

PANORAMA

IRALE NEWS # 14 · OCTOBER 2022

In Focus: Going Beyond Protected Areas

IRALE EVENTS: Talk Series

Experiences from Periyar-Agasthyamalai Landscape

Talk by Dr. Anil Bhardwaj | Former Principal Chief Conservator of Forests
Summarised by Raeesha Rahman | IUCN India

Practice of conservation in India has existed since the medieval times. These conservation and management techniques have evolved with continued scientific findings over time. The concept of landscape level conservation came into practice through several species specific conservation initiatives and pilot projects. Landscape in itself means a holistic continuous entity encompassing wide range of land uses, cultural and traditional concoction, different administration mechanisms and varying flora and fauna. A balance between the different interacting physical and socio-economic variables in the landscape is very important.

IRALE organised a webinar titled "Going Beyond Protected Areas- Experience from Periyar- Agasthyamalai Landscape" by Dr Anil Bharadwaj. The session discussed the need and importance of landscape-level management and conservation for our forests and wildlife. With ever expanding Indian linear infrastructure, urban spaces and agricultural land expansion, management from the landscape perspective is gathering support and importance. Conservationists and scientific community as a whole have gained knowledge that efforts focused on species alone cannot sustain conservation. Therefore, to sustain conservation, unification of objectives of protected area management into landscape management is necessary.

Landscape level conservation was brought into the central theme of wildlife and forestry in the 1970s by UNESCO, by launching a global Man and Biosphere Programme. This initiative looked at effective conservation of biodiversity and sustainable utilization of natural resources responsibly by the people, taking natural landscape into consideration.

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Photo credits: Vaishali Vasudeva

India has a network of 987 protected areas covering 5.26% of its geographical area (ENVIS, 2021) and a human population of 1.38 billion. Landscape level conservation is critical and requires inclusive actions. Community participation and sustainable livelihood options for people in the forest landscape requires better implementation and can also address human-wildlife interactions at the same time. The south Indian landscape of Agasthyamalai and other diverse projects involved conservation planning that led to addressal of other related issues like watershed restoration, empowerment of tribal communities, market links, livelihood opportunity enhancement, community based ecotourism, ethical conversion of communities towards wildlife and many more. These practices break the traditional protected areas boundaries and intensive management therein, and nurture the environment through a holistic approach creating a harmonised living between wildlife and human.



Photo credits: Gatikrishna Behera



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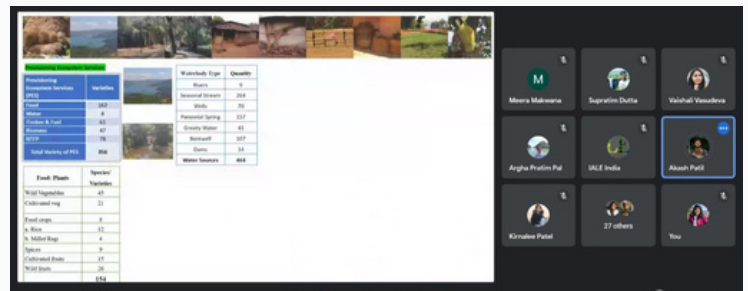
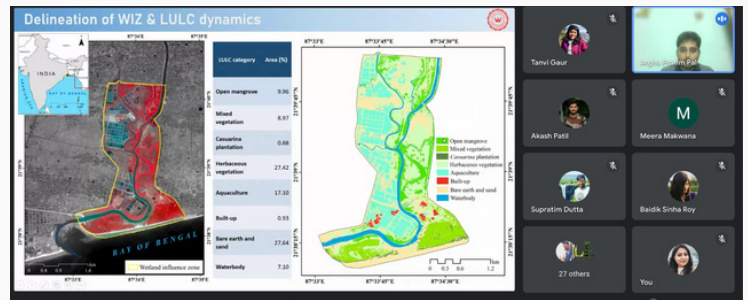
IRALE EVENTS

As India celebrated National Wildlife Week from 2-8 October 2022, IRALE organised a webinar on the theme **Wildlife Conservation and Landscape Health** on **7 October 2022**. Five early career researchers contributed to this webinar by sharing their recent or ongoing work in this field.

Both the talks and webinar were open to members and non-members. Next talk in the series is on **Landscape Planning Process and Tools** by Dr. Ramesh Krishnamurthy, to be held virtually on **30th November, 1900 hours IST**.

INDIAN REGIONAL ASSOCIATION FOR LANDSCAPE ECOLOGY
celebrates
NATIONAL WILDLIFE WEEK
Join us virtually to hear stories of Wildlife Conservation and Landscape Health
from early-career researchers working across India!

