesting habitat from the Lesser Adjutant *L. javanicus* and the exacerbation of persecution levels owing to its pest status (Mishra and Mandal 2009). Poisoning of small wetlands to catch fish in the dry forests of northern and eastern Cambodia potentially poses a significant threat, and in Guwahati, India, pesticide use at open rubbish dumps where storks flocked to feed led to several mortalities in 2005.

## *Elephas maximus*, Asian Elephant

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Proboscidea
Family	Elephantidae
Taxon Name	<i>Elephas maximus</i> Linnaeus, 1758
Common Name(s)	Asian Elephant, Indian Elephant
IUCN Status	Endangered



### General Information

The Asian Elephant is listed as Endangered (EN) because of a population size reduction inferred to be at least 50% over the last three generations, based on a reduction in its area of occupancy and the quality of its habitat. In light of growing anthropogenic threats across elephant habitats, population declines are a distinct possibility. However, the lack of reliable population estimates across most of the Asian elephant range presents a considerable challenge to detecting such declines.

In central India, highly fragmented elephant populations are found in the states of Odisha, Jharkhand, Chhattisgarh and the southern part of West Bengal. Elephants have now started migrating to neighbouring Madhya Pradesh from Chhattisgarh.

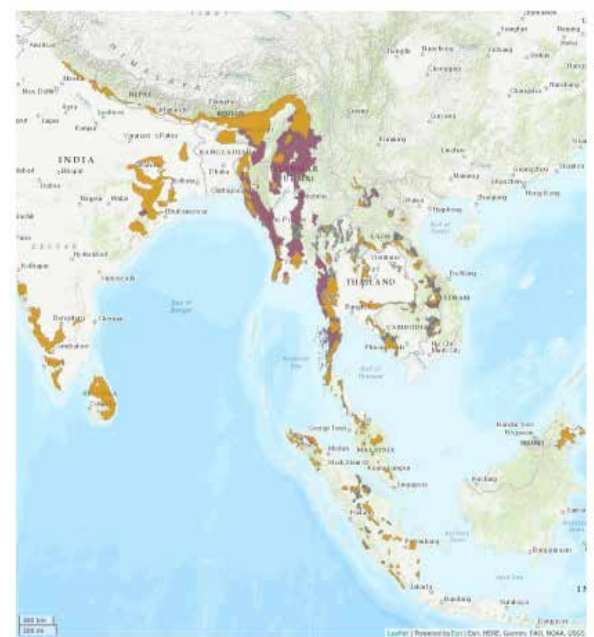
### Population

As of 2018, population size estimates collated across all range countries, suggest a global Asian Elephant abundance of 48,323–51,680 individuals in the wild (Menon and Tiwari 2019). In India 29,964 reported by interview of expert. The overall population trend of the Asian Elephant has been downwards, as inferred from the reduction in habitat, probably for centuries.

### Habitat and Ecology

The Asian Elephant is one of the last few mega-herbivores (i.e. plant-eating mammals that reach an adult body weight in excess of 1,000 kg) still extant on earth (Owen-Smith, 1988). Being hindgut fermenters with relatively poor digestive efficiency (Dumoncaux 2006), elephants must consume large quantities of food per day to meet energy requirements. They are generalists and feed on a variety of plants, which vary depending upon the habitat and season. Baskaran (2002) also recorded that elephants fed on 82 species of plants (59 woody plant species and 23 grass species). Elephants may spend up to 14–19 hrs a day feeding, during which they may consume up to 150 kg of wet weight (Vancuylenberg 1977). Elephant densities can range from > 3/km<sup>2</sup> in parts of India. The lifespan of Asian Elephants is 60 to 70 years, and males reach sexual maturity at between 10–15 years of age; while females are capable of giving birth as early as 11, most do so in the wild between the ages of 13–16 (Shoshani and Eisenberg 1982, de Silva et al. 2013).

Distribution Map



Legend  
 ■ EXTANT (RESIDENT)  
 ■ POSSIBLY EXTANT (RESIDENT)  
 ■ POSSIBLY EXTANT & ORIGIN UNCERTAIN (RESIDENT)

Compiled by:  
 IUCN/SSC AsESG, WCS, WWF 2020



## *Haliaeetus leucoryphus*, Pallas's Fish-eagle

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Haliaeetus leucoryphus</i> (Pallas, 1771)
Common Name(s)	Pallas's Fish-eagle
IUCN Status	Endangered



### General Information

76-84 cm. Large eagle with pale brownish hood and black-and-white tail. Adult dark brown, with warm buffish to whitish head, neck and upper mantle and blackish tail with broad, white central band. Juvenile more uniformly dark, with all-dark tail, but in flight shows strongly patterned underwing, with whitish band across coverts and prominent, whitish primary flashes.

This species has a small, declining population as a result of the widespread loss, degradation and disturbance of wetlands and breeding sites throughout its range. The global population is thought to comprise a single, migratory subpopulation. It is therefore listed as Endangered.

This species was previously thought to be a migratory breeder north of the Himalayas, with a stronghold in **Mongolia**, and a resident population in the Indian subcontinent, recent evidence and re-evaluation of historical data has since suggested that this is not, and may never have been, the case.

### Habitat and Ecology

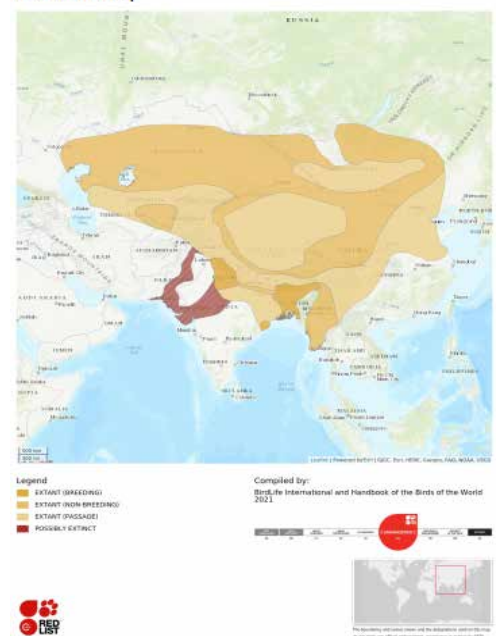
It is closely associated with wetlands, principally large lakes and rivers, from the lowlands to 5,000 m. It generally nests in trees near water. Breeding takes place from September-February in northern India and Myanmar (BirdLife International 2001), and in Bangladesh it returns to nest sites in late August (Sourav *et al.* 2011).

Three satellite-tracked birds recently provided evidence that the species undertakes extensive, seasonal migrations of over 4,000 km from India to Mongolia and Russia. Tracked individuals also demonstrated a previously unknown capability to fly directly over the Himalayas at altitudes exceeding 6,000 m (Steele 2017).

