



# The Foundation for Ecological Research, Advocacy and Learning

Annual Report  
2018 – 2019

Foundation for Ecological Research, Advocacy and Learning  
(FERAL)

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The muntjac is a small, solitary deer with widespread distribution in India covering wet evergreen forests to dry savanna woodlands.



## Mandate

Our mandate is to address issues of natural resource management and conservation of natural areas and the environment at the grassroots and policy level. To do this, we implement projects, undertake research and run a variety of courses for students and practitioners. We also collaborate with other research and development institutes in India and abroad and engage with stakeholders through awareness campaigns, workshops and seminars.

We are a non-profit trust founded in 1997 to address the need for applied research and training in ecology and environment. Since then, we have contributed substantially to research and policy in wildlife biology and conservation, natural resources management, as well as to education and skill-building in these and allied areas.

For our research, we use data-driven ecological research and leverage contemporary analytical and visualisation tools. We strive to involve major stakeholders in the identification and resolution of problems emerging from environmental degradation and loss of natural habitats. We believe that building the skills and capacities of stakeholders and testing out-of-the-box approaches are necessary to tackle some of most difficult and seemingly intractable challenges we face in this field today.

## The Year That Was

During 2018-2019 we continued to work on our collaborative wildlife and eco-hydrology projects in the Western Ghats. Collaborations with other research agencies were strengthened and a number of research manuscripts were published in peer reviewed journals.

Our Bangalore office, from where most of our wildlife and conservation work is based, moved to a more central location at Richards Town.



The Malabar gliding frog (*Rhacophorus malabaricus*) is a species endemic to the Western Ghats. ©Venetia Sharanya.



# Wildlife Biology and Conservation

The focus of this programme is to undertake scientific research on wildlife and their habitats and use the outputs to steer conservation interventions. In the year gone by, we initiated a long term research and conservation programme under the Frontier Elephant Programme (FEP), completed one small grant project, continued three others and carried out an equal number of collaborative studies.

Our ongoing research on wildlife connectivity in the Western Ghats has revealed the impact of linear intrusions on forest structural connectivity and on the movement of large mammals. Results from this analysis are available in a user friendly format on [www.indiaunderconstruction.com](http://www.indiaunderconstruction.com). These findings can facilitate policy level changes on the development of linear infrastructure in natural areas.

This year, a paper on the response of fishing communities to streamflow alterations and habitat modifications by small hydropower projects in the Western Ghats was published. FERAL researchers also published collaborative papers on the efficacy of using dung counts to estimate animal populations and the drivers of forest fires in the Himalayan Foothills.

Under FEP, "The Elephant in the Towns Commons" project was continued and several innovative technologies to help mitigate human-elephant conflict were developed, including an early warning system, automated image recognition for mammals, alternate fences, and a portable watchtower. Other than this, we also initiated a two-year project called "My Elephant in My Village" to protect elephants and improve the livelihood of people impacted by conflict.

Continuing our training efforts this year, we trained over a hundred ecologists, conservation practitioners, and Forest Department staff working in the Western Ghats to use camera traps, GPS and GIS. We also continued to provide support to many researchers pursuing their Masters and PhD programmes.





A national highway cutting across a forest patch in the southern Western Ghats.



# Assessing the impacts of infrastructure development on forest fragmentation and potential connectivity for large mammals in the Western Ghats

*Project Period: June 2016 – March 2019*

*Budget (Lakh): Rs.14.67*

*Supporting Agency: Centre for Wildlife Studies, India*

*Principal Investigator: Srinivas Vaidyanathan*

*Co-Principal Investigator: Rajat Ramakant Nayak*

*Web Page: <https://www.feralindia.org/drupal/node/391>*

Connectivity of large mammals is seriously hampered by linear intrusions, like roads and railway lines, within the Western Ghats. Currently, there are only site-specific studies that indicate that these invasions hamper not only the movement of dispersing individuals, but also lead to mortality of animals due to collision with vehicular traffic. Apart from the impact on animal dispersal and the associated impacts of habitat fragmentation, the impacts of linear infrastructure are poorly known/evaluated across the Western Ghats.

This two-year project builds on the premise that identification of practical, cost-effective, science-based alternatives can lead to solutions that provide connectivity for wildlife while meeting essential needs for infrastructure.

