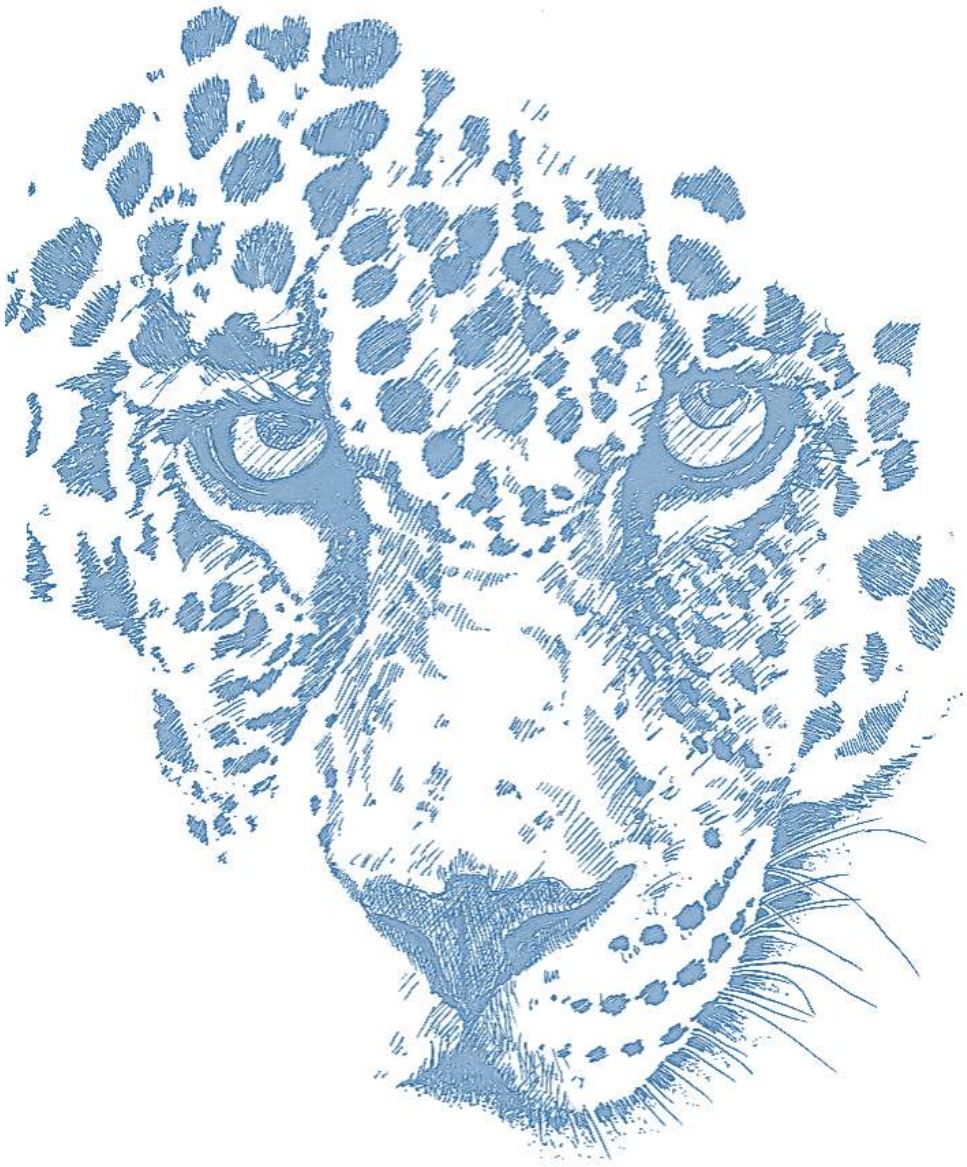


Department of Wildlife Sciences

2025

COLLEGE OF FORESTRY
NAVSARI AGRICULTURAL UNIVERSITY
1988
वनं समृद्धं जीवनम्

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:

