



भारतीय वन्यजीव संस्थान
Wildlife Institute of India

WII

e - NEWSLETTER



Nilssonia gangetica

*India's first
satellite-tagged Ganges Softshell Turtle*

SUMMER
EDITION

2026
VOLUME 33 | ISSUE II



From the Director’s Desk

It is my pleasure and privilege to present this quarter’s edition, which reflects the Wildlife Institute of India’s continued contributions to research, conservation, capacity building, and field-based training. This issue pays tribute to the extraordinary legacy of our Founder Director, Shri H. S. Panwar, and his remarkable contribution to wildlife conservation in India. Our “In Conversation With” section features insights from former Director Shri S. K. Mukherjee, offering perspectives to professionals in the field. This issue also features the voices of our community – faculty, students, researchers, and staff have generously shared field experiences, photo essays, opinion pieces, and species profiles from across the country and overseas.

The quarter marked WII’s 44th Foundation Day, an occasion to reflect on over four decades of leadership in wildlife research and conservation. Notable research milestones during the quarter included the successful participation of the WII team in the Decadal Nanda Devi Expedition, continued success of the Great Indian Bustard Conservation Breeding Programme, world’s first documented use of a canopy bridge by a Western Hoolock Gibbon at Hollongapar Gibbon Sanctuary, and the release of India’s first satellite-tagged Ganges softshell turtle at Kaziranga. WII scientists also presented their research at national and international conferences and published extensively in peer-reviewed journals. Notably, Shri Bhupender Yadav, Hon’ble Union Minister for Environment, Forest and Climate Change, released three publications: the Roadmap for Active Management of Tigers, Reintroduction & Population Recovery of Tigers in India: Field Experiences & Key Learnings, and the Annual Report of Project Cheetah.

Capacity building remained a key priority this quarter. WII conducted training programmes on wildlife emergency response, wildlife identification and survey techniques, dolphin monitoring, wildlife health, and One Health capacities. WII launched its regular training programme for the All-India Tiger Estimation 2026 and initiated its first Management Effectiveness Evaluation of Elephant Reserves. On the teaching and training front, the 21st M.Sc. Wildlife Science batch completed a 10-day High-altitude Techniques Tour across the Kedarnath Wildlife Sanctuary and Nanda Devi Biosphere Reserve. The 46th Post-Graduate Diploma Course completed their Management Term Paper Exercise at the Great Himalayan National Park and Management Plan Exercise at Parambikulam Tiger Reserve.

This issue announces three scheduled programmes for the year: the M.Sc. in Freshwater Ecology and Conservation, the 47th Post-Graduate Diploma Course in Advanced Wildlife Management, and the 41st Advanced Certificate Course in Wildlife Management. We also announce our 19th Internal Annual Research Seminar (IARS) to be held between 16-18 September 2026 and 37th Annual Research Seminar (ARS) between 21-22 September 2026.

I extend my sincere appreciation to our faculty, researchers, students, staff, and partner institutions for their continued dedication. WII remains committed to advancing science-based conservation across India.

Dr. Gobind Sagar Bhardwaj, IFS
Director, Wildlife Institute of India

Patron:
Dr. Gobind Sagar Bhardwaj, *IFS (Director)*

Editors:
Dr. Vishnupriya Kolipakam, Dr. Amarjeet Kaur (*Lead*) &
Mr. Ritesh Kumar Gautam (*Lead*)

Lead Associate Editors
(Review, Proofreading & Copy-editing):
Mr. Mayur Fulmali, Dr. Ankit Negi & Mr. Vignesh Poojary

Institutional information & updates compilation:
Ms. Alka Aggarwal (*Sr. Technical Officer*)

Design & Layout:
Ms. Arushi Bhatt

Cover Photo Copyright:
Wildlife Institute of India

Contents

10



Obituary
Padma Bhushan Shri
Hemendra Singh Panwar

16



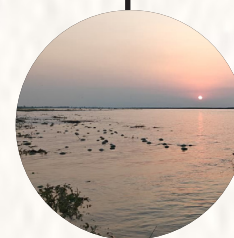
What is wrong (and right)
with community ecology?

22



A Golden Hour Encounter

40



Reflecting on a Field Visit:
Capturing Insights Beyond
the Data

42



All The Sights We Do
Not See

44



The Blackbuck That Stayed

24



The Grand Escape

26



Lessons from the Field: What
Three Wetlands Taught Me
About Nature, Conservation,
and Connection

30



Chooru Phaski: An
Adapted Artist or Forced
Victim?

48



Jalaj Awareness and Management
Centre at Dilli Haat: Bringing the
Ganga's Biodiversity Closer to the
People

50



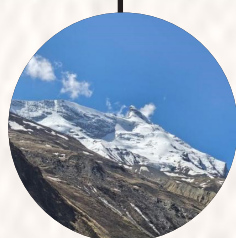
Celebrating Our Paryavaran
Champions on
World Environment Day

52



The Great Wall of Ecological
Destruction: How Linear
Infrastructure Fragments
Mangrove Ecosystems

32



A Student of the Wild: A First
Trek to Rudragaira

35



The Living Chronicle:
A Resilient Peepal of Nayagaon

38



Anakkal—
The Meadow the Elephants Named

56



The hidden world of Diatoms

58



From Pangea to Peaks
Conifers across Continents

62



Beyond the Flame:
The Many Lives of Palash

68



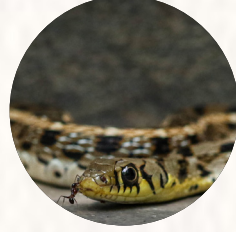
Shadows of the Lobo:
A Journey through Sevilleta and
the Chihuahuan
Desert, New Mexico

72



Girl moms of Oahu

74



Kiss with a Hiss

88



WII-C2C:
Reflections and Progress

93



Learning from dead
Essentials for Mortality
Investigation of Asian Elephant

96



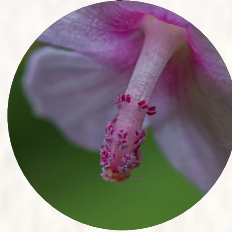
46th P.G. Diploma course in
advanced wildlifemanagement

76



अमलतास

78



एक अनकही हककीत

80



World Crocodile Day:
Learning through Fun Activities
with Bal Ganga Prahari

99



International Yoga Day
Celebration (21 June 2026) –
Wildlife Institute of India

100



Health Check-up at Wildlife
Institute of India

101



भारतीय वन्यजीव संस्थान में
राजभाषा निरीक्षण

82



World Otter Day 2026,
Splashing into Conservation!

84



Inauguration of National Centre
for River Research:
A New Era for Freshwater
Biodiversity Conservation

86



Celebrating International Day
for Biological Diversity 2026

102



Activities performed by EIACP
Centre

120



In Conversation with
Mr. S.K. Mukherjee

126



Highlights at a glance

155



Legacy in Retirement: Honouring
Our Retired Personnel



Padma Bhushan Shri Hemendra Singh Panwar (22 March 1937–29 May 2026)

A Gentleman, Conservationist, Institution Builder and Visionary Change Maker

- Prof. B. C. Choudhury



Dr. Panwar receiving the Padma Bhushan from then President Pranab Mukherjee, 2013

For those associated with the Wildlife Institute of India (WII), 29 May 2026 was a deeply sad day. The WII's founder Director, Padma Bhushan Shri Hemendra Singh Panwar, passed away that morning, leaving behind a loving family, generations of disciples and admirers, and a legacy in wildlife conservation in India and beyond.

His devotion to WII never wavered, even at the very end. Just a week earlier, on 22 May, he made the effort - from his hospital bed - to join an online meeting marking WII's Foundation Day, gathering with former and present Directors and faculty to share his wisdom and guidance for the institution's future. It was a final act of the same commitment that had shaped WII into an institution of global standing. His passing only days later came as a profound shock to all who knew him.

Shri Panwar's career in the Madhya Pradesh Forest Department, from 1966 to 1985, was epoch-making. As a member of the Indian Forest Service, he transformed Kanha National Park and Tiger Reserve into a protected area of global standing. He played a decisive role in bringing the hard-ground Barasingha back from the brink of virtual extinction, facilitated the voluntary relocation of villages from within the protected area in a humane manner, and pioneered approaches to ecodevelopment that later became important in protected-area management across India. These achievements brought him to New Delhi to lead Project Tiger.

During his tenure with Project Tiger, he expanded its vision beyond the conservation of a single species. He emphasized the importance of protected areas in safeguarding ecological goods and services, with water being one of the most important benefits. This helped bring landscape-level thinking into the management of India's tiger reserves and protected areas.

In 1985, Shri Panwar was given the responsibility of leading the Wildlife Institute of India, established in 1982 but still in its formative years. Within a decade, he built WII into an

institution of national and international repute. His vision brought together forest managers, wildlife biologists, ecologists, socio-economists, veterinarians and extension professionals under one institution, with sound science as the foundation of conservation practice.

The biogeographic classification of India and the Protected Area Network developed by Rodgers and Panwar in 1988 provided the basis for representing India's ten biogeographic zones and 27 provinces within the protected-area system. He also built WII's professional capacity through international collaborations, exchange programmes and exposure to institutions across the world. Yet his greatest strength was perhaps his extraordinary ability as a human-resource manager. He knew how to reach out to people, support them and bring out their best for the institution.

I first met Shri Panwar in January 1981 at Pragati Maidan, Delhi, during a National Wildlife Photographic Exhibition. I had been deputed from the Central Crocodile Breeding and Management Training Institute, Hyderabad, with two large boxes of black-and-white photographs depicting the activities of the Government of India, FAO and UNDP Crocodile Conservation Project. The exhibition had photographs representing wildlife and landscapes from across the country, and I was asked to reduce the number of crocodile project photographs considerably. I was crestfallen, especially as the display space and location had not yet been finalised.

Shri Panwar appeared, asked about my work and quickly reviewed the photographs. He asked me to select the best images that represented the Crocodile Project and assured me that adequate space and a strategic location would be provided. Over the next two days, he returned several times to check on the progress. By a remarkable turn of events, I was asked to explain the project to the then Prime Minister, Smt. Indira Gandhi, and her family, although I was not the designated person to do so. Shri Panwar had played a major role in making that possible.

My next meeting with him was in 1985, when WII was functioning from the FRI building. I was then a deputation faculty member from the Crocodile Research Centre, teaching diploma officers about ex situ conservation and crocodile breeding. One winter morning, Shri Panwar asked me whether I would prefer to become regular faculty at WII or return to my parent department in Andhra Pradesh. When he finally told me that he preferred me to remain with WII, I asked him a question that perhaps only a young and inexperienced person would ask: "Sir, if I become a faculty member, will I have the right to dissent?"

He looked towards the ceiling fan and asked me how old I thought the fan was. I had no answer. He then said, "Yes, you have the right to dissent. But as Director, I have the privilege to override your dissent." During my years with him, however, neither of us ever had to exercise that privilege.

I was eventually selected as a regular faculty member and had the privilege of being mentored by him. In those early years, WII was operating

from the FRI building and a few rented bungalows in Vasant Vihar. Shri Panwar had already defined its mandate: capacity building for managers and biologists, basic and applied research to provide a scientific basis for management, and advisory and problem-solving support. The Institute brought together specialised faculties and departments covering wildlife biology, management, extension and related disciplines.

For new faculty members, the responsibilities were considerable, involving teaching, research and extensive travel. Yet Shri Panwar created discipline in a friendly, non-authoritarian manner. He was in his office at 9:00 a.m. and expected punctuality from his faculty. Occasionally, he would walk around the Institute, greet those present and leave a small note saying "Good morning at 9:30 a.m." on the table of anyone who had arrived late.

Once I received such a note after returning late from a tour. That evening few of us faculty members worked late into the night on several urgent matters. Before leaving at around 9:30

p.m., I sent him a note through his office attendant saying, "Good night at 9:30 p.m." The next morning, he came to my table with a broad smile and said, "I enjoyed your sticker note response!" That was Shri Panwar. He could correct, encourage and build relationships at the same time.

He regularly accompanied course field tours and made time for personal interaction with faculty and participants. He visited student hostels, shared meals with M.Sc. students and researchers, and made informal visits to faculty homes. He also attended pre-trial presentations by researchers late into the night before the Annual Research Seminar, an event he initiated in 1987, and which has since become an important occasion for India's wildlife fraternity.

When WII moved to its new campus at Chandrabani, Shri Panwar had planned its development in remarkable detail. The campus was designed around the surrounding mountain landscape, with low-rise pyramid-shaped buildings, walking trails and a lake for waterbirds. He insisted that lower-canopy vegetation should not be removed and that exotic ornamental plants should not be introduced. A campus biodiversity monitoring programme involving faculty, researchers and students eventually contributed to WII becoming one of the most bird-rich institutional campuses in Dehradun.

Even during the difficult early years of moving to the new campus, he responded to grievances with his characteristic humour. When rainwater flooded the drawing room of my newly allotted quarter, I wrote a complaint. He wrote in the margin, "What else would you expect for a scientist who works on wetland systems?" The problem, however, was resolved within days.

His vision extended to the first campus computer cell, GIS facilities in Dehradun, ex situ conservation programmes, zoo management training, the EIA cell and wetland teaching and field visits. He encouraged faculty to prepare lecture synopses and suggested readings for students. Teaching commitments were given priority over other activities, including official travel. This created strong relationships between faculty and students

and helped build a network of professionals who continued to support conservation work in the field.

He strongly supported scientific opinion in environmental assessments and believed that if a scientific recommendation was not accepted, the reason should be administrative rather than a distortion of the science. This philosophy continues to influence the work of the WII EIA Cell.

Faculty meetings under his leadership were regular, and he listened to everyone. Governing Body and Society meeting agendas were shared with faculty beforehand. Yet, despite dealing with matters of national importance, he remained approachable and participated in the everyday life of the Institute. He joined the WII cricket team, participated in Holi gatherings and enjoyed mango parties where mangoes were squeezed and eaten by hand rather than cut with a knife. He also enjoyed roadside guavas, peanuts and maize while travelling on tour.



Royal Bank of Scotland (RBS) Earth Hero Life Time Achievement Award, 2015

From 1985 to 1994, Shri Panwar led WII through its formative and transformative years. Everyone associated with the Institute felt that they were contributing to its growth and belonged to the WII family. When he left in 1994, he had created a clear roadmap for his successors, enabling WII to continue its upward journey nationally and internationally.

His contributions were recognised with numerous national and international honours, including the Fred M. Packard International Parks Merit Award, the IUCN Tree of Learning Award, the Rajiv Gandhi Wildlife Conservation Award, the WWF International Duke of Edinburgh Conservation Medal, the Lifetime Achievement and Earth Hero Award, and the Padma Bhushan, India's second-highest civilian honour, conferred in 2013. In 2023, he was also honoured for his contribution to tiger conservation during the 50th anniversary of

Rest in peace, Sir. You will be deeply missed by your family, countless admirers, disciples and the wildlife fraternity of India and far beyond.

Project Tiger and received a Lifetime Achievement Award from the Government of Madhya Pradesh. One episode perhaps best reflects his generosity. In April 2023, while receiving a Lifetime Achievement Award from the Government of Madhya Pradesh at Kanha, the honour was accompanied by a cash award of one lakh rupees. After accepting the honour and thanking the people who had supported him during his journey, Shri Panwar donated the entire amount to the Kanha Worker Society, a welfare organisation representing watchers, guards, foresters and rangers. Such magnanimity was characteristic of the man he was.

In writing this brief tribute to Shri Hemendra Singh Panwar, I, along with the WII family, bow my head with the utmost respect to the gentleman, conservationist, institution builder and mentor he was.



Author:



Prof B. C. Choudhury is among the first generation of wildlife biologists of India. He retired as a Senior Professor and Scientist G in the year 2012 after serving the Wildlife Institute of India for almost 30 years. Prof Choudhury is now a senior advisor and consultant with some of the leading wildlife conservation and management organizations nationally as well as globally.

What is wrong (and right) with community ecology?

- Shivam Shrotriya

Recently (April 2026), I taught a class on 'Statistical Methods in Community Ecology' to the new batch of PhD students at the Wildlife Institute of India (WII). I tried to cover the progression of methods in the field, beginning with the familiar territory of species richness and diversity indices, moving through compositional analysis and ordination, and ending with modern predictive approaches such as generalised linear models, machine learning, and hierarchical Bayesian frameworks. This is a sensible and typical statistical journey of modern community ecology, from counting species to asking how communities assemble, how they differ, how they interact, and how they may change. I have been teaching such classes to M.Sc. and PhD students from time to time. But whenever I prepare for these classes, I always grapple with a rather fundamental question before the statistics even begin - what exactly is a community?

Textbooks provide us with a starting point for any topic. Krebs (*Ecology: The Experimental Analysis of Distribution and Abundance*, 6th edition, 2013) defines a community as "an assemblage of populations of living organisms in a prescribed area or habitat", while Smith & Smith (*Elements of Ecology*, 9th edition, 2015) describe it as "species that [interact and] coexist within a given area or habitat". These are reasonable definitions to start with, but aren't these quite rudimentary and deceptively simple? What the textbooks agree upon is that the field deals with multiple species living within a defined area, usually assumed to be interacting with each other. In practice, both fundamental elements of these definitions are troublemakers. The first problem is how the area is defined, and I will come to that later. The second is which species are counted as part of the community.

A bird ecologist may study all birds in an area as a single community or may treat granivorous

and insectivorous birds as two separate ones. For a plant ecologist, the community on one aspect of a mountain slope may differ from the community on another aspect, and a grassland community is something else altogether from a forest community. A carnivore ecologist may work on a large carnivore community or a mesocarnivore community, including some species and excluding others. We recently completed the dissertation defences for the 20th batch of M.Sc. in Wildlife Science and the 1st batch of M.Sc. in Freshwater Ecology at WII. It was exciting to see that about half of the studies dealt with communities of one kind or another - plants, insects, birds, amphibians, intertidal organisms, and even diatoms. In many of these studies, the community was confined to a particular taxonomic group. In some, it cut across flora and fauna and was tied instead to a spatial boundary.

So how do we find defining criteria for an ecological community? Most studies appear to take taxonomic closeness as the primary criterion, but grouping by spatial, trophic, functional, methodological, or even managerial units is common enough. Plant ecologists usually keep species growing together in a shared space at the centre. Animal ecologists frequently add another layer on top of the shared space with diet, behaviour, movement, detectability, or trophic role. Which species make it into a particular community, it seems, is somewhat artificial.

There also seems to be an underlying assumption in identifying a community that the species we have grouped together are interacting with one other. This is why our results of community ecology studies so often feature clustering, food webs, and interdependent population dynamics. What is usually left unstated is that the interaction we have in mind is, in my

experience, mostly competition. Community ecology studies rely on the presence, abundance, and distribution of multiple (arbitrarily selected) species as their primary data. And we ecologists, for sure, understand well that the abundance and distribution of a species are not governed by competition for resources alone. A mesocarnivore community is also shaped by its prey, its parasites, its habitat, disturbances, and by carnivores both larger and smaller, yet a study reporting the structure of a mesocarnivore community may omit these influences. A plant ecologist would not treat all the plants eaten by a granivorous bird community as one community if those plants do not grow together. Which tree species are dominant and which are rare, may be the key question in a plant community study, while interactions with seed dispersers and pollinators, rarely included in the community at all, could be the stronger drivers of its structure.

This brings up a question I have not seen answered anywhere. If a community is considered a valid unit because the interactions within it are more important than the interactions with species outside of the community, then this must be measured. Are the interactions among plants in a patch stronger and more significant than the interactions between those plants and their pollinators in the same space? Is an insect community more tightly bound internally than it is to the vegetation on which it feeds? The justification is often asserted but almost never tested.

Let us now examine the other keyword, the 'defined area'. A waterbird community may be defined as all the birds sharing a waterbody, although many of them depend on terrestrial areas well beyond it for nesting, roosting, or feeding. Species from a forest community may be foraging in adjacent croplands and urban habitats. Even apparently distinct spatial boundaries turn out to be practically blurry.

Community, in this sense, is a fluid concept whose boundaries flex according to the needs and capacities of the ecologist. This fluidity is not a small inconvenience. It dictates what will be studied and what questions can be asked. Fauth *et al.* (1996) treated this problem as one of semantics

and tried to separate community from the words used alongside it - assemblage, guild, and ensemble. Following that line of argument, Stroud *et al.* (2015) recommended that 'community' should refer to interacting species populations occurring together in space, 'assemblage' to a taxonomically related group of species occurring together, and 'guild' to species exploiting the same class of resources in a similar way. 'Ensemble' had been used so infrequently and so inconsistently that they proposed dropping it altogether. Useful as these distinctions are, they bring us back to the same place - where interactions matter more than others, and where we agree to place a convenient cut-off.

Here is what troubles me most about all of this. Cardou & Cadotte (2023) called this the scale problem. At a finer scale, when we focus on a single population of a single species, we are in the domain of population ecology. At a coarser scale, if we study ecological patterns that could apply to all species across a larger landscape, we are in the domain of macroecology. Community ecology sits in the awkward middle. The whole reason for moving from population ecology to community ecology is that a single species does not exist in isolation. It interacts with others, and so we must study those interactions. But whatever small set of species we then define as a community does not exist in isolation either. It interacts with everything else we left outside the box we just defined. We escaped one fiction of an isolated population and immediately built another of an isolated community, one level up. And if we say that community ecology is simply the study of interactions among co-occurring species, then it is hard to see where community ecology ends and ecology itself begins.

The community, then, lies in the eyes of the researcher. This is not a comfortable thing to teach, nor is it a small admission, because it means that the object of our study is partly an artefact of our decisions about it. Secretly, I feel more at ease teaching methods, mainly because dealing with these basic questions in community ecology is much harder. I think this goes some way towards explaining the most prominent criticism the field has faced.

In 1999, J. H. Lawton asked whether there are general laws in ecology and concluded that the answer depends on the level of biological organisation at which one is working. Population ecology can simplify the world to one species and its births, deaths, movements, and other limiting factors. Macroecology can zoom out and look for broad regularities and patterns in range size, species richness, latitude, or area. Community ecology, occupying the messy middle, is too large for the population abstractions to hold and too small for the broad patterns to drown out the noise. Lawton found that there are hardly any general patterns in ecology and concluded that the rules “are contingent in so many ways ... as to make the search for patterns unworkable”. His judgement of community ecology, in particular, was not gentle. Community ecology, in his view, should be set aside so that ecology could get on with the scales that work better. Cardou & Cadotte (2023), reviewing this history, state that ecology’s reputation as a soft science was largely due to the overwhelming emphasis on community ecology.

Cardou & Cadotte (2023) also make the point about definition quite sharply. A community defined as a group of interacting populations in a given area requires us to know both the precise extent of each population and the degree to which they interact, which they call “simply implausible”. In reality, they write, ecologists do not study communities as such. They study “an arbitrary area that they believe captures an adequate representation of the types of interactions and mechanisms structuring species abundances and diversity within it”.

There is an older version of this problem worth noting. As early as 1909, V. M. Spalding watched desert plant communities shift in composition from year to year and saw fluctuations. At almost the same time, F. E. Clements was working in Nebraska, where succession appeared so orderly that he thought of plant communities as superorganisms with each species playing its part like an organ in a body. Both of them generalised from what they saw, and what they saw depended on where they were standing. Contingency in ecology is not only a property of the systems we study; some of it belongs to us, the observers.

Cardou & Cadotte cite Kuhn (the philosophy of science guy) to make a wider point that scientific progress is not assured and that a discipline can sit in a pre-paradigm state for a long time without moving forward. Oksanen (1991) had put it more bluntly. He compared ecologists to skiers in a snowstorm who believe they are advancing because they cannot see their own old tracks and showed that most of the central ideas of modern community ecology were already present in an essay by A. K. Cajander written in 1905. His concern was not that the field lacked ideas, but that the field kept rediscovering old ones under new and flashier names. A reason why I also started writing these articles is to examine the history of ideas in ecology and conservation and to ask what has really advanced.

Let’s now turn to how the field of community ecology has responded and advanced since Lawton’s very strong critique. The interesting thing is that the useful responses have not tried to fix the ‘boundary of community’ problem. They have tried to dissolve it or at least made an honest admission of the limitations. Vellend (2010) sidesteps the argument entirely by defining a community as organisms of multiple species living in a specified place and time, deliberately bypassing the question of whether communities are coherent natural entities at all, and then organising everything the field studies under four processes borrowed from population genetics – selection, drift, speciation, and dispersal. Leibold *et al.* (2004) went the other way and made the boundary permeable on purpose, treating local communities as patches linked by dispersal within a metacommunity, so that the species sitting outside the community box are now part of the model rather than an inconvenience. McGill *et al.* (2006) argued that community ecology had “lost its way” by focusing on pairwise species interactions independent of the environment and proposed that we stop asking which species are present and start asking what trait distributions exist, how they vary across environments, and how they affect performance. Traits are measurable across taxa, so who belongs to the community matters rather less. This led to quite rapid growth in a branch called functional ecology; however, concerns exist about

the robustness of the current statistical methods used to study trait-based ecology. And in a quite new approach, Ovaskainen *et al.* (2017) built a statistical framework, Hierarchical Modelling of Species Communities, in which the associations between species are estimated from the data rather than assumed at the outset. But it is worth reading Ovaskainen *et al.* (2017) carefully, because they themselves clearly understand the limits of their own tool and mention that their framework is correlative. Residual associations between species are hypotheses about interactions, not evidence of them, and variation the model cannot explain is not automatically attributable to drift.

This, overall, represents real progress, although leading in multiple directions rather than advancing community ecology as a unified field. Which brings me to the most sobering paper I have read on the topic. Charles J. Krebs, whose textbook definition of a community I quoted at the beginning of this article, and his colleagues published a review of a century of population and community ecology in 2024. In it, they list “What is a community?” among the questions the field keeps asking that remain “descriptive, vague, and/or untestable”. The person whose book taught many of us the definition also finds himself thinking that the question was never properly answerable.

If you can read only one of the key readings listed below, I suggest reading the ‘The Kluane project’ passage of Krebs *et al.* (2024). The project in the boreal forest of southern Yukon began in 1973 with a simple survey of how many small rodent species lived in an area proposed as a national park. It grew into an attempt to understand the snowshoe hare cycle, and then into an experimental analysis of the whole food web, with large-scale manipulations and decades of monitoring. Fifty years and roughly 500 person-years of work later, they write that “so much is known but much is still missing from our understanding”. Large mammals went unstudied due to the lack of funding. Weasels, passerines, and insects went unstudied due to the lack of expertise. For one of the better-studied and structurally simpler food webs on the planet, they have data on lynx kill rates only in winter. Their warning to the rest of us is worth quoting: “If you think that

community and ecosystem ecology can be done quickly or simply, you will be very surprised at the necessary effort.”

So, what do we do if the community cannot be fully known and its boundaries partly depend on how we draw it? Here are a few pointers that might help. The first thing, perhaps, is to admit that we are working with a study-specific community, clearly stating what boundaries we define—spatial, taxonomic, trophic, or sampling boundaries. And we may also add clarity about whether the study object is a community, an assemblage, a guild, a network, or simply an operational sample. A methodological convenience is not a natural unit, and there should be no pretence about which unit we have. The second thing is to let the question guide the method rather than the other way round. Begin with what process could have generated this data. Richness is a count, abundance is usually overdispersed, community matrices are sparse where shared absences are misleading, sites are often nested or hierarchical, and sampling effort varies. These are not statistical/analytical nuisances that we need to tidy up neatly. This is ecological information about how we encountered the system. The third point is to treat species and trait metrics and null models as the assumptions they are. Bray-Curtis, Jaccard, Euclidean distance, functional dispersion, ordinations, phylogenetic clustering, and every null model we build are decisions about what counts. Null models do not reveal truth; instead, they reveal assumptions. Integrated models, such as those of Ovaskainen *et al.* (2017), look promising for future studies. They are powerful precisely because they borrow information across species and connect environment, traits, phylogeny, and spatial structure. However, they are also correlative, and a model that fits the data well is not thereby an explanation. As Krebs reminds us, models are tools for thinking, not substitutes for evidence.

Community ecology may never be as neat and structured as we would like it to be. Its central object – the community – is itself partly natural, partly conceptual, and partly a decision made by the researcher before fieldwork begins. Students often start with a one-line definition as theoretical

understanding, then begin sampling an arbitrary subset of an open system and report its structure with more confidence than the textbook definition itself can support. The methods in this field have evolved quite fast in the past few decades. The concepts, however, have not kept pace with them. What is wrong with community ecology is that we never get clarity about anything. We are only able to study a part of the whole picture. What is right about it is that we keep striving for that clarity anyway and keep fighting the fog of war. The questions it asks, though, are unavoidable, because conservation almost never deals with one species at a time, and every partial answer tells us a little more about the system than we knew before.

Acknowledgement:

Ms Manisha Mathela provided helpful comments on a draft of this article from the perspective of a plant ecologist.

Key references:

- Cardou, F. & Cadotte, M.W. (2023). [From pattern to process in the search for generality](#). In: Cousens, R.D. (ed.) *Effective Ecology: Seeking Success in a Hard Science*. CRC Press, Milton Park, pp. 151-172.
- Krebs, C.J. *et al.* (2025). [Population and community ecology: past progress and future directions](#). *Integrative Zoology* 20: 2-14.
- Lawton, J.H. (1999). Are there general laws in ecology? *Oikos* 84(2): 177-192.
- McGill, B.J. *et al.* (2006). [Rebuilding community ecology from functional traits](#). *Trends in Ecology and Evolution* 21(4): 178-185.
- Ovaskainen, O. *et al.* (2017). [How to make more out of community data? A conceptual framework and its implementation as models and software](#). *Ecology Letters* 20(5): 561-576.
- Vellend, M. (2010). Conceptual synthesis in community ecology. *The Quarterly Review of Biology* 85(2): 183-206.

Author:



Dr. Shivam Shrotriya is Assistant Managing Editor at the *Journal of Wildlife Science* and holds a PhD on the ecology of the Himalayan wolf. He is passionate about all things ecology. He reads for work and for fun. He sometimes teaches population ecology and analytical methods for different classes at the Wildlife Institute of India. In this column, he revisits classical papers and foundational theories in wildlife ecology and conservation science with fresh eyes exploring how new insights, data, and perspectives have reshaped these concepts.



