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महाराष्ट्र वन विभाग
Mangrove Cell

MANGROVE FOUNDATION

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EDITORIAL



Dear Readers,

First of all, I would like to wish everyone a Happy International Mangrove Conservation Day!

As the world marks a decade since UNESCO declared 26th July as the International Day for the Conservation of the Mangrove Ecosystem, the Mangrove Cell and Mangrove Foundation of Maharashtra take pride in their sustained and impactful efforts toward research, protection, conservation, awareness creation, and livelihood generation across the state's coastal districts.

The Mangrove Conservation and Livelihood Generation Scheme has created numerous opportunities for coastal communities through sustainable aquaculture and ecotourism. I am proud to share that one of our ecotourism groups, Navlai from Songaon, Ratnagiri received the prestigious 'Species and Habitat Awards 2025' for best ecotourism initiative this year — congratulations to them for their outstanding achievement!

To mark this year's Mangrove Day, we organised a 10-day celebration featuring 50 programmes, including a mega clean-up drive to tackle the biggest threat to mangroves — plastic pollution. This issue also features articles and poems from our dedicated staff and readers, sharing their first-hand experiences of working in mangrove ecosystems.

Beyond mangroves, we continue our efforts to protect and conserve marine ecosystems. During the 2024-25 Olive Ridley Sea Turtle nesting season, the Mangrove Foundation in collaboration with Wildlife Institute of India undertook flipper tagging of nesting Olive Ridley Turtles along the coast of Maharashtra. In this programme 62 turtles were flipper tagged and three of these turtles were recorded nesting for a second time on the Guhagar beach.

I hope all our readers enjoy this issue and on the back page of this issue, you'll find our Mangrove

Conservation Pledge. I invite each of you to take this pledge and join hands with us in safeguarding these vital ecosystems for future generations.

Together, we can make a difference.

S. V. Ramarao
Additional Principal Chief Conservator of Forests, Mangrove Cell and Executive Director, Mangrove Foundation

ACHIEVEMENTS

1. Navlai Mangrove Ecotourism Group, Songaon honored with ‘Species and Habitat Award 2025’



The Navlai Ecotourism Group from Nachane village, Ratnagiri district, under the Mangrove Conservation and Livelihood Generation Scheme, was honored with the Best Ecotourism Group award in the Ecotourism category at the *Species and Habitat Awards 2025.*

The prestigious award ceremony was organised by MahaMTB and the Tarun Bharat media house. The award was presented by Shri Nitesh Rane, Hon. Minister of Fisheries, Ports Maharashtra State. This marks the third consecutive year that an ecotourism group under the scheme has received this recognition.



2. 50 awareness programmes engaging 4800+ participants on International Day for the Conservation of Mangrove Ecosystem





The Mangrove Foundation and UNDP-GCF Project team organised a 10-Day Celebration of International Day for the Conservation of Mangrove Ecosystem from 23rd July to 1st August to commemorate the 10th Anniversary of the declaration of 26th July as the International Day for the Conservation of Mangrove Ecosystem.

Mangrove Foundation further collaborated with village-level Mangrove Co-management Committees, *Gram Panchayatas*, and schools to facilitate events in the coastal villages of Maharashtra. Under this collective, 50 events were organised, where more than 4800 individuals participated. The profiles of participants were highly diverse. They were comprised of school students, members of the fishing community, and environmentally conscious citizens. Awareness activities included *Vruksha Dindi, Prabhat Feri,* Plantation Drives, Cleanliness Drives, Seminars on Mangroves, etc. To further sensitise communities to assume the custodianship of the local mangrove ecosystem, a special pledge was composed and administered for participants to continue their contribution towards mangrove conservation.

Also, a mega clean-up drive was organized at six locations in Mumbai Metropolitan region along with eight NGO partners during which 20.30 tonnes of solid waste was removed from the mangroves with the help of 2244 volunteers.

In addition to these, the Mangrove Cell along with Taj-The trees hotel staff conducted a rejuvenation of the mangrove plantation site at Bhandup Pumping Station where some dead mangrove saplings were replaced with new mangrove saplings.