### Threats

Key threats are habitat loss, degradation and disturbance. Across the Indian subcontinent, and probably most of its range, wetlands have been drained or converted for agriculture and human settlements. The felling of large trees near wetlands has reduced the availability of nest and roost sites. The spread of water hyacinth *Eichhornia crassipes* is a problem in India, as is the siltation of lakes due to catchment deforestation. Pollution of wetlands with pesticides and industrial effluents reduces breeding success. Habitat loss and degradation are compounded by disturbance of wetlands. Reductions in the prey base, primarily through hunting and over-fishing, are further consequences of increasing human pressure.

Distribution Map



## *Neophron percnopterus*, Egyptian Vulture

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Neophron percnopterus</i> (Linnaeus, 1758)
Common Name(s)	Egyptian Vulture, Egyptian Eagle
IUCN Status	Endangered



### General Information

This long-lived species qualifies as Endangered owing to a recent and extremely rapid population decline in India, presumably resulting from poisoning by the veterinary drug diclofenac.

### Habitat and Ecology

This species typically nests on ledges or in caves on cliffs (Sarà and Di Vittorio 2003), crags and rock outcrops, but occasionally also in large trees, buildings (mainly in India), electricity pylons (Naoroji 2006) and exceptionally on the ground (Gangoso and Palacios 2005). It has a broad diet including carrion, tortoises, organic waste, insects, young vertebrates, eggs and even faeces (Margalida *et al.* 2012, Dobrev *et al.* 2015, 2016).

### Threats

It appears that diclofenac, a non-steroidal anti-inflammatory drug (NSAID) often used for livestock, and which is fatal to *Gyps* spp. when ingested at livestock carcasses (BirdLife International 2008), is driving the recent rapid declines in India (Cuthbert *et al.* 2006, A. Rahmani *in litt.* 2012, Galligan *et al.* 2014). The veterinary drug diclofenac has now been banned by the Indian government. In 2007.

### Distribution Map



Legend

- EXTANT (RESIDENT)
- EXTANT (BREEDING)
- EXTANT (NON-BREEDING)
- EXTANT (PASSAGE)
- POSSIBLY EXTINCT
- EXTINCT

Compiled by:  
BirdLife International and Handbook of the Birds of the World  
2021



The boundaries and geographical information presented in this map do not imply any endorsement, approval or support by ICBP.

## *Platanista gangetica*, Ganges River Dolphin

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Cetartiodactyla
Family	Platanistidae
Taxon Name	<i>Platanista gangetica</i> (Lebeck, 1801)
Common Name(s)	Ganges River Dolphin
IUCN Status	Endangered



### General Information

Baseline data on population size and distribution across the range of Ganges River Dolphins has increased significantly since previous assessments. However, many surveys have lacked sufficient rigor for comparing estimates between different areas, calculating detection bias, and robust estimation of trends.

Ganges River Dolphins historically occurred throughout the GBM and Karnaphuli-Sangu (KS) river basins from their tidal deltas in India and Bangladesh, to the plains at the Himalayan foothills, where rocky barriers, shallow water, and fast currents prevented upstream movement (Nepal, Arunachal Pradesh in India).

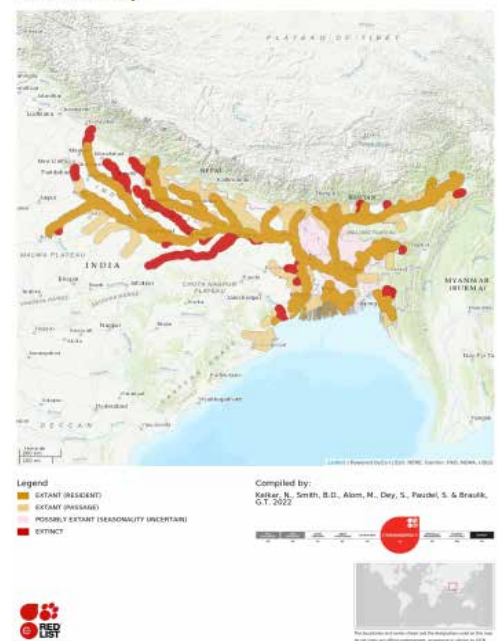
### Habitat and Ecology

Ganges River Dolphins are generally concentrated in counter-current pools below channel convergences and sharp meanders (Kasuya and Haque 1972, Smith 1993, Smith *et al.* 1998, 2000) and above and below mid-channel islands, bridge pilings, and other engineering structures that cause scouring (Smith *et al.* 1998, Smith and Reeves 2012). Dolphins appear to prefer river sections with thalweg depths of 5–12 m in larger river channels (Kelkar *et al.* 2010). In shallower tributaries, dolphins were found in river channels with depths from 2.5 to 5 m (Choudhary *et al.* 2012). River dolphin site-fidelity to countercurrent pools is probably the greatest in fast-flowing channels (Smith *et al.* 1998). Annual monsoondriven floods cause great variability in the amount of available habitat. Ganges River Dolphins use high-frequency echolocation clicks, with relatively low sound source levels compared to marine dolphins. Ganges River Dolphins forage on small fish and shrimp (Ura *et al.* 2007, Jensen *et al.* 2013, Kelkar *et al.* 2018). The dolphins are largely solitary, with mother-calf pairs as the only obvious social grouping, and little is known about social interactions (Sutaria *et al.* 2019, Braulik *et al.* 2020).

### Threats

Major threats to Ganges River Dolphins include 1) flow regulation and habitat fragmentation by water development projects (dams, barrages, canals, and embankment construction projects), 2) mortality from entanglement in fishing nets, 3) targeted hunting of dolphins for oil and flesh, 4) river pollution, and 5) disturbance from human activities related to boat traffic, underwater noise, and shoreline/riverfront development (Smith and Smith 1998, Reeves *et al.* 2000, Sinha *et al.* 2010, Sinha and Kannan 2014, Dey *et al.* 2018, Braulik and Smith 2019, Kelkar and Dey 2020). Other emerging threats include river bottom sediment dredging, saline ingress from sea level rise (in the Sundarbans Delta), and the impacts of climate change on basin-scale hydrological dynamics.

Distribution Map



## *Panthera tigris*, Tiger

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Felidae
Taxon Name	<i>Panthera tigris</i> (Linnaeus, 1758)
Common Name(s)	Tiger
IUCN Status	Endangered



### General Information

The Tiger is listed as Endangered under criterion A2abcd. Based on the evidence of Tiger population and/or range declines across the 30-year assessment period (upper bound of GL (7-10 years)) in at least nine of the 13 countries, which had extant Tiger subpopulations at the beginning of the assessment period, we applied a conservative precautionary approach to the assessment. Declines over the past three generations are largely due to poaching and habitat loss. Both threats continue throughout the Tiger range; hence, criterion A1 was dismissed (Walston *et al.* 2010; Sanderson *et al.* 2006 and in prep.; Robinson *et al.* 2015). Criteria A3 and A4 were also dismissed because future trends are unclear.

