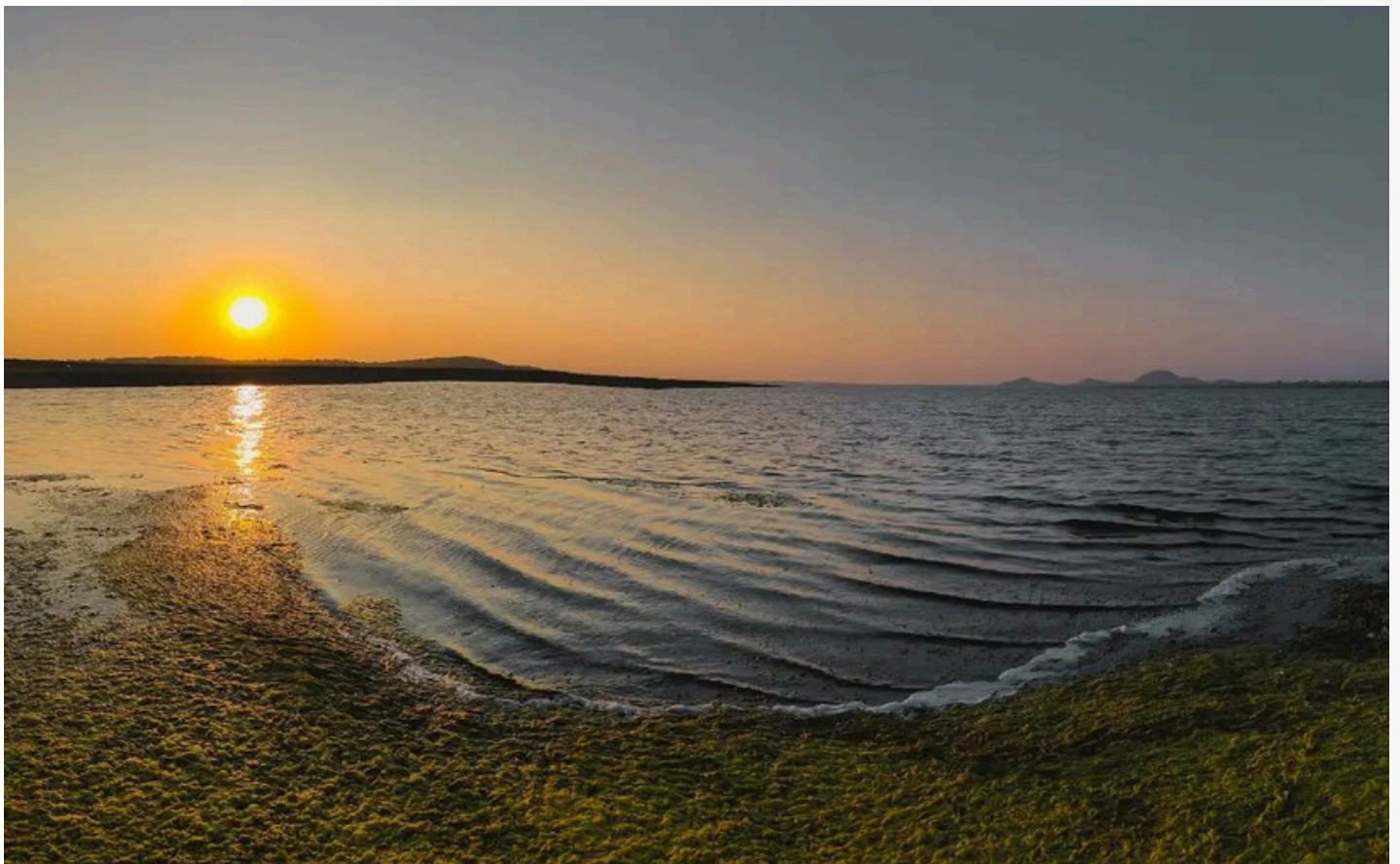


WCB RESEARCH FOUNDATION
Adding Science to Conservation

ANNUAL REPORT

2021-23



WWW.WCBRESEARCH.IN



ANNUAL REPORT

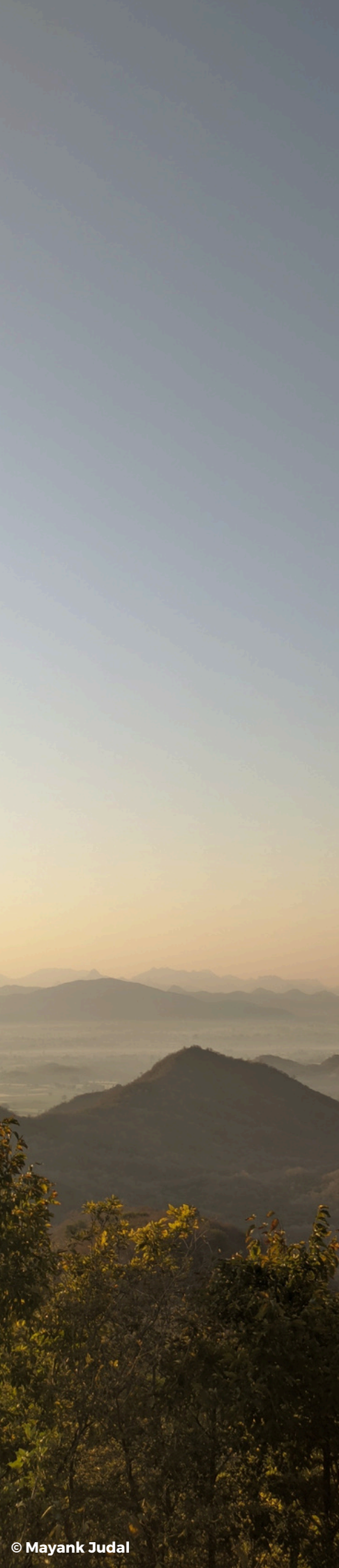
2021-23

2021-23

Wildlife & Conservation Biology Research Foundation, Patan

Cover Photo: Mr Mayank Judal

All Donations to WCB Research Foundation are eligible for 50% tax deduction under Section 80G of the Income-tax Act, 1961.



WCB RESEARCH FOUNDATION

Adding Science to Conservation

Wildlife and Conservation Biology (WCB) Research Foundation is a Non-profit organization registered with Government of India established in September 2020. The foundation is established with the goal of accelerating action-oriented research and enhances the capacity of students for research and development in the field of wildlife and conservation biology. We are committed to science-based conservation and outreach activities through research and development.

The major thrust areas of research at WCB are mammalian ecology and behavior, habitat evaluation and modeling, wetland biology and monitoring, biodiversity monitoring and environmental biotechnology. We are also engaged in consultancy work such as biodiversity monitoring, soil and water testing and green audits.

Since the establishment of the WCB Research Foundation, we have had many interns and dissertation students. We offer and encourage exchange programmes with organizations and institutes with similar interests and open for bilateral programmes related to wildlife and conservation biology.

