

# 3 more attacked in Bahraich; jackals, dogs on prowl: Officials

## No Wolf Was Spotted In Area: DFO

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Forest and police officials have intensified vigil in Mahsi area of Bahraich

**Lucknow:** Three persons were injured in attacks by wild animals in Mahsi area of Bahraich late on Thursday night and in the wee hours of Friday.

According to forest department officials, a six-year-old boy, Nanku, a resident of Narkotwa village, was attacked by an animal.

Shahir Khan, an expert from the Wildlife Institute of India, said that the boy was treated for injuries, which resembled those of an animal bite, possibly by a dog.

"No wolves were spotted in the area in drone surveillance," district forest officer, Bahraich, Ajeet Pratap Singh, said.

In another incident around 2am on Friday, a 45-year-old woman, Mukimunnisha of Sammanpurwa village, was injured in a suspected case of animal attack. No trace of wolves was found and experts claimed that stray dogs had attacked the woman.

Earlier, at 10.30pm on Thursday, a 26-year-old woman, Gudiya of Singhiya Nasirpur sustained injuries in a

suspected animal attack. She was taken to a community health centre in Mahsi for treatment where doctors said that the injury could not be confirmed as animal bite.

Bahraich DFO Ajeet Pratap Singh said that while some villagers claimed that the attacks were made by wolves, drone footage and expert assessments showed that the animals could be "stray dogs or jackals".

Singh said that Mahsi sub-division, especially the area near Ghaghra river, has been divided into three sectors for better monitoring.

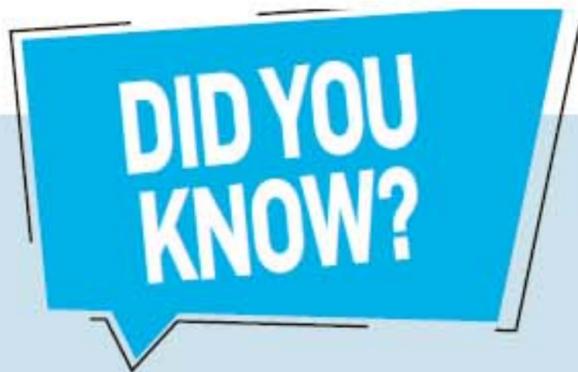
"Teams from the forest department, equipped with thermal drones, are maintaining a tight vigil. However, we have only found dogs and jackals. No wolves or leopards have been spotted. We believe that the attacks are being wrongly attributed to wolves," the DFO said.

"The area has a significant number of jackals and

dogs. After the capture of five wolves, only one is believed to be out there. Wildlife experts also note that during the monsoon season, jackals and dogs often become more aggressive, which explains the recent rise in attacks," he said.

Rescue teams are using thermal drones and camera traps in sensitive areas to track movement of wild animals. Forest department teams are conducting ground patrolling, searching for animal tracks to identify the source of attacks.

Officials said villagers are being made aware about animal attacks through banners and meetings. "They are being advised to keep their doors locked at night and take necessary precautions to protect themselves. The forest department, police, and district administration are patrolling the affected areas, especially during the night," an official said.



# Bird embryos eavesdrop on parents

**B**irds are chatty beings with several calls and songs in their repertoire—each with a unique meaning and purpose. But what about their eggs? Do they hear the adults' chatter and communicate? Although they appear passive and cosy in the safety of their eggs, developing bird embryos are extremely talented at eavesdropping. Tuning in to the outside noise, including listening to their parents' alerting and alarming calls, helps them better prepare for the world they are about to enter.

In 2014, scientists studying captive zebra finches were puzzled to see the incubating parent, when alone in the nest, give out a cry whenever the temperatures increased. When further probed into who they were talking to, the scientists found that these heat-warning calls were meant for the embryos. On hearing the heat warning, the eggs slowed their development and hatched later, possibly avoiding the high heat. Chicks that hatched from these eggs also adapted to the changing world better. They sought warmer places to nest, produced more offspring, and were willing to try new food compared to chicks from eggs who grew up not hearing the heat warning cry.

In another study on yellow-legged gulls—loud, squawking seabirds living in large colonies—researchers found a similar prenatal response. When a predator approached the eggs, the parents gave out an alarm call. Eggs that heard these calls hatched later, possibly avoiding being eaten up by the predator as hapless chicks. They also produced fewer vocalisations—baby bird talks—and instead vibrated more to communicate quietly. When these eggs eventually hatched, the chicks were quick to crouch on hearing the alarm calls, showing off their prenatal learnings.

A new study adds another dimension to embryonic eavesdropping. It found that if yellow-legged gull parents were chattier, they coordinated the incubation better. Eggs that heard their chatty parents also became chattier as chicks—begging for more food and ensuring their parents cared for them better. After a month, these chatty chicks grew up to be larger, healthier and better equipped to cope with stress than those eggs whose parents were quieter.

Studies show that eavesdropping on their parents is not just a bird thing—amphibians, reptiles, insects, and even humans do it. But why? Does it have a role in their development? That's the question scientists are now asking.

- SPOORTHY RAMAN



# CITY GLOWS UP WITH THESE NEW AND REVAMPED TOURIST ATTRACTIONS

Lucknow, a city steeped in history and culture, is once again shining bright with its treasures restored to their former glory. The city is getting a serious glow-up with a whole new lineup of newly constructed and revamped tourist attractions. Take a look...