### Habitat and Ecology

Extant Tiger subpopulations occur in the tropical, subtropical and temperate forests of South and Southeast Asia. Tigers are habitat generalists, and have adapted to diverse habitats inclusive of equatorial rainforests and mangroves in India and Sumatra, semi-arid habitats of western India, Himalayan deciduous and evergreen forests up to elevations of about 4,500 m and temperate forests in northeast Russia and China.

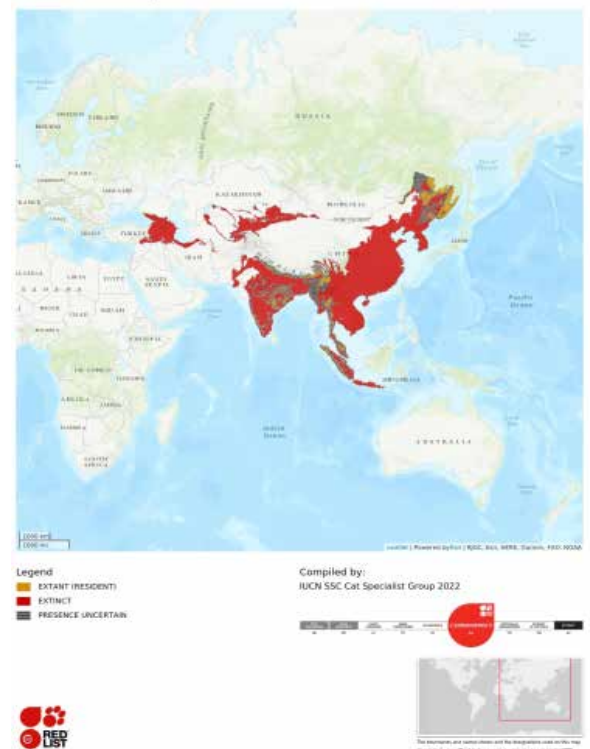
Tigers are generally solitary, with adults maintaining exclusive territories or home ranges. Adult female home ranges seldom overlap, whereas male ranges typically overlap with 1–3 females, a typical pattern of social organisation among solitary felids. Tiger home ranges are small where prey is abundant; e.g., female home ranges in Chitwan averaged 20 km<sup>2</sup>, while in the Russian Far East, they are much larger at about 400 km<sup>2</sup> (Sunquist and Sunquist 2002, Goodrich *et al.* 2010).

All Tiger subspecies have been listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1975 (except for Amur Tiger, *Panthera tigris altaica*, which was added to Appendix I in 1987).

### Threats

Hunting of Tigers and their prey has been the main driver of Tiger population declines during the assessment period (i.e., since 1991). Poaching for illegal trade in high-value Tiger products including skins, bones, meat, and tonics, is a primary threat to Tigers, which, along with prey depletion, has led to their recent disappearance from broad areas

Distribution Map



of otherwise suitable habitat and continues at unsustainable rates. Tiger occupancy has declined 53% since 1997 (Dinerstien *et al.* 1997) and 20% since 2005 (Sanderson *et al.* 2006 and in prep.), with the decline largely attributed to poaching, though habitat loss has also been considerable during that period.

## *Clanga hastata*, Indian Spotted Eagle

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Clanga hastata</i> (Lesson, 1831)
Common Name(s)	English: Indian Spotted Eagle
IUCN Status	Vulnerable



### General Information

65 cm. A stocky, medium-sized eagle with short, broad wings and a rather short tail. Adults are essentially brown and successfully identifying this species requires good views. The gape has 'lips' that are extensive and fleshy and extend to the middle of the eye. The nostril is round. The legs appear longer and thinner due to the tarsi being less thickly feathered. In adults the brown of the plumage is paler, and as a result there is an obvious contrast between the paler wing-coverts and flight feathers, both above and below. The head is large in relation to body size.

*Clanga hastata* appears to be a widespread species that has always been recorded at very low densities in the lowlands of the Indian subcontinent, occurring in Nepal, India, and Myanmar (Robson 2000, Parry et al. 2002, Rasmussen and Anderton 2005, Tordoff et al. in press).

### Habitat and Ecology

This species is a powerful predator that seizes its, mostly mammalian, prey from the ground whilst quartering over open areas within, or near, forest. It also preys on frogs and birds. It is a tree-nesting species, favouring open habitats such as low intensity agriculture, wetlands and open forest and forest clearings year-round (P. Davidson in litt. 2003).

### Threats

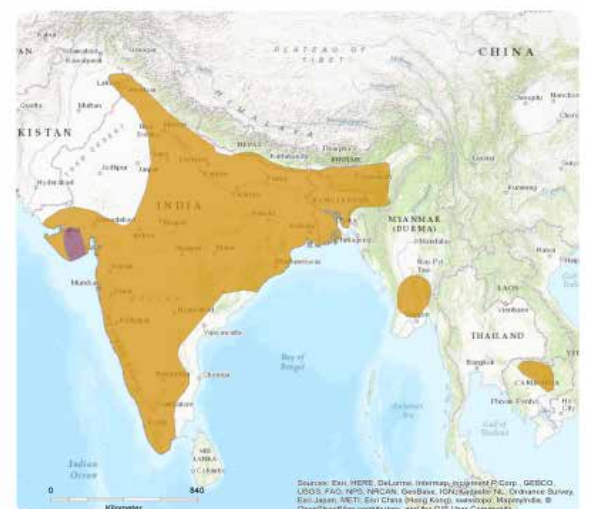
Although poorly known, this species is undoubtedly threatened by conversion and disturbance of forested habitats within its range. A number of other threats have had negative impacts on many raptor populations in Asia and further research into the threatening processes that may be affecting this species is required.

### Conservation Actions

Conservation Actions Underway There are recent records from a number of protected areas in India including Keoladeo National Park, Kaziranga National Park, Corbett National Park (W. Clark in litt. 2003), Ranthambore Tiger Reserve and Mudumalai Tiger Reserve (R. Naoroji in litt. 2003). The only records from protected areas in Cambodia are from the Kulen Promtep Wildlife Sanctuary and the Preah Vihear Protected Forest (van Zalinge in litt. 2012).

### Distribution Map

*Clanga hastata*



Compiled by:  
BirdLife International and Handbook of the Birds of the World (2016)



© The IUCN Red List of Threatened Species: *Clanga hastata* – published in 2016.  
<http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22729779A95021573.en>

## Leptoptilos javanicus, Lesser Adjutant

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Ciconiiformes
Family	Ciconiidae
Taxon Name	<i>Leptoptilos javanicus</i> (Horsfield, 1821)
Common Name(s)	English: Lesser Adjutant
IUCN Status	Vulnerable



### General Information

122-129 cm. Very large stork, dark grey-black above, white below, with naked head and neck. Nonbreeders have mostly yellowish head and neck skin with vinous-tinged head sides and contrastingly pale forehead. Breeding males show coppery spots on median coverts, narrow whitish edges to lower scapulars, tertials and inner greater coverts and redder head sides. Juvenile is duller and less glossy above, with more down on head and neck.