A Golden Hour Encounter

- Kartik Bhardwaj

Ranthambore National Park covers an area of 392.50 sq km and is one of the best national parks in India for seeing majestic predators in their natural habitat. It is also famous for its heritage site because of the picturesque ruins. So, we visited Ranthambore National Park on 22 January 2026. We started our safari from Zone 3 near Sawai Madhopur. It was around 4:30 in the afternoon when golden hour began to settle over the landscape. After driving a bit, we got a sighting of two sub-adult tigers, one 1 year old and the other 6 months old. They were sitting near the Malik Talao lake. Both of them were just sitting there quietly with their eyes fixed on a crocodile, which was busy eating its kill, a Sambar. After watching for a while, both tigers stood up and started walking towards the lake. They were planning to steal the crocodile's kill. They made several attempts to get close and snatch it but failed in every attempt. Then they got back to the place where they were sitting. After some time, one of the tigers stood up and walked away to another area, leaving his brother behind. After 10 to 15 minutes, the tiger that had walked away started calling out. We all thought, this is it. He definitely made a kill. The brother who was sitting immediately stood up and started walking towards him, and we started moving our jeep along with him. But when we got there, there was nothing. Maybe he was just calling his brother over or maybe just checking in. Then one of them started heading towards a grassy area. Suddenly he stopped and stared intently into the tall grass. Out of nowhere, he charged into the grass. After days of missed chances and hunger testing his patience, this sub-adult finally made his move- not a sambar, not a grand kill, but survival doesn't wait for perfection. Even an egret becomes a hard-earned prize in the wild.

Author:



Kartik Bhardwaj is an intern at the Wildlife Institute of India and holds an M.Sc. degree in Remote Sensing and GIS. His research interests include remote sensing applications in glacier studies, environmental monitoring, vegetation dynamics and geospatial analysis. He is passionate about birdwatching, wildlife photography and trekking.

bhardwajkartik2000@gmail.com



The Grand Escape

- Cherie Joby Achandy

On the cold night of 20 Feb 2026, I was still awaiting any results from my experimental tanks. The 48-hour behavior study had to continue. While the whole world moved into the arms of deep slumber, they were planning it – a synchronized escape.

This was my M.Sc. dissertation work. I had chosen a lab-based behavioral study to investigate the effects of turbidity on the predatory behavior of *Channa gachua*. While the whole experiment was still taking shape and following many trials, Dr. Johnson, my supervisor advised me to keep the fishes for longer periods to see if predation would occur. I received my first batch of fishes in the month of January. Ever since then, they had not eaten anything, which worried me. As a complete beginner in fish-keeping this was very unusual to me, especially because occurrence of a “predation event” was the whole point of my experiment. Following Dr. Johnson’s suggestion, I kept one snakehead in a tank with 10 zebra danios for a night. I came the next morning to find that no prey had been consumed yet,

thinking this might be an individual behavior effect, I decided to keep another one in a different tank diagonally placed to the previous one. Both the tanks were covered with black charts to avoid the fish getting disturbed and the top of the tanks were covered with a grid. Very pleased with my own design and planning, I went back to get some sleep dreaming about getting some great results the next morning. At the daybreak, I hurried towards the microscope facility along with my friends from M.Sc. batch who were eager to see my experimental tanks.

As I opened the door and rushed towards my setup, my heart sank.

The tanks were empty.

The fish... were gone

I stared in disbelief. They had just vanished into thin air with no signs of disturbance around. No water splashes, no evidence, nothing. All of us started looking around with a tint of hope to

find them somewhere in the lab, but to our despair there was nothing anywhere. I immediately called Johnson sir, and he came too and investigated the scene. We all came to a conclusion that someone has taken the fish or I may say (dramatically), stolen the fish. A very unnecessary theft though, I kept thinking what would anybody do with fishes that were barely 12 cm long?

I was sad, my 48-hour experiment was ruined. With no hope, we all decided to leave the whole matter to investigation (by the IT cell), but that would take one more day. Monday the investigation for “the missing fishes” was fixed. While all dispersed and continued their regular work, I continued complaining about the fish theft to all who were willing to listen. The whole day went by; night fall came in with the hoots of owl and the howls of Jackals. Around 10:30 pm my phone rang, someone called me regarding the fishes and asked me to meet them at the main security gate. Lethargic and sad by the whole incident, I got up and managed to go there.

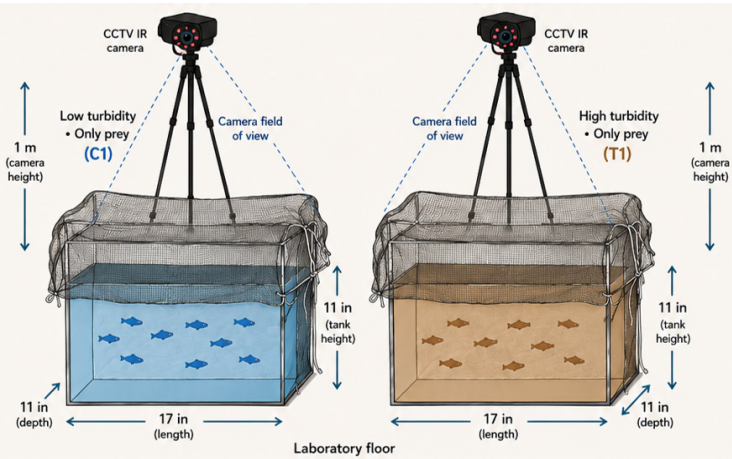
There they were...the masters of escape... in a small jar filled with water!

Relieved and annoyed at the same time I did not know how to contain my emotions at that time. Apparently, the night I left both the fishes in tanks, somehow, they planned a whole escape – a synchronized crawl towards the gate, towards their freedom.

As I imagine, quite a journey for them. Secretly jumping out of the tanks, finding their way out of the lab and crawling outside the next cabin (of Amarjeet ma’am’s) where a security guard on his routine night stroll found them and kept them safe at the gate. The guard uncle was kind enough to save them from their own crazy act of exposing themselves to numerous prey outside the so-called “safe” confinements of the lab.

Eventually, to their misery they were brought back to captivity.

Overland travel by fishes was something very new to me and I certainly was amazed to see nature’s design in function. Surely, a learning experience for me to keep aquariums covered properly. A few days later, one of them unfortunately passed away. The one left with me got the name “Chandu”. While he helps me conduct my experiments, he continues to find his escape and seems ready to explore the world beyond the aquarium once again.



The experimental setup used for the study. All experiments were carried out in indoor tanks. The behaviour of fish was observed in tanks at varying levels of turbidity that was artificially simulated.



The fish named Chandu- *Channa gachua*, which was used for my experiment

Author:



Cherie Joby Achandy, final year Masters student in Freshwater Ecology (2024-26).

cheriejoby171@gmail.com

Lessons from the Field: *What Three Wetlands Taught Me About Nature, Conservation, and Connection*

- Kumari Babli



Where land meets water, a place where rivers pause, making the world still to thrive in the living space. Where water gathers its thoughts before continuing its journey, this quietness is necessary for the world to continue moving. Like the silent pages between chapters of a book, wetlands connect stories, ecosystems, and species without demanding attention. This silence is not emptiness. It is presence. The presence that shows in the form of the caretaker- filtering water, recharging aquifers, and nurturing life beneath the surface.

If life is a train journey, then these three wetlands were memorable stations along the way. Each offered a different view from the window-of landscapes, people, and ecosystems. Some taught me through silence, others through human presence, but all reminded me that every stop holds a lesson for those willing to pause, observe, and listen.

The journey does not begin from a single route or season. My journey began at Kanwar Lake, where the vast plains stretched endlessly around the water, and the horizon seemed to merge with the sky. Much later, the journey led me to Asan Barrage, located among the hills, where silence seemed to settle gently upon the water, and every reflection carried a sense of calm. Eventually, I found myself once again in the plains, and this time at Gogabil Lake, where the wetland was not only a refuge for biodiversity but also a part of everyday life for the communities that thrive alongside it.

Kanwar Lake in the fading warmth of autumn

My first encounter on this journey was Kanwar Lake. I arrived in the evening, just as the sun was retreating towards its home beyond the horizon. The sky seemed to be putting on its final performance of the day, Immersed in the shades of gold, orange, and blue spread across the canvas above, as though the landscape had been painted by Vincent van Gogh himself. The fading sunlight sparkled upon the water, turning the wetland into a living artwork where every ripple carried a fragment of the evening sky. The landscape of Kanwar Lake was vast and open, characteristic of the Gangetic plains. The wetland seemed to belong more to nature than to people, allowing the sounds of birds and the whispers of the wind to take centre stage. Among the many discoveries of the evening was Hydrilla, a submerged aquatic plant thriving beneath the water's surface. Holding a few delicate strands in my hands, I noticed something fascinating. As I gently rotated them between my palms, the leaves spread outward, revealing their intricate form. It felt as though the plant was unfolding a hidden secret, offering a glimpse into the remarkable adaptations of life beneath the water. Yet, what stayed with me most was not

a species or a landscape feature, but a feeling. There was a quietness in the air that felt almost therapeutic, a silence not empty, but alive. I realized that wetlands offer more than ecological services. They offer space to pause, observe, and reconnect with the rhythms of the natural world.

Asan Barrage: when spring whispered through the hills.

Next, my journey led me to Asan Barrage, where the landscape transformed dramatically. The vast plains gave way to rolling hills, and the wetland nestled quietly within the Himalayan foothills. The water appeared calm and clear, reflecting the surrounding hills like a polished mirror. Unlike the open expanses of the plains, Asan felt intimate and serene, as though nature had carefully hidden this wetland away from the noise of the world. Adding to the beauty of the landscape was the rich birdlife that inhabited the wetland. Among the species I observed were the Indian Spot-billed Duck and the Painted Stork. If Kanwar Lake taught me to observe, Asan Barrage taught me to pause.

Gogabil Lake under the bright skies of early summer

And so, this journey ended where it had once begun, in the vast Gangetic plains of Bihar. It felt as though the journey had come full circle. The scenery had changed, the seasons had passed, and new lessons had been learned, yet the familiar embrace of the plains remained. Unlike the quiet solitude of Asan, Gogabil was alive with movement. Here, the relationship between people and water was impossible to miss. Residents bathed along the banks, while electric boats glided quietly across the lake. Larger boats ferried passengers from one shore to another. Small shops were also present at the edge of the wetland. The lake was not merely a landscape to be observed; it was an integral part of everyday life. Nature and community existed side by side, sharing the same space and depending on the same waters. The wetlands had changed my perspective. Kanwar Lake taught me to observe, Asan Barrage taught me to pause, and Gogabil Lake taught me to appreciate the delicate bond between people and nature. Like a train returning to its starting station after passing through different landscapes, I arrived back in the Gangetic plains carrying more than memories— I carried a deeper understanding of the many stories that wetlands hold.

And with that, I lay my words to rest. Not because the journey has nothing left to offer, but because certain stories grow quieter the more we try to tell them. Some places ask not to be described, but to be experienced; not to be analysed, but to be felt. The wetlands remain where they always were-beneath open skies, carrying life in their waters and lessons in their stillness-while a part of me remains there too.



Author:



Kumari Babli is a Project Assistant in the Nature Interpretation and Education Component. Her work involves designing educational materials, conducting field visits, and video editing to enhance nature interpretation and awareness. Passionate about creative endeavours, she is dedicated to making conservation education engaging and impactful.

bablirajpoot9130@gmail.com

Choor Phaski: *Adapted Artists or Forced Victims?*

- Tanmay Gokhale

The Lakshadweep Archipelago is India's only coral atoll ecosystem. It consists of a chain of islands, surrounded by reefs and shallow lagoons, that rise from the turquoise waters of the Lakshadweep Sea. Scattered 220-440 km off the southwestern coast of the Indian mainland, the island group consists of 36 islands, of which only 10 are inhabited. The rest remain either vegetated or as small, isolated sandbars.

One such sandbar is Pitti Island, located about 14 nautical miles (25.9 km) north of Kavaratti, the capital of Lakshadweep. I had travelled between several islands during our regular marine mammal surveys, but this was my first visit to Pitti Island. A few kilometres before reaching the island, we noticed a flock of seabirds repeatedly circling above the open sea and diving toward the water. After a closer look, I could see schools of small fish scattering beneath them. Moments later, we noticed tuna chasing the same schools of fish that the birds were targeting. Seeing this, the local name "Choor Phaski" suddenly made perfect sense. In the local dialect of Lakshadweep, *Choor* means tuna, and *Phaski* means bird. For generations, local fishers have relied on the seabirds to locate tuna shoals, making them not just seabirds but natural guides across the vast ocean.

These seabirds usually nest on the ground, using small pebbles from the shore. Some nests are sheltered under rocks, while others are located along the edges or in the open centre of the sandbar. At first glance, it was mesmerising to see hundreds of seabirds nesting throughout the island. But as I walked among the nesting sites, I noticed something unusual. Some nests were surrounded by colourful ropes, wires, plastic bottles, and even discarded footwear. In one case, I found a nest inside the broken frame of an abandoned refrigerator door.

This made me wonder: are these birds displaying remarkable creativity in adapting to their surroundings, or are they being forced to use marine litter because natural nesting materials are no longer enough?



Brown noddie with its chick at Pitti Island.
©Wasih

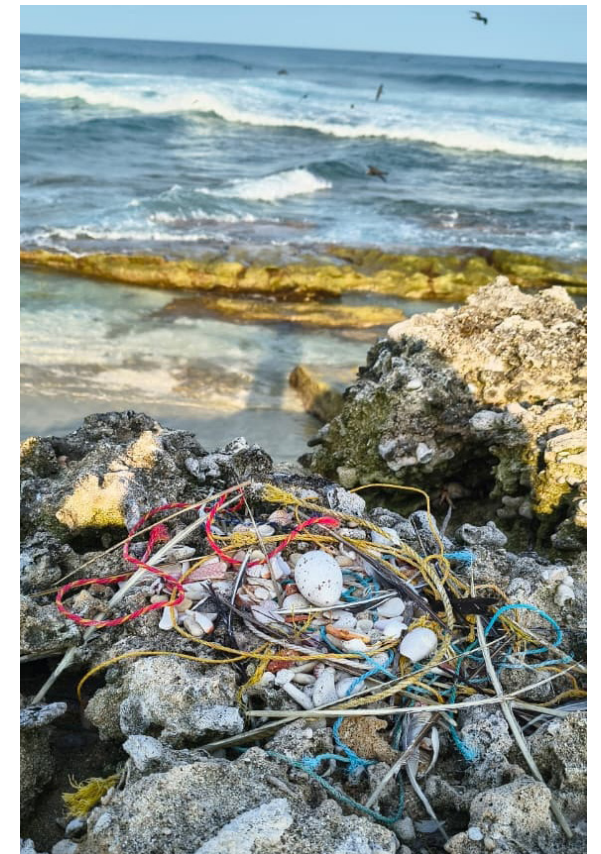


An aerial view of Pitti Island, Lakshadweep

What was especially striking was that these artificial materials appeared mostly in the nests of brown noddies *Anous stolidus*, while they were much less common in the nests of sooty terns *Onychoprion fuscatus* and bridled terns *Onychoprion anaethetus*. Brown noddies seem to be adapting more readily to the growing presence of marine litter, incorporating it into their nests. Sooty or bridled terns, on the other hand, appear more reluctant to do so.

At one level, this adaptation may seem impressive. At another, it is troubling. What looks like innovation may actually be a sign of environmental stress. The nests tell a larger story - not only about the resilience of birds, but also about the scale of plastic and marine litter reaching even remote island ecosystems.

So, the question remains: is Choor Phaski a true artist, or a forced victim? Or the answer may lie somewhere in between.



Nests surrounded by ropes



Nest created in a discarded refrigerator door

Author:



Tanmay Gokhale is currently working as a Project Associate-I in the project 'Monitoring of Baleen whales and other cetaceans in the Lakshadweep Archipelago'. A curious nature enthusiast, especially interested in the acoustics of marine mammals and birds.

tanmay.gokhale02@gmail.com

A Student of the Wild: Trek to Rudragaira

- Akangsha Verma

Growing up in Assam, I knew nature as dense forests, sprawling wetlands, and the vast riverine plains of the Brahmaputra. The Himalaya lived only in photographs and in other people's stories. That changed on May 21, 2025, when an unexpected opportunity came through my supervisor, Dr. Gautam Talukdar. I joined a field expedition led by Ms. Manisha Mathela, a research scholar at the Wildlife Institute of India, and travelled to Rudragaira in the Gangotri landscape to assist with her work on the Himalayan flora.

We left Dehradun at sunrise, traversing through the Oak and Deodar forests above Mussoorie as the Doon Valley dropped away behind us. Past Uttarkashi, the road narrowed into winding mountain tracks that followed the Bhagirathi through deep valleys, waterfalls, scattered villages, and the first glimpses of snow-covered peaks. I had joined the expedition as a student of the wild learning to observe rather than to identify, and meeting the Himalaya as a living world. I found myself free to simply observe—forests covering the slopes, rivers winding through the valleys, and the vast Himalayan landscape stretching beyond, an embodiment of the living world.

By evening, we reached Gangotri and walked towards the forest guest house, passing Surya Kund, where the force of the Bhagirathi river has carved the rocks of the kund over centuries. Over chai, I watched Choughs circling overhead, while the cold air, the roar of the river, and the Ganga Aarti blended into an unforgettable stillness.



Rhododendron trail

The next morning, before the sun had reached the valley floor, we packed our breakfast and set out for Rudragaira, a majestic peak at an elevation of 5,819 m in the Garhwal Himalaya of Uttarakhand. Three field companions Binod, Kritam, and Pancham Bhaiya walked with us. Binod Bhaiya had been with WII for more than fifteen years; the other two were seasoned mountaineers who had done expeditions, crossed glaciers and high passes across the range. They read this landscape the way most of us read our own backyards, and their presence was steadying. Their stories around the fire made the evenings whole.

One of the finest stretches was a rhododendron trail that seemed to run for kilometres. White and pink blossoms lit the slopes, vivid against grey cliffs and far patches of snow. As we trekked, the woodland opened into alpine meadow, and then rock, snow, and ice took over the view. The first ever sight of snow made me immensely happy, an almost unreal experience for me.

By evening, we reached *Nala Camp*, our field station. Surrounded by meadows, blooming rhododendron, and snow-fed streams, the site felt wonderfully cut off from the world below. We pitched the tents together, then sat with cups of tea and let the day's fatigue dissolve into the mountain air.

Across the valley, a herd of blue sheep stood on a rocky slope, almost invisible against the mountainside. Watching them move so elegantly over the steep terrain, I wondered at how completely wildlife fits itself to such a harsh place. Above them, a bearded vulture turned on unseen currents, holding the sky with extraordinary ease.

After dark we gathered for dinner, trading stories and laughter at the end of a long day. Stepping out of my tent later, I found one of the most beautiful night skies I had ever seen. Far from any city light, stars covered the whole sky from edge to edge. Wrapped in cold air, with the distant river for company, I stood a long while looking up one of those rare moments in the wild that leaves you feeling at once a very small and deeply part of the world.



Blue Sheep on the slope



A sky full of wishes

The next morning, we began the final climb toward our fieldwork objectives. Near the base camp, broad alpine meadows opened beneath towering snow peaks. Wildflowers ran in patches through the grass, and among them lay the weathered skull of a blue sheep, a quiet reminder of the cycle that runs endlessly in these mountains.

Kritam Bhaiya helped us name the summits along the horizon. From west to east, he pointed them out one by one, each slipping in and out of the drifting clouds. The moraines, the cold wind, the distant glaciers, and the unbroken ridgelines impressed upon me just how vast and varied this world really is.

We retrieved camera traps set across the slopes to monitor wildlife. Tucked among rocks and along animal trails, these cameras had been quietly recording the residents of these mountains, perhaps even a snow leopard.

As we worked, Manisha explained her research: how plants respond to shifting environmental conditions across the Himalaya, and how the leaves of a single species can change with elevation as temperature, moisture, and humidity vary. She showed me how samples were taken from different parts of a plant, and pointed out how many species cluster near streams and damp ground. Listening to her, I began to read the landscape in a new way.

The trek to Rudragaira was far more than a journey through the Western Himalaya. It opened a curiosity in me. Every bend in the trail offered something new; every sighting carried a story; every change in elevation brought a different world to take in. I had set out as a volunteer on a research expedition. I came back with a deeper regard for mountains, for wildlife, and for the many wonders these landscapes continue to hold.



The Circle of the Wild

Author:



Akangsha Verma works as a Project Associate- I in the project Management Effectiveness Evaluation of Coastal and Marine Protected Areas in India.

vermaakangsha@gmail.com , akangsha@wii.gov.in

The Living Chronicle: A Resilient Peepal of Nayagaon

- Sneha Kumari & Himanshu Sahu

*“The ancient giants of the land,
In silent dignity they stand.
With branches reaching for the blue,
They paint the world in emerald hue”*
- Anonymous

As part of the Wildlife Institute of India’s ongoing monitoring and research activities in Kuno National Park, our team of researchers and field assistants came across a giant Peepal (*Ficus religiosa*), a living history of resilience. The tree was found to be located near Hanuman temple in Nayagaon, Sheorpur district, Madhya Pradesh.

Nayagaon was one of the villages relocated for park’s restoration during the years 2000-2001.

Upon measuring the girth at breast height (GBH), the giant Peepal came to be about 800 cm!. Closer inspection revealed three massive stems rising together. This unusual form suggested a story of survival, the tree may have almost died or been damaged by calamities not once, but thrice, only to regenerate each time. Each rebirth added to its majesty, culminating in the giant we see today. What caught our attention immediately was the *chabutra* (stone platform) that once encircled the tree. Over the years, the Peepal has grown so expansively that the platform has been completely engulfed within its trunk, as though the tree had quietly reclaimed its space over the decades.

The Nayagaon peepal is more than a tree. It is a living archive of ecological succession, a cultural landmark that has outlasted the village it once shaded, and a symbol of survival in the face of adversity. Its presence near the Hanuman Mandir adds a spiritual dimension: a reminder that faith and nature often grow side by side, each reinforcing the other, as though the tree



has absorbed the memory of human devotion into its own body. This merging of cultural heritage and natural growth is a striking reminder of how closely linked people and the land are in Kuno. The peepal embodies the spirit of Kuno- resilient, adaptive, and deeply intertwined with human history. It reminds us that restoration is not only about landscapes and wildlife, but also about honouring the silent witnesses of time. The Nayagaon peepal in the form of a tree, is a living chronicle of survival, faith, and renewal in the heart of Kuno.

For the team, this was more than a routine observation. Standing before the tree, we felt humbled by its persistence.

“The Peepal tree exhibited a GBH of 800 cm, corresponding to a DBH of approximately 255 cm. Based on species-specific growth characteristics and comparative records of large Peepal trees in India, the age of the tree is estimated to be approximately 350–450 years”.

Peepal is a keystone species and plays an important role in maintaining ecosystem health and biodiversity values. It offers food, shelter and nesting sites for many wildlife species, and supports ecological stability. The preservation of such ancient Peepal trees is important for nature and future generations due to its cultural significance, longevity and contribution to landscape heritage.



Acknowledgments:

Dr. Bilal Habib, Dr. Vishnupriya Kolipakam, Mr. Bipin C.M., Director, Dean, Registrar of Wildlife Institute of India, Researchers and field assistants of Project Cheetah, Field Director and Deputy Director of Kuno National Park, Sub-Division Forest Officer – Pohri and Vijaypur, Range Forest Officer - Palpur East

Pictures credit: ©Akash Rana



Authors:



Sneha Kumari is a Project Assistant in Project Cheetah, Department of Animal Ecology and Conservation Biology, Wildlife Institute of India. She has a special passion for herbarium work and hands-on plant research, where she identifies, classifies, and preserves plant specimens. By studying plant diversity and their ecological roles, Sneha aims to contribute valuable insights to conservation efforts while protecting endangered flora and promoting awareness about biodiversity.

snehak@wii.gov.in



Himanshu Sahu, PhD Scholar (WII-AcSIR) and PA-I (Project Cheetah), Department of Animal Ecology and Conservation Biology, Wildlife Institute of India. Himanshu Sahu is a Ph.D. Scholar at the Wildlife Institute of India with a master's degree in environmental science. His research interests include soil ecology, plant-soil interactions, and ecosystem dynamics, with a focus on conservation and ecological restoration.

Himanshusahudehradun@gmail.com, Himanshura@wii.gov.in

Anakkal— *The Meadow the Elephants Named*

- Dr Rashmi Ranjan Swain, OFS

The elephants named this place long before the foresters did. **Anakkal**—the elephant's vayal. I walked into it at first light on 12 May 2026, and within the hour, I had stopped writing in my notebook. Some places ask you to watch, not to record.

A vayal is the forest's open hand. Everywhere else the canopy closes overhead and blocks the light. Here, the trees step back. Water settles in the low ground throughout the year, the soil stays soft, and grass and sedge claim what the teak and the evergreen cannot: the open sky. Anakkal is the largest such opening ~12 ha in the whole Parambikulam Tiger Reserve. A clearing you could lose a small world inside, ringed by forest like a held breath.

This is where the reserve comes to eat. At dusk, the sambar step out to crop the soft new grass. The gaurs arrive in dark, unhurried herds, reading the meadow for its richest feeding. The deer keep to the short lawns, where open ground means open sightlines and a head start on anything with claws. And where the grazers gather, the tiger is never far behind. The vayal feeds the deer; the deer feeds the tiger. It is the shortest food chain I know and the most important. Anakkal is not scenery. It is the larder of Parambikulam.

At the heart of Anakkal lies a waterhole, and the waterhole keeps a register. I crouched at its edge and read the names written in the mud. Elephant, the first and unmistakable broad crater pressed deep, is the print of the one who named this place. Gaur beside them, heavy and square. The neat twin slots of sambar. The smaller, hurried marks of deer. And laid over all the rest, the round and quiet signature I had hoped to find: pug marks. The tiger had come here too. No two

animals leave the same mark, yet they all come to the same water. The grass feeds them, but the water gathers them, predator and prey drinking from one small pool, hours apart, their tracks overlapping like entries in a guestbook no one signs by choice.

But the larder is closing. I saw it at the edges. The woodland is leaning in. Bamboo is wading out into the open, clump by clump, season by season. Each year, the green wall draws a little tighter, and the meadow gives a little ground. A vayal overtaken by woody growth quietly stops being a vayal. It becomes an ordinary forest, and of forests, the reserve has no shortage. What it cannot spare is its open ground.

Size is no small matter here. A large enough meadow feeds a herd; a shrunken meadow feeds only a few. Every meter the bamboo claims is quietly lost in its carrying capacity. Anakkal's greatness is its scale, and its scale is exactly what is slipping.

Nor do the vayals stand alone. They are stepping stones laid across the forest, and the animals read them as a route, grazing from one clearing to the next, moving as the water and the seasons move. Let the gaps grow too wide, or let a single vayal close over, and the chain snaps. The distance between these meadows decides whether the herds can travel. Travel decides whether they survive. Anakkal sits at the centre of that map.

So this place cannot be left to the slow arithmetic of succession. The management must do four plain things here: hold the line at the margins against woodland and bamboo; win back the grass the bamboo has already taken; guard the seasonal water that makes a vayal a vayal; and measure the meadow, year on year, as a living



gauge of the reserve's health. Not as a chore on a checklist, but as a duty to the ground the tiger stands on.

By midday, the herds had folded back into the trees. They left their tracks pressed into the soft earth, a whole night's traffic written in the mud, the signatures of everything that leans on this open ground. We count this reserve in tigers. But the tiger is only the last word of a sentence that begins here, in the grass. Lose the vayal, and the sentence loses its beginning.

Guard Anakkal, and you guard them all.

Author:



Dr. Rashmi is from 46th batch of PG Diploma in Advance Wildlife Management at WII

rashmi@wii.gov.in

Reflecting on a Field Visit: Capturing Insights Beyond the Data

- Dibyendu Biswas

“There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace.”

- **Aldo Leopold, *A Sand County Almanac : And Sketches Here and There***

The pioneering American conservationist has long warned us about the risk of distancing ourselves from nature. Being in the community of wildlife and ecology researchers in Wildlife Institute of India we are obligated to indulge in wilderness.

During my last field work for survey of dolphin and associated aquatic species I spent a couple of months in the state of Bihar. I along with my team spent a couple of months counting dolphins and other aquatic fauna and surveying the habitat along the Gandak river, which starts from Nepal and enters Bihar before meeting the Ganges in Patna. As part of the job we were looking for our target species and were elated once we found them and kept the record of our observation in the datasheet just to fill the boxes of MS-Excel later. Perhaps, it is one of the biggest developments of the human mind, though I find it regressive, that we have successfully achieved the mechanism to reduce all natural phenomena and entities into numbers which we call ‘data’. And that is why the very first chapter of the statistics starts with the different types of data.

Since we were working in the non-protected area, our study site was full of human presence and we found the habitat mostly modified by humans and not some charismatic or pristine landscape from within the protected areas. Initially, I didn’t find much interest in the landscape except the magnificent sunrises and sunsets with their shimmering reflection

on the river. But one night our tents on the river island faced the wrath of an intense storm and we could hardly sleep as the tents were squishing us for not being strong enough to withstand the force of wind. But the “phantom menace” was when we found that the wind was accompanied by the abundant sand from the island and entering our tents through the ventilation and covering our entire body and giving such a tactile sensation which we never experienced. The relief came with a heavy splash of rain at the wee hours of the morning. The following morning I was in a mood experiencing the “man vs wild”, just in reality, and had a sense of standing tall against the fierce avatar of the elements. But, that pride only shattered into pieces when I realized that the farmers, growing crops along the river banks of Gandak, spend every night under their “thatch” roof built in the farmland for protecting their crop from raiding by wild animals. What was my extreme field experience to share with my friends and families, is a daily chore for them. What, I was ready to take pride in, they do it without even giving a second thought. I realized these farmers are the superheroes hiding in plain sight, unbothered by our indifferent attitude, growing one of the most fundamental requirements of our lives - food!

Before, I could totally process the careless magnanimity of those farmers, we again experienced heavy rain at night and we found solace in the extreme hot summer of Bihar. But the next morning, what we found during our survey totally broke my heart. All the crops within about 200m from the river bank were totally under the water and everything was destroyed (Image 1). During the next couple of days following the rainy night we only found the air getting more stinky because of the rotting of crops. The farmers had no choice but to abandon the crop and accept the loss - both in terms of finance and effort.