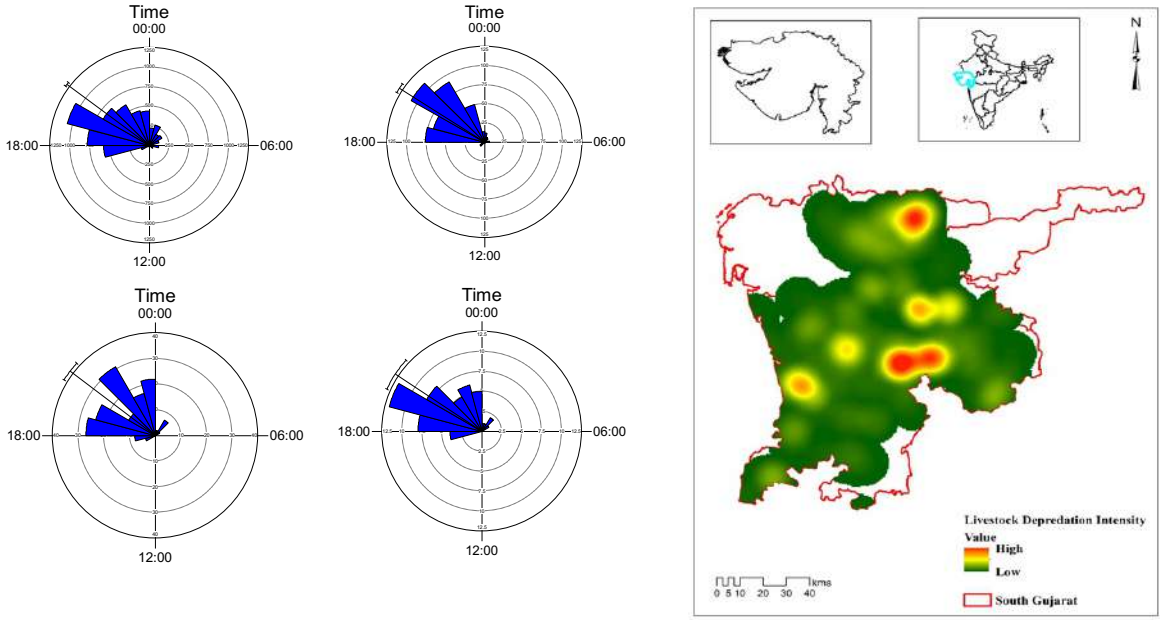
1. Leopard spatial distribution is highly concentrated in eastern and north eastern part of the Mandvi and Vansada taluka respectively. Therefore, there is an urgent need to put this area under the priority for focused mitigation efforts.
2. Most of the livestock depredation occurred between 20:00 and 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.

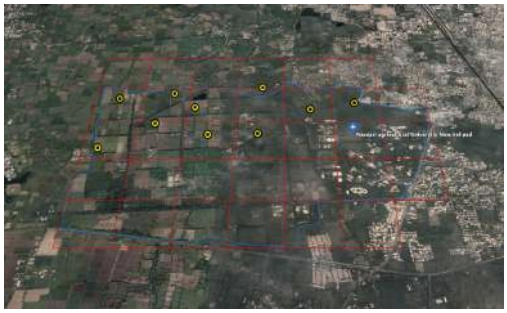
૨. મોટાભાગે પશુઓનું મારણ રાત્રીના ૮ થી ૧૦ કલાકની વચ્ચે થતો હોય છે. ખેડૂતો/ગામવાસીઓએ આ સમય દરમિયાન તેમના પશુઓનું મારણ ન થાય તે માટે વિશેષ સાવચેતી રાખવી જોઈએ.

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.

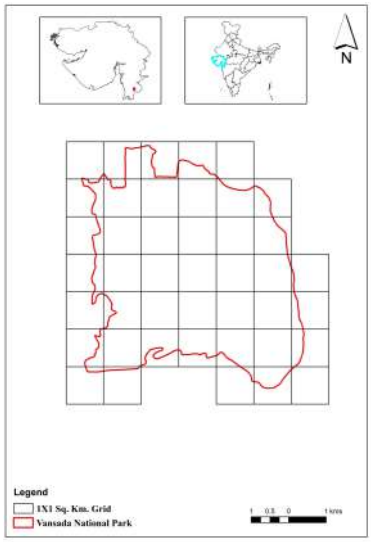
Leopards of Vansda

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.