Currently we have four ongoing research and conservation projects in different parts of the Gujarat state. Our future goal is to encourage young students to make their career in the field of wildlife and conservation and enhance the capacity through training and workshops. Apart from this, we publish scholarly research articles and observations focused on the field of wildlife and conservation biology in our triannual journal "Prithivya". Every year we announce the Dr M I Patel National Award for young wildlife biologists to encourage young researchers. We are also engaged in community services such as wildlife rescue, plantation, science-based restoration and biodiversity monitoring and assessment.

VISION

॥ आत्मवत् सर्वभूतेषु यः पश्यति स पण्डितः ॥
"जो सब प्राणी को स्वयं की भाँति (आत्मवत्)
देखता है वही पंडित है ।"

The one who sees every creature of nature as his own (self-self) is the real scholar.

MISSION

To conserve the wildlife and the natural resources through scientific research and to create the community of practice by enhancing capacity of conservation professionals through scientific training for effective conservation.

OBJECTIVES

- **To conduct and promote research and monitoring on wildlife and habitats.**
- **To promote awareness for wildlife in society.**
- **To organize scientific gatherings.**
- **To organize capacity building programmes.**
- **Dissemination of scientific knowledge on wildlife and conservation.**
- **To generate skilled human resources through research training, internships and dissertations.**
- **To assist the local government and policy makers for wildlife management and habitat conservation.**