## **Objectives of this project include:**

1. Assembling spatial datasets that will be combined into connectivity maps
2. Compilation and analysis of datasets to assess the fragmentation impacts of linear intrusions within the Western Ghats.
3. Performing analyses of scenarios of various spatial arrangements, mitigation measures, and intensities of future infrastructure development and the impacts of these scenarios on connectivity in the Western Ghats.

Last year, we completed our forest fragmentation and structural connectivity analysis for India. We also completed a multi-species functional connectivity analysis for the Western Ghats and Central India using agent-based movement models for five mammalian species with varying dispersal distances. The results from this project were also converted to a user-friendly format and the same has been made available on a data portal (<https://indiaunderconstruction.com/>) along with updated infrastructure layers for these two landscapes.





The Palini hills and its foothills are one of the largest safe havens for the grizzled giant squirrel. ©Gopinath Sricandane



# Baseline estimates of wildlife in Kodaikanal Wildlife Sanctuary

*Project Period: June 2017 to March 2020*

*Budget (lakh): Rs. 12.87*

*Supporting Agency: Kodai Friends International and individual donors.*

*Principal Investigator: Srinivas Vaidyanathan*

*Project Manager: Dhruv Athreye*

In 2013, about 610 km<sup>2</sup> of the Palani Hills was formally designated as the Kodaikanal Wildlife Sanctuary (KWS). The Palani Hills host diverse habitats, flora, and fauna, including many species endemic to the Western Ghats, a global biodiversity hotspot. However, little data exists on the status of wildlife in the Palanis. A study from October 2016 to June 2017 established the status of the interface between wildlife and people living along the boundary of KWS. To complement these findings of the human-wildlife interface, this study to determine baseline estimates of wildlife was initiated.

## **The objective of this study is to:**

The objective of this study is to establish baseline information of the presence, distribution, and abundance of mammals in Kodaikanal Wildlife Sanctuary.

Data on the presence of mammal detection and anthropogenic variables that may have influenced the presence of animals was also collected. The environmental variables included: ground cover, leaf litter, soil type, canopy stories and height, invasive species, and anthropogenic activity.

In the year 2018, we completed our grid-based occupancy survey and we recorded 17 different mammalian species through direct or indirect signs. Signs of gaur were the most abundant followed by elephants. Animals directly sighted were mostly primates and squirrels. In the coming year, we plan to survey the Upper Palanis—the southwest region of KWS that is >2000 m and supports the shola-grasslands ecosystem—using camera traps to establish the presence and density of large carnivores such as tiger, leopard, and dhole.



A village meeting being conducted in Uduburani.



A farmer from the village volunteer team checks the early-warning system.



## Frontier Elephant Programme

The Frontier Elephant Programme brings together researchers from the National Institute for Advanced Studies (NIAS), Asian Nature Conservation Foundation (ANCF), Indian Institute of Science (IISc), and FERAL to conserve individuals and populations of wild elephants that persist in human-dominated landscapes through long-term monitoring and citizen-science initiatives.

The goal of the programme is to harness the behavioural adaptability of elephants to help local communities adopt lifestyles that facilitate their coexistence with elephants in frontier-habitats, while ensuring food security and safety in the region.

Currently, there are two projects running under this programme: the elephant in the town commons and my elephant in my village.

### The elephant in the town commons

*Project Period: October 2016 - September 2018*

*Budget (Lakh): Rs. 13.09*

*Supporting Agency: Prince Bernhard Nature Fund (PBNF), The Netherlands*

*Principal Investigator: Srinivas Vaidyanathan*

*Co-Investigator: Nishant Srinivasaiah*

*Web Page: <https://www.feralindia.org/node/45>*

In India, nearly half of all elephants live outside protected areas in and around densely populated agro-pastoral landscapes. Loss of elephant habitat over time, change in land-use and archaic farming practices have all resulted in increased human-elephant conflict (HEC). This project is a long-term approach to protect elephants and improve people's livelihoods (safety and food security) through community empowerment and reduction in poaching and HEC.

#### **The objectives of this project include:**

1. Improving the lives of people affected by human-elephant conflict, through real-time monitoring of elephants using camera traps and early warning systems.
2. Promoting lifestyles among villagers that are compatible with elephant use of the region.





A machan used by farmers in Palya to guard their crops at night.



