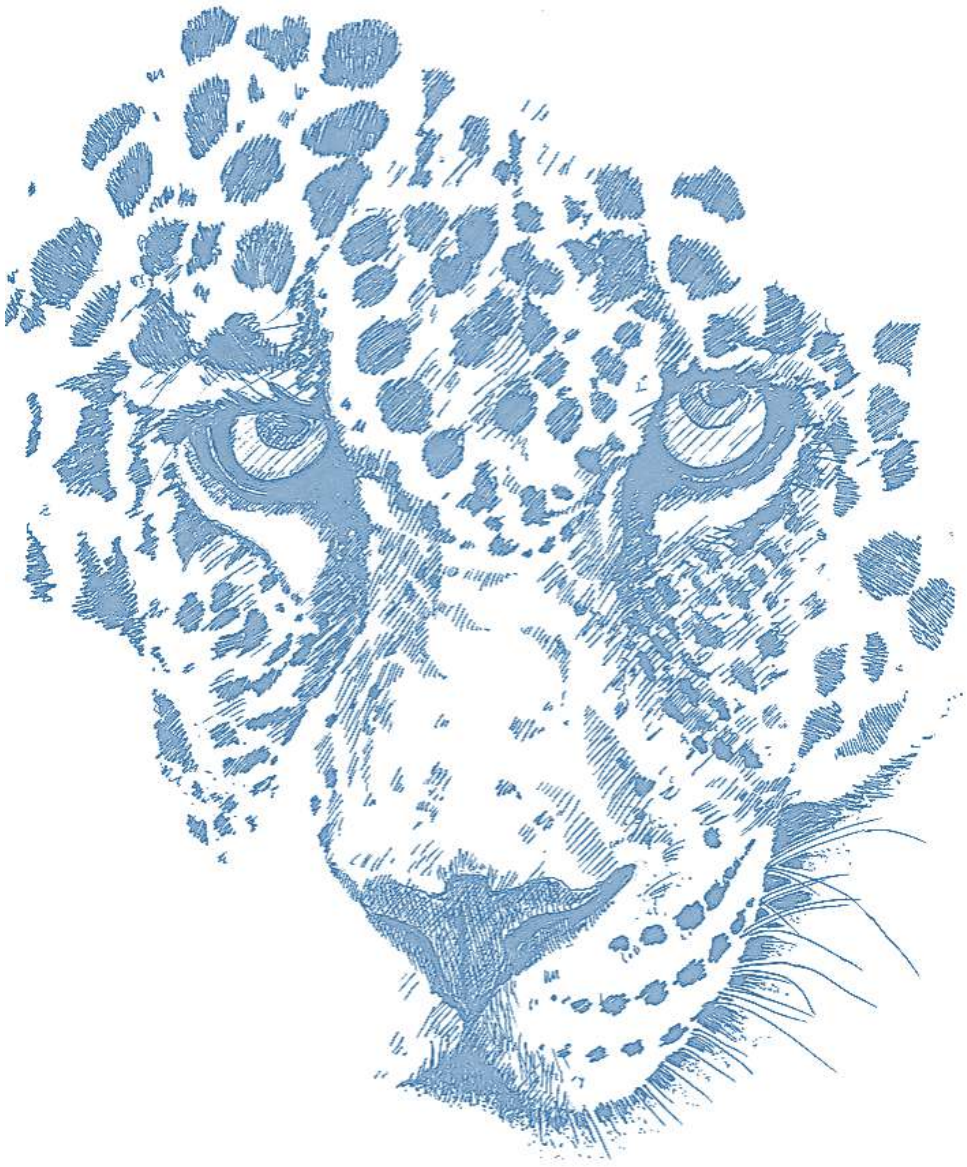
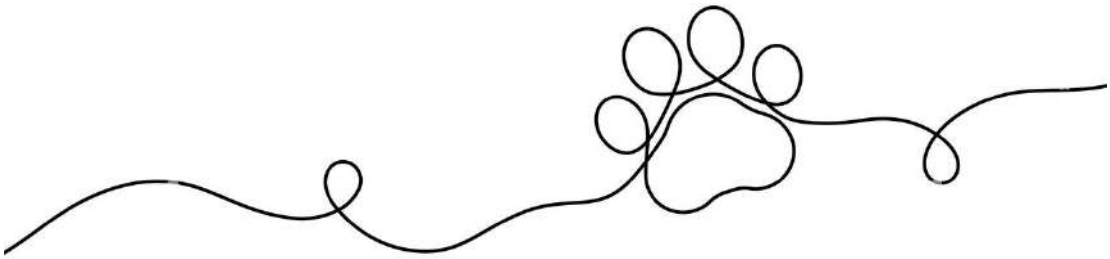


Department of Wildlife Sciences

2025

COLLEGE OF FORESTRY
NAVSARI AGRICULTURAL UNIVERSITY
1988
वनं समृद्धं जीवनम्



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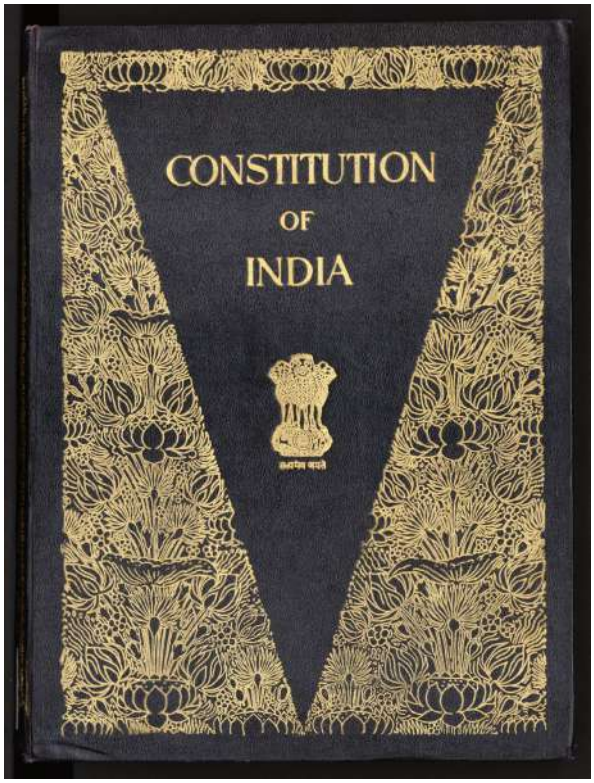
Compiled by: Aadil Kazi, Navaz Dahya, Pravin Chaudhari and Sundaram Rajawat

Photographs: Aadil Kazi, Navaz Dahya, Sundaram Rajawat and online open sources

CONTENT

Wildlife

India's Wildlife Scenario



India harbours around 8 percent of the global biodiversity comprising diverse floral and faunal species. India, being one of the 17 megadiversity countries of the world, has tremendous biological diversity with high endemism, but a large proportion of India's habitats and wildlife are threatened. In the present scenario, Indian wildlife face threats such as habitat loss, mining, livestock grazing, roads and railways, forest fires, poaching and illegal trade, diseases, excessive tourism and above all the ever-increasing human-wildlife conflict. The threats are increasing day by day and the ways to mitigate them require a scientific approach and qualified manpower. And for that it is important to understand how wildlife grew as a discipline in India.

Soon after independence, India constituted Indian Board for Wildlife (IBWL) in 1952 and ensured commitment towards protection and conservation of wildlife national assets. To ensure faith in conservation of forests and wildlife, following sections were added through 42nd amendment of Indian constitution in 1976:

Article of the Constitution of India	Content of the Article
48A Protection and improvement of environment and safeguarding of forests and wildlife	The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.
51A (g) Fundamental Duties	It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for all living creatures.

India's Wildlife Research

The scientific discipline of Wildlife Science in India grew on a solid foundation of natural history observations and accounts published since 1896 through the publication of the Journal of Bombay Natural History Society, Cheetal- a journal of Wildlife Preservation Society, Dehradun and to some extent the Indian Forester published by the Forest Research Institute, Dehradun. The natural history accounts led to the foundation of quantitative ecological studies. Studies conducted by George Schaller and Claude Martin in Kanha; Paul Joslin, K.T.B. Hodd and Stephen Berwick in Gir forests in the late 1960s in that sense may be regarded pioneering and classic which combined natural history accounts of species and ecosystem using quantitative approach which, later became hallmark of many ecological studies undertaken by the BNHS under late Dr. Salim Ali.

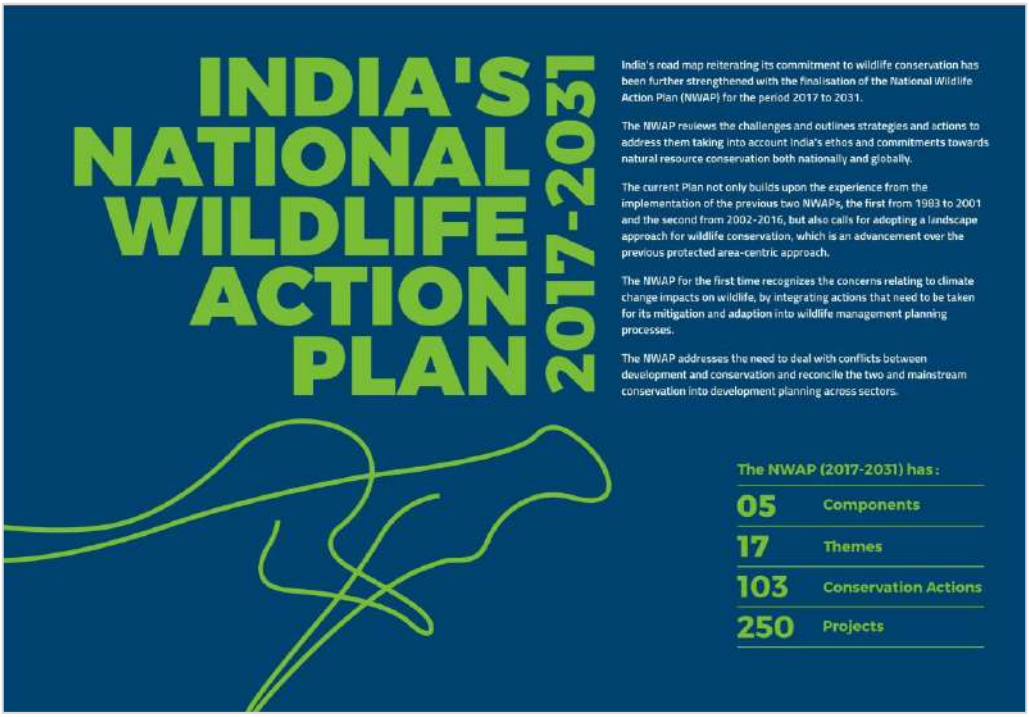
The establishment of the Wildlife Institute of India coupled with introduction of Wildlife Science at post graduate level in Indian Universities gave a steady impetus to organised scientific quantitative studies on species, ecosystem and bio-geographic zones in India. The Centre for Ecological Sciences, established in the Indian Institute of Science, Bangalore in the 1980s playing the pivotal role in the system as a result of which, the Wildlife Science discipline with its sub disciplines such as ecology, biology, management and conservation saw phenomenal growth during last 35-40 years in India.

There has been an impressive growth in accumulation of ecological literature pertaining to species ecology, community ecology, plant ecology, ecosystem functioning, conservation and management of threatened species, communities, and ecosystem, especially after the use of computers, ecological statistical software and modern technology such as Remote Sensing and Geographic Information System. The Indian protected area system also witnessed phenomenal growth over this period with the Project Tiger playing a leading role in conservation of critically endangered tiger and its associated prey species in representative biogeographic zones. With increased protection levels as well as strict enforcement of wildlife laws, the population of many endangered species recorded overall increase in population size. However, such gains have been often nullified to a great extent due to increase in anthropogenic pressures such as habitat destruction, habitat alteration, habitat fragmentation, excessive use pesticides, urbanization, industrialization, incidences of emerging wildlife diseases, invasive species, illegal wildlife trade, and unprecedented increase in human and livestock populations. All these factors affect the natural resources including the wildlife populations of protected areas and giving rise to human-wildlife conflicts in each biogeographic zone. The extent and magnitude of human-wildlife conflict and its mitigation is by far one of the key management challenges faced by the managers of the protected areas.

Despite of all the development in Scientific rigor and evolution of wildlife sciences as a subject it is facing an identity crisis not merely in comparison with other main stream subject like zoology, botany etc but also in the society. This may hinder the process of generating robust scientific information which may hinder the conservation process. In fact, Department of Wildlife Sciences in NAU is first of its kind in whole Gujarat not just existing under the aegis of the only Forestry College in the state but across all universities and institutions. Department of Wildlife Sciences at NAU can be helpful in conservation of wildlife not only in Gujarat but from across the India by generating robust scientific data which could augment in making effective policy and management decisions for wildlife conservation.

India's National Wildlife Action Plan

With a view to approach protection, conservation and management of wildlife in India, a decision was taken in 15th meeting of IBWL in 1982 to prepare National Wildlife Action Plan (NWAP). Henceforth, the first NWAP was drafted and adopted in 1993 and implemented from 1993 to 2001. Then the plan was revised and a new action plan NWAP-2 was adopted in for the period 2002-2016. In 2014, Ministry of Forests, Environment and Climate Change, Government of India constituted a committee who reviewed the NWAP-2 and developed a new plan for next 15 years i.e. 2017 to 2031.



This new and currently operational National Wildlife Action Plan has following points where academic and research needs can be fulfilled by the institutions and Universities:

Chapter of NWAP	Priority Projects under NWMP	Responsibility assigned to
I	Strengthening and improving the protected area network	MoEFCC, NTCA, SFDs, WII, Scientific institutes, Universities and suitable NGOs
II	Landscape level approach for wildlife Conservation	
III	Integrating Climate Change in Wildlife Planning	
IV	Management of tourism in wildlife areas	
V	Peoples participation in wildlife conservation	
VI	Conservation Awareness and outreach	
VII	Conservation of threatened species	
VIII	Control of poaching and illegal trade in wildlife	
IX	Wildlife health management	
X	Mitigation of Human-wildlife conflict	
XI	Conservation of inland aquatic ecosystems	
XII	Conservation of coastal and marine ecosystems	
XIII	Development of human resources	
XIV	Strengthening research and monitoring	
XV	Improving compliances of domestic legislation and international conventions	
XVI	Ensuring sustained funding for wildlife sector	
XVII	Integrating national wildlife action plan with other sectoral programmes	

Moreover, the Wildlife (Protection) Act, 1972 also gives due weightage on wildlife education and research and special leverages are given under the provisions of the act:

Section of WLPA	Provision
12 (a) education 12 (b) scientific research	Grant of permit for special purposes: Chief Wild Life Warden shall be lawfully grant the permit.
17 B (a) education 17 B (b) scientific research	The Chief Wild Life Warden may grant to any person a permit to pick, uproot, acquire or collect from a forest land
28 (a) investigation or study of wildlife and purposes ancillary or incidental thereto; 28 (c) scientific research	The Chief Wild Life Warden may grant to any person a permit to enter or reside in a sanctuary for investigation or study of wildlife and scientific research
38 O (f) research and monitoring on tiger	NTCA can approve, co-ordinate research and monitoring on tiger, co-predators, prey, habitat, related ecological and socio-economic parameters and their evaluation
38 X (f) support research and environmental education	Tiger Conservation Foundation is established to support research, environmental education and training

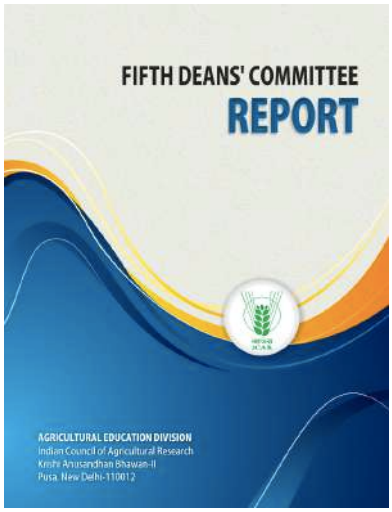
Dieter Braun

Green Humour by Rohan Chakravarty

Department of Wildlife Sciences

Genesis

Forestry education in India began in 1985 in State Agricultural Universities and ASPEE College of Forestry and Horticulture was established in 1988, starting with B. Sc. (Forestry) education. M.Sc. and Ph.D. in various specializations of Forestry started in 1993-94 and 2006-07, respectively. College of Forestry, which is the only forestry education institute in Gujarat, follows syllabus and curricula as per the recommendations of Indian Council of Agricultural Research (ICAR), New Delhi. The institute is being accredited by ICAR as well as Indian Council for Forestry Research and Education (ICFRE). Time to time undergraduate and postgraduate programmes are amended by ICAR and implemented across the country. Looking to the need of the society and demand of the market, the nomenclature and content are upgraded at national level.



As per the recommendations of ICAR's Fifth Deans Committee, College of Forestry should have six departments namely Silviculture and Agroforestry (SAF), Forest Biology and Tree Improvement (FBT), Natural Resource Management (NRM), Forest Products and Utilization (FPU), Basic Science (BS) and Wildlife Sciences (WLS). On the basis of ICAR's Fifth Deans Committee Report, a proposal was submitted to Govt of Gujarat for establishment of Department of Wildlife Sciences and a separate department has been approved by the State Government in May 2021.


Dry Cabinet

Aim

Development of quality human resource to contribute in wildlife research for conservation of wildlife of India

Objectives

The objectives of the DWLS are aligned with the recommendations of ICAR, and policy documents of MoEFCC, Govt of India including India's latest National Wildlife Action Plan.

1. To strengthen the department of wildlife sciences with state of the art facilities and impart education to under graduate and post graduate students on wildlife and develop qualified human resource.
2. To carry out basic and advance research in the field of wildlife along with taking up farmers oriented projects on human-wildlife conflict, issues prevailing in the state and the country and collaborate with various wildlife institutes, universities and agencies of the country and abroad for wildlife monitoring, conservation and management.
3. To make the scientific technology of wildlife monitoring and conservation available to the society and working towards community participation in wildlife protection issues, ecotourism and livelihood upliftment.

Vision

Strengthen Department of Wildlife Sciences with state of the art facilities for holistic research that can augment monitoring and conservation of wildlife of India.

Laboratory

The Wildlife Sciences Laboratory was formally inaugurated by the Hon'ble Vice Chancellor Dr. Z. P. Patel on 4th April 2025. This facility is the first of its kind in South Gujarat and marks a significant milestone in advancing wildlife research and conservation efforts in the region. The laboratory is designed to support a wide range of scientific and practical activities. Qualified researchers and students can now engage in specialized studies such as scat analysis, animal dissection, morphological examinations, taxidermy, camera trapping, mammal and reptile rescue operations, hair morphology analysis, skeletal anatomy research, distance sampling, and comprehensive data analysis.

To facilitate these activities, the lab is outfitted with a diverse array of modern equipment including dart gun, range finders, night vision binoculars, camera traps, spotting scopes, densitometers, velocity guns, and specialized tools for the safe handling and rescue of reptiles. This advanced infrastructure aims to foster hands-on learning, cutting-edge research and effective wildlife conservation practices across the region.