DIRECTORS



DR. NISHITH DHARAIYA

FOUNDER;
HONORARY DIRECTOR OF
RESEARCH



MR. PRATIKKUMAR DESAI

CO-FOUNDER;
DIRECTOR
OF OPERATIONS

GOVERNING COUNCIL

DR. SAGARIKA DAMLE

RETIRED PROFESSOR

DR. NURIA SELVA

ASSOCIATE PROFESSOR;
POLAND

DR. RAJESH SENMA

ASSOCIATE PROFESSOR;
VANKAL, SURAT

DR. RUSHIKA PATEL

INDEPENDENT RESEARCHER

DR. SHIVANGI MISHRA

ASSISTANT PROFESSOR;
JAIPUR

MR. PRASAD PATIL

RANGE FOREST OFFICER;
GUJARAT FOREST DEPARTMENT

MS. JAHNVI PATEL

ADMIN OFFICER;
WCB RESEARCH FOUNDATION

ADVISORY BOARD

11

LIFE MEMBERS

19

TRI-ANNUAL MEMBERS

7

TEAM MEMBERS

5

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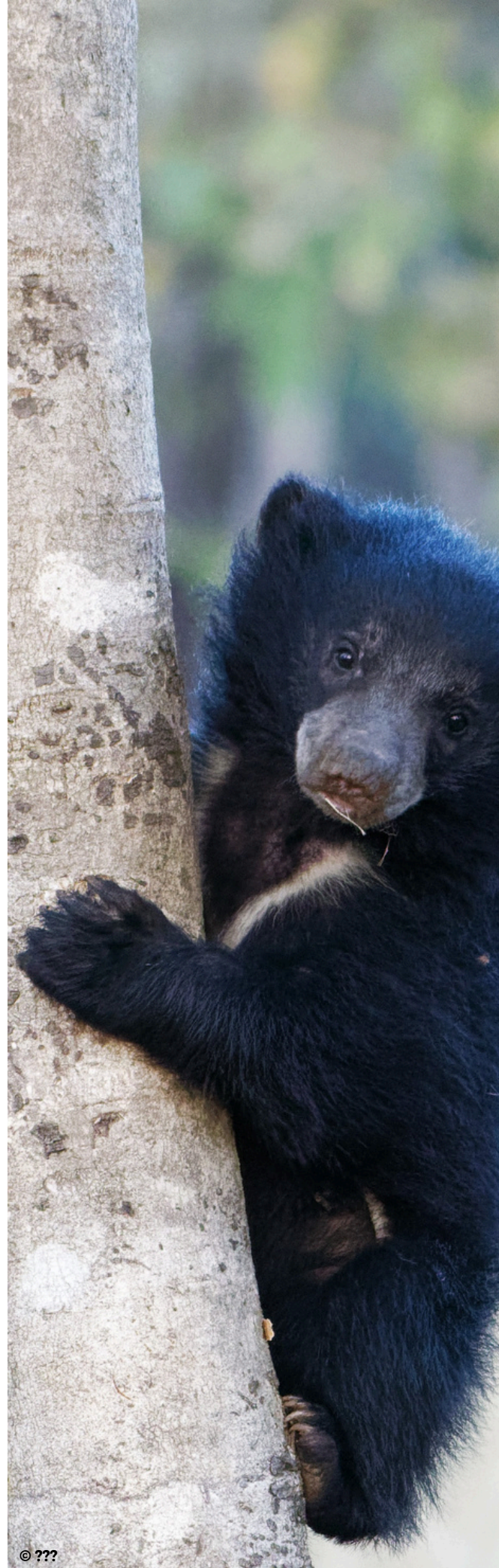


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MESSAGE FROM DIRECTORS

Presenting the 2021-22 Annual Report, showcasing our impactful core activities from the past few years. With optimism for the future, our strategic plan, "Adding Science to Conservation," will guide our work. The targets we met will be credited equally to all of our partners and members in our programmes. With partnership with people and equality at its heart, the plan sets ambitious development goals and defines how WCB can best contribute to wildlife conservation, research, and capacity building. The focus is on science-based conservation, involving local people through education and outreach, and building a community of practise through training programmes for aspiring wildlife researchers. By working closely with partners, WCB aims to align efforts for maximum impact and function as a cohesive team across the country. The report encourages reflection on WCB's activities and development programmes to help people and conserve wildlife. We aim to be a voice for wildlife and people in habitats, thanking supporters, donors, partners, staff, and volunteers. Explore our diverse activities and development programmes within this report as we strive towards science-based conservation for all, with gratitude for our dedicated WCB staff.

**NISHITH DHARAIYA &
PRATIKKUMAR DESAI**



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DONORS & PARTNERS



- PRAFUL AMICHAND SHAH CHARITABLE TRUST
- SAMARTH DIAMOND, VISNAGAR
- DR NISHITH DHARAIYA

MENTORS

MENTOR

DR NISHITH DHARAIYA

EXPERTISE

WILDLIFE BIOLOGY
GEO-SPATIAL TECHNOLOGY

NO OF INTERNS

30

MENTOR

DR JAGRUTI RATHOD

EXPERTISE

AVIAN BIOLOGY
ECO RESTORATION

NO OF INTERNS

04

MENTOR

DR RAJESH SENMA

EXPERTISE

AVIAN BIOLOGY

NO OF INTERNS

02

MENTOR

DR ROHIT PATEL

EXPERTISE

PLANT BIOLOGY &
ECOLOGY

NO OF INTERNS

01

MENTOR

MS MADHURI PADAYA

EXPERTISE

MARINE BIOLOGY

NO OF INTERNS

02

MENTOR

MS SHRUTI PATEL

EXPERTISE

HERPETOLOGY

NO OF INTERNS

03

MENTOR

MR PRATIK DESAI

EXPERTISE

HUMAN-WILDLIFE CONFLICT

NO OF INTERNS

02

ONGOING PROJECTS

SLOTH BEAR CONSERVATION & OUTREACH PROGRAMME

To promote human and bear co-existence and to disseminate authentic and scientific information about the sloth bear among the locals, the WCB Research Foundation has initiated the project “Aatamavat Sarvabhuteshu” to connect sentiments with the education amongst the tribal living in and around the sloth bear habitat. The basic tenet of this programme is to interact with local communities in a two-way street, providing information to them and also gaining traditional knowledge from them. The main objective here is to reduce the number of sloth bear attacks, change the perception of the locals through school education and community awareness and develop a two-way flow of information. Targeting school children, the teaching component is designed to provide direct recommendations for reducing conflicts. We generated practical solutions by learning from the community their habits, culture, needs for going into the forest, fears, myths and misunderstandings about the sloth bear. In order to gather more information about the sloth bear, interviews are recorded with the locals and with people who have encountered and been attacked by the sloth bear.