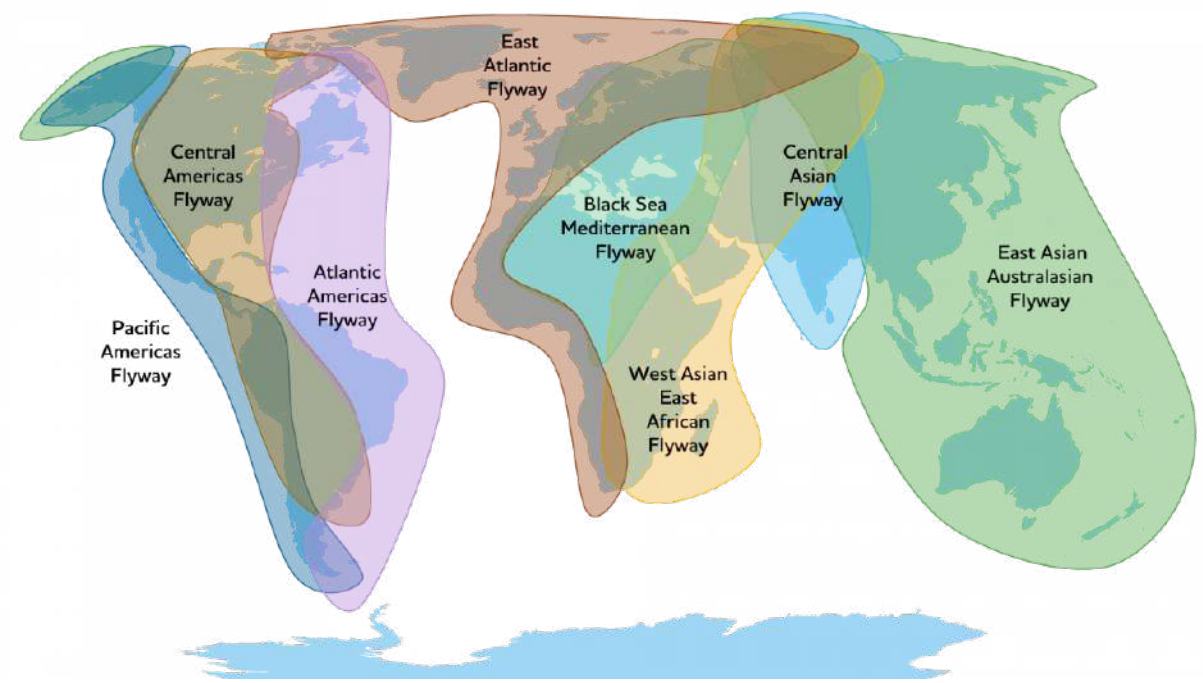
WLS/18/4

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

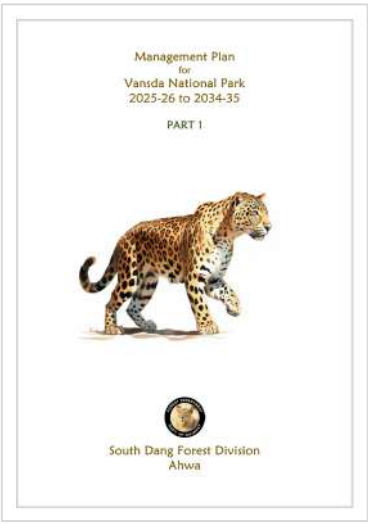
1. Establishment of Department of Wildlife Sciences funded as by Govt of Gujarat (2021)
   PI: Dr. Aadil Kazi, Co-PIs: Dr. Bimal Desai and Dr. S. K. Sinha
2. Conservation of Large Carnivores of Gujarat funded by Govt of Gujarat (2023)
   PI: Dr. Aadil Kazi, Co-PI: Dr. S. K. Sinha