ARTICLE

THE EMERALD FORESTS OF SUNDARBANS



Dr. Manas Manjrekar,
Deputy Director,
Research & Capacity Building

It was the last week of January 2010 and I had spent a lot of my time reading about Sundarbans. It's mangrove forests and wetlands, it's people, it's unique assemblage of wildlife and of course it's tigers. I was a part of the 'All India Tiger Monitoring Project-2010', an all India tiger population monitoring exercise which was led by the Wildlife Institute of India (WII), Dehradun and I was a research fellow who had joined the project along with many others who formed the big pool of field researchers who were to be dispatched in smaller teams to the various Tiger Reserves in the country.

Two weeks back I had learnt that I will head to Sundarbans along with a team of three other researchers and since then we had spent a lot of time in the library of WII reading about Sundarbans through various books and scientific papers. By mid-February 2010, our preparations for our departure to Sundarbans had been completed and we left for Kolkata. Once in Kolkata, we spent a few days getting various small things in order and finally on 18th of February 2010, we set out from Kolkata and after about a three hour drive we found ourselves at Gadkhali. This was a small village adjoining a river which flowed on towards Sundarbans and it was here that our boat was waiting to pick us up.

This was a fairly large house boat, arranged by the Forest Dept., which had an upper viewing deck, a cabin for the boat driver and below the deck it had the living quarters and engine room along with the kitchen. We were told that in Sundarbans we would have to undertake almost all our work while traveling on boats and that we would stay on these boats for weeks while we carried out our surveys. In no time we had loaded our luggage onto the boat and started travelling through the water channels. These water channels were bordered on both sides by embankments beyond which there were the small villages. Also throughout the channel at many places we could see small boats that were plying people from one side of the river to the other which emphasized the fact that boats, big and small, were a major mode of transport through this entire region whereas the major mode of transport on the land were cycle-rickshaws.

After travelling for more than an hour we got our first glimpse of the mangroves of Sundarbans. The Sundarbans is the largest mangrove forest in the world of which roughly 60% area is in Bangladesh and the rest 40% is in India. We could discern a few different species of mangroves and we had a field guide of the mangroves of Sundarbans but it would be some time before we could be able to identify the different species of mangroves. The Sundarbans has more than 20 species of mangroves which makes it one of the most diverse mangrove habitats and it is the only place on earth where tigers are found in the mangrove forest.

We finally reached Sajnekhali, a small island which has the Range office of the Sajnekhali Range (Sajnekhali Wildlife Sanctuary) of the Sundarbans Tiger Reserve. This area is also the tourist zone of the Reserve and hence Sajnekhali is the gateway to Sundarbans for tourists coming to visit this mangrove forest. The Range Forest Officer (RFO) for Sajnekhali, Mr. Mondol, was a very kind man. He explained to us about Sundarbans in general, provided us with a couple of detailed maps of the Sundarbans and also made arrangements for our temporary stay in the tourist complex of the Forest Dept. in Sajnekhali till our more permanent living quarters could be arranged on a nearby island of Pakhiralay.

The teams sent out by WII for the All India Tiger Estimation Programme had specific objectives such as tiger & other predator sign surveys, line transect surveys for herbivore population estimation (which would also include vegetation data collection) and camera trap surveys for tiger population estimation. Before setting out to the various Tiger Reserves, the entire team of researchers had undergone a training programme in WII for field data collection and data analysis. The field training exercise had taken place in Rajaji Tiger Reserve in Uttarakhand and here we had learned how to carry out sign surveys, line transect surveys and camera trapping exercise. The unique problem that we, the Sundarbans team, faced was that all those surveys that we had trained for were land based surveys and we had no idea about boat based surveys. Yes, we had read about how to conduct such surveys before coming to Sundarbans but still we lacked any kind of field experience. Thus we had to get ourselves acquainted not only with the mangrove forests but also had to get a hang of the boat based surveys.

The RFO Sajnekhali provided us with an experienced Forest Guard (whom we addressed as Naresh *Da*, where *'Da'* stands for dada - elder brother, a sign of respect) who knew the entire Sundarbans well. He was to be with us for the next 10 days in which we would undertake a reconnaissance survey and explore the Sundarbans through our boat. An entire day was spent in getting the boat ready for the coming week's trip into the mangrove forests of Sundarbans. We purchased around 300 liters of diesel and also a week's



supply of ration. Furthermore, we filled up around 200 liters of drinking water in our drinking water storage tank on the boat and early the next morning we set out for the forests of Sundarbans.