## RESIDENCY

A major Lucknow monument that got a makeover is the Residency. The place is a testament to the bravery of those who fought in the Revolt of 1857, and has now undergone a stunning transformation. Over 200 graves, including those of British officials, have been restored, and the complex's pathways now invite visitors to explore this pivotal chapter in India's history. Apart from the cemetery, the restoration drive also includes the 49 acres of land which has got new plants and trees and trimmed gardens with lights highlighting the beauty of the monument without it losing the essence of its originality.



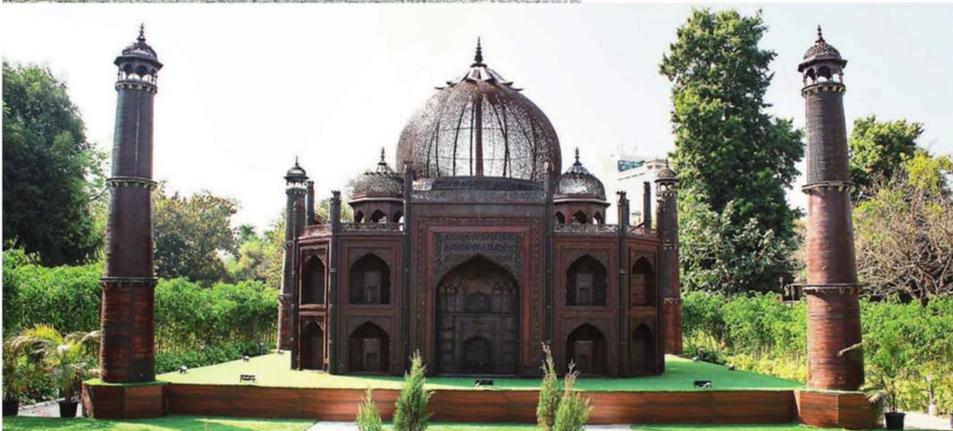
## UP DARSHAN PARK

Constructed as a mini-Uttar Pradesh over 10 to 12 acres, UP Darshan Park is a place where one can easily tour the entire state without even leaving the city. Built on the lines of sustainability and creativity, this park turns waste into wonders with an array of sculptures and installations made from up-cycled materials. From Agra's Taj Mahal to Ayodhya's Ram Temple, the replicas of around 16 iconic monuments across the state can be found here. Ingeniously constructed from recycled materials such as discarded spares from four-wheelers, rusted almirahs, tyre rims, household iron waste, etc, this park stands out as a recycled wonderland for tourists.



## HAPPINESS THEMED BUDDHA PARK

Buddha Park, a 44-year-old landmark cherished by generations of Lucknowites, has undergone a stunning transformation into a vibrant Happiness Park. This revamped public space is curated with an aim to boost mental health and spread joy through interactive art installations, playful elements and scenic landscaping. The transformation has utilized 400 metric tonnes of waste materials—such as automobile scrap, discarded electronics, tyres and plastic—to create over 60 sculptures and murals. These creative pieces include inverted houses, laughing faces, elephants and cartoon characters, made from re-purposed items like iron pulleys and chains. The park now offers numerous attractions for all ages, including selfie spots featuring its whimsical artworks and nostalgic games like gilli-danda and kancha.



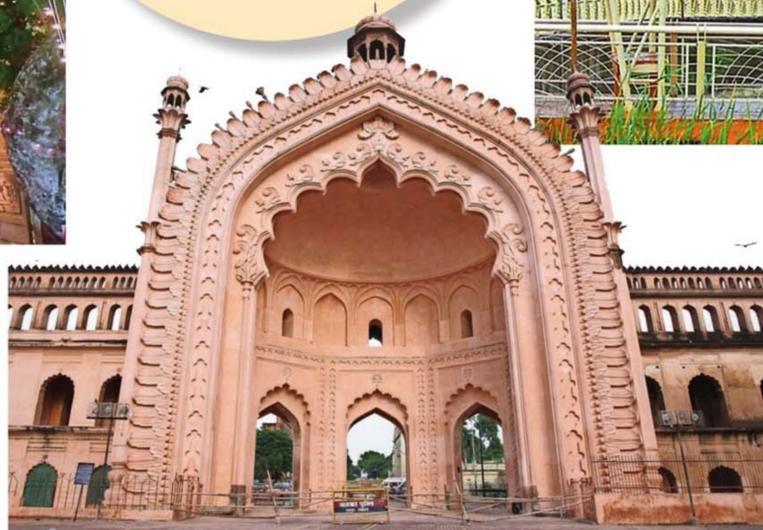
## Rashtriya Prerna Stha

Among some of these newly-constructed tourist attractions, Rashtriya Prerna Sthal is still under construction and gearing up to be the new crown jewel of Lucknow. Rashtriya Prerna Sthal will showcase the legacies of towering figures like Atal Bihari Vajpayee, Shyama Prasad Mukherjee and Pandit Deendayal Upadhyay. Spread over a whopping 65 acres, it will feature towering bronze statues of these iconic personalities, each reaching an impressive 63 feet in height and elevated on a grand 9x9 meter pedestal. Planned features include grounds for exhibitions, a dedicated meditation and yoga center, multipurpose halls, seminar and meeting rooms and a VIP lounge.



## CG CITY WETLANDS

The CG City Wetlands, spanning over an impressive 37 acres, is going to be a vibrant addition to Lucknow's natural landscape. This expansive parkland has been designed to blend nature with recreational amenities. Visitors can take a leisurely walk along the scenic walkway trail, or enjoy a serene boat ride on the calm waters. For bird enthusiasts, the dedicated bird-watching tower is provided as an ideal spot to observe local wildlife. This nature-friendly place also has an open theatre for local events and shows, and a 16-acre musical park with fun, interactive features and fountains that bring an extra touch of enjoyment. Not only this but the 3-acre Ramayana Park is also developed for the visitors to explore its thematic spaces inspired by the epic. Adding to the experience, the area will have vibrant food stalls similar to Chatori Gali in Gomti Nagar, offering a diverse array of delicious treats for every palate.