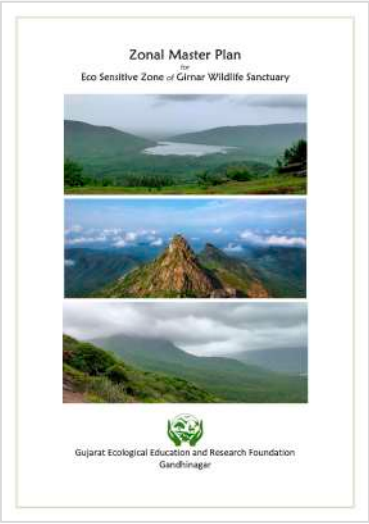
Submitted

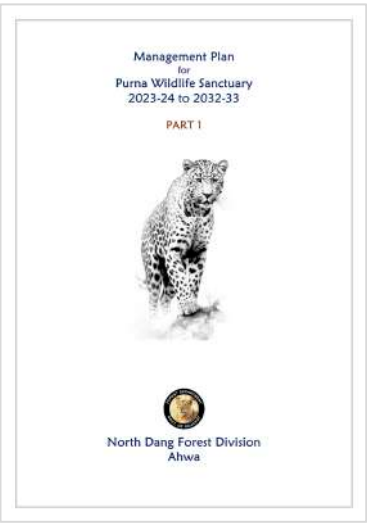
1. Conservation of birds in Gujarat
2. Ecology of Dhole *Cuon alpinus* in Dangs
3. Mitigating Farmer-Leopard conflict in tribal areas of South Gujarat
4. Long-term monitoring and conservation of avifauna in South Gujarat
5. Ecology and behaviour of Owls (Strigiformes) in Vansda National Park
6. Population 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

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

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 km^2 resulting in an area coverage of 160 km^2. 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.

***Corresponding author: Rohit Chaudhary**, Department of Wildlife Sciences, College of Forestry, Navsari Agricultural University, Navsari 396450, Gujarat, India. E-mail: rchaudhary259@gmail.com. https://orcid.org/0000-0003-4616-5257

Mohmad Navaz Dahya and Alkesh Shah, B. P. Baria Science Institute, Navsari 396445, Gujarat, India, E-mail: nawaz08@gmail.com (M.N. Dahya), alkesh22a@gmail.com (A. Shah)

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

1 Introduction

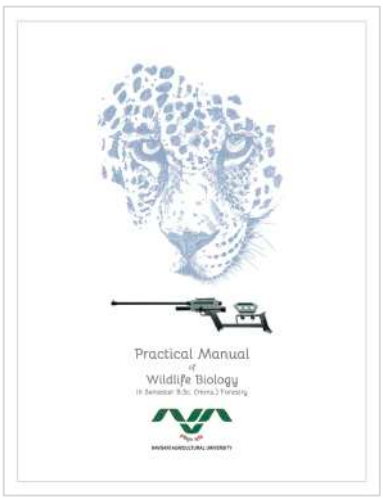
Wild mammals (hereafter mammals), due to their keystone, umbrella, and charismatic nature, are among the most important species groups (Linnell et al. 2000). Mammals display remarkable diversity in terms of body size, ranging from small rodents to megaherbivores (Nowak 2018). Additionally, mammals exhibit 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).

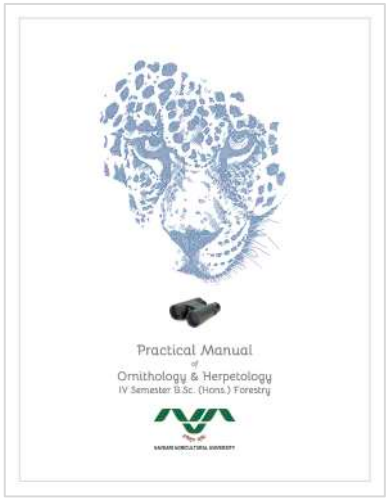
Protected areas worldwide serve as the backbone of wild mammal conservation (Ghosh et al. 2019; Terraube et al. 2020). However, due to their inadequate size and slow creation rate, a landscape-level approach has been advocated which makes, human-dominated landscapes important for mammal conservation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

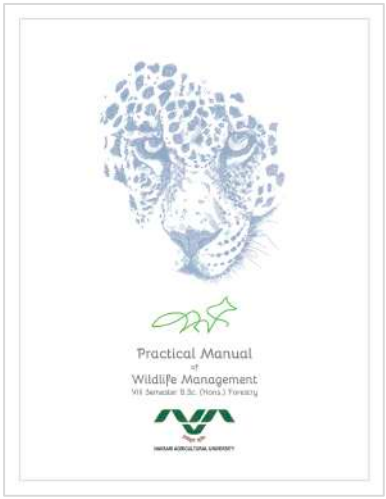
Threatened mammal species, such as the leopard and striped hyena, persistently occupy human-dominated landscapes (Athreya et al. 2013). Moreover, human-dominated landscapes sometimes act as corridors, connecting protected areas that safeguard the long-term survival of mammals

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.