**The following project activities were undertaken:**

1. We conducted on-field training sessions for local community members and organisations to monitor elephants through direct observations and using camera traps.
2. We developed camera-trap based infra-red SMS/GPRS and MMS systems and ancillary sensors/fences to be used for early detection of elephants. The early warning system includes a camera with data transmission capability to a mobile phone. We developed an image recognition software for mobile phones based on machine learning to detect Asian elephants in the transmitted photographs. If an elephant has been detected, it would send out an SMS alert stating the presence of the elephant at a given camera location in the preferred local language to a list of phone numbers. This is probably the first time Artificial Intelligence is being used in India to detect a wildlife species and send out SMS alerts.
3. We conducted trials on field-application of the early warning mechanisms through active community and Forest Department involvement in order to test its efficacy and record the response of elephants and farmers.
4. We developed and testing a low-cost electric fence based on the field teams' experience of having seen a similar fence used in a farm in Sri Lanka.
5. We set up long-term elephant monitoring stations to generate information for park managers and farming communities on elephants and other forest activities.
6. We put together suggestions for village-level for modifications in land-use and agricultural practices to make villages elephant-friendly. Additionally, the project also contributed to increased awareness and improvement in living conditions free from fear of chance encounters, unexpected crop raids and human deaths by elephants.



Farmers setting up poles for the hanging-wire fence.



Farmers setting up the hanging-wire fence.



## My elephant in my village

*Project Period: September 2018 – August 2020*

*Budget (Lakh): Rs. 79.34*

*Supporting Agency: US Fish and Wildlife Service*

*Investigators: Srinivas Vaidyanathan and Nishant Srinivasaiah*

*Web Page: <https://www.feralindia.org/node/388>*

This project was formulated based on our learning from the project "the elephant in the towns commons," and is part of a long-term approach to protect elephants and improve people's livelihoods through community empowerment and reduction in poaching and human-elephant conflict.

In the first phase of the project, three villages were selected: one inside a forest, one along the forest's border, and another village further away from the forest close to a city. The three villages differ in their intensities of conflict reporting and therefore allow us to analyse conflict and food security under different scenarios.

### **Project objectives:**

Conserving Asian elephants in a human-dominated landscape by adopting village-level land use, farming, and lifestyle practices that are compatible with elephant use of the landscape.

### **Activities carried out as part of the project:**

1. As part of this project, 29 farmers from the three villages were trained to carry out activities such as maintenance of electric fences along the PA boundary and around the crop storage area, receiving and disseminating information received through Early Warning System (EWS), monitoring elephant activity, and measuring crop damage.
2. Questionnaire surveys were carried out to understand current farming practices. We found that creating physical barriers and watch-towers, collective storage facilities, and access to better market places could help reduce the losses caused by elephants feeding on crops.
3. Trap cameras were set up along routes that elephants are known to take on their way to crop-fields. These cameras were regularly checked by field staff as well as members from the village team. Due to poor network connectivity, there have been some lags in the system which we are still working on.



A farmer, with his family, standing alongside crates of mango to be transported to the market.



4. Over the next year, the project will be extended to four villages. People from nearby villages have already begun speaking to farmers from the village team to discuss the possibility of setting up hanging-wire fences in their villages. The Forest Department has also visited the two villages where the fence is set up to inspect it and have expressed an interest in replicating the same in other villages.

We also hope to help farmers reach better markets to obtain better prices for their crops and are trying to connect them to fairer markets and find ways that they can process their crop to add value to them.



The once pristine grasslands of the Nilgiris are now threatened by a variety of invasive species.



# Natural Resource Management

The primary objective of this programme is to document, restore and manage landscapes that sustain communities and provide essential products and services. Understanding the impacts of climate change on these services and consequently on the vulnerabilities of communities is a crucial component of this work. To this end, we collaborate with other research institutions working in the Western Ghats and along the south-eastern coast of India. We undertake action research and leverage mobile information and communication technologies coupled with low-cost environmental sensors for environmental monitoring.

## **The objectives of the programme are:**

1. To unravel and quantify ecological processes that deliver ecosystem goods and services using participatory and multidisciplinary approaches.
2. To demonstrate and develop research tools for decision support in the management of natural systems with a specific focus on scenario building for impacts of climate change and trade-offs between interventions.
3. To use this research to identify strategies and inform and influence policy which will reduce the vulnerabilities of stakeholders and the ecosystems to natural disasters and climate change, and help restore and sustainably manage ecosystem services through community action in habitat restoration, protection and management.