Akash Patil Argha Pratim Pal Meera Makwana Supratim Dutta Vaishali Vasudeva



2023 IALE WORLD CONGRESS NAIROBI, KENYA

IALE EVENTS

2023 IALE World Congress – Nairobi, Kenya

Website is now open!

The International Association for Landscape Ecology (IALE) is excited to announce the 2023 IALE World Congress will take place in **Nairobi, Kenya**, from **10th – 15th, July 2023**. The IALE World Congress occurs every four years and is the premier event for landscape ecologists worldwide to address topics in landscape ecology that range from local to global in scale. During the World Congress, landscape ecologists from public, private, and non-profit sectors will address a broad spectrum of environmental challenges and their potential solutions. The 2023 World Congress will be a hybrid (online/in person) event and it is for the first time being hosted in the Global South.

The World Congress theme is **'Transboundary Resource Management, Climate Change and Environmental Resilience'**. The World Congress will include plenaries, symposium, oral sessions, posters sessions, a social dinner, and field trips. It is jointly hosted by Kenyatta University (KU), Regional Center for Mapping of Resources for Development (RCMRD), National Museum of Kenya (NMK), Institute of Climate Change and Adaptation Institute, University of Nairobi (UON), the United Nations Environment Programme (UNEP) and in collaboration with the African-Chapter of IALE (Africa-IALE).

Nairobi is an exceptionally beautiful and exceptional city (see Magical Nairobi). The planned post conference excursions include: Nairobi National Park, Karura Forest Nature trails, The National Museums, Kakamega forest ('Time has stood still for the Kakamega Forest, a remnant of the rain forest that stretched all across Central Africa') and Watamu Marine National Park and Reserve (a complex of marine and tidal habitats along the Kenya's north coast with rich and diverse bird life, fish, turtles and dugongs). Furthermore, Kenya is well known for the Great Rift Valley (Great Rift Valley). July is an excellent time to visit Kenya because it is the dry season and wildlife will be easier to see.

- Deadline for Symposium/Panel/Workshop abstract submission: **31st October 2022**
- Latest Notification of abstract acceptance: **1st December 2022**
- Paper/Poster Abstracts submission portal open: TBA
- Deadline for Paper and Poster abstract submission: **15th February 2023**
- Latest Notification on abstract acceptance: **31st March 2023**

Watch here for more information soon: www.landscape-ecology.org

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IN THE NEWS

Wildlife SOS proposes to declare Oct 12 as World Sloth Bear Day

Lucknow News

Updated on Oct 09, 2022 12:02 AM IST

[Read more here](#)

[Commentary] Sustainable use of wild species is critical for the well-being of people and nature

[Read more here](#)

Most Indian villages do not have any waste management infrastructure: Study

With a changing consumer landscape, single-use, low-quality plastics are contributing to the growing waste problem in rural India

[Read more here](#)

Scaling up the adoption of technology in Indian aquaculture

Indian aquaculture producers need better guidance from aquatech companies as well as access to government subsidies to help secure their productivity and livelihoods. [Read more here](#)

In Andhra Pradesh, women are taking a lead role in the transition to natural, sustainable farming

[Read more here](#)

As the green energy sector grows, so could job opportunities in rural India

Decentralised renewable energy can offer job possibilities and even help in reverse migration.

[Read more here](#)

Punjab farmers shifting to sustainable ways of getting rid of crop residue

The state generates around 180 lakh tonnes of paddy straw annually

[Read more here](#)





Photo credits: Manu Mohan

MEMBERS IN ACTION

Exploring the effects of human disturbance on the movement patterns of a large carnivore in central India

MANU MOHAN

WILDLIFE INSTITUTE OF INDIA | INDIAN INSTITUTE OF REMOTE SENSING

Imagine yourself in the middle of an exotic savannah, with big cats brushing against your safari vehicle, framing their next hunt. Safe to say, it's easy to get caught up in the allure and excitement of the encounter. However, the presence of big cats does not always invoke the same kind of emotion. Ask the numerous forest-fringe communities across our country, where the fear of losing one's life or livelihood often looms under cover of the dark. Although excitement and fear have a lot in common physiologically, the latter takes an enormous toll psychologically, which is seldom accounted for among the cost of living alongside wildlife.

The story is not too bright on the other side. Recent studies have found that as much as a third of even protected areas are under intense anthropogenic stress. PAs, once considered a haven for threatened species, are now found to be grossly inadequate to save several mammal species from extinction. Large-carnivores, in particular, are highly vulnerable to such circumstances due to their large home-range size requirements, often overlapping with the flourishing human-dominated areas. Such a condition exacerbates the already precarious nature of human-wildlife relations, resulting in a higher degree of conflict due to competition for food, resources and space. The long-term survival of species prone to conflict thus depends upon how well they adjust and adapt to the changing conditions.