TEAM

Project Coordinator

Dr Nishith Dharaiya

Project Leader

Ms Shalu Mesaria

Research Assistant

Mr Pratik Desai

Ms Shruti Patel



SLOTH BEAR CORRIDOR EVALUATION

Mitigating human-wildlife conflicts is one of the most important conservation issues for the authorities. This project is an effort to address this issue and develop a scientific approach towards the conservation and management of wildlife and its habitat by formulating a corridor conservation plan with the objectives listed below. Along with the scientific research, we also aimed to enhance the capacity of forest field staff working in the sloth bear habitat by involving them in the study and organizing capacity building programmes during the study. This will help in future monitoring of the sloth bear population and sustaining the identified corridors and their long-term management through frontline forest staff. The study is designed for two years and is currently in progress in central Gujarat, including two wildlife sanctuaries, viz. Jambughoda and Ratanmahal and their adjoining territorial forests of Bariya, Chhotaudepur and Godhara districts, chiefly monitor sloth bear movement and evaluate the habitat to identify habitat connectivity.

TEAM

Project Coordinator

Dr Nishith Dharaiya

Project Leader

Ms Shalu Mesaria

Research Assistant

Mr Pratik Desai

Mr Vishal Patel



WADHVANA WETLAND ECONOMIC EVALUATION

Wetlands contribute to the state and local economies by producing resources, enabling recreational activities and providing benefits such as pollution control and flood protection. The newly addressed Ramsar site, the Wadhvana wetland is located in Dadhoi taluka near Vadodara district. Wadhvana wetland harbours thousands of migratory birds during winter season.

The project aims at evaluating economy generated by wetland along with decadal changes in the wetland. The changes in the wetland represents the pressure and anthropogenic disturbances on the wetland. The economic evaluation studies with suggest all the newer possibilities to raise the current efforts in ongoing activities and new offer new ideas to rise the economy.

TEAM

Project Coordinator

Dr Nishith Dharaiya

Project Leader

Ms Shalu Mesaria

Research Assistant

Ms Roshni Jethva



COMPLETED PROJECTS

ECOLOGICAL STUDIES ON SELECTED WETLANDS IN PATAN DISTRICT

Wetlands are vital ecosystems that support life on Earth by providing food and shelter for birds and serving as a unique habitat. A study in Patan district evaluated the ecological status of its wetlands and identified 206 bird species, including migratory and endangered birds. The study analyzed bird diversity using various indices and remote sensing. It highlighted 23 important wetlands in Patan that require attention and monitoring to prevent human activities. The Western part of Gujarat serves as a crucial staging ground for migratory birds, emphasizing the need for wetland conservation. The study provides baseline data on bird populations, wetland distribution, and important wetlands in Patan. It also includes a GIS map of bird congregation areas. The report will aid in developing conservation and wetland management strategies in the district.

TEAM

Project Coordinator

Dr Nishith Dharaiya
Dr Nikunj Gajera

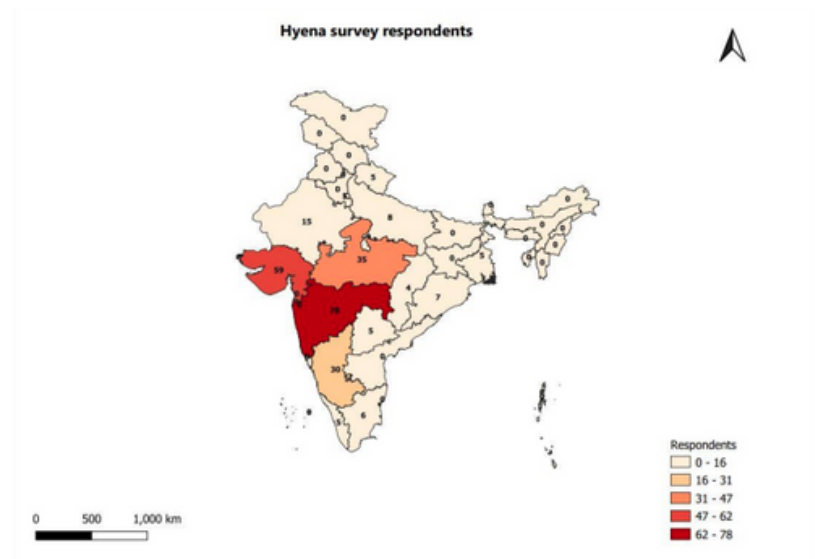
Research Assistant

Ms Jahnavi Patel
Ms Rinku Bhati



SYSTEMATIC LITERATURE REVIEW ON STRIPED HYENA IN INDIA

To gather knowledge and research gaps on Striped Hyena (*Hyaena hyaena*) research in India. A detailed Systematic Literature Review for Striped Hyena is the main objective of the study. In addition to this, an effort was also made to generate the awareness and disseminate the knowledge to the community in a pandemic through mass communication such as e-posters and videos on social media platforms