This year, the programme continued the long-term monitoring of stream flow and rainfall using hydromet equipment installed during the Ministry of Earth Sciences supported project.



A V-notch along with water level recorder installed in a invasive wattle dominated catchment.



A water level recorder installed in a grassland patch dominated by invasive gorse plants.



# Promoting long-term ecohydrology studies in the Western Ghats of India

*Project Period: September 2018 - March 2019*

*Budget (Lakh): Rs. 12.30*

*Supporting Agency: Wildlife Conservation Trust, India*

*Investigators: Srinivas Vaidyanathan and Jagdish Krishnaswamy*

*Web Page: <http://www.feralindia.org/node/387>*

The Western Ghats play a critical role in capturing moisture during the south-west monsoon, and its varied topography creates unique vegetation patterns. We have two heavily instrumented catchments, one in the Aghnashini basin and the other in the Upper Bhavani catchment of the Nilgiris that provide us with unique, long-term data on rainfall intensities, duration, and discharge, across the different land cover and land use patterns.

The Aghnashini river is one of the few undammed west-flowing rivers in South India and it is characterised by a mix of natural evergreen forests, degraded secondary forests, commercial plantations, and agricultural fields within human settlements. In contrast, the Upper Bhavani river is highly managed. The instrumented catchment in the Nilgiri basin is devoid of human settlements. However, the natural grasslands that occur in the landscape have witnessed historical modifications with the introduction of non-native invasive species.

We also analysed the relationship between streamflow and daily rainfall across different vegetation types. This relationship was further refined to understand how streams under different land-cover types respond to extreme rainfall events. Our preliminary result from the Nilgiris indicate that natural forests and grasslands were more efficient in retaining rainwater compared to catchments dominated by exotic invasive tree species during extreme rainfall events. For further analysis, we will include other physical properties of the catchment, as catchment morphometry is found to influence stream flows, to understand the hydrological responses to extreme events to help develop better flood prediction models.

This project has also helped us build capacities of organisations and individuals who are interested in the field of ecohydrology.



Natural montane-grasslands in Nilgiris. Image by Girish Verma.



Natural grasslands being invaded by invasive species such as gorse, *Ulex europaeus*. Image by Girish Verma.



# The “hydrologic footprint” of major invasive alien species in the Upper Nilgiris

*Project Period: August 2018 – February 2020*

*Budget (Lakh): Rs. 17.57*

*Supporting Agency: Ministry of Earth Sciences, Government of India*

*Investigators: Ravinder Singh Bhalla and Jagdish Krishnaswamy*

*Web Page: <https://www.feralindia.org/node/47>*

Invasive alien species (IAS) are a threat to biodiversity and ecosystem functions globally. They are known to change community assemblage and structure. They also influence ecosystem functions and services. However, little is known about the impact of terrestrial invasive plants on stream hydrology, especially during the dry season when their effect at the catchment scale is more pronounced. Water availability during the dry season is crucial for ecosystem functioning and human well being.

In the Western Ghats, the dry season precedes the south-west monsoon and is the warmest part of the year. The study site, in the Nilgiris South range of the Upper Nilgiris, have been instrumented with one of the highest densities of raingauges and water level recorders, and are being monitored intensively since 2012. Preliminary investigations suggest that the spread of black wattle (*acacia mearnsii*), and a mix of scotch broom (*cytiscus scoparius*) and gorse (*ulex europaeus*), together referred to broom herein, into natural grasslands in the Upper Nilgiris have significantly increased evapotranspiration and reduced dry-season streamflow. We, therefore, initiated this study to conduct catchment level experiments to quantify the hydrologic footprint of invasive species in the Nilgiris.

Following the high court order of 2014, Tamil Nadu Forest Department has initiated a large-scale wattle removal programme as a measure to restore natural grasslands in the Nilgiris. However, the impact of such large scale wattle removal on water budget has not been studied. Particularly, the water loss by evapotranspiration by young, coppicing shoots is not known. Some studies have observed that water uptake by the invasive plants is much higher in the early stages of the life cycle when compared to mature stands of these trees. Furthermore, the impact of large scale removals in terms of sediment loads in the streams needs to be studied. Hence, as part of this project we evaluated the success of these restoration activities by studying the sediment load in the streams.