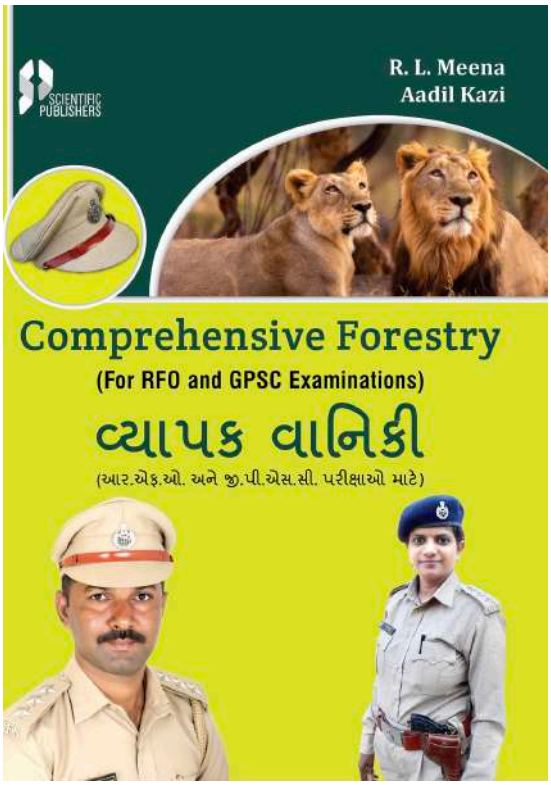


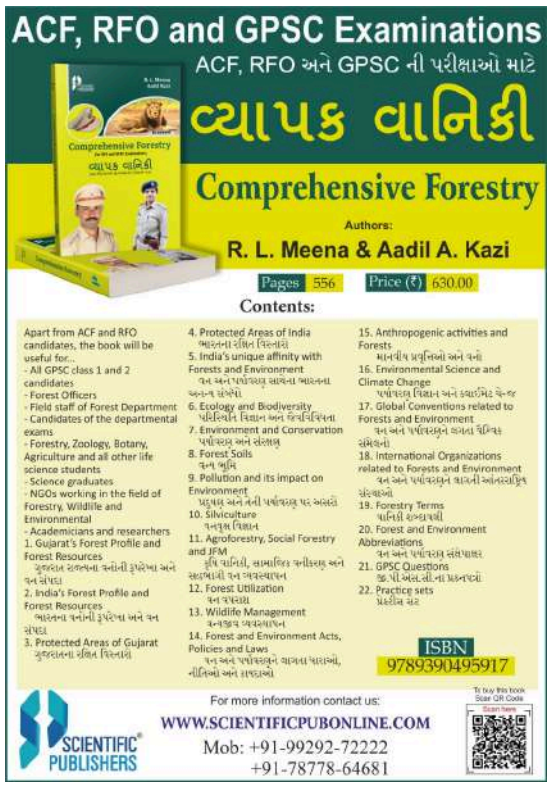




Book

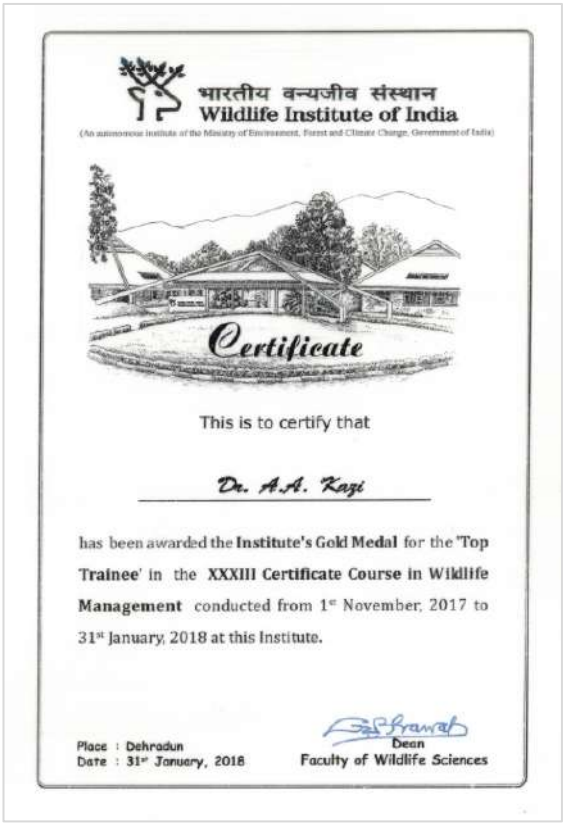
Comprehensive Forestry (2021, ISBN 978-9390495917). Pp. 556. R. L. Meena and Aadil Kazi.





