

Periyar turns black near Pathalam bund

The Hindu Bureau

KOCHI

The Periyar river turned black near the Pathalam bund on Friday as local residents and greens expressed concern over repeated incidents of discoloration reported along the stretch close to the Eloor-Edayar industrial region.

The dark colour was visible after shutters of the Pathalam bund were opened in the morning. The change in colour was detected along a long stretch following suspected release of waste materials, including chemical effluents that had been lying close to the shutters for nearly three weeks. A foul smell was experienced by residents and workers in the industrial area.

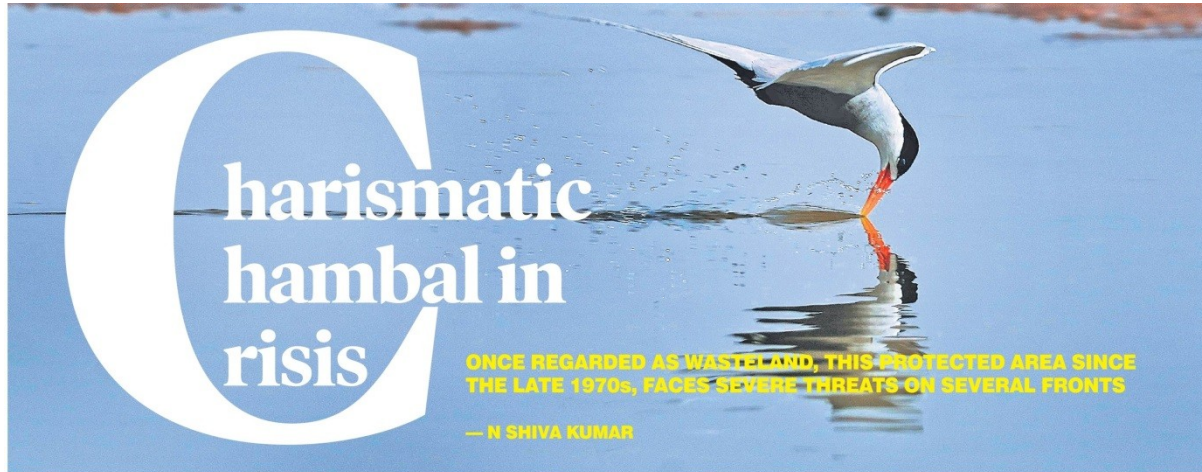
The discolouration of the stretch near the Pathalam bund was the first such incident to be reported in 2024.

Despite repeated incidents, the State Pollution Control Board and the Irrigation department had not been able to ascertain the source of pollution. The Board and the department are yet to confirm whether the change in colour was owing to illegal discharge of effluents from the industrial units.

According to the Periyar Malineekarana Virudha Samithi, the river had changed colour on more than 15 occasions in 2023. An analysis of the discolouration reported in 2022 showed that the river had changed colour on at least seven occasions from July to December.

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Charismatic Chambal in crisis

ONCE REGARDED AS WASTELAND, THIS PROTECTED AREA SINCE THE LATE 1970s, FACES SEVERE THREATS ON SEVERAL FRONTS

— N SHIVA KUMAR

For the black-bellied tern, listed as an endangered species, the Chambal River is one of the prime stomping grounds. — PHOTOS: N SHIVA KUMAR

She is beautifully built with an aerodynamic body, and agile and smooth wings that slice through the air with elegance, sports a black skull cap as if to keep off the sun, has a contrasting white body with black wings and a bizarre beak that is bright reddish-orange. She is the original 'Bandit Queen' with a stiff upper lip, inhabiting the river in the ravines of National Chambal Sanctuary. I am talking about the endangered bird, the Indian skimmer because there are no more seen through rivers for these birds to fish competently. Also called the scissors-bill, the Indian skimmer, has a bewildering beak, designed by evolution, with a long lower 'lip' and a much shorter upper 'lip'. This lower-lip pout is put to effective use by deftly flying parallel to the water surface and plunging the water to snap up fish. A specialist feeder, the skimmer needs clean, calm waters of slow-moving rivers like the tranquil Chambal to survive.

Regrettably, this spectacular water bird with a beak-specialisation is fast becoming a victim of human activities and its overall numbers are drastically dwindling. Last year, the estimation was less than 3,000 surviving individuals in India. However, the scientist involved in the country-wide annual count was not willing to reveal the latest statistics. This enigmatic bird is listed on the 'globally threatened' Red List of species.