This stork is listed as Vulnerable because its population is suspected to be rapidly declining as a result of a variety of threats including hunting pressure, loss of nesting habitat, conversion and degradation of wetlands and agricultural changes and intensification.

India (mostly in Assam, with c.2,000 birds [Choudhury 2000], West Bengal and Bihar, where 42 nests had breeding confirmed in 2004 [Mishra et al. 2004], but present across much of the country [Rahmani 2012]).

### Habitat and Ecology

Inland, birds inhabit natural and human-modified wetlands, both open and forested. Coastal populations frequent mangroves and intertidal flats. It nests colonially in large trees, and historically on cliffs, often at traditional sites in or adjacent to wetlands. It utilises small wetlands within Asian dry forest, and can breed some distance from these; shrinking of pools during the dry season and limited availability can lead to overlap with human uses and resulting disturbance.

### Threats

Several threats are contributing to its decline, with their relative importance varying across its range. The loss of nest-sites through the felling of colony nest-trees is a major threat

### Distribution Map

*Leptoptilos javanicus*



Range  
 ■ Extant (non breeding)  
 ■ Extant (resident)

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2010)



© The IUCN Red List of Threatened Species: *Leptoptilos javanicus* – published in 2017.  
<http://dx.doi.org/10.2305/IUCN.UK.2017-1.RLTS.T22697713A110481858.en>

## *Chaetornis striata*, Bristled Grassbird

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Passeriformes
Family	Locustellidae
Taxon Name	<i>Chaetornis striata</i> (Jerdon, 1841)
Common Name(s)	English: Bristled Grassbird
IUCN Status	Vulnerable



### General Information

20 cm. Large, dark-streaked, buffy-brown warbler with relatively short, thick bill. Similar spp. Striated Grassbird *M. palustris* has longer, narrow bill, more pronounced supercilium and somewhat longer, narrower tail. Voice Song is monotonously repeated trew-treuw usually given in circling display above territory. Hints Look for males song-flighting in breeding season.

**Range Description:** This species is endemic to the Indian Subcontinent, where it is patchily and locally distributed in Bangladesh, India, Nepal, and Pakistan (BirdLife International 2001, M. M. H. Khan in litt. 2016).

### Habitat and Ecology

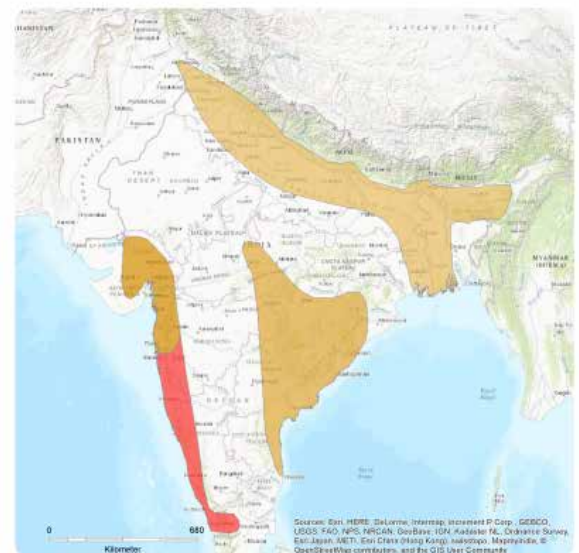
The species is totally dependent on tall, dense grassland with wet soils (Rahmani 2016). It inhabits tall grassland (often dominated by *Imperata* and *Saccharum* species) and reed *Phragmites*, particularly in riverine and swampy areas, and intermixed with low thorny scrub or standing crops of rice. In Nepal, it occurs in relatively open, short grasslands, mostly on dry soils, but also in moist areas with tall reeds and scattered bushes. It is generally encountered singly or in pairs and is difficult to observe, except when song-flighting or breeding in May-September. In Corbett National Park, Uttarakhand, pairs have been observed in courtship in May, with the presence of juvenile birds recorded in July (M. Sharma in litt. 2012). The species has been recorded song-flighting in March-June (P. Thompson in litt. 2016).

### Threats

Large tracts of natural swamp and wet grassland have been destroyed or degraded across its range, as a result of drainage and conversion for agriculture, and most remaining habitat is subject to intense pressure from human encroachment, fire, grass harvesting, grazing by domestic livestock, commercial forestry plantations, dam projects and irrigation schemes.

### Distribution Map

*Chaetornis striata*



Range  
 Extant (breeding)  
 Extant (non breeding)  
 Extant (resident)  
 Possibly Extinct

Compiled by:  
 BirdLife International and Handbook of the Birds of the World  
 (2016)

© The IUCN Red List of Threatened Species: *Chaetornis striata* – published in 2017.  
<http://dx.doi.org/10.2305/IUCN.LIUK.2017.1.RLTS.T22715559A111102835.en>



## Amandava formosa, Green Avadavat

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Passeriformes
Family	Estrildidae
Taxon Name	<i>Amandava formosa</i> (Latham, 1790)
Common Name(s)	English: Green Avadavat
IUCN Status	Vulnerable



### General Information

*Amandava formosa* is endemic to central India, where it is known from southern Rajasthan (where its range is increasing as a result of the spread of new sugarcane fields [Sharma et al. 2012], central Uttar Pradesh, southern Bihar and West Bengal (historically), south to southern Maharashtra, southern Odisha (formerly Orissa) and northern Andhra Pradesh (BirdLife International 2001, H. Palei in litt. 2016). 10 cm. Distinctive green-and-yellow avadavat with black-barred flanks and reddish bill. Females are duller with indistinctly barred flanks. Voice Song is high-pitched warble, ending with prolonged trill.

### Habitat and Ecology

It inhabits grass and low bushes, sugarcane fields, open, shrubby forest and boulder-strewn scrub jungle, often near water, generally in lowlands and foothills. It has also been seen in sparsely vegetated, stony, arid wasteland and a mango orchard. It nests in small colonies between May and January.

### Threats

It has been traded since the late 19th century, and was recently found to be one of the most popular cage-birds in domestic markets. An annual minimum of 2,000-3,000 birds have been smuggled out of India to Europe and America, however since the threat of bird flu the trade to these countries has somewhat curtailed (T. De Graaff in litt. 2014).

### Conservation Actions

Conservation Actions Underway CITES Appendix II. It is legally protected in India, and trapping and trade have been banned since 1981. The impact of trade was assessed between 1992 and 1994.