Project Intern

Ms Aishvarya Lagate

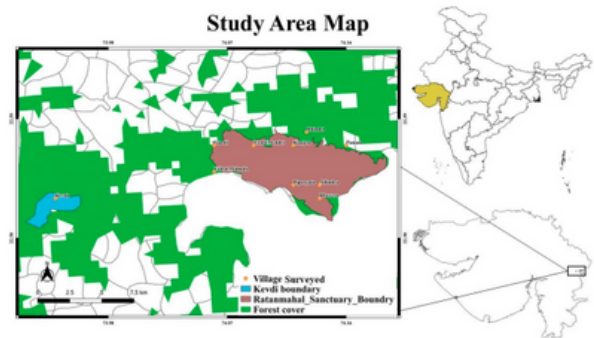
Mentor

Dr Nishith Dharaiya



COMMUNITY PERCEPTION ON FLYING SQUIRREL IN CENTRAL GUJARAT

This study aims to understand people's level of knowledge about the species and their perception of its presence in the area using a semi-structured questionnaire and Q-methodology, respectively. Two flying squirrel habitats from central Gujarat were selected for this study, in which 108 people were interviewed for the questionnaire survey and 53 people were interviewed for the Q-methodology belonging to 10 villages.



The study reveals that people lack knowledge in roosting, biology/ecology and hunting of the species however it was observed that 66 people appreciate presence of IGFS. The findings suggest that people highly like IGFS as it does not cause any economic loss and is aesthetically pleasing compared to other animals.

Project Intern

Ms Krishna Pithva

Mentor

Dr Nishith Dharaiya

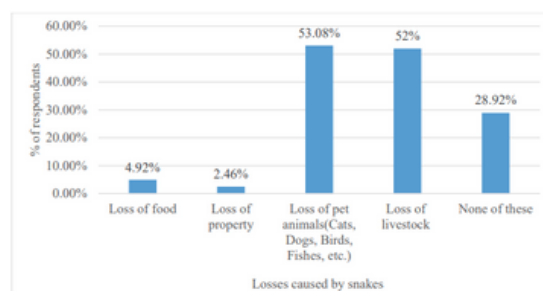
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HUMAN-SNAKE INTERACTIONS IN UTTAR PRADESH

Snake populations have been declining due to human-snake interactions and negative attitudes. A survey in Uttar Pradesh, India, found that most respondents had encountered snakes, often in bushes during the monsoon. Many lacked knowledge of snake species, and misconceptions were prevalent. First-aid methods were poorly understood. Most respondents were not interested in snake charmers, and their numbers have decreased.

Despite fear, the majority recognized the importance of snakes for the ecosystem. Contact with the forest department was reported, but timely response was lacking. Suggestions include teaching snake-bite management, raising awareness, improving medical facilities, and enhancing the forest department's rescue capabilities.



Project Intern

Mr Devvrat Singh

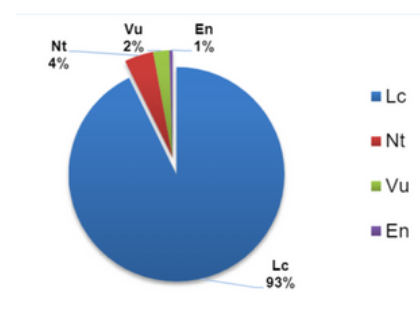
Mentor

Ms Shruti Patel



BIRD DIVERSITY OF KHERALU, MEHSANA, GUJARAT

The study is aimed to collect the information regarding species richness and feeding guilds in the Kheralu sub-district. Birds are the best indicators of habitat quality and feeding guilds are best character of it. The study area is 322 km² including 284.65 km² rural area and 37 km² urban area. During the study period between May 2019 and April 2021, we recorded 207 bird species belonging to 66 families in the study area. Of the recorded species, nine are considered Near Threatened, five are considered Vulnerable and one is considered Endangered (En; *Aquila nipalensis*) by IUCN Red List criteria. The study recorded 68 migratory birds and 139 resident birds. Our findings imply that, despite human presence in the landscape, avifaunal guild variety is abundant in human dominated landscapes.