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

Dean
Faculty of Wildlife Sciences


TE COURSE IN
NAGEMENT
FUNCTION


THE SOUTHERN GUJARAT CHAMBER OF COMMERCE & INDUSTRY
(BUSINESS VOICE OF SOUTH GUJARAT SINCE 1940)
PRESENTS
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82
BEST
TEACHER

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

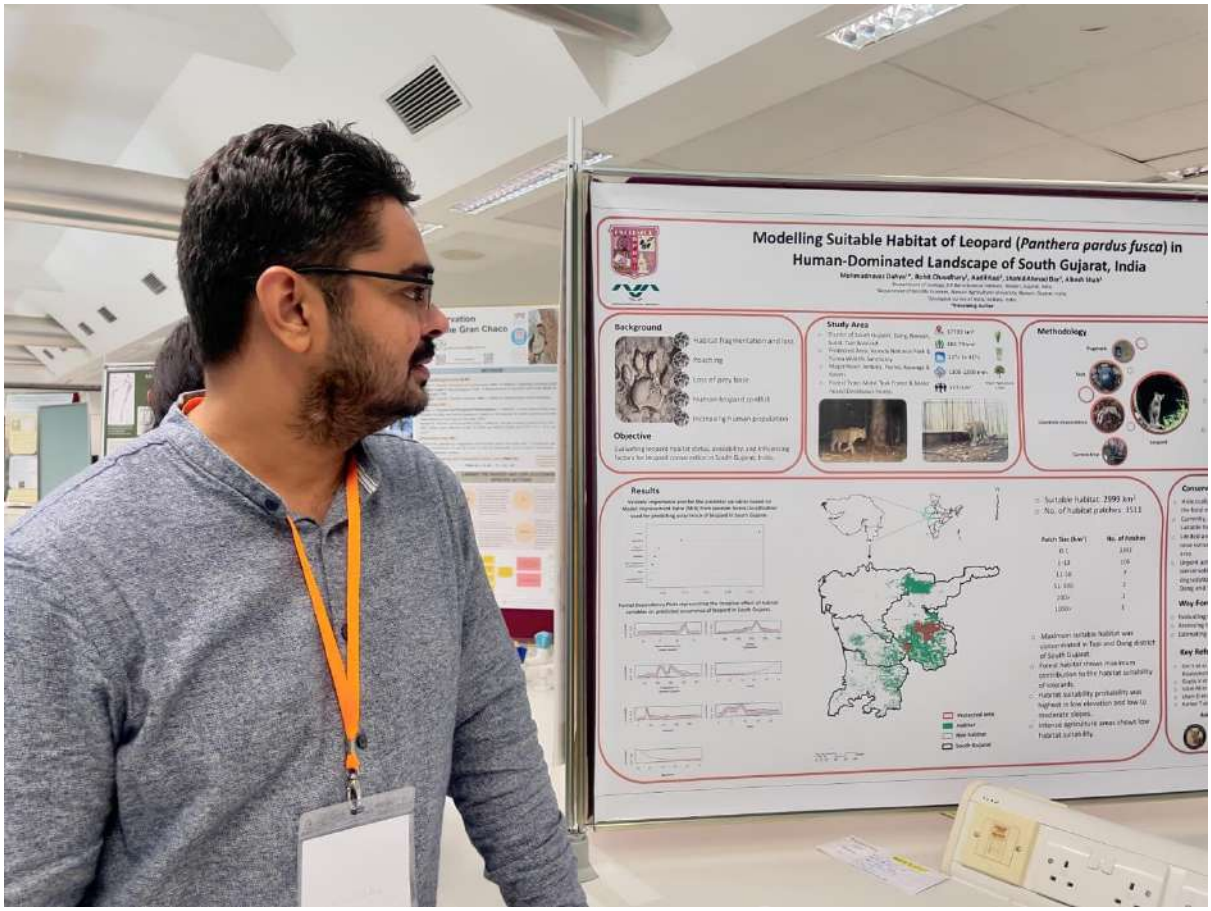
Global Attachment

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.