Future plan

- To prepare M.Sc. and Ph.D. Wildlife Science manpower for the service to nation.
- Develop a regional centre of international importance on wildlife and national resource conservation.
- Identify and analyse research needs looking to the global climate change scenario and generate scientific information and provide the research base for various conservation initiatives by taking up collaborative projects on wildlife.
- Develop guidelines for education, research and extension of wildlife sciences that can be used as ready reckoner for farmers, students, protected area managers, forest officers and field staff of forest department.
- Disseminate scientific information and wildlife friendly technology to farmers and local people to create awareness among communities towards precautionary measures to reduce human-wildlife conflict.
- Recognize the issues relating to climate change impacts on wildlife and suggest mitigation and adaptation measures.
- Take up projects on current issues of wildlife with national and international agencies.
- Focus on high rated publication with high impact factor and global acceptance.
- Organize national and international conferences, workshops and seminars.
- Sign Memorandum of Understanding with various local and global agencies for training, technology transfer and technical guidance to the stakeholders.
- Establish a centre of excellence on wildlife studies that deals with all the stakeholders using latest technology for wildlife monitoring and conservation.
- Initiate Post graduate Diploma in Wildlife Conservation and Management.
- Commence skill based short term certificate courses and training programme on wildlife conservation, ecosystem services, wildlife management, mammalogy, herpetology, ornithology, wildlife health management, rescue and rehabilitation, ecotourism, etc.
- Establishment of state of art lab for geospatial data analysis.
- Publishing a journal of wildlife research from the department.

TEAM

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TEAM
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Conservation of Large Carnivores of Gujarat

Navsari and Dang

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Project Intern

Bhavesh Rathod
Field Assistant

Valsad and Tapi

Dharmik Rana
BE Environmental Engineering
Project Intern

Mihir Desai
Bachelor of Computer Applications
Project Intern

Surat, Bharuch and Narmada

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Project Intern

Atul Mehta
BE Mechanical Engineering
Project Intern

Junagadh and Amreli

Prakhar Sharma
MSc Wildlife Science
Project Intern

Prashant Suva
Field Assistant

OFFICE

Payal Patel
Office Clerk

Mayank Nayka
Office Assistant

Smit Solanki
Lab Assistant

Education

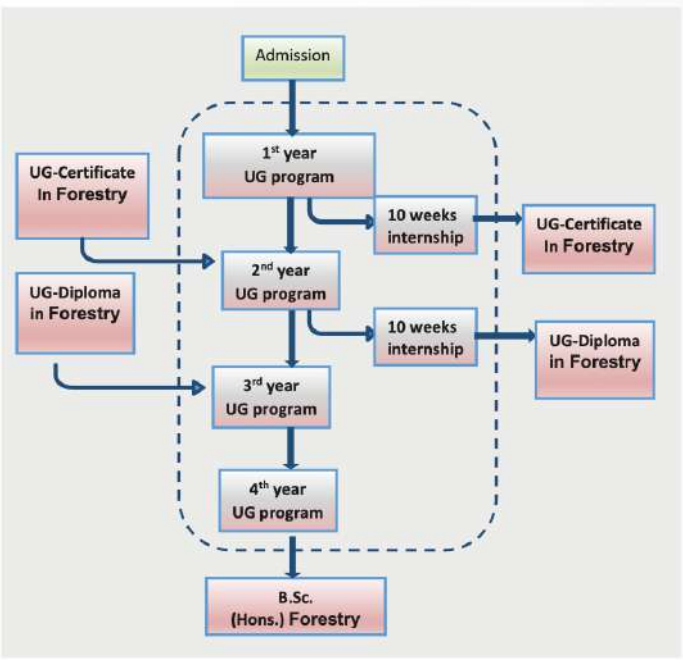
Undergrad Courses

Following courses are being taught to B.Sc. (Hons.) Forestry students who study as per the Fifth Deans Committee of ICAR:

Semester	Course Title	Credit
III	Wildlife Biology	2+1
IV	Ornithology & Herpetology	2+1
IV	Study tour to State Forest	0+1
VIII	Wildlife Management	1+1
VII	All India Study Tour	0+3

Following courses are being taught to B.Sc. (Hons.) Forestry students who study as per the Sixth Deans Committee of ICAR:

Semester	Course Title	Credit
III	Wildlife Sciences	2+1
VI	Wildlife and Protected Area Management	2+1
V	Study tour	0+2



(Sixth Deans' Committee Report)

Skill Enhancement Courses

as per the Sixth Dean Committee

1. Ecotourism
2. Ornithology
3. Herpetology
4. Zoo Management
5. Wildlife Photography
6. Wildlife Forensic Sciences
7. Human-Animal Ecosystem Interface

Skill Development Courses

as offered by the Department

1. Certificate Course in Nature & Wildlife Photography (1 year)
2. Certificate Course in Bird Watching & Basic Ornithology (6 months/ 1 year)
3. Certificate Course in Camera trapping and Data Collection (6 months)
4. Certificate Course in Rescue and Rehabilitation (3 months)
5. Postgraduate Diploma in Wildlife Conservation (1 year)


BOMBAY
NATURAL HISTORY
SOCIETY
बॉम्बे नॅचरल हिस्ट्री सोसायटी
BNHS

Dissertations

of B.Sc. (Hons.) Forestry

No.	Name	Title	Year
1.	Simran Panchal	Population density and habitat use of Five-stripped squirrel (*Funambulus pennantii*) in Navsari Agricultural University	2022
2.	Harsh Prajapati	Population density and habitat use of Indian Peafowl (*Pavo vristatus*) in Navsari Agricultural University	2022
3.	Akshay A J	Time activity budget of free ranging dogs (C*anis familiaris*) in Navsari Agricultural University	2024
4.	Saqlain Saiyed	Human-leopard interactions in coastal villages of Jalalpore taluka in Navsari District.	2023
5.	Jaykumar Patel	Crop damage by wild boar (*Sus scrofa*) in some villages of Jalalpure and Mahua taluka of Gujarat, India	2023
6.	Kavya Shah	Assessing population status of free – ranging dogs of Navsari Agricultural University	2024
7.	Jyotirmay Ulva	Distribution and habitat use of spotted owlet (*Athene brama*) in Navsari Agricultural University	2024
8.	Parth Thumar	Status and distribution of birds in Navsari Agricultural University campus	2025
9.	Abhilasha Vadhel	Human-Snake interaction in and around Navsari Agricultural University campus	2025

Postgrads

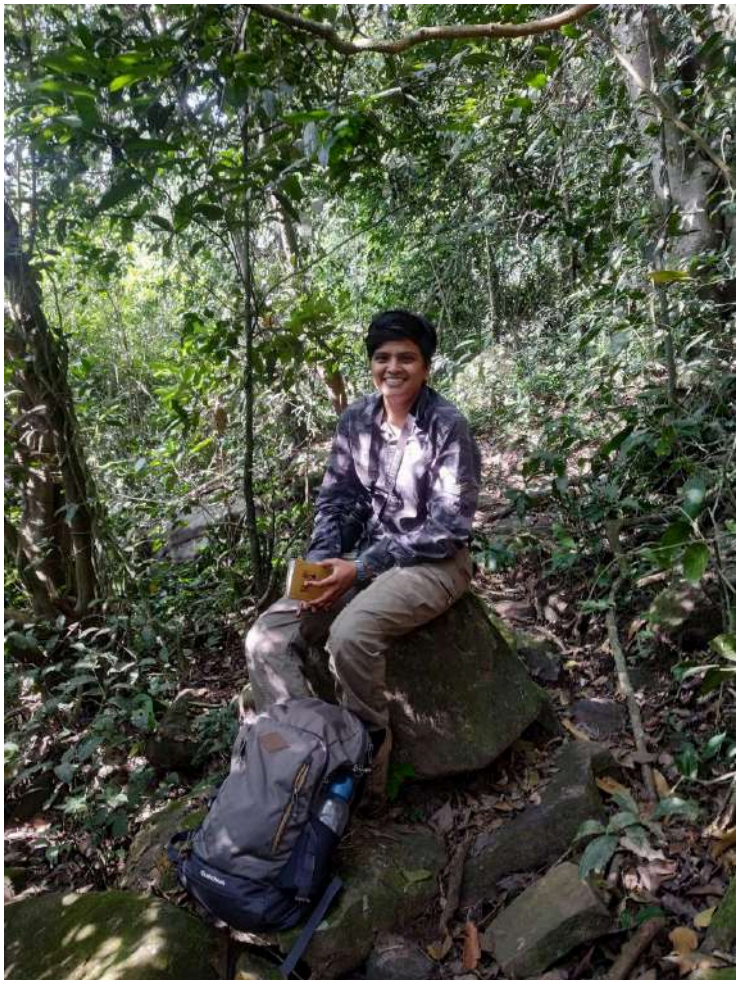
M.Sc. Forestry in Wildlife Science

1.	Chitra Patel	Human-Leopard Interaction in Mandvi Taluka of Surat District.
2.	Akbar Mashi	Impact of Kilad Ecotourism Site on Socio-economic Status of Tribals of the Dangs and Conservation Awareness.
3.	HarshPatel	Assessment of Roadkills on A Stretch of NH 64 From Eru Char Rasta to Dandi

Postgrads

Wildlife and Biological Sciences

No.	Name	Course Title	Institution
1.	Aswin S.	M.Sc. Forestry in Wildlife Science 2016-2018	Kerala Agricultural University, Trissur
2.	Rahul Sreekumar	Ph.D. Biological Sciences 2018-2023	Central Queensland University, Rockhampton, Australia
3.	Zankhana Patel	M.Sc. Wildlife Science 2019-2021	Wildlife Institute of India, Dehradun
4	Ananya Prasad	M.Sc. Wildlife Science 2022-2024	Aligarh Muslim University, Aligarh
5.	Akhila C. K.	M.Sc. Wildlife Biology & Conservation 2024-2026	National Centre for Biological Sciences, Bengaluru
6.	Akshay A. J.	M.Sc. Wildlife Science 2024-2026	Wildlife Institute of India, Dehradun
7.	Jyotirmay Ulva	M.Sc. Wildlife Sciences & Ornithology 2024-2026	Salim Ali Centre for Ornithology & Natural History, Coimbatore
8.	Kavya Shah	M.Sc. Landscape Ecology 2025-2027	University of Hohenheim, Stuttgart, Germany



Zankhana Patel

Akhila C. K.

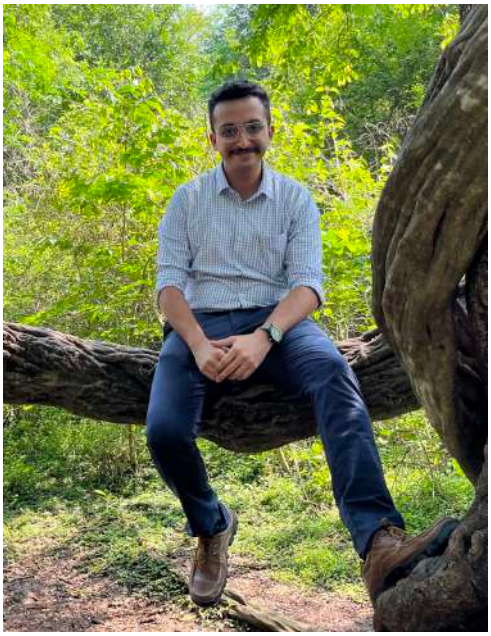
Dr. Rahul Sreekumar

Akshay A. J.

Jyotirmay Ulva

Ananya Prasad

Kavya Shah



Aswin S.

Wildlife Biologists

Dr. Rohit Chaudhary

Banda University of Agricultural Technology, Banda

Dr. Rohit Chaudhary completed his M.Sc., M.Phil., and Ph.D. in Wildlife Sciences from Department of Wildlife Sciences at Aligarh Muslim University. His M.Phil. and Ph.D. research on leopards and Asiatic lions has helped understand the coexistence dynamics in Gir landscape. He extensively worked in Gir for seven years, and developed an in-depth understanding of predator interactions and coexistence strategies. Presently Dr. Rohit Chaudhary is serving as an Assistant professor in the Department of wildlife sciences, College of Forestry, Banda University of Agriculture and Technology, Banda, Uttar Pradesh India.

Dr. Rohit Chaudhary worked as a Research Associate with Department of Wildlife Sciences at College of Forestry for three years. He has been instrumental in devising various departmental research experiments and research projects including Conservation of Large Carnivores of Gujarat. His research insights have greatly benefited the department. He is actively collaborating with the Gujarat Forest Department to study the habitat and movement ecology of large carnivores in Gir landscape through radio-collaring and camera trapping. His research interests include landscape-scale surveys of large mammals, predator-prey relationships, coexistence, habitat and movement ecology of large carnivores and human-wildlife conflict. His research output featured in journals such as Springer, Frontiers, PLOS ONE, Elsevier and Taylor & Francis.

Dr. Rahul Sreekumar

Department of the Environment, Tourism, Science and Innovation, Queensland Government, Australia

Dr. Rahul Sreekumar pursued his B.Sc. and M.Sc. in Forestry from the College of Forestry, where he developed a strong foundation in forest ecosystems and sustainable resource management. Further advancing his expertise, he completed his Ph.D. in Biological Sciences from Central Queensland University, Rockhampton, Australia. Currently, Dr. Rahul serves as a Senior Environmental Officer in the Department of the Environment, Tourism, Science and Innovation, under the Queensland Government, Australia. In this role, he plays a crucial part in formulating and implementing policies aimed at preserving wildlife and ecosystems, ensuring sustainable park management and promoting eco-tourism and heritage conservation. His work contributes significantly to balancing environmental sustainability with responsible tourism and natural resource management.

With a deep passion for conservation and environmental stewardship, Dr. Rahul Sreekumar remains committed to protecting Australia's rich biodiversity and fostering sustainable practices for future generations. His expertise and contributions in the field continue to make a meaningful impact on environmental policy, research and Conservation.

Dr. Soufil Malek
Wildlife Institute of India, Dehradun

Dr. Soufil Malek, Ph.D. Forestry, currently working as a Project Scientist-I (Component-2: Capacity Building of Forest Departments and Other Stakeholders) under the NMCG-WII Ganga Biodiversity Conservation Initiative Phase II, titled "Planning and Management for Aquatic Species Conservation and Maintenance of Ecosystem Services in the Ganga River Basin for a Clean Ganga." The work profile includes organizing and conducting training workshops, liaising with stakeholders (such as the Forest Department, Police Department, Irrigation, Fisheries, Universities, Zoological Parks, College and University Students, NGOs, NSS and NCC volunteers, Tourist Guides, Naturalists, Local and Tribal Communities, etc.), and writing reports. Additionally, he conducted outreach and sensitization workshops for school children under the Bal Ganga Prahari initiative and facilitated rescue and rehabilitation training workshops at various zoos across different Ganga River basin states.

Mr. Sagar Shaikh
Centre for Environment Education, Ahmedabad

Mr. Sagar Sheikh is a dedicated environmental professional with extensive expertise in forestry, agriculture, horticulture, wildlife and sustainable development. With a strong background in strategic project implementation, he has played a key role in afforestation, climate change mitigation, and biodiversity conservation initiatives. His work spans various corporate social responsibility projects, fostering partnerships with government and private sectors to promote environmental sustainability. Currently serving as a Coordinator at CEE. Previously, he worked as Centre In charge at Center for Agriculture and Horticulture Development at TKF CSR Pidilite Industries Ltd., leading CSR initiatives in sustainable farming practices, and as Officer Training & Coordinator at Ambuja Cement Foundation, where he facilitated training programs under the HDFC Climate Smart Agriculture initiative.

Mr. Sagar Shaikh holds a Master's degree in Environmental Science & Technology and has contributed significantly to natural farming, urban greening, and the conservation of endangered species. His passion for ecological restoration and sustainable land management is reflected in his research, training programs and hands-on work with communities.

Research & Development

Departmental Research Experiments

under Budget Heads: 352/ 12071 & 12100

No.	Exp No.	Title	Commencement
1.	WLS/16/2	Biodiversity of Navsari city & its surroundings	2020
2.	WLS/18/1	Monitoring the status of mammalian fauna of NAU campus	2022
3.	WLS/18/2	Population assessment of leopard in human dominated landscape of Vansda taluka of Navsari district	2022
4.	WLS/18/3	Long term monitoring of roadkill on NH 64 from Eru Char Rasta to Dandi Dist. Navsari	2022
5.	WLS/18/4	Bird community structure in Vansda National Park, Navsari, Gujarat	2022
6.	WLS/20/1	Assessment of occupancy and habitat use of Large Carnivores in South Gujarat	2024
7.	WLS/20/2	Prey availability of Large Carnivore in selected Protected Areas of Gujarat, India	2024
8.	WLS/20/3	Movement ecology of Leopards (*Panthera pardus fusca*) using radio-collar in South Gujarat	2024
9.	WLS/20/4	Modelling Leopard's suitable habitat using machine learning algorithm	2024
10.	WLS/20/5	Niche partitioning between Leopard (*Panthera pardus fusca*) and Asiatic Lion (*Panthera leo leo*) in Gir Protected Area	2024
11.	WLS/21/1	Monitoring resident and migratory avifauna in the wetlands of Navsari	2025
12.	WLS/21/2	Status and crop damage by wild ungulates in South Gujarat	2025

Recommendation

Monitoring human-leopard conflict using Remote Sensing and GIS in South Gujarat

The study has recommendation for a wide range of stakeholders such as farmers, villagers, common people of society, forest department staff and scientific community. Following are the recommendations:

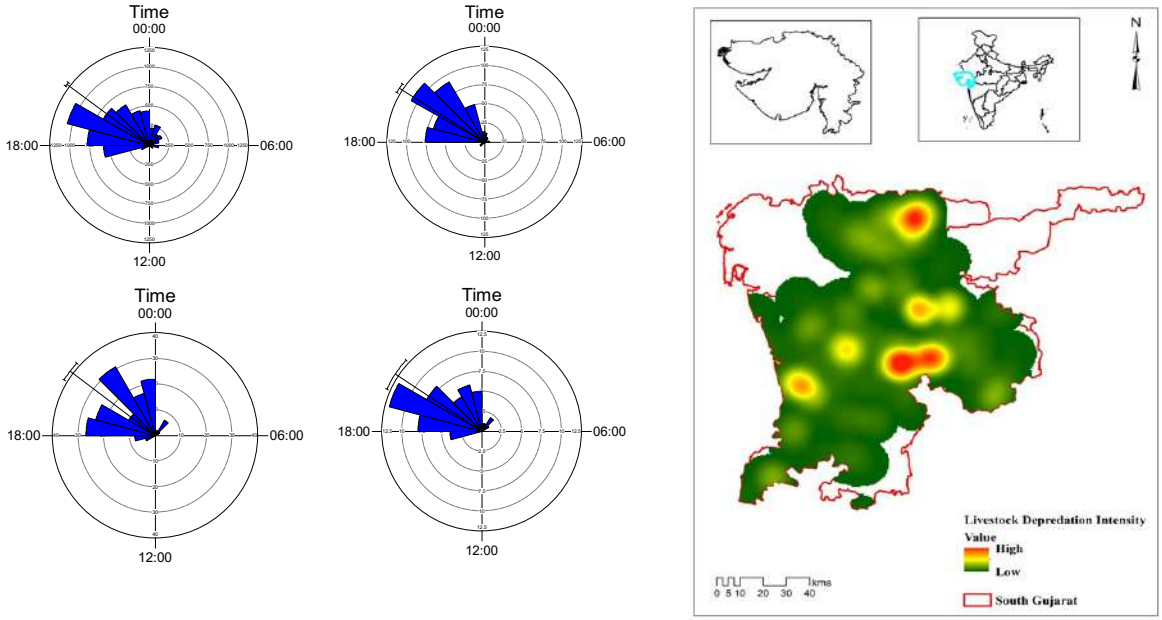
1. Leopard spatial distribution is highly concentrated in eastern and north eastern part of the Mandvi and Vansada taluka respectively. Therefore, there is an urgent need to put this area under the priority for focused mitigation efforts.
2. Most of the livestock depredation occurred between 20:00 and 21:00 Hrs. Farmers/Villagers should take extra precaution during these hours to avoid depredation of their livestock.
3. Livestock tied outside of cattle shed during night hours were killed more than inside cattle shed. Therefore, there is urgent need to aware the farmers regarding the risk posed to cattle due to unattainedness during night.