Project Intern

Mr Sarthak Chaudhary

Mentor

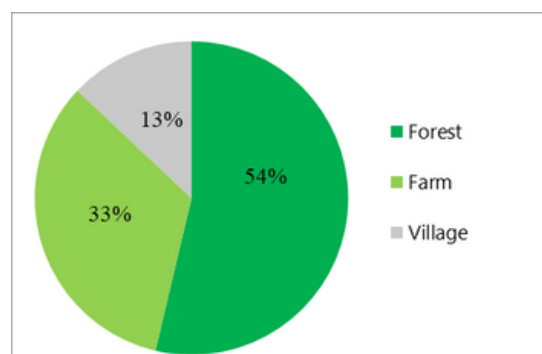
Mr Pratik Desai

© Mayank Judal



INSIGHTS ON HUMAN-SLOTH BEAR INTERACTION IN CENTRAL GUJARAT, INDIA

The study was focused on identifying the reasons for sloth bear attacks on humans and exploring the attitude of tribal communities towards sloth bears. Attack victims and local villagers of all age groups were interviewed to gather information about the characteristics of attacks and their perceptions of living with sloth bears. The locations of attack sites were also recorded to create the potential conflict zone map. Findings of this study showed seasonal and temporal variation in sloth bear attacks and we got to know about the knowledge and perceptions of local people. The results of this research are very useful for developing strategies to mitigate human-sloth bear conflicts and promote co-existence.



Project Intern

Mr Vishal Patel

Mentor

Mr Pratik Desai



STUDY OF AVIFAUNAL DIVERSITY OF VISHWAMITRI RIVER

Various Birds were studied around the riverine area of the Vishwamitri River in the City of Vadodara, Gujarat state, India. As Vishwamitri has a total length of around 80 km, the riverine ecology covers Upper catchment areas, Urban areas and the End point of the river. As all of these areas have different habitats and the diversity was studied with the help of the Shannon Weiner Diversity Index, Evenness and Species Richness were calculated accordingly to find out the variation in birds found in each riverine area of the river.

A good species variation was observed, as a total of 170 Species were observed, of which 44 were migratory birds, which were mostly observed in the upper catchment and end point of the river, as the upper catchment consisted of more vegetation and biodiversity compared to that of urban areas. The Urban areas mostly contained Territorial Bird Species as there is more disturbance and human interference in the urban vicinity.

Project Intern

Mr Sanal Santosh

Mentor

Dr Jagruti Rathod



ACTIVITIES

COMMUNITY OUTREACH

Our organization is committed to promoting wildlife education and conservation through a variety of outreach programmes. We collaborate closely with the forest division to organize events such as Wildlife day celebrations, which aim to raise awareness about the importance of protecting our natural habitats and the wildlife that inhabit them. We also conduct training sessions for forest field staff to equip them with the knowledge and skills needed to effectively manage and protect wildlife populations.

In addition, we conduct school awareness programmes that educate young minds about the importance of conservation and the role they can play in protecting wildlife. Through interactive sessions and engaging activities, we strive to instill a sense of responsibility and respect for nature in the next generation.



RESCUE

Our team has been actively involved in animal rescue operations throughout North Gujarat, with a particular focus on the Patan and Mehsana regions. One of our areas of expertise is reptile rescue, with a significant number of successful interventions involving snakes and monitor lizards. We are proud to have been able to provide critical support to these animals, ensuring their safe and humane removal from potentially dangerous situations.

45

Snakes
Rescued

08

Monitor Lizards
Rescued



EVENTS

INTERNATIONAL BEAR DAY CELEBRATION (MARCH 23, 2022)

World Bear Day is celebrated on March 23 each year to recognize and encourage the conservation of the various bear species found in the world. Bear Day is celebrated to raise awareness among people about the various bears, their habits and habitats. The Wildlife and Conservation Biology (WCB) Research Foundation and Vadodara Wildlife Division jointly organized the World Bear Day celebration at Ratanmahal sloth bear sanctuary in 2022. In this celebration, 20 volunteers from various places were encouraged to participate and conduct a sloth bear awareness drive among the children living around the sloth



bear habitat. We educated 223 students from 1st to 12th grade and 45 teachers from six schools in the six villages located in close proximity to the bear habitat in the Ratanmahal sloth bear sanctuary were also trained.



WORLD SLOTH BEAR DAY CELEBRATION (OCTOBER 12, 2022)

World Sloth Bear Day was officially announced on October 12, 2022, through a collaboration between Wildlife SOS, CZA (Central Zoo Authority), WCB Research Foundation and IUCN Bear Specialist Group.

To commemorate this special day, various activities were organized. One of these activities involved the WCB Research Foundation visiting schools in Patan, where they introduced school children to the fascinating world of the Sloth Bear.

During the school visits, the children were engaged through a range of educational materials, including documentaries, leaflets, activity booklets, and presentations. These resources provided valuable insights into the lives and conservation of Sloth Bears.

The aim was to raise awareness and promote understanding among the younger generation about this unique bear species and the importance of its conservation.



NATIONAL CONFERENCE

NATIONAL CONFERENCE ON CLIMATE, COMMUNITY & CONSERVATION (SEPTEMBER 25-26, 2022)

WCB Research Foundation collaborated with Navrachana University Centre for Environment Research and Innovation (NUCERI), Vadodara, for a two-day National Level Conference titled 'Climate, Community and Conservation' held on September 25 and 26, 2022, at Navrachana University, Vadodara.