## HANUMANT DHAM TEMPLE

Tucked away in the heart of Lucknow, the Hanumant Dham Temple is a spiritual gem located on the scenic banks of the Gomti River. Devotees and visitors alike can also enjoy the serene surroundings with a boat ride. Since the temple has gained immense popularity over time not only among localites but also among visitors from across the world, the place continues to grow as plans to amp up the amenities are afoot, promising to enhance the overall visitor experience.

## RUMI DARWAZA

One of Lucknow's most beloved landmarks, Rumi Darwaza has been brought back to life, revealing the stories of the past with renewed vibrancy. The iconic gateway built by Nawab Asaf-Ud-Daula in 1784, stands tall once more, its Surkhi mortar exterior glowing with a soft, warm light. After two years of meticulous conservation, this piece of history has been reborn, its authenticity intact.



Indian Ocean humpback dolphins look much like their better-known cousins, the bottlenose dolphin, but there are important differences

# Experts from 17 nations to help save endangered dolphins

## Marine biologists, scientists form network, HuDoNet, aiming to connect, share, inspire and galvanise conservation action

**A CORRESPONDENT**  
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MARINE biologists and scientists from Western Indian Ocean region countries have come together to save the humpback dolphin, an endangered species. The experts have formed a network—the Indian Ocean Humpback Dolphin Conservation Network, or HuDoNet—which aims to “connect, share, inspire and galvanise” conservation action to turn the tide for little-known but increasingly vulnerable Indian Ocean humpback dolphins. A total of 71 marine scientists, biologists and conservationists from 17 countries in the western Indian Ocean and Arabian Sea are now working together under HuDoNet’s umbrella.

The members of the network share the common goal of spurring research that provides evidence for good conservation decisions and

**‘Our major challenge is a lack of finances to sustain long-term research efforts’** Ketki Jog, a researcher who is studying humpback dolphins in India



In most places, dolphin populations are small and declining because of their proximity to highly populated coastlines

action, attracting resources, building capacity among researchers and conservationists and raising people’s awareness of the plight of this endangered species.

Humpbacks look much like their better-known cousins, the bottlenose dolphin, but there are important differences, say marine experts. However, there is much less awareness, as most people have probably never heard of Indian Ocean humpback dolphins

These aquatic mammals are shy and elusive and only found in shallow waters, usually very close to the shore. They are an endangered species that live in small groups.

Indian Ocean humpback

dolphins inhabit a narrow strip of water that laps the beaches of southern and eastern Africa, western Asia, to the tip of India and Sri Lanka, as well as islands like Madagascar and Mayotte. Dotted along this range are researchers who study humpback dolphins.

“There is so much we do not know about these elusive dolphins, but what we have learned so far is concerning,” said Dr Shanan Atkins, HuDoNet coordinator.

In most places, dolphin populations are small and declining because of their proximity to highly populated coastlines.

They are affected by human activities on land, in fresh water and in the ocean, Dr Atkins said.

He said that the dolphins die in fishing nets; their habitats are altered by port and harbour construction, coastal development, dredging and land reclamation. They are also susceptible to pollution, such as chemicals and underwater noise. These activities threaten the survival of the dolphins in ways that are challenging to understand and measure but likely to be impactful, Dr Atkins added.

The dolphin researchers also face challenges dealing with such problems. “Our major challenge is a lack of finances to sustain long-term research efforts,” said Ketki Jog, a researcher who is studying humpback dolphins in India. “We are limited by equipment, personnel and funding,” said marine biologist Sasha Dines from South Africa.

Other challenges include a lack of data, technical support, lack of awareness of the species and action by the authorities. “It is so difficult to get the authorities involved in marine conservation matters,” said Kuwaiti marine biologist and researcher Yusuf Bohadi.

**71**  
Numbers of experts who have joined the cause

# Forest dept sends revised plan to sterilise 47 leopards

## Only Option To Check Rise In Five Conflict Zones

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**Pune:** The state forest department has sought in-principle approval for the sterilisation of 47 leopards from at least five conflict areas of Junnar from the additional director general of wildlife in the Union forests and environment ministry.

The revised proposal has mooted laparoscopic tubectomy of 36 females and laparoscopic vasectomy of 11 males in Otur, Shirur, Bori, Umbraj, Lakhangaon, and Alegaon Paga.