Field teams measuring stream velocity using salt dilution method.



**The main objectives of this study are:**

1. To compare the effect of three dominant land covers wattle, broom and natural grasslands in the Upper Nilgiris on the water balance in terms of dry season stream-flows, evapotranspiration, and soil moisture.
2. To quantify impacts of large scale removal of black wattle on sediment loads in streams.
3. To investigate decadal trends in area under major land cover and natural grasslands and forests and their contribution to evapotranspiration at a landscape scale.

As part of the project we have generated high resolution land-use/land-cover maps of the Nilgiris and have analysed vegetation trends over two decades. A lot of spectral mixing especially between mature, large stands of wattle and shola forests, and between broom grasses and natural grasslands has been observed. A spectral unmixing approach will be followed in the coming months to develop better LULC maps. A relationship between the rate of spread of invasive plants and their effect on evapotranspiration will also be developed using decadal trend maps.

As part of the project, we will analyse trends in land-cover over two decades using high-resolution satellite images. These decadal trend maps will be further used in understanding the relationship between the rate of spread of invasives and their effect on evapotranspiration. We are planning to install a Bowen ratio tower by the end of 2019 and collect continuous evapotranspiration data during the dry season of 2020. In addition to collecting field data, a GIS and GPS workshop and stakeholders meeting will be conducted in June 2019, as part of the reach out activity under this project.



Participants at the Goa Conference, 2018.



Participants at the Corbett Conference, 2019.



## Learning and Events

Our learning programme comprises of formal and informal courses which often overlap with other events. FERAL also conducts workshops in collaboration with other organisations. This year, FERAL organised two Rufford conferences in Goa and Uttarakhand.

### Fostering grass-roots conservation in India - A Rufford Initiative

*Project Period: April 2018 - March 2019*

*Budget (Lakh): Rs. 17.6*

*Supporting Agency: The Rufford Foundation, United Kingdom*

*Principal Investigator: Rajat Ramakant Nayak*

*Web Page: <https://www.feralindia.org/node/41>*

FERAL in collaboration with the Rufford Foundation, UK, had organised two four-day conferences for the Rufford Small Grants recipients, in Benaulim, Goa between 18th and 21st September 2018, and in Corbett, Uttarakhand, between 8th and 11th February 2019.

The Rufford Foundation has played a crucial role in the field of nature conservation in developing countries worldwide. Their small grants have offered immense opportunities to young professionals and amateurs to explore and contribute to the field of wildlife research and nature conservation. It has so far supported more than 860 research and conservation projects in the Indian sub-continent. This conference aims to provide a platform for Rufford grantees to meet and learn from each other's experiences to foster conservation. It provides grantees with an opportunity to meet, network and learn from the experiences of other researchers and adopt some successful conservation models in their own area. A primary objective of this meeting is to explore different aspects of conservation, action research, and capacity building for conservation at the local, regional, and global levels.

## Publications

Below is a list of publications covering articles, in scientific journals, popular magazines and newspapers, followed by technical reports and conference papers presented at various national and international events.

### Journal articles and book chapters

Ahrestani, Farshid S. "*Bos frontalis* and *bos gaurus* (Artiodactyla: Bovidae)." Mammalian Species 50, no. 959 (August 17, 2018): 34-50. <https://doi.org/10.1093/mspecies/sey004>

Ahrestani, Farshid S., N. Samba Kumar, Srinivas Vaidyanathan, Lex Hiby, Devcharan Jathanna, and K. Ullas Karanth. "Estimating Densities of Large Herbivores in Tropical Forests: Rigorous Evaluation of a Dung-Based Method." Ecology and Evolution 8, no. 15 (August 2018): 7312-22. <https://doi.org/10.1002/ece3.4227>

Jumani, Suman, Shishir Rao, Nachiket Kelkar, Siddarth Machado, Jagdish Krishnaswamy, and Srinivas Vaidyanathan. "Fish Community Responses to Stream Flow Alterations and Habitat Modifications by Small Hydropower Projects in the Western Ghats Biodiversity Hotspot, India." Aquatic Conservation: Marine and Freshwater Ecosystems 28.4 (2018): 979-993. <https://doi.org/10.1002/aqc.2904>

Karnad, Divya. "Conservation Amidst Shifting Sands In India's Marine Fisheries." In Conservation from the Margins, edited by Umesh Srinivasan and Nandini Velho, 33-51. New Delhi: Orient BlackSwan, India, 2018.