The general landscape in Sundarbans is the mangrove vegetation in various shades of green, the brown-black mudflats, the blue waters and the even darker blue sky. Soon we saw some *chitals* (spotted deer) feeding on the grasses and leaves of mangrove trees. We also came upon a few wild pigs which were busy digging up the mud and we also saw rhesus macaques roaming on the exposed mudflats and jumping up on the mangrove trees as our boat came close by. These three herbivore species comprised the major prey for the tigers of Sundarbans. Ofcourse, many publications and books have noted that the tigers in Sundarbans take other prey such as fish and crabs but still, the *chital,* wildpig and macaque are the major prey of the tigers in this mangrove landscape. We were also provided with a document of flora and fauna of Sundarbans by RFO Sajnekhali which included the common bengali names of the mangroves found in Sundarbans. This helped us a lot because Naresh Da, the Forest Guard accompanying us used to point out to various different mangrove species and tell us their names in Bengali and we could understand the scientific and common English names of these mangroves through that document. The different mangrove species pointed out by Naresh *Da* were *Baine - Avicennia*, *Garjan - Rhizophora*, *Keora - Sonneratia*, *Hental* - Phoenix, *Genwa - Exoceria*, *Golpata* - Nypa, *Kankra - Bruguiera* and many more. We asked Naresh *Da* about the Sundri mangrove tree - *Heritera fomes* which is said to give the forests the name Sundarbans. To this he replied that there were only few areas in the Indian Sundarbans where this species was seen and that the said species was to be mainly seen on the Bangladesh side of the Sundarbans.





During our boat ride, Naresh *Da* pointed at many depressions on the mud banks and told us that these were tiger pugmarks which were left on the mud bank as the tiger swam towards the bank and walked across it and entered the forest. We observed many such pugmarks through naked eyes and binoculars and after a while we started pointing out holes and depressions in the mud and while doing so we put this question to Naresh *Da "tiger pugmark aache?"* (is it a tiger pugmark) and generally for the first two days the answer to this question would be in the negative and we would learn that what we were pointing to were actually crab holes!



In the evening, as the light started to fade away, our boatman anchored the boat in a channel, which were called *'Khals'* in the local language, which was generally more than 100 feet in width. This meant that while our boat was anchored in the middle of this channel there was around 50 feet of channel width on either side of our boat which was an effective way of keeping away any tigers which might be interested in getting aboard our boat. Sundarbans is well known for man-eating tigers and there have been many cases of tiger attacks on human beings, especially on those who venture into Sundarbans for fishing or honey collection. Hence, all the boats, big and small, which venture into this mangrove forest always follow the above mentioned rule when settling down for the night - 'Anchor the boat in the middle of a fairly wide water channel' which mostly ensures that tigers can't get onto these boats' (it is generally said that the small fisherman boats are more at risk of a tiger attack than any of the bigger house boats).



Apart from tigers, Sundarbans is also famous for the saltwater crocodiles which can grow to extremely large lengths. We saw quite a few of these crocodiles during our initial boat survey through the Sundarbans. Along with them we also came upon water monitor lizards, otters and Irrawaddy dolphins. While moving through Sundarbans we made stops at the many Forest Dept. camps which are scattered all over Sundarbans namely *Sudhanyakhali, Dobanki, Netidhopani, Haldibari, Bagmara,* etc. All of these camps/posts had a beat office headed by a Beat Officer and all of these sites also had a watch tower which gave an excellent view of the surrounding mangrove forests and the network of creek channels. Some of these sites were also open for tourists and these watchtowers were a nice place to spot wildlife and some lucky ones had also seen tigers from these towers.

All these camp sites had one more thing in common. They had a small temple or shrine for a local deity called *'Bonbibi'* who is the Goddess of these forests. People in Sundarbans, especially those who venture into the forest, irrespective of their religious background, worship *Bonbibi* for her blessings and protection, especially from the tiger. The temple/shrine of Bonbibi has many other characters as well apart from the Goddess who is at the centre.



She is accompanied by her brother *'Shah-Jungoli'* who wields a mace and there is also *'Dukhe'* a small boy who is being saved by Bonbibi from a tiger who is called *'Dakhin Rai'.* There are many stories of *Bonbibi* and *Dakhin Rai* and the most popular one says that *Dakhin Rai* was an evil spirit who would transform into a tiger and kill and terrorize the people of this region and *Bonbibi* and Shah-Jungoli came and saved the people from this evil spirit of *Dakhin Rai.* Our boat crew, who were all local people, used to tell us many stories and legends associated with Sundarbans and these were some of the most enjoyable moments of our time in Sundarbans.