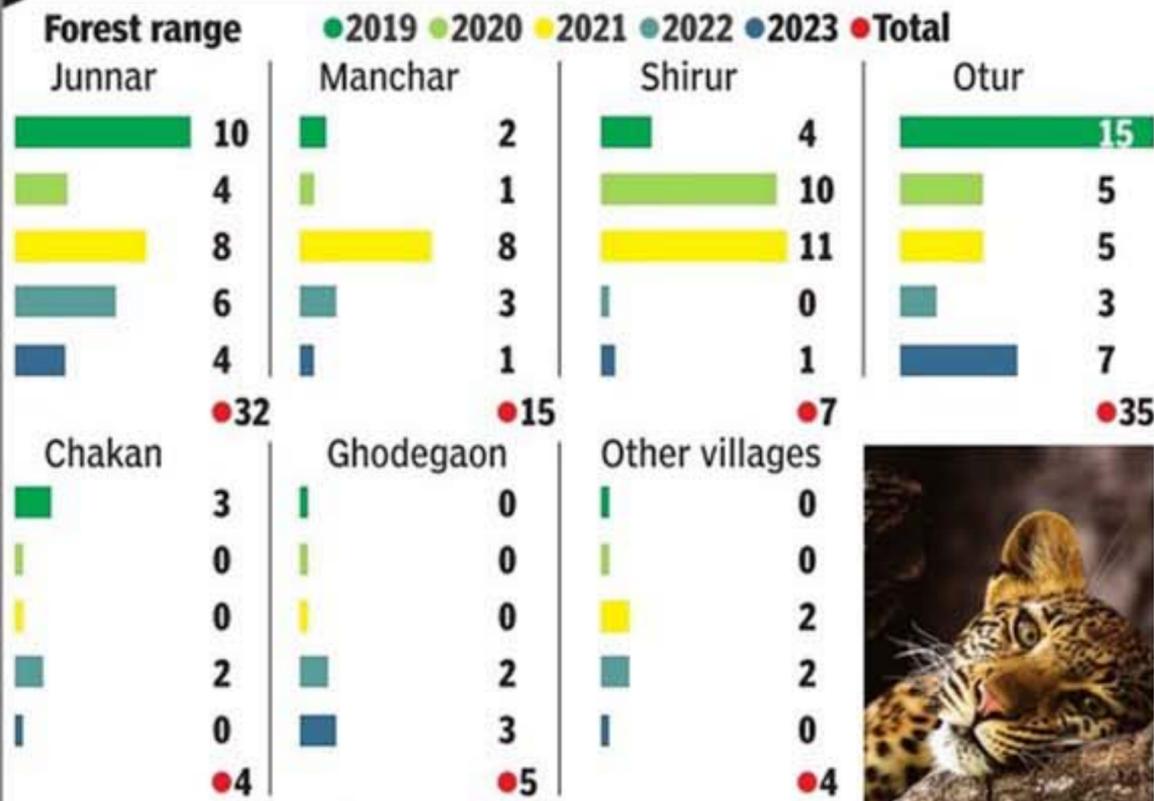
These regions each have over 30 leopards in at least six villages. They have also become hotspots for the problematic increase in human-leopard conflict situations. In Umbraj, there were at least two major attacks which occurred within a span of two months, injuring a three-and-a-half-year-old boy and a 25-year-old woman in May and March.

Jambut village witnessed the death of a 55-year-old woman on Aug 26 in a leopard attack. Similarly, Otur saw a series of deaths in May, with an eight-year-old boy and a 45-year-old woman killed in the span of four days. Fifteen people have lost their lives due to leopard attacks in Maharashtra in the last financial year.

### APPROVAL SOON FOR EXPANSION OF RESCUE CENTRE

The Junnar forest division's revised proposal for the expansion of the Manikdoh Leopard Rescue Centre to Central Zoo Authority on August 15 is expected to be approved in a month. The centre will now house 100 leopards with land already acquired from the state irrigation department. The CZA want clarity on the land being a reserved forest area or some other govt land which the department clarified.

#### RESCUES IN JUNNAR DIVISION



- Area ■ Method ■ Number of leopards ■ Targeted population
- Sex ratio
- Umbraj ■ Laproscopic tubectomy ■ 24-28 ■ 12 females ■ 1:3
- Bori ■ Laproscopic tubectomy
- and vasectomy ■ 38-40 ■ 3 males and 12 females ■ 1:3
- Alegaon Paga ■ Vasectomy ■ 38-42 ■ 8 males ■ 1:3
- Lakhangaon ■ Laproscopic Tubectomy ■ 41-46 ■ 12 females ■ 1:3



“We sent the proposal last year. But, the chief wildlife warden sought a revised project with specific numbers and areas. We finalised the number of animals and regions and re-sent the proposal in June. The warden sent it to the Union govt in July for their approval. We can also send them a detailed proposal,” Amol Satpute, deputy conservator of forests (Junnar), said.

Mechanical, immune contraceptive, and endocrine-disruptive methods were explored but after studying the effect they would have on the leopard, laparoscopic tubec-

tomy and vasectomy were considered.

“Since it is a first-of-a-kind pilot project, we are cautious. Considering the recent rise in conflicts, we need something more to tackle the population, and sterilisation will help. Based on the WII study, we have identified the hotspots where we will capture the leopards, and the number of animals has been decided based on their density,” Satpute added.

WII’s study had said that for every 100 sqkm in Junnar, there were six to seven leopards. The letter sent by Maheep Gupta, chief wildlife warden and principal chief

conservator of forests (wildlife), stated that the operation would be carried out under the supervision of experts and the guidance of the Wildlife Institute of India.

Shirur MP Amol Kolhe said, “It is better late than never because people must not die in attacks. In just four tehsils of my constituency, there are at least 650 to 700 leopards. All animal lovers and activists must understand the gravity,” he said. Kolhe has also written to the DG Forests to approve the proposal for the sterilisation of the leopards.

(With inputs from Alim Shaikh)

**The Asian Age**

**New Delhi, 14 September 2024**

# **New Britain Goshawk seen after 50 years**



This undated released by World Wildlife Fund-Pacific (WWF-Pacific) on Thursday (September 12, 2024) shows a New Britain Goshawk in Pomio, Papua New Guinea's East New Britain province. A hawk-eyed photographer has thrilled scientists by snapping the threatened bird of prey in Papua New Guinea, over five decades since it was last officially documented, the WWF said on Friday.