આ અભ્યાસ થકી ખેડૂતો, ગ્રામજનો, સમાજના સામાન્ય લોકો, વન વિભાગના કર્મચારીઓ, અધિકારીઓ અને વૈજ્ઞાનિકો માટે ભલામણો નીચે મુજબ છે:

૧. દીપડાનું વિતરણ માંડવી અને વાંસદા તાલુકાના પૂર્વ અને ઉત્તર પૂર્વ ભાગમાં ખૂબ જ કેન્દ્રિત છે. તેથી, દીપડાના પ્રશ્નોના શમન માટે આ વિસ્તારોને પ્રાથમિકતા હેઠળ મૂકવાની તાતી જરૂરિયાત છે.

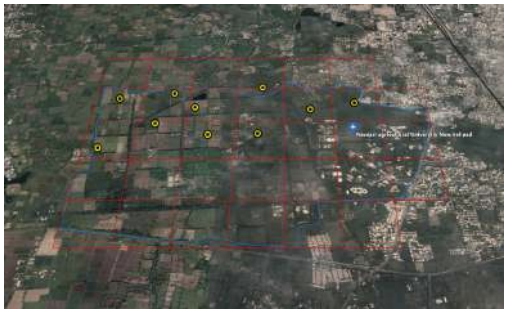
૨. મોટાભાગે પશુઓનું મારણ રાત્રીના ૮ થી ૧૦ કલાકની વચ્ચે થતો હોય છે. ખેડૂતો/ગામવાસીઓએ આ સમય દરમિયાન તેમના પશુઓનું મારણ ન થાય તે માટે વિશેષ સાવચેતી રાખવી જોઈએ.

૩. રાત્રીના સમયે શેડની બહાર બાંધેલા પશુઓ શેડની અંદર કરતાં વધુ માર્યા ગયા હતા. તેથી, રાત્રી દરમિયાન અગમચેતીના પગલાં રૂપે ખેડૂતોને જાગૃત કરવાની તાતી જરૂરિયાત છે.



Leopard's Livestock depredation timing and Intensity Hotspot in South Gujarat

WLS/18/1



Twenty square grids have been laid down on NAU campus each with a size of 20 ha and camera traps are deployed in each grid for one month in all seasons and data is being collected to assess the mammalian fauna with their habitat use. To assess habitat, occupancy-based framework will be used which is based on generalized linear modelling that relates capture probability of individuals to the habitat factors. Entire study period will be divided in sampling occasion of 10 days and species presence absence is recorded in these occasions. Habitat factors around each camera traps is collected. Package Unmarked in programme R is used for the analysis of habitat use.

Mammals sighted in NAU campus

WLS/18/2

Systematic sampling is used by dividing the whole Vansda taluka in 4 sq km grid. Camera traps are deployed for one month in each block. Prior to deploying the camera traps, a reconnaissance survey was carried out to find suitable places for signs such as scats and pug marks of leopard. Camera trap are monitored weekly to retreat the data. Individual leopards are identified from their unique rosette pattern. Data are analysed using the spatially explicit capture recapture framework using the package SECR in program R.

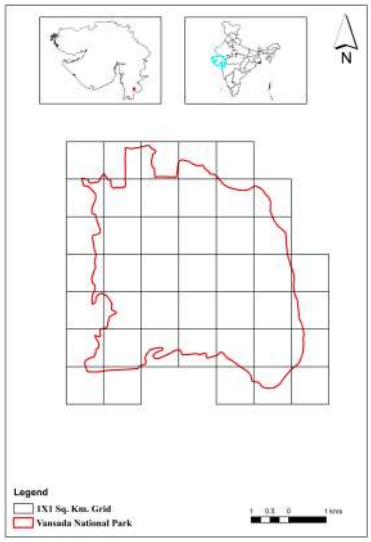
Leopards of Vansda

WLS/18/3

Since roadkill is the direct threat for the wildlife persists around the roads, the experiment is taken up to assess the magnitude of these roadkill. Two observers on both sides of the roads walk with a slow pace and caracas from roadkill are recorded along with the information such as species, age and sex, date, GPS location and adjacent habitat. Data of the roadkill are recorded on the weekly basis. To assess the spatial distribution and abundance of mammals' direct and indirect approaches are used. In the direct approach six line transect of 2 km length would be laid parallel to the road at a distance of 50, 500 and 1000 meters which results in effort of 14 km on either side of the road. Animal density is calculated using package Distance. Group encounter rate per kilometre could act as index of abundance due to their linear relationship with the density.

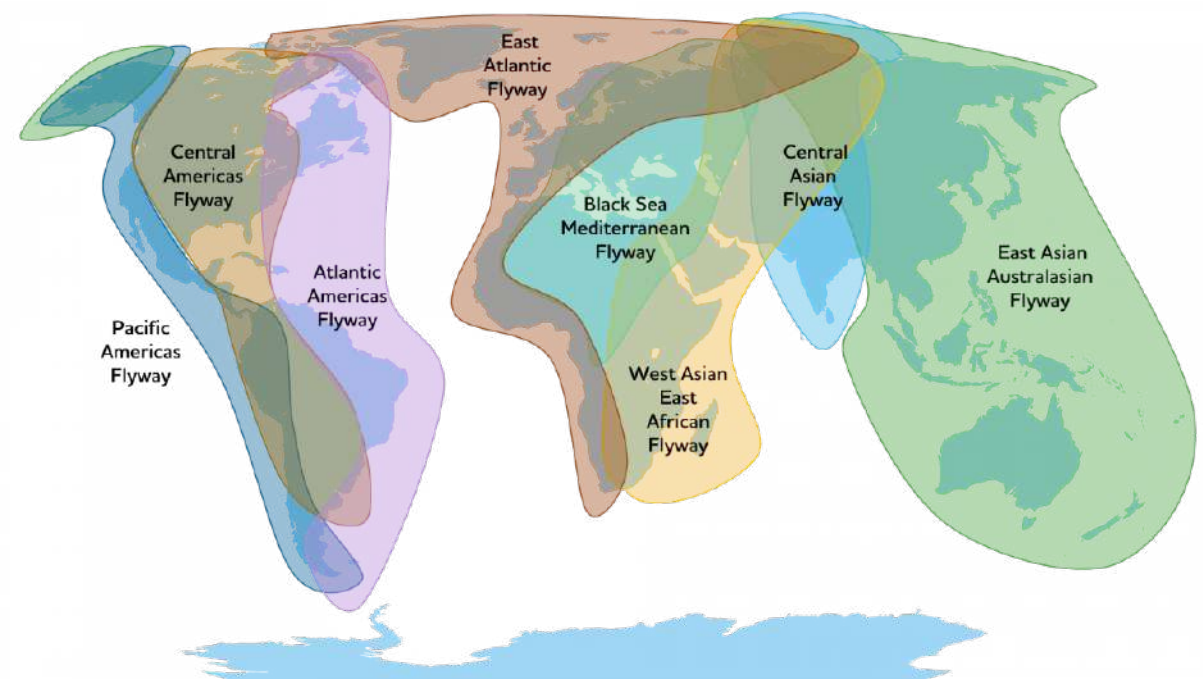
WLS/18/4

Bird community structure is being assessed using distance sampling framework which is one of the widely used framework to assess the abundance of birds. Distance sampling framework using point count method is used for assessing the community structure of birds. Point count will be laid systematically in a square grid system of 1 sq km. Point count is conducted in morning from 0600 to 1100 hours and in evening time 1600 to 1900 hours when birds are most active. Point count is carried out for 10-15 minutes by a single or multiple observers. Data recorded while doing point transect include species name, group size, radial distance from centre of point, GPS location of the point and habitat. Radial distance from the point is measured with the help of the range finder. Each point count is replicated for 2 to 3 times to get minimum count for the estimation of densities. Programme Distance is used for the analysis of bird densities. Multivariate analysis is further performed to assess the bird community structure.



WLS/21/1

Migratory birds, which travel vast distances across continents, are highly susceptible to a variety of threats throughout their life cycles. Present experiment stems from the alarming decline in global avian populations, particularly among migratory bird species. The need to understand and mitigate these threats has become increasingly urgent as many migratory bird species face escalating pressures from habitat loss, climate change, and human activities. The wetlands of Navsari District harbor many migratory species. Migratory birds contribute in pollination, biocontrol, scavenging and nutrient cycling to the farm lands. This experiment will give an idea about the resident and migratory threatened avian species in the region. The wetlands and sites shall be periodically visited and data of avian species shall be collected and scientific information will be generated. To understand the habitats used by migratory birds, data on land cover, vegetation types and habitat quality identified through satellite telemetry would be collected. This includes remote sensing data from satellite imagery or aerial surveys. Additionally, climate data such as temperature, precipitation, and weather patterns would be gathered from meteorological stations and climate databases to assess their impact on migration routes and timing



WLS/21/2

South Gujarat region has already lost wild ungulate species like Sambar (*Rusa unicolor*) due habitat destruction and poaching while the conservation status of the other wild ungulates such as Chital (*Axis axis*), Four-horned antelope (*Tetracerus quadricornis*), Barking deer (*Muntiacus muntjak*) and Wild pig (*Sus scrofa*) in the area still not scientifically known. Moreover, the magnitude of crop damage in farmlands of South Gujarat has not been quantified by the available ungulate species in the area. Therefore, the present experiment aims to know the current status of these ungulates, assess the magnitude of crop damage by these ungulates and provide suggestive recovery measures against crop damage.






Projects

Ongoing

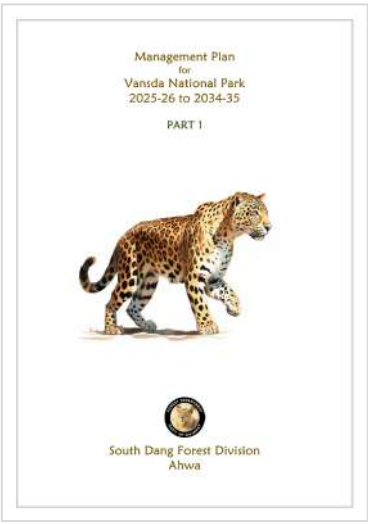
1. Establishment of Department of Wildlife Sciences funded as by Govt of Gujarat (2021)
   PI: Dr. Aadil Kazi, Co-PIs: Dr. Bimal Desai and Dr. S. K. Sinha
2. Conservation of Large Carnivores of Gujarat funded by Govt of Gujarat (2023)
   PI: Dr. Aadil Kazi, Co-PI: Dr. S. K. Sinha

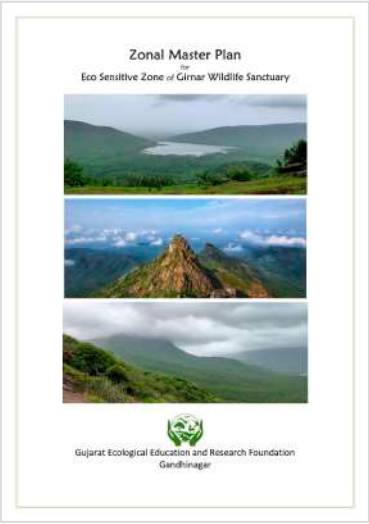
Submitted

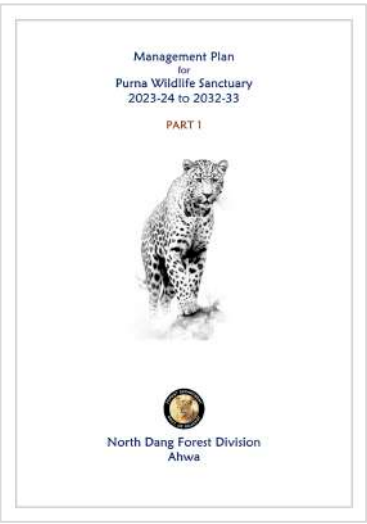
1. Conservation of birds in Gujarat
2. Ecology of Dhole *Cuon alpinus* in Dangs
3. Mitigating Farmer-Leopard conflict in tribal areas of South Gujarat
4. Long-term monitoring and conservation of avifauna in South Gujarat
5. Ecology and behaviour of Owls (Strigiformes) in Vansda National Park
6. Population assessment of wild ungulates in Gir National Park and Sanctuary
7. Assessment of impact of road widening on roadkill and mammal distribution
8. Mitigating the impact of crop damage by wild animals in agriculture landscape
9. Estimation of carrying capacity for sustainable ecotourism in Vansda National Park
10. Assessment of ecological status of Vansda National Park for Critical Wildlife Habitat

Completed

1. Identification of critical wildlife habitat in Vansda National Park (2021)
2. Zonal Master Plan for Eco Sensitive Zone of Purna Wildlife Sanctuary (2023)
3. Zonal Master Plan for Eco Sensitive Zone of Porbandar Bird Sanctuary (2023)
4. Zonal Master Plan for Eco Sensitive Zone of Girnar Wildlife Sanctuary (2024)
5. Zonal Master Plan for Eco Sensitive Zone of Vansda National Park (2024)
6. Management Plan for Purna Wildlife Sanctuary (2024)
7. Management Plan for Vansda National Park (2025)





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Key Papers

1. Dahya, M. I., Chaudhary, R., Kazi, A. A. and Shah, A. I. 2024. A note on female leopard rearing cubs in human dominated landscape of Vansda town. CATnews 81 Fall 2024.
2. Dahya, M. I., Chaudhary, R., Kazi, A. A. and Shah, A. I. 2023. Food habits and characteristics of livestock depredation by leopard (*Panthera pardus fusca*) in human dominated landscape of South Gujarat, India, Ethology Ecology & Evolution.
3. Patel, H., Chaudhary, R. Chaudhari, P. A. and Kazi, A. A. 2023. Status, Characteristics and Factors Affecting Roadkills on NH- 64: The Dandi Path, Navsari, Gujarat, India. Indian Journal of Ecology. 50 (5): 1276-1281.
4. Dahya, M. I., Chaudhary, R., Shah, A. I. and Kazi, A. A. 2023. Assemblage, relative abundance and activity pattern of wild mammals in the human- dominated landscape of Vansda taluka, Gujarat, India. Mammalia. https://doi.org/10.1515/mammalia-2022-0130
5. Mahajan, P., Chaudhary, R., Kazi, A. A. and Kandal, D. 2022. Spatial determinants of livestock depredation and human attitude towards wolves in Kailadevi Wildlife Sanctuary, Rajasthan, India. Frontiers in Ecology and Evolution. 10:855084..
6. Kazi, A. A., Rabari, D.N. , Dahya, M.I. and Lyngdoh, S. 2021. Reappearance of Dhole Cuon alpinus (Mammalia: Carnivora: Canidae) in Gujarat after 70 years. Journal of Threatened Taxa 13(6): 18655–18659. https://doi.org/10.11609/jot.6415.13.6.18655-18659
7. Dahya, M. I., Kazi, A. A., Shah, A. I. and Nayak, D. 2021. Assessment of human-leopard interaction in Vansda, South Gujarat. International Journal of Zoology and Applied Biosciences 6:186-193.
8. Dahya, M. I., Kazi, A. A., Shah, A. I. and Rajput, K. R. 2021. Livestock depredation by leopard (*Panthera pardus* fusca) in Vansda Taluka, South Gujarat. Journal of Entomology and Zoology Studies. 9(4): 218-226.

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 May 2021 | 13(6): 18655–18659

OPEN ACCESS

Reappearance of Dhole *Cuon alpinus* (Mammalia: Carnivora: Canidae) in Gujarat after 70 years

A.A. Kazi, D.N. Rabari, M.I. Dahya & S. Lyngdoh

Dhole *Cuon alpinus* (Pallas, 1981) is a pack hunting, highly social canid and the only species of this genus (Pocock 1936; Cohen et al. 1978; Johnsingh 1982; Alfred 2000). Dholes are also known as Wild Dogs or Whistling Dogs, but the terms are misnomers since they are taxonomically more closely related to jackals than wolves and correctly termed as Dhole – the Asian origin term meaning recklessness and daring (Mivart 1890). In the past, Dholes were the most widely spread canids in the oriental region, distributed from around 50°N and 70°E over the continental Asia (Pocock 1936; Ellerman & Morrison-Scott 1966; Johnsingh & Acharya 2013; Selvan et al. 2013). Due to loss of forests and thereby the prey base (Gopi et al. 2010; FAO 2020), Dholes were extirpated from more than 75% of their global historic range with the remaining estimate of 949 to 2,215 individuals (Kamler et al. 2015). Looking to this scattering trend, IUCN categorized Dholes from Vulnerable to Endangered (Kamler et al. 2015), and are placed in Schedule II of Indian Wildlife (Protection) Act 1972, and in Appendix II of CITES (2019).

India lost around 60% of Dholes in the last 100 years (Karanth et al. 2010) and less than 1,500 individuals are left in Indian forests (Johnsingh & Acharya 2013; Kamler et al. 2015), surviving majorly in Western and Eastern Ghats, Terai, Kumaon, Himalayan region, northeastern states, and relatively larger population in central India (Srivastava & Singh 2003; Durbin et al. 2004; Iyengar et al. 2005; Jhala et al. 2008; Karanth et al. 2009; Gopi et al. 2010; Johnsingh & Acharya 2013; Kamler et al. 2015). Although the population disappeared from former range (Johnsingh 1985; Kamler et al. 2015), the recent rediscoveries in newer areas have raised the hope in Sikkim (Bashir et al. 2014), western Himalaya (Pal et al. 2018), Tso Kar, Ladakh (Kamler et al. 2015), and in different parts of Nepal (Khatiwada et al. 2011; Thapa et al. 2013; Lamichhane et al. 2018; Yadav et al. 2019). These discoveries indicate that the species is moving out to ensure fewer competition and less disturbance, which in future may foster resilience and expand its range.

In Gujarat, many claim to have sighted dhole in Dangs, Shoolpaneshwar, Bharuch, Surat, Ratanmahal, and even in northern Gujarat (Singh 1998, 2001, 2013; Alfred 2000; GFD 2013; Kumar & Pathan 2016); however, no authentic evidence could ever be produced to ensure the certainty of the species in these areas, and therefore, the literatures endorsed Dhole as an exterminated species

DE GRUYTER

Mammalia 2023; aop

Original Study

Mohmad Navaz Dahya, Rohit Chaudhary*, Alkesh Shah and Aadil Kazi

Assemblage, relative abundance and activity pattern of wild mammals in the human-dominated landscape of Vansda taluka, Gujarat, India

https://doi.org/10.1515/mammalia-2022-0130
Received November 18, 2022; accepted May 10, 2023; published online May 25, 2023

Abstract: Conservation of mammals in human-dominated landscapes requires essential information on their ecological aspects. We used camera traps to assess the wild mammal assemblage, their relative abundance, and activity patterns in the human-dominated landscape of Vansda taluka, Gujarat, India. We deployed 80 camera traps in square grids of 2 km² resulting in an area coverage of 160 km². To assess the mammal assemblage, relative abundance of species, and activity pattern, respectively, we used a count of species, relative abundance index (RAI), and circular statistics. We captured 13 mammals, including the wild pig, Indian hare, leopard, rhesus macaque, common grey mongoose, small Indian civet, common palm civet, Indian crested porcupine, hanuman langur, chital, barking deer, striped hyena, and jungle cat. The wild pig was the most abundant (RAI = 10.29), while the jungle cat was the least abundant (RAI = 0.04) species. Hanuman langur, rhesus macaque, and chital showed diurnal activity, while striped hyena, barking deer, small Indian civet, common palm civet, and Indian crested porcupine showed nocturnal activity. Leopard, wild pig, common grey mongoose, and Indian hare showed cathemeral activity pattern. The present study serves as a baseline for future studies and help formulate conservation strategies for wild mammals in the study area.