### Distribution Map

*Amandava formosa*



Range  
 Extant (resident)

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2018)



© The IUCN Red List of Threatened Species: *Amandava formosa* – published in 2018.  
<http://dx.doi.org/10.2305/IUCN.LI.C.2018-2.RLTS.T22719618A131995719.en>

## *Aquila heliaca*, Eastern Imperial Eagle

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Aquila heliaca</i> Savigny, 1809
Common Name(s)	Eastern Imperial Eagle, Asian Imperial Eagle, Imperial Eagle
IUCN Status	Vulnerable



### General Information

Length is 75-84 cm. Large, dark eagle. Generally dark brown with white scapular markings and pale golden-cream nape. Grey base to tail. Juvenile brown fading to pale buff with dark flight feathers. Shows flat wings in flight.

This species has a small global population, and is likely to be undergoing continuing declines, primarily as a result of habitat loss and degradation, adult mortality through persecution and collision with powerlines, nest robbing and prey depletion.

### Habitat and Ecology

Wetlands are apparently preferred on the wintering grounds. Birds are usually seen singly or in pairs, with small groups sometimes forming on migration or at sources of food or water (Ferguson-Lees and Christie 2001).

### Threats

loss and alteration of feeding habitats, shortages of small and medium-sized prey species (particularly ground-squirrels *Semophilus* spp.), nest robbing and illegal trade, shooting, poisoning, electrocution by powerlines and collisions with vehicles.

### Conservation

Prevent mortality from poisoning, electrocution on medium-voltage powerlines, nest robbing, nest destruction and illegal trade as well as persecution in wintering grounds and migratory routes. Maintain feeding habitats by preserving traditional land use.

### Distribution Map

*Aquila heliaca*



Range  
 Extant (breeding)  
 Extant (non-breeding)  
 Extant (passage)  
 Extant (resident)

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2019)



© The IUCN Red List of Threatened Species: *Aquila heliaca* – published in 2019.  
<http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T22696048A155464885.en>

## *Sterna aurantia*, River Tern

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Charadriiformes
Family	<i>Laridae</i>
Taxon Name	<i>Sterna aurantia</i> Gray, 1831
Common Name(s)	River Tern, Indian River Tern
IUCN Status	Vulnerable

### General Information

This species has been uplisted to Vulnerable on the basis that increasing human disturbance, dam construction, waterbody management, and predation are causing a rapid population decline. Whilst the situation is more concerning in Southeast Asia despite its marginal occurrence here, localised declines also continue to occur across India, of which currently holds the majority of the population. Comprehensive monitoring is however required to limit uncertainty in population trends.

This species occurs along river systems across a wide range in southern and south-east Asia, being found in **Pakistan, India, Bangladesh, Myanmar, Thailand** and **Cambodia**. The species will have additional local movement in India, often migrating to Nepal (considered rare) and Bhutan during the non-breeding season. Encroachment of wetlands by cities and developments have however led to drastic declines in altered wetlands since the late 1990's (S. Subramanya *in litt.* 2020).

surveys for the 2008-2015 period then observed across all of Asia and Australasia found an overall 29,577 birds across Myanmar (39 birds), Thailand (2), Bangladesh (74), India (17,776), Nepal (31), Pakistan (11,485) and Cambodia (170) (Mundkur *et al.* 2017).

Precipitous declines have occurred in parts of South-East Asia, whilst local increases and stability have been noted in a few areas of India, making the deciphering of past population trends difficult. Recent estimates in India show that the long-term trend of the species amounts to 41.2% decline (measured as an index of abundance in 2014/2015 relative to pre-2000 data; State of India's Birds 2020).

### Habitat and Ecology

It inhabits rivers and freshwater lakes, also occurring rarely on estuaries, and breeds on sandy and rocky islands, especially along river banks (Mundkur 1991, del Hoyo *et al.* 1996). The species is known to be breed in high concentrations in large reservoirs and rivers, as well as natural and artificial wetlands in India (G. Sundar



Distribution Map



*in litt.* 2020). Some sandbanks may also be used for nesting due to temporary exposure after irrigation and water management from nearby reservoirs (S. Subramanya *in litt.* 2020). Breeding occurs mainly in February-May, although the season may extent from November to May (del Hoyo *et al.* 1996, Mundkur 1991). Breeding occurs mainly in February-May, although the season may extent from November to May (del Hoyo *et al.* 1996, Mundkur 1991). In several places in India, human disturbance, encroachment of wetlands by cities, disturbance by photographers and birdwatchers, egg and chick trampling by domestic water buffalo and Chital deer is common (Amoghavarsha 2013, S. Subramanya *in litt.* 2020).

## Melursus ursinus, Sloth Bear

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Ursidae
Taxon Name	<i>Melursus ursinus</i> (Shaw, 1791)
Common Name(s)	Sloth Bear
IUCN Status	Vulnerable

### General Information

There are no reliable large-scale population estimates for Sloth Bears, nor any reliable large-scale estimates of population change. Since the total occupied area in India has been variously estimated at between 200,000 km<sup>2</sup> (Johnsingh 2003, Akhtar *et al.* 2004, Chauhan 2006) and 400,000 km<sup>2</sup> (Sathyakumar *et al.* 2012), or even more (Puri *et al.* 2015), it is impossible to gauge population trend from changes in occupied area. However, there is, throughout most of the range, a clear trend in deterioration of habitat, which has caused Sloth Bear populations to decline (Akhtar and Chauhan 2008). This deterioration in habitat is expected to accelerate in the future. Habitat outside of protected areas is under severe and growing pressure due to demands for natural resources and the ever increasing populations of both humans and livestock in the region (Akhtar *et al.* 2006a).

The human population growth in India is presently the greatest threat to Sloth Bears. It drives the loss and degradation of habitat and is likely the cause for growing human-bear conflicts in the country. The human population growth of India is particularly alarming because 90-95% of the range of Sloth Bears is in India.