— AFP

# mint lounge

SATURDAY, SEPTEMBER 14 2024

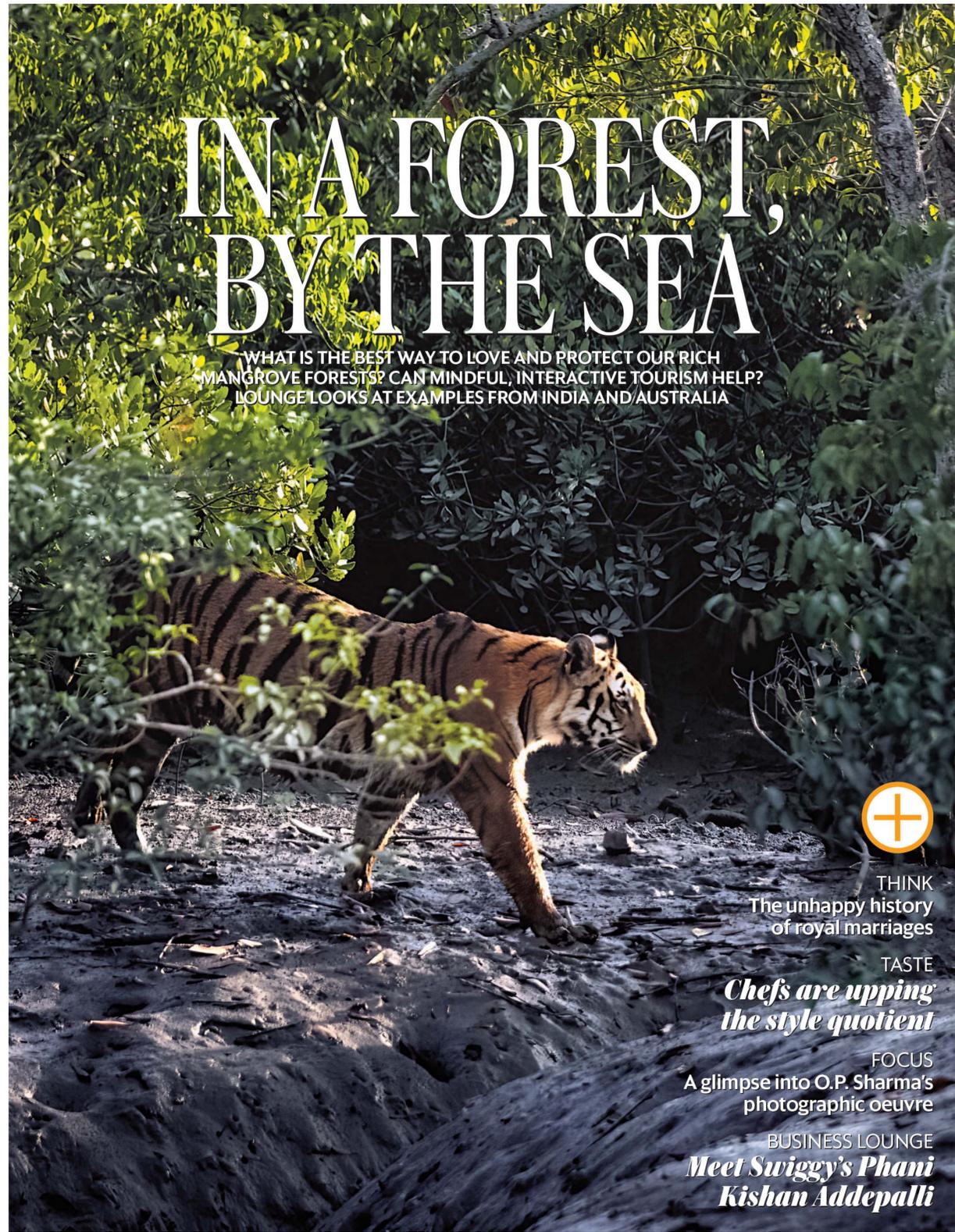
**EXPECTING A CHILD, & A MEDAL**  
At several global tournaments, sportswomen have shown that pregnancy is not a physical impediment. Athletes like Jodie Grinham and Nada Hafez are furthering the conversation about career sportswomen and motherhood. **SEE PAGE 7**



FORD DIALS JSW FOR INDIA RETURN, EXPLORES EXPORTS | PAGE 16

# IN A FOREST, BY THE SEA

WHAT IS THE BEST WAY TO LOVE AND PROTECT OUR RICH MANGROVE FORESTS? CAN MINDFUL, INTERACTIVE TOURISM HELP? LOUNGE LOOKS AT EXAMPLES FROM INDIA AND AUSTRALIA



THINK  
The unhappy history  
of royal marriages

TASTE  
Chefs are upping  
the style quotient

FOCUS  
A glimpse into O.P. Sharma's  
photographic oeuvre

BUSINESS LOUNGE  
Meet Swiggy's Phani  
Kishan Addepalli

# THE FUTURE OF MANGROVE TOURISM

India's mangrove forests are some of the most bio-diverse and beautiful in the world. But as they suffer from neglect and degradation, can mindful tourism come to the rescue?

Anita Rao Kashy

**T**he narrow sliver of ground at the edge of the water is slushy and slithering, glimmering in the mid-morning sun. It is punctuated by small pointy root-like structures, a few inches in height, sticking up from the slung earth, while tiny creatures make tentative appearances, darting in and out of holes in the ground. The tide is just receding at the Pichavaram mangroves in Tamil Nadu, about 240km south of Chennai, and a whole new landscape is emerging.

