



Saltwater crocodile

(*Crocodylus porosus*)

IUCN Red List: Least concern, CITES: Appendix I, IOWA, 1972: Schedule I

Apart from the eastern coast of India, the saltwater crocodile is rare in India. A large population is present within the Bhitarkanika Wildlife Sanctuary of Odisha while other smaller populations in India occur throughout the Sundarbans in the mouth of the River Ganga and coastal areas of the Andaman and Nicobar Islands.

Male grows upto 3.5 to 6 m and female upto 2.7 to 3.1 m. Streamlined body, large head, with a pair of ridges that run from the eye along the centre of the snout. Adults are dark in colour, with lighter tan or grey areas, and dark bands and stripes on the lower flanks. Euryhaline, catadromous, inhabit brackish and salt waters. Breeding season November to March. Lays 40-60 eggs in mound nest made of mud, vegetation and leaves and other debris. Eggs hatch after 55-75 days.

Adult feed on mud crabs, turtles, snakes, birds, buffalo, wild boar, and monkeys. Young feed on insects, amphibians, crustaceans, small fish and reptiles.

Illegal hunting for its meat, eggs, skin, habitat loss, habitat alterations and nest damage due to anthropogenic or natural causes are major threat to this species.

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VIBRANT GANGA 



crocodilians of ganga river





Crocodiles have survived million of years of Earth's environmental changes attributable to their unique adaptability. Ecological and behavioral traits like ectothermy, highly evolved metabolism, higher immunity, wide range of diet and very few natural predators enabled them to achieve such feat. Being top predators they rapidly move between habitats, transport nutrients and energy between systems and stabilize the ecosystem and create habitat linkages. They also exert different top-down regulation upon trophic interactions and the coupling of ecosystems and habitats. However the current rate of increasing anthropogenic pressure of hunting, fishing, sand mining and hydrology alterations by dams have fragmented and altered their habitats and pushed some populations towards threat of extinction.

Modern crocodiles are represented by 23 living species. In India, there are 2 species, Mugger and Saltwater crocodile which represent Crocodylidae

family and the Gharial is the only surviving member of Gavialidae family. All of these species are distributed in the Ganga River and its major tributaries.

Traditionally, the gharial has been identified with water, the source of all existence and fertility. To some, it is the vahana or vehicle of the River Goddess Ma Ganga, and Lord Varuna, the God of Water. It is believed that People also worship mugger and saltwater crocodile in many places and rich folklores are associated with them. *Makar*, a mythological animal is the vahana of Goddess Ganga whose body is like gharial and the tail is that of a fish. It is believed that Goddess Ganga travels from Himalayas to Bay of Bengal on *Makar*. Mugger is the symbol and vahana of Kamdev and Rati, his wife.

National Mission for Clean Ganga-Wildlife Institute of India project titled “Biodiversity Conservation and Ganga Rejuvenation” is a science-based species restoration programme. Conservation of these crocodilian species is a part of this science-based Ganga rejuvenation programme.

The conservation status of the species are referred here as per the International Union for Conservation of Nature and Natural Resources (IUCN) Red List, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices and Indian Wild Life (Protection) Act (IWPA), 1972 Schedules.



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Gharial (*Gavialis gangeticus*)

IUCN Red List: Critically Endangered, CITES: Appendix I, IWPA, 1972: Schedule I

Gharials were once widely distributed in Indus, Brahmaputra and the Mahanadi-Brahmani-Baitrani river systems of India, Bhutan, Bangladesh, Nepal and Pakistan. Today, their major breeding populations occur only in three tributaries of the Ganga River, the Chambal, Ramganga and the Girwa River in India and the Rapti-Naryani River in Nepal. Protected areas that harbour gharial are National Chambal Sanctuary, Katarniaghat Wildlife Sanctuary, Corbett National Park, Ken and Son Gharial Sanctuary.

Size varies from 3.5 to 4.5 m, long thin snout, and bulbous appendage at the tip of mature males. Interdigitated teeth, epidermal scales, bony-plates on dorsal side, short weak legs and highly webbed hind feet. Breeding season March to June. Lay 40-80 eggs in dug-hole nests in steep, sandy banks near deep-water river stretch. Eggs hatch after 70 days.

Adults are exclusively fish eater and actively swim to catch fish. Young prey primarily on small invertebrates such as insects, larvae and also small frogs. They form breeding groups, basks and nests exclusively in river habitats with deep, clear, fast-flowing waters and steep, sandy banks.

Alteration of habitat through dams, barrages, accidental drowning in nylon gill fishing nets, sand mining, depletion of prey base, sudden release of dam water, harvesting of eggs and poaching are major threats to this species.



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Mugger crocodile (*Crocodylus palustris*)

IUCN Red List: Vulnerable, CITES: Appendix I, IWPA, 1972: Schedule I

Found in India, Sri Lanka, Pakistan, Nepal and possibly, in Bangladesh, its range extends westwards into eastern Iran. India and Sri Lanka retain the major populations. Significant populations occur in the middle stretch of the Ganga River (Bihar and Jharkhand), Chambal River (Rajasthan and Madhya Pradesh) and in Gujarat.

Grows upto 4.5 m, broad snout, heavily armored dorsal part with enlarged scutes around the neck. Adults are dark grey or brown. Breeding season March to June. Lay 25-30 eggs in dug-hole nests in sandy or silty banks near deeper sections of a river. Eggs hatch after 55-75 days.

Solitary, opportunistic predators and use all available resources as food. Prefer fish, amphibians, reptiles, mainly snakes and possibly turtles; birds and mammals like monkeys. Young generally take crustaceans, insects and small fish. Found in lakes, rivers, marshes and man-made water bodies.

Habitat alteration and destruction due to agricultural and industrial expansion, entanglement and drowning in fishing nets, collection of eggs, illegal poaching for skin and meat; and the use of body parts in medicine are major threats to this species.