I take great interest in the “flood-pulse concept” from my M.Sc. class but watching the process in front of the eyes was a bit disturbing. But as children of nature we can only resolute to respect food and consider the effort and hardship put even for one grain of cereal or pulses on our plate. Also, as urban dwellers we must remember our carbon footprint is much higher and hence we share more contribution to weather anomalies and climate change which affects our brethrens far away from the luxuries of cities and bear the burden of climate abnormalities. We must indulge into the statistics of the virtual water of our food and set our consumption practices and limits more consciously.

I suppose what I have seen in the field must be seen by many others already; in fact, many of my colleagues come from rural agricultural backgrounds. But here I want to take the liberty to reiterate the depth and scale of the apparently normal scenes of our field work. These scenes are just not mere numbers for habitat score or micro-climatic data - they are conditions for bread and butter for many across the country. Our field visits must not be reflected only in graphs and diagrams but also in our life choices.



Image:1. One cannot differentiate between the riverbed and the submerged floodplain if not the floating crop and thatch roof were not there.

Author:



Dibyendu is currently working in riverine dolphin estimation project in Wildlife Institute of India following his seven years of working on movement ecology of vultures in Central Indian landscape. He was trained in interdisciplinary manner in ecology and environment studies during his M.Sc. from Nalanda University. He is interested in behavioral ecology.

dibyendu.academics@gmail.com



All The Sights We Do Not See

- Ashwati Biju

It gets pitch black there, only the light from the dorm room shines bright like a lighthouse, keeping the nighttime visitors at bay. When we realized they were not going to come to us, we decided to approach them. We set out with headtorches which momentarily turned the night into day. I imagined myself in the shoes or more accurately limbs of those that come alive at night, a creature of the day who can bring a fraction of the day with them as they traversed the land of the night. We ascended, farther into the night, the path split into two, one less traversed, one chosen always. We felt brave that day, decided to choose the path less chosen, hoping the lives of the night would be active there. Once we got to a certain spot, the lightbearer told us he was going to plunge us into darkness. I agreed, even when second thoughts started creeping into my brain like centipedes. I shut my eyes as if that would stop them.

The darkness embraced us, a little too fast, a little too harsh. I hesitated to return the embrace. I took a long breath and opened my eyes. And the world came to life.

The light bearer had brought us to a magical place. He directed me to look a certain way. And I listened.

Around where I assumed the forest floor lay, something seemed to emanate its own light. Bright, but not like daylight. Like stars.

The moment I realized what we were looking at, I let out a tiny gasp. Bioluminescent fungi!

I felt like I had crossed over to Pandora's realm. Starlight scattered across the logs for us mere humans to stumble upon...

Author:



Ashwati Biju is a 20th M.Sc. Wildlife Science student who worked on Ant diversity, behaviour and resource selection in Agumbe, Karnataka for their M.Sc. dissertation. They're interested in plant-insect interactions and behaviour ecology. Out of academics, they're also a nature educator and illustrator with their own small business known as @myrmica_studio with all kinds of wildlife art!

ashwati@wii.gov.in

The Blackbuck That Stayed

- Jayesh Mahesh Tarte & Amlan Das

धैर्यः स्त्रियो धरुवमते हरिनिर्य तासां
दृष्टेः स्वयम्भरमुखाः कृष्णसारमुष्यः।
यासां गणैर्न बलितेन च वल्लभाया
गाथां नटस्य कृतकर्णरसायनेन ॥

"O steadfast-minded women, blessed are the female deer (*Krishnasara-mriga*) in the forest. Along with their buck companions, they look upon Krishna, the bestower of all joy, with wide-open, loving eyes. They have surrendered their attention completely to the melodious, enchanting song of the Divine Lord's flute."

Field surveys often bring unexpected encounters. Some become routine observations entered into a datasheet, while others remain in memory long after the fieldwork is over. One such experience occurred during a waterbird survey in the wetlands of Uttar Pradesh and Bihar.

Our team was surveying the Gokul Jalashay, a Ramsar Site, moving from one sampling location to another. During a brief halt at a roadside sweet shop for refreshments, something unusual caught our attention. In the courtyard of a modest village house stood a blackbuck (*Antelope cervicapra*), calmly resting in the shade.

The sight was startling. Blackbucks are protected under Schedule I of the Wildlife (Protection) Act, 1972, and are not commonly encountered in Bihar. Seeing one in a village courtyard was the last thing we expected during a waterbird survey.

Curious about its story, we approached the owner of the house, an elderly farmer. With the help of our field assistant, who spoke the local language, we began a conversation. What followed was a story of chance, compassion, and an unlikely bond between a wild animal and a human family.



The farmer told us that nearly three years ago, while working in his fields, he noticed movement in a patch of bushes. Approaching cautiously, he discovered an injured blackbuck fawn hidden among the vegetation. The animal appeared weak and vulnerable. Concerned for its survival, he carried it home and began caring for it.

Over time, the young blackbuck recovered. As days turned into months, it became accustomed to the farmer and his family. What began as temporary care gradually evolved into companionship. The animal remained with the family and became a familiar presence in the household.

Eventually, news of the blackbuck reached the Forest Department. Officials visited the village and informed the farmer that keeping a Schedule I species was not legally permissible. According to the farmer, attempts were made to return the animal to the wild. However, after years of dependence on human care, the blackbuck showed little inclination to leave. The officials advised the family not to sell or transfer the animal and subsequently left the matter under local supervision.

As we listened, the blackbuck wandered around the courtyard, occasionally positioning itself behind the farmer whenever unfamiliar visitors approached. Its behaviour suggested a level of trust developed through years of close association. The interaction between the two was quiet but unmistakable.

We later spoke with several villagers, who were all familiar with the animal and its story. For them, the blackbuck had become part of everyday village life. Children approached it without hesitation, and residents described it as a familiar presence rather than a wild antelope.

For field biologists accustomed to observing blackbucks in open grasslands, where vigilance is essential for survival, the scene was remarkable. The blackbuck is one of India's most iconic antelopes and the sole surviving member of the genus *Antelope*. Renowned for its speed, elegance, and striking appearance, it is typically associated with grasslands and semi-arid landscapes. Observing one living so closely alongside people was a rare experience.

The encounter also served as a reminder that wildlife stories are not confined to protected areas and remote habitats. Across India, countless interactions between people and wildlife unfold beyond the boundaries of reserves and national parks. Some involve conflict, others coexistence, and occasionally they reveal relationships that challenge our expectations of what is possible between humans and wild animals.

As we resumed our survey and continued towards the next sampling location, the imprint that remained with us was not of a blackbuck racing across an open grassland. Instead, it was the quiet scene of a village courtyard where an elderly farmer and a rescued blackbuck had shared years of companionship. Among the many observations recorded during that field season, this unexpected encounter remained one of the most memorable moments.

References

- Śrīmad Bhāgavatam, Canto 10, Chapter 21, Verse 11 (Venu-gīta).
- Linnaeus, C. (1758). *Systema Naturae per Regna Tria Naturae* (10th ed., Vol. 1, p. 69). Holmiae (Stockholm): *Laurentii Salvii*. [Species: *Antelope cervicapra*].



Authors:



Jayesh Mahesh Tarte is a Project Assistant in the NMCG Biodiversity Conservation and Ganga Rejuvenation Project. With an academic background in Zoology and specialization in Endocrinology. Area of interests revolving around Wildlife Photography and Ornithology.

jayesh.tarte25@gmail.com

Amlan Das is a Project Assistant in the NMCG Biodiversity Conservation and Ganga Rejuvenation Project. With an academic background in Zoology and specialization in Entomology, Area of interests revolving around Wildlife Photography, Wildlife Ecology, Conservation, Filmmaking and Philosophy.

dasamlan908@gmail.com



Jalaj Awareness and Management Centre at Dilli Haat: *Bringing the Ganga's Biodiversity Closer to the People*

- Simran Bihagra

In December 2025, I joined the Wildlife Institute of India (WII) as a new member. Right from my first day in the institute, I got the opportunity to be part of something truly meaningful, working at the Jalaj Awareness and Management (JAM) Centre, located in Delhi at the famous Dilli Haat, INA. The JAM Center at Dilli Haat, started in September 2023 and completed its operations and closed in January 2026. Establishing the JAM Centre inside Dilli Haat was a deliberate choice as the place attracts thousands of visitors both Indians and international on a daily basis. The place seemed to be the best location to tell them about the history or story of India's national river Ganga.

The Ministry of Jal Shakti, Government of India, through NMCG, entrusted WII with a project titled "Biodiversity Conservation and Ganga Rejuvenation". Under this, WII developed a team of volunteers called Ganga Praharis, who work for biodiversity conservation and Ganga rejuvenation. The JAM Centre serves two core purposes: first, to create awareness among the people regarding the biodiversity of the Ganga, its aquatic species, and their ecological significance. Second is to provide Ganga Praharis an opportunity to sell their handcrafted, eco-friendly products. The concept *Jalaj* aims to develop a symbiotic relationship between the river and people, and can be seen as a livelihood diversification through the promotion of local produce, while strengthening women's participation in the ecological and economic sphere.

The Jalaj centre at Dilli Haat welcomed visitors with a wall painting depicting the story of Bhagirath and the descent of the holy Ganga to Earth. The centre showcased scientific posters on the ongoing work under the Namami Gange programmes, such as STPs and other



conservation efforts. The centre displayed a huge map of the Ganga basin indicating the river's full journey from its glacial origin to the end at the Bay of Bengal, marking important ecological as well as cultural landmarks. The other wall was adorned with cultural connection of local people with the river Ganga such as the Chhath Puja in Bihar, Ganga Aarti in Varanasi, and many more traditions. The centre keeps brochures on tributaries of Ganga and the biodiversity they hold for distribution to the visitors. The JAM centre had handcrafted products made by Ganga Praharis. Under the Jalaj program which is based on the circular economy concept local people are trained in sustainable livelihood practices and engage in activities that promote biodiversity and conservation of a healthy river ecosystem. The centre is plastic free wherein visitors receive products wrapped in cloth or paper bags.

Jalaj's clothing category showcases India's regional art and traditions. These include Aipan art dupattas and sarees from Uttarakhand, Sujni art dupattas from Bihar, Batik sarees, dupattas, and skirts, hand-painted Organza sarees, jackets from Himachal Pradesh, and colourful skirts and stoles. The edible products bring the local flavours and nutrition of Ganga basin, such as wild honey, turmeric (haldi), red rice, dal badi, papad, and *pahadi namak*. These are naturally procured items, reflecting the agricultural and ecological richness of the river's

catchment areas. Wellness products offer visitors a gentle, earth- friendly, made entirely from natural ingredients and free from harsh chemicals such as rose water, apricot oil, face toner, perfume roll-ons, and lip balms without any harsh chemicals. Among the most appreciated products at the centre are hand-painted stone art pieces that attract many foreigners. Another highlight is the wooden carvings and lapel pins of Gangetic species such as Gangetic dolphins, gharial, otter, Indian skimmer, and Sarus crane.

For children and students, the centre had interactive games like puzzles, ludo, sticky wildlife stamp, and wildlife knock clock. All these games revolve around species of the Ganga River. Young visitors were informed on dolphins, gharials, otters, Sarus cranes, kingfishers, turtles, tortoises. Visitors who visit the JAM Centre out of curiosity often leave with more knowledge than they expected. Many visitors hear about the Gangetic aquatic biodiversity for the first time at the centre. Visitors had engaging experience hearing mythological stories about the descent of the Ganga. More importantly, visitors learnt about Ganga Praharis, their role in biodiversity and conservation and their skills reflecting in the products at JAM centre. This was also reflected in the 96th episode of "*Mann ki Baat*" wherein the Hon'ble Prime Minister of India highlighted that success of Namami Gange program is the people's participation..

Author:



Simran Bihagra is currently working as a Project Associate-I at the Wildlife Institute of India (WII), Dehradun. In this role, she is actively engaged in the project titled "Jalaj - Connecting River and People to Realize Arth Ganga."

bihagrasimran@gmail.com

Celebrating Our Paryavaran Champions on World Environment Day

- Alankrita Sharma & Danish Kaleem

World Environment Day 2026, themed “*Inspired by Nature. For Climate. For Our Future.*” was a little more special than usual. The Wildlife Institute of India, under the National Mission for Clean Ganga project, celebrated the people and institutions who don’t just talk about saving the environment, they actually do something about it, every single day.

The Paryavaran Champion Awards saw a wonderful response this year, with 100 nominations pouring in from across the country. After careful evaluation, nine awards were given out. Six Bal Ganga Prahari schools, three colleges, and one to Radio Kedar, which has been doing incredible work in spreading environmental awareness through community radio.

What made the selection process meaningful was the criteria. The focus was on consistent, ground level work. Things like protecting local biodiversity, conserving water, reducing plastic, educating communities, and engaging people in the conservation process on a regular basis. The awardees came from Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Haryana, Himachal Pradesh, and Chhattisgarh, a testimony that this spirit of conservation runs deep across the country.

The was made even more memorable by the presence of two very special guests. Padma Shri Kalyan Singh Rawat, the man behind the Maiti Movement and a true champion of Himalayan ecology, joined us and reminded everyone why this work matters. And Padma Shri Dr. Madhuri Barthwal, Uttarakhand’s own beloved folk singer and composer, brought warmth and soul to the occasion because she has long used her music to

carry the message of nature and conservation to people’s hearts.

The celebrations also featured a vibrant cultural programme by students from participating institutions. Through dance, music, and theatrical performances, the students beautifully showcased the rich cultural diversity of the region while weaving in meaningful messages about conservation and our connection with nature. Adding to the spirit of the day, the Bal Ganga Prahari Scholarship was awarded to 10 deserving students from Government Girls Higher Secondary School, Kharkhari, Haridwar, Uttarakhand recognising and encouraging young minds who are already making conservation a part of their lives.

Seeing schools, colleges, and community radio stations lead the way is a heartening reminder that conservation isn’t just an agenda, it’s becoming a way of life. And that, perhaps, is the most hopeful sign of all.



Authors:



Alankrita Sharma is working as a Project Associate-II with Wildlife Institute of India under the NMCG project, working on capacity building and conservation education. Her work focuses on engaging diverse stakeholders in the conservation of riverine biodiversity.

alankrita@wii.gov.in



Danish Kaleem is working as a Project Associate-I with Wildlife Institute of India under the NMCG project, working on capacity building and conservation education.

danishkaleem840@gmail.com

The Great Wall of Ecological Destruction: How Linear Infrastructure Fragments Mangrove Ecosystems

- Mayur Fulmali

Building roads and embankments through mangroves is like clamping the arteries of a body that breathes with the tides. With tidal channels blocked, the mangrove forest may appear intact, but its ecological processes begin to deteriorate. The [mangrove ecosystem](#) forms a critical interface between terrestrial, estuarine, and nearshore marine ecosystems (e.g., coral reef, & sea grass). A critical [nursery](#), feeding, and refuge habitat for numerous aquatic and terrestrial life, mangroves are exceptional in providing a wide range of [ecosystem services](#) including shoreline stabilization, carbon sequestration, coastal protection, biodiversity conservation, and livelihood provision. The carbon sequestration by mangroves is thought to be more efficient than a tropical rain forest. Given this, mangroves are recognized as critical habitats and have gained a central position in climate mitigation and adaptation strategies. However, mangroves are also amongst the most threatened ecosystems primarily due to land conversion for port construction, aquaculture, road and house construction. With reports of a sharp global cover decline in mangrove habitats, novel research approaches on [mangrove conservation](#) are increasingly emerging.

Tidal connectivity, its importance and consequences

Creeks and channels bring nutrients, sediment, organic matter, dissolved oxygen, and faunal and floral recruits. Disrupting the [tidal connectivity](#) can hamper mangrove forest growth and functioning, for instance, blockage of tidal channels by constructing embankments and roads leads to reduced tidal flushing. Tide helps reduce the soil salinity levels, therefore, hindrance in tidal inundation can increase water evaporation from soil causing hyper saline conditions which eventually cause root stress leading to mangrove dieback. The tidal waters bring oxygen-rich water into the mangrove system. When this connectivity is lost, the soil becomes stagnant, intensifying anaerobic conditions and causing hydrogen sulfide levels to increase. This can lead to impaired root respiration and litter decomposition rates. Tides help disperse mangrove seeds and faunal larvae and eggs, therefore, when tides are being restricted the overall community composition and biodiversity is affected. It can also lead to reduced mangrove carbon sequestration capabilities and hinder sediment supply for mangrove. Linear infrastructure-mediated loss in tidal connectivity is slow-paced choking phenomena for mangrove ecosystems and when ideal environmental and soil conditions are irreversibly affected then diebacks are certain.



Mangrove dieback, a result of impaired tidal connectivity via road and embankment construction.

Linear infrastructure can induce coastal squeeze

Within this ecosystem, every mangrove species has an innate preference for a specific tidal inundation and frequency. For example, species like *Rhizophora*, Within the mangrove ecosystem, species show specific affinity for tide level and inundation frequency resulting in a zonation pattern in the mangrove community. For example, *Rhizophora* which can withstand prolonged and frequent inundation occupies the seaward zone while *Ceriops* & *Lumnitzera* thrive in relatively infrequent tidal inundation and thus occupies

the landward zones. However, in the presence of abiotic stressors, this zonation pattern gets influenced. Sea-level rise (a seaward stressor) can elevate the tidal inundation level and energy, to which mangroves respond in two ways: vertical migration (pacing up sediment accretion level) and horizontal migration (transgression, occupying landward edges). Both mechanisms take decades to cope with sea-level rise but when landward migration gets restricted by linear infrastructure (roads & bunds), the second coping mechanism fails. This leads to a phenomenon called coastal squeeze, a physical barrier obstructing landward migration of coastal vegetation.

The construction of embankments and roads alter not only the topography but also the physiochemical conditions of a mangrove ecosystem, eventually causing habitat fragmentation. The coastal squeeze can adversely affect the mangrove vegetation by filtering species that are unable to tolerate high and prolonged tidal inundation. This in turn filters the species preferring seaward zones causing homogenization of vegetation communities or *Rhizophora*-only forest patches. Therefore, a simple question, “when linear infrastructure-driven habitat fragmentation pace-up how the ecosystem services of mangroves are compromised?” needs prompt investigation and apparently, several such stressed sites are available for rigorous research across India.

Who'll bear the cost of the great wall?

Delineating the impact of linear infrastructure on the mangrove ecosystem needs a comprehensive approach. This system hosts an array of life and certainly “the wall” has a cost but to what extent can the mangrove ecosystem bear it? Deconstructing the consequences of *the wall* should begin with understanding the impacts on the faunal and floral components of the mangrove ecosystem. Mangroves, crabs, fish, molluscs, worms, microbes, and what not in the sediment, each plays a specific role in contributing and balancing the ecosystem. A bund

or road alters the local hydrology and when an entire ecosystem is built upon the dynamics of tides, the consequences can be great. My PhD research focuses on understanding how this linear infrastructure affects the benthic fauna especially mangrove crabs. The constructed bund can severely affect crabs by reducing the food supply brought in by the tides. This may create food shortage, leading to a reduction in crab abundance and diversity. Mangrove crabs are regarded as ecosystem engineers, and linear infrastructure can potentially cause a decline in crab-mediated services like improving soil aeration, soil drainage, soil texture, and nutrient cycling. Crabs are a critical component in trophic transfer and a decline in their population can have a cascading impact on other faunal communities.

Mangroves when choked may not bounce back to its former state with full capabilities. The ecosystem services like coastal protection, sediment stabilization, carbon sequestration, livelihood provision, and biodiversity protection may not recover from the damage of habitat fragmentations. It'll be worth it if the current ecosystem services of these fragmented mangrove forests are measured on a temporal scale, to understand the trajectory and pace of loss of ecosystem services. Moreover, “protecting the existing and restoring the degraded”, should be a priority to prevent further fall of global mangroves.



Satellite imagery of a 14 hectare wetland at Mercas, Goa showing mangrove dieback, the wetland is bordered by linear infrastructure with impaired tidal connectivity.



A concrete seawall dissecting through a mangrove forest, the landward area gets limited tidal inundation while the seaward area experiences elevated tidal forces and erosion activity.

DID YOU KNOW?

- Mangroves support an estimated annual abundance of over 700 billion juvenile fish and invertebrates.
- Mangroves can store up to three to five times more carbon per hectare than many terrestrial tropical forests. Most of this carbon is stored underground in waterlogged soils for centuries.
- Mangrove seeds germinate while still attached to the parent tree. This phenomenon, known as vivipary, allows seedlings to establish quickly once they reach suitable habitats.

Author:



Mayur Fulmali is a doctoral student at the Wildlife Institute of India, India, with research interests spanning mangrove restoration ecology, mangrove crab ecology, functional diversity, coastal squeeze, plastic litter impacts, and island ecosystems. His work focuses on understanding how ecological processes shape the structure and functioning of coastal ecosystems and how science can inform effective conservation and restoration practices.

drfulmalimayur1998@gmail.com

The hidden world of Diatoms

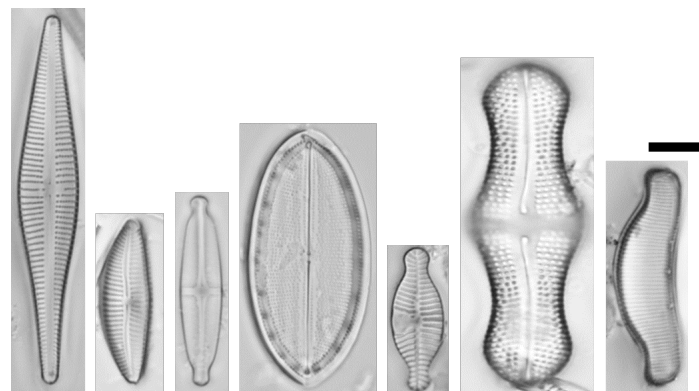
- Priyanjali Singh

It would come as a surprise to many who appreciate the beauty of nature to discover that some of the world's most stunning, geometric architecture is actually much smaller than the width of a human hair. A tiny organism living in water, found floating in the ocean, seas and lakes. Some of them are anchored to the substrate (rocks, sand, plant debris) when living in fast or swiftly flowing water, like rivers and streams. Some can be found on damp soil of your garden and they shapeshift according to whatever best fits their environment.

Enter the world of diatoms: single-celled, microscopic algae, but what truly sets them apart from other microscopic life is how they build their homes. Every single diatom encases itself in a unique, transparent shell made of hydrated silica. Essentially, they live in microscopic glass houses. Known as **frustules**, the shells are covered with microscopic pores, ridges, and spines arranged in breathtaking symmetrical patterns. If you were to view them under a powerful microscope, they wouldn't

look like a typical cell from a biology textbook. Rather, they look more like intricate lacework, glittering jewels, or beautifully carved crystal boxes.

These tiny glass architects aren't just beautiful; they carry the weight of the world on their microscopic shoulders. Despite their small size, diatoms generate around 25% of the world's oxygen. Take a deep breath right now, and one out of every four breaths you take is entirely because of these unseen algae. Diatoms form the bedrock of the entire aquatic food web. Without them, our aquatic ecosystem would simply collapse. Protecting our waterways isn't just about saving what we can see; it is also about preserving the microscopic foundation that sustains it all. The next time you walk past a stream or carefully step over a slippery rock in a riverbed, take a moment to pause. You aren't just looking at water and stone. You are standing above a thriving, fragile city of glass, quietly breathing life into the world.



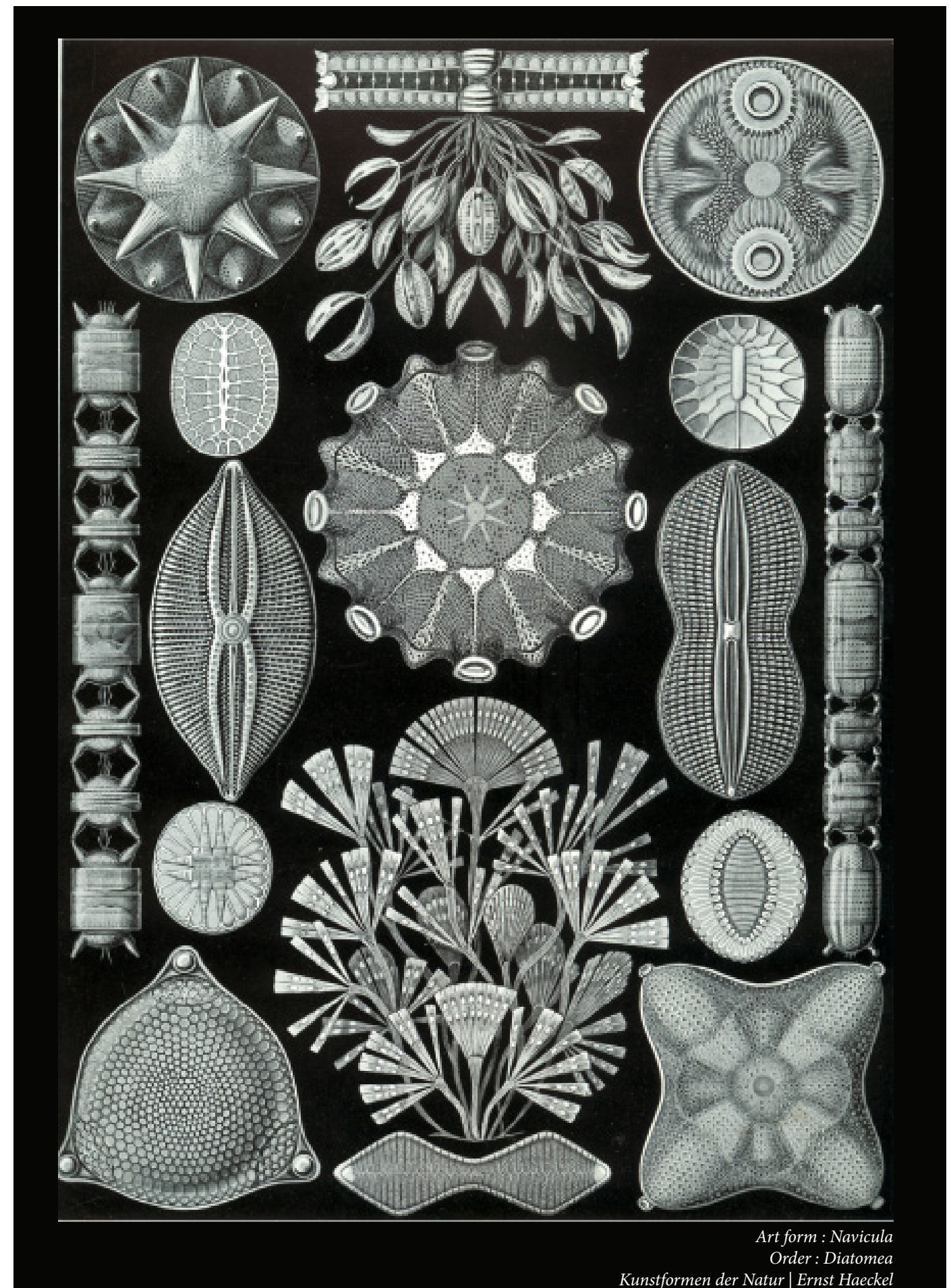
Representation of diverse range of shapes and ridges, and spine of stream - diatoms (called pennate shaped). Picture taken in DIC Light microscope and represented at a scale of 10 μm .

Author:



Priyanjali Singh is a student of M.Sc. Freshwater Ecology and Conservation

priyanjalis07@gmail.com



Art form : Navicula
Order : Diatomea
Kunstformen der Natur | Ernst Haeckel

From Pangea to Peaks Conifers across Continents

- Shikhar Kaushik

Plants show myriad distribution patterns around the world, from warm, humid tropical to freezing boreal regions. These distribution patterns are shaped by geographical features, climatic conditions and the edaphic factors. Beyond these abiotic drivers, species-level ecological traits including phenology, plant-animal interactions, and dispersal mechanisms, further shape the distribution patterns. However, no ecological community remains constant, as environmental variables shift over time, they drive corresponding changes in plant community compositions. While angiosperms dominate most of the world's major biogeographic zones, regions such as boreal forests and high-altitude mountain forests in the northern hemisphere are dominated by conifers, the cone bearing gymnosperms forming the planet's largest terrestrial biome. Conifers are slow-growing, mostly evergreen, cold and drought-hardy tree species that can survive the harsh climatic conditions of colder regions. On an evolutionary scale, [conifers first appeared during late Carboniferous approximately 300 million years ago](#) (mya) and by the late Triassic, approximately 200 mya primitive conifers had already diversified co-occurring alongside Cycads, Cyatheas and Ginkgos, together forming the dominant plant community of the Jurassic. The major diversification event occurred between 160-138 million years ago, catalysed by the breakup of Pangea into two supercontinents. Primitive conifers of Laurasia, which comprised North America, Europe and major parts of Asia, diversified into *Pinaceae* and *Taxaceae*. Whereas Gondwana, which comprised South America, Africa, India, Antarctica, and Australia, the lineages diverged into *Podocarpaceae*, *Araucariaceae* and *Cephalotaxaceae*.