Krishnaswamy, Jagdish, Nachiket Kelkar, N.A. Aravind, and Srinivas Vaidyanathan. "Climate Change Impacts on Aquatic Biodiversity." In Biodiversity and Climate Change: An Indian Perspective, edited by JR Bhatt, Arundhati Das, and Kartik Shanker, 163-90. New Delhi: Ministry of Environment, Forest and Climate Change, Government of India, 2018.

Murthy, Karthik K., Samir Kumar Sinha, Rahul Kaul, and Srinivas Vaidyanathan. "A Fine-Scale State-Space Model to Understand Drivers of Forest Fires in the Himalayan Foothills." Forest Ecology and Management 432 (January 15, 2019): 902-11. <https://doi.org/10.1016/j.foreco.2018.10.009>



Ruth S DeFries, Krithi K Karanth, and Srinivas Vaidyanathan. "Accommodating Wildlife Movement and Ecosystem Services Amidst Infrastructure Expansion." In *Towards Sustainable Development: Lessons from MDGs and Pathways for SDGs*, edited by S M Khasir, 111-19. Dhaka, Bangladesh: Institute of Policy, Advocacy and Governance, 2018.

## Reports and conference papers

Dahal, Nishma, Sunil Kumar, Rajat Nayak, Rinzin Lama, Barry Noon, and Uma Ramakrishnan. "Modeling Impacts of Climatic Fluctuations on Distribution of Pikas in the Himalaya." Nextgen Genomics, Biology, Bioinformatics and Technologies Conference. Jaipur, Rajasthan, India, 2018.

Krishnaswamy, Jagdish, Srinivas Vaidyanathan, Nachiket Kelkar, Shishir. A Rao, Vidyadhar Atkore, and Shivona Bhojwani. "Defining Ecological Flows for Karnataka." Bangalore, India: Task group on water policy constituted by Karnataka Jnana Aayoga, July 2018.

## Popular articles

Karnad, Divya. "Get Hooked to Marine Life." *Deccan Herald*. March 3, 2019. <https://www.deccanherald.com/sunday-herald/sh-top-stories/get-hooked-marine-life-721187.html>.

Karnad, Divya. "How Fresh Is Your Tuna?" *The Hindu*, December 14, 2018, sec. Food. <https://www.thehindu.com/life-and-style/food/how-fresh-is-your-tuna/article25742028.ece>.

Karnad, Divya. "Sharks under Threat: Jaws against a Toothless Law." *The Hindu*, March 24, 2018, sec. Environment. <https://www.thehindu.com/sci-tech/energy-and-environment/sharks-under-threat-jaws-against-a-toothless-law/article23333552.ece>.