Keywords: activity pattern; camera traps; conservation; human-dominated landscape; relative abundance; wild mammals.

1 Introduction

Wild mammals (hereafter mammals), due to their keystone, umbrella, and charismatic nature, are among the most important species groups (Linnell et al. 2000). Mammals display remarkable diversity in terms of body size, ranging from small rodents to megaherbivores (Nowak 2018). Additionally, mammals exhibit diverse diets, including hypercarnivores, omnivores, and frugivores (MacNab 1980). This wide range of body sizes gives rise to differential energetic requirements, leading to different movement distances among mammals (MacNab 1980). Given their diverse diets and movement distances, mammals can affect the structure and functioning of the ecosystem where they reside as a group (Gorman and Raffaelli 2008; Lacher et al. 2019). Apart from their crucial role in ecosystem functioning, mammals can also provide ecosystem services to humans (Braczkowski et al. 2018; Čirović et al. 2016). However, many mammal species worldwide have lost a significant part of their historical range due to anthropogenic causes such as habitat loss, prey depletion, poaching, and habitat fragmentation (Pacifici et al. 2020; Wolf and Ripple 2018).

Protected areas worldwide serve as the backbone of wild mammal conservation (Ghosh et al. 2019; Terraube et al. 2020). However, due to their inadequate size and slow creation rate, a landscape-level approach has been advocated which makes, human-dominated landscapes important for mammal conservation (Wikramanayake et al. 2004).

Threatened mammal species, such as the leopard and striped hyena, persistently occupy human-dominated landscapes (Athreya et al. 2013). Moreover, human-dominated landscapes sometimes act as corridors, connecting protected areas that safeguard the long-term survival of mammals

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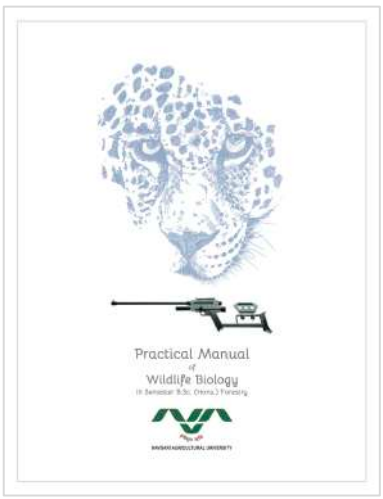
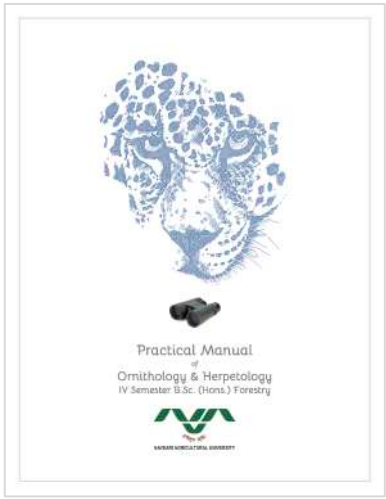
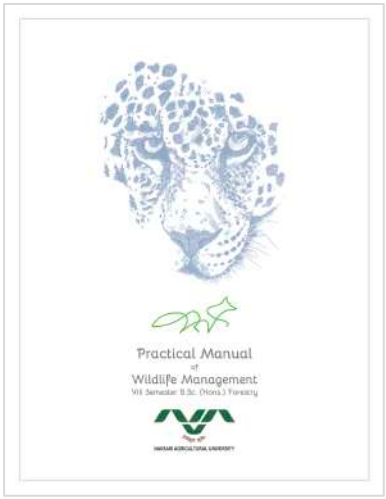
Aadil Kazi, Department of Wildlife Sciences, College of Forestry, Navsari Agricultural University, Navsari 396450, Gujarat, India, E-mail: aadilkazi@nau.in

Manuals

1. Wildlife Biology (2025). Authored by A. A. Kazi, P. A. Chaudhari and Sundaram Rajawat.
2. Ornithology and Herpetology (2025). by A. A. Kazi, P. A. Chaudhari and Sundaram Rajawat.
3. Wildlife Management (2025). by A. A. Kazi, P. A. Chaudhari and Sundaram Rajawat.
4. Nature and Wildlife Photography (2025). Aadil Kazi, Nevil Zaveri and Pravin Chaudhari
5. First Aid in Avian Health Management (2020). Compiled by A. A. Vagh, G. M. Pandya, A. A. Kazi and J. M. Patel.

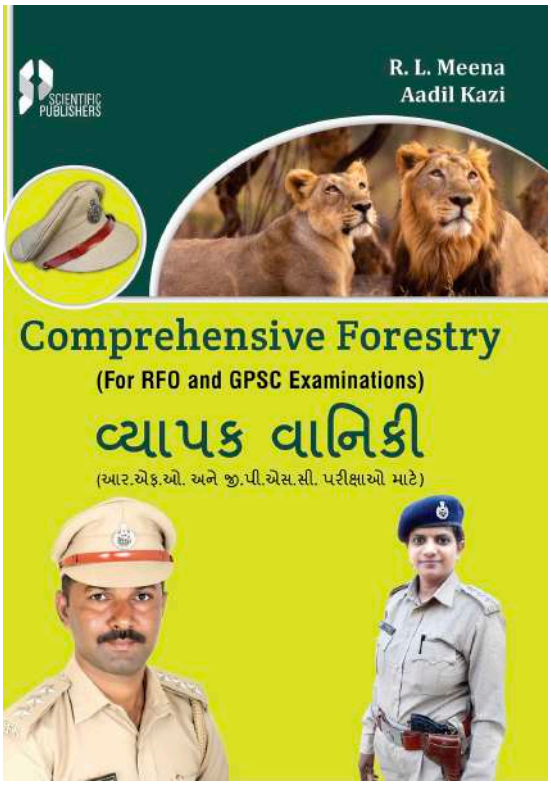


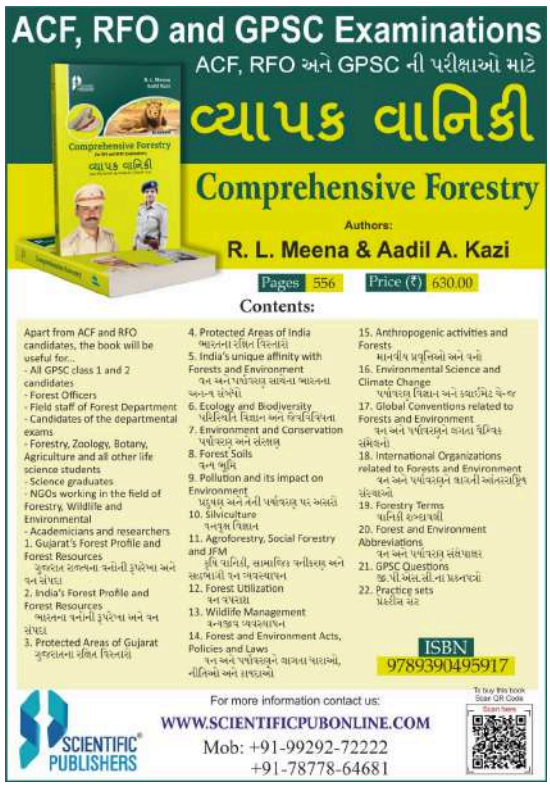




Book

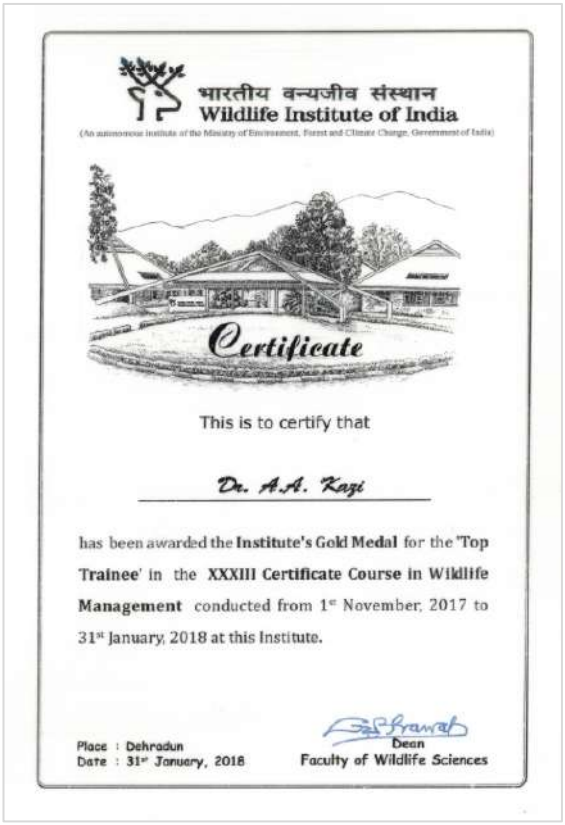
Comprehensive Forestry (2021, ISBN 978-9390495917). Pp. 556. R. L. Meena and Aadil Kazi.





Awards

1. Institute's Gold Medal for Top Trainee and Institute's Silver Medal for Best All Round Wildlifer were awarded to A. A. Kazi by Wildlife Institute of India, Dehradun.
2. Director General's Baton was awarded to A. A. Kazi by National Cadet Corps, Ministry of Defence, Government of India.
3. National Award for Excellence in Education was awarded to A. A. Kazi by AMP, Mumbai
4. Best Teacher Award to A. A. Kazi by South Gujarat Chamber of Commerce and Industry.
5. Young Scientist Award to A. A. Kazi by Gujarat Association for Agricultural Sciences.
6. The Conservation Educator Award to A. A. Kazi in the field of wildlife protection, nature conservation and environment education by World Wide Fund for Nature.
7. University topper in M.Sc. Zoology was awarded to M. I. Dahya by Veer Narmad South Gujarat University.
8. Conservation Award to M. I. Dahya by Nature Conservation & Research Foundation.
9. Young Wildlife Conservationist Award to Pravin Chaudhari by WWFN.



भारतीय वन्यजीव संस्थान
Wildlife Institute of India

Certificate

This is to certify that

Dr. A.A. Kazi

has been awarded the **Institute's Gold Medal** for the **'Top Trainee'** in the **XXXIII Certificate Course in Wildlife Management** conducted from 1st November, 2017 to 31st January, 2018 at this Institute.

Place : Dehradun
Date : 31st January, 2018

Dean
Faculty of Wildlife Sciences

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

Certificate

This is to certify that

Dr. A.A. Kazi

has been awarded the **Institute's Silver Medal** for the **'Best All Round Wildlifer'** in the **XXXIII Certificate Course in Wildlife Management** conducted from 1st November, 2017 to 31st January, 2018 at this Institute.

Place : Dehradun
Date : 31st January, 2018

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Trainings

No.	Topic	Organizer	Duration
1.	Certificate Course in Wildlife Management	Wildlife Institute of India, Dehradun	3 months
2.	Disaster Management & Environmental Studies	University of North Bengal, Siliguri	21 days
3.	Temperate Agroforestry	SSKUAST- Kashmir, Srinagar	21 days
4.	Forest Management	BUAT, Banda	21 days
5.	Natural Resource Management	CSK HPKVV, Palampur	12 days
6.	Orientation Course	UGC HRDC, Ahmedabad	28 days
7.	National Cadet Corps	Officers Training Academy Kamptee	3 months


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Wildlife Trust of India
CMS

Conference and Workshop

No.	Topic	Organizer
1.	National Symposium on Vulture Conservation	Bird Conservation Society Gujarat
2.	Student Conference on Conservation Science	University of Cambridge, UK
3.	International Wetland Seminar	GEER Foundation, Gandhinagar
4.	International Tiger Conference	Wildlife Institute of India, Dehradun
5.	Global Leopard Conference	University of Oxford, UK
6.	COP 13 to CMS	UNEP & Govt of India
7.	Conservation Science	Indian Institute of Sciences, Bengaluru
8.	Asian Waterbird Census	Forest Department, Gandhinagar
9.	Global Bird Watchers' Conference	Gujarat Tourism, Gandhinagar
10.	Second International Conference on Indian Ornithology: Ecosystem Services and Functions of Birds	Salim Ali Centre for Ornithology & Natural History, Coimbatore
11.	International Conference on Indian Ornithology: Status of Indian Birds and their Conservation	Salim Ali Centre for Ornithology & Natural History, Coimbatore


INTERNATIONAL
Wetland
SEMINAR


National Symposium on
Vulture Conservation
2024


Wildlife Institute of India

Professional Affiliation

- IUCN Commission on Education and Communication, Gland, Switzerland
- Ecological Society of America, Washington DC, USA
- Global Community Tourism Network, Toronto, Canada
- World Wide Fund for Nature, Gland, Switzerland
- The International Ecotourism Society, Washington DC, USA
- International Conservation and Biodiversity Team, Paris, France
- Society for Conservation Biology, Washington DC, USA
- Bombay Natural History Society, Mumbai, India
- Indian Institute of Technology, Gandhinagar, India
- Gujarat Ecological Education and Research Foundation, Gandhinagar, India
- Nature Conservation and Research Foundation, Gandhinagar, India
- Gujrat Forestry Research Foundation, Gandhinagar, India
- Bird Conservation Society of Gujarat, Ahmedabad, India
- Wildlife Crime Control Bureau, New Delhi, India
- Wildlife Institute of India, Dehradun, India

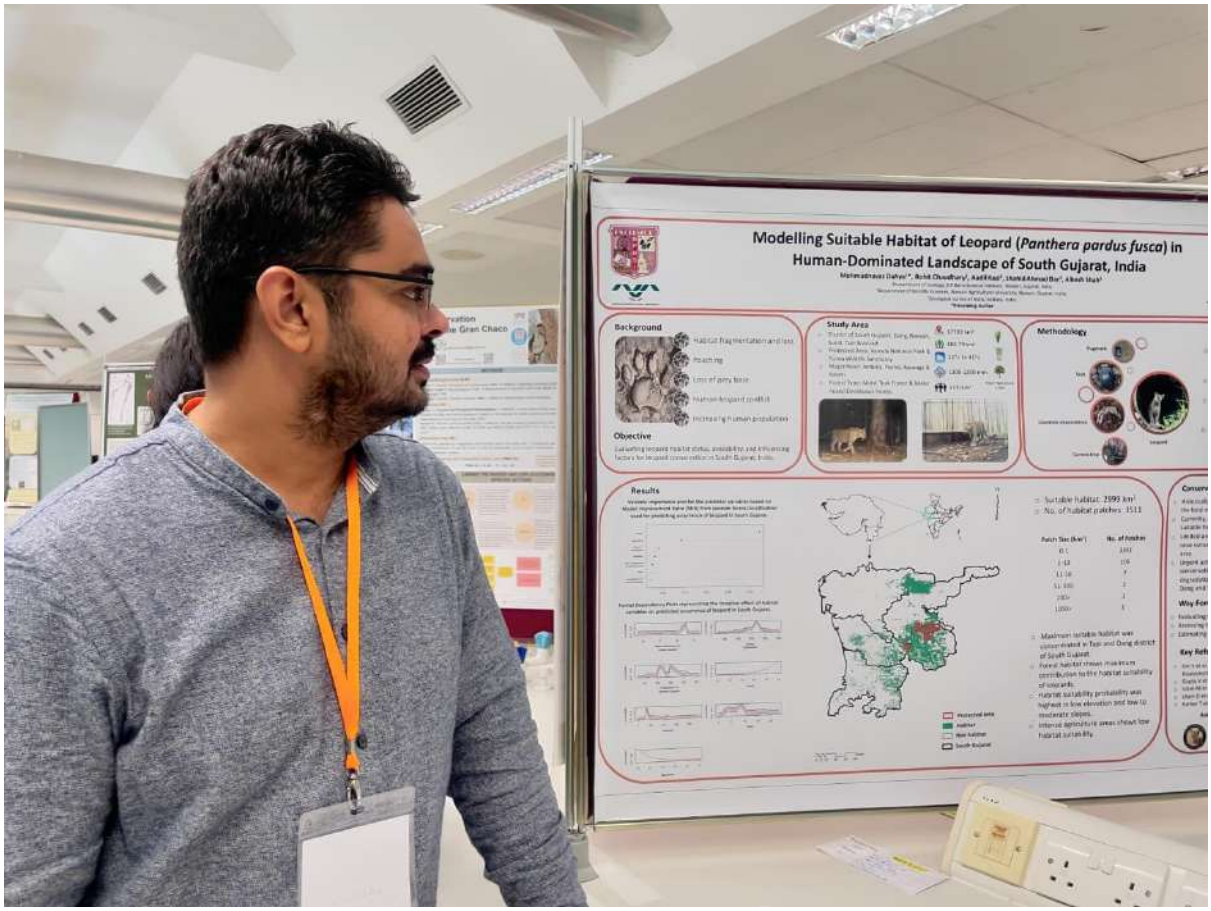
Global Attachment

The Department of Wildlife Sciences is committed to engaging with local communities to address pressing issues related to human-wildlife conflict. Many communities struggle with interactions involving wild species such as snakes, leopards, feral pigs and various bird species, which can pose risks to both people and biodiversity. To mitigate these conflicts, the department actively collaborates with local populations, offering education, innovative solutions and conservation strategies to promote coexistence. Recognizing the importance of a holistic approach, the department ensures that its efforts are aligned with cutting-edge global advancements in wildlife management and conservation technology.

To strengthen its impact, the department maintains affiliations with esteemed international organizations dedicated to biodiversity conservation. Its contributions have gained international recognition, with its research being prominently featured in Biodiversity Mag, a prestigious publication of the International Conservation & Biodiversity Team based in Paris, France. Furthermore, the department's groundbreaking work on leopard conservation has led to invitations for its researchers to present their findings at the University of Cambridge, reinforcing its role as a leader in wildlife research.

Beyond academic engagements, the department has gained valuable exposure to globally renowned institutions and conservation sites. These include the University of Oxford in the United Kingdom, Crowdy Bay National Park, the Great Barrier Reef in Queensland, Australia, and the Taronga Institute, among others. Such interactions have not only broadened the department's research scope but have also facilitated the exchange of innovative conservation methodologies.

The department has also benefited from visits by distinguished experts, including Mr. David Manski and Ms. Shira Singer, Ms. Kristen Wiley and Ms. Moriah Morris from the United States. Their insights and expertise have contributed significantly to the department’s growth, fostering new perspectives and strategies for advancing wildlife conservation efforts. Through these extensive knowledge-sharing initiatives, the Department of Wildlife Sciences continues to play a pivotal role in promoting sustainable coexistence between humans and wildlife while positioning itself as a globally connected center for excellence in conservation research.


Modelling Suitable Habitat of Leopard (Panthera pardus fusca) in Human-Dominated Landscape of South Gujarat, India
Background
Objective
Study Area
Methodology
Results


DEPARTMENT OF WILDLIFE SCIENCES

Aadil Kazi

Dr Aadil Kazi is Head of the Department of Wildlife Sciences Navsari Agricultural University, India

NAVSARI AGRICULTURAL UNIVERSITY

In today's time, in almost all the corners of the earth, nature and wildlife have been facing dire consequences due to numerous anthropogenic activities, and hence, more than ever in the history, wildlife conservation requires serious attention due to its dramatic decline and deep deterioration. There have been seldom a few governments — fewer than we think, and even see in media — who are seriously concerned about this ominous situattion. However, the silver line is the brigade of conservationists and scientists, who are profoundly worried for the health of the planet and consequently apprehensive on quality of our own survival, has been proactive and effective more than ever in the history of conservation. The effective solutions and mitigations coupled with the highly recommended preventive measures have been initiated thankfully to deal with this crisis. The effectiveness of these efforts relies heavily on our approach, professionalism and appropriate strategies; and hence, the trained and professional manpower in different sectors of wildlife sciences is the need of the time.