As a tiny rowboat pushes off from the noisy jetty near Killai village and begins to glide down a wide channel of greenish-brown water, silence descends quickly, broken only by the gentle and rhythmic splash of oars. The tree cover is so thick that it is impossible to see even a few feet beyond, but the ground that is slowly emerging from the retreating tide is alive with life. Around the sticking roots, called pneumatophores, hermit crabs and bright yellow fiddler crabs dart around. More riveting are the mudskippers, strange-looking creatures that appear like a cross between a fish and a frog, flopping on the muddy ground.

The common kingfisher, with its bright blue wings and bright orange underbelly, flashes by every now and then. It is less easy to spot the pied kingfisher, its body a mottled design of black and white, almost camouflaged in the speckled shadows. There are others too: egrets, herons, storks, darters, wagtails, cormorants and a host of tiny birds that are difficult for a novice such as me to identify.

This moving tableau changes only subtly as the boat pushes further and further into the network of channels that grow narrower the further in we go. By now, the silence is complete, the oars barely skimming the water surface.

Occasionally, a fish plops through the mesh, startling us. Sporadically, the boatman stops rowing altogether to point out a hidden creature, like a monitor lizard on a branch, perfectly camouflaged.

**BINDING THE LAND AND THE SEA**  
The deep tranquillity that envelops the mangroves gives them a timelessness that belies their importance. One of the most exceptional natural phenomena, mangroves occupy intertidal zones, at the interface between land, river and sea.

Mangroves are filled with specially adapted trees and vegetation (halophytes) that can live and breathe in salt water, which would kill most other plants. They also have specially evolved physiology to handle the wave system. All this results in a nutrient-rich habitat that is ideal for not just vegetation but an astounding number of species of terrestrial and marine creatures.

"The biomass production is greater than any other aquatic system on the earth. They play a critical role in carbon sequestration and therefore in climate change mitigation," says mangrove expert and marine biologist K. Kathiresan.

These coastal forests are crucial in protecting coastlines as they act as a barrier against erosion, storm surges and tsunamis. Their unique nutrient-rich habitat is pivotal and perfect for a variety of wildlife, including tigers, fish, crustaceans and birds. This in turn serves to sustain the livelihoods of millions along the coastline. Above all else, mangrove forests are vital carbon sinks, absorbing and storing carbon dioxide, possibly up to four times greater than any other kind of forest. No surprise then that mangroves have a slew of descriptors: "living wall of defence", "sentinels of the coast", "shock absorbers".

According to the Forest Survey of India's *India State of Forest Report 2021*, mangroves occupy an area of 4,992 sq. km, spread across nine states and three Union territories. This mangrove cover has reportedly increased by 71 sq. km since 2017. While that is good news, it is instructive to know that in the 1960s, India boasted over 6,000 sq. km of mangroves.

A lot of it was lost due to developmental activities. But after the super cyclone of Odisha in 1999 and the

tsunami of 2004, both of which caused a lot of devastation, people realised the importance of mangroves and the perception changed. Much more importance has been given to mangrove conservation since then," Kathiresan says.

Though home to only 3.4% of global mangroves, our mangrove forests are exceptional in some aspects. The Sundarbans is home to 42% of India's mangroves, while 23% of the forests are in Gujarat, says the report. But the conditions couldn't be more different. It is hot and humid in the Sundarbans and dry and arid in Gujarat, which in turn have very different habitats and host different flora and fauna.

"This is the unique feature of mangroves in India. Both these are high-energy coasts with a tidal range of 4-7 metres. About 57% of the mangroves are on the east coast, 31% on the west coast, while the Andamans account for 12%," says Kathiresan.

These differences have a huge impact. In the past four decades, Kathiresan says he has recorded 15,745 species of flora and fauna in the mangrove ecosystems in India and that this constitutes the highest recorded biodiversity of mangrove systems anywhere in the world. "This is because of the diversity of the mangrove habitats in this country, which include lagoon, estuarine and island mangroves. Because of the habitat diversity, the mangrove biodiversity is also good," he says. Of the 3,745 species, about 84% are animals while 16% are vegetation that also includes seagrass, marine algae (phytoplankton and seaweed), lichen and fungi.

This diversity has resulted in some spectacular highlights. India is home to the world's largest nesting site for Olive Ridley turtles (Gahirmatha in Odisha), while large swathes of seagrass meadows are home to the endangered dugong or sea cow (Gulf of Mannar Marine National Park in Tamil Nadu).

Intertidal mudflats harbour over 520 resident and migratory species of birds, and India's mangroves also host 43 of the 50 tree mangrove species found in the world, second only to Indonesia, according to an Indian Institute of Science, Bengaluru, report. These include two critically endangered species, *Sonneratia griffithii* and *Heritiera fomes* (known locally as *sandras* and *sandari* after which the Sundarbans is named). "No other country has what we have in our mangrove ecosystems," Kathiresan says.

**THE BRIGHT SPOTS**  
A little over 20 years ago, as demand for seafood grew both domestically and internationally, those living along the coastal areas saw an economic opportunity. Vast tracts of land were either cleared

or mangrove-adjacent land was utilised for setting up aquaculture farms for shrimp production. This proved to be near catastrophic. Viral disease from the reared shrimp jumped into the mangrove ecosystem when water was released and ended up spreading to other marine life, wreaking havoc.

Rather than completely banning such initiatives, Kathiresan suggests integrated approaches that take into account mangrove conservation as well as livelihood activities such as aquaculture, agriculture and silviculture. "About 30% of India's population lives along the coastline; these people are directly or indirectly dependent on mangroves, which provide food and millions of jobs. It is essential to adopt (varied) socio-economic approaches."