One of the most beautiful things to experience in Sundarbans are the sunrises and sunsets which are to be seen across the wide expanse of the water channels and mangroves. Sure enough, the sunrises and sunsets from many mountains, hills and beaches across India are no doubt as beautiful as any but those in Sundarbans have a beauty of their own which needs to be experienced first-hand.

By the 4th day, we had got a fairly good idea of identifying tiger pugmarks and along with it also the other signs of the major herbivores present in the forest. For the next few days of our reconnaissance survey expedition, we carried out some pilot sign surveys across the many water channels of Sundarbans. On the sixth day, in the morning, we were just finishing one such survey when our boat went around a bend in the channel and proceeded into a wider channel when all of a sudden Naresh *Da* started shouting *"Bagh Bagh Bagh".* I looked at Naresh *Da* for a moment who was excitedly pointing straight ahead and then I looked in the direction he was pointing. Far in the distance, I could see something black moving across the channel. It was silhouetted against the sun and as I had my binoculars in my hand I quickly put them to my eyes. What I saw was a black blob floating across the water channel and that this 'blob' had two small protrusions, one on either side of its upper surface. No sooner had I got a glimpse of this 'thing' than it was gone from sight as mangroves along the channel screened the view from our line of sight. "Your first tiger sighting in Sundarbans" said Naresh Da and I realized that the small protrusions were the ears of the tiger! We had seen quite a few pictures of tigers swimming in the water channels of Sundarbans and while doing so only the head of the tiger was all that was visible above the water and this was what we had just seen a few moments ago!



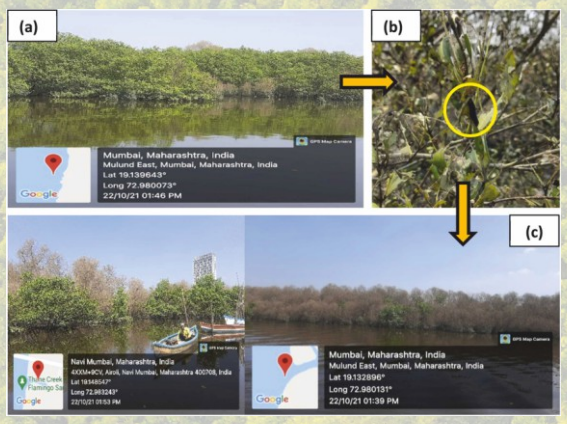
Finally, on the 8th day of our reconnaissance survey we headed back to Sajnekhali. We had got a good exposure to Sundarbans and it's mangrove habitat and now it was time to start planning and executing our tiger sign surveys and herbivore surveys which would eventually aid us in planning the camera trapping exercise in the near future. We would now head back to Sajnekhali, set up our more permanent living quarters with the help of the Forest Dept. and in about another week set off again into the mangrove forests for our surveys. While we were talking about our upcoming plans, our boat came around a bend in the channel and this time, Naresh *Da* again said *"Bagh"....*but it was spoken softly as we saw that a tiger was sitting in a watery depression on the mud bank close to which our boat was passing. Our boat's engine was extremely well oiled and hence it didn't make much noise as a result of which the tiger saw us at the same instant that we saw him. On seeing our boat, the tiger got up and slowly walked into the mangrove forest. It was truly amazing to see a tiger in a mangrove habitat as it felt so alien at first to see this big cat moving comfortably through the mangrove swamps.

So, in the span of 8 days we had come upon a tiger twice in Sundarbans which was very lucky indeed as tiger sightings in Sundarbans were rare. There was still so much more to learn and explore about Sundarbans and we knew that we would get varied experiences during our work in Sundarbans and as we planned for our future surveys we hoped that luck would be on our side going forward and that the emerald forests of Sundarbans would reveal some of it's secrets to us.

© Dr. Dipanjan Naha

STAFF'S CORNER

1. Annual assessment of mangrove defoliation by *Hyblaea puera* (Cramer, 1777) around Thane Creek, India, using field observations and Sentinel-2 imagery from 2018 to 2022



This research article was published in the Regional Studies in Marine Science 89 (2025) 104322 issue. *Avicennia marina* mangroves near Thane Creek were found to show signs of infestation by *Hyblaea puera*, commonly known as the teak defoliator. This study utilized Sentinel-2 data from 2018 to 2022 to assess defoliation patterns. Ground-truthing observations from 2020 to 2022, along with NDVI analysis in relation to meteorological factors, helped identify six categorical infestation hotspots. Findings indicated that Hyblaea outbreaks occurred more frequently during periods of low wind speed and moderate temperatures, with peak infestations following heavy rainfall and under conditions of moderate relative humidity.