India is a unique case of conservation. Despite world's most populated country, India harbours around 8 percent of the global biodiversity. The country is one of the 17 megadiversity countries of the world, and that too with high endemism. Naturally, all these do not have smooth functioning always. A large proportion of India's habitats and wildlife are threatened. Akin to the present global scenario, Indian wildlife faces enormous threats such as habitat loss, mining, livestock grazing, roads and railways, forest fires, poaching and illegal trade, diseases, excessive tourism, and above all the ever-increasing human-wildlife conflict. These threats are increasing day by day and the ways to mitigate them require scientific recommendations and committed conservation efforts.

Somehow, sometimes political will emerges from some noble hearts and the conservation world gets benefited. Perhaps this happens after decades of strenuous efforts, allowing a few rays of light to eliminate the darkness. Recognizing the urgent need for wildlife as a subject and the demand for trained professionals, India's federal government recommended that each forestry institution in the country should establish an independent department of wildlife sciences.

Following the directives, state government of Gujarat established an independent Department of Wildlife Sciences (DWLS) at our university in May 2021, aiming to impart comprehensive wildlife educa?on to undergrad and postgrad students to develop qualified human resource. Moreover, the department has been tasked to carry out basic and advance research in wildlife conservation along with taking up farmers-oriented projects on human-wildlife conflict, issues prevailing in the country and collaborate with various agencies for wildlife monitoring, conservation and management. The department should strive to make modern scientific technology of wildlife monitoring and conservation accessible public, emphasizing community participation, particularly in the areas of sustainable ecotourism and livelihood upliftment.

Education for transformation

Academic institutions are pivotal in cultivating the skilled human resources for effective wildlife conservation on a global scale. DWLS is at the forefront with a primary focus on imparting quality education to undergrads, and preparing a new generation of conservationists. To achieve this, DWLS offers a comprehensive curriculum that includes courses such as Wildlife Biology, Ornithology, Herpetology, and Wildlife Management. These courses are designed to provide students a solid theoretical foundation complemented by practical exposure to the latest tools and techniques. Students engage in hands-on activities such as camera trapping, radio collaring, mapping animal movements, and the physical and chemical restraint of wild animals. Moreover, DWLS ensures that students are proficient in use of softwares for data analysis using R, ArcGIS, etc. These skills are essential for modern wildlife research and management, enabling students to analyse complex data sets and develop effective conservation strategies.

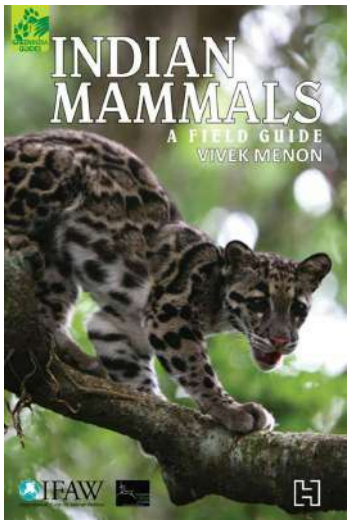
To further enrich their learning experience, DWLS mandates Study Tours to State Forests and an All India Study Tour. These exposure visits are critical, allowing students to gain firsthand experience of the challenges wildlife has been facing, especially due to human interventions. By interacting with professionals in the field and observing conservation efforts in various ecological settings, students develop a deeper understanding of the issues and potential solutions. Through this blend of rigorous academic coursework and practical training, DWLS equips students with the knowledge, skills and experience needed to make significant contributions to wildlife conservation efforts worldwide.


Crowdy Bay
National Park

Departmental Library

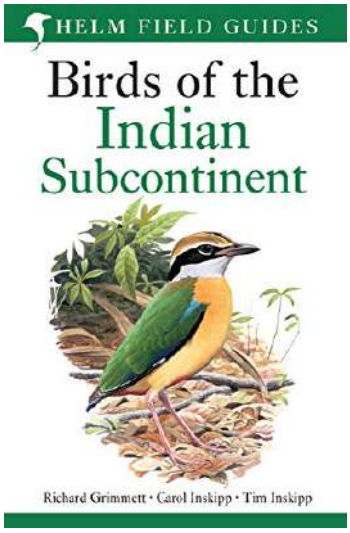
A. Mammalogy

1. Carnivores of the world
2. Indian mammals a field guide
3. Mammals of Gujarat
4. Mammals of India
5. The secret lives of Indian mammals
6. The king of Gir
7. The Leopard in India



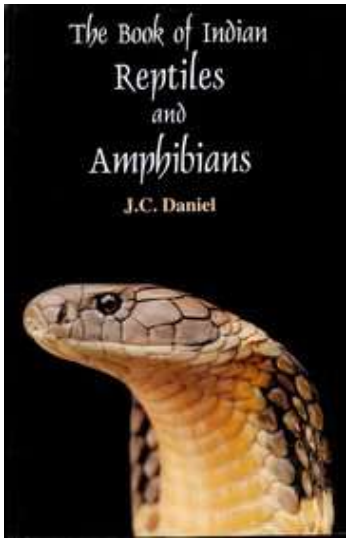
B. Ornithology

8. About Indian Birds
9. Bharat na Pakshiyo
10. Birds of Delhi
11. Birds of Chandbagh
12. Birds of Gujarat
13. Birds of South Asia -I & II
14. Birds of the Himalayas
15. Birds of Indian Subcontinent, a field guide
16. Handbook for bird educators
17. Great Indian Bustard, A pictorial life story
18. Krushi Paryavaran ma Pakshio
19. Our birds
20. Pakshiyo ni bhaibandhi
21. Pakshiyo nu Vigyan
22. The book of Indian birds
23. Threatened Birds of India
24. Uttar Bharat na Pakshiyo



C. Herpetology

25. Diversity and Ecology of Amphibians of India
26. Common snakes of Delhi
27. Indian Snakes: A Field Guide
28. Reptiles of India
29. Sarpsandarbh
30. Snakes
31. Snakes and other reptiles and amphibians
32. Snakes of India: The Field Guide
33. The book of Indian Reptiles and Amphibians
34. The book of Snakes
35. Venomous Snakes of the World



D. Lepidopterology

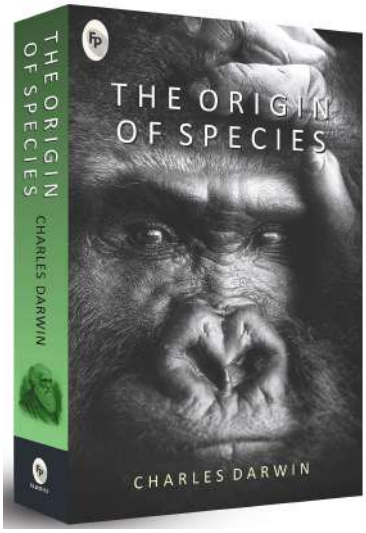
36. Butterflies of India
37. Butterflies on the roof of the world
38. The life story of a butterfly

E. Ecology

39. Potential and Existing Ramsar Sites in India
40. Ecological and Environmental Reporting in India
41. Ecology and Environment
42. Jungle Trees of Central India
43. Natural Heritage of Gujarat
44. Trees of Delhi
45. Magical Biodiversity of India
46. Ecological Census techniques
47. Indian Forestry
48. The Biological Diversity Act

F. Natural History

49. Indica
50. Man Eater of Kumaon
51. The Origin of Species
52. The Sixth Extinction

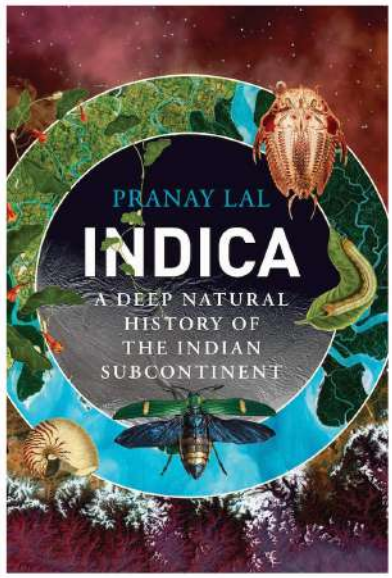


G. Wildlife Science

53. A life with Wildlife
54. Birds, Wild animals and Agriculture
55. Chordate Zoology
56. Fundamental of Wildlife Management
57. Handbook on Wildlife Law Enforcement in India
58. Indian Wildlife History
59. Management Plans for Gir Protected Area
60. Practical Zoology Vertebrate
61. Textbook of Wildlife Management
62. The Vanishing
63. The Wildlife Protection Act 1972
64. Wild Fauna of Gujarat
65. Wildlife Biology
66. Wild Wisdom Quiz
67. Wildlife and Forest Conservation
68. Wildlife Crime an Enforcement Guide
69. Wildlife Law for Rangers

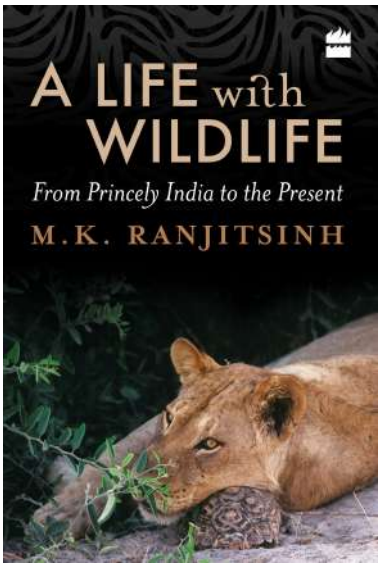
H. Ecotourism

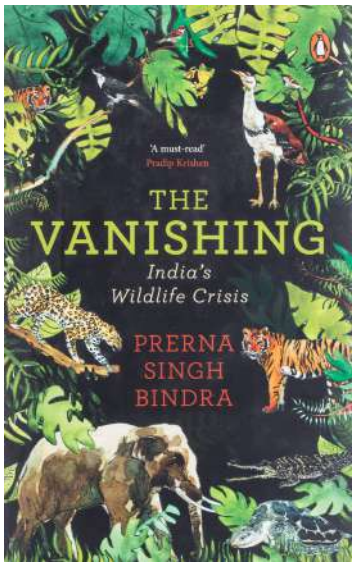
70. Ecotourism
71. Ecotoursim- a guide for planners and managers I & II
72. Gujarat Naa Vanya Mukamo
73. Heritage Gems of Gujarat

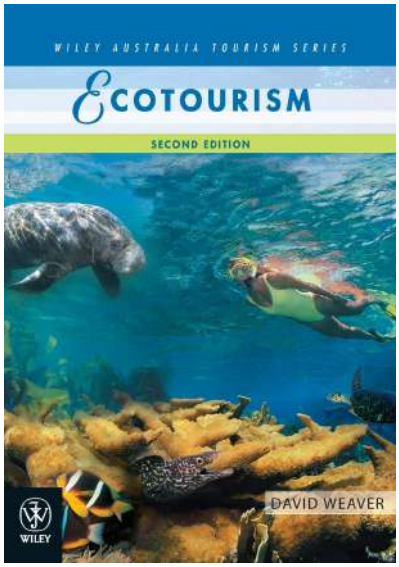


I. Wildlife Photography

74. Art of Seeing: Creative Nature Photography
75. Color
76. Photographing Nature
77. Practical Photography
78. The Art of Color Photography
79. The Camera
80. The Complete Photographer
81. The Encyclopedia of Photography
82. Visual Poetries

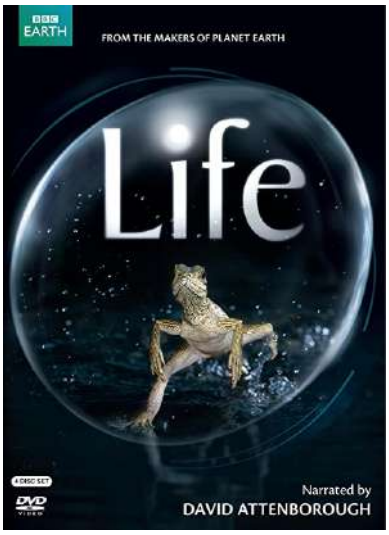


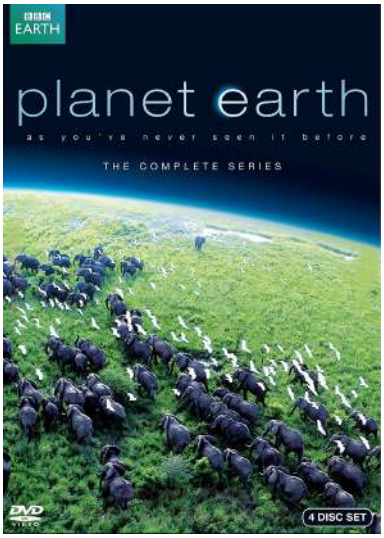


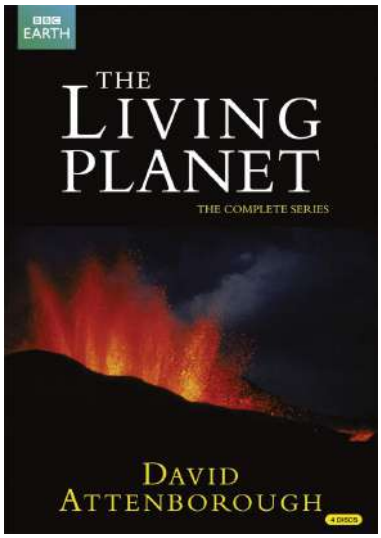


Departmental Cybrary

1.	100 Greatest Discoveries	Discovery Channel
2.	BBC Life & Planet Earth	BBC
3.	Birds Video Guide of Vansada National Park	Gujarat Forest Department
4.	Black Drongo	GEER Foundation
5.	Born to Fly	GEER Foundation
6.	Call of Indian Bird	Nature Club Surat
7.	Dariyai Jeevshrushti	Geer Foundation
8.	Destination Khadija	Tourism Department of Gujarat
9.	Earth: Power of the Planet	BBC
10.	Envis: Wildlife and Protected Area 1997-2015	WII
11.	Gidh- Sangarsmay Udan	GEER Foundation
12.	Great Indian Bustard	BNHS
13.	Great Wonders of the World	Reader Digest
14.	Indian Ornithology	SACON
15.	Marine Biodiversity of Marine National Park and Gulf of Kutch	GEER Foundation
16.	Natural Heritage of Gujarat	GEER Foundation
17.	Natural History Collection	BBC
18.	Preserve the Future: Conserving India's Wild Heritage	British Council
19.	Rann no Vaibhav	Tourism Department of Gujarat
20.	Savaj Hatu Sabda	GEER Foundation
21.	Sinh Samarajya	Gujarat Forest Department
22.	The Living Planet	BBC
23.	Van no Vaibhav	Tourism Department of Gujarat
24.	Video Guide to Common Birds of India	Nature Club Surat
25.	Wild Periyar	Periyar Foundation
26.	Wings of Nature	GEER Foundation







Equipments

Dart Gun

Camera Trap

Spotting Scope

Binoculars

Range Finder

GPS

Night Vision Binoculars

Walkie Talkie

Focus Torch

Head Torch

Microscopes

DSLR Camera with Lens

Densiometer

Velocity Radar Gun

Body Armour & Catch all Pole

Safety Shoes

Bird Feeders

Bird Nests

Rescue Bag

Snake Catchers and Tongs

Tent

Sleeping Bag

Field Track Suit

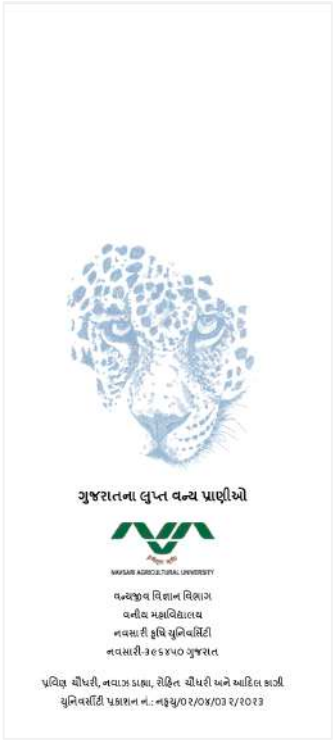
Rucksack

Extension & Outreach

Folders for Farmers, Students, Forest officials and Common People of Society

Tailored in vernacular language, these folders have been crafted with a focus on reaching a diverse audience, including farmers, school and college students- particularly of rural areas. They are designed to cater to the needs of field staff of forest department and common people of society, serving as a tool to foster awareness about wildlife and encourage participation in wildlife conservation initiatives.

1. નવસારી કૃષિ યુનિવર્સિટીનાં સસ્તન વન્યપ્રાણીઓ
2. ભારત અને વિદેશની વન્યજીવ શિક્ષણ અને સંશોધન સંસ્થાઓ
3. ગુજરાતનાં માંસાહારી વન્યપ્રાણીઓ
4. ગુજરાતના લુપ્ત વન્ય પ્રાણીઓ
5. વન્યજીવોની હાજરીના પરોક્ષ પુરાવા
6. સિંહનું સંરક્ષણ
7. વૈજ્ઞાનિક પદ્ધતિથી કેમેરા ટ્રેપિંગ
8. દીપડાના હુમલાથી કઈ રીતે બચવું
9. દીપડો ખેડૂતનો મિત્ર
10. દીપડાના રેસ્ક્યુની વૈજ્ઞાનિક પદ્ધતિ
11. વન્યજીવ સંરક્ષણમાં સ્થાનિક સમુદાયોનું યોગદાન
12. વન્યજીવ સંરક્ષણમાં મહત્વની કાયદાકીય જોગવાઈઓ
13. આઈયુસીએન રેડ લીસ્ટ અને ગુજરાતના વન્યજીવો
14. વન્યજીવોને કેમ બચાવવા જોઈએ
15. ભારતના વિશિષ્ટ વન્યજીવો
16. વિશ્વના વિશિષ્ટ વન્યજીવો
17. ગુજરાતના ઝેરી સાપ
18. સાપનો સલામત રેસ્ક્યુ કેવી રીતે કરવો
19. સાપની માન્યતા અને હકીકત
20. ગુજરાતના મહત્વના પક્ષીઓ
21. ખેડૂતના મિત્ર પક્ષિઓ
22. પક્ષીઓ કેવી રીતે સ્થળાંતરણ કરે છે
23. પક્ષિ ગણતરીની વૈજ્ઞાનિક પદ્ધતિ
24. વન અધિકારી બનવા માટે શું કરશો
25. જંગલ ટ્રેકિંગના મહત્વના પાસાઓ
26. Mammals of South Gujarat
27. Scheduled Wildlife of Gujarat
28. Protected Area Network of Gujarat
29. Wildlife of Agricultural landscape of South Gujarat
30. GPS for Wildlife



Proposed Trainings, Workshops, Field sessions and Technology transfer

These carefully chosen topics have been curated with the aim of providing a comprehensive and impactful platform for knowledge dissemination. By integrating diverse training methodologies, workshops, on-field sessions and efficient technology transfer, the intention is to bridge the gap between theory and practical application. This multifaceted approach ensures that the stakeholders not only acquire theoretical knowledge but also gain hands-on experience, fostering a holistic understanding of wildlife science.

The ultimate objective is to empower stakeholders to actively participate in and contribute meaningfully to the overarching goals of research, education, and conservation within the field of wildlife sciences. Through this strategic initiative, we anticipate building a more informed and skilled community that will play a pivotal role in advancing the collective efforts towards the preservation and sustainable management of wildlife resources.