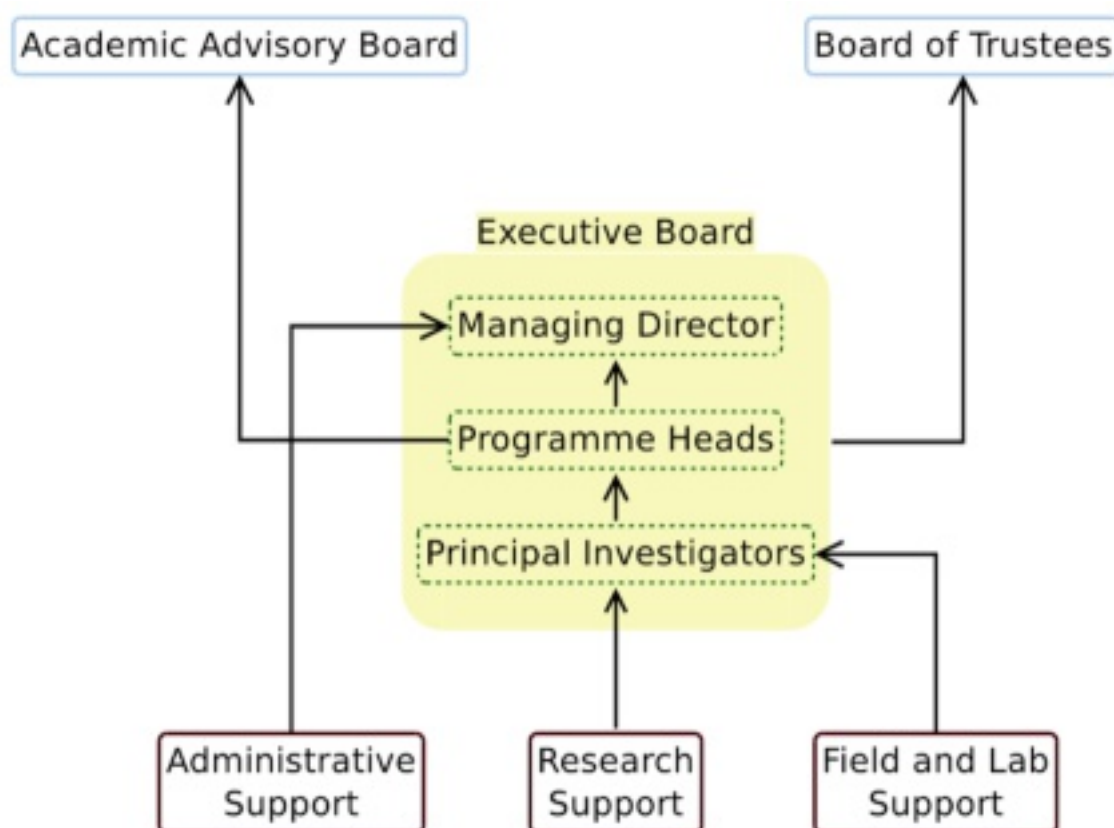
Karnad, Divya. "Sustainability Needs Markets." *DNA India*, March 7, 2019. <https://www.dnaindia.com/analysis/column-sustainability-needs-markets-2727084>.

Karnad, Divya, and Chaitanya Krishna. "Is Formalin Present in Your Fish? Here's How to Buy Unadulterated Seafood." *The Hindu*, July 16, 2018, sec. Food. <https://www.thehindu.com/life-and-style/food/is-formalin-present-in-your-fish-heres-how-to-buy-unadulterated-seafood/article24431555.ece>.

## Administrative Information

**F**ERAL is a non-profit trust founded under the Indian Trusts Act (1882), in July 1997. We are certified as a Scientific and Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, New Delhi. Donations made to FERAL attract deduction under section 80G of the Income Tax Act, 1961 and we are registered and authorised to receive foreign funds under the foreign contribution regulation act (FCRA) 2010.

We have a simple organisational structure which provides a supportive framework for our re- searchers while ensuring them functional autonomy. As per the DSIR and Trust Act rules, we are advised by an academic advisory board for all scientific matters and governed by a board of trustees for overall administration and organisational policy.





### **Advisory board**

Deviprasad K. V., Ph.D.  
Jagdish Krishnaswamy, Ph.D.  
Ajith Kumar, Ph.D.  
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Keshavnath Perar, Ph.D.  
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Kartik Shanker, Ph.D.  
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### **Board of trustees**

Mahesh Sankaran, Ph.D (Managing  
Trustee)  
Prof. K.V. Devi Prasad, Ph.D.  
R.S. Bhalla, Ph.D.  
Srinivas Vaidyanathan

## **Partners**

FERAL's work is made possible through grants from the Government of India and international agencies. Often these grants are made to multi-institutional consortia of two or more partner organisations. The agencies who have supported our work and those who have collaborated in project implementation are listed below.

### **Supporting partners**

Centre for Wildlife Studies, India  
Kodai Friends International, USA  
Prince Bernhard Nature Fund,  
Netherlands  
Ruffords Foundation, UK  
Wildlife Conservation Trust, India  
United States Fish and Wildlife Services,  
USA

### **Individual donors**

Mr. Anindya Basu, India  
M/s – Banyan Tree Advisors Pvt Ltd, India  
Dr. R. S. Bhalla  
Mr. Srinivas Vaidyanathan

### **Collaborating Institutions**

Ashoka Trust for Research in Ecology and  
Environment, India  
Centre for Wildlife Studies, India  
Lancaster Environment Centre, Lancaster  
University, UK  
National Centre for Biological Sciences,  
Bangalore, India  
National Institute for Advanced Studies,  
Bangalore, India  
Wildlife Conservation Trust, India

# The FERAL Team

**F**ERAL's team is a mix of researchers and professionals from various disciplines who are supported by a small but competent and highly trained team. Below is a short introduction to the people who make FERAL tick.