Read the full article here



Anjaneyulu Adluri,
GIS Head



Dr. Manas Manjrekar,
Deputy Director -
Research & Capacity Building



२. समुद्री पक्ष्यांचा धावा ऐकणार कोण?

हा लेख जागतिक समुद्री पक्षी दिनानिमित्त 'तरुण भारत' या वृत्तपत्रात प्रकाशित झाला होता. लेखकाने समुद्री पक्ष्यांचे वैशिष्ट्यपूर्ण जीवन, त्यांचे अनुकूलन, त्यांना असलेले धोके आणि व्यक्ती म्हणून आपण त्यांच्या संरक्षणासाठी काय योगदान देऊ शकतो, याचे वर्णन केले आहे. प्रदूषण, हवामान बदल, अधिवास नाश आणि मानवी अडथळ्यांमुळे त्यांचे अस्तित्व धोक्यात आले आहे. त्यासाठी समुद्रकिनाऱ्यांवर स्वच्छता राखणे, जखमी पक्ष्यांना मदत करणे आणि जनजागृती करणे असे संरक्षणात्मक उपायही या लेखात सांगितले आहेत. समुद्री जैवविविधतेचे संवर्धन करण्यासाठी जनसहभाग आणि जागरूकतेचे महत्व लेखकाने प्रभावीपणे अधोरेखित केले आहे.

Read the full article here



Hrishikesh Rane,
Assistant Director - Capacity Building

३. ग्लोबल वॉर्मिंगमध्ये कांदळवनांचे सुरक्षा कवच



हा लेख 'सकाळ' या वृत्तपत्रात प्रकाशित झाला होता. या लेखात लेखकाने कांदळवनांचे 'कार्बन सिंक' म्हणून महत्त्व, चक्रीवादळांपासून सुरक्षेसाठी नैसर्गिक भिंत, जैवविविधतेचे संवर्धन करणारी व्यवस्था आणि हवामान बदलाचा परिणाम कमी करणारा महत्त्वाचा घटक असे विविध पैलू प्रभावीपणे उलगडून सांगितले आहे.

Read the full article here



4. Cage culture of Maze rabbitfish

A successful cage farming demonstration of Maze rabbitfish *(Siganus vermiculatus)* was recently carried out in Tank village, Sindhudurg district, with the support of the Mangrove Foundation and ICAR-Central Marine Fisheries Research Institute (CMFRI). The project began in December 2023 with the stocking of 1,000 hatchery-reared fingerlings, provided by CMFRI's Karwar Regional Station. These herbivorous fish were grown in creek-based cages over seven months using commercial feed.

The first harvest yielded 103 kg of fish, which were sold locally at Rs. 300 per kg- showcasing a promising alternative livelihood for coastal communities. Featured in Marine Fisheries Information Service Technical & Extension Series No. 262 (2024), this effort highlights the role of science-backed sustainable aquaculture and reflects growing local interest in rabbitfish farming as a nature-friendly income source.

Read the full article here



Dr. Sushant Sanaye,
Deputy Director - Livelihood Development

SAMACHAR

1. Repeated nesting of flipper-tagged turtles observed at Guhagar

A notable instance of three flipper-tagged female Olive Ridley turtles returning to Guhagar beach to nest for a second time within the same breeding season was recorded in January-February 2025. A total of 62 female Olive Ridley turtles were tagged across the Ratnagiri and Sindhudurg districts, of which 59 were tagged at Guhagar alone, during January–February 2025 as part of a flipper-tagging initiative jointly undertaken by the Wildlife Institute of India (WII) and the Mangrove Cell along the Konkan coast.



Additionally, a turtle tagged in Odisha in 2021 was recorded nesting at Guhagar in January 2025. These observations reinforce the scientific understanding that Olive Ridley turtles may nest multiple times within a single breeding season and also highlight the important migratory linkages for sea turtles along the Indian coastline.