Workshops and Trainings for Farmers

No.	Topic	Duration
1	How to manage wild boars in farmlands	1 day
2	Mitigating Human-Leopard Conflict in sugarcane fields of South Gujarat	2 days
3	Important birds of agriculture landscape	1 day
4	Wildlife friendly sustainable farming techniques	2 days
5	Agrotourism opportunities for livelihood upliftment	1 day
6	How to deal with common snakes in agriculture ecosystems	2 days
7	Effective control measures of agriculture damage by wildlife	1 day
8	Leopards are farmers friends	2 days
9	Lure crops and sustainable farming techniques	3 days
10	Fencing techniques, animal damage and implications	1 day

Trainings for Field Staff of Forest Department

1	Indirect evidences of wildlife	2 days
2	Remote Sensing & GIS techniques in wildlife conservation	1 week
3	Mammal/ Bird/ Herpetofauna census techniques	1 week
4	Citizen science and bird conservation	3 days
5	Snakebite and its management	2 days
6	Softwares and apps used in wildlife management	1 week
7	Use and application of camera trapping	3 days
8	Monitoring and documentation of wildlife	1 day
9	Common laws and policies in wildlife conservation	1 day
10	Role of forest staff in effective wildlife conservation	2 days

Trainings for State Forest Service Officers

1	Modern technologies in forest monitoring and conservation	1 week
2	Habitat preservation and habitat restoration	2 days
3	Landscape level monitoring of wildlife	2 days
4	Effective implementation of management plan for protected areas	3 days
5	Involvement of local communities in wildlife conservation	2 days
6	Use of citizen science in long term monitoring of wildlife	1 day
7	Introduction and application of Wildlife Protection Act, 1972	1 day
8	Wildlife trade and wildlife conservation: Global scenario	1 day
9	Management of water resources in protected areas	2 days
10	Corridors for wildlife conservation	1 day

Trainings for IFS Officers

1	Monitoring of wildlife at landscape level	1 day
2	Conservation of wildlife in multi-use landscape	2 days
3	Zonal master plan for Eco-sensitive zone	3 days
4	Mitigation and management of crop damage by wildlife	1 day
5	Management of livestock depredation by the large carnivores	1 day
6	Policy interventions for mitigating impacts of climate change on wildlife	2 days
7	Management of invasive alien plant species in protected areas	1 day
8	Integration of basic and applied research for wildlife conservation	2 days
9	Devising long-term studies for wildlife conservation	1 week
10	Modern scientific techniques and effective wildlife management	2 days


NAVSARI AGRICULTURAL UNIVERSITY
Green Colour
Brown Colour
Black Colour
LOGO DESCRIPTION

Wildlife Orientation Session for Primary School Students

1	Wildlife: From Panchatantra to The Lion King	1 day
2	Diversity and forest types in India	1 day
3	How to attract beautiful birds at your backyard	1 day
4	Why should we protect the birds	1 day
5	Snakes are friends of humans	1 day
6	Colours, birds and canvass	1 day
7	Wildlife friendly approach for better surroundings	1 day
8	How do large cats hunt and survive	1 day
9	How do animals talk with one another	1 day
10	Let's find out your favourite animal	1 day

Wildlife Orientation Session for Secondary and Higher Secondary Students

1	Wildlife conservation in India	1 day
2	Tiger and humans	1 day
3	Play your part through citizen science	1 day
4	National and international Institutes to study wildlife sciences	1 day
5	Common birds around us and how to identify them	1 day
6	Wildlife around rivers, lakes and small waterbodies	1 day
7	Cheetah reintroduction in India	1 day
8	Identification and role of urban wildlife around us	1 day
9	Photography for wildlife identification and conservation	1 day
10	Interesting wild destinations of India	1 day

Workshops for students of Forestry, Zoology and Wildlife Science

1	Camera trap for wildlife research and monitoring	1 week
2	Wildlife habitat monitoring: Measuring and mapping habitat variables	1 week
3	Estimating abundance of wildlife species	1 week
4	How to build career in wildlife sciences	1 day
5	IUCN: Red List, categories, criteria and documentation	1 day
6	Snake rescue techniques and release in natural habitat	2 days
7	Use of collars and radio tracking equipment	3 days
8	Responsible wildlife photography and conservation	1 week
9	India's wildlife scenario: History, mythology and cultural integration	1 day
10	India's important projects for wildlife conservation and management	1 day

Workshops for NGOs

1	Wetlands: Introduction and role	1 day
2	Scientific documentation of wildlife	2 day
3	Role of NGO's in wildlife conservation	3 days
4	National and international wildlife NGOs	1 day
5	Community involvement in wildlife conservation	2 day
6	Raptors: Introduction and importance to ecosystem	2 day
7	Technologies in wildlife conservation: Role and use	3 days
8	Policy and advocacy for wildlife conservation in India	2 days
9	Collaboration and networking for wildlife conservation	1 day
10	How to create awareness to reduce human-wildlife conflict	1 day


GLOBAL-IDENT

Extension activities carried out with the following Organisations

- Animal Saving Society, Navsari
- Auro University, Surat
- B. P. Baria Science Institute, Navsari
- Beauty Without Brutality, Surat
- Bombay Natural History Society, Mumbai
- Divine Public School, Navsari
- Dr. Shyamaprasad Mukharji Zoological Garden, Surat
- Forest Department of Dadra & Nagar Haveli, Silvassa
- Forest Division, Porbandar
- Forest Training Centre, Kankarapar
- Green Warriors, Navsari
- Gujarat Tourism, Gandhinagar
- Krishi Vigyan Kendra, Navsari & Waghai
- Naran Lala School of Industrial Management, Navsari
- Narmada Forest Division, Rajpipla
- Nature Club Surat
- Navsari Highschool, Navsari
- North Dang Forest Division, Ahwa
- P. T. Science College, Surat
- Podar International School, Navsari
- Police Department, Navsari
- Rotary club of Navsari
- Seth RJJ School, Navsari
- Shree Vallabh Sanskardham School, Valsad
- Shri Sayajibaug Zoo, Vadodara
- Snake Research Institute, Dharampur
- Social Forestry Division, Navsari
- Social Forestry Division, Surat
- South Dang Forest Division, Ahwa
- Sri Sathya Sai Vidyaniketan, Navsari
- Student Police Cadet, Navsari & Surat
- Tapi Forest Division, Vyara
- Wildlife Division, Sasan Gir
- Wildlife Welfare Foundation Navsari
- World Wide Fund for Nature-India, Valsad
- 20 Gujarat Battalion, National Cadet Corps, Navsari


SHREE SAINATH
MULTI-SPECIALITY HOSPITAL
& TEST TUBE BABY CENTRE

Media Coverage

Media coverage plays a crucial and multifaceted role in the realm of wildlife conservation in India, contributing significantly to public awareness, policy advocacy, and the overall success of conservation efforts. The importance of media involvement in this context extends across several dimensions.

Raising Public Awareness: Media platforms, including newspapers, television, radio and online outlets, have the power to reach a wide audience. Through compelling stories, documentaries, and news coverage, media can educate the public about the importance of wildlife conservation, the challenges faced by various species, and the significance of preserving them.

Advocacy for Policy Changes: Media coverage has the potential to influence public opinion and, consequently, shape policies. By highlighting issues such as habitat loss and the impact of human activities on wildlife, media outlets can catalyse discussions that prompt policymakers to take action. Investigative journalism, in particular, can uncover hidden aspects of wildlife exploitation and bring them to the forefront, compelling authorities to implement stricter regulations and conservation measures.

Showcasing Success Stories: Positive stories of successful wildlife conservation efforts serve as powerful tools to inspire the public and showcase the impact of collective action. Media can highlight instances where conservation measures have led to the recovery of endangered species or the restoration of habitats. These success stories not only celebrate achievements but also provide tangible evidence of the effectiveness of conservation initiatives.

Educating Communities: Local communities often play a pivotal role in wildlife conservation. Media can serve as a conduit for educating these communities about the ecological importance of the wildlife in their vicinity, the economic benefits of conservation and the sustainable coexistence of humans and wildlife. This education is essential for fostering a sense of stewardship and garnering community support for conservation projects.

Fostering International Collaboration: Media coverage helps project India's conservation efforts on the global stage. By showcasing the country's commitment to preserving its rich biodiversity, India can attract international attention, collaborations, and support for conservation projects. This global visibility is instrumental in addressing transboundary conservation issues and promoting best practices on a larger scale.

Creating Public Accountability: Media acts as a watchdog, holding relevant authorities and stakeholders accountable for their roles in wildlife conservation. Investigative journalism can expose illegal activities or negligence that hinder conservation efforts. This scrutiny fosters transparency and encourages responsible practices in both governmental and non-governmental sectors.

Media coverage serves as a potent force in shaping the narrative around wildlife conservation in India. Its ability to inform, inspire and mobilize various stakeholders s to protect and preserve the diverse and unique wildlife. We have had positive collaboration with media to ensure bring out the conservation initiatives reach out to common people of society and aware the masses where public involvement is essential.

We have presented a glimpse of stories that have received acclaim from both intellectuals and the broader spectrum of society. These stories encapsulate a diverse range of topics within the realm of wildlife conservation, showcasing the ability to resonate with audiences.

દક્ષિણ ગુજરાતમાં દીપડા-માનવ વચ્ચે અસ્તિત્વનો સંઘર્ષ

14 વર્ષમાં દક્ષિણ ગુજરાતમાં દીપડાઓએ 9545 પશુધનનો શિકાર કરી 135 માનવને ઈજા અને મોત નીપજાવ્યાં!

પશુધન પરની નિર્ભરતાએ મનુષ્યો તેમજ વન્યજીવો વચ્ચેનો સંઘર્ષ વધુ ઊંડો બનાવ્યો

વિકાસની હોડ અને અન્ય પ્રાણીના બદલાતા સંજોગોથી ઘટનાઓમાં વધારો થઈ રહ્યો છે. વાંસદા ગામના સંશોધકે ઈકોલોજી ઓફ લેપર્ડ ઈન સાઉથ ગુજરાત પર દક્ષિણ ગુજરાતના તાપી, ડાંગ, નવસારી અને વલસાડમાં થયેલા એક અભ્યાસમાં દીપડાના રહેઠાણ, આહાર, વર્તન અને માનવ-દીપડા વચ્ચેના સહઅસ્તિત્વ વિશે વિશેષ સમજ રજૂ કરી

દક્ષિણ ગુજરાતનો 21 ટકા ભાગ રહેઠાણ યોગ્ય હોવાથી દીપડા ગામ તરફ વળ્યા

દીપડાઓનું રહેઠાક અને શહેરી વિસ્તાર તરફ આવવું ચિંતાજનક

STUDY REVEALS PIGS FORM 28% OF THEIR DIET

Gujarat's leopards indulge in swine dining

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Ahmedabad: While lions prefer large prey species like sambar and nilgai, leopards relish pigs more. A recent study by the Navsari Agriculture University has revealed that pigs form 28% of the leopard's diet, making it the primary prey species for the wild feline — domestic dogs and cows comprise only one-fifth of their prey.

The study, "Food habits and characteristics of livestock depredation by leopard in human dominated landscape of South Gujarat, India," was conducted by researchers Mohamad Navaz Dahya, Rohit Chaudhary, Aadil Kazi and Alkesh Shah from Navsari Agriculture University and BP Baria Science Institute, Navsari.

The researchers suggested, "Any action taken to address the pig population issue should be carefully considered as it could have unintended consequences for leopard survival and potentially increase the incidence of livestock depredation." According to wildlife experts, an increase in dependence on livestock could increase incidents of human-leopard conflict. They suggest that the government must ensure a thriving population of small ungulates in areas with sizable leopard numbers.

According to the latest census, the state has 2,274 leopards. This is an increase of 63% in the past six years. With 518 leopards in the region in the latest census against 211 in 2016, south Gujarat recorded the highest increase, of 145.5%, in the population of the wild feline.

The paper stated that earlier studies in Goa on the leopard's diet also reported a high consumption of wild boars in the human-dominated landscape. The availability of pigs might contribute to lower consumption of other prey species such as dogs and cows, said researchers. The researchers collected and analyzed 350 leopard scats between 2020 and 2022 and identified 17 prey species including eight wild and eight domestic animals.

The study was carried out in five districts of South Gujarat, namely Surat (7,657 sq km), Tapi (3,139 sq km), Navsari (2,196 sq km), Valsad (2947 sq km), and the Dangs (1,764 sq km), covering an area of 17,703 sq km. The study revealed that a leopard's diet was mainly composed of pigs, accounting for 28%, followed by rodent species (14%), poultry (10%), bird species (7%), Indian hare (7%), domestic cow (6%), and domestic dogs (5%). The remaining 33% of occurrences were of other animals accounting for less than five per cent of the diet. The paper stated that domestic prey accounted for 33% of the biomass consumed by leopards, including domestic dogs, cow calves, domestic goats, and poultry. The high predation on these domestic prey species could be attributed to their small to medium-sized body making it easier for the leopard to drag them to human-dominated landscapes.

The paper stated leopard is one of the most widely distributed large carnivores owing to its high adaptability to various food and habitat conditions. However, despite that, leopards have already lost over 70% of their historical range.

PANTHER'S PREY

OCCURRENCE IN SCAT

Prey	Frequency	%
Pig	309	28
Rodent	159	14
Poultry	106	10
Indian hare	74	7
Bird species	75	7
Domestic cow	67	6
Domestic dog	60	5

DOMESTIC ANIMAL PREDATION

Species	Young	Subadult	Adult
Goat	78	219	43
Cow	292	78	0
Buffalo	42	11	0
Horse	8	9	0

How scat analysis was done

Scat samples were collected along roads and trails in the study area and since no other large carnivores were present here, there was no ambiguity in identifying leopard scats. The scats were then collected in zip-locked bags bearing information such as their GPS location and date. The scats were soaked in lukewarm water in the laboratory for 24 hours to remove impurities. Later, they were washed under running water using a fine sieve with 3mm meshes, hydrated in 70% ethanol, and then dried on filter paper. Hairs from the scat samples were mounted on slides and observed under a compound microscope at resolutions of 10X, 50X, and 100X. Prey species were identified by comparing their hair medullary patterns with known reference slides. TNN

8 ATTACKS A YEAR IN SURAT FROM 2009-2022, THE LEAST IN HUMAN-DOMINATED AREAS

Most leopard attacks in Tapi: Study

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Ahmedabad: Between 2009 and 2022, leopards attacked nine humans on average each year in the South Gujarat region, mainly targeting women and children. Of the 120 attacks during the period, 20% were on children. Tapi reported 46 attacks and five deaths, which was probably the highest in the human-dominated landscape across Gujarat, according to some researchers.

A research titled "Ecology of Leopard (Panthera pardus fusca) in South Gujarat" by researchers Mohmadnavaz Dahya, Alkesh Shah, Aadil Kazi, and Rohit Chaudhry from Navsari district recorded 33 attacks, Dang 19 and Valsad district 14 attacks during the period. Surat district reported the lowest eight attacks, said researchers.

The 15 human deaths recorded between 2009 and 2022 included five deaths each in Tapi and Dang districts, followed by Surat with three deaths, and Navsari and Valsad with one death each.

Dahya said that the five districts in the 2022 census recorded the total leopard population of 347, which was an increase of 100% compared to 2016. The leopard population in these five districts in 2016 was 173. The population of leopards increased to 2,274, an increase of 63% compared to 1,395 recorded in 2016.

Dahya explained that when women sit while working, leopards often mistake them for prey animals, leading to attacks. Children between four and eight years old constituted 20% of the victims. According to Dahya, adult males typically faced leopards whilst in an upright position, especially when in sugarcane fields or mango orchards. These deadly encounters occurred when leopards either protected themselves or their cubs during unexpected human contact, or when the big cats had grown accustomed to living near human habitats.

"The study was more in human-dominated landscape, and Tapi was probably the district with highest man-animal conflict in human-dominated landscape," said Dahya.

The statement highlighted the contrast between Saurashtra's extensive protected regions and South Gujarat's limited conservation space.

According to the study, the transformation of agricultural practices in South Gujarat, specifically the conversion from conventional farming to commercial crops such as sugarcane and mango plantations, has inadvertently established environments that resemble natural leopard habitats. "While attacks on livestock are largely tolerated due to the non-violent attitude of the people and govt compensation, human-leopard conflicts become unmanageable when human injury or death occurs," said Dahya.

The research revealed that about 21% of the area — approximately 2,999 square kilometres — contains viable leopard habitat. The suitable regions are mainly found in the Tapi and Dang districts, where thick woodlands and semi-forested areas at elevations between 50 and 200 metres create optimal conditions for leopards in South Gujarat. "South Gujarat had 12,000 sq km of forest area in the 1940s," he said. The findings indicated leopards in South Gujarat demonstrated a favourable connection with woodland areas, elevated terrain, and regions experiencing substantial rainfall.

The findings indicated leopards in South Gujarat demonstrated a favourable connection with woodland areas, elevated terrain and regions experiencing substantial rainfall

'9.5k livestock kills by leopards in S Gujarat'

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Ahmedabad: Leopards in South Gujarat are increasingly preying on livestock, causing significant economic losses for local farmers.

A comprehensive study titled "Ecology of Leopard in South Gujarat" has revealed startling data: between 2009 and 2022, leopards killed 9,545 livestock, including 5,259 domestic goats, 4,042 domestic cows, 170 domestic buffaloes and 75 domestic horses. Farmers reliant on these animals for their livelihood are struggling under the weight of these losses.

The study, conducted by researchers Mohmadnavaz Dahya, Alkesh Shah, Aadil Kazi and Rohit Chaudhry from Navsari, highlights that goats — due to their small size and vulnerability — are the most frequent targets, followed by cows and buffaloes. Most attacks occur at night or during grazing when livestock are left unattended. In 2016-17 alone, there were 327 attacks on goats and 225 attacks on cows, all calves.

The research stated that of the 327 attacks on goats, 208 attacks were where the goats were tied in the open, 51 were while grazing, and another 68 were inside the cattle sheds. In the case of cows, 124 attacks were on calves tied in the open, and 101 were while grazing.

Using camera traps in Vansda National Park, researchers observed 47 leopard sightings over a year. The data confirmed that leopards are predominantly nocturnal hunters, a behaviour that helps them avoid competing with diurnal prey like wild pigs, and other predators.

The study raises concerns about the precarious conservation status of leopards in South Gujarat.

As an apex predator, the leopard plays an essential role in regulating prey populations and maintaining ecosystem balance. However, with their habitat shrinking due to human encroachment and ongoing conflicts with local farmers, the species is facing an uncertain future in the region.

The study recommended that it was important to secure livestock enclosures, especially at night. "Farmers should build stronger livestock enclosures, implement predator-proofing techniques and use guardian dogs to mitigate conflicts," said Dahya.

Rare whistling dogs spotted in Guj after 50 years

2 Dholes Caught In Camera Traps Set Up At Vansda

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Surat: After nearly five decades, the rare Asiatic wild dog or dhole has been sighted in the wild in Gujarat.

Two dholes were caught in camera traps set up in Vansda national park that is spread across 24 sq km hilly terrain of Sahyadri ranges. Officials confirmed to TOI that the last reliable sighting of dhole, also known as whistling dog due to its peculiar contact call, was sometime in 1970 by late Maharaja Digveerandrasinhji of Vansda.

"But the the number of individuals and the pack size were unconfirmed. Presence of dhole is an indicator of good quality forest, prey abundance and less human disturbance. The first sighting was on February 20 by a local birder, Mohammed Jat, who reported this to the forest department," Dinesh Rabari, deputy conservator of forests, South Dangs division, told TOI.

Dhole is protected under schedule 2 of the Indian Wildlife (Protection) Act, 1972. It's also one the International Union For Conservation of Nature (IUCN) Red List of endangered species.