Conifers remained the dominant vegetation on Earth for roughly 80 million years. However, this dominance changed during the Cretaceous Period (~125– 130 mya) when angiosperms began to emerge. This rise of angiosperms was accompanied by the parallel diversification of [insect pollinators which co-evolved closely with angiosperms](#), giving them a significant reproductive advantage over



conifers, which are totally dependent upon wind pollination. Despite the competitive pressure from emerging angiosperms, conifers had already developed complex mycorrhizal associations with *basidiomycete* fungi, a symbiotic association which provided an edge to conifers to outcompete angiosperms for natural resources. The hyphae of fungi bind to the roots of conifers enabling them to access the fine hyphal network, which can absorb

up to [10,000 times](#) more nutrients giving conifers an edge to grow into vast gregarious forests. This symbiosis offers conifers a head start during the pioneer phase of succession enabling them to outcompete angiosperms in similar habitats. Another key strategy developed by conifers is to evade competition by colonising biogeographic regions with high latitudes and elevations where the growing season is short. Such regions also have nutrient-

deficient soils of rocky and sandy substrates where only a few angiosperms could survive, therefore giving an edge to conifers to establish themselves. Today, conifers form the largest terrestrial biome on Earth, comprising boreal and high-altitude mountain forests covering 24-29% of the world's total forest area roughly occupying 11% of global land area. At present, seven extant families with approximately 630 accepted species of conifers are known worldwide with eastern Asia recognised as a primary biodiversity hotspot harboring around 244 species. While tropical regions generally harbor higher plant diversity patterns, *Pinaceae* a family of temperate origin is the most species-rich conifer family with around 231 accepted species. Though typically associated with forests, conifers also colonise scrublands, savannahs, steppes, alpine zones and even deserts as exemplified by *Cupressus dupreziana* the only conifer species known to occur in the Sahara Desert. Conifers also hold remarkable records for size, volume and longevity which remain unmatched to angiosperms. *Sequoiadendron giganteum* is the largest tree by volume, attaining a girth of 11-12 m at breast height, while another redwood species, *Sequoia sempervirens*, is the tallest tree on Earth, attaining a height of 115–116 m. *Pinus longaeva*, a slow growing bristlecone pine, is known to live for over 5000 years.

Although the Gondwana lineage of conifers once spanned several continents, including the Indian subcontinent, presently India only retains a single native representative of its lineage in the Western Ghats called *Nageia wallichiana*. After the formation of the Himalaya approximately 40-50 mya during the Cenozoic era, Laurasian conifers from central and western Asia gradually colonised the newly formed Himalayan range which offered climatic conditions and edaphic factors similar to those found across other montane regions of the northern hemisphere where conifers have already expanded. Across the Himalayan range, conifer distribution is strongly governed by elevation and associated climatic gradient which differs significantly from east to west. The western Himalayan region is comparatively drier, while the eastern Himalayan region receives higher



precipitation annually. As a result, the Indian Himalayan Region (IHR) is home to around 34 native species of conifers. The Himalayan conifers span across three families. *Pinaceae*, which is represented by Cedars (*Cedrus*), Firs (*Abies*), Hemlocks (*Tsuga*), Larches (*Larix*), Pines (*Pinus*) and Spruces (*Picea*), while *Cupressaceae* includes Cypresses (*Cupressus*) and Junipers (*Juniperus*). Yews (*Taxus*) are the only representatives of *Taxaceae*. Among these, Pines, Cedars, Firs, and Cypresses form gregarious forest stands whereas other species, Yews, Hemlocks, Larches and Spruces occur as major co-occurring species.

Conifers have survived millions of years across the rapidly changing environment and yet remain the most significant lineages in the history of terrestrial vegetation which have survived over millions of years. Despite their resilience, conifers face high anthropogenic pressures. Globally 34% of conifers are threatened under the IUCN assessment. Within IHR the situation is concerning as four species are listed as endangered, three as vulnerable and one as near threatened. As a slow-growing tree species that

accumulates vast biomass over centuries, conifers are disproportionately important for carbon sequestration, soil stabilization, and regulation of precipitation cycles in a mountain ecosystem, which directly sustains the agricultural productivity, food and water security of densely populated areas of northern India. A fine-scale understanding of how these species have responded to past environmental changes, combined with present and future ready conservation and management interventions shall be required to safeguard the ecological and economical integrity of Himalayan forests which provides ecosystem services on which national food security solely depends.



Author:



Shikhar Kaushik is a Project Associate I in the Sloth Bear Project. With an academic background in Forestry and Wildlife Science his core interest revolves around High-altitude ecology, tree biology and plant-animal interactions.

kaushikforwild@gmail.com

DID YOU KNOW?

Conifers are not merely the early colonisers they are witnesses to Himalayan evolution.



Beyond the Flame: *The Many Lives of Palash*

- Kristi Bikasita Das & Amlan Das

The first time it really makes you stop is usually by accident. You are walking in the campus of Wildlife Institute of India, through the canteen path that has spent all of January and February looking tired, grey trunks, brown leaf litter, the kind of dry-season landscape that asks nothing of your attention. And then, while the rest of the woods don't bother much, one without any warning, is simply on fire.

Not literally, of course. But there is no other way to describe what a flowering Palash (*Butea monosperma*) does to a dry deciduous forest in late winter. The leaves are gone. Every twig is bare. And from those bare twigs erupt clusters of orange-red coloured flowers so densely that the tree looks lit from within, as if someone has draped a furnace over a skeleton. People who have grown up around it stop noticing, the way you stop noticing a familiar relative's face. People who haven't tend to pull over.

That instinct to stop and look is, it turns out, the right one. A flowering Palash is not just a pretty interruption in a brown season. It is a small, intensely active piece of machinery that has been running quietly across the Indian subcontinent. Pull on any one thread of it, and you find yourself unravelling something much larger than a tree.

Waiting for Fire

Palash has a strange yet beautiful rhythm of the dry deciduous forest. Its trifoliate leaves begin to fall by December, and by January many trees stand completely bare, and it is precisely into this barrenness that the flowers arrive, typically from the last days of February through March, occasionally lingering into April. Stripped of leaves, every flower is fully exposed, fully visible, unmissed by anything passing overhead or perched nearby.

Walk through the degraded, stony hillsides of Jharkhand or the laterite-crust edges of Vidarbha, the places that other trees seem to have given up on, and you will often find Palash already flowering, apparently indifferent to conditions that would make a more demanding species sulk. Palash, in ecological terms, is a pioneer species that happens to flower spectacularly.



The flower buds appear first as small, almost funereal black-velvet knobs along the bare branches. Then, in the first or second week of March, they begin to open, each one a study in contradiction. The petals blaze in a colour so consistently described by botanists as “Indian-orange” that the Royal Horticultural Society formalised exactly that name for it in 1946. A single flowering cycle on one tree can produce well over a hundred blooms per cluster, opening in sequence so that the display seems to crawl outward over the weeks like a slow-burning fuse. A tree in full bloom can hold its colour for six to eight weeks.

The Nectar Season

In a landscape where almost nothing else is offering food in late winter, a resource like this gets noticed fast. Bees arrive first but are mostly locked out, the keel too thick and stiff to force open, so honeybees scavenge from holes birds have already torn. Parakeets mostly nip the tender buds apart. Bulbuls and white-eyes pierce straight through the calyx to reach nectar without touching the parts of the flower that matter for pollination.

Buried in that crowd of freeloaders are the two visitors that actually keep the system running: the purple sunbird and the three-striped squirrel. Both ease in through the narrow legitimate opening between keel and standard petal. The pressure of entry triggers the mechanism: stamens and pistil spring forward and brush the visitor’s crown, dusting it with pollen it carries unknowingly to the next flower.

Palash is, for this reason, counted among the ornithophilous species, a club with fewer than a hundred members in India, sorting its visitors into the merely curious and the genuinely useful, and quietly favouring the latter.

The Tree Feeds More Than Birds

In villages across the dry forest belts of central and eastern India, almost no part of the tree goes unused. The flowers are turned into a cooling sherbet, syrups, and Palash sabji. The broad trifoliate leaves are stitched into disposable plates

and bowls locally called *pattal* and *dauna*, or woven into rain capes for fieldwork, and green leaves are stripped for fodder. The bark produces a dark red-brown gum sold as Bengal kino, called *kamarkas* in Hindi-speaking households, which is dissolved in ghee and consumed by women recovering from childbirth, with the curved Palash leaf traditionally used as the ladle. In some tribal communities, young men have traditionally been expected to demonstrate leaf-stitching skill as part of the courtship process, the quality of the work being one criterion by which a prospective son-in-law was assessed.

The most economically significant use, however, is as a host tree for *Kerria lacca*, the lac insect, whose resinous secretion is harvested and sold as shellac was historically used in furniture polish, bangle manufacture, gramophone records, and printing. Palash is one of three or four major lac host trees in India. Studies estimate that roughly 95% of suitable Palash trees go unused for lac cultivation, the gap attributed to limited capital and weak market linkages rather than any shortage of trees or knowledge, and that scaling utilisation to even a quarter of estimated potential could multiply national lac output several times over. The orange-red petals themselves, soaked overnight and boiled the next morning, also yield one of the few reliable sources of strong, skin-safe dye traditionally used for Holi. A coincidence of timing, since Holi is fixed by the lunar calendar and Palash flowering by temperature and day length, with no reason for the two to align, and yet year after year they do.

Stories Beyond the Flowers

Palash appears in the *Sukla Yajurveda*, which specifies its stems for the sacred fire in rituals conducted at full moon and new moon, the wood prized for its ability to hold flame steadily and long. A persistent strand of folklore casts the tree as a manifestation of Agni, the god of fire. In Saraswati Puja celebrations across Bengal, the unopened buds are offered specifically, not the open flowers. In Telangana, the tree is associated with Shiva; in Keralam, the wood is used in the agnihotra fire ceremony, called *chamata*; Tamil Brahmin communities perform Samidha Dhanan, a ritual

gifting of Palash wood as fuel for a sacred hearth. In the Gita Govinda, Jayadeva wrote of kimsuka as the flower that announces the season of longing.

And then there is the strand of connection none of these others can quite match in sheer historical weight. The battle fought on 23 June 1757, in which Robert Clive’s forces decisively defeated the Nawab of Bengal, beginning what would become the British Raj, was fought in a grove of Palash trees. The place was called Palashi. We know it as the Battle of Plassey. The name survived in the form of an English corruption, and the battle survived as the hinge on which modern Indian history turns an irony that Jagat Seth, the powerful Marwari banker who bankrolled the betrayal of the Nawab that day, probably did not pause to appreciate.

Tagore planted Palash trees along the paths of Santiniketan and wrote of the flower less as scenery than as a calendar, a seasonal marker. He was doing what every culture in the subcontinent had done before him: intensely seasonal, highly visible natural events have always functioned as a memory device for societies without written calendars. The stories aren’t separate from the ecology. They’re how earlier generations recorded it, long before anyone thought to track flowering dates in a spreadsheet.

What Ancients Knew, What Science Learns

Classical Ayurvedic texts treat Palash as a genuinely multipurpose plant: bark for digestive trouble and dysentery, flowers credited with a cooling effect and a role in calming inflammation, seeds singled out repeatedly for treating intestinal worms. Knowledge built from generations of careful, repeated observation, the same epistemic process a modern pharmacology lab runs, just without the instrumentation.

Laboratory chemists have since gone looking inside Palash for the substances behind these old, specific claims, and found something. The flowers are rich in butrin, isobutrin, and butein, linked to liver-protective and anti-inflammatory effects. Seed compounds show measurable activity against intestinal worms in controlled studies. The same

tradition that prescribed these remedies specified limits for them: the seed oil and a glucoside in the flowers, taken in excess, are recorded as causing dizziness, headache, and a drop in blood pressure, evidence that whoever was writing had watched closely enough to know where the useful ended and the harmful began. Six separate classical systems of Indian medicine carry overlapping, sometimes contradictory, often surprisingly precise records. It is a sign of how many different people, in how many different places, paid close enough attention to notice different things.

The Last Bloom

The clearing began early. In the first decades of the 19th century, the East India Company set about systematically felling the Doaba Palash forests, dense stands across what is now Uttar Pradesh and Haryana, partly for timber, partly to open land for revenue agriculture, in the same decades as Plassey’s consequences were still being absorbed. There are places where those forests stood that have not recovered in two hundred years.

Habitat modelling built from climate projections points toward a slow contraction, with the steepest losses expected in the north and west and a gradual consolidation toward the eastern stronghold around the Chotanagpur plateau, more a slow withdrawal than a collapse, easy to overlook year to year, tree to tree. A parallel, quieter erosion runs alongside it: the knowledge that once travelled automatically with a tree like this when it blooms, what its bark is good for, how to inoculate its branches for lac depended on close, generational contact between people and the landscape they lived inside, and that contact is thinning. What’s at risk isn’t the species so much as the relationship: the festival timed to its bloom, the recipe for its dye, the understanding that a particular orange flash in February means something specific about the season ahead. Lose enough of that, and you’re left with a tree that’s still there, still flowering, but no longer legible, a flame nobody quite remembers how to read. That’s not a reason for alarm. It’s a reason for attention. The same attention a stranger gives a flowering tree on the side of the road, before driving on.

A Meeting Point

Look at Palash long enough, and it stops being one thing. It is the spot where a sunbird's foraging habit happens to align, almost too neatly, with a flower's reproductive needs. It is the spot where an insect's appetite for soft bark becomes, several steps downstream, a family's income. It is the spot where a festival's calendar and a tree's flowering season turn out to be reading from the same seasonal script. It is the spot where a healer's centuries-old observation and a chemist's modern assay occasionally arrive, by entirely different roads, at the same compound.

None of that was designed. It accumulated flower by flower, season by season, story by story, the way most genuinely interesting things in nature accumulate, without anyone planning the whole of it. The next time a bare, orange-lit tree pulls your eye off the road in February, it might be worth the few extra seconds it takes to actually stop not for the tree's sake, but because so much of what makes a landscape worth living in is exactly this kind of thing: ordinary, overlooked, and quietly carrying far more inside it than its colour alone could ever explain.

References:

- Ahmed, F., Siddaraju, N. S., Harish, M., & Urooj, A. (2012). Effect of *Butea monosperma* Lam. leaves and bark extracts on blood glucose in streptozotocin-induced severely diabetic rats. *Pharmacognosy Research*, 4(1), 33–36. <https://doi.org/10.4103/0974-8490.91032>
- Athachi. (n.d.). *Plaash*. Retrieved June 20, 2026, from <https://athachi.com/nakshatra-vanam/plaash/>
- Chand, S., & Ansary, I. (2025). Palash flower: Cultural significance, historical context and uses in Purulia, West Bengal. *Research Journal of Humanities and Social Sciences*, 16(2), 136–140. <https://doi.org/10.52711/2321-5828.2025.00024>
- Fernandes, R. (2026, February 19). *Palash: An account of the flame of the forest*. Roundglass Sustain. <https://roundglassustain.com/wild-vault/palash>
- Gupta, H. (2025, July 16). *Palash flower – Uses, benefits, Ayurvedic importance & side effects*. Zeelab Pharmacy. <https://zeelabpharmacy.com/blog/palash-flower-uses-benefits-and-side-effects>

Hiremath, K. Y., Veeranagoudar, D. K., & Bojja, K. S. (2024). *Butea monosperma* as a collective phytomedicine and environmentally sustainable, conservative, and beneficial plant. *Archives of Razi Institute*, 79(3), 465–474. <https://doi.org/10.32592/ARI.2024.79.3.465>

More, B. H., Sakharwade, S. N., Tembhurne, S. V., & Sakarkar, D. M. (2012). Ethnobotany and ethanopharmacology of *Butea monosperma* (Lam) Kuntze – A compressive review. *American Journal of PharmTech Research*, 2(5), 138–159.

Rane, V. I., & Suryawanshi, B. G. (2022). Seasonal and climatic variations in phenology of *Butea monosperma* (Lam.) Taub. in East Vidarbha, India. *Journal of Emerging Technologies and Innovative Research*, 9(4), e359–e363.

Rizvi, S. A. A., Einstein, G. P., Tulp, O. L., Sainvil, F., & Branly, R. (2022). Introduction to traditional medicine and their role in prevention and treatment of emerging and re-emerging diseases. *Biomolecules*, 12(10), 1442. <https://doi.org/10.3390/biom12101442>

Sharma, S., & Harisha, C. R. (2023). Systemic review on Palash – *Butea monosperma* Lam. Kuntze. *International Journal of Pharmaceutical Research and Applications*, 8(4), 1813–1826. <https://doi.org/10.35629/7781-080418131826>

Tandon, R., Shivanna, K. R., & Mohan Ram, H. Y. (2003). Reproductive biology of *Butea monosperma* (Fabaceae). *Annals of Botany*, 92(5), 715–723. <https://doi.org/10.1093/aob/mcg193>

Tiwari, P., Jena, S., & Sahu, P. K. (2019). *Butea monosperma*: Phytochemistry and pharmacology. *Acta Scientific Pharmaceutical Sciences*, 3(4), 19–26.

Tiwari, S., Ghosh, B. G., Vaidya, S. N., Rahaman, S. M., Khatun, M., Garai, S., Saikia, P., & Kumar, A. (2021). Modelling potentially suitable lac cultivation zones of *Butea monosperma* to promote livelihood security in rural India. *Vegetos*, 34, 630–637. <https://doi.org/10.1007/s42535-021-00222-0>

Vashishtha, A., Jehan, T., & Lakhanpaul, S. (2013). Genetic diversity and population structure of *Butea monosperma* (Lam.) Taub. – A potential medicinal legume tree. *Physiology and Molecular Biology of Plants*, 19(3), 389–397. <https://doi.org/10.1007/s12298-013-0170-x>



Authors:



Kristi Bikasita Das is a Project Assistant in the NMCG Biodiversity Conservation and Ganga Rejuvenation Project. With an academic background in Botany and specialisation in Ecology. Fields of interest are Climate Change, Conservation and Forest ecology, Wildlife Ecology, Wildlife Conservation and Environmental biology.

dkristibikasita@gmail.com



Amlan Das is a Project Assistant in the NMCG Biodiversity Conservation and Ganga Rejuvenation Project. With an academic background in Zoology and specialisation in Entomology. Fields of interests are Wildlife Photography, Wildlife Ecology, Wildlife Conservation, Fisheries, Bird Watching, Filmmaking and Philosophy.

dasamlan908@gmail.com

Shadows of the Lobo: A Journey through Sevilleta and the Chihuahuan Desert, New Mexico

- Salvador Lyngdoh

Spanning 230,000 acres where four biomes meet, New Mexico's Sevilleta National Wildlife Refuge serves as a vital sanctuary for ecosystems left to evolve via natural processes. A cornerstone of its conservation mission is the *Mexican Wolf Recovery Program*; the refuge houses a highly restricted, captive-breeding facility designed to foster wild behaviours and genetic diversity in the critically endangered lobo i.e. gray wolf (*Canis lupus baileyi*) prior to reintroduction.

The refuge and its surrounding Chihuahuan desert and steppe landscapes support a distinct assemblage of wildlife. Pronghorn (*Antilocapra americana*) the fastest land mammal of North America's open grasslands. Introduced in the nearby deserts in 1960s, the gemsbok or South African oryx (*Oryx gazella*), a large, spear-horned African antelope. While cryptic and heat tolerant reptiles such as the rattlesnakes and horned lizards thrive in the refuge's arid terrain.

Flanking the broader regional ecology to the west and southwest are the rugged Apache and Gila Mountains. This vast, high-elevation wilderness of pine-oak woodlands and deep canyons provides critical, contiguous habitat essential for the long-term dispersal and recovery of the Mexican wolf. The photo album describes the landscape of the prominent desert system at the Sevilleta National Wildlife Refuge - the Chihuahuan Desert, which reaches its absolute northernmost boundary right here in Central New Mexico.

Because Sevilleta sits at a massive ecological crossroads, this desert system tightly interlocks with the Colorado Plateau Shrub-Steppe, the Great Plains shortgrass prairie, and pinyon-juniper woodlands. The present album is a snapshot of fieldwork being undertaken as part of the WII-Fulbright-Kalam-USGS-USFWS and University of Idaho collaboration on 'Energetics under climate change and future of Endangered Mexican wolves'.

A key novel aspect in the ongoing research is the investigation of pelt colour energetics, i.e., examining coat color effects on heat regulation, energy requirements, and survival strategies and movement costs under varying climatic scenarios. Unlike some North American wolf populations, black coats are evolutionarily absent in the founder Mexican wolves. This provides a unique opportunity to study selection pressures in populations that rely on lighter pelage.





DID YOU KNOW?

- Mexican wolves are endangered species in the USA which are only 380 approximately in the wild.
- The pronghorn, “ghost of predators past” evolved for speed was once predated by American Cheetahs. Clocked at top sprint speeds of up to 96 mph and capable of maintaining a blistering pace of 50 to 80 kmph for miles, the pronghorn can easily outrun any living North American predator.
- Horned lizards (*genus Phrynosoma*) of Iguanid family—frequently called “horned toads” or “horny toads” due to their flattened, rounded bodies and blunt snouts—uniquely adapted and specialized reptiles of the North American deserts.
- Oryx were introduced in the landscape for hunting purposes as many of the areas in the USA are open to regulated hunting tags with strict codes of conduct.



Elk in the Gila and Apache Plains

Author:



Salvador Lyngdoh, Carnivore biologist - faculty - Scientist E and Fulbright Kalam Academic Professional Fellow based at University of Idaho, USA and USFWS, Albuquerque

salvadorl@uidaho.edu
salvador@wii.gov.in

Girl moms of Oahu

- Sumedha Touhid



In the spirit of Pride Month, it seems like the perfect time to talk about one of nature's most wholesome queer love stories: the Laysan albatross (*Phoebastria immutabilis*) locally known as mōli in Oahu island in Hawaii. A team of [researchers](#) found that 31% of the breeding pairs in this colony are two unrelated females raising a chick together. It turns out that the sex ratio of the colony is skewed heavily towards females, largely because more females immigrate into the colony than males, resulting in many females not finding a male mate. Their solution? The females pair up with each other, forming the same kind of decades-long bonds, including mutual preening, nuzzling, and fierce nest-defending, as opposite-sex pairs do. One female lays the egg (usually fertilized by a male next door, who's quietly stepping out) and both moms share the incubation and chick-rearing duties like any other pair. Sure, female-female couples end up fledging fewer chicks on average than male-female couples, but that's still better than not breeding at all — which is exactly why scientists call it a smart, adaptive workaround rather than some weird fluke. So, when the next Pride Month rolls around, you'll have a fun fact up your sleeve: some of nature's most committed "girl moms" have been quietly thriving on a Hawaiian cliffside for decades.

Author:



Sumedha is a student of XX M.Sc. Wildlife science.

sumedha@wii.gov.in

Kiss with a Hiss

- Kartik Bhardwaj

A tiny ant pauses at the snout of a young Buff-striped Keelback (*Amphiesma stolatum*), creating an unusual moment between two creatures that would otherwise go unnoticed. Ants explore their surroundings through scent, constantly investigating whatever lies in their path. On this occasion, its curiosity seems to have led it directly to the snake. The snake stayed still as the ant dared to get close to the snake's face letting this unusual moment play out on its own.

Author:



Kartik Bhardwaj is an intern at the Wildlife Institute of India and holds an M.Sc. degree in Remote Sensing and GIS. His research interests include remote sensing applications in glacier studies, environmental monitoring, vegetation dynamics and geospatial analysis. He is passionate about birdwatching, wildlife photography and trekking.

bhardwajkartik2000@gmail.com



अमलतास

- पराग

भरी दुपहरी में
झीना उजास
अमलतास...

गर्म लू में
सुख का श्वास
अमलतास...

टूटते हुए मन को
एक विश्वास
अमलतास...

निराशा में भी
दिखाए जो आस
अमलतास...

देखो... सीखो... खेलो...
जैसे खिलता है
अमलतास...

उल्लास... बिंदास... झकास...
बनो तो सही
अमलतास...

Author:



Parag Rajput is a Bibliophile as well as Biophile, currently working in Library & Documentation Centre, Wildlife Institute of India.

pragrajput@gmail.com



एक अनकही हककीत

- Deepali Bansal

तितली को देखा तो लगा कि हुस्न की नुमाइश है,
पर ठहर कर सोचा तो जाना-
वो रंग-बिरंगे पंख दरअसल एक ढाल हैं,
जो कड़ाके की धूप और बेरहम हवाओं से उसकी आखिरी चंद सांसों को बचाए रखते हैं।
जिसे हम उसकी आजादी समझ कर निहारते हैं,
वो महज कुछ दिनों की मोहलत है, जो उसे अंधेरे कफन में महीनों घुटने के बाद मिली है।

भँवरे का गुनगुनाना कान को बड़ा सुकून देता है,
पर ठहर कर सोचा तो जाना-
वो संगीत नहीं, उसकी थकावट की चीख है।
लोग उसे बाग का आजाद शहंशाह समझते हैं, पर वो अपनी ही प्यास का बंधक है।
एक फूल से दूसरे फूल पर मँडराना उसकी अय्याशी नहीं, उसकी लाचारी है,
क्योंकि उसके पंखों के रुकने का सीधा मतलब मौत है।

चींटी की कतार को देख कर लोग अनुशासन की कसमें खाते हैं,
पर ठहर कर सोचा तो जाना-
वो एकता नहीं, एक बेनाम भीड़ की लाचारी है।
वहाँ कोई किसी के लिए नहीं रुकता, कोई किसी के गिरने पर आँसू नहीं बहाता।
जिसे जमाना 'अथक मेहनत' कह कर किताबों में छापता है,
वो असल में अपनी नस्ल को जिंदा रखने के लिए भूख और मौत के खौफ से पैदा हुई अंतहीन गुलामी है।

अंधेरे कमरे में जलते दीये को देख कर दिल को तसल्ली मिलती है,
पर ठहर कर सोचा तो जाना-
वो रोशनी कोई मुफ्त का करम नहीं है।
आग का वजूद ही ये है कि वो जिससे वफा करेगी, उसे फना कर देगी।
वो दूसरों को महफूज रखने के लिए रात भर एक काली बत्ती को सीने से लगाए रखती है,
और जिस उजाले पर पूरी दुनिया महफिल सजाती है, वो असल में उसका खुद का मातम होता है।

रातों को महकते 'रात की रानी' के फूलों को देख कर लोग मदहोश होते हैं,
पर ठहर कर सोचा तो जाना-
वो खुशबू कोई नजाकत या फितरत का शौक नहीं है।
वह तो उस पौधे की अंधेरे से लड़ने की एक बेबस और आखिरी तड़प है।
दिन के उजाले ने जिसे दुत्कार कर छुपा दिया, वो रात के सन्नाटे में अपनी साँसों को निचोड़ कर हवाओं में
बिखेर देता है, ताकि कोई एक लम्हे के लिए उसे देख सके।

जिसे दुनिया 'मखमली रातों का सुकून' समझ कर कमरों में सजाती है,
वह असल में एक तन्हा वजूद का घने अंधेरे के बीच दम तोड़ने का खामाश मातम है।

आसमान में तैरते सफेद बादलों को देख कर लोग आजादी के ख्वाब बुनते हैं,
पर ठहर कर सोचा तो जाना-
वो आजाद उड़ान नहीं, हवा के थपेड़ों के आगे घुटने टेकने की मजबूरी है।
उनका अपना कोई रास्ता नहीं, कोई मंजिल नहीं जहाँ की बेरहम हवा हुई, उधर ही उन्हें घिसटना पड़ता है।
जिसे लोग 'आसमान का सुकून' समझ कर टकटकी लगाए देखते हैं,
वो असल में पानी की बूँद-बूँद का एक भारी बोझ है, जिसे वो तब तक ढोने को मजबूर हैं जब तक कि टूट कर
उनका खुद का वजूद जमीन पर बिखर न जाए।

Author:



Deepali Bansal is a Senior Project Associate with the National Adaptation Plan (NAP) project, focusing on climate change, adaptation strategies, and soil-plant interactions. A keen observer at heart, she prefers spending time in nature, quietly observing the world at work rather than navigating crowded human spaces. Writing is her way of peeling back the surface of existence, seeking to connect with the raw, unspoken truths of life and the natural world.

d.deepali2929@gmail.com

World Crocodile Day: Learning through Fun Activities with Bal Ganga Prahari

- Ashmika Aggarwal & S. K. Pal

The WII-NMCG Team (Component 2) brought the wild into the city to celebrate World Crocodile Day on 17 June 2026 by organizing an engaging awareness programme for Bal Ganga Prahari students at the Ganga building.

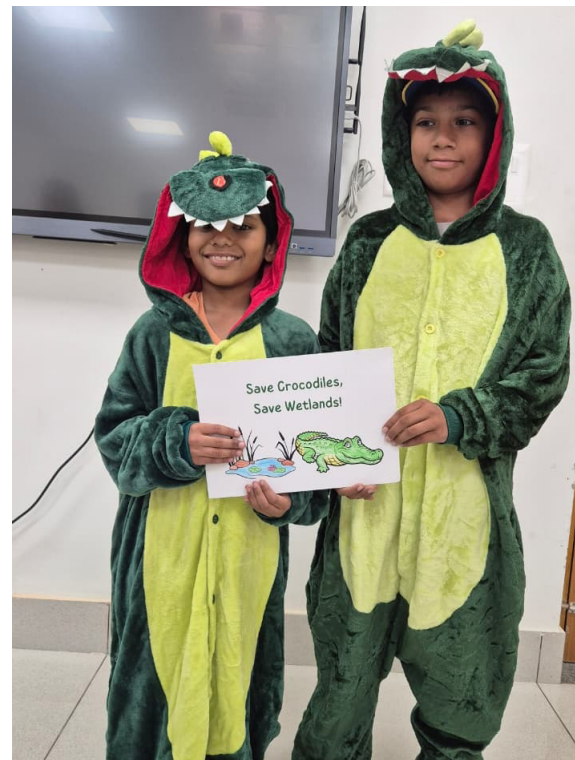
Instead of a usual dry classroom lecture, the team decided to make the programme engaging and memorable for students.

The objective of the programme was to inculcate an appreciation for the ancient, often misunderstood reptiles and to raise awareness about the importance of conserving the fragile freshwater ecosystems they inhabit.

The programme began with a screening of engaging and educational videos showcasing freshwater crocodiles in their natural habitats. The visual presentations introduced students to the behaviour and ecology of these remarkable reptiles and captured their interest from the outset.

Following the film screening, Project- Scientist and Team Coordinator Dr. Sangeeta Angom took the floor. Through engaging stories and discussions, Dr. Angom introduced students to the fascinating lives of different crocodile species. She simplified complex ecological ideas into bite-sized awe-inspiring facts, helping kids understand the importance of these “river monsters” as vital guardians of our water’s ecological balance.

The programme also included a range of interactive activities, transforming the day into an engaging learning experience. Students enthusiastically participated in Wildlife Scrabble and a wildlife conservation quiz, testing their knowledge while learning more about aquatic biodiversity.



The absolute highlight of the day belonged to the junior students. Dressed up in crocodile costumes these little conservationists-in-training poured their hearts into a vibrant crocodile painting competition, demonstrating that conservation awareness can begin at an early age.