Despite the impingements of large carnivores' presence on human livelihood and humans' influence on large-carnivore movement and survival, studies often consider either one of them at any instant. However, understanding and sustainably mitigating the negative interactions require focusing on the issue from the perspective of both humans and wildlife. I intended to explore such an effect of humans and big cats on each other in mutual inclusivity by understanding their movement patterns and intensity of space use. I conducted my research in the interface area between the Critical Tiger Habitat and the human-dominated multiple-use buffer area of Panna Tiger Reserve, which sustained a gradient of overlapping space use by humans, livestock, tigers and their wild prey. Primarily using camera-traps, the spatio-temporal movement of tigers revealed interesting patterns. Despite the evidence of a clear linear trend in the relative abundance of tigers with distance to human settlements, the probability of their space use was significantly influenced by the presence of large-bodied wild prey. This indicated how the tigers were limited in their ability to attain their natural prey due to human disturbance. The temporal activity was also influenced by human disturbance and the tigers exhibited a higher proportion of diurnal activity at higher distances from villages. Glimpses into even finer scale movement of the tigers were also available once we collared two tigers in the same interface area. We observed high exploratory use of sites close to villages by tigers, especially at night, by adopting a significantly faster rate of movement.





For the most part, the tigers of the area were attuned to the disturbance that surrounded them, exemplified by their movement patterns. However, the presence of livestock and their high density made the area an ecological trap for the tigers. This posed a threat to the local communities and their livelihood in the form of livestock depredation. Hence, for the human side of the story, I used statistical models to reveal the factors associated with livestock depredation as a function of the tigers' space use. The chances of livestock depredation were found to decrease with an increase in distance from villages and highway, prompting the management of livestock movement near linear infrastructures as well as human trails near villages to reduce conflict.

Although the current study reveals some preliminary insights into the patterns of human-wildlife interaction at the local scale, the broader picture is yet to be painted. Moving beyond the spatio-temporal realm, we are now working towards understanding the third ecological niche- the diet of the tigers of the area through scat analysis. This would grant us more opportunities to understand the drivers of specific movements the tigers adopt across the disturbance gradient through prey preference studies. It would further reveal any trade-offs the animals have to make between optimal foraging and risk avoidance, getting us one step closer to discerning why the animals do what they do.

References:

- 1 Maan Barua, Shonil A. Bhagwat, and Sushrut Jadhav, 'The Hidden Dimensions of Human-Wildlife Conflict: Health Impacts, Opportunity and Transaction Costs', *Biological Conservation* 157 (1 January 2013): 309-16, <https://doi.org/10.1016/j.biocon.2012.07.014>.
- 2 Kendall R. Jones et al., 'One-Third of Global Protected Land Is under Intense Human Pressure', *Science* 360, no. 6390 (18 May 2018): 788-91, <https://doi.org/10.1126/science.aap9565>.
- 3 David R. Williams, Carlo Rondinini, and David Tilman, 'Global Protected Areas Seem Insufficient to Safeguard Half of the World's Mammals from Human-Induced Extinction', *Proceedings of the National Academy of Sciences* 119, no. 24 (14 June 2022), <https://doi.org/10.1073/pnas.2200118119>.



Following the aforementioned study as part of his Master's in Wildlife Science from the Wildlife Institute of India, Manu continued the work while being involved in the development of the Integrated Landscape Management Plan and Monitoring with reference to Ken-Betwa River Link Project in Panna Tiger Reserve. His inquisitiveness towards the application of geospatial techniques and his love for the mountains has brought him to the Indian Institute of Remote Sensing, where he now gets to hike for work as part of the Himalayan Alpine Biodiversity Characterisation (NMHS) project. As much as he longs to be in the great outdoors, he also cherishes the quiet corner of his room with a big cup of coffee while deciding on the next movie to watch.



Photo credits: Manu Mohan

Members' Page

Membership Renewal

Requesting members whose membership ended last year or before but was extended until 2021 to kindly visit the page to renew it at the earliest. Those who became member last year (2021) will have their membership until one year from the date of registration. Members can now choose between annual and term membership based on their interest.

Membership type	Tenure	Membership Fee (INR)
Student	Annual	1000
	Term (3 Years)	2500
Regular	Annual	2000
	Term (3 Years)	5000
Institutional	Annual	10000
	Term (3 Years)	25000

Opportunities

XXVI IUFRO World Congress 2024 | Forests and Society towards 2050

Stockholm, Sweden | 23-29 June 2024

NITI Aayog | Global Call for Ideas and Papers for Academics, Universities, Institutions

Deadline: 31 December 2022 | Find more [here](#)

To explore

FREE Specialized Course | Red List of Ecosystems for Assessors | IUCN

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FREE Course | Natural World Heritage | IUCN Academy

Start date: Anytime | Self-paced | Find more [here](#)

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