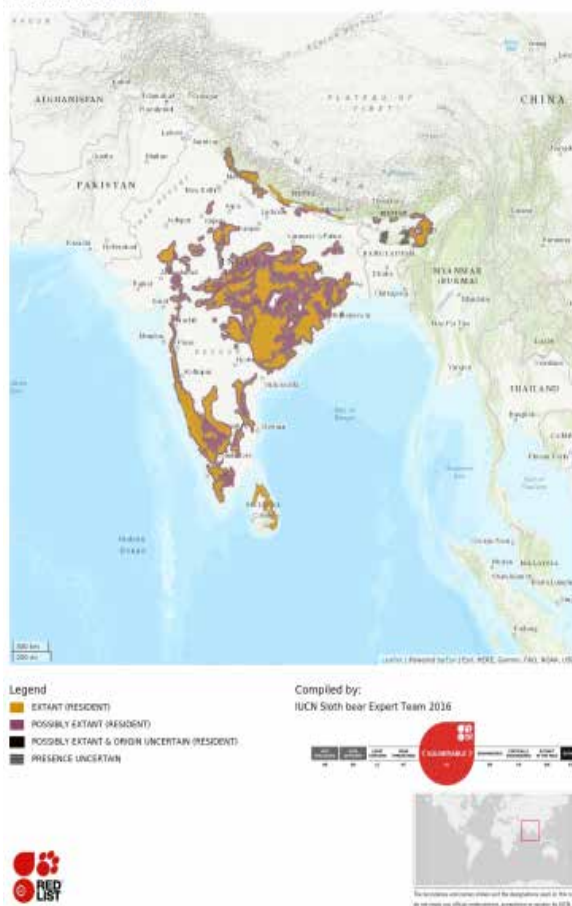
The Sloth Bear's historical distribution includes a large portion of India, Bangladesh, and Sri Lanka, as well as the southern lowlands of Nepal and presumably Bhutan.

At least 90% of the present Sloth Bear range occurs in India. Sloth Bears were once common and even abundant throughout the Indian Peninsula (McTaggart Cowan 1972, Krishnan 1972, Brander 1982), their range has shrunk and densities reduced due to continuous habitat loss and human-caused mortalities.

The central region is the largest region. The bulk of the distribution occurs in the states of Madhya Pradesh and Chattisgarh, but includes the states of Orissa, Andhra Pradesh, Maharashtra, Uttar Pradesh, Bihar, Jharkhand and West Bengal.



Distribution Map



### Habitat and Ecology

Sloth Bears subsist primarily on termites, ants, and fruits. Sloth Bears are the only species of bear adapted specifically for myrmecophagy (ant and termite-eating; Garshelis *et al.* 1999a, Sacco and Van Valkenburgh 2004). Like other myrmecophagous mammals, they have especially small home ranges compared to other ursids (Joshi *et al.* 1995, Ratnayeke *et al.* 2007a, Akhtar *et al.* 2006b). The ratio of insects to fruits in the diet varies with the seasonal and geographical availability of each food (Baskaran *et al.* 1997, Joshi *et al.* 1997, Bargali *et al.* 2004, Sreekumar and Balakrishnan 2002, Mewada and Dharaiya 2010, Sukhadiya *et al.* 2013). Fruits may comprise 70–90% of the diet during the fruiting season, whereas termites and other insects may comprise >80% of the diet the rest of the year (Ratnayeke *et al.* 2007b, Seidensticker *et al.* 2011, Yoganand *et al.* 2012). Sloth Bears occupy a wide range of habitats on the Indian mainland including wet and dry tropical forests, savannahs, scrublands, and grasslands (Joshi *et al.* 1995, Sreekumar and Balakrishnan 2002, Akhtar *et al.* 2004, Yoganand *et al.* 2006, Seidensticker *et al.* 2011, Ramesh *et al.* 2012). They are primarily a lowland species. Sloth Bears typically breed May through July, and females give birth, usually to one or two cubs, from November to January (Laurie and Seidensticker 1977, Iswariah 1984, Gopal 1991, Joshi *et al.* 1999, Chauhan *et al.* 2003, Spady *et al.* 2007).

### Threats

Major threats to this species are habitat loss or degradation (often related to human population growth), retaliation from human–bear conflicts, and (to a lesser degree) poaching (Johnsingh 2003, Chauhan 2006, Yoganand *et al.* 2006, Bargali *et al.* 2012, Bargali and Sharma 2013). Habitat has been lost, degraded, and fragmented by overharvest of forest products (timber, fuelwood, fodder, fruits, honey), establishment of monoculture plantations (e.g. teak, eucalyptus), over-grazing, extraction of minerals, quarrying, settlement of refugees, and expansion of agricultural areas, human settlements, and roads (Santiapillai and Santiapillai 1990).

### Conservation Actions

Sloth Bears are listed in Appendix I of CITES and are completely protected under Schedule I of the Indian Wildlife Protection Act of 1972. Human–bear conflicts, both crop raiding and bear attacks, are a growing concern for this species. Thus, habitat improvements (government or community-based reforestation) would be helpful in alleviating such conflicts.

## Clanga clanga, Greater Spotted Eagle

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Clanga clanga</i> (Pallas, 1811)
Common Name(s)	Greater Spotted Eagle, Spotted Eagle
IUCN Status	Vulnerable



### General Information

### Identification Information

62-74 cm. Medium-sized, dark eagle. Adult dark brown with slightly paler flight feathers. Underwingcoverts generally darker than flight feathers. Bands of white spots across upperwing of juveniles. In gliding flight, often depresses "hands".

This species occupies a fragmented range potentially in tiny numbers in **Pakistan** and north-west **India** (BirdLife International 2001).

### Habitat and Ecology

It occurs in lowland forests near wetlands, nesting in different types of (generally tall) trees, depending on local conditions. Individuals wintering in the Mediterranean Basin preferentially use salt marshes, coastal lagoons and water courses (Maciorowski *et al.* 2019). It feeds on unretrieved quarry, small mammals, waterbirds, frogs and snakes, hunting over swamps, wet meadows and, in Europe, over extensively managed agricultural land (A. Löhmus *in litt.* 1999); birds soar to c.100 m high when hunting. Birds migrate on a broad front, tending to pass in singles, twos and threes with the occasional larger group (Ferguson-Lees and Christie 2001). They do not concentrate at bottleneck sites to the extent of many other raptors such as *Clanga pomarina* (del Hoyo *et al.* 1994).

### Threats

There is strong evidence of hybridisation between this species and Lesser Spotted Eagle *Clanga pomarina* (Bergmanis *et al.* 1997; Lohmus and Vali 2001; Dombrovski 2002; Vali *et al.* 2010). In some European countries mixed pairs can constitute 50% of Greater Spotted Eagle pairs (Maciorowski and Mizera 2010) or even more (Vali 2011).

Distribution Map



Legend

- EXTANT (BREEDING)
- EXTANT (NON-BREEDING)
- EXTANT (PASSAGE)

Compiled by:  
BirdLife International and Handbook of the Birds of the World 2002

The distribution and range of this species and the geographical extent of the data are not complete and are subject to change by ICBP.

## *Lissemys punctata*, Indian Flapshell Turtle

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Reptilia
Order	Testudines
Family	Trionychidae
Taxon Name	<i>Lissemys punctata</i> (Lacépède, 1788)
Common Name(s)	Indian Flapshell Turtle
IUCN Status	Vulnerable



### General Information

*Lissemys punctata* is listed as Vulnerable, because it is estimated to have undergone a reduction of global population of more than 30% over three generations (45 years), continuing into the immediate future. This decline is the result of continuing wetland loss and extensive local collection of the species. It is found at low elevations from about sea level to 500 m above sea level and perhaps higher.