The celebration was a mix of fun, collaboration and enthusiasm, proving that conservation can be fun as well as informative. The event was full of fun and learning and inspired all children to become a proud River Guardian ready to protect crocodiles and conserve our precious rivers for generations to come.



Authors:



Ashmika is currently working as a Project Associate- II under the National Mission for Clean Ganga (NMCG) project at the Wildlife Institute of India, focusing on capacity building and environmental awareness. She has completed her master's from the Forest Research Institute (FRI) and has a deep passion for painting and photography.

ashmika.agg99@gmail.com



S. K. Pal is working as Project Associate- I under the WII-NMCG project and is actively engaged in the Capacity Building component. His work primarily focuses on organizing training workshops for the Forest Department and other key stakeholders, as well as conducting awareness programmes for Bal Ganga Prahari schools, colleges, and universities on aquatic biodiversity conservation.

World Otter Day 2026, Splashing into Conservation!

- Aarti Chauhan & Soufil Malek



On May 27, 2026, World Otter Day was celebrated under the banner of the WII-NMCG project as the Wildlife Institute of India (WII), Dehradun, came alive with curiosity, creativity, and a contagious passion for river conservation, all powered by the energy of 50 enthusiastic students and two dedicated teachers from Doon Vantage Public School. The interactive session of the celebration became the heart of the celebration, turning complex ecological concepts into species recognition and learning. Dr. Sangeeta Angom, Project Scientist and Training Coordinator, enlightened the students about the three otter species found in India, viz., i) *Smooth-coated Otter*, ii) *Small-clawed Otter*, and iii). *Eurasian Otter*, and highlighted their significance in maintaining the ecological balance of the aquatic ecosystems. Students also explored how these remarkable mammals serve as river guardians of healthy freshwater ecosystems. Otters are apex predators and an indicator species signaling the pulse of rivers, making their conservation vital to biodiversity at large.

Classroom learning leapt into the practical experience with the help of life-size otter models that allowed participants to get up close to each species, comparing their size, features, and habitats in a tangible, memorable way. Participants also made colourful drawings and slogan posters to spread awareness about otters and river conservation. Through their artwork and catchy slogans, such as “Save Otters, Save Rivers”, “Where Otters Thrive, Nature Survives”, and “Every River Needs an Otter, Every Otter Needs a Clean River”, the students shared the message of protecting rivers and wildlife with others. During the feedback session, students shared their inspiring remarks, expressing that the session enhanced their understanding about the otters, and the drawing and slogan-writing competitions provided them with a creative platform to express their contribution towards conservation.

The celebration concluded on a highly encouraging note with active participation from the students throughout the programme. The complete celebration integrated the scientific learning with the creative expression, effectively strengthening awareness about biodiversity conservation. It was a fun and creative way to show how much they had learned during the session.



Authors:



Aarti Chauhan, is Project Associate-I under the WII-NMCG (Wildlife Institute of India - National Mission for Clean Ganga) project. She has been actively involved in the project's biodiversity conservation, public outreach, and the Bal Ganga Prahari Programme.

aartichauhan14051998@gmail.com



Soufil Malek is Project Scientist-I under the WII-NMCG (Wildlife Institute of India - National Mission for Clean Ganga) project.

soufilmalek1373@gmail.com

Inauguration of National Centre for River Research: A New Era for Freshwater Biodiversity Conservation

- Anshul Bhawsar

The Wildlife Institute of India witnessed a landmark advancement in freshwater ecology and conservation with the **inauguration** of the National Centre for River Research (NCRR) by the Union Minister of Jal Shakti, Honourable Shri C. R. Patil, and Mr. Vinay Kumar Ruhela, Vice Chairman of the State Disaster Management Advisory Committee on 13 January 2026. This marked the transformation of the Ganga Aqualife Conservation Monitoring Centre into a premier, nation-wide centre for river research under the *Namami Gange* Programme, supported by the National Mission for Clean Ganga (NMCG) and the National River Conservation Directorate (NRCD).

The Centre is distinguished by its advanced ecotoxicology laboratories for evaluating pollutant impacts on freshwater species, spatial ecology units equipped with GIS and remote sensing technologies, and specialised aquatic ecology labs to study freshwater biodiversity patterns, ecosystem processes, and species interactions, as well as advanced analytical instruments for water quality assessment, contaminant analysis, and ecological health monitoring. The NCRR also functions as a centralized knowledge repository centre for freshwater ecosystems and biodiversity serving as a decision-support system for policymakers. The centre is a capacity building platform for conducting various training programmes and workshops on freshwater ecosystems.

The Centre offers the M.Sc. course in Freshwater Ecology and Conservation, which nurtures future experts. The Minister engaged enthusiastically with the first batch of M.Sc. students and appreciated the centre's modern teaching infrastructure, interdisciplinary curriculum, and emphasis on hands-on learning through field-based research and laboratory exposure. He also interacted closely with scientists and researchers working under these advanced facilities, acknowledging their contributions in research and conservation.



The Minister interacted with the Ganga Praharis, our guardians of Ganga river and acknowledged the centre's outreach and participatory research programmes.

Through empowering local communities, with more than 100 researchers, cutting-edge laboratories, dedicated training and outreach units, NRRC emerges as a first of its kind institution in India. On the day, significant publications under the WII-NMCG project were released by the minister. Key publications included release of "Population Status and Conservation Action Plan for Critically Endangered Gharial (*Gavialis gangeticus*) in the Ganga River Basin", the first such study in the region, book "Millets for Life," linking ecological sustainability with food and nutrition security, and a report on turtle conservation in the Ganga basin. The event concluded with key event of initiating a dolphin rescue van to enhance rapid response mechanisms for aquatic species and inaugurated the Indian Skimmer Conservation Project.



Author:



Anshul Bhawsar is working as a Project Associate- II under the WII-NMCG project, is actively involved in capacity building and conservation education, with a focus on organizing training programmes with the forest department and other stakeholder engagement, and conducting awareness activities in schools, colleges, and communities to promote the conservation of freshwater biodiversity and aquatic ecosystems.

anshul.bhawsar19@gmail.com

Celebrating International Day for Biological Diversity 2026

- Rohit Kumar & Simran Aggarwal

International Day for Biological Diversity is celebrated every year on 22nd May to spread awareness about the biodiversity importance and urgent need for its conservation. The day also marks the Foundation Day of the Wildlife Institute of India, highlighting its continuous efforts towards biodiversity conservation and environmental stewardship. The 2026 theme of the International Day for Biological Diversity, “Acting Locally for Global Impact,” highlights the importance of empowering young minds with knowledge and education, because educated local actions, when combined, can produce constructive results for biodiversity conservation on a larger scale. On this occasion, the WII-NMCG Training Team conducted an awareness programme for the students of St. Kabeer Academy, Dehradun in which 106 students and 6 teachers participated enthusiastically.

The programme commenced with an interactive lecture by Project Scientist and Team Coordinator Dr. Sangeeta Angom. The lecture familiarised participants on the vast diversity of flora and fauna of India and the world along with the need to protect the natural ecosystems. Students and teachers visited various laboratories at WII-NMCG and received exposure to scientific research methods involved in conservation science. The programme included educational games, quizzes and outdoor activities to make learning more active and encourage students to explore and appreciate the biodiversity around them. Participants were sensitized to the biodiversity through a walk at WII nature’s trail and made aware of its diverse flora and fauna, thus enhancing their understanding of local biodiversity and its ecological importance. The event was an inspiring platform to create environment awareness among young minds, to increase their understanding of the conservation of biodiversity, emphasizing the importance of collective action for the sustainable future of our natural heritage.



Authors:



Rohit Kumar is working as a Project Associate-I with the Wildlife Institute of India under the Training Component of the NMCG project since 2024. His work focuses on biodiversity conservation, capacity building, and conservation awareness across the Ganga River Basin.

Rohit@wii.gov.in



Simran Aggarwal is working as a Project Associate-II at the Wildlife Institute of India under the Training Component of the NMCG project, focusing on biodiversity conservation, conservation education, and stakeholder engagement.

Simranaggarwal67546@gmail.com

WII-C2C: Reflections and Progress

- Jonathan Edward de Rozario

It has been more than a decade since the establishment of the Wildlife Institute of India – Category 2 Centre (WII-C2C) for World Natural Heritage Management and Training for Asia and the Pacific, under the auspices of UNESCO. A report summarizing the Centre's work over the span of 2015-2026 was prepared to reflect on its past progress. The report revealed the variety and reach of the Centre's work in the past 11 years, which continued into this quarter with engagements such as helping American university students identify with natural heritage and emphasising the international significance of Ladakh's natural heritage to key local stakeholders.

11 Years of WII-C2C

From September 2015 to March 2026, the Centre, funded by a grant from the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), has delivered on its overall goal of strengthening the implementation of UNESCO's World Heritage Convention in the Asia-Pacific region with particular focus on natural heritage conservation. With more than 3,500 in-person trainees, collaborations with 87 other heritage institutions and trainees from 60 countries, the Centre has had global reach and impact across multiple domains. The report summarizing the same is structured into three key themes: Advisory Role; Research, Documentation & Outreach and Capacity Building, comprising more than 360 activities.



Advisory Role: On the global front, the Centre has made several notable interventions at the annual World Heritage Committee meetings; guided the creation of other international C2Cs on new themes in South Korea and Mexico; and advised on reforms to the nomination process. It continues to provide expert guidance to India's official delegation and to the government on all natural heritage related deliberations whether at UNESCO or at the national level.

Research, Documentation & Outreach: The Centre has worked on 8 Nomination Dossier preparations for landscapes such as Khangchendzonga National Park and Garo Hills Conservation Area. Through 17 Tentative List drafts and reviews, it has highlighted significant natural heritage of India, including the unrepresented category of geological heritage. 15 publications from the Centre span topics from management guidance for heritage practitioners to sharing the wonder of heritage to wider audiences. Research on natural heritage, underpinned by the expert guidance of 4 Visiting Fellows and facilitated by 32 interns, has also been boosted by the Centre's work. Extending the wide reach of its wildlife conservation and WII themed events further, WII-C2C has also actively participated in a wide range of national and regional platforms to advance natural heritage awareness.

Capacity Building: Frequent engagement with Forest Departments managing India's eight Natural and Mixed World Heritage Sites has ensured that conservation practice remains grounded in field realities, while international collaborations and specialized trainings on themes such as Disaster Risk Reduction, coastal and marine site management, and ecosystem services, have extended the Centre's reach. A two-year residential Master's Course in Heritage Conservation and Management (M.Sc. HCM) from July 2019 to June 2021 helped to advance heritage studies through integration of ecological sciences and nature-culture linkages. The Centre's programmes under the Indian Technical and Economic Cooperation (ITEC) Programme of the Ministry of External Affairs (MEA) alone have trained 93 participants from 39 countries and 6 continents since March 2024.

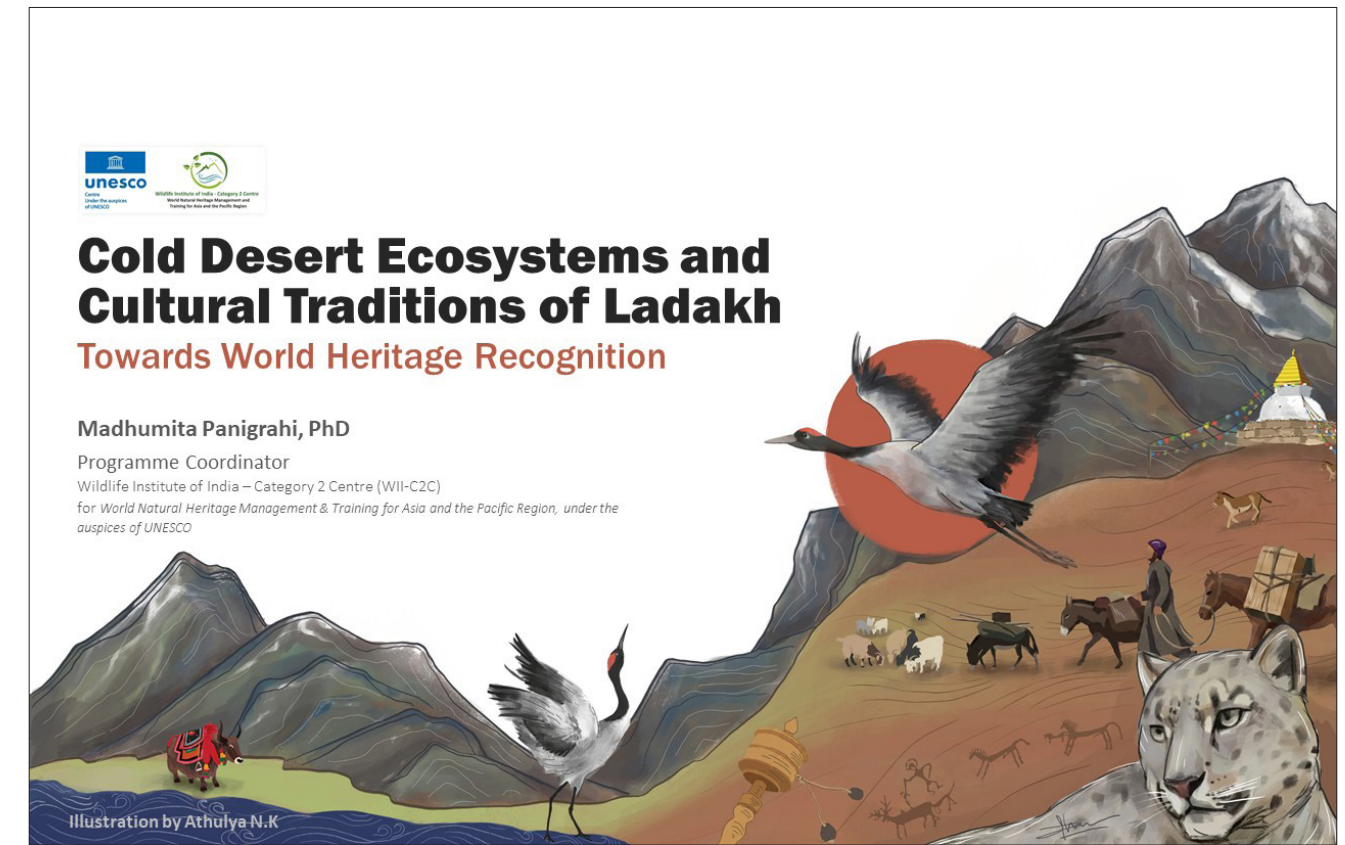


Linking Wilderness, Caregiving and Natural Heritage



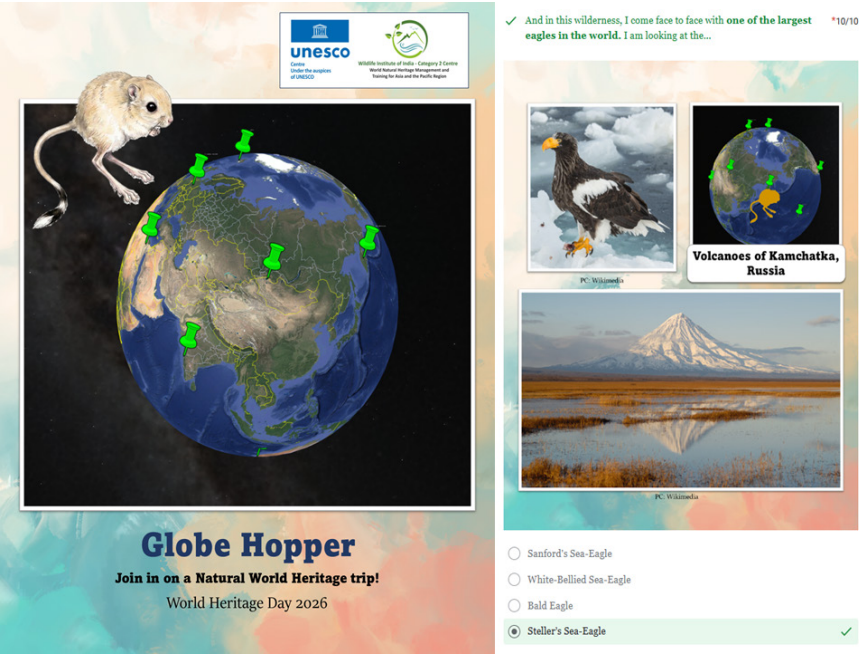
WII-C2C hosted a One-Day Capacity-Building Programme on Natural Heritage on 14th May 2026, for the Hanifl Centre of Woodstock School, Mussoorie run 'Himalayan Health and Wilderness First Responder (WFR) Course' participants. These pre-med students from the University of Pittsburgh in Pennsylvania, U.S.A, had the unique opportunity to understand how conservation had parallels with their care-giving roles, through an experiential itinerary at India's premier institute of wildlife sciences. The programme offered perspectives on natural heritage, its role in shaping communities, and its global significance. WII faculty led sessions on the Institute's flagship programmes, which conserve India's iconic species and landscapes through a combination of wildlife policy and community engagement. Classroom sessions were complemented by visits to the WII Forensic Lab, Pashmina Certification Centre, and Herbarium, offering participants a view of how cutting-edge science intersects with field knowledge. The programme helped trainees understand the influence of natural heritage on identity, emotional connection, and environmental stewardship; equipping them to act as ambassadors for conservation worldwide.

Heritage of the Cold Desert Landscape of India



WII-C2C was represented at the Summit on Sustainable Development of Ladakh, which was held in Leh on 5th June 2026, in conjunction with World Environment Day. The event was hosted by the Department of Forest, Ecology & Environment and co-hosted by the Planning Department, Administration of the Union Territory of Ladakh. The summit focused on building a climate-resilient, water-secure, zero-waste, and sustainable Ladakh by 2050. A C2C team member presented a session titled "The Cold Desert Ecosystems and Cultural Traditions of Ladakh: Towards World Heritage Recognition," featuring narratives of the Cold Desert Landscape spanning from Ladakh to Spiti, which is a proposed World Heritage Site on India's Tentative List. The session also discussed the pastoralist traditions and agricultural systems prevalent among the local communities of Ladakh.

World Heritage Day Quiz: Globe Hopper



To mark World Heritage Day on 18th April 2026, WII-C2C hosted “Globe Hopper”, an engaging online quiz dedicated to raising awareness and testing knowledge on global Natural Heritage Sites. The quiz allowed participants to virtually traverse the immense variations of terrain, flora and fauna that find protection under the truly globe spanning World Heritage Convention. This event saw the participation of about 100 individuals, across a mix of countries and continents including Egypt, Ghana, Nigeria, Uganda, Ethiopia, Tanzania, Lesotho, India, Sri Lanka, Malaysia, Cambodia, Indonesia, Republic of Korea, and Russia.

Through the hosting of international trainees on campus, via on-ground information dissemination at potential heritage sites and also using the Internet commons to raise awareness of natural heritage, the past quarter saw WII-C2C continue on its mandate to convey natural heritage’s importance. As the only natural heritage C2C in the world, the Centre has a great responsibility of linking conservation research with natural heritage management and promotion. Moving beyond its 11-year milestone, the Centre will continue to adapt to evolving challenges in World Heritage management, strengthening its advisory, research, and capacity building functions to meet the needs of diverse heritage stakeholders.

Author:



Jonathan Edward de Rozario works at WII-C2C in the role of Project Associate I (International Relations). As part of the International Relations team here at WII-C2C, he liaises with various stakeholders of the UNESCO World Heritage Convention and contribute to the capacity-building initiatives hosted by the centre.

anuranjan@wii.gov.in

LEARNING FROM DEAD:
Essentials for Mortality Investigation of Asian Elephant

- Dr. Tapendra Saini

Rapid ecological transformations along with the continuous range expansion of elephants in central India present a complex challenge for modern conservation in the region. To address this critical aspect, the Wildlife Institute of India (WII), Dehradun, in collaboration with the Chhattisgarh Forest Department, organised a specialised two-day training workshop titled “Learning from Dead: Essentials for Mortality Investigation of Asian Elephant” on the 5th and 6th of June 2026 in Raigarh, Chhattisgarh. This intensive capacity-building initiative was specifically designed for frontline veterinary officers, biologists, park managers, and senior forest officials. The workshop was attended by 84 participants comprising veterinary officers, park managers and forest frontline staff. Coordinated by the Department of Wildlife Health Management of WII, the programme aimed to equip field personnel with advanced practical skills for systematic necropsy, field biosafety, and scientifically rigorous forensic reporting. The inaugural session was graced by Chief Guest Shri Kedar Nath Kashyap, Hon’ble Minister, Forest and Climate Change, Chhattisgarh, who reaffirmed the State Government’s commitment to elephant conservation and pledged comprehensive support for the capacity building of veterinarians and frontline forest personnel. He noted that Chhattisgarh, as an emerging elephant range in central India, faces complex challenges from human-elephant conflict and unnatural mortalities. He stated that the workshop represents a critical step toward institutionalising scientific protocols for mortality investigations.

The curriculum of the workshop provided a comprehensive overview of elephant populations in Chhattisgarh and the specific drivers of human-elephant conflict in the state, where anthropogenic factors have become the leading

causes of mortalities. Participants engaged in diverse learning modules covering the biological and anatomical aspects of elephants, veterinary perspectives on wildlife mortalities, and the critical differentiation between natural and unnatural deaths. Experts led detailed sessions on specific causes of mortalities, exploring fatal infectious diseases such as Elephant Endotheliotropic Herpesvirus (EEHV), Anthrax, and Rabies, as well as disaster-induced mortalities caused by electrocution, train hits, and toxicological threats like mycotoxicosis. The programme highlighted that translating veterinary pathology into actionable field skills is crucial for identifying specific pathological markers and environmental biotoxins.

A significant portion of the workshop was dedicated to hands-on training and mock investigations. Under the guidance of experts from the Wildlife Institute of India (WII) and the Indian Veterinary Research Institute (IVRI), participants were introduced to specialised heavy-duty necropsy equipment and systematic protocols for establishing secure perimeters and eviscerating multi-tonne carcasses in remote field settings. A specialised mock drill was carried out on wildlife crime scene investigation wherein the participants practised securing sites, maintaining an unbroken chain of custody for biological evidence, and executing the strictly regulated legal procedures mandated for ivory and tusk extraction under the Wildlife (Protection) Act, 1972. Simultaneously, veterinary officers engaged in intensive necropsy practicals, correlating gross pathological lesions with clinical histories to establish presumptive causes of death.

Beyond theoretical etiology and forensic drills, the workshop provided essential training on field biosafety and biosecurity measures.

Participants were thoroughly trained in zoonotic risk mitigation, proper PPE donning and doffing procedures, and the safe sanitary disposal of elephant carcasses to minimise environmental pollution and disease spread. Specialised sessions also addressed comprehensive sampling protocols, demonstrating the proper formulation of tissue fixatives, the creation of blood smears, and the secure packaging and cold chain maintenance required to dispatch samples to reference laboratories without degradation or cross-contamination.

The workshop concluded with a strategic panel discussion chaired by senior officials and subject experts. The panel deliberated on critical aspects of elephant mortality management and strongly advocated a paradigm shift from reactive responses to proactive preparedness. Over the two-day programme, the key emphasis was on continuous learning, integration of advanced technologies, and rigorous interdepartmental collaboration as the foundation for effective wildlife management. By bridging gaps among clinical diagnostics, legal frameworks, and field applications, the programme significantly enhanced the Chhattisgarh Forest Department's capacity to respond to elephant mortalities in a structured, scientific, and evidence-based manner.



Author:



Dr. Tapendra Saini, Scientist C, Department of Wildlife Health Management, Wildlife Institute of India

ts@wii.gov.in

46th P.G. DIPLOMA COURSE IN ADVANCED WILDLIFE MANAGEMENT

(01.09.2025 TO 30.06.2026)

The 10-month P.G. Diploma Course Advanced Wildlife Management commenced from 01 September 2025 at WII with 20 officer trainees of the rank of Deputy Conservator of Forests/Assistant Conservator of Forests and equivalent levels. The trainees represented nine States: 6 from Madhya Pradesh, 4 from Odisha, 3 from Rajasthan, 2 each from Himachal Pradesh and West Bengal, and 1 each from Uttarakhand, Karnataka, and Tripura.

The course comprised classroom and field-based sessions across four major components: Conservation Biology; Tools and Techniques for Conserving Wildlife; Advanced Wildlife Management; and Integrated Wildlife Management Planning. It concluded successfully on 30 June 2026 with a Valedictory Programme, at which the following trainees were felicitated for their outstanding performance.



Dr. Rashmi Ranjan Swain
Institute's Gold Medal for Top Trainee



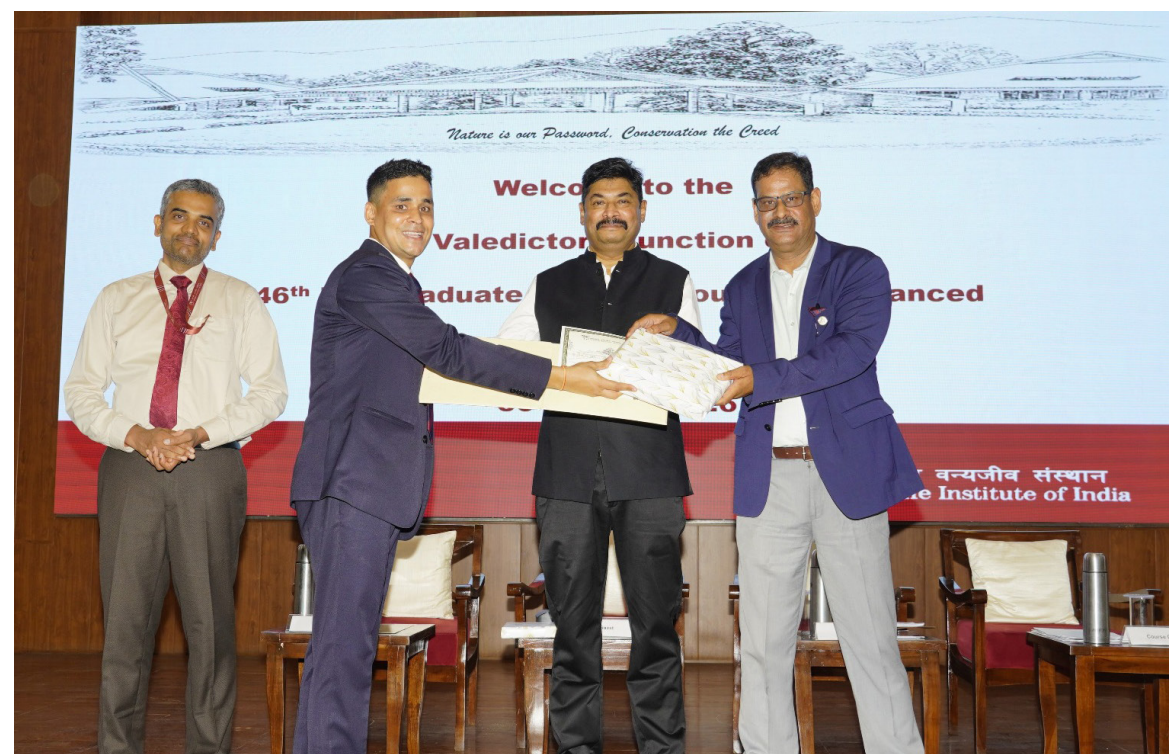
Shri Samyak Samantara
Wildlife Preservation Society Silver Medal for Second in Merit
N.R. Nair Memorial Silver Medal for Best Management Plan



Shri Shreyash Srivastava
Silver Medal for Best All-Round Wildlifer



Shri A. Prabhanjan Reddy
A.K. Chatterjee Silver Medal for Best Management Term Paper



Shri Shobhit Joshi
Book Prize for Top Trainee in Wildlife Biology

International Yoga Day Celebration (21 June 2026) – Wildlife Institute of India

International Yoga Day was celebrated with great enthusiasm on 21 June 2026 at Wildlife Institute of India, to promote the importance of yoga in maintaining physical health, mental well-being, and emotional balance. The event brought together students, staff members, Researchers and guests to participate in a series of yoga activities. Participants then performed various yoga asanas, pranayama, and meditation under the guidance of trained instructors. The session emphasized correct posture, breathing techniques, and the benefits of incorporating yoga into daily life. The celebration aimed to spread awareness about the positive impact of yoga on overall health. Participants

learned how regular yoga practice can improve flexibility, concentration, strength, and inner peace while helping to reduce stress and promote a healthy lifestyle.

The event concluded with a vote of thanks, encouraging everyone to continue practicing yoga regularly and inspire others to adopt healthy habits. The celebration was a meaningful and refreshing experience that reinforced the message of harmony, wellness, and holistic living. It successfully encouraged participants to embrace yoga as a way of life for a healthier and happier future.



Health Check-up at Wildlife Institute of India

A health check-up camp was organized by WII in association with Graphic Era Hospital at the WII Porta Cabin on Friday, 22 May 2026, from 11:00 AM onwards. The initiative aimed to promote employee health and well-being. The camp offered routine health assessments, including blood pressure, blood sugar, BMI measurements, and general health consultations conducted by qualified healthcare professionals.

The initiative witnessed enthusiastic participation from the Institute's staff and highlighted the importance of regular health screening and preventive healthcare. The programme was well received and reaffirmed WII's commitment to fostering a healthy and supportive work environment.