Read the full article here

2. Sunday Mid-Day Spotlights Thane Creek's Boat Master



In a special feature published by Sunday Mid-Day on 6th April 2025, Shahid Bamne, Boat Master at Thane Creek Flamingo Sanctuary, was commended for his exemplary role in avian tourism. A native of Dabhol, Ratnagiri; Shahid has been associated with the Mangrove Cell since 2016 and plays a key role in the day-to-day bird tourism and monitoring at the sanctuary. From assisting birdwatchers and researchers to bird safaris, his work is grounded in dedication and deep ecological understanding. Over the years, he has also created a personal archive of over 1000 bird photographs, reflecting both his commitment and passion. His contributions have become integral to the sanctuary's conservation and awareness efforts, particularly in highlighting the vibrant flamingos that make Thane Creek their home.

Read the full article here

३. किहीम समुद्र किनारी दुर्मिळ ऑलिव्ह रिडले कासवाच्या पिल्लांची अंडी



६ मार्च २०२५ रोजी रायगड टाईम्स मध्ये प्रकाशित झालेल्या बातमीनुसार, रायगड जिल्ह्यातील किहीम समुद्रकिनारी दुर्मिळ ऑलिव्ह रिडले समुद्री कासवाने अंडी घातल्याची नोंद झाली आहे. कांदळवन दक्षिण कोकण विभागाच्या पुढाकाराने अंडी सुरक्षित ठेवण्यासाठी समुद्रकिनारी जाळीबंद कृत्रिम हॅचरी उभारण्यात आली आहे. अंडी योग्य प्रकारे हाताळून वाळूमध्ये उबवण्यासाठी ठेवण्यात आली असून, परिसरात चारही बाजूंनी जाळी लावून राखणदार नेमले होते आणि घरट्यातून ८० पिल्ले सोडण्यात आली. या वेळी डीएफओ कांचन पवार, एसीएफ प्रियांका पाटील, आरएफओ समीर शिंदे, ग्रामपंचायत सरपंच प्रसाद गायकवाड आणि स्थानिक नागरिकांनी घटनास्थळी भेट देऊन पाहणी केली.

Read the full article here

THE ECOLOGICAL IMPORTANCE OF MANGROVES AND THE NEED FOR THEIR CONSERVATION

Mangroves are a unique group of plant species that grow along coastal areas, particularly in muddy, marshy, and waterlogged zones that are often submerged by tidal seawater. In various local dialects, mangroves are also referred to as *tattavruksha, kund,* or *kandalvan*. Globally, around 64 species of mangroves have been identified, out of which 46 are found in India.

The dense green foliage and intricate root systems of mangroves provide critical habitats for a wide variety of organisms, including birds, insects, and aquatic animals. Mangroves are especially important for the breeding of fish, crabs, molluscs, and prawns. Their web-like roots act as natural shelters and breeding grounds, making these ecosystems hotspots for biodiversity.

Mangroves thrive in oxygen-poor marshy soils due to their specialised respiratory roots known as pneumatophores. These roots grow above the ground and directly absorb oxygen from the air, enabling respiration even in anaerobic conditions. The presence of aerenchyma tissues in these roots facilitates rapid gas exchange. The outer surfaces of these roots contain structures called lenticels, through which oxygen enters the plant's internal system. These adaptations allow mangrove trees to survive and function effectively in highly saline and oxygen-deficient environments.

Mangroves also hold cultural and historical significance. For instance, in Chidambaram near Chennai, the sacred *Thillai* tree, a type of mangrove *(Excoecaria agallocha)* is worshipped as the sacred *Sthala Vriksha* at the Nataraja Temple. In West Bengal's Sundarbans, the deity *Bonbibi* is revered as the protector of the mangroves. The Sundarbans, one of the largest mangrove forests in the world, has been declared a UNESCO World Heritage Site due to its ecological and cultural importance.

To raise awareness, 'International Mangrove Day' is celebrated globally on July 26, highlighting the critical role mangroves play in sustaining life and protecting coastal environments.



Pranay Hasmukh Mane,
Botanist

CONFUSION IN THE MANGROVE



One bright morning in the mangrove swamp, Sunny, the snail slid lazily along the rough bark of a mangrove tree trunk. The air smelled salty, and the roots of the trees poked up everywhere like little fingers reaching out of the muddy ground.

Sunny blinked his tiny eyes in surprise.

“Strange! Roots are supposed to go down, not up!” he muttered. “Are these worms? Or little trees trying to grow upside down?”