Silent Super Stream

In the name of 'Holy' rivers, we vehemently pollute the clean waters with the degenerative pouring of pious ingredients and sullage dumping. Thus, creating a nuisance to many aquatic denizens that live underwater and live off the clean rivers, like the fish-eating crocodiles — gharials, otters or dolphins, including the



River Dolphin, also listed as endangered, is a keystone species of the Chambal sanctuary. — PHOTO: USAVAN BORTHAKUR



Gharial and mugger crocodile



The Indian skimmer

Community conservation

Dr S Balachandran, Deputy Director at the 137-year-old Bombay Natural History Society, has ringed and tagged over 2 lakh individual birds across India during 41 years of his profession. He says that bird banding and data documenting are extremely valuable in scientific research, landscape management and conservation projects. Individual identification of birds and other wildlife helps in the study of their dispersal and migration, behaviour and social structure. Life span and survival rates, reproductive success and population growth, etc. In the same context, the Indian skimmer (*Rynchops albicollis*), being an endangered species, needs genuine attention. There has been a substantial decline in recent years because of the loss and degradation of riverine habitats, low nesting success due to predation and trampling of eggs, and mortality due to extreme heat and flood. They are completely restricted to India as a breeding bird and occur in sandy, lowland rivers and around lakes and, in the non-breeding season, in estuaries, upstream of rivers and coasts. Indian skimmers (adults and fledglings), marked with colour flags and metal rings in 2018, were re-sighted from coastal areas of Jamnagar (Gujarat), river Godavari at Kakinda (Andhra Pradesh) and Nihum Deep in Bangladesh and in consecutive years at their original ringing sites. This strongly suggests that research combined with community conservation methods can immensely help any dwindling species, be it a skimmer, a gharial or even a dolphin.

BEING A PERENNIAL RIVER IN AN ARID LANDSCAPE, THE CHAMBAL IS LOOKED UPON AS A SOURCE OF WATER WITHDRAWAL RATHER THAN AN AQUATIC ECOSYSTEM THROBING WITH NATURAL LIFE

skimmers. Providentially, one and only such large river in the country is the Chambal which is not worshipped as it is historically deemed to be 'unholy'. This very aspect has kept the river plastic-free, devoid of debris in the form of flowery offerings, no bathing ghats to wash away sins and not even temples that trample river banks. The Chambal River meanders as a silent super stream winding for almost a thousand kilometres traversing different terrains in the hinterlands of central India and nurturing nature and rural life along its trajectory.

The National Chambal Sanctuary (NCS) was established in September 1978 to enable the 'restoration of ecological health of a major North Indian River ecosystem'. Initially, the 600 km of the lower 1,000-km stretch of the Chambal River has been declared as the National Chambal Sanctuary by three States in their respective territorial jurisdictions. Uttar Pradesh moved first by notifying it as a protected area in 1979, followed by Madhya Pradesh in 1982 and thereafter Rajasthan in 1983. This move was historical as it involved three States and their combined efforts to save a pristine river from going to seed.

Inspired by a sample field survey report 'Wetlands birds in National Chambal Sanctuary' published by the Crocodile Research Centre at Hyderabad, a wing of Wildlife Institute of India, in April 1986, I made two unplanned visits — in 1987 by train and a road trip in 1991 from the Delhi-Mathura-Agra-Dholpur-Gwalior highway. On both occasions, I failed to see neither the skimmers, dolphins nor the crocodiles at Chambal. My visit was brief, for the anxiety of dacoits back then, who still lingered in the desolate ravines of Chambal, particularly in the badlands between Dholpur and Morena.

Home to Species

The National Chambal Sanctuary, demarcated along the Chambal River basin, is the only major home to gharials, dolphins and skimmers to breed and brood. These three species were on the verge of vanishing from the Indian landscape in the recent past. It is also a significant habitat where several globally threatened faunal entities still survive albeit, precariously. Its rich biodiversity is evident from the presence of two species of crocodilians — the fish-eating gharial and mugger, nine species of freshwater turtles, smooth-coated otters, dolphins, black-bellied terns, sarus cranes, black-necked storks and not-to-forget, the strange surface feeders, skimmers. Once distributed across the Indian subcontinent, Indian skimmers, at present are estimated at just about 4,000 surviving in India, Bangladesh, Nepal and Pakistan. In a *State of India's Birds 2023* report, Indian skimmers are earmarked as 'Of High Conservation Concern'.

In the winter of 2005, four friends travelled specifically to the rarely visited Chambal River in Rajasthan to explore the boatable stretch of the river and found a multitude of resident and migratory birds. Crocodiles were found basking in the golden sands of the river. I finally saw the piece-de-resistance, the Indian skimmer take flight gracefully from the sandy islands in the river and their aerial jaunts in groups were a sight to behold for city-sore eyes. We were also witness to the purity of the waterway as we sampled some unspoiled river stretches by travelling in a boat 16 km up and down for four hours each day. Most of the days, the river stretch we scanned was about 70 km from Agra in an area known as Bala.

ONCE DISTRIBUTED ACROSS THE INDIAN SUBCONTINENT, THERE ARE JUST ABOUT 4,000 SKIMMERS IN INDIA, BANGLADESH, NEPAL AND PAKISTAN

In the Wilderness

Another highlight was the fabulous sighting of a rare caracal cat, now thought to be extinct in certain parts of India, with a prow that matches the tiger and leopard in its dexterity. It walked alongside our boat on the high river banks, about 70 metres away, and most of the time ignored us. Instead, we savoured its splendid catwalk and its very presence was mesmerising as it was focused on searching for a bite of breakfast. We also explored the deep gullies and sandy ravines covered with scrub jungle. After documenting interesting nature nuances by way of photographs and video clips, we bid goodbye, only to return to the Chambal landscape repeatedly over the years and explore the tempting terrain with a honeycomb of ravines.