भारतीय वन्यजीव संस्थान में राजभाषा निरीक्षण

दिनांक 18 जून 2026 को पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की ओर से श्रीमती किरण माला, सहायक निदेशक (राजभाषा) तथा सुश्री दीपा श्री द्वारा भारतीय वन्यजीव संस्थान, देहरादून का राजभाषा निरीक्षण किया गया। संस्थान की ओर से श्री मोहित कुमार गुप्ता, सहायक निदेशक (राजभाषा) ने निरीक्षण दल का स्वागत किया। निरीक्षण का उद्देश्य राजभाषा अधिनियम, 1963, राजभाषा नियम, 1976 तथा भारत सरकार के राजभाषा संबंधी निर्देशों के अनुपालन की समीक्षा एवं कार्यालयीन कार्यों में हिंदी के प्रयोग का मूल्यांकन करना था।

निरीक्षण के दौरान दल ने संस्थान में राजभाषा के प्रभावी क्रियान्वयन हेतु किए जा रहे प्रयासों की सराहना की तथा वैज्ञानिक एवं तकनीकी साहित्य का हिंदी में अधिकाधिक अनुवाद एवं प्रकाशन, ई-ऑफिस में हिंदी के प्रयोग को बढ़ावा देने, मूल रूप से हिंदी में टिप्पण एवं प्रारूपण को प्रोत्साहित करने तथा कर्मचारियों के लिए नियमित हिंदी प्रशिक्षण आयोजित करने की आवश्यकता पर बल दिया।

संस्थान के अधिकारियों ने निरीक्षण दल द्वारा दिए गए सुझावों एवं अनुशंसाओं पर समयबद्ध कार्यवाही का आश्वासन दिया। कार्यक्रम के अंत में निरीक्षण दल का आभार व्यक्त किया गया। यह निरीक्षण संस्थान में हिंदी के प्रभावी प्रयोग तथा राजभाषा नीति के सुदृढ़ क्रियान्वयन की दिशा में एक महत्वपूर्ण पहल सिद्ध हुआ।



Activities performed by EIACP Centre Resource Partner “Wildlife and Protected Area Management”, Wildlife Institute of India, Dehradun from April – June 2026



1. Release of an Informative Poster on World Earth Day, 22 April 2026

World Earth Day was observed on **22 April 2026** with the theme “**Our Power, Our Planet.**” The day aimed to raise awareness about environmental protection and inspire collective action to address pressing challenges such as climate change, biodiversity loss, pollution, and ecosystem degradation.

To commemorate the occasion, the EIACP Centre, Wildlife Institute of India, released two awareness posters. The posters highlighted the importance of conserving natural resources, restoring ecosystems, and adopting sustainable practices such as planting trees, conserving water and energy, reducing waste, avoiding single-use plastics, and using eco-friendly modes of transport. They encouraged individuals to take collective action towards building a healthier and more sustainable planet.

2. Awareness Programme on World Heritage Day, 18 April 2026

World Heritage Day, celebrated on 18 April, 2026, is the International Day for Monuments and Sites, dedicated to preserving human history and natural sites. The 2026 theme is “*Emergency Response for Living Heritage in Contexts of Conflicts and Disasters,*” focusing on protecting cultural assets during crises. EIACP Centre commemorated World Heritage Day on 18 April 2026 through a field visit in Madhya Pradesh, covering the Khajuraho Group of Monuments and Pandav Falls. The programme saw the participation of around 60 participants, including GSDP students, EIACP members and other local community members. The activities began with a heritage walk at Khajuraho, where participants explored the architectural and historical significance of the monuments. This was followed by a rally organized by the Archaeological Survey of India, focusing on raising awareness about the conservation of cultural heritage. A pledge ceremony was also conducted, where participants collectively committed to protecting India’s heritage sites. The field visit further included an exposure to the natural heritage at Pandav Falls, where participants learned about the region’s ecological importance and biodiversity. The programme emphasized the integration of cultural preservation and environmental conservation through experiential learning.

Overall, the celebration was successful in promoting awareness, responsibility, and active participation towards safeguarding both natural and cultural heritage.



3. Certificate Course in Nature Conservator Cum Ecotourism Guide under Green Skill Development Programme, 14 March to 23 April 2026 at Panna, Madhya Pradesh

The EIACP Centre at the Wildlife Institute of India organized a Certificate Course in Nature Conservator Cum Ecotourism Guide under the Green Skill Development Programme at Panna Tiger Reserve, Hinouta Ecotourism Complex, Madhya Pradesh from 14 March to 23 April 2026.

This short-term training programme was designed to impart both theoretical knowledge and practical skills in the field of ecotourism and conservation. The Green Skill Development Programme (GSDP) aims to promote sustainable livelihoods by developing skilled manpower for preserving and restoring environmental quality, while creating employment opportunities that support ecosystem conservation, biodiversity protection, energy efficiency, and waste reduction.

The training modules were designed to provide participants with a comprehensive understanding of ecotourism and its practical applications. They covered key areas such as ecotourism entrepreneurship, which focused on developing sustainable business opportunities; biodiversity and environmental conservation, highlighting the importance of protecting natural ecosystems; and eco-trail management, which involved the planning and maintenance of nature trails. The basics of ecotourism introduced fundamental principles and ethical practices, while hospitality and land management emphasized visitor handling and sustainable resource use. Ecotourism marketing provided insights into promoting eco-friendly destinations, and employability skills enhanced communication, teamwork, and professional readiness. The programme also included on-the-job training, offering hands-on experience in real-world settings. In addition, assignments and presentations were prepared and delivered by GSDP students as part of their learning and assessment process.

The valedictory session and final evaluation were conducted on 23 April 2026, followed by the distribution of certificates in the presence of EIACP Coordinator, Dr. Ramesh Chinnasamy, Scientist E and the EIACP team at the Wildlife Institute of India. A total of 20 participants in the second batch successfully completed the programme.



4. Release of Informative Poster on International Leopard Day
03 May 2026



International Leopard Day was observed on 3 May 2026 to raise awareness about the conservation of the leopard (*Panthera pardus*) and its vital role in maintaining healthy ecosystems. To mark the occasion, the EIACP Centre at the Wildlife Institute of India released an awareness poster highlighting the ecological significance of leopards and the importance of conserving their habitats. The poster emphasized the role of leopards in maintaining ecological balance by regulating prey populations and showcased key conservation messages through engaging visuals and concise information, encouraging greater public awareness and support for leopard conservation.

5. Release of Poster on World Migratory Bird Day
09 May 2026



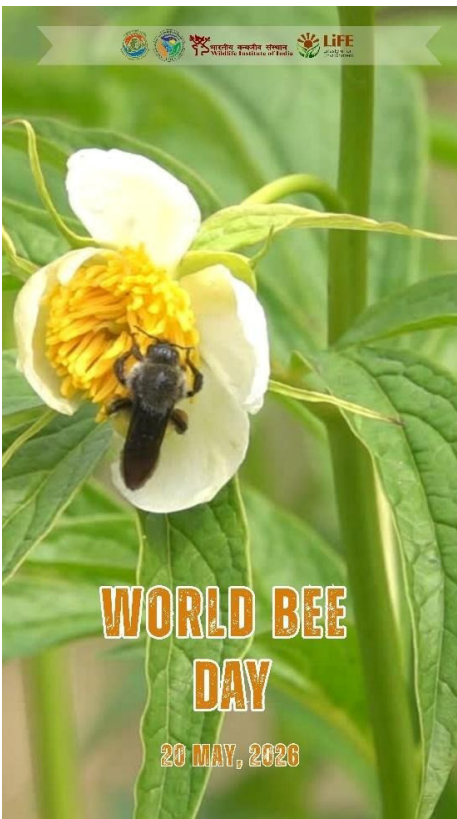
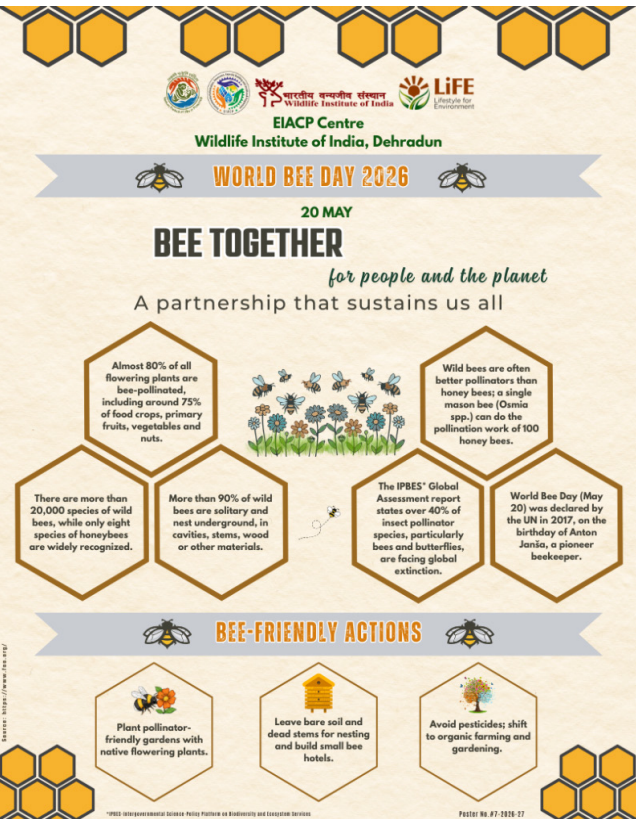
World Migratory Bird Day is a global campaign that promotes the conservation of migratory birds and their habitats. To mark the occasion, the EIACP Centre at the Wildlife Institute of India released an informative poster highlighting the remarkable journeys of migratory birds and the importance of protecting the habitats they depend on. The poster emphasized the ecological role of migratory birds and encouraged public participation in citizen science through bird observations, photographs, and checklists to support monitoring, research, and conservation efforts.

6. (a) Release of Poster on World Bee Day
20 May 2026

World Bee Day is observed every year on 20 May to raise awareness about the vital role of bees and other pollinators in maintaining healthy ecosystems, ensuring food security, and supporting biodiversity. The theme for World Bee Day 2026, “Bee Together – For People and the Planet”, emphasizes collective action to protect pollinators and the ecosystems on which they depend.

The poster released by the EIACP Centre, Wildlife Institute of India, Dehradun, on the occasion of World Bee Day 2026 highlights the importance of bees as essential pollinators and their contribution to food production, biodiversity conservation, and ecosystem health.

The poster also emphasised the diversity of bee species, the crucial role of wild bees in pollination, and the growing threats to pollinators. Through the section titled “Bee-Friendly Actions”, it encourages individuals to support bee conservation by planting pollinator-friendly native flowers, creating nesting habitats for bees, and reducing pesticide use through sustainable and organic gardening practices.



(b) Release of short video message on World Bee Day
20 May 2026

Observed annually on 20 May, World Bee Day commemorates the birth anniversary of Anton Janša, the pioneer of modern beekeeping. The day aims to raise awareness about the indispensable role of bees and other pollinators in maintaining biodiversity, ensuring food security, and sustaining healthy ecosystems.

To mark the occasion, the EIACP WII featured an awareness video wherein Mr. Ritesh Kumar Gautam, Scientist at WII highlighted the crucial role of bees as primary pollinators supporting reproduction of nearly 75% of the world's flowering plants, and a significant proportion of food crops, thereby contributing to biodiversity conservation, agricultural productivity, and global food security.

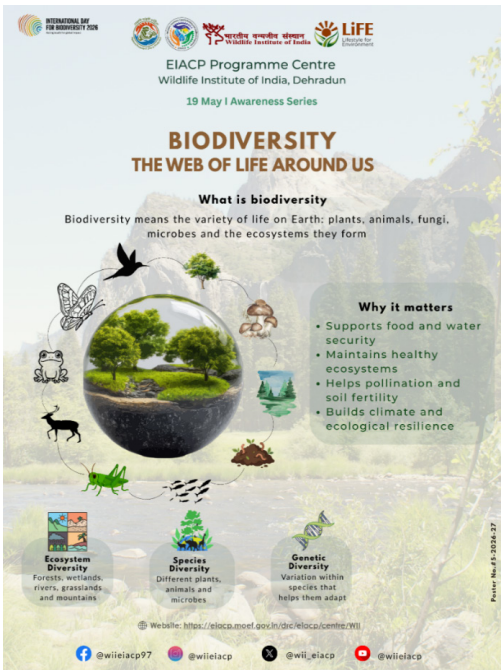
The video also emphasized the growing threats to bee populations, including habitat loss, climate change, excessive pesticide use, pollution, and invasive species. It underscored the urgent need for collective action through pollinator-friendly practices such as planting native flowering plants, conserving natural habitats, reducing the use of harmful pesticides, and promoting sustainable agricultural practices. The awareness video concluded with a call for individual and community participation in protecting bees and other pollinators, recognizing their vital contribution to ecosystem health and human well-being. For more details, visit link: <https://youtu.be/tcw7C2BA8pQ>

7. (a) Release of Posters on the International Day for Biological Diversity
22 May 2026

The International Day for Biological Diversity is observed annually on 22 May to raise awareness about the importance of biodiversity and promote its conservation. The 2026 theme, “Acting Locally for Global Impact,” emphasized that local conservation efforts can collectively contribute to global biodiversity goals. To mark the occasion, the EIACP Centre at the Wildlife Institute of India released a series of informative posters highlighting the significance of biodiversity conservation.

Day 01: Biodiversity: The Web of Life Around Us, 19 May 2026

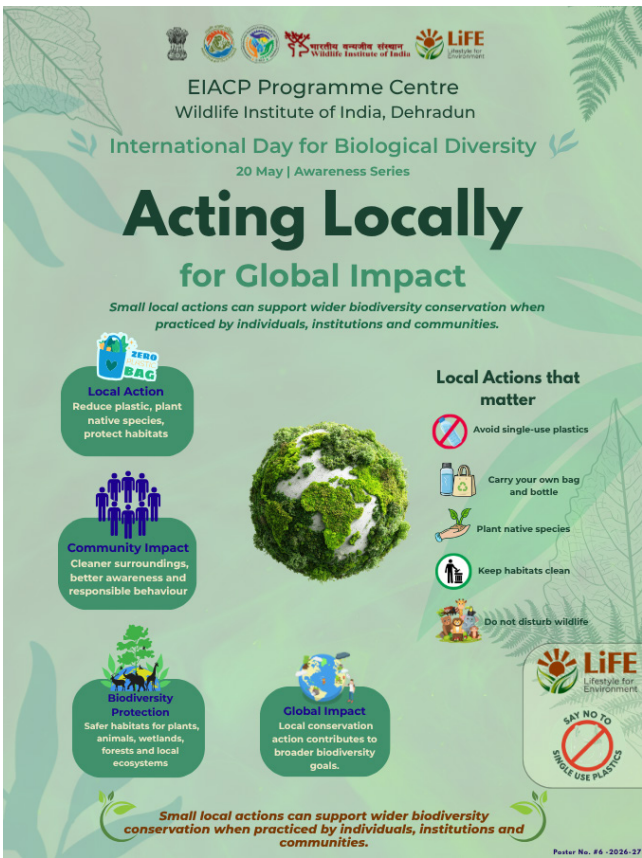
To commemorate the International Day for Biological Diversity 2026, the EIACP Centre at the Wildlife Institute of India released an awareness poster titled “Biodiversity: The Web of Life Around Us.” The poster highlighted biodiversity as the foundation of life on Earth and illustrated the interconnectedness of species, ecosystems, and genetic diversity. It emphasized the importance of biodiversity in supporting ecosystem health, food and water security, pollination, soil fertility, and climate resilience, while encouraging local actions for biodiversity conservation in line with the 2026 theme, “Acting Locally for Global Impact.”



Day 02: Acting Locally for Global Impact, 20 May 2026

The poster depicts the significance of protecting biodiversity through simple actions taken by individuals, communities, and institutions. It emphasizes the theme “Acting Locally for Global Impact,” highlighting how small local efforts can contribute to global environmental conservation. The poster encourages people to reduce plastic use, carry reusable bags and bottles, plant native species, keep habitats clean, and avoid disturbing wildlife.

The poster also explains that local actions lead to community benefits, habitat protection, and biodiversity conservation, ultimately creating a positive global impact. Through its visuals and messages, the poster raises awareness about environmental responsibility and motivates people to adopt sustainable practices for a healthier world.



Day 03: Small Species, Big Role, 21 May 2026

As part of the International Day for Biological Diversity 2026 awareness series, the EIACP Centre at the Wildlife Institute of India released an informative poster titled “Small Species, Big Role: Tiny Lives, Massive Ecological Impact.” The poster highlighted the essential ecological roles of small species, including pollination, soil enrichment, nutrient cycling, pest control, and decomposition. It also promoted simple conservation actions such as reducing pesticide use, protecting native plants, maintaining clean habitats, and supporting biodiversity through responsible environmental practices.



Day 04: Native Species Matter, 22 May 2026

As part of the International Day for Biological Diversity 2026 awareness series, the EIACP Centre at the Wildlife Institute of India released a poster on the theme “Native Species Matter: Local Species, Local Balance, Global Impact.” The poster highlighted the role of native species in maintaining ecological balance, supporting wildlife, improving soil health, and strengthening local ecosystems. It also emphasized the threats posed by invasive species and encouraged conservation actions such as planting native species, protecting natural habitats, and promoting biodiversity-friendly practices.



Day 05: Protected Areas Safeguarding Biodiversity, 23 May 2026

To mark the International Day for Biological Diversity 2026, the EIACP Centre at the Wildlife Institute of India disseminated an informative poster highlighting the significance of Protected Areas in preserving biodiversity and maintaining ecological balance. The poster showcased the role of protected areas in conserving wildlife, habitats, and natural resources, while promoting responsible actions such as avoiding littering, respecting wildlife, and supporting sustainable practices for effective biodiversity conservation.



(b) International Day for Biological Diversity, 22 May 2026 Celebrated at College of Forestry, VCSG Uttarakhand University of Horticulture & Forestry, Ranichauri, Tehri Garhwal, Uttarakhand

The EIACP Programme Centre, Wildlife Institute of India, Dehradun, in collaboration with the College of Forestry, VCSG Uttarakhand University of Horticulture & Forestry, Ranichauri; Uttarakhand Biodiversity Board; Centre for Sustainable Ecology and Biodiversity Research (CSEBR); Department of Bioscience, Graphic Era University; and Amber Foundation, organized a one-day workshop to commemorate the International Day for Biological Diversity 2026 on 22 May 2026 at the VCSG College campus, Ranichauri, Tehri Garhwal.

Held under the global theme “Acting Locally for Global Impact,” the workshop highlighted the importance of local initiatives in achieving global biodiversity conservation goals. The programme included expert sessions on biodiversity monitoring, sustainable development in mountain ecosystems, community-based conservation, traditional ecological knowledge, food security, and indigenous seed conservation. Interactive discussions, documentary screening, and knowledge-sharing sessions further enriched participants’ understanding of biodiversity conservation and sustainable practices. The programme concluded with a call to action, encouraging students, researchers, and stakeholders to actively participate in biodiversity conservation efforts and contribute towards building a sustainable future through collective local initiatives.



(c) Digital Poster Competition on International Day for Biological Diversity, 22 May 2026

To commemorate the International Day for Biological Diversity 2026, the EIACP Programme Centre, Wildlife Institute of India (WII), Dehradun, organized an online Digital Poster Competition on the theme “Acting Locally for Global Impact.” The competition aimed to enhance awareness about biodiversity conservation and provide a creative platform for participants to express their perspectives on local biodiversity and conservation efforts.

The competition received an overwhelming response, with 129 entries submitted across various biodiversity-related themes. The posters showcased creative ideas emphasizing the importance of conserving native species, protecting ecosystems, and adopting sustainable practices. The best three entries were recognized, and e-certificates were awarded to all eligible participants. The initiative successfully engaged youth and encouraged greater participation in biodiversity conservation and environmental awareness.

DIGITAL POSTER COMPETITION



22 May 2026

Theme: ‘Acting Locally for Global Impact’

Sub-theme (choose any one):

- Local Biodiversity, Global Impact
- Biodiversity Around Us
- Small Species, Big Role
- Nature in My Neighbourhood
- Native Species Matter

Last Date for Submission:
20 May 2026, 5:30 PM IST

Top 3 entries will be awarded

E-certificates for all valid participants

Organised By

EIACP Programme Centre,
Wildlife Institute of India, Dehradun



8. Release of Informative Poster on World Crocodile Day
17 June 2026

To commemorate World Crocodile Day 2026, the EIACP Centre at the Wildlife Institute of India, Dehradun, released an informative awareness poster highlighting the ecological significance and conservation needs of crocodilians. The poster emphasized the role of crocodiles as apex predators in maintaining aquatic ecosystem balance and highlighted their importance in regulating prey populations, supporting wetland health, and conserving biodiversity.

It also showcased the diversity of crocodilians, including crocodiles, alligators, caimans, and gharials, while drawing attention to major threats such as habitat loss, pollution, human–wildlife conflict, and climate change. The poster encouraged responsible actions, including protecting wetlands, preventing pollution, supporting conservation initiatives, and promoting awareness for the long-term survival of these ancient reptiles.

9.

(a) Release of Informative Poster on World Day to Combat Desertification and Drought

17 June 2026

The World Day to Combat Desertification and Drought is observed every year on 17 June to raise awareness about sustainable land management, land restoration, and combating desertification. To mark the occasion, the EIACP Centre, Wildlife Institute of India, Dehradun, released an informative awareness poster highlighting the role of El Niño in intensifying droughts and desertification.

The poster depicts how El Niño influences global weather patterns, leading to rising temperatures, prolonged droughts, altered rainfall patterns, agricultural losses, changes in marine ecosystems, and increased wildfire risks. It highlights the impacts of climate variability on biodiversity, food security, water resources, livelihoods, and ecosystem resilience.

The poster emphasizes the importance of restoring degraded landscapes through sustainable land management, afforestation, soil and water conservation, community participation, and climate-resilient practices. It also promotes Mission LiFE actions to encourage collective efforts towards ecosystem restoration and environmental sustainability.



(b) Release of Informative Poster on Rangelands Restoration

17 June 2026

On the occasion of World Day to Combat Desertification and Drought 2026, the EIACP Centre, Wildlife Institute of India, Dehradun, released an informative awareness poster on the theme “Rangelands: Recognize, Respect and Restore”, highlighting the importance of rangelands in supporting biodiversity, livestock production, food security, climate resilience, and ecosystem services.

The poster depicts the significance of grasslands, savannas, shrublands, deserts, alpine meadows, wetlands, and floodplains as vital ecosystems that support livelihoods and contribute to carbon storage. It highlights threats such as land degradation, overgrazing, climate change, and unsustainable land use, while emphasizing the need for sustainable land management, restoration of degraded landscapes, conservation of native vegetation, and community participation.

Through informative visuals and key messages, the poster promotes awareness of rangeland conservation and encourages collective action towards ecosystem restoration in alignment with Mission LiFE.



10.

One-day module on Human–Wildlife Conflict (HWC) Management & Conservation under MCT Phase–III (18) for IFS Officers

03 June 2026

The EIACP Centre, Wildlife Institute of India, Dehradun, in collaboration with the host institute, conducted the Module of Mid-Career Training (MCT) Phase-III (18) on “Human-Wildlife Conflict Management and Conservation Programmes” for Indian Forest Service (IFS) Officers on 03 June 2026 at WII, Dehradun. The programme aimed to enhance the scientific understanding and practical skills of forest officers in addressing human-wildlife conflict through evidence-based conservation approaches.



The programme commenced with an inaugural address by Dr. Gobind Sagar Bhardwaj, IFS, Director, WII, who highlighted the importance of science-based strategies and coexistence approaches for managing increasing human-wildlife interactions. Participants were also introduced to the research, capacity-building, and conservation initiatives of WII.

The technical sessions covered species recovery programmes for Dugongs and River Dolphins, habitat conservation, community participation, citizen science, human-wildlife conflict mitigation strategies, and policy perspectives. Practical sessions included demonstrations on wildlife forensic investigation, evidence collection, animal capture techniques, tranquilization protocols, and safe transportation of rescued wildlife.

The programme concluded with a panel discussion focusing on multidisciplinary approaches for effective conflict management and long-term human-wildlife coexistence.



The programme was presided over by Prof. Suresh Kumar Agrawal, Hon'ble Vice-Chancellor, MDSU, who highlighted the role of educational institutions in promoting environmental stewardship. The keynote lecture by Prof. Ashish Bhatnagar focused on Ecological Footprint, emphasizing responsible consumption, resource efficiency, and sustainable practices.

An Environmental Quiz Competition on biodiversity conservation and environmental issues was organized with participation from 27 students. A plantation drive was also conducted, where saplings of Rohida (Tecomella undulata), the State Flower of Rajasthan, were planted to promote ecological restoration and biodiversity conservation. The programme concluded with a collective commitment towards sustainable environmental practices.



b) Plantation and Cleanliness Drive at Wildlife Institute of India,
05 June 2026

On the occasion of World Environment Day 2026, the Wildlife Institute of India, Dehradun, in collaboration with the EIACP Programme Centre at WII, organised a Plantation Drive under the nationwide #EkPedMaaKaNaam campaign and a **Cleanliness Drive** across the WII campus as part of the Mission LiFE (Lifestyle for Environment) initiative.

As part of the plantation drive, 15 Amaltas (*Cassia fistula*) saplings were planted to promote environmental conservation and strengthen the commitment towards a greener future. The cleanliness drive focused on responsible waste management and maintaining a clean and healthy campus environment. Both activities witnessed enthusiastic participation from the Director, Registrar, faculty members, scientists, researchers, officers, staff, and students, reflecting a collective commitment to environmental stewardship.

11. Celebration of World Environment Day
05 June 2026
a) Awareness Programme and Quiz on Climate Action
04 June 2026

On the occasion of World Environment Day 2026, the EIACP Centre, Wildlife Institute of India, in collaboration with the Department of Environmental Science and Department of Botany, Maharshi Dayanand Saraswati University (MDSU), Ajmer, Rajasthan, and sponsored by the Rajasthan State Biodiversity Board, organized an awareness programme and Quiz Competition on 05 June 2026. The programme aimed to promote environmental awareness, biodiversity conservation, and sustainable lifestyles among students and faculty members.

The programme reinforced the importance of tree plantation, cleanliness, sustainable lifestyles, and collective action in addressing environmental challenges while promoting the objectives of Mission LiFE and encouraging environmentally responsible practices for a cleaner, greener, and more sustainable future.



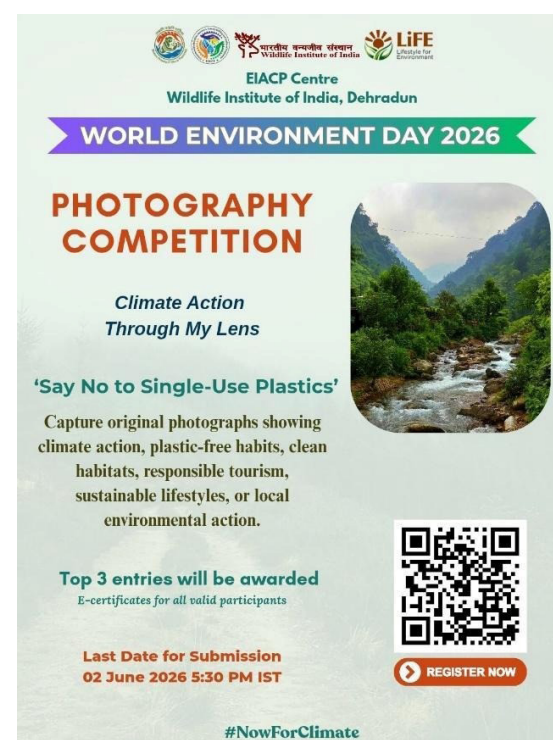
c) Photography Contest - Climate Action Through my Lens

05 June 2026

To commemorate World Environment Day 2026, the EACCP Programme Centre (RP) – Wildlife and Protected Areas Management, Wildlife Institute of India, Dehradun, organised an Online Photography Competition under the Mission LiFE initiative on the theme “Say No to Single-Use Plastics.” The competition encouraged participants to showcase climate action, plastic-free lifestyles, biodiversity conservation, sustainable practices, and community-led environmental initiatives through original photographs.

The competition received 88 entries from across the country, reflecting diverse perspectives on environmental conservation and sustainable living. Entries were evaluated by an expert committee based on originality, relevance to the theme, creativity, technical quality, and overall impact.

The top three entries were selected for awards, while selected photographs were featured on the EACCP Centre's outreach platforms, reports, exhibitions, and social media channels. The competition successfully promoted public participation in environmental conservation and reinforced the objectives of Mission LiFE.



12. Three-days Module on Managing Human-Wildlife Coexistence in Agricultural Landscapes for IFS Probationers 29 June 2026 - 01 July 2026

The Wildlife Institute of India, Dehradun, in collaboration with the EACCP Programme Centre (RP) – Wildlife and Protected Areas Management, organised a three-day IGNEA Elective Module on “Managing Human-Wildlife Coexistence in Agriculture Landscapes” from 29 June to 01 July 2026 at the Wildlife Institute of India, Dehradun. The module was coordinated by Dr. Ramesh Chinnasamy, Scientist-E, WII, with Dr. Amarjeet Kaur, Scientist-C, WII, serving as the Co-Coordinator. A total of 26 Indian Forest Service (IFS) Officer Trainees participated in the programme.

The training aimed to strengthen the capacity of IFS Officer Trainees in addressing human-wildlife conflict through integrated and science-based management approaches. The module included expert lectures, case studies, group discussions, role-play exercises, and thematic presentations on human-wildlife coexistence in agricultural landscapes, species-specific conflict management, community participation, legal and policy frameworks, media engagement, and practical mitigation strategies. Sessions were delivered by WII scientists and invited experts.

The programme provided participants with practical knowledge and field-oriented perspectives on conflict mitigation, while promoting collaborative and sustainable approaches for managing human-wildlife interactions in agricultural landscapes.





In Conversation with Mr. S.K. Mukherjee (Former Director WII)

- Kumar Ankit

Mr. S.K. Mukherjee holds a master's degree in Chemistry from Sagar University, Madhya Pradesh. He is a professional forester and has vast experience as a wildlife manager. He was the Director of the Wildlife Institute of India during July 1994 – March 2002. He has coordinated several Environmental Impact Assessment studies and has served on several advisory committees of the Govt. of India to advise on matters related to the amendments in the wildlife and environmental legislations and the formulation of national environmental and wildlife conservation policies. He is a member of the Governing Council of the Centre for Environment Education, Ahmedabad, and served as the President of the Friends of the Doon Society.



1. You are highly regarded within the Indian wildlife conservation community. What was a pivotal moment that shaped your career and future in this field?

After completing my education at Sagar University, I joined the Forest Service in Tripura and subsequently the Manipur-Tripura cadre (1970). My first posting was in Tripura, and I would say that this experience played a pivotal role in shaping my career in wildlife conservation.

Tripura was fascinating. It had a unique mix of tribal and non-tribal communities living alongside remarkable forests and wildlife, including species such as the phayre's leaf monkey, slow loris, marbled cat, and many more. What particularly struck me was the immense traditional knowledge of the tribal communities, especially their understanding of plants and their uses, what we now broadly refer to as ethnobotanical knowledge.