"We already suspected the presence of dholes here. Field staff found the carcass of a spotted deer and the way it was dismembowelled strengthened our suspicion. Next day, we visited the spot and saw a wild dog was eating that carcass. Camera traps then were placed to observe further activities. Next day, the first image of dhole was captured in Kevdi beat of the park," Rabari added.

After confirming presence of two dholes, the department set up several camera traps to find out their numbers and retention time along with monitoring their movements, behaviour, food and foraging habit. "We are making all efforts to ensure there is no human disturbance in these areas so that they permanently stay here and breed," Rabari said.

UNIQUE CHARACTERISTICS

- Disembowels prey within minutes
- Pack of these dogs is capable of killing a tiger too
- Found south of Ganges river, Western & Eastern Ghats and north-eastern states

DWINDLING NUMBERS: The main reason for their falling numbers is the persecution by humans as these dogs wipe out livestock. They have been killed by methods like poisoning of carcasses, snaring, shooting and clubbing of animals at den sites. Moreover, scientists say many developing roads in India cut through their habitat and dens and large number of these dogs also died in vehicle accidents. It is said that before 1970s, governments used to pay Rs 2 to kill a whistling dog as it wiped out livestock.

સંપૂર્ણ સ્થાનિક અખબાર

નવસારી ભાસ્કર

બીલીમોરા | ગણદેવી | ચીખલી | આહવા | વાંસદા | સાપુતારા | અમલસાડ | ખેરગામ | જલાલપોર

દિવ્ય ભાસ્કર | નવસારી• મંગળવાર, 17 જાન્યુઆરી, 2023 | પોષ વદ - 10, વિક્રમ સંવત 2079 | divyabhaskar.com

ભાસ્કર એક્સક્લુઝિવ વિદેશી પક્ષીઓ તો ઠીક ગુજરાતનું રાજ્ય પક્ષી ગણવામાં આવે છે તે ફ્લેમિંગો પણ હવે ખાસ નજરે પડતા નથી

કકરાડનું પક્ષી અભ્યારણ નેસ્તનાબુદ થવા આરે

15 વર્ષ અગાઉ શિયાળાની ઠંડીમાં જ્યાં 1 લાખથી વધુ પક્ષી આવતા હતા તે ચાલુ સાલ 2 હજારથી ઓછા જ ગણતરીમાં આવ્યા છે

ભાસ્કર ન્યૂઝ | નવસારી

નવસારીથી થોડે દૂર આવેલ કકરાડમાં 15 વર્ષ અગાઉ જ્યાં દેશી વિદેશી 1 લાખથી વધુ પક્ષીઓ શિયાળાની ઠંડીમાં આવતા અને પક્ષી અભ્યારણ (અઘોષિત) બન્યું હતું ત્યાં હવે 2 હજારથી ય ઓછા પક્ષી ચાલુ સાલ આવ્યાનું જાણવા મળ્યું છે.

નવસારીથી આશરે 14 કિમી દૂર ઐતિહાસિક દાંડી પંથકમાં કકરાડ વિસ્તાર આવેલો છે. અહીંનો અંદાજે 11 ચોરસ કિમીથી વધુનો ખુલ્લો વિસ્તાર શિયાળાની મોસમમાં એક સમયે પક્ષીઓ માટે સ્વર્ગ સમાન બની ગયો હતો. આજથી 15 વર્ષ અગાઉ અહીં શિયાળાની મોસમમાં 210 પ્રજાતિના 1 લાખથી વધુ પક્ષીઓ આવ્યાનું નોંધાયું હતું, જેમાં દેશી ઉપરાંત માઇગ્રેટેડ વિદેશી પક્ષીઓનો પણ સમાવેશ થાય છે. ઉક્ત સમયે આ વિસ્તાર શિયાળામાં પક્ષી અભ્યારણ બની ગયો હતો અને સરકાર લેવલે તેના વિકાસની પણ વાતો શરૂ થઈ ગઈ હતી.

જોકે છેલ્લા કેટલાક વર્ષોમાં સ્થિતિ બદલાઈ ગઈ છે. ક્રમશઃ પક્ષીઓની સંખ્યા ઘટતી જ ગઈ છે અને ચાલુ સાલ તો 75 પ્રજાતિના 2 હજારથી ઓછી સંખ્યામાં પક્ષીઓની ગણતરી થઈ છે. મહત્વની વાત એ છે કે ભૂતકાળમાં જેને ગુજરાતનું રાજ્ય પક્ષી કહેવાય છે એ ફ્લેમિંગો હજારોની સંખ્યામાં આવતા હતા તે તો જવલ્લે જ જોવા મળી રહ્યાં છે. કકરાડ કરતા નજીકના સુલતાનપુર વિસ્તારમાં થોડા વધુ પક્ષીઓ જોવા મળી રહ્યાં છે.

2008ની તસવીર કે જ્યારે જ્યાં જુઓ ત્યાં કકરાડમાં પક્ષીઓ જ દેખાતા હતા.

ચાલુ સાલ કોઈ કોઈ જગ્યાએ છૂટાછવાયા પક્ષી જ હવે નજરે પડી રહ્યા છે.

પાણી રહેતું નહીં હોય પક્ષીઓને ખોરાક મળતો નથી

પક્ષી તજજ્ઞો જણાવે છે કે, પક્ષીઓ માટે વધુ નહીં પણ એકથી સવા ફૂટ પાણી હોવું જરૂરી છે. જેથી આવા પાણીમાં ઘણાં બધા નાના-મોટા જીવજંતુઓ અહીં ઉત્પન્ન થાય છે, જે પક્ષીઓ માટે ખોરાક બને છે. કેટલાય સમયથી કકરાડ પંથકમાં ખાસ પાણી જ રહેતું નહીં હોય પક્ષીઓ માટે ખોરાક વધુ મળતો નથી.

કુદરતી સોર્સિસ હોય તો પ્લાનિંગ કરી શકીએ

સરવે માટે હાલ જ અમે ગયા હતા ત્યારે 3-4 કિ.મી.ના વિસ્તારમાં પક્ષી વધુ જણાયા ન હતા. પક્ષીઓ અહીં સર્વાઇવ કરે તે માટે કુદરતી સોર્સિસ જ હાલ નથી. જો તે હોય તો આપણ કૃત્રિમ રીતે પ્લાનિંગ કરી શકીએ. -મીના પટેલ, વન અધિકારી, નવસારી

જ્યારે નિષ્ણાંતે એમ કહ્યું હતું 'બીજુ નળ સરોવર બની શકે'

રાજ્યમાં સૌથી મહત્વનું પક્ષી અભ્યારણ વર્ષોથી 'નળ સરોવર'નું છે. કકરાડમાં આવતા પક્ષીઓની વાત સાંભળી 14-15 વર્ષ અગાઉ એક ઉચ્ચ લેવલના સરકારના પક્ષી નિષ્ણાંત આવ્યા હતા, તેઓ અહીંની સ્થિતિ જોઇ દંગ રહી ગયા હતા અને કહ્યું હતું કે, 'આ તો બીજુ નળ સરોવર બની શકે એમ છે.' જો પછી એક યા બીજા કારણે કંઇ ખાસ થયું નહીં.

દાંડીમાં 'મહાત્મા ગાંધી પક્ષી અભ્યારણ' બની શકે જો...

આમ તો જ્યાં પક્ષીઓ આવે છે એ વિસ્તાર કકરાડ તરીકે જાણીતો થયો પણ તેમાંની ઘણી જગ્યા ઐતિહાસિક દાંડીમાં આવે છે તેથી જો અહીં 'મહાત્મા ગાંધી પક્ષી અભ્યારણ' વિકસિત કરાય તો ટૂરિઝમને પણ વેગ મળે એમ છે એવું જાણકારોનું કહેવું છે.

દક્ષિણ ગુજરાતમાં સર્વપ્રથમ દીપડાના ખોરાક સહિતની બાબતો પર વલસાડ કોલેજના અધ્યાપકે કરેલ વિસ્તૃત સંશોધન લંડનની જર્નલમાં પ્રસિદ્ધ થયું

દીપડાની જંગલથી રહેણાંક તરફ કૂચ

ખેતીપ્રદેશમાં ભૂંડ સહિતનો ખોરાક, નિવાસની જગ્યા, એકલા રહેવાના સ્વભાવથી દીપડાઓની માનવ વસાહતમાં જમાવટ

દ. ગુજરાતમાં ફરતા દીપડા ઉપર સર્વપ્રથમ સંશોધન, સંશોધનમાં દીપડાના 350 જેટલા 'મળ'નું વૈજ્ઞાનિક પદ્ધતિથી પરીક્ષણ કરાયું, માનવ વસાહતથી દૂર કરવા મુશ્કેલ

ભાસ્કર ન્યૂઝ | વલસાડ

દક્ષિણ ગુજરાતમાં દીપડાઓ માનવ વસાહત નજીક હવે પોતાનો નિવાસ જમાવી ચૂક્યા છે ત્યારે તેમની બિહેવીયર, ખોરાકની શૈલી વગેરે બાબતોને જોતા હાલ નજીકના સમયમાં તો તેને માનવ વસાહતોમાંથી દૂર કરવા ભારે મુશ્કેલ યા અશક્ય હોવાનું દીપડાની ખોરાક શૈલી સહિતની બાબતો ઉપર થયેલ સર્વપ્રથમ મોટા સંશોધનમાં જણાવાયું છે.

છેલ્લા કેટલાક વર્ષોથી દીપડાઓ દક્ષિણ ગુજરાતના માનવ વસાહત નજીક વધુને વધુ દેખાવાની તથા શિકાર કરવાની ઘટના બહાર આવી છે. પાંજરે પુરાયા બાદ તેને જંગલમાં છોડી આવવામાં આવે છે છતાં સ્થિતિમાં કોઈ ફરક પડ્યો નથી. ઉલટું વસ્તી વધી છે. આ બાબતે કેટલીક મહત્વની બાબતો ઉપર સર્વપ્રથમ વિસ્તૃત સંશોધન વલસાડની સાયન્સ કોલેજના બાયોલોજી વિભાગના અધ્યાપક નવાઝ ડાભા દ્વારા કરવામાં આવ્યું છે. આ સંશોધનમાં આમ તો દીપડાના ખોરાકથી લઈને કેટલીય બાબતો નવી બહાર આવી છે. જેમાં એક બાબત એ પણ બહાર આવી છે કે દીપડાઓને હાલ તો માનવ વસાહતમાંથી દૂર કરવા ભારે મુશ્કેલ યા એક રીતે કહીએ તો અશક્ય પણ છે. એક મહત્વનું કારણ એ છે કે દક્ષિણ ગુજરાતના ખેતી વિસ્તારમાં શેરડી,ડાંગર,ચીકુ,આંબા વધુ થાય છે જ્યાં દીપડાને જંગલી અને દેશી ભૂંડ સહિતનો ખોરાક મળી રહ્યો છે. અહીં તે નિવાસ પણ કરી શકે છે. બીજું કે દીપડો ઝુંડમાં રહેતો નથી. એક હોય ત્યાં બીજો નહીં રહેતો હોવાના કારણે તે જંગલમાં છોડી આવ્યા બાદ પરત જ માનવ વસાહત નજીક આવી રહે છે, જ્યાં ખોરાક પણ મળી રહ્યો છે. નવા વિસ્તારો પણ ખોજે છે. અહીં ઉલ્લેખનીય છે કે અધ્યાપક નવાઝનું સંશોધન લંડનની પ્રતિષ્ઠિત રિસર્ચ જર્નલ ઈથોલોજી, ઇકોલોજી એન્ડ ઈવોલ્યુશનમાં પ્રસિદ્ધ થયું છે.

■ સંશોધન દરમિયાન મળ સહિતના એકત્ર કરાતા પુરાવા તથા શિકાર સાથે દીપડો નજરે પડે છે.

સંશોધન અંગેની મહત્ત્વની બાબતો

• દ.ગુ.ના 5 જિલ્લાનો 17500 ચો.કિ.મી. વિસ્તાર છે તેનું ભ્રમણ કરાયું હતું. • દીપડાના રહેઠાણ, ખોરાક પદ્ધતિ, શિકાર અને તેની પદ્ધતિ, માનવ સાથે સંઘર્ષ ઉપર અભ્યાસ કરાયો. • બે વર્ષના સમયગાળા દરમિયાન દીપડાના મળ કે 'સ્કેટ' તરીકે ઓળખાય છે તેવા 350 મળનું વૈજ્ઞાનિક પદ્ધતિથી પરીક્ષણ કરવામાં આવ્યું. • દીપડાની વસ્તીના આંકના આધારે તેમાં થયેલ ફેરફાર જોવાયો. • અધ્યાપક નવાઝ ડાભા દ્વારા સંશોધન માટે અન્ય 3 તજજ્ઞ ડો. અલ્કેશ શાહ, ડો. આદિલ કાઝી અને ડો. રોહિત ચૌધરીનું માર્ગદર્શન લેવાયું.

દ.ગુ.માં 2 વર્ષમાં 780 પાલતુ પશુઓનો શિકાર

2 વર્ષમાં 780 પાલતુ પશુઓનો શિકાર કર્યો છે. પાલતુ પશુઓમાં 47 ટકા બકરી, 43 ટકા ગાય, 6 ટકા ભેંસ, 2 ટકા અન્યનો શિકાર કર્યો. જેથી 2.5 વર્ષની ઉંમરના પ્રાણી ઉપર મુખ્યત્વે સાંજે છથી 9 વાગ્યા દરમિયાન હુમલા કરતો હોવાનું જણાયું છે.

કુલ ખોરાકમાં 44 ટકા ભૂંડનો

સંશોધનમાં એ બાબત બહાર આવી કે દીપડો 17 પ્રકારના પ્રાણીઓનો ખોરાક આહારમાં લે છે. તેના ખોરાકમાં સૌથી વધુ 44 ટકા ભૂંડ છે. અન્યમાં 10 ટકા મરઘા, 7 ટકા પક્ષી, 7 ટકા સસલા, 6 ટકા ગાય, 6 ટકા બકરી અને 5 ટકા કૂતરા છે.

7 વર્ષમાં વસતી બમણી

2016-2023 એમ 7 વર્ષ દરમિયાન દીપડાની વસ્તી જ્યાં ગુજરાતમાં 1395થી વધી 2274 થઇ ત્યાં દ.ગુજરાતમાં તો 173થી વધી 347 થઇ હોવાનું ગણતરીમાં જણાયું છે.

નાગ, કાળોતરો, વાઇપર, પૈડકુ મનુષ્ય અને પ્રાણીના મૃત્યુમાં મહત્તમ જવાબદાર

નવસારી જિલ્લામાં જોવા મળતા 30માંથી 6 જ પ્રજાતિના 'સાપ' સંપૂર્ણતઃ ઝેરી, 18 બિનઝેરી

ભાસ્કર ન્યૂઝ | નવસારી

16 જુલાઇના દિવસે 'વિશ્વ સાપ દિવસ' તરીકે ઓળખવામાં આવે છે. નવસારી જિલ્લામાં 30 પ્રકારની સાપની પ્રજાતિઓ જોવા મળે છે. જેમાં 6 પ્રકારની પ્રજાતિઓ 5 સાપની છે, 6 આંશિક ઝેરી સાપ અને 18 બિનઝેરી સાપ છે એમ નવસારી કૃષિ યુનિ.ના વન્ય જીવન વિજ્ઞાન વિભાગના મદદનીશ પ્રાધ્યાપક ડો. આદિલ કાઝીએ જણાવ્યું હતું.

વધુમાં તેઓ જણાવે છે કે ઝેરી સાપ એટલે એવા સાપ કે જેના વિષને લીધે મનુષ્ય સહિત સમગ્ર સજીવોનું મૃત્યુ થઇ શકે. આંશિક ઝેરી સાપ એટલે એવા સાપ કે જેના વિષથી ફક્ત નાના સજીવો જેવા કે ઉંદર, ચકલી જેવા પક્ષી ખિસકોલી વગેરેનું બેભાન કે મૃત્યુ થઈ શકે. આ આંશિક ઝેરી સાપનાં ઝેરની મનુષ્ય પર કોઈ અસર થતી નથી. નવસારીમાં જોવા મળતા ઝેરી સાપમાં 4 પ્રજાતિ એવી છે જે સામાન્ય રીતે સમગ્ર નવસારીમાં જોવા મળે છે તેમજ 2 પ્રજાતિ એવી છે જે નવસારીના અમુક જગ્યાએ જોવા મળે છે. સામાન્ય રીતે જો મળતા સાપોને 'બીગ ફોર' તરીકે પણ ઓળખવામાં આવે છે. તે સાપોમાં નાગ એટલે કે કોબ્રા, કાળોતરો એટલે કે ક્રેટ, ખડચિતળો કે વાઇપર અને પૈડકું કે ફુરસાનો સમાવેશ થાય છે. આ ચાર પ્રજાતિઓ નવસારીમાં તેમજ ગુજરાતમાં પણ મોટાભાગના મનુષ્યના મૃત્યુ અને ઈજાના કેસ માટે જવાબદાર છે. આમ ચોમાસુ આવતાં જ નવસારીના રસ્તાઓ પર અથવા તેની આજુબાજુ દુર્લભ પ્રજાતિઓનાં જેવી કે સોનેરી ઉડકણો (ગોલ્ડન ટ્રી સ્નેક), લિલવો (ગ્રીન કિલબેક), વાંસનો ખડચીતળ (ગ્રીન બામ્બુ પીટ વાઇપર) અને બિલ્લી સાપ (કેટ સ્નેક) વગેરે સાપ જોવા મળવાના કિસ્સા સાંભળવા મળે છે. નવસારીમાં ખોરાકની કે સલામત જગ્યાની શોધમાં લુપ્ત થતા સાપો લોકોના નજરે અપવાદરૂપ જોવા મળ્યા છે જેવા કે અજગર,વાંસનો ખડચીતળ (ગ્રીન બામ્બુ પીટ વાઇપર), દમોઇ (રેડ સેન્ડ બોઆ), ડુંગરીની રૂપસુંદરી (માઉન્ટેન ત્રિંકેટ સ્નેક) અને તાંબાપીઠ સાપ (કોમન બ્રોન્ઝબેક ટ્રી સ્નેક). નવસારીમાં ઘણી સંસ્થાઓ સાપ બચાવવાનું અને લોકોના ઘરેથી સાપ લઇ જવાનું ઉમદા કાર્ય કરે છે.

Way Forward

Department of Wildlife Sciences in Indian Institutions

Presently, India has 7,15,343 sq km of forest cover on 21.76 % of total geographical area (ISFR 2023) with 106 national parks, 574 wildlife sanctuaries, 309 community and 145 conservation reserves, covering 5.69 % of total geographical area of India (National Wildlife Database, WII, 2025). This total of 1134 protected areas need adequate qualified manpower for their protection, conservation and research. On the other side, India has following departments of wildlife sciences in various universities/institutions.