Among the most successful initiatives is the Mangrove Cell, set up in 2012 as a separate wing within the Maharashtra forest department. "The whole mangrove protection mechanism has become institutionalised within the government, which is a very positive thing," says Debi Gonenka, executive trustee of Mumbai-based Conservation Action Trust, which works for protection of forests and wildlife.

The cell, with its mandate for conservation and monitoring of mangroves and coastal biodiversity, is funded through an autonomous foundation set up by the Maharashtra government with a corpus of 315 crore, which it uses for "conservation of coastal and marine biodiversity, research and sustainable livelihood". It has adopted a multi-pronged approach to conservation through developing mangrove species nurseries and plantations in degraded areas, while also empowering mangrove-dependent communities. Mangrove cover has increased by 4 sq. km, according to the *India State of Forest Report 2021*.

Gonenka says the onus of protection is on everyone. "The environment belongs to everyone. Everyone has a role to play in its protection. Don't expect someone else to do it. The more people involved, the better it is for all of us."

Another effort that is yielding some success is canal bank planting started around two decades ago. It's a process of creating special canals that ensure mangroves with excessive soil content are regularly inundated by tides. This helps leach out the salts and aids mangrove regeneration. In Andhra Pradesh's Krishna and Godavari delta regions and in Tamil Nadu's Pichavaram region, canal bank planting of mangrove species—with the involvement of local communities—to rehabilitate degraded forests has had some success, to the extent of 90% of lost mangrove area in some patches.



(above) A tourist boat in the Sundarbans and the majestic Royal Bengal Tiger at the Sundarban Tiger Reserve.

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**A HOLIDAY IN THE MANGROVES**  
Mangrove tourism in India is still not a big-ticket item. In most places, visiting mangroves means a simple boat ride devoid of any context, rather than one that highlights the uniqueness of mangroves. In some areas, like the Sundarbans, mangrove tourism is popular due to an established ecosystem that caters to it.

Wildlife photographer and conservationist Dhritiman Mukherjee says that mangrove tourism in the Sundarbans is well-regulated and managed because of strong rules that are strictly enforced by the forest department. These rules govern different aspects of the tourist experience, including the number of boats in each area, and a strictly enforced carrying capacity for each kind of boat, as well as clear do's and don'ts within the protected area. There are various packages that tourists can book, from short boat rides to multi-day stays. Pricing depends on duration and number of people. Importantly, a guide is usually part of the package.

To Mukherjee, the Sundarbans is a special place, which he first visited as a child. Over the years, he has returned over a hundred times, sometimes staying



Flamingos in the wetlands of Thane in Mumbai creeks in Maharashtra. (stockphoto)

## Mangrove hot spots

**Sundarbans, West Bengal:** Formed at the delta of the Brahmaputra, Ganga and Meghna rivers, the Sundarbans is spread across India and Bangladesh, forming the world's largest mangrove system. It is also a Unesco World Heritage Site. The key animal species is the Royal Bengal Tiger, but other notable inhabitants include the Indian Gangetic dolphin and estuarine crocodiles.

**Bhitarkanika, Odisha:** Located at the delta of Brahmani and Baitarani rivers, Bhitarkanika is often called a genetic mangrove paradise due to its astonishing diversity. The region hosts the world's largest nesting site for Olive Ridley turtles.

**Coringa, Andhra Pradesh:** Situated in the Godavari delta, Coringa has a wide diversity of mangrove tree species and avian creatures. Olive Ridley turtles, fishing cats and systems are crucial for coastal protection, supporting diverse wildlife, and acting as significant carbon sinks. Their role in coastal communities' life is incomparable," says Tejasree Joshi, head of environmental sustainability, Godrej & Boyce.

**Pichavaram, Tamil Nadu:** At the delta of Cauvery and Vellar rivers, Pichavaram comprises several islands of differing sizes, home to a variety of birds.

**Baratang, Andaman and Nicobar Islands:** Located at the northern tip of South Andaman Island, Baratang houses rare grey mangrove forests and jaw-dropping limestone caves and mud volcanoes.

**Gulf of Kutch mangroves, Gujarat:** Located on India's west coast, the mangroves in the Gulf of Kutch are the most protected in the country. However, they are home to a wide variety of wildlife, including dolphins and crocodiles, as well as a large number of bird species, chief of which are flamingos.

**Thane, Maharashtra:** These unique and diverse mangrove forests that are instrumental in protecting Mumbai. The highlight of these mangroves are flamingos.

**Chorao, Goa:** Located at the delta of the Mandovi river, Chorao island is home to the Salim Ali Bird Sanctuary.

for weeks at a time. While he has photographed the mangrove extensively, he has also been a member of several tiger and crocodile releases in the forest, apart from taking part in wildlife surveys and other data collection activities.

"As of now, tourism is one of the most effective available conservation tools," he says. "It has the ability to connect people emotionally with nature; it creates empathy about our natural world and helps us understand the value of natural resources. It also works as a mass monitoring tool of our protected areas. But it has to be responsible and well-managed, depending on the carrying capacity of the forest so that the impact on the ecosystem is minimal."

In other mangrove areas, like in Pichavaram, Coringa and the Andamans, government efforts are on to promote mangrove tourism with boardwalks and information boards to educate visitors. However, conservationists advocate caution and insist that mangrove tourism must be based on the idea of education, rather than being merely recreational.

"It should involve tourists in conservation activities. It is not enough to simply see them and go away; visitors should be encouraged to participate in conservation activities such as planting trees," says Kathiresan.