At that time, there was also a considerable paucity of scientific literature on many aspects of the region's biodiversity and traditional knowledge. That gap made me even more curious and motivated me to learn more. I reached out to the Zoological Survey of India in Kolkata, and that association helped me develop a deeper and more scientific understanding of wildlife and field conservation.

Another major influence was the opportunity to interact and learn from some of the stalwarts of Indian wildlife conservation through various assignments and training programmes. People such as Mr. H. S. Panwar, Mr. Vinod Rishi, Mr. V. B. Saharia, Dr. Lamba, Mr. M. A. Rashid, Mr. Kailash Sankhala, Mr. Saroj Raj Choudhury, Mr. Kishore Rao and the late Mr. M. Krishnan had a profound influence on my thinking and professional journey.

So, if I were to identify a pivotal period rather than a single moment, I would say it was those early years in Tripura, the experience of its forests and wildlife, my interactions with local communities, and the guidance of some of the finest minds in Indian conservation. Together, they shaped my career and strengthened my commitment to wildlife conservation.

2. With your extensive experience in the field, do you see yourself more as a scientist, administrator or a manager? What drives you more, and why?

I would say all three, a scientist, an administrator, and a manager. Over the course of my career, I have had to wear each of these hats, often at the same time.

Some of the most challenging phases of my career involved combating illegal wildlife trafficking and strengthening wildlife law enforcement during my central deputation to the Government of India as Regional Deputy Director (Wildlife). This assignment exposed me to the complex and often covert methods employed by wildlife smugglers, practices that were largely unknown to me before I took up the role. It was only through my service in this position that I gained firsthand insight into the sophisticated techniques and networks used in the illegal wildlife trade.

While on my central deputation to the Government of India, I was part of the drafting team for the National Wildlife Action Plan, National Forest Policy 1988. That experience taught me a great deal about the role of policy and administration in shaping the future of conservation. I also had the privilege of learning from Mr. T. N. Seshan, former Secretary of the Ministry of Environment, Forests & Climate Change. His administrative ability, discipline, and dedication to every responsibility left a lasting impression on me.

At the same time, the scientist in me has always remained curious. During my tenure at the Wildlife Institute of India (WII), I took a keen interest in ensuring that our scientists had access to the best scientific instruments and technology available at the time. I would personally review and learn about the equipment they required because I believed that if we expected scientists to produce the best research, we also had a responsibility to provide them with the best possible tools.

So, what drives me most? I would say it is the desire to make things work for conservation, whether through science, administration, policy,

or management. I have never seen these as separate roles. For me, they are different parts of the same journey, and each has strengthened the other.

3. As a dedicated conservationist, wildlife expert, and forester, what significant changes have you observed in biodiversity conservation efforts and approaches over the last two decades?

India has made significant progress in wildlife conservation over the years. Initiatives such as Project Tiger, efforts to curb illegal wildlife trafficking, and, more recently, the growing focus on wetland conservation have all contributed immensely to strengthening the country's conservation framework.

However, I believe that grassland ecology still remains somewhat on the grey side of our conservation priorities. Grasslands are often misunderstood as wastelands, despite being highly productive and ecologically important ecosystems that support a remarkable diversity of wildlife. They require far greater scientific, policy, and management attention.



Similarly, there are other ecosystems, particularly marine, shoreline, and mangrove ecosystems, that need immediate and serious attention. Conservation cannot remain focused only on a few charismatic species or selected habitats. We need to broaden our perspective and recognise that every ecosystem has its own ecological significance, challenges, and conservation needs.

For the future of conservation in India, I believe we must adopt a more holistic, ecosystem-based approach, one that gives grasslands, wetlands, marine habitats, mangroves, forests, and other overlooked ecosystems the attention they truly deserve.

4. Can you share any inspiring stories of your former students who have made notable contributions to wildlife conservation?

It would be unfair for me to name any one student, because there have been so many, and the truth is that I have learned from each one of them. Each of them brought a different kind of curiosity, dedication, and perspective to wildlife conservation.

I still vividly remember an experience from the early 1990s in Bhitarkanika, Dr. Bivash Pandav was conducting fieldwork for his master's dissertation, and I went to visit him at his base camp, a small hut in the field. He took me barely a hundred metres away and showed me a king cobra nesting close to his camp. I was amazed! Moments like these remind you just how adventurous, unpredictable, and fascinating the study of wildlife can be.

I also have wonderful memories of working in the difficult terrain of Ladakh with Dr. Yash Veer Bhatnagar and Dr. Charudutt Mishra in Lahaul and Spiti. Those demanding landscapes teach you resilience, patience, and humility. Similarly, Dr. Neeta Shah's discipline and unwavering commitment to fieldwork left a lasting impression on me, it was a lesson in dedication that I continue to value.

And then there is Prof. Qamar Qureshi. I have always been fascinated by his ability to simplify complex biostatistical findings and make them understandable and meaningful. So, when I think of my former students, I do not think only of what I may have taught them. I think equally of what they taught me. Watching them grow, take on challenging fieldwork, develop new ideas, and contribute to wildlife conservation has been one of the most rewarding aspects of my career. In many ways, their journeys and achievements are among the most inspiring stories I carry with me.

5. Looking back, what innovations or changes in wildlife sciences are you most proud to have been part of?

As I mentioned earlier, one of the major challenges we faced in the late 1980s was illegal wildlife trafficking. At that time, I strongly believed that law enforcement alone would not be enough, we needed science to support it. Wildlife crime had to be addressed with credible evidence, scientific identification, and methods that could stand up to scrutiny.

I was fortunate to be part of the establishment and development of the wildlife forensics laboratory at WII. For me, this was an important step in bringing science and wildlife law enforcement together. We initially worked on morphological identification and gradually expanded into chemical and DNA fingerprinting approaches. The dedicated efforts of colleagues like Dr. S. P. Goyal in advancing wildlife forensics was truly invaluable.

Looking back, I am particularly proud to have been part of a period when wildlife conservation in India was increasingly embracing scientific tools to tackle wildlife crime. To see wildlife forensics evolve into such an important component of conservation and law enforcement has been deeply satisfying. It has reinforced a belief I have always held: when good science is connected with effective policy and enforcement, it can become a powerful force for conservation.

6. Having a long-standing association with the Wildlife Institute of India, from being its director to an advisor in various roles, could you share some of your fondest memories and challenges during your time here?

There were challenges at every stage, too many to recount, but I would rather remember them as opportunities that helped the Institute grow.

One challenge that remains particularly close to my heart was the effort to create a dedicated auditorium at WII. At the time, we needed a proper space to host important events such as the Annual Research Seminar, conferences, and other academic programmes. We worked very hard to make that vision a reality. Today, when I see the 404-seat auditorium, I feel a deep sense of satisfaction. It has become a space that creates a wonderful atmosphere for both speakers and audiences.

For me, however, WII has never been just a workplace or an institution. It has been a very important part of my life. Even today, whenever I visit the Institute, I feel an immense sense of pleasure, belonging, and satisfaction. Seeing how the Institute has grown, and knowing that I had the privilege of contributing to that journey in different capacities, is deeply fulfilling.

7. What is your vision for the progress of the Wildlife Institute of India in the coming years in shaping the wildlife research in the country?

Academic depth has always been a fundamental pillar of the Wildlife Institute of India, and it must continue to remain at the core of its progress. Strong scientific research is crucial for translating knowledge into practical applications, informed decision-making, and effective policy formulation. WII has consistently adhered to robust science and fact-based evidence while providing advice through various platforms and forums, and this scientific integrity must be upheld in the years to come.

With growing challenges arising from developmental aspirations, increasing human demands, and rapidly changing land-use patterns, the need for in-depth and long-term scientific research is greater than ever. To safeguard our natural assets and biodiversity, WII must continue to strengthen rigorous, interdisciplinary, and application-oriented research. We must continue to believe in facts, uphold scientific integrity, and maintain the credibility that has always been the foundation of the Institute. This commitment will enable WII to continue shaping the future of wildlife research and conservation in the country.

8. What message would you like to impart to the next generation of wildlife biologists and foresters about the importance of biodiversity conservation and management?

Knowledge is the foundation of everything. A strong understanding of the fundamentals and basics is essential, and your knowledge should serve as a catalyst for developing practical and applied approaches to biodiversity conservation and management. Networking and collaboration are equally important for professional growth and for broadening your perspectives.

Always keep your eyes and mind open to new ideas and to the evolving fields of science and technology. You have to carve out your own

niche and never underestimate your potential. Whenever a challenging opportunity comes your way, embrace it. Do not hesitate or feel nervous about having your work reviewed at any forum; constructive review and critical evaluation will ultimately strengthen and enhance the quality of your work.

Nothing in science should remain static. Continue to learn, evolve, question, and adapt. Above all, take pride in the extraordinary diversity of wildlife and ecosystems that our country possesses, and dedicate your knowledge and efforts to their conservation for future generations.



Author:



Kumar Ankit, Graduated from School of Forestry and Environment, Allahabad Agriculture University, Joined WII as Master student in 2015 (XV Batch). Currently he is senior researcher of WII and Ph.D. Scholar.

Highlights at a glance



The Nanda Devi Decadal Biodiversity Expedition 2026

The Nanda Devi Decadal Biodiversity Expedition 2026: From 7–28 June 2026, the Fourth Decadal Nanda Devi Biodiversity Monitoring Expedition was carried out in the Nanda Devi National Park. This 22-day scientific expedition brought together experts from the Wildlife Institute of India, G.B. Pant National Institute of Himalayan Environment, HNB Garhwal University, Uttarakhand Forest Department, ITBP, and SDRF. The scientific team was led by Prof. G.S. Rawat, former Dean & Director of WII. WII Scientific team included Dr Amit Kumar, Scientist E, Mr. Ritesh Kumar Gautam, Scientist C, Dr Ayan Kumar Naskar, Botanist. The team used advanced drone and over 50 camera traps, documenting vital thriving populations of rare species, including Snow Leopards, Himalayan Tahr, Bharal, and the Himalayan Monal. The data collected from this expedition will help scientists track long-term climate impacts and plan conservation strategies for the fragile Himalayan ecosystem.



नन्दादेवी बायोमॉनिटरिंग एक्सपेडिशन 2026
स्मरसोपात्तन बैसकेरुप
उंचाई- 4294 मी.
नन्दादेवी राष्ट्रीय पार्क वन प्रभाग, ज्योतिर्मठ

WORKSHOPS, TRAININGS AND PUBLIC ENGAGEMENTS

07-08 May |

Centre of Excellence for Human Wildlife Conflict Management, Stakeholder Workshop

The Centre of Excellence for Human Wildlife Conflict Management (CoE-HWCM), conducted a Stakeholder Workshop to strengthen collaboration, share experiences including best practices and incorporate the priority actions on 07 and 08 May 2026 at WII. The two-day workshop featured presentations, group discussions, and interactive sessions with active participation from Chief Wildlife Wardens and their representatives from Andhra Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Ladakh, Madhya Pradesh, Maharashtra, Meghalaya, Puducherry, Uttar Pradesh, and Uttarakhand, along with faculty members and researchers from WII.



12 May |

MoU between WII & ICAR-NBFGR

The Centre of Excellence for Human Wildlife Conflict Management (CoE-HWCM), conducted a Stakeholder Workshop to strengthen collaboration, share experiences including best practices and incorporate the priority actions on 07 and 08 May 2026 at WII. The two-day workshop featured presentations, group discussions, and interactive sessions with active participation from Chief Wildlife Wardens and their representatives from Andhra Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Ladakh, Madhya Pradesh, Maharashtra, Meghalaya, Puducherry, Uttar Pradesh, and Uttarakhand, along with faculty members and researchers from WII.



April 8 |

Workshop on Managing Wildlife Emergencies

WII served as the technical partner in the Orientation Workshop on Managing Wildlife Emergencies in Human-Dominated Landscapes, organized by WWF-India in collaboration with the Uttarakhand Forest Department at Ramnagar, Uttarakhand on 8 and 9 April 2026. The workshop aimed to strengthen the capacity of veterinary professionals and equip them with a scientific and ethical approach for the capture, handling, rescue, and rehabilitation of wild animals involved in human-wildlife conflict.



06-15 April | High-altitude Techniques Tour of 21st M.Sc. Wildlife Science

The 21st M.Sc. Wildlife Science batch underwent a 10-day High-altitude Techniques Tour (6–15 April 2026) across parts of the Kedarnath Wildlife Sanctuary and Nanda Devi Biosphere Reserve. Guided by WII faculty, the students gained hands-on experience in Himalayan ecology through field-based training on musk deer census techniques, pheasant call counts, vegetation quantification, tree-age analysis, and assessments of high-altitude vegetation, insect, and bird communities. Traversing subtropical, temperate, subalpine, alpine, and Trans-Himalayan habitats, they observed characteristic flora such as *Rhododendron* and *Betula*, and wildlife including Himalayan Tahr, Goral, Bharal, Himalayan marmot, and choughs. The tour also provided insights into the influence of orography on Himalayan ecosystems and the livelihoods and conservation practices of high-altitude communities.



16 April | ToT workshop for the All-India Tiger Estimation Exercise 2026

The Training of Trainers (ToT) workshop for the All-India Tiger Estimation Exercise 2026 commenced at Dhanpuri in the Jambughoda Forest Division, Gujarat. The programme brought together 106 participants from across the state to strengthen capacity for the upcoming nationwide tiger estimation exercise.



20 April | Second Cycle of Rangewide Estimation of Riverine and Estuarine Dolphins

On 20 April, under the MoECC's Rangewide Estimation of Riverine and Estuarine Dolphins – Second Cycle, WII, in collaboration with the Punjab Forest Department and WWF-India, organized a regional training workshop for forest personnel from seven districts along the Beas and Sutlej rivers. The workshop focused on strengthening the capacity of frontline staff and enhancing coordinated conservation efforts for the Indus River Dolphin.



28 April | Brainstorming Workshop on “Wildlife Vision for Viksit Bharat 2047”

WII organized a brainstorming workshop on “Wildlife Vision for Viksit Bharat 2047”, bringing together nearly 300 participants from diverse backgrounds. The discussions focused on key priorities for wildlife conservation, including conservation planning, human–wildlife coexistence, technology, community participation, financing, and governance.



04-05 May | Training workshop on Wildlife Identification and Survey Techniques

WII in collaboration with the Karnataka Forest Department organized a two-day training workshop on Wildlife Identification and Survey Techniques from 4–5 May 2026 at Yellapur, Karnataka. The workshop aimed to raise awareness among forest officials about biodiversity monitoring through scientific data collection. More than 100 forest officers and frontline staff from Yellapur, Karwar, Sirsi, Haliyal, Honnavar Forest Divisions, and Kali Tiger Reserve participated in this capacity-building initiative.



11 May | FTPWEBE Stakeholder Consultation Workshop

The Frontline Field Training Programme for Wildlife, Environment, Biodiversity, and Ecosystems (FTPWEBE) Stakeholder Consultation Workshop was inaugurated on May 11-13, at Dehradun by Dr. R.K. Singh, Epidemiology, AMR and Zoonoses Specialist, Food and Agriculture Organization, India. The event was graced by the presence of Dr. Saket Badola, CCF Western Circle & Field Director, Corbett Tiger Reserve; and Dr. Ruchi Badola, Dean, Faculty of Wildlife Sciences, WII.



29 May | Celebration of World Dugong Day

On World Dugong Day, the WII's CAMPA-Dugong Recovery Programme organized a series of outreach activities to sensitize young students and researchers about dugongs and their habitats. The programme was inaugurated by Mr. Maria Christu Raja, Registrar. This was followed by a presentation by Dr. J.A. Johnson, who highlighted the achievements of the Dugong Recovery Programme over the past ten years. Dr. Balaji, Director of OMCAR Foundation, delivered an inspiring talk emphasizing the importance of community involvement in achieving successful marine conservation programmes. The award winners were felicitated by Dr. Ruchi Badola, Dean and Faculty of Wildlife Science. At the end of the programme, Ms. Chinmaya Ghanekar presented the vote of thanks to the dignitaries and participants.



**3 June |
Mid-Career Training Programme on Human–Wildlife Conflict Management for IFS Officers**

WII conducted a one-day module on Human–Wildlife Conflict (HWC) Management and Conservation Programmes under the Mid-Career Training (MCT) Phase-III (18) for Indian Forest Service officers. The programme provided an overview of WII’s research, conservation, capacity-building and policy support initiatives, while highlighting ongoing species recovery programmes for river dolphins and dugongs.



**15 June |
Management Effectiveness Evaluation of Elephant Reserves Launched**

WII with the Project Elephant Division, Ministry of Environment, Forest and Climate Change (MoEFCC), initiated the first cycle of the Management Effectiveness Evaluation (MEE) of Elephant Reserves across India. This nationwide assessment aims to evaluate the effectiveness of conservation and management interventions, providing scientific inputs to strengthen habitat management, mitigate human–elephant conflict and improve the conservation of elephant corridors through collaborative efforts with State Forest Departments.



18-20 June |
IGNFA Elective Module on Holistic Large Mammal Relocation Planning



WII under its Department of Wildlife Health Management, conducted a three-day IGNFA Elective Module titled “Beyond Capture and Release: Holistic Large Mammal Relocation Planning” for Indian Forest Service officer trainees. The module focused on the scientific, ecological and veterinary aspects of wildlife translocation and species recovery, covering topics such as conservation translocation, disease risk analysis, genetics, feasibility assessment, wildlife health, community outreach and post-release monitoring.

19 June |
Snake Identification and Safe Handling Training Programmes

WII conducted two snake identification and safe handling training programmes in Madhya Pradesh and Uttarakhand. On 18 June 2026, a training workshop was held at Kikar, Anuppur Forest Division, Madhya Pradesh, covering snake identification, survey techniques and safe handling practices. The programme was attended by 55 frontline forest staff from seven forest ranges. A pictorial brochure on the snakes of the Amarkantak region was released, while participants were provided with professional snake rescue kits, headlamps and Hindi snake identification guides to strengthen safe rescue and monitoring efforts.



On 19 June 2026, WII, in collaboration with the Haridwar Forest Division, conducted a workshop-cum-training at Chilla, Rajaji Tiger Reserve, Uttarakhand, for 45 frontline forest staff, Quick Response Team members and local rescuers. The training focused on identifying venomous and non-venomous snakes, safe rescue and release protocols, and strengthening local capacity for effective snake rescue and management during the monsoon season.



23 June |
Capacity-Building Workshop on Snake Identification and Rescue

Under the Madhya Pradesh Snake Project, WII conducted the fourth capacity-building workshop at the Dindori Range Office, Dindori Forest Division. The hands-on training was attended by 50 frontline forest personnel from 10 forest ranges and focused on snake identification, survey techniques and safe rescue practices. To strengthen field response and rescue operations in the Amarkantak region, participants were provided with 17 professional snake rescue kits, headlamps and Hindi-language snake field guides.



24 June |
Training Programme on Sustainable Livelihoods for Local Communities

WII in collaboration with the Manipur Forest Department and the Manipur State Rural Livelihoods Mission (MSRLM) conducted a 10-day training programme on textile dyeing techniques for women living around Keibul Lamjao National Park, Manipur. The programme was inaugurated by Shri L. Joykumar Singh, CCF (Wildlife), in the presence of officials from the Forest Department and MSRLM. The programme is providing 45 participants with training in cotton and silk processing, natural vegetable dyeing and traditional as well as contemporary textile dyeing techniques to promote sustainable livelihoods while supporting conservation of the unique floating ecosystem and the endangered Sangai.



29 June – 1 July

WII conducted a three-day elective module titled “Managing Human–Wildlife Coexistence in Agricultural Landscapes” for the 2024 Batch officer trainees of the Indira Gandhi National Forest Academy (IGNFA). The programme covered the ecological, social, legal and administrative dimensions of human–wildlife coexistence, including conflict drivers, species-specific conflict management, habitat fragmentation, land-use change, community participation and wildlife management in shared landscapes.



ON GROUND ACHIEVEMENTS

Update on the Great Indian Bustard Conservation Breeding Programme

On April 10, The Great Indian Bustard Conservation Breeding Programme recorded the successful hatching of 11 captive-bred chicks during the first month of its fourth breeding season (2026). Since its inception in 2019, the programme has established a founder population of 33 birds from wild-collected eggs and produced 46 captive-bred chicks, representing significant progress towards the future reintroduction of the species into the wild.



WII’s forensic examination serving as key scientific evidence

On April 16, Delhi court convicted a Jaipur-based Shahtoosh shawl trader in a landmark wildlife crime case following a 17-year investigation. The conviction marks a significant milestone in the enforcement of wildlife protection laws against the illegal trade in Shahtoosh products. The investigation involved coordinated efforts by the Wildlife Crime Control Bureau (WCCB), Central Bureau of Investigation (CBI), Customs Department, and WII with forensic examination at WII confirmed the presence of Tibetan Antelope hair in several of the seized shawls, providing key scientific evidence in the case.

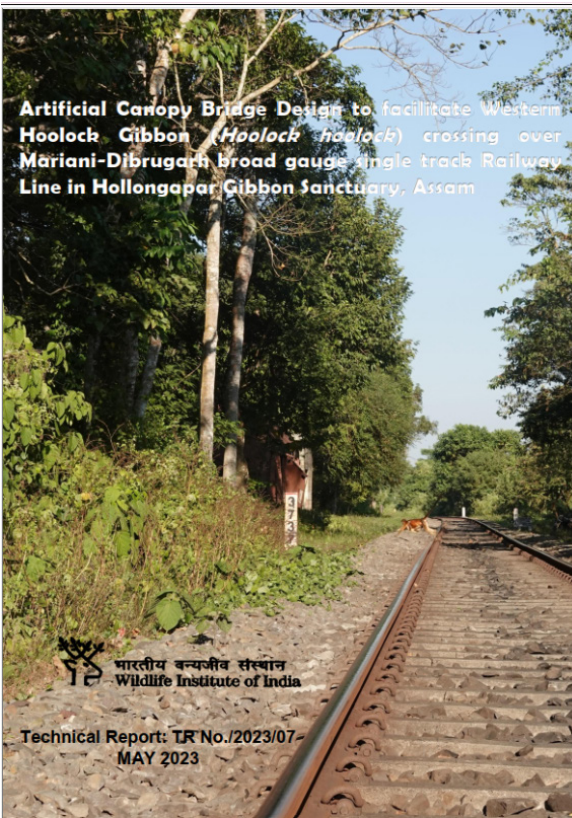
Appreciation of Freshwater Turtle Conservation Facility and Ganga Biodiversity Interpretation Centre, “Ganga Darpan” by Secretary, Ministry of Jal Shakti

Shri V. L. Kantha Rao, Secretary, Ministry of Jal Shakti, visited the Freshwater Turtle Conservation Facility and Ganga Biodiversity Interpretation Centre, “Ganga Darpan,” at Sarnath. He appreciated the efforts of the Uttar Pradesh Forest Department and WII towards the ecological restoration of the Ganga River.



Milestone in Gibbon Conservation

A major milestone in gibbon conservation was achieved when a male Western Hoolock Gibbon was recorded using a canopy bridge over the railway line in Hollongapar Gibbon Sanctuary. This marks the first confirmed use of the structure by a gibbon and the first documented use of a canopy bridge structure over a railway line anywhere in the world. The bridges were designed and deployed as a mitigation measure for the electrification works on the existing single-track Lumding-Dibrugarh railway line passing through the Sanctuary, during February-March 2025. This represents an important step towards reducing the impacts of linear infrastructure on survival of exclusively arboreal and threatened species like gibbons.



India’s first satellite-tagged Ganges Softshell Turtle

A first for India was achieved at Kaziranga with the release of the country’s first satellite-tagged Ganges softshell turtle on the occasion of Endangered Species Day, 15 May 2026. The initiative marks an important step towards the conservation and monitoring of this endangered freshwater species.



Tiger Translocation Team Receives SFC Environmental Award 2026

The Tiger Translocation Team of Sahyadri Tiger Reserve (STR) and WII received the Mumbai Tarun Bharat SFC Environmental Award – *Species & Habitat Warriors 2026* in recognition of the successful tiger translocation from the Tadoba–Pench landscape to Sahyadri Tiger Reserve. The award also acknowledged the collaborative efforts of the Maharashtra Forest Department and WII under the Tiger Recovery and Long-term Monitoring Project, recognizing their sustained contribution to tiger conservation in the Sahyadri landscape since 2017.



WII Project Sloth Bear Featured in Dainik Bhaskar

The WII's ongoing Project Sloth Bear was featured in *Dainik Bhaskar* on 10 June 2026 highlighting the Institute's research and conservation efforts in western India. The feature showcased field surveys in Sundha Mata Conservation Reserve, Mount Abu Wildlife Sanctuary (Rajasthan) and Jessore Sloth Bear Sanctuary (Gujarat) to assess sloth bear ecology, habitat use, movement patterns and population status. It also highlighted the use of non-invasive DNA-based analysis for population monitoring and research on the human–sloth bear interface to support evidence-based conservation and promote human–wildlife coexistence.



ANNOUNCEMENTS

WII starts its two-year M.Sc. programme in Freshwater Ecology and Conservation for the 2026–2028 session. The programme is sponsored by the National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Government of India.

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

गंगा
AcSYR

COURSE ANNOUNCEMENT
II MSc COURSE IN FRESHWATER ECOLOGY AND CONSERVATION
(Session 2026-2028)

ADMISSION TO II M.Sc. COURSE IN FRESHWATER ECOLOGY AND CONSERVATION (2026-28)

Wildlife Institute India is offering a two-year Masters' (MSc) Course in Freshwater Ecology and Conservation, sponsored by the National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Government of India and the admission is open for the session 2026-2028. This course will create a new generation of field researchers and ecologist to be equipped to understand the nuances of the freshwater ecosystems, and their conservation management. This course aims to impart theoretical knowledge on concepts, principles, approaches, analytical skills and field techniques in Freshwater Ecology and Conservation. Students of high caliber, motivation and having passion for aquatic wildlife and conservation can apply for the current session.

COURSE HIGHLIGHTS

- Fully Sponsored Program - No course fee for selected participants
- Extensive Field Exposure - Explore and study diverse freshwater habitats
- Hands-on Training - Practical experience in aquatic sampling techniques
- Limited Seats - Only 20 students will be selected

Last date for apply: **8th May 2026**. More details on Eligibility criteria, application & admission procedures and important dates for admission - visit: <https://wii.gov.in/msc-course-in-freshwater-ecology-and-conservation>

Further details contact:
Dr. J.A. Johnson
Scientist F & Course Director
Wildlife Institute of India,
Dehradun - 248001
Email: dean@wii.gov.in
Contact no: 0135-2646285

2026

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

47th
Post-Graduate
Diploma Course
IN ADVANCED WILDLIFE MANAGEMENT
1st September 2026 to 30th June, 2027

41st CERTIFICATE COURSE IN WILDLIFE MANAGEMENT
1st NOVEMBER 2026 TO 31st JANUARY 2027

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

ADMISSIONS OPEN

The Wildlife Institute of India (WII), Dehradun invites nominations for its prestigious 41st Certificate Course in Wildlife Management. Duration: November 2026 - 31 January 2027 (3 months intensive).

Who should apply?
In-service Range Forest Officers, Deputy Range Officers, and equivalent professionals from Government, NGOs, and private organizations committed to wildlife conservation.

Course Highlights:

- Modern concepts in wildlife management & landscape approach
- Population estimation with advanced tools & techniques
- Wetland management
- Human-wildlife conflict mitigation
- Wildlife capture techniques & health management
- Extensive field tours & hands-on practical training

Seats: Limited to 30 (First come, first served)

Course Fee:

- Indian Trainees: ₹ 5,00,000/-
- Foreign Participants: US \$9,100

Important Dates:

- Last date for nominations: 15 September 2026
- Fee payment deadline: 30 September 2026

Apply now: Information Brochure & Application Form available at www.wii.gov.in

Please share this opportunity widely with State Forest Departments, conservation organizations, universities, and professional networks to help reach deserving officers.

Course Director:
Dr. C.V. Gopal, Scientist F
Associate Course Director:
Dr. Anurag Kumar, Scientist C
Wildlife Institute of India,
Chandrabani, Dehradun - 248 001,
Uttarakhand (INDIA).
E-mail: gcg@wii.gov.in
Ph: +91-135-2646384

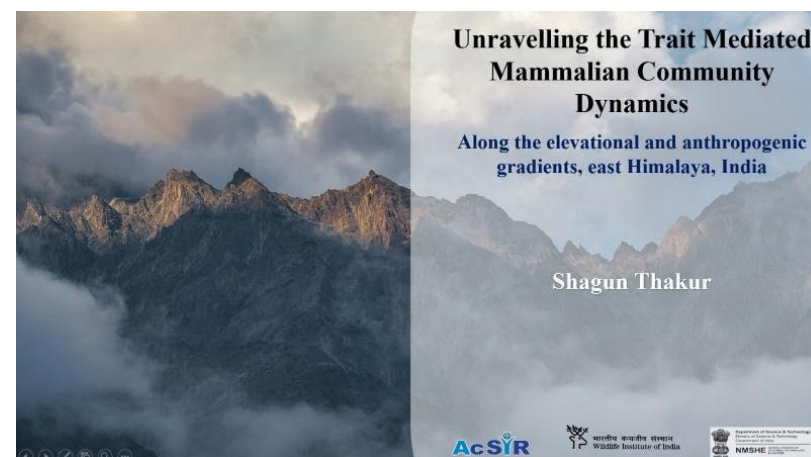
WII announces its 47th Post-Graduate Diploma Course in Advanced Wildlife Management. The course commences on 1 September 2026. Designed for Forest and Wildlife Officers, this 10-month course aims to strengthen capacities in protected area management, wildlife conservation, and modern wildlife management tools.

WII announces its 41st Certificate Course in Wildlife Management, scheduled from 1 November 2026 to 31 January 2027. The programme is intended for in-service Range Forest Officers, Deputy Range Officers, and equivalent professionals from government agencies, NGOs, and private organizations engaged in wildlife conservation.

CONFERENCE PARTICIPATION

6 June | WII Participation at Conservation Asia Congress 2026

Ms. Shagun Thakur, Ph.D. scholar at WII presented her research on mammal community responses to anthropogenic and environmental gradients across Arunachal Pradesh in the Conservation Asia Congress 2026 held at Nepal. The study highlighted how functional traits influencespecies'occupancypatterns under varying environmental and human-induced conditions.



