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AN INTRODUCTION TO THE  
NATIONAL CHAMBAL SANCTUARY  
MADHYA PRADESH, INDIA

The Gharial (Gavialis gangeticus), one of the three Indian crocodilian species is protected from extinction under Indian Wildlife (Protection) Act, 1972. It occurs in the Ganges, Brahmaputra and Mahanadi river systems. The Chambal river, one of the best remaining habitats for the gharial in its range, originates in the Vindhyan range near Mhow in Madhya Pradesh. It flows in a north-eastern direction, passing through Rajasthan up to Pali and thereafter it flows in an eastern direction, forming the boundary of M.P. and Rajasthan and M.P. and Uttar Pradesh. It joins the Yamuna river near Bareilly of Etawah district of U.P. The Yamuna, in turn, flows in a south-east direction till it meets the Ganga river at Allahabad.

SANCTUARY MANAGEMENT

During 1978/79, the Chambal river was declared as a crocodile Sanctuary under the Crocodile Project with an aim to provide a fully protected habitat for conservation and propagation of gharial, mugger and other wild animals. The Sanctuary extends along the Chambal river from Jawahar Sagar dam (Rajasthan) to Kota Barrage and, after a gap of 18 km, from Kesheraipatan (Rajasthan) through Pali (Madhya Pradesh/Rajasthan) to Pachhanada (Uttar Pradesh). The total length of the river inside the Sanctuary is about 600 km, in which Madhya Pradesh shares 400km (approx.). The Sanctuary is under the management of the Forest Departments of Rajasthan, Madhya Pradesh and Uttar Pradesh with head-quarters at Kota, Deori (Morena Dt.), and Agra, respectively.

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The Sanctuary field staff of Madhya Pradesh work under the supervision of the Project Officer (ACF cadre). The staff pattern in the Madhya Pradesh sector of the National Chambal Sanctuary is as follows:

<u>Name of the Post</u>	<u>Sanctioned posts</u>	<u>Current position</u>
1. Project Officer	1	1
2. Range Officers	3	2
3. Research Assistants	7	3
4. Field Assistants	7	5
5. Guards	12	13
6. Boat Men	4	1
7. Jeep Driver	1	1
8. Accountant	1	1
9. L D C	2	1
10. Peon	1	1

The important management strategies adopted in the National Chambal Sanctuary are: stopping of commercial fishing activity, controlling poaching of wild animals and protecting the habitat.

#### FAUNA

The important wildlife species present in the Chambal river are as follows:

- Crocodiles: Gharial (Gavialis gangeticus)  
Mugger (Crocodylus palustris)

Turtles: Hardshell turtles - Kachuga kachuga  
Kachuga dhongoka  
Kachuga tentoria  
Hardella thurgii

Softshell turtles - Trionyx gangeticus  
Lissemys punctata  
Chitra indica

Mammals: Gangetic dolphin (Platanista gangetica)  
 Otter (Lutra sp.)

A number of fish species are present in the Chambal river.

In addition, other land wild animals present in the Sanctuary are: Blue bull, sambhar, wild boar, jackal, Fox, hyena, Hanuman langur, rhesus monkey, hares, more than 150 species of birds (both resident and migratory), variety of snakes, lizards, monitor lizard etc.

#### CAPTIVE REARING PROGRAMME

Under the Indian Crocodile Project 'grow and release' technique has been adopted for conservation of the gharial in the Sanctuary. This technique is aimed on collection of wild-laid gharial eggs for hatching and rearing of hatchlings to 1.2 m size for subsequent release into wild habitats. During 1979 Madhya Pradesh Forest Department has set up a gharial rehabilitation centre at Deori, 7 km North of Morena on the National Highway No. 3 (Agra-Bombay Road), where captive rearing of crocodiles and turtles is under progress.

First batch of gharial eggs was collected for hatching during 1981 from Baroli gharial nesting site in the Sanctuary. Details of the gharial rearing programme at Deori Gharial Rearing Centre are as follows:

Year	No. of eggs collected	No. of eggs hatched	No. of gharial released			Present stock
			No.	Year	Place	
1981	35	26	10	1985	Ken river	2
			4	1986	Van Vihar	
1982	35	35	6	1986	Van Vihar	3
			10	1987	Ken river	
			4	1988	Son river	
1983	-	-	-	-	-	-
1984	40	37	16	1988	Son river	5
1985	40	40	5	1989	Chambal river	16
1986	-	-	-	-	-	-
1987	63	63	15	1988	Chambal river	20
1988	118	113	-	-	-	43
1989	89	65	-	-	-	43

Among the Seven species of freshwater turtles that occur in the Chambal river 6 species of turtles (except Hardella thurgii) are being reared at the Deori Gharial Rearing Centre under 'Turtle Ecology Project' of the Wildlife Institute of India in collaboration with the Madhya Pradesh Forest Department.

## RESEARCH

Research studies in the National Chambal Sanctuary are being conducted from 1983 by the Wildlife Institute of India. Monitoring of gharial including other aquatic fauna such as turtles, otters and dolphins has been undertaken. Studies on Gharial nesting ecology have also been taken place. Ecological studies on freshwater turtles in the National Chambal Sanctuary have been undertaken under the Turtle Ecology Project of the Wildlife Institute of India. Studies are underway on the behavioural aspects of freshwater turtles in respect to reproduction and food and feeding. Emphasis has been given to the conservation of aquatic fauna in the National Chambal Sanctuary. A research project on the ecology of the Gangetic dolphin and otters in Chambal has been started by the Wildlife Institute of India, beginning December 1986.

Detailed surveys in the National Chambal Sanctuary are being conducted to locate new nesting grounds and feeding areas of the rehabilitated gharial. The results of the surveys are as follows:

Year	Estimated population	No. of Nesting sites	No. of nests (No. of breeding females)
1978	107	6	12
1979	?	5	28
1983-84	451	?	?
1984-85	605	7	33
1985-86	628	10	37
1986-87	?	12	45
1987-88	804	15	50

#### FUTURE MANAGEMENT PROGRAMMES

The population of gharial in the National Chambal is on the increase, sightings have been more frequent. Although commercial fishing has been banned in the Sanctuary since 1978, occasional illegal fishing by migrant fishermen is the problem facing by the field staff. In addition, habitat destruction in the form of agriculture on the river bank, cutting of river-side vegetation and sand mining is increasing in some parts of the Sanctuary. Under the Sanctuary management, core areas have been identified for intensive protection. Gharial rehabilitation programme will be continued for some more years in the Sanctuary and monitoring of the population of gharial and other wildlife will be continued to know the population trend.

Emphasis of management in future will also encampass migratory water-fowl and the indigenous wildlife of the Chambal river. Afforestation programmes will also be taken in the ravines, with in the Sanctuary area. As compensatory measures for the fishermen whose lively-hood has been lost, some ecodevelopment measures are also being considered.