Name of University/ Institute	Name of Department/ Division	Year of Dept Est	Course offered
Aligarh Muslim University, Aligarh, Uttar Pradesh	Department of Wildlife Sciences	1986	Ph.D. in Wildlife Science M.Sc. Wildlife Science (2 Yr)
Amity University, Noida, Uttar Pradesh	Amity Institute of Forestry and Wildlife	2013	M.Sc. in Wildlife Science (2 Yr) Ph.D. in Wildlife Science (2 Yr)
Anbanathapuram Vahaira Charities College Mayiladuthurai, Tamil Nadu	Department of Zoology and Wildlife Biology	1955	M.Sc. Wildlife Biology
Bharat Vidhyapith, Pune	Institute of Environment Education and Research	1964	M.Sc. Wildlife Conservation Action
Kerala Agricultural University, Vellanikkara, Thrissur, Kerala	Department of Wildlife Science	1998	M.Sc. Forestry in Wildlife Science (2 Yr) Ph.D. Forestry in Wildlife Science (3 Yr)
National Centre for Biological Sciences (NCBS), Bengaluru, Karnataka	National Centre for Biological Sciences	1992	M.Sc. in Wildlife Biology and Conservation (2 Yr) PhD in Wildlife Ecology & Conservation
Navsari Agricultural University	Department of Wildlife Science	2021	M.Sc. Forestry in Wildlife Science (2 Yr)
North Orissa University, Mayurbhanj, Orissa	Department of Wildlife and Conservation Biology	1998	M.Sc. in Wildlife Sciences (2 Yr)
Salim Ali Centre for Ornithology and Natural History, Coimbatore, Tamil Nadu	Salim Ali Centre for Ornithology and Natural History	1990	M.Sc. Wildlife Science
Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir	Department of Wildlife Sciences	2011	M.Sc. Forestry in Wildlife Science (2 Yr) Ph.D. Forestry in Wildlife Science (3 Yr)
University of Kota, Kota, Rajasthan	Department of Wildlife Sciences	2010	M.Sc. in Wildlife Science (2 Yr)
Wildlife Institute of India, Dehradun, Uttarakhand	Faculty of Wildlife Science	1982	Ph.D. Wildlife M.Sc. in Wildlife Science (2 Yr) Post-Graduate Diploma in Advanced Wildlife Management (10 Months) Certificate Course in Wildlife Management (3 Months)

Courses on Wildlife in Abroad

Globally, a trend has emerged wherein universities have established dedicated departments of wildlife sciences. These specialized departments play a pivotal role in advancing the field by offering comprehensive courses in Wildlife Science and actively engaging in cutting-edge research initiatives focused on wildlife. The establishment of wildlife science departments reflects a broader commitment within the international academic community to address the pressing issues related to wildlife and biodiversity. It provides a platform for collaboration, knowledge exchange, and the development of innovative solutions to mitigate the impact of human activities on wildlife populations.

The research undertaken by these departments contribute significantly to the knowledge in wildlife science. Faculty members and researchers within these departments often engage in multidisciplinary studies, exploring various aspects of wildlife behavior, ecology, conservation and wildlife management. Their research findings not only advance the academic understanding of wildlife but also have practical applications in addressing real-world challenges related to biodiversity loss, habitat degradation, and the conservation of endangered species.

Australia	Murdoch University, Perth	Master of Wildlife Health and Conservation
	University of Melbourne	Wildlife Biology
	University of Sidney	Wildlife Conservation
	University of Western Australia	Wildlife Conservation
Canada	University of British Columbia	Wildlife Management
China	Beijing Forestry University	Conservation and Utilization of Wild Animals and Plants
	Chinese Academy of Sciences.	Wildlife Ecology Wildlife Management Conservation Biology
	Jinan University	Zoology & Wildlife
	Shandong University	Zoology & Wildlife
Ireland	University College Dublin	MSc Wildlife Conservation and Management
Japan	Kyoto University	Animal behavior, Wildlife Sciences, Evolutionary Genomic, Conservation Biology
New Zealand	University of Otago, Dunedin	Master of Wildlife Management Postgraduate Diploma in Wildlife Management
Russia	Lomonosov Moscow State University	Animal Ecology
	Saint-Petersburg state University	Wildlife Ecology
Scotland	University of Glasgow, Scotland	M.Sc. Wildlife and Livestock Management
Singapore	National University of Singapore	Wildlife Ecology and Biodiversity
South Africa	University of Johannesburg	Ecological Genomics and Wildlife Conservation
UK	Anglia Ruskin University	M.Sc. Applied Wildlife Conservation
	Liverpool John Moores University	MSc Wildlife Conservation and Drone Applications
	Loughborough University	Wildlife Conservation
	Newcastle University	MSc Wildlife Management MSc Global Wildlife Science and Policy MSc Ecology and Wildlife Conservation MRes Animal Behaviour
	Nottingham Trent University	MRes/MSc Endangered Species Recovery and Conservation
	University of Bristol	Wildlife Ecology and Conservation Science
	University of Chester	MSc in Wildlife Conservation

	University of Exeter	Animal Behaviour, Wildlife Management
	University of Kent	Wildlife Conservation
	University of Oxford Tubney	Wildlife Conservation
	University of Portsmouth	Wildlife Conservation
	University of Reading	MSc Wildlife Management and Conservation
	University of South Wales	Wildlife and Conservation Management
	University of Southampton	Wildlife Conservation
	University of St Andrews	Ecology, Wildlife and Conservation studies
	University of York	Wildlife Management
USA	Colorado State University	Department of Fish, Wildlife and Conservation Biology Warner College of Natural Resources
	Cornell University	Wildlife Biology and Management
	Harvard University	Community and Ecosystem, Ecology, Animal Behavior
	North Carolina State University	Forestry and Environmental Resources
	Texas Tech University, Texas	Doctoral in Wildlife, Aquatic, and Wild lands Science and Management Masters in Wildlife, Aquatic, and Wild lands Science and Management
	University of California	Wildlife Management
	University of Florida	Wildlife Ecology and Conservation
	University of Montana	Wildlife Management
	University of Pennsylvania	Wildlife Management
	University of Wisconsin	Wildlife Management
	Virginia Tech	Fish and Wildlife Conservation
	Yale University	Wildlife Conservation

Employing agencies of Wildlife Postgraduates

ICAR has well thought reforms in postgraduate studies and Indian Forestry can be benefited by this development over a period of time. The specializations recommended in Fifth Deans Committee are befitting to present state of condition, academic legitimacy and towards reshaping Indian Forestry through education and innovative research. So far Wildlife Science is concerned; the dearth of technically skilled and specialized manpower for India is evidently visible with the available Protected Area network of the country. Moreover, many areas of Forestry, Ecotourism, Wildlife Conservation and Management require these graduates for better outcome and professionalism. The M.Sc. and Ph.D. graduates of Wildlife Sciences can be employed in following sectors:

1. Ministry of Environment, Forests and Climate Change (MoEFCC), Govt of India
2. Statutory and Autonomous bodies and organizations under MoEFCC
3. Institutes and Research Centers of Indian Council of Forestry Research and Education (ICFRE), Dehradun
4. Universities, Colleges and Departments
5. Protected Areas (National Park, Wildlife Sanctuary, Conservation Reserve, Community Reserve and Biosphere Reserves)
6. Conservation Areas
7. National Forest Institutes
8. NGOs

Statutory bodies of MoEFCC, Govt of India

Central Zoo Authority (CZA)	New Delhi
National Biodiversity Authority (NBA)	Chennai
National Green Tribunal (NGT)	New Delhi
National Tiger Conservation Authority (NTCA)	New Delhi
Central Pollution Control Board (CPCB)	New Delhi
National Afforestation & Eco-Development Board (NAEB)	New Delhi
Wildlife Crime Control Bureau (WCCB)	New Delhi

Autonomous bodies of MoEFCC, Govt of India

G.B. Pant National Institute of Himalayan Environment (GBPNIHESD)	Almora
Indian Council of Forestry Research and Education (ICFRE)	Dehradun
Indian Institute of Forest Management (IIFM)	Bhopal
Indian Plywood Industries Research and Training Institute (IPIRTI)	Bengaluru
Wildlife Institute of India (WII)	Dehradun

Organizations of MoEFCC, Govt of India

Botanical Survey of India (BSI)	Kolkata
Forest Survey of India (FSI)	Dehradun
Indira Gandhi National Forest Academy (IGNFA)	Dehradun
National Centre for Sustainable Coastal Management (NCSCM)	Chennai
Sálim Ali Centre for Ornithology and Natural History (SACON)	Coimbatore
Zoological Survey of India (ZSI)	Kolkata
Society of Integrated Coastal Management (SICOM)	New Delhi
CPR Environmental Education Centre (CPREEC)	Chennai
Centre of Environment Education (CEE)	Ahmedabad

Indian Council of Forestry Research and Education (ICFRE) Institutes and Research Centre

Arid Forest Research Institute (AFRI)	Jodhpur
Forest Research Institute (FRI)	Dehradun
Himalayan Forest Research Institute (HFRI)	Shimla
Institute of Forest Biodiversity (IFB)	Hyderabad
Institute of Forest Genetics and Tree Breeding (IFGTB)	Coimbatore
Institute of Forest Productivity (IFP)	Ranchi
Institute of Wood Science & Technology (IWST)	Bengaluru
Rain Forest Research Institute (RFRI)	Jorhat, Assam
Tropical Forest Research Institute (TFRI)	Jabalpur
FRC for Bamboo & Rattan (FRC-BR)	Aizawl
FRC for Coastal Ecosystem (FRC-CE)	Visakhapatnam
FRC for Eco-Rehabilitation (FRC-ER)	Prayagraj
FRC for Livelihood Extension (FRC-LE)	Agartala
FRC for Skill Development (FRC-SD)	Chhindwara

Universities, Colleges and Departments offering Forestry and Wildlife Education in India

College of Forestry & Hill Agriculture, Tehri Garhwal of Uttarakhand University of Horticulture and Forestry	Uttarakhand
College of Forestry and Environment, Allahabad of Sam Higginbottom Institute of Agriculture Technology and Sciences (Formerly Allahabad Agricultural Institute)	Uttar Pradesh
College of Forestry and Hill Agriculture, Ranichauri of G.B. Pant University of Agriculture and Technology	Uttarakhand
College of Forestry, Akola of Dr. Panjabrao Deshmukh Krishi Vidyapeeth	Maharashtra
College of Forestry, Dapoli of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth	Maharashtra
College of Forestry, Nauni, Solan of Dr.Y.S. Parmar University of Horticulture and Forestry	Himachal Pradesh
College of Forestry, Navsari Agricultural University	Gujarat
College of Forestry, Ponnampet of University of Agricultural Sciences, Bangalore	Karnataka
College of Forestry, Sirsi of University of Agricultural Sciences, Dharwad	Karnataka
College of Forestry, Thrissur of Kerala Agricultural University	Kerala
College of Horticulture and Forestry (CH&F) Pasighat, Arunachal Pradesh of Central Agricultural University	Arunachal Pradesh
College of Horticulture and Forestry, Jhalawar of Maharana Pratap University of Agriculture and Technology	Rajasthan
Department of Agroforestry, Jhansi of Bundelkhand University	Uttar Pradesh
Department of Forestry and Natural Resources, Ludhiana of Punjab Agricultural University, Ludhiana	Punjab
Department of Forestry of Kumaun University	Uttarakhand
Department of Forestry, Bhubaneswar of Orissa University of Agriculture and Technology	Orissa
Department of Forestry, Cooch Behar of Uttar Banga Krishi Vishwavidyalaya	West Bengal
Department of Forestry, Hisar of CCS Haryana Agricultural University	Haryana
Department of Forestry, Kanpur of C.S. Azad University of Agriculture and Technology, Kanpur	Uttar Pradesh
Department of Forestry, Nirjuli of North Eastern Regional Institute of Science and Technology (NERIST) Deemed University	Arunachal Pradesh
Department of Forestry, Raipur of Indira Gandhi Agricultural University	Chhattisgarh
Department of Forestry, Srinagar (Garhwal) of H.N.B. Garhwal University	Uttarakhand
Department of Forestry, Wildlife and Environment Science, Bilaspur of Guru Ghasidas Vishwavidyalaya University	Chhattisgarh
Department of Wildlife Science, Aligarh Muslim University	Uttar Pradesh
Division of Agroforestry of Sher-e-Kashmir University of Agricultural Sciences and Technology	Jammu
Dolphin Institute of Biomedical & Natural Sciences, Dehradun	Uttarakhand

Doon College of Agriculture Science and Technology (DCAST), Dehradun	Uttarakhand
Faculty of Forestry, Kanke, Ranchi of Birsa Agricultural University	Jharkhand
Faculty of Forestry, Sher-e-Kashmir University of Agricultural Sciences and Technology, Srinagar	Kashmir
Forest College Research Institute (FC&RI), Mettupalayam	Tamil Nadu
Forest Research Institute-Deemed University, Dehradun	Uttarakhand
School of Studies (Forestry & Wildlife), Bastar of Bastar University	Chhattisgarh

Protected Areas of India

National Park	106
Wildlife Sanctuary	574
Conservation Reserve	145
Community Reserve	309
Total	1134

As on Feb 2025

Consecration Areas of India

Tiger Reserves	57
Elephant Reserves	33
Biosphere Reserves	18
RAMSAR Wetland Sites	89
Natural World Heritage Sites	34
Important Coastal and Marine Biodiversity Areas	131
Marine Protected Areas	106
Important Bird Areas	554
Potential Important Bird Areas	96
Key Biodiversity Areas	531
Biodiversity Heritage Sites	44
Total	1693

As on Feb 2025

National Forest Institutes

AFRI	Arid Forest Research Institute	Jodhpur
BIOTRIM	Biotechnological Centre for tree Improvement	Trupathy
BNHS	Bombay Natural history Society	Mumbai
BSI	Botanical Survey of India	Kolkata
CAZRI	Central Arid Zone Research Institute	Jodhpur
CEE	Centre for Environment Education	Ahmedabad
CEMDE	Centre for Environmental Management of Degraded Ecosystem	New Delhi
CES	Centre for Ecological Sciences	Bengaluru
CPCB	Central Pollution Control Board	New Delhi
CSSRI	Central Soil Salinity Institute	Karnal
CZA	Central Zoo Authority	Delhi
DFE	Directorate of forest education	Dehradun
FRC	Forest Research Centre	Hyderabad
FRI	Forest Research Institute	Dehradun
HFRI	Himalayan Forest Research Institute	Shimla
ICFRE	Indian Council of Forest Research & Education	Dehradun
IFGTB	Institute of Forest Genetics and Tree Breeding	Coimbatore
IFP	Institute of Forest Productivity	Ranchi
IGNFA	Indira Gandhi National Forest Academy	Dehradun
IIB	Indian Institute of Biodiversity	Itanagar
IIFM	Indian Institute of Forest Management	Bhopal
IISS	Indian Institute of Soil Science	Bhopal
NBWL	National board of Wildlife	New Delhi
NEERI	National Environmental Engineering Research Institute	Nagpur
NRSA	National Remote Sensing Agency	Hyderabad
NZP	National Zoological Park	New Delhi
RFRI	Rain Forest Research Institute	Jorhat
SACON	Salim All Centre for Ornithology and Natural History	Coimbatore
SFRC	State Forest Service College	Dehradun
TBGRI	Tropical Botanic Garden and Research Institute	Thiruvananthapuram
TFRI	Tropical Forest Research Institute	Jabalpur
WII	Wildlife Institute of India	Dehradun
WPS	Wildlife Preservation Society of India	Dehradun
WWF	World Wide fund for Nature-India	New Delhi
ZSI	Zoological survey of India	Kolkata

Important National Environment NGOs

ATREE	Ashoka Trust for Research in Ecology and Environment	New Delhi
BNHS	Bombay Natural History Society	Mumbai
CEE	Centre for Environment Education	Ahmedabad
CES	Centre For Environmental Studies	Bhubaneswar
CSE	Centre for Science and Environment	New Delhi
IES	Indian Environmental Society	Delhi
	Kalpavriksh	Pune
MSSRF	M S Swaminathan Research Foundation	Chennai
NCF	Nature Conservation Foundation	Mysuru
	Satpuda Foundation	Amravati
TERI	The Energy and Resource Institute	New Delhi
TRAFFIC	Trade Record Analysis of Flora and Fauna in Commerce	New Delhi
WPSI	Wildlife Protection Society of India	New Delhi
WTI	Wildlife Trust of India	Noida
WWF	World Wide Fund for Nature	New Delhi
ZOO	Zoo Outreach Organization	Coimbatore

Employment opportunity in the field of wildlife sciences

Wildlife Education

The traditional positions for the education of professional biologists have been in colleges and universities. Since the late 1980's, there has been a growing interest in teaching basics of wildlife ecology at postgraduate and undergraduate levels in universities. Therefore, the universities that offer curriculum hire trained wildlife biologists for teaching and research. This will be a significant motivating force to join wildlife sciences as a discipline by students, and it also creates awareness regarding wildlife conservation at graduate and postgraduate level in India.

Non-Government Organizations

Several prestigious national and international non-governmental organizations (NGOs) such as Bombay Natural History Society (BNHS), World Wide Fund for Nature, Wildlife Trust of India, The Corbett Foundation, Araynayak, etc. provide trained wildlife biologists to achieve their aims and objectives. For instance, WWF was the NGO instrumental in the initiation of project tiger in India. These NGOs recruit a large number of trained wildlife biologists to achieve their aim of wildlife conservation. These NGOs have species monitoring program wherein they assess and monitor the population of flagship species. To achieve species monitoring, NGOs recruit trained wildlife biologists who have fair exposure to wildlife estimation techniques. M.Sc. and Ph.D. wildlife science can join such NGOs on a national and international scale.

Wildlife Research

Wildlife research is another field where wildlife postgraduates can be absorbed. India has several agencies which carry out high-quality wildlife research. These include Wildlife Institute of India, Dehradun; Salim Ali Centre for Ornithology and Natural History, Coimbatore; Ashoka Trust for Research in Ecology and the Environment, Bangalore; National Centre for Biological Sciences, Bangalore; Nature Conservation Foundation, Mysore etc. These agencies offer excellent opportunities to excel career in wildlife research. Some of these organizations offer opportunities at a large scale which leads to the absorption of many post-graduates. Three projects are worth to mention here from the lens of employment opportunities for wildlife postgraduates. These are Project Tiger, Project Dolphin, Project Ganga, National River Conservation Directorate project, etc. The Wildlife Institute of India implements such projects and the employment generated by these projects is in hundreds. Therefore, such research organizations provide excellent opportunity for M.Sc. and Ph.D. wildlife biologists.

Consultant

Human development in the last century has increased exponentially at the cost of natural resources. Therefore, the Government of India has put restrictions in the form of impact assessment in natural areas. Several private organizations carry out such impact assessments, which need trained wildlife biologists for carrying out surveys. Apart from that, several corporate agencies such as HCL have responsibilities for safeguarding the environment, which also recruits people from the natural science background. Such organizations provide excellent opportunities which also provide first-rate wages and the job.

Forest Department

The forest department across India is the primary agency for implementing conservation and research activities. Hence, the forest department needs the assistance of trained wildlife biologists to obtain the scientific information outcome of which is better management.

Wildlife Law Enforcement

Some organizations combine wildlife law enforcement with wildlife management; whereas, some specializes in each. Enforcement officers require additional law enforcement training after college, as their jobs involve enforcing laws and regulations that enhance wildlife populations. As with the wildlife manager, the law enforcement officer is obvious to the public. Examples of such jobs are wildlife inspector in several forest departments and TRAFFIC India.

Government Agencies

Indian has several government agencies which offer jobs in the area of wildlife sciences. Among these, the significant agency is Ministry of Environment, Forest and Climate Change, which offer permanent jobs as scientist who has duties to help the government achieve the ministry's aim. Apart from that, agencies such as Forest Survey of India, Botanical Survey of India and Zoological Survey of India offer jobs for trained biologists of wildlife sciences.

Naturalist

Wildlife in protected areas worldwide also acts as a source of livelihood through wildlife tourism. Several hotels and lodges around the protected areas offer the post of the naturalist, which assists the tourist in watching the wildlife. Trained wildlife biologists could be more effective as naturalists due to having strong background and knowledge of the biodiversity elements of the area. The naturalist job is not merely restricted to India only, but highly trained and experienced naturalists have the opportunity to work abroad too.

Statutory bodies

Several statuary bodies such as National Tiger Conservation Authority, Central Zoo Authority, National Green Tribunal, National Biodiversity Authority, etc. offer job for the personal with academic back ground in wildlife sciences.

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