19 June | WII Research Presented at the Northern Wild Sheep and Goat Council Symposium

Dr Salvador Lyngdoh, Scientist at WII presented WII's research on ibex, blue sheep and habitat interactions in the Trans-Himalayan region at the 25th Northern Wild Sheep and Goat Council Symposium held in Nevada, USA. The study, based on a decade of research in the Spiti Valley, examined the interactions between wild herbivores, migratory livestock grazing and predator avoidance, providing valuable insights for the conservation and management of the Cold Desert ecosystem.



KEY EVENTS

5 June | World Environment Day Celebration



On the World Environment Day, WII organized a plantation drive under the Ek Ped Maa Ke Naam initiative. A total of 15 Amaltas saplings were planted with the participation of more than 70 faculty members, researchers, officers and staff, reaffirming the Institute's commitment to environmental conservation and sustainable practices.

21 June | WII-SACON Concludes International Day of Yoga 2026 Outreach Programme

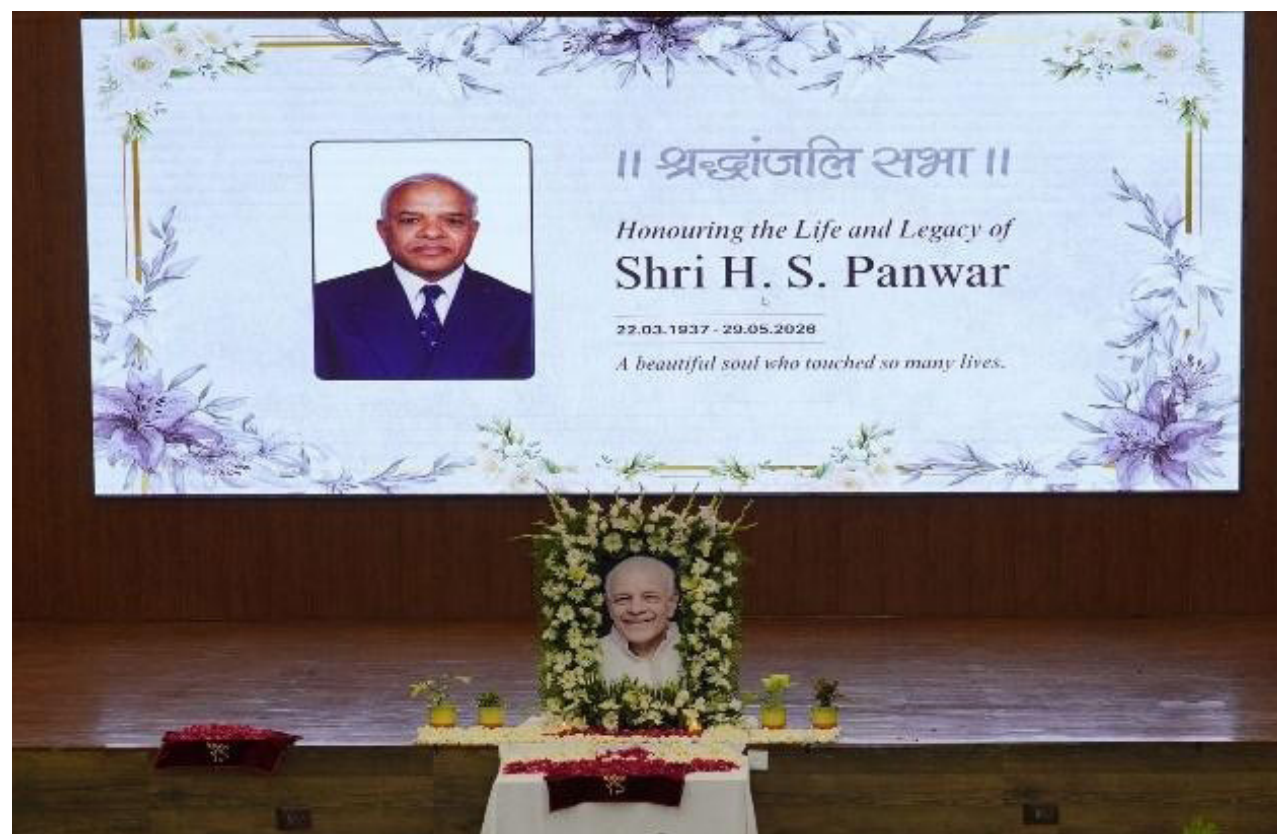
WII-SACON, in association with the Centre of Excellence for Human-Wildlife Conflict Management, concluded a week-long International Day of Yoga 2026 outreach programme. The valedictory event attended by faculty members, researchers, staff and teachers from Vidya Vanam School. Dr. K. Ramesh, Head of Office, WII-SACON, highlighted the Centre's initiatives and emphasized the importance of collaborative efforts in promoting human-wildlife coexistence and conservation awareness.



The programme concluded with a campus clean-up drive, during which participants removed the invasive Parthenium species to support biodiversity conservation and responsible environmental stewardship. The outreach programme successfully integrated yoga, environmental awareness and community participation, reinforcing the importance of harmony between people, wildlife and nature.

IN MEMORIAM

Dr. H. S. Panwar, Founder Director of the Wildlife Institute of India, passed away on 29 May 2026, leaving behind a legacy that laid the very foundation of wildlife science and conservation in India. On the day, WII bid farewell to a remarkable mentor and leader, remembering Dr. Panwar's gratitude, wisdom, dedication, and lifelong service to conservation. A pioneering conservationist, Dr. Panwar helped shape a scientific approach to wildlife management, inspired generations of conservation professionals, and strengthened the nation's resolve to protect its natural heritage. His contributions extended far beyond institutions, leaving an enduring impact on India's wildlife, protected areas, and conservation policy.

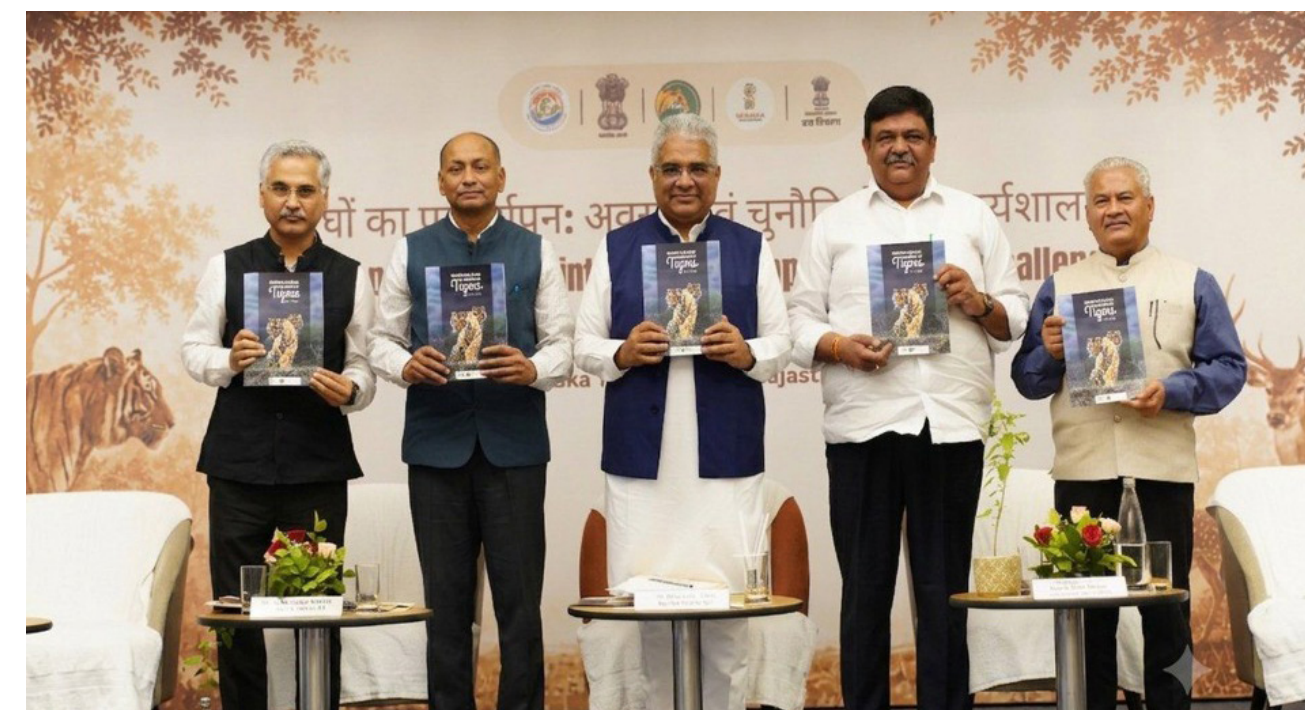


PUBLICATIONS

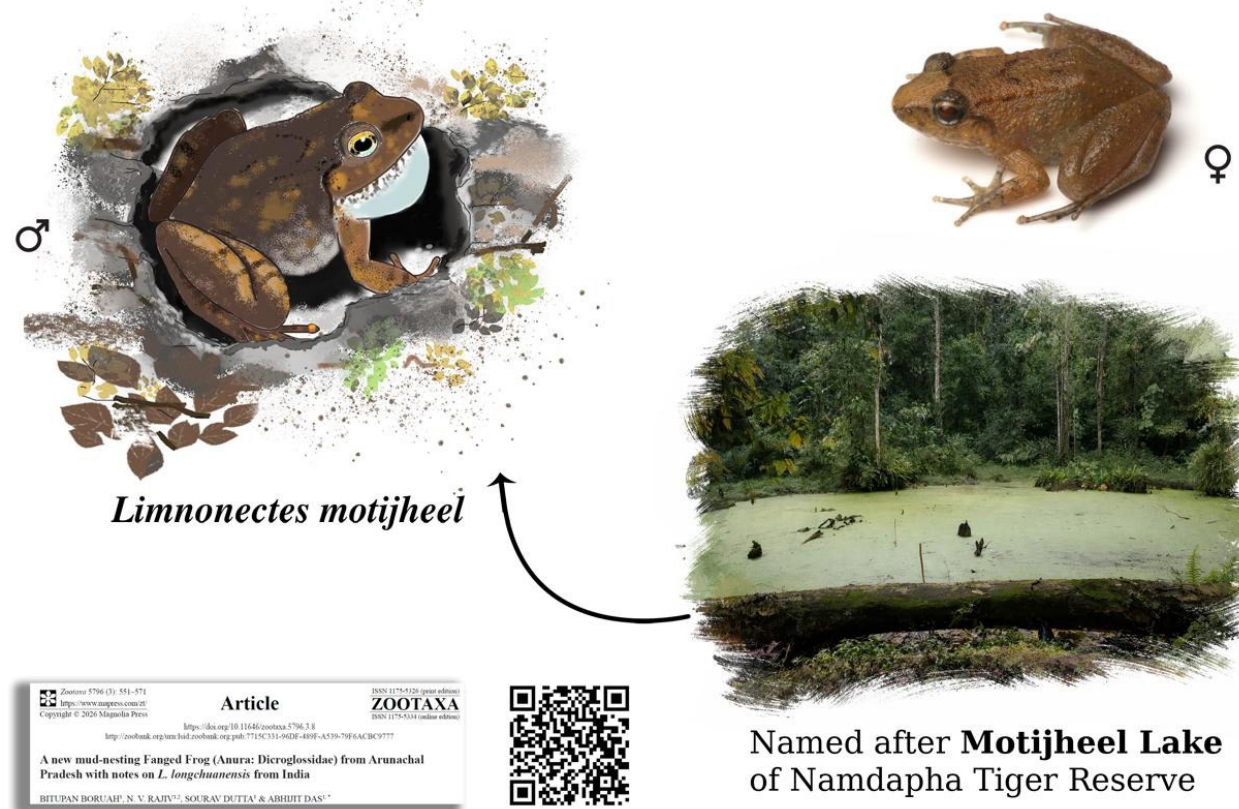
28 June |

Release of Key Publications on Tiger and Cheetah Conservation

Shri Bhupender Yadav, Hon'ble Union Minister for Environment, Forest and Climate Change, released three landmark publications on wildlife conservation: the Roadmap for Active Management of Tigers, Reintroduction & Population Recovery of Tigers in India: Field Experiences & Key Learnings, and the Annual Report of Project Cheetah. These publications highlight India's science-based approach to tiger and cheetah conservation, covering active population management, habitat restoration, landscape connectivity, conflict mitigation, scientific monitoring and ecosystem restoration. The releases reaffirm India's commitment to evidence-based conservation and the long-term recovery of its flagship wildlife species.



Discovery of a New Mud-Nesting Fanged Frog from India



Ahmad, A., & Gopi, G. V. (2026). Spatio-Temporal Analysis of Land Use and Land Cover Changes in the Mishmi Hills, Eastern Himalaya. *Remote Sensing in Earth Systems Sciences*, 9(2), 40. <https://doi.org/10.1007/s41976-026-00285-0>

Ashraf, M., Badola, S., & Sharma, S. (2026). Local Institution and Leadership Influence at the People-Protected Area Interface: A Case of Kaziranga Tiger Reserve, India. *International Journal of Rural Management*, 22(2), 269–291. <https://doi.org/10.1177/09730052261452507>

Balhara, T., Saini, D., Kodeeswaran, V., Ramesh, C., & Gupta, S. K. (2026). Extraction of PCR amplifiable DNA from oil, fat and meat samples of reticulated python (*Malayopython reticulatus*) for genetics and forensics applications. *Conservation Genetics Resources*, 18(2), 23. <https://doi.org/10.1007/s12686-026-01420-1>

Boruah, B., Rajiv, N. V., Dutta, S., & Das, A. (2026). A new mud-nesting Fanged Frog (Anura: Dicroglossidae) from Arunachal Pradesh with notes on *L. longchuanensis* from India. *Zootaxa*, 5796(3), 551–571. <https://doi.org/10.11646/zootaxa.5796.3.8>

Chatterjee, D., Adhikari, B. S., Sharma, P., & Naithani, P. (2026). A comprehensive review of land use and land cover studies in Uttarakhand, India. *Discover Environment*, 4(1), 260. <https://doi.org/10.1007/s44274-026-00775-4>

De, K., & Dwivedi, A. K. (2026). An integrated landmark-based morphometric approach to distinguish species of Indian Gourami, *Trichogaster* (Teleostei: Perciformes: Osphronemidae). *Journal of Asia-Pacific Biodiversity*. <https://doi.org/10.1016/j.japb.2026.05.003>

Dolia, J., Das, A., & Kumar, K. (2026). First evidence of nest reuse in the northern king cobra *Ophiophagus hannah*. *The Herpetological Bulletin*, (176), 30–32. <https://doi.org/10.33256/hb176.3032>

Dandriyal, S., Goswami, N., Sharma, P., Rana, A. S. (2026). Opportunistic Frugivory of Small Indian Mongoose (*Urva auropunctata*) in an Agricultural Field, Uttarakhand, India. *Journal of Wildlife Science*, 3(2), 83–86. <https://doi.org/10.63033/JWLS.CRVE5590>

Fernández, F., Assmann, T., Cha, D., Costa, L. L., Gebert, J., Gustafson, G., Barry Knisley, C., Molur, P., Pearson, D. L., Samways, M. J., Sangela, V., & Wiesner, J. (2026). Evolving tiger beetle (Coleoptera: Cicindelidae) conservation research: reconciling perspectives from amateurs and professionals. *Journal of Insect Conservation*, 30(3), 49. <https://doi.org/10.1007/s10841-026-00782-z>

Flores-Manzanero, A., Bogdanowicz, W., Stefanović, M., Adavoudi, R., Khosravi, R., Martínez-Sosa, F., Doan, K., Srinivas, Y., Banea, O. C., Ćirović, D., D'Amico, G., Djan, M., Giannatos, G., Hatlauf, J., Hayrapetyan, V., Heltai, M., Homel, K., Hulva, P., Ionică, A. M., ... Pilot, M. (2026). Climate as the Main Driver of Large-Scale Genetic Patterns and Connectivity in the Expanding Golden Jackal. *Global Change Biology*, 32(4). <https://doi.org/10.1111/gcb.70879>

Athira, N. J., Pandey, R. K., Roy, K., Dutta, A., Mittal, D., Nigam, P., Nath, A., & Habib, B. (2026). Landscape determinants of human-elephant conflict in Assam, India: insights from two decades of spatial analysis. *PeerJ*, 14, e21082. <https://doi.org/10.7717/peerj.21082>

Prakruthi G. M., Lyngdoh, S., Bhatnagar, Y. V., & Sathyakumar, S. (2026). Ecological separation between blue sheep and siberian ibex in the Indian Trans-Himalaya. *European Journal of Wildlife Research*, 72(3), 74. <https://doi.org/10.1007/s10344-026-02102-x>

Ganguly, A., Sah, R., Patel, P., Kavattu, S., Chaudhary, P., Kumar, G., Maurya, A., Badola, R., & Hussain, S. A. (2026). Pollution characteristics, receptor model-based source apportionment, and health risk of potentially toxic elements in the Godavari River, India. *Frontiers in Environmental Science*, 14. <https://doi.org/10.3389/fenvs.2026.1745773>

Hatkar, P., Khatua, R., & Ramesh, C. (2026). Understanding the ecology and conservation of Jerdon's sea snake (*Hydrophis jerdonii* Gray, 1849). *Journal of Marine Studies*, 3202. <https://doi.org/10.29103/joms.v3i2.26522>

Hussain, Z., Ghaskadbi, P., Nigam, P., & Habib, B. (2026). Navigating a fragmented world: multiscale and behavior-specific habitat selection of tigers in a human-dominated landscape of India. *Landscape Ecology*, 41(5), 91. <https://doi.org/10.1007/s10980-026-02326-x>

Jablonski, D., Tillack, F., Mahlow-Tillack, K., Petzold, A., Wilzo, M., Das, A., Idrees, M., Baniya, C. B., Masroor, R., & Hofmann, S. (2026). Integrative taxonomy reveals previously undescribed diversity within the *Gloydus himalayanus* complex (Squamata, Viperidae, Crotalinae) from the Himalaya and Hindu Kush. *ZooKeys*, 1280, 83–153. <https://doi.org/10.3897/zookeys.1280.182768>

Jain, R., Vardhan, H., Singhal, N., Vashisth, P., Chaudhary, P., Pandey, A., Kishore, K., & Gaur, A. (2026). Biofilm across domains: Implications for human health, industrial systems, and environmental sustainability. *Hybrid Advances*, 14, 100694. <https://doi.org/10.1016/j.hybadv.2026.100694>

Feba, K. S., Nautiyal, R., Maletha, S. K., Chand, M., Yousuf, P., Das, A., & Adhikari, B. S. (2026). Herpetofaunal diversity and habitat associations in an urban protected area: a case study from Asola-Bhatti Wildlife Sanctuary, Delhi. *Urban Ecosystems*, 29(3), 119. <https://doi.org/10.1007/s11252-026-01962-0>

Kasbekar, S. P., Kumara, H. N., Mahato, S., Babu, S., & Karunakaran, P. V. (2026). Carnivore abundance, patch occupancy, and impact of humans on activity patterns in the community reserves of Meghalaya, Northeast India. *Mammal Research*, 71(3), 44. <https://doi.org/10.1007/s13364-026-00865-x>

Kaur, A., Chauhan, H., & Kumar, R. S. (2026). Prey composition in the diet of an avian aerial insectivore – the Barn Swallow (*Hirundo rustica*) in the Indian Himalaya. *Avian Conservation and Ecology*, 21(1), art16. <https://doi.org/10.5751/ACE-03055-210116>

Kawalkar, D., Manchi, S. S., Mukherjee, A. J., Sadhukhan, R., Patil, P. R. (2026). Occurrence of the lesser-known endemic Rhinolophidae species in the caves of the Andaman Islands, India: insights from a rapid survey. *Journal of Wildlife Science*, 3(2), 46–52. <https://doi.org/10.63033/JWLS.PJQJ6487>

Khanduri, M., Hussain, S. A., Arora, A., Hölker, F., Rani, K., & Candolin, U. (2026). Light cues override temperature as a cue for basking in a critically endangered crocodile, the gharial. *Global Ecology and Conservation*, 68, e04269. <https://doi.org/10.1016/j.gecco.2026.e04269>

Kher, V., & Dutta, S. (2026). Irrigation reshapes desert avifauna: Shifts in composition, guild structure and density of birds in irrigated croplands of the Thar Desert. *Journal of Arid Environments*, 236, 105635. <https://doi.org/10.1016/j.jaridenv.2026.105635>

Kumar, V., Sharief, A., Dutta, R., Singh, H., Joshi, B. D., Thakur, M., Adhikari, B. S., & Sharma, L. K. (2026). Anthropogenic foods drive seasonal dietary shifts of Himalayan brown bear. *Mammalian Biology*. <https://doi.org/10.1007/s42991-026-00602-6>

Koulagi, S., Mudke, M., Shashank, C. L., Jha, A. (2026). An unusual rusty coloration of an Indian Crested Porcupine *Hystrix indica*. *Journal of Wildlife Science*, 3(2), 87-92. <https://doi.org/10.63033/JWLS.OGVI4185>

Lohani, S., Uniyal, A., Khan, A., Khatri, P., & Chen, S. (2026). Bioremediation and Climate Change: Microbial Strategies for Environmental Clean-Up. In *Microbial Resilience* (pp. 261–287). Springer Nature Singapore. https://doi.org/10.1007/978-981-95-8883-1_13

Mishra, B. P., Maurya, A., Layola, M. R. R., Prabhukumar, K. M., & Rana, T. S. (2026). Distribution pattern, population characteristics and threat status assessment of Indian wild orange (*Citrus indica* Tanaka) using IUCN regional guidelines. *Proceedings of the Indian National Science Academy*. <https://doi.org/10.1007/s43538-026-00790-2>

Mohapatra, P. P., Ray, S., Das, A. K., Satrusallya, R., Jena, S. K., Bhupathi, B., Das, R., & Mahapatra, A. K. (2026). Description of a morphologically distinct and phylogenetically divergent new species of the leopard gecko in the genus *Eublepharis* Gray, 1827 (Reptilia, Eublepharidae) from India. *Herpetozoa*, 39, 161–176. <https://doi.org/10.3897/herpetozoa.39.e183441>

Moun, A., Bisht, P. S., Singh, G. S., Chauhan, R. S., & Nautiyal, H. (2026). High-altitude range extension of the spectacled cobra *Naja naja* in the Garhwal Himalayas, India. *The Herpetological Bulletin*, (176), 42–43. <https://doi.org/10.33256/hb176.4243>

Nagarkoti, J., Ponnu, D., Ramesh, C., Naithani, S., Prabakaran, N., & Gupta, S. K. (2026). Living with Serpents: An Ethnographic Account of Communities' Perceptions, Attitudes, Knowledge, and Practices Surrounding Snakes and Snakebites in the Nicobar Archipelago, India. *Human Ecology*, 54(3), 45. <https://doi.org/10.1007/s10745-026-00706-0>

Nambirajan, K., Rajesh Kumar, K., Arun, P. R., Kannan, M., Senthamarai Kannan, B., & Muralidharan, S. (2026). Ecological Implications of Rodenticide Exposure: First Evidence of Bromadiolone Poisoning in an Indian Leopard (*Panthera pardus fusca*). *Environmental Toxicology*. <https://doi.org/10.1002/tox.70089>

Nishad, A., Sarma, H., Saha, R., Singh, V. P., Bhatt, M., Rai, A., Qureshi, Q., & Kolipakam, V. (2026). Evidence of Rusty-spotted Cat *Prionailurus rubiginosus* (I. Geoffroy Saint-Hilaire, 1831) (Mammalia: Carnivora: Felidae) in National Chambal Sanctuary, Uttar Pradesh, India. *Journal of Threatened Taxa*, 18(5), 28988–28990. <https://doi.org/10.11609/jott.10243.18.5.28988-28990>

Pandi, S., Santhanakrishnan, B., Kamalakannan, M., & Rajarathinavelu, N. (2026). Discoveries from the Owl Pellets: First Record of *Bandicota bengalensis* (Rodentia) and *Suncus murinus* (Eulipotyphla) from the Andaman Archipelago, India. *National Academy Science Letters*. <https://doi.org/10.1007/s40009-026-02115-9>

Phinehas, D. N. (2026). The Bearded Vulture *Gypaetus barbatus* from the plains of north-western India. *Indian BIRDS*, 22(2), 51.

Rajiv, N. V., & Das, A. (2026). Frogs in sight and sound: passive acoustics and visual surveys reveal complementary species detection in tropical rainforest anurans. *Herpetozoa*, 39, 261–271. <https://doi.org/10.3897/herpetozoa.39.e168386>

Rawat, K. K., Paul, R. R., Jangid, A. K., Singh, C. P., & Sahu, V. (2026). Predicting habitat suitability of *Barbilophozia lycopodioides* (Wallr.) Loeske, under current climatic condition in the global scale. *Proceedings of the Indian National Science Academy*. <https://doi.org/10.1007/s43538-026-00723-z>

Roy, S., Mohapatra, S. K., Satrusallya, R., Seth, J. K., Balakrishnan, S., & Raghunathan, C. (2026). First Report of *Norileca borealis* Javed & Yasmeen, 1999 of the Family Cymothoidae from the Coastal Waters of Southwestern India. *National Academy Science Letters*. <https://doi.org/10.1007/s40009-026-02016-x>

Saeed, U., & Thapliyal, A. (2026). Convergent ecological mechanisms drive invasion success in five globally widespread species. *Plant Ecology*, 227(7), 76. <https://doi.org/10.1007/s11258-026-01648-9>

Sangela, V., De, K., Badola, R., & Hussain, S. A. (2026). Local contribution to the beta diversity of Odonata assemblages in a subtropical alluvial river stretch. *Community Ecology*, 27(2), 353–370. <https://doi.org/10.1007/s42974-026-00309-1>

Sharma, C. P., Bhatia, D., & Singh, R. (2026). A spectroscopic and chemometric approach to species identification: differentiation of royal Bengal Tiger and Indian Leopard bones. *The Science of Nature*, 113(3), 60. <https://doi.org/10.1007/s00114-026-02114-2>

Singh, S. K., Joshi, B. D., Sharma, R., De, R., Aspi, J., Kvist, L., Maheshwari, A., Bashir, T., Sharma, D., Thakur, M., Kumar, M., Mondal, I., Lachungpa, U., Lyngdoh, S., Sathyakumar, S., Nigam, P., Habib, B., & Goyal, S. P. (2026). Genetic characteristics and connectivity of the southernmost snow leopard populations in the Indian Himalayan Region: Conservation implications. *Mammalian Biology*. <https://doi.org/10.1007/s42991-026-00593-4>

Sirola, G., Baraiya, H. L., Baroth, A., & Kumar, R. S. (2026). Rainfall-driven movements and seasonal space use in Greater and Lesser Flamingos in western India. *Avian Research*, 100403. <https://doi.org/10.1016/j.avrs.2026.100403>

Somanathan, H., Jain, M., Habib, B., Sane, S. P., & Singh, M. (2026). Strengthening India's field biology infrastructure: establishing a network of field stations. *Journal of Experimental Biology*, 229(10). <https://doi.org/10.1242/jeb.252222>

Srivastava, N., Linnell, J. D. C., Sattler, C., Kleemann, J., Koenig, H. J., Krishnamurthy, R., & Fuerst, C. (2026). Claws, laws, and coexistence: The paradox of decentralization in carnivore conservation governance in two federal countries. *Current Research in Environmental Sustainability*, 11, 100361. <https://doi.org/10.1016/j.crsust.2026.100361>

Tanwar, K. S., Pundir, S., Sadhu, A., Jhala, Y. V., & Qureshi, Q. (2026). Using Camera Traps to Study Wild Ungulate Ecology and Behavior in a Tropical Semi-Arid System. *Ecological Research*, 41(4). <https://doi.org/10.1111/1440-1703.70084>

Tripathi, R., Kadam, G., Asha, T. J., Kulkarni, A., Jangid, A. K., Prajapati, D. A., & Sudhikumar, A. V. (2026). Discoveries of two new *Mogrus* species (Araneae: Salticidae) and notable records from India. *European Journal of Taxonomy*, 1048. <https://doi.org/10.5852/ejt.2026.1048.3249>

Uniyal, A., Lohani, S., Khatri, P., Rani, V., & Santhiya, S. (2026). Pathogenic Microbes and Climate Change: Emerging Risks. In *Microbial Resilience* (pp. 215–226). Springer Nature Singapore. https://doi.org/10.1007/978-981-95-8883-1_11

Vishwakarma, R., Gorati, A. K., Chandola, S., Fathima, H., Nath, A., Mondol, S., Habib, B., Naik, A. K., Murthy, B. N. N., Appavu, G. V., Nigam, P. (2026). Community Perceptions and Social Feasibility for Gaur (*Bos gaurus gaurus*) Reintroduction in Nagarjunasagar Srisailem Tiger Reserve, Andhra Pradesh. *Journal of Wildlife Science*, 3(2), 62-72. <https://doi.org/10.63033/JWLS.PDNP5891>

Yousuf, P., Chand, M., K. S., F., Maletha, S. K., Nautiyal, R., & Adhikari, B. S. (2026). Habitat heterogeneity and bird diversity in an urban fringe wildlife sanctuary in New Delhi, India. *Environmental Monitoring and Assessment*, 198(7), 763. <https://doi.org/10.1007/s10661-026-15561-1>

Legacy in Retirement:
Honouring Our Retired Personnel



Dr. B.S. Adhikari,
Scientist-G

Date of joining: 22.11.1999
Date of farewell: 30.04.2026



Shri Kishan Singh
Lab Assistant

Date of joining: 03.09.1991
Date of farewell: 30.04.2026

Shri Vinay Kumar Sharma
Stenographer Grade-II

Date of joining: 31.10.2018
Date of farewell: 30.04.2026

look out for....

SEP 2026

16th - 18th SEP
IARS

19th Internal Annual Research Seminar

21st - 22nd SEP
ARS

37th Annual Research Seminar

Wildlife Institute of India
Chandrabani, Dehradun - 248001
Uttarakhand, INDIA
+91-135-2646100; 2646100; 2640114-115/ Fax: 2640117
wii@wii.gov.in / Website: www.wii.gov.in
@wii_india