In March 2022, we decided to drive. From Agra, ravines of Chambal become visible, even before one approaches Morena, a small town in Madhya Pradesh known for its brave-hearted dacoits of yore and their lavish legends. Badland topography is a major feature of the Chambal valley which is characterised by an undulating floodplain, gullies and ravines. The riveting ravines are a type of erosional feature and are formed as a result of regular vertical erosion by rain, streams and rivers flowing and even strong winds blowing over arid regions. The bleak

landscape, dotted with barren mud hillocks and thorny scrub jungle, spreads on both sides of the highway, the seemingly wasteland scrub cover thickening in the distance. From the highway, a few signs of human settlement can be spotted within the ravines. "At one time, the ravines of Chambal were home to many dacoit gangs and we heard many stories about their 'Robin Hood' activities. Nowadays there are no dacoits in Chambal, only their folklore," says a shop owner on the Agra-Gwalior highway.

Many Threats

Today, the charismatic Chambal, once regarded as wasteland, faces severe threats on several fronts. The river is being impacted by increasing construction and diversion of water, leading to erratic flow and degradation of the aquatic ecosystem. According to available documents, there are at least seven major, 12 medium and nearly 140 minor irrigation schemes operating in the Chambal River Basin. If this is not enough, over 50 irrigation projects are under construction and nearly 400 projects proposed as per published dossiers. Being a perennial river in an arid landscape, sadly, it is looked upon as a source of water withdrawal rather than a unique and dynamic aquatic ecosystem thriving with natural life.

There are several other threats, including riverbank farming, massive sand mining, poaching, illegal fishing and unruly riverside and riverbed cultivation within the sanctuary. The biodiversity values and threats to the Chambal biodiversity are not fully understood by the local public in spite of the Protected Area having been established since the late 1970s. This

emphasises the need for greater awareness about the river for its numerous economic benefits and ecological values.

Dr Asad Rahmani, who was the Director of the Bombay Natural History Society (BNHS) from 1997 to 2015 and also served as a member of the National Board for Wildlife, says "Wildlife authorities in India have to wake up to the reality of major threats facing the National Chambal Sanctuary, particularly massive mining of sand-banks, sand-bars and sand-spits as they are significant resting and breeding sites for the gharial, mugger, fresh-water turtles, and ground-nesting birds like Indian skimmer and black-bellied tern. Many of the best nesting sites lie close to the National Highway connecting Agra to Gwalior, making these sites easily accessible for exploitation for sand mining. Removal of sand along Asian rivers to supply construction projects, involving the use of large earth moving equipment, has accelerated over the past two decades."

The gharial population experienced two dramatic declines — the first, between 1999 and 2003, resulting in a status change to 'Critically Endangered', and the second, the unexplained winter die-off of 2007-08. The causes of population collapses are yet to be conclusively determined, but these incidents did highlight the need for an immediate evaluation of management actions and better-coordinated action between Rajasthan, Madhya Pradesh and Uttar Pradesh. Synchronised efforts to address common management issues have been largely lacking and earlier efforts to initiate joint conservation and management measures did not yield the desired result.

It was against this backdrop that the Centre set up the National Tri-State-Chambal Sanctuary Management and Coordination Committee on 7 January 2011.

THE NATIONAL CHAMBAL SANCTUARY, DEMARCATED ALONG THE CHAMBAL RIVER BASIN, IS THE ONLY MAJOR HOME TO GHARIALS, DOLPHINS AND SKIMMERS

This was constituted as a three-tier decentralised coordination mechanism to give stimulus to protection, conservation and recovery of the critically endangered gharial, in its natural habitat in the Chambal. The 2012 meeting concluded with the development of the 10-year management plan and funds allocation to the States. The next management plan for another 10 years is being developed and needs to be set in motion, as this is the only tri-State managed Protected Area in India that envisages a long-term survival of the mega Chambal ecological niche.

More than 400 species of plants and herbs, 308 bird species, 147 varieties of fish and 56 reptiles have been recorded during various surveys in the past four decades conducted by the Wildlife Institute of India, BNHS and the World Wildlife Fund apart from NGOs and respective State forest departments. This proves the integral value of the Chambal countryside which needs immediate attention both by the Central and State governments, says BC Choudhury, a wildlife professional adviser.

He emphasises that "While the investigative methodologies and field survey must continue, to establish a more profound plan to save the NCS, it is essential that the landscape and riverscape of Chambal are at least kept in a state of equilibrium. The recent 2022 survey recorded around 1,700 gharials, 400 muggers and about 70 dolphins, a sure indication of lab-to-land conservation efforts yielding results. This will preserve the pristine environment that survives in this desolate terrain to the multitude of flora and fauna also thrive."

(The author is an independent journalist and documentary wildlife photographer.)