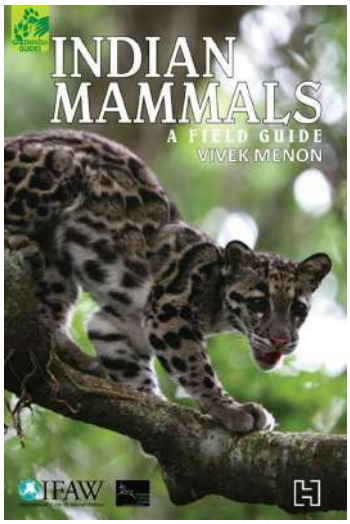
To further enrich their learning experience, DWLS mandates Study Tours to State Forests and an All India Study Tour. These exposure visits are critical, allowing students to gain firsthand experience of the challenges wildlife has been facing, especially due to human interventions. By interacting with 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

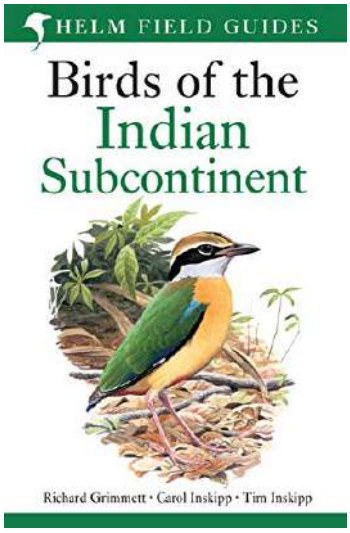
A. Mammalogy

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



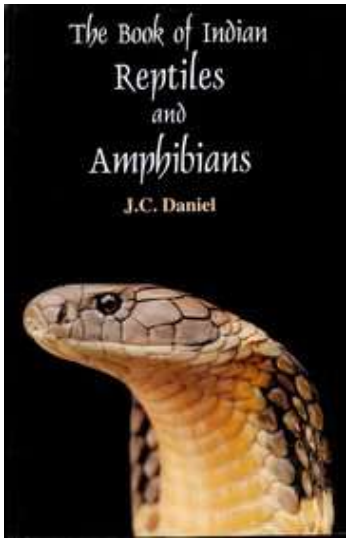
B. Ornithology

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

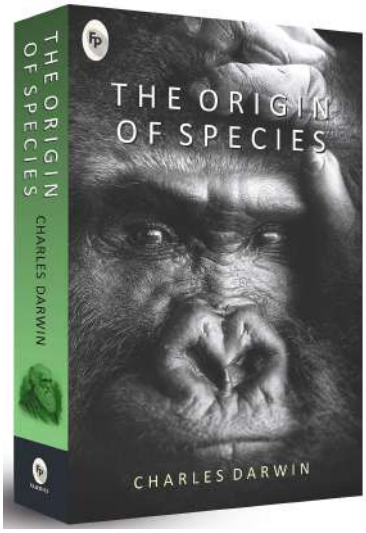
36. Butterflies of India
37. Butterflies on the roof of the world
38. The life story of a butterfly