*Lissemys punctata* is generally considered common or abundant, with mostly stable populations (Das 1991, Choudhury *et al.* 2000, Rashid and Khan 2000). In recent years, populations appear to be in some decline due to exploitation and habitat loss, and perceived to amount to 30% overall loss over the past three generations and continuing. No data are available to document historic changes in abundance. A literature compilation indicates that this species is recorded from at least 150 localities within India, and is common at 88, uncommon at two, with status unknown at the remaining localities (S. Bhupathy unpubl. data). Choudhury *et al.* (2000) considered the species common and stable in India, but populations outside of protected areas are now uncommon.

### Habitat and Ecology

*Lissemys punctata* inhabits a wide variety of aquatic environments, from rivers, lakes, ox-bows, streams and ponds to salt marshes, ricefields and urban canals. The species is adapted to survive waterbodies drying out for several months. (Minton 1966; Auffenberg 1981; Das 1991, 1995). These turtles appear to prefer relatively shallow waters, and are not plentiful in main river channels (Minton 1966). Turtles bask on the banks of rivers and ponds and on floating vegetation (Minton 1966). Activities occur mostly in the winter months. *Lissemys punctata* is an opportunistic omnivore, and feeds on a variety of animal prey, carrion and plant matter (Das 1991, 1995). Specific data on age and size of maturity are scarce, but Yadav (1989) considered females over 170 mm carapace length as sexually mature. Animals may reach up to 37 cm carapace length, but usually remain smaller. Nesting generally occurs in late summer and into the monsoon season. Females produce clutches of 2–15 eggs (Das 1991, 1995), and may produce several clutches per year. Larger females tend to produce a greater number

Distribution Map



Legend  
■ EXTANT (RESIDENT)

Compiled by:  
 Chelonian Research Foundation 2020



of eggs per clutch (Das 1991). Age to maturity is roughly estimated at four to five years, with a generation time of approximately 15 years. Longevity is not known.

### **Threats**

*Lissemys punctata* is the most widely and abundantly exploited turtle in India and Bangladesh. In India it was encountered in 22 of 35 markets surveyed before 1983 (Vijaya 1982, Moll 1983), and in 7 of 61 markets surveyed in 1991–1993 (Choudhury and Bhupathy 1993), being the most commonly traded turtle in both periods. Trade continued to the present day, with *Lissemys punctata* making up 50–60% of all turtles confiscated in markets (Choudhury *et al.* 2000). Much of exploitation is for subsistence and local trade for consumption, but some export has taken place from India and Bangladesh to East Asia (Choudhury *et al.* 2000, Rashid and Khan 2000, Bhupathy *et al.* 2000).

## *Anhinga melanogaster*, Oriental Darter

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Suliformes
Family	Anhingidae
Taxon Name	<i>Anhinga melanogaster</i> Pennant, 1769
Common Name(s)	English: Oriental Darter, African Darter, Darter
IUCN Status	Near Threatened

### General Information

It has a long and slender neck with a straight, pointed bill and, like the cormorant; it hunts for fish while its body is submerged in water. It spears a fish underwater, bringing it above the surface, tossing and juggling it before swallowing the fish head first. The body remains submerged as it swims, and the slender neck alone is visible above the water, which accounts for the colloquial name of snakebird.

India (widespread resident, current status poorly known but apparently declining, locally common in Assam, species has expanded into northern and southern Kerala in the last Jayadevan in litt. 2016])

The population is estimated to number at least 22,000 mature individuals, roughly equivalent to over 33,000 individuals in total. Trend Justification This species is suspected to be in moderately rapid decline, owing to pollution, drainage and hunting.

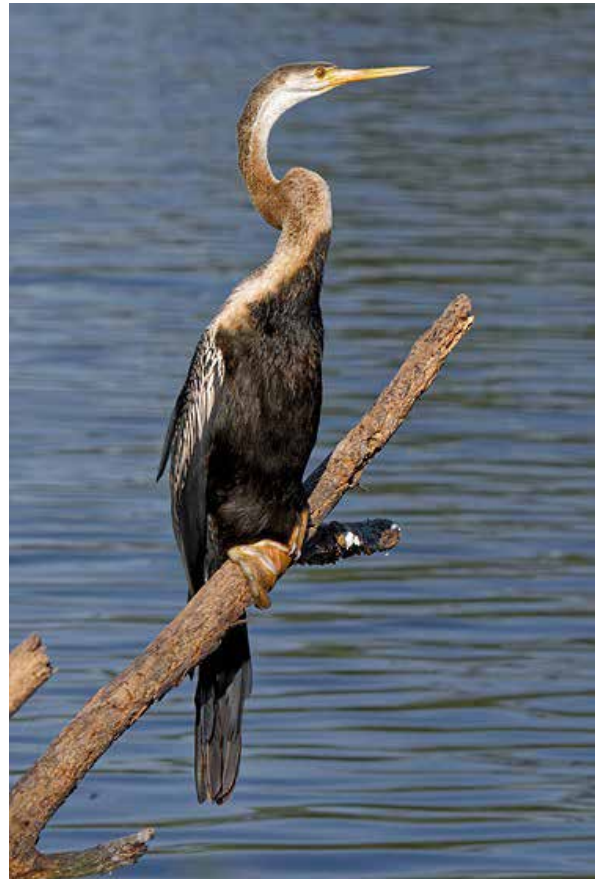
Decreasing (IUCN Status Near Threatened) source-www.iucnredlist.org

### Habitat and Ecology

It inhabits shallow inland wetlands including lakes, rivers, swamps and reservoirs. Systems: Terrestrial, Freshwater, Marine.

### Threats

In common with many other Asian waterbirds, it is primarily threatened by habitat loss (both degradation of foraging areas and felling of trees used for breeding), pollution, disturbance (at feeding grounds and colonies), hunting, egg collecting and pollution.



Distribution Map

*Anhinga melanogaster*



Range  
 ■ Extant presence

Compiled by:  
 World Conservation and Assessment of the Birds of the World  
 (2018)



© The IUCN Red List of Threatened Species. *Anhinga melanogaster* - published in 2016.  
[http://www.iucn.org/30.2/05/IUCN\\_LR\\_2016-08/TS/THREATENEDSPECIES](http://www.iucn.org/30.2/05/IUCN_LR_2016-08/TS/THREATENEDSPECIES)

## *Threskiornis melanocephalus*, Black-headed Ibis

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Pelecaniformes
Family	Threskiornithidae
Taxon Name	<i>Threskiornis melanocephalus</i> (Latham, 1790)
Common Name(s)	English: Black-headed Ibis, Black-necked Ibis, Indian White Ibis, Oriental White Ibis
IUCN Status	Near Threatened



### General Information

In common with most large wetland species in Asia, this species is thought to be undergoing a population reduction, which is suspected to be moderately rapid. It faces the full gambit of threats, from hunting and disturbance at breeding colonies to drainage and conversion of foraging habitats to agriculture.