## Farshid Ahrestani



Farshid is a wildlife ecologist who studies the mechanisms that drive the distribution and dynamics of populations and communities in space and time. Farshid is interested in understanding how species and ecosystems are coping and responding to global change. Farshid has studied large herbivores (deer, antelope, etc.) for nearly two decades, and is a leading global expert on the ecology of large herbivores in Asia.

## R.S. Bhalla



Ravi works on community based natural resources management and ecosystem services. Monitoring and building resilience among communities to mitigate impacts of climate change on these resources and services is another aspect of his research. He holds a Ph.D. in GIS and remote sensing based tools and models on water resources and watershed management.

## Kumaran K.



Kumaran has been working as part of our field teams in Pondicherry and in the Western Ghats. He recently completed his Masters degree in Ecology at Pondicherry University and has worked on land cover changes in the Nilgiris with focus on invasive species in the shola grasslands.

## Rajat Ramakant Nayak



Rajat has completed his Masters in Wildlife Biology and Conservation. He has a special interest in grassland ecosystems, both low and high altitude, semi-arid and wet. He is currently part of the team focusing on the biology and conservation of ecosystems and connectivity for large mammals.



### **Sunita Ram**



Sunita has an MPhil in Biological Sciences from Fordham University, USA. She is currently working on factors delineating distribution of langurs in southern India. Her research interests lie in understanding the ecology and distribution of primates and finding long term conservation strategies in the southern Western Ghats.

### **Nishant Srinivasaiah**



Nishant is currently pursuing his PhD at the National Institute for Advanced Studies (NIAS). He is also instrumental in starting a multi-institution, multi-disciplinary collaboration to manage Asian elephants in India. Over the last decade he has been monitoring elephants, understanding their behaviour and interactions with humans to find solutions to conserve elephants.

### **Srinivas Vaidyanathan**



Srinivas is a wildlife biologist with an interest in understanding changes in landscape level processes and structure and how they affect large mammal populations. He is a guest faculty at the M.Sc course in Wildlife Biology and Conservation at NCBS, where he has been co-guiding students for their Master's thesis. Srinivas uses spatial approaches for finding innovative and practical solutions to conservation problems.

### **Dhruv Athreye**



Dhruv is a Junior research fellow, and has worked in the Palani hills in the areas of biological education, community sanitation and waste management. He is interested in increasing the involvement of tribal communities in conservation and research and the impact of these changes on tribal livelihoods.

### **Suman Jumani**



Suman is currently pursuing her PhD at the University of Florida. She is primarily interested in conducting applied interdisciplinary research on river ecosystems, with the ultimate aim of influencing conservation and policy interventions.

### **Neil W. Pelkey**



Neil is a professor at the Juniata College, Pennsylvania, USA. An expert on GIS and remote sensing, he is an advisor on many of the projects and research proposals of FERAL. He is also responsible for developing the ongoing collaboration with the Juniata College and Keystone Study Abroad Consortium for the undergraduate study abroad programme in India.

### **Research support**

#### **Vinod M**



Vinod works as a Research Assistant at FERAL and coordinates field activities and manages the field station in Hosur. He also has years of experience in collecting and managing field datasets.

#### **Saravanan S**



Saravanan holds a masters in human resources development and coordinates field activities and manages the teams at the Emerald field station in the Nilgiris. He is also the liaison between the project and various officials in the Nilgiris and is a resource person for GIS and GPS workshops conducted at FERAL.

#### **Kamalraj S**



Kamal started off at FERAL as a field assistant about a decade ago. He is adept at handling a range of equipment and data loggers and downloading data. He is a reliable driver in tough forest terrain and is good with managing field staff and taking over running of field stations at a pinch.

#### **Suseelan**



Suseelan is a field assistant on the eco-hydrology project based out of the field station at Emerald in Nilgiris. He is a capable and dependable assistant, pleasant to be around and with an appetite to learn new techniques. Suseelan knows how to operate and maintain a range of hydro-met equipment.



## **Administrative support**

### **Shanthi R**



Shanthi is our Accounts Manager handling the day to day accounting responsibilities of the organisation. She is a postgraduate in commerce and is versatile in the use of a range of accounting software.

### **Sumathi**



Sumathi manages the upkeep of the FERAL campus at Morattandi which includes handling the boarding and lodging arrangements during training programmes and events.