The main objective of the conference was to discuss the important issues of natural resource conservation in the changing climate with the objective of exchanging and sharing scholarly research on a single platform, enhancing the opportunity for creating a community of practice for conservation.

A total of 35 Oral presentations and 40 Posters were presented by research scholars attending the conference. Prizes were awarded to the successful candidates in the oral and poster categories.



Proud WCB Research Foundation Team with Ms. Sreeparna



NATIONAL TRAINING

"CONTEMPORARY TECHNIQUES FOR MONITORING OF BEARS & HABITAT" (FEBRUARY 25-28,2023)

Field Based Training on Contemporary Techniques for Research & Monitoring of Bears & Habitat was jointly organized by Vadodara Wildlife Division and Wildlife and Conservation Biology Research Foundation, Patan. This training course was supported by the International Association for Bear Research & Management (IBA), USA. This training was organized with the motive of developing the capacity of frontline forest staff and young researchers to conduct monitoring of sloth bears and habitats and exchange knowledge between participants.

The training programme was organized at the Dhanpuri Ecotourism Site in Panchmahal district. The training included 37 participants, out of whom 24 were students across the country and 13 were frontline forest staff of the Gujarat Forest Department.

Experts from various universities, forest departments, and collaborators across the country have delivered their talks and hands-on training on habitat evaluation, monitoring and management, sign survey, scat analysis, demonstration of camera traps and placing them on the field.



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DR M I PATEL AWARD

AWARD FOR YOUNG WILDLIFE & CONSERVATION BIOLOGIST

The Award will be conferred to any young scientist / student/ researcher below the age of 35 who works in the field of wildlife and conservation biology (Zoology/ Botany/ Environmental Science/ or an allied subject) and has carried out significant research in the respective field.

Selection criteria:

A selection committee will review your application and invite you for the online presentation before the Jury panel, and the best five researchers will be selected for the grand finale.

Award:

The awardee will receive a cash prize of Rs. 50,000, a running trophy of the award and a merit certificate. All five finalists will also receive a trophy and a certificate.

How to apply:

Register online with an extended research abstract of 1000 words and an outstanding contribution to wildlife conservation, along with your one page CV and one letter of nomination or recommendation.

The registration fee is Rs. 550 (non refundable)



AWARDEES



MS. SREEPARNA DUTTA- 2022

Project Biologist
Fresh water Turtle Conservation Project
Turtle Survival Alliance, Uttar Pradesh

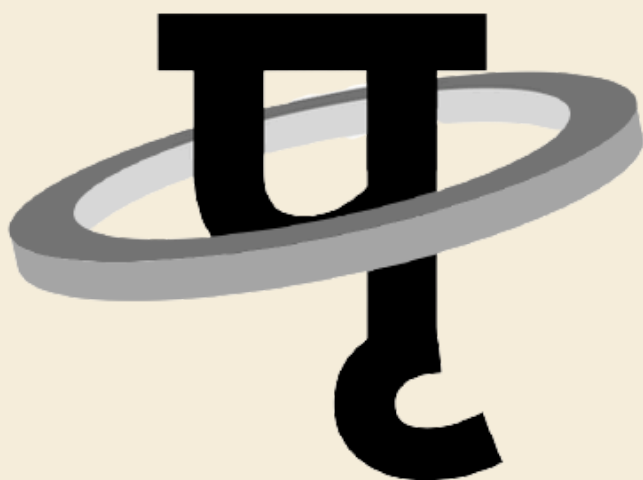


MS. JIS SEBASTIAN-2021

Independent researcher at Tropical
Institute of Ecological Sciences
Kottayam, (Kerala)

The deadline to apply for the year 2023 is June 30, 2023

PRITHIVYA



ISSN NO: 2583-2220

TRI-ANNUAL NEWSLETTER OF WCB RESEARCH FOUNDATION

Prithivya, a Tri-annual official newsletter of the WCB Research Foundation, publishes original manuscripts on wildlife, conservation biology and its allied areas.

We do not charge any publication or article processing fees.

Types of Contribution

- Short Research Article: 2000 to 2500 words
- Important sightings: 250-350 words with proper GPS location & photographic evidence
- Important findings: 250-500 words with proper GPS location and image
- Full-length Research paper: Up to 10000 words
- Short reports or Letters to the foundation
- Review Articles
- Other announcements

