

# THE GHARIAL

## OUR RIVER GUARDIAN



**Ministry of Environment and Forests**  
**GOVERNMENT OF INDIA**



*Gharial in Mythology- Ma Ganga riding a Gharial*

TRADITIONALLY, THE GHARIAL (*GAVIALIS GANGETICUS*) 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 OTHERS REVERE IT AS THE *VAHANA* OF *VARUNA*, THE GOD OF WATER.

ONE OF THE FOREMOST CHALLENGES OF GHARIAL CONSERVATION TODAY IS TO REKINDLE THE RESPECT AND REVERENCE OF THE PEOPLE FOR THIS ANCIENT ANIMAL AS OUR ‘RIVER GUARDIAN.’



Simon Maddox

*Male Gharials engaged in combat for mating rights. The larger of the two invariably wins. However, the battle for survival is what lies ahead, and Gharials require our all out support to avert extinction.*

## THE LIFE OF GHARIAL

Gharial is evolutionarily the most unique crocodylian in the world being a specialized river dwelling fish-eater, but harmless to humans. It lives in deep fast-flowing rivers. The bulbous 'ghara' on the tip of the snout of mature males just above the nostrils, helps in creating a snorting hiss to advertise the animal's presence, and dominance. Gharials nest between March and May. Female gharials excavate egg chambers in sand banks, depositing up to an average of 60 eggs, which hatch in 90 days. Gharials guard their eggs and young ones as long as they are not unusually disturbed by humans.

## WHERE IS GHARIAL FOUND?

Gharials are endemic to the Indian sub-continent. Once found abundantly in all the major river systems of South Asia, the Gharial is now extinct in Pakistan, Bangladesh, Burma and Bhutan. Nepal has only a remnant breeding population. In India too, the major breeding populations are confined to two rivers only, Girwa and the Chambal. The two rivers run along the borders of Uttar Pradesh, Madhya Pradesh and Rajasthan. A few non-breeding populations exist in small pockets in other rivers in India.

# WHAT ARE THE THREATS FACING GHARIAL?

Gharial is listed as 'Critically Endangered' in the IUCN Red List of Endangered Species. Between 2007-2008, over 100 Gharials in the Chambal perished in a mystery die-off attributed to a nephro-toxin possibly originating from contaminated fish in the Yamuna.

The Gharial is under increasing pressure for survival due to a combination of factors like:

- **Habitat alteration and destruction:** A combination of land-use changes and exploitation such as sand-mining, riverside agriculture, livestock grazing, and hydrological modifications such as building of dams for water diversion.
- **Prey depletion:** Over harvesting of fish stocks. Construction of dams and barrages obstructing dispersal and migration of fish.
- **Direct mortality:** Drowning of Gharial in fishing nets. Its nest destruction and local egg-collection.
- **Pollution and siltation:** Pollution and siltation of rivers damage fish stocks, and are also believed to be the direct cause of the catastrophic dieoff of 2007-2008 in the Chambal.
- **Hunting:** In the past, Gharial was hunted for skin, trophies and use in indigenous medicine.



Nick Baker

*This female Gharial has a fishing net tangled around her snout. If she cannot rid herself of the net, she will slowly starve to death over a period as long as a year.*



Cyril Rufus

## EFFORTS IN THE PAST TO SAVE GHARIAL

By 1976, the population of Gharial had plummeted to less than 200 individuals. Getting alarmed, the Government of India subsequently accorded the highest level of protection to Gharial by bringing it under Schedule I of the Wild Life Protection Act, 1972. In 1976, Project Crocodile was initiated with support from the United Nations Development Programme and Food and Agriculture Organization. The project included an intensive captive rearing and breeding programme intended to restock depleted Gharial habitats.



Gharial Conservation Alliance

*Affixing transmitters on gharial for radio-telemetry tracking. Research on gharial ecology will help in developing proper conservation strategy.*



Suresh Chaudary

## HOW CAN WE SAVE GHARIAL?

- Revive and rejuvenate our rivers, we need them too!
- Without fail, make local communities co-beneficiaries of all conservation initiatives.
- Secure the National Chambal Sanctuary and other Gharial range areas through coordinated planning and action by the three states, i.e., Uttar Pradesh, Madhya Pradesh and Rajasthan.
- Re-evaluate environmentally sensitive schemes of river-linking, and large irrigation projects.
- Base conservation plans on sound scientific study and monitoring of Gharial.



Pritish Panke



Adesh Shirakar

*Akin to the scene unfolding in this picture, Gharial is the essence of healthy river systems. So, entwined is the life of Gharial with clean rivers, that the fate of Gharial will decide what happens to other aquatic life and ultimately the rivers themselves.*



Oliver Born

*With the right action strategy, we can in future hope to re-create Andrew Leith Adam's (1867) comment that Gharial will again be "abundant in all great rivers of Northern India".*



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