India (widespread and locally common in the west, scarce in the east; possibly increasing locally due to the spread of man-made wetlands; with rapid increases in Kerala [Nameer et al. 2015])

The species is suspected to be in moderately rapid decline owing to hunting, egg collecting, disturbance at breeding colonies, drainage and agricultural conversion.

### Habitat and Ecology

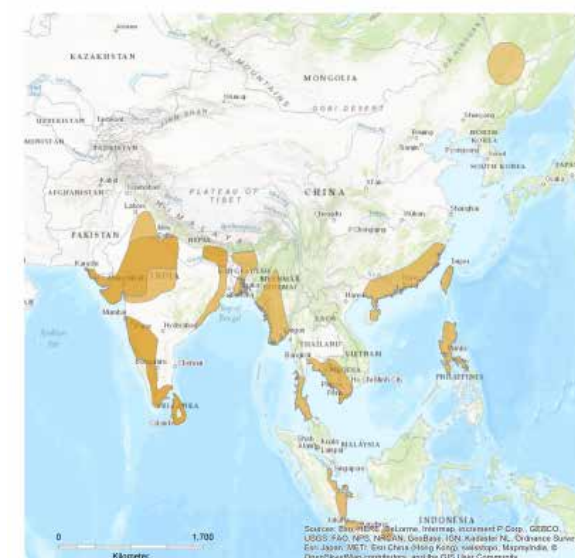
It inhabits freshwater marshes, lakes, rivers, flooded grasslands, paddy fields, tidal creeks, intertidal mudflats, mangroves, saltmarshes and coastal lagoons, usually in coastal wetlands or extreme lowlands, but occasionally up to 950 m. In some areas, agricultural land may be an important habitat for the species (Sundar and Kittur 2013, G. Sundar in litt. 2016). It is largely sedentary throughout most of its range but tends to be nomadic in response to changing water levels and feeding conditions (Matheu et al. 2016).

### Threats

It is vulnerable to drainage, disturbance, pollution, agricultural conversion, destruction of roosting and nesting sites, hunting and collection of eggs and nestlings from colonies. A combination of these factors has probably caused the decline.

### Distribution Map

*Threskiornis melanocephalus*



Range  
 Extant (breeding)  
 Extant (non breeding)  
 Extant (resident)

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2016).



© The IUCN Red List of Threatened Species: *Threskiornis melanocephalus* – published in 2016.  
<http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22697516A93618317.en>

## *Gyps himalayensis*, Himalayan Griffon

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Accipitriformes
Family	Accipitridae
Taxon Name	<i>Gyps himalayensis</i> Hume, 1869
Common Name(s)	Himalayan Griffon
IUCN Status	Near Threatened



### General Information

This species has been listed as Near Threatened on the basis that it is suspected that it will undergo a moderately rapid population decline over the next three generations owing to the impacts of diclofenac use in livestock, a drug that has caused drastic declines in other *Gyps* species and appears to be fatal to this species when ingested. The distribution of this species and existing efforts to reduce diclofenac use may limit the impacts.

This species is distributed east through the Himalayan mountain range in **India**, **Nepal** and **Bhutan**, to central China and **Mongolia**.

### Habitat and Ecology

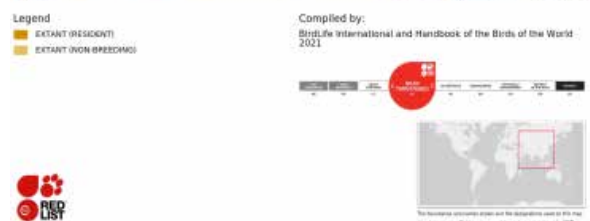
This species inhabits mountainous areas, mostly at 1,200-5,500 m (X. Lu *in litt.* 2016), but has been recorded up to 6,000 m (Ferguson-Lees and Christie 2001). In winter it moves lower down, with juveniles wandering into the plains. It feeds on carrion (del Hoyo *et al.* 1994) and regularly visits carcass dumps in South and South-East Asia (Praveen J. *in litt.* 2012, T. H. Galligan *in litt.* 2016, D. L. Yong *in litt.* 2016).

### Threats

The most serious potential threat to this species is thought to be mortality caused through ingestion of diclofenac and other vulture-toxic non-steroidal anti-inflammatory drugs (NSAIDs) widely used in livestock, particularly in South Asia.

Conservation actions to save Critically Endangered *Gyps* vultures in South Asia, namely the reduction of diclofenac availability and use, through legislation, law enforcement, education, designation of Vulture-Safe Zones, and the promotion of alternative drugs, appears to have benefited *Gyps* species in South Asia, thus the risk to *G. himalayensis* is also thought to have been reduced (Prakash *et al.* 2012, C. Inskipp and H. S. Baral *in litt.* 2013, C. Bowden *in litt.* 2014, T. H. Galligan *in litt.* 2016). A rescue centre has been set up in northern Bangladesh to treat sick or injured Himalayan Griffons (Alam *et al.* 2018).

Distribution Map



## Vanellus duvaucelii, River Lapwing

Taxonomy	
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Charadriiformes
Family	Charadriidae
Taxon Name	<i>Vanellus duvaucelii</i> (Lesson, 1826)
Common Name(s)	English: River Lapwing
IUCN Status	Near Threatened



### General Information

The population size is difficult to determine. Waterbird Population Estimates provides an estimated population size of 1-25,000 individuals for the period 1987-1991 (Wetlands International 2016). The population may possibly number no more than 15,000 individuals (Wiersma and Kirwan 2016). The population is therefore placed in the band 10,000-19,999 mature individuals roughly equivalent to 15,000-29,999 individuals.

### Habitat and Ecology

It inhabits larger rivers and lakes (Chandler 2009), preferring wide, slow-moving rivers with sand or gravel bars and islands (Duckworth et al. 1998). It also uses reservoirs (F. Goes in litt. 2016).

### Threats

Collection of eggs and chicks takes place throughout south-east Asia (W. Duckworth in litt. 2016). It is also threatened by incidental disturbance caused by people, livestock and dogs, and is potentially seriously impacted by the multitude of hydroelectric dam projects completed, underway and planned on large rivers in its range, which threaten to alter flow regimes (Thewlis et al. 1998, Duckworth et al. 1998, 2002, Duckworth and Timmins 2013, F. Goes in litt. 2011).

### Distribution Map

*Vanellus duvaucelii*



Range  
 Extant (resident)

Compiled by:  
 BirdLife International and Handbook of the Birds of the World (2016)



© The IUCN Red List of Threatened Species: *Vanellus duvaucelii* – published in 2016.  
<http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22693992A93432617.en>