Just then, with a soft splash, Croky, the crocodile raised his head above the water. His shiny eyes twinkled with curiosity. “Ho-ho! Sunny, I was wondering the same thing. Look at those! Do you think they're worms? Or maybe some trees have lost their way and started growing upside down?”

Before Sunny could answer, a gentle voice rose from the mud. “Neither worms nor upside-down trees, my friends. I am Pnemo, the pneumatophore root.”

Sunny gasped. “A talking root?” Croky's jaws opened wide in surprise. “Then why do you grow upwards instead of into the ground like every other root?”

Pnemo chuckled softly. “You see, we live in the mangroves, where the soil is muddy and full of water. It's very hard for us roots to breathe down there. So, I found a clever way to survive—I stretch upwards, above the soil, to catch fresh air from the sky. Think of me as a little snorkel for my tree!”

Sunny's eyes widened. “Ohhh! So you're like the tree's nose!” Croky grinned. “A root that breathes! That's brilliant!”

Pnemo swayed proudly. “Yes. My job is to help the mangrove tree survive in this wet, sticky home. Without us pneumatophores, the tree would suffocate.”

Sunny slowly slid down closer, whispering in awe, “Nature is full of surprises.” Croky nodded. “Indeed! Even upside-down roots have their reason.”

And so, under the rustling green leaves of the mangrove forest, the three new friends laughed together—snail, crocodile, and the breathing root—grateful for the secrets the swamp had revealed that day.



Dr. Hemali Joshi, Principal
Sheth G. H. High School and Junior College

OTHER ACTIVITIES

1. Ornamental Fish Management Training



The College of Horticulture, Mulde organised a training programme on Ornamental Fish Management on 13th June 2025 for 13 beneficiaries from Sindhudurg district. The training covered a range of topics, including fish breeding, disease identification and management, ornamental fish culture economics and projects, fish siphoning techniques, polythene bag packaging, and fish feed.

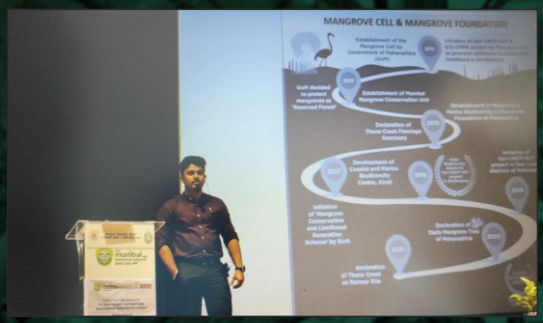
2. 25th National Conference on World Wetlands Day



Pariyavaran Dakshata Mandal organised the 25th National Conference on World Wetlands Day under the Clean Creek Movement on 31st January and 1st February 2025, in collaboration with Enviro Vigil, the Mangrove Foundation, the University of Mumbai, Keshavshrushti, and the Association of Teachers in Biological Sciences (ATBS).

Smt. Dhanashree Mohite, Marine Biologist, delivered the keynote address, highlighting the Mangrove Foundation's contribution to mangrove conservation in Maharashtra.

3. A Feathered Adventure: Exploring Mangrove Birds workshop



The Zoology Department of SIES College of Arts, Science and Commerce, in collaboration with Veermata Jijabai Bhosale Botanical Udyan & Zoo and the Mangrove Foundation, organised a two-day workshop titled "A Feathered Adventure: Exploring Mangrove Birds." Around 150 students from various colleges attended the workshop.

Mr. Hrishikesh Rane conducted a session on Coastal birds of Maharashtra, and a field visit was organised to the Coastal and Marine Biodiversity Centre, Airoli for the participants.

OTHER ACTIVITIES

4. Munge, Turtle Festival 2025



The Mangrove Foundation organised a Turtle Festival on 23rd March 2025 in Munge village, Sindhudurg district. The event was inaugurated by Shri Anil Patil, District Collector Sindhudurg. Around 400 tourists attended the festival, which featured several key attractions such as the release of turtle hatchlings, awareness posters on turtle conservation, sea turtle sand art, and exhibits on sustainable livelihood initiatives in Maharashtra.