Website: prithivya.wcbresearch.in

2

VOLUME

3

ISSUE

4

**SHORT
ARTICLE**

3

**FIELD
OBSERVATION**

4

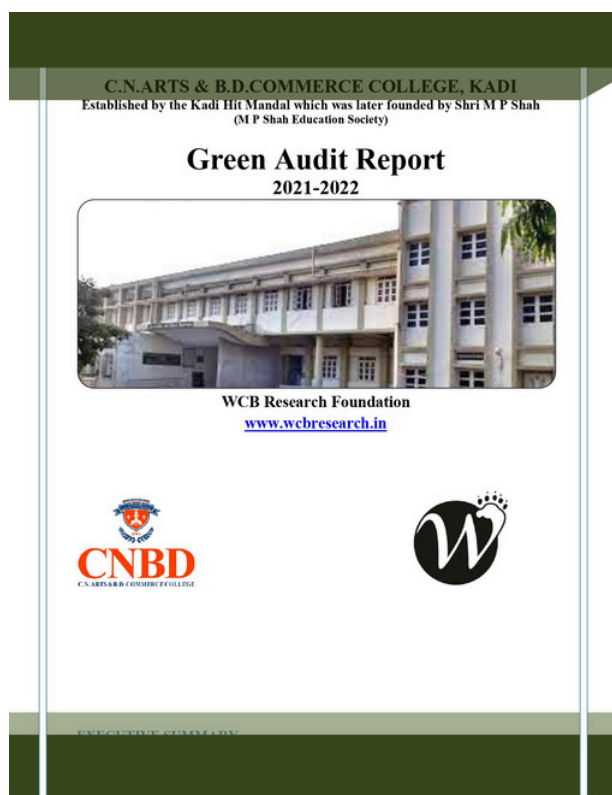
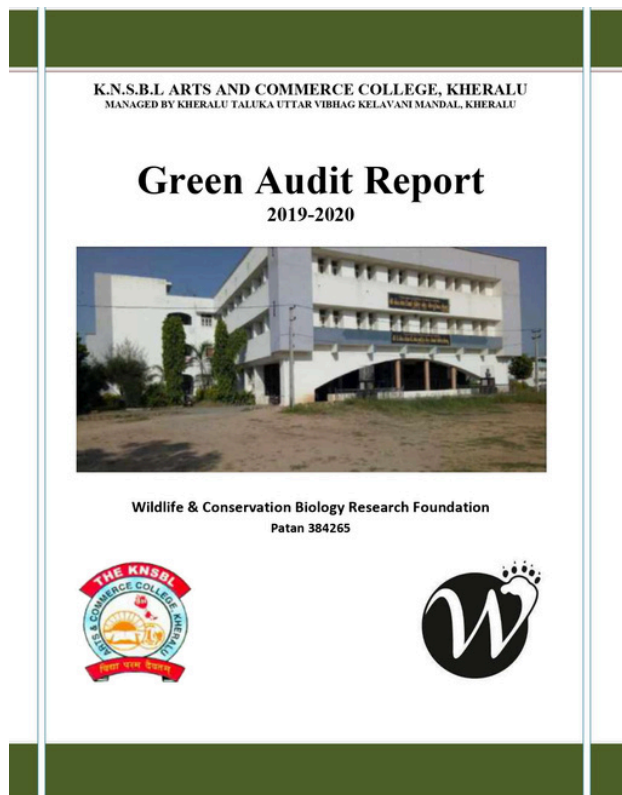
**RESEARCH
PAPER**

7

**REVIEW
ARTICLE**

SERVICES

GREEN AUDIT



Under the Green audit services, our team of experts and volunteers will visit your office or campus and carry out the following activities with a scientific approach and approved methodology.

Audit Team Leader

Dr Jagruti Jagiwala
WCB Research Foundation

Services Offered:

- Energy Audit
- Carbon Footprint
- Green belt mapping
- Safety inspection and audit (optional; charges may apply)
- Carbon sequestration estimation

ACHIEVEMENTS

Dr. Rohitkumar M. Patel Awarded by the Education Minister (state), Hon. Dr. Kuberbhai Dindor, Government of Gujarat, for study and documentation on the diversity of grass species in the Dahod district. He recorded the highest number of 112 Grass species from Rampura Reserve Grassland and 129 Grass species from the Dahod district.



Mr. Shailesh Desai is studying the landscape ecology of the Indian Grey Wolf in the Bhal region of Gujarat. As a part of his ongoing field work, the IDEA WILD FOUNDATION of the USA has supported his work by providing field instruments. Also, he recently qualified the UGC-CSIR NET examination under the JRF category in life sciences, with an all India rank of 37.

Ms. Shalu Mesaria, Senior Project Fellow of WCB Research Foundation, has been awarded “Environmental Educator of the Year 2022” by the WeNaturalist People of Nature Awards 2022 for her outstanding contribution in conservation education to the local people for mitigating human-sloth bear conflicts in Gujarat. She was also awarded by Experinence and Exchange Grants from the IBA (International Association for Bear Research and Management), USA.



The IDEA WILD FOUNDATION of the USA has supported Mr. Pratikkumar Desai with a basic field instrument and a laptop computer for his ongoing PhD studies on sloth bears in Gujarat. Mr. Pratik is a PhD scholar at Hemchandracharya North Gujarat University and also the Director of Activities at the WCB Research Foundation.

Support WCB and be a part of our mission of saving the natural resources of Mother Earth.

Your donation today will help us save wildlife and people for the future.

**Write us for more details and for donation:
wcbresearch@gmail.com**



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Branch: University Road Branch, Patan

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WCB Research Foundation

Adding Science to Conservation



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wcbresearch@gmail.com



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