Marine biologist and head of research at Kolkata's Techno India University, Mihir Mitra has been conducting research in the Sundarbans since 1987. He teaches and trains forest officials in both India and Bangladesh, especially on carbon sequestration. But a significant part of his work has been in the blue economy (sustainable use of marine and freshwater resources for economic growth and livelihood), which also includes tourism. "For nearly four decades, I have been involved in multi-disciplinary work that comprises mangrove-based livelihood (which includes tourism). In the western part of Sundarbans, the mangroves are highly sustainable and tourism is a factor. But local communities need to be trained about the various aspects of mangroves for them to get involved in conservation and it also requires the participation from those who have commercial stake in the area," he says.

A group of enterprising women in Maharashtra spun an interesting tourism initiative in 2016-17. Swamini Group, a local self-help group comprising nine women and based amongst mangrove-dependent communities in Sindhadurg, together with the Mangrove Cell, bought two boats. They take tourists on mangrove tours for a few months every year, charging 2000 per person. The women steer the boat as well as act as guides, weaving in the importance of mangroves while pointing out flora, fauna and several of its unique aspects.

In some cases, corporate initiatives have also joined the effort. Godrej & Boyce launched the Magical Mangroves campaign in 2020 in association with the World Wide Fund for Nature-India to work on conserving mangroves along the Thane creek near Mumbai. As a part of this effort, the campaign organises workshops, quizzes, nature trails and meetings with local communities. "Mangrove ecosystems are crucial for coastal protection, supporting diverse wildlife, and acting as significant carbon sinks. Their role in coastal communities' life is incomparable," says Tejasree Joshi, head of environmental sustainability, Godrej & Boyce.

This year, to coincide with International Day for the Conservation of the Mangrove Ecosystem on 26 July, the company released a short film, *The Last Frontier: An Ode to the Resilient Mangroves*, by filmmaker Bhoiti Varma, highlighting just how critical they are for the survival of cities, people and the planet itself. (The film is available on YouTube.) The film's beautiful photography reminded me of some of the things that I encountered in Pichavaram.

Such is the fact that as the tide moves in and out, the water alternately submerges and exposes, leading to the two-landscape label. But given the dramatically different nature of these two states, resident animals have adapted accordingly.

Take the fiddler crabs that see scurrying around on the damp ground near the banks. Their activities aerate the mangrove forest floor when the tide runs out; when it comes in, they plug the holes of their burrows with mud balls and wait the high tide. Some species of snails climb up trees to escape the incoming tide, while common rats build nests on tree branches because burrowing into the forest floor is impractical.

Even the trees have evolved a unique way of propagation: seeds germinate and develop into seedlings while still attached to the tree, a process called vivipary. When ready, they drop into the water and are carried by the changing tides to be deposited on wet areas where they easily take root and grow.

At Pichavaram, the mangrove forest may feel similar at first, but look closer and you will find that each has its own distinct feel and vibe. At Mangrove Creek on Baratang Island in the Andamans, limestone caves and mud volcanoes add a sense of otherworldliness. In the Coringa mangroves on the Andhra Pradesh coast, where the Godavari river meets the sea, endangered vulture species share space with golden jackals and smooth-coated otters. You may even get the prized sighting of the gorgeous and vulnerable fishing cat, almost double the size of a domestic cat and considered to be nocturnal, which preys mainly on fish. In the Sundarbans, it is of course the Royal Bengal Tiger that holds sway—the only place where this big cat is found.

"It should involve tourists in conservation activities. It is not enough to simply see them and go away; visitors should be encouraged to participate in conservation activities such as planting trees," says Kathiresan.

Anita Rao Kashy is an independent journalist based in Bengaluru.

# Villagers scared after jackal attacks

**PATNA, Sep 13:** The residents of Dariyapur Mandit Tola village in Bihar's Munger district are terrified after a series of animal attacks, which they claim are jackals.

In the past week, around 15 people have fallen victim to jackal bites. The incidents are concentrated in this village, which lies near a forested area under Haveli Kharagpur block.

According to Raju Paswan, a representative of the village head of Dariyapur, the jackals are attacking villagers and then retreating into the nearby forest, creating fear and unease among the locals. The villagers have been on edge, fearing further attacks, which have caused them sleepless nights.

Some of the victims are identified as Sunita Devi, Durga Devi, Johla Murmu, Shekhar Kumar, Ajay Hadsa and others. The victims were treated at the common health centre in Haveli Kharagpur.

Dr Ajit Kumar, in charge of the Common Health Centre at Haveli Kharagpur, said, "Four villagers suffering from jackal bites came here and we have given anti-rabies injections. The villagers reported to us about frequent attacks by a group of jackals."

Meanwhile, the villagers have informed the forest department of Munger to capture what they believe to be jackals, which may be contributing to the attacks.

In response to the escalating jackal attacks in Dariyapur Mandir Tola village, the department has not yet been able to capture the wild animals. As a result, youths, armed with batons, are now patrolling the area around the clock to protect the villagers. This has become necessary as the fear of attacks continues to grow.

The Haveli Kharagpur block is a remote area with many villages situated near forested regions, making these kinds of animal encounters more common. The wildlife department has acknowledged the attacks and is working on a solution.

"We have planned to set up makeshift cages to capture the jackals," an official said. Such attacks are not unprecedented. Earlier, villagers in Maqsoodpur under Khizarsarai block in Gaya district also suffered from similar jackal attacks. This situation highlights the need for immediate action by local authorities to ensure the safety of the villagers and address the growing problem of wild or stray animals. (IANS)