5. Workshop on management of stranded injured sea turtles



A one-day workshop on the management of stranded sea turtles and cetaceans was conducted at the Dahanu Turtle Treatment Centre for the staff of the Coastal and Marine Biodiversity Centre, Airoli. Designed for first responders, the training focused on building their capacity to attend to stranded marine animals, provide initial care, and safely transfer them to veterinary experts for further treatment. Participants were also trained in rehabilitation protocols to support the animals' recovery until they are healthy and ready to be released back into the sea.

6. Sea Turtle conservation awareness programmes in Ratnagiri



The Mangrove Foundation, in collaboration with Jaljivika NGO, conducted sea turtle conservation awareness programmes across 12 schools and colleges, reaching over 3,000 students from 5th grade to the undergraduate level. The initiative aimed to educate and engage young minds on the importance of protecting and conserving sea turtles and marine ecosystems through interactive sessions and awareness activities.

OTHER ACTIVITIES

7. Mangrove Foundation collaborates as knowledge partners for WWF-India's Mangrove Coalition Project.

Mangrove Coalition, a pioneering alliance dedicated to safeguarding and restoring urban mangrove ecosystems in India, has been formed in partnership between the Soonabai Pirojsha Godrej Foundation, WRI India, WWF-India, M.S. Swaminathan Research Foundation (MSSRF), the Tata Institute of Social Sciences (TISS), the Natural Capital Project at Stanford and Conservation International.



Under the aegis of this newly established Mangrove Coalition, the Mangrove Mitras initiative was launched on 26th July 2025 in Mumbai on the occasion of the International Day for the Conservation of the Mangrove Ecosystem by WWF-India in collaboration with the Mangrove Cell and Mangrove Foundation of Maharashtra. This citizen science initiative aims to mobilize multiple stakeholders, including urban citizens and local communities to engage constructively in the conservation of mangroves.



GLIMPSE OF OUR ACTIVITIES

Awareness and Outreach



Mangrove Walk for students from Viva college at Mangrove Information Centre, Marambalpada



Mangrove Walk for students from TISS at Coastal and Marine Biodiversity Centre, Airoli



Mangrove marathon at the Coastal and Marine Biodiversity Centre in Airoli



Panel Discussion on 'One Planet, Many Stakeholders: Building a Greener Tomorrow Together' organised by D. Y. Patil Climate Lab



One day Fish Value Addition workshop for beneficiaries from Kothewada, Malvan



Snorkelling training for beneficiaries from Ecotourism SHG, Taramumbri, Sindhudurg

GLIMPSE OF OUR ACTIVITIES



Workshop for 'First Responders regarding marine animal stranding' at Ratnagiri



'Tales of Turtle' webinar for students of Zoology Dept., D. G. Ruparel college



Participation in workshop on 'Marine Conservation: Challenges and Opportunities' at Western Naval Command



Participation in workshop on 'Balancing Livelihood and Marine Conservation through Fisheries Cooperatives'



Exhibition stall by Mangrove Foundation at Global Konkan Festival 2025



Exhibition stall by Mangrove Foundation during Agriculture Technology Extension Week in Ratnagiri

GLIMPSE OF OUR ACTIVITIES



Awareness session for students of Nita Mukesh Ambani International School, Mumbai



Awareness session for students of St. Xavier's High School, Kashigaon, Mira Road



Panel discussion on 'From Policy to Planet: Aligning Governance, Science, and Business for Biodiversity' under MAHA CSR Summit 2025



Awareness session for students of P.M. Shri Rajshree Chhatrapati Shahu Maharaj Vidyalaya, Navi Mumbai

Documentaries



Film on 'Wetlands-Miracles of Mumbai' by Sumesh Lekhi Brave Age Films in collaboration with Mangrove Foundation

PARTICIPATE IN OUR WORK

Readers can participate in our conservation work by contributing their mangrove and marine biodiversity related photos, articles, poems, etc. by sharing them on submission.mfn@gmail.com



Mangrove Pledge

I, _____ (Your Name),

On the occasion of International Day for the Conservation of the Mangrove Ecosystem, pledge to protect and conserve the mangroves around me.

Mangroves enrich my environment. It is my duty to care for them.

I will lead an eco-friendly lifestyle, keep mangroves clean, and prevent any harm or pollution.

I will not throw plastic or any other waste in mangroves or water bodies and will stop others from doing so.

I will spread awareness and encourage others to join in mangrove conservation.

Today, in the presence of Mother Nature, I take this pledge to safeguard our mangroves and biodiversity around it.

Jai Hind! Jai Maharashtra!

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