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

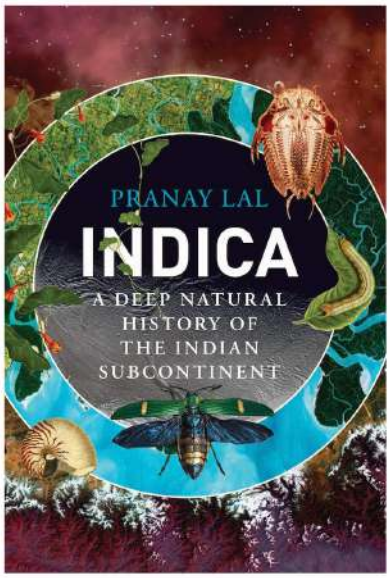
F. Natural History

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

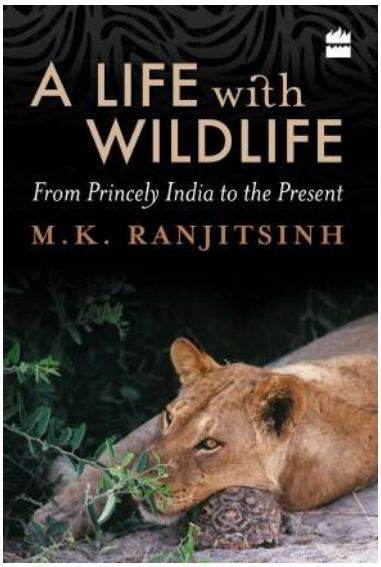


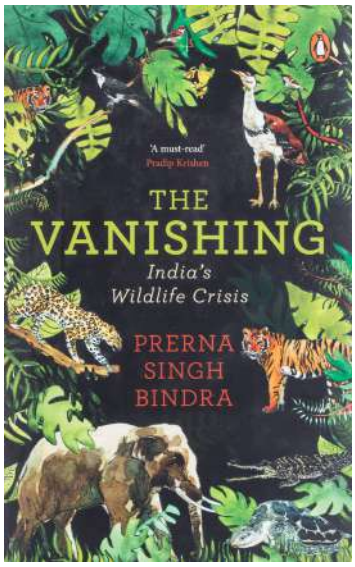
H. Ecotourism

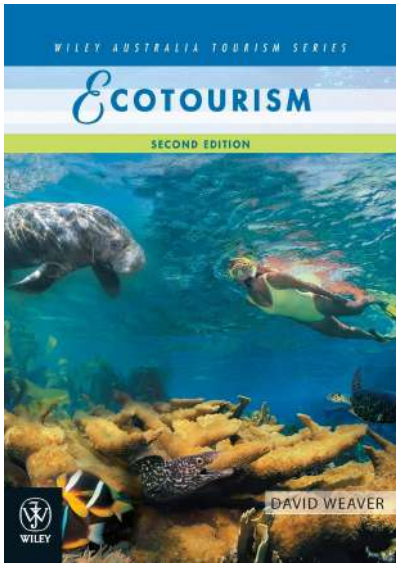
70. Ecotourism
71. Ecotoursim- a guide for planners and managers I & II
72. Gujarat Naa Vanya Mukamo
73. Heritage Gems of Gujarat

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

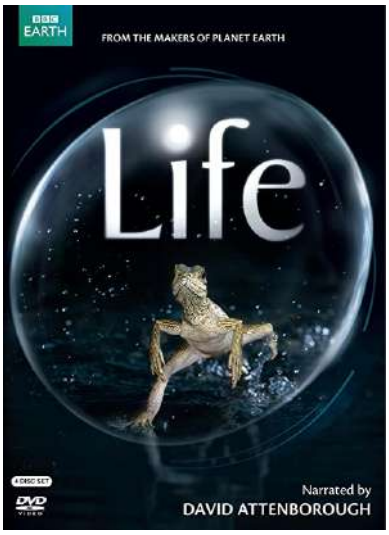


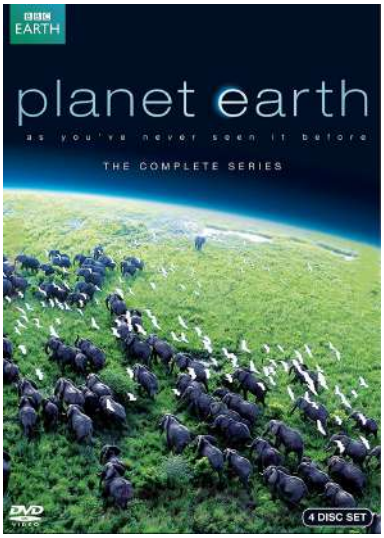


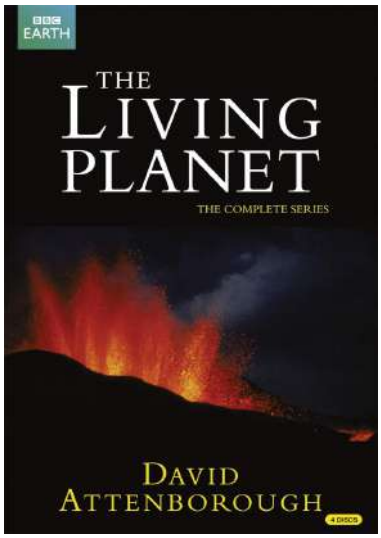


Departmental Cybrary

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