

Annual Report

2010-2011



Once wild, runs wild again

Foundation for Ecological Research, Advocacy and Learning



Mission Statement

Action research for ecological restoration, conservation and natural resources management.

Foundation for Ecological Research, Advocacy and Learning (FERAL)

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Cover Photo: Travancore Tortoise ©Srinivas.V.

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MANDATE

Our mandate is to provide a supportive base for researchers to follow their interests and priorities. Furthermore, to impart training in ecological research, techniques and tools. And finally, to use ecological data to solve issues in natural resource management, conservation and advocacy.

FERAL - once wild, runs wild again.

Foundation or goal of our organisation is to find ways to help natural processes return to a more natural or less degraded state.

Ecology, as we define it, is the study of the interactions of organisms within and across species in a shifting landscape of communities subject to the physical environments they inhabit. Our primary focus of work studies the interface and relationship between ecology and society.

Research is the key ingredient to our understanding of ecological systems. We believe that ecological science is not well enough established to make broad prescriptions that apply universally. Thus each ecological dilemma needs rigorous analysis that can then provide guidelines for local action.

Advocacy for appropriate natural resource management is the fourth lynchpin of our organisation. For us this is a mix of negotiation, facilitation and mediation where possible, but as a last resort litigation is also a potential option.

Learning is the final head on our chimera. To keep abreast of developments in this young science, we continuously strive to learn more and pass on these learnings. Newer techniques for analysis, new tools and new developments in the field of ecology, action research and advocacy keep us constantly on our toes.

FERAL is a non profit Trust formed on the 22nd of July 1997. The organisation comprises of scientists and practitioners working in teams or alone on various topics of ecological research, community based natural resources and environmental management, environment education, teaching and training. Our activities are co-ordinated from the field offices close to Pondicherry and Ariankavu, Kerala, and our Bangalore office. An administrative office in Pondicherry town provides support to all our projects.

The Year That Was

The financial year 2010-2011 had a total of 13 projects running, about half of which were started in this period. The number of researchers and project investigators at FERAL grew to 12 of with four new faces. The organisation also consolidated its portfolio of conservation projects largely in the Agasthyamalai-Periyar landscape. We were equally busy with our community based and environmental programmes, with the UN-Habitat supported water and sanitation project at Cuddalore approaching the finish line. We successfully concluded two projects this year and a number of other projects including those in the area of gender and development and wildlife biology also wrapped up most of their field work. Our scientists published six journal papers, eight conference papers and a book chapter this year with more in “the works”.

We established and strengthened a number of collaborations this year with institutions in relevant areas. These collaborations included MoUs and joint proposals with other organisations in the area of spatial datasets and watershed services which should materialise in the coming year.

Read on for more details....



A glimpse of some of our activities.

PROGRAMME AREAS AND PROJECTS

Four programme areas correspond to our long term priorities. Each of these is headed by a senior research scholar and comprise of one or more projects. These are:

1. Conservation and wildlife biology.
2. Education and training.
3. Gender and development and
4. Restoration and Action research.

FERAL remains involved in field based research, much of which has a strong element of community participation and is both socially and environmentally relevant. The reliance on quantitative techniques and application of spatial technologies pervades all of our projects.

The following table summarises the projects that were implemented during the period April 1, 2010 to March 31, 2011. Subsequent sections present a summary of each project.

Sl. No.	Programme Area/Project	Supporting Institution	PI/Head	Budget
<i>Conservation and Wildlife Biology</i>				
1	Study of the distribution of primates of the genus <i>Semnopithecus</i> and understanding factors that influence parapatry between the common langur and nilgiri langur in the southern Western Ghats -India	Women's Scientist Scheme WOS-A, DST.	Sunita Ram	₹648,000/-
2	Gastrointestinal parasites in langurs: the influence of human settlements within a protected area in the Western Ghats, India	Primate Conservation Inc. USA.	Sunita Ram	₹113,216/-
3	Bridging the Shencottah gap: how payments for ecosystem services can restore biodiversity outside protected areas in India	Critical Ecosystems Partnership Fund	Rauf Ali & Srinivas Vaidyanathan	\$ 4,99,443/-
4	Spatial decision support for conservation planning in the Western Ghats	Critical Ecosystems Partnership Fund	R.S. Bhalla	₹9,23,325/-
<i>Education and Training</i>				
5	Marine science in India	AIS-BCA-Juniata	Neil Pelkey & Tara Lawrence	₹30,90,265/-
6	Peace and conflict studies in India	Juniata College	Neil Pelkey & Tara Lawrence	₹6,48,472/-
<i>Gender and Development</i>				
7	Skill based micro-enterprise development for women from scheduled caste	DST-SEED.	Anupama Pai, Rajendran K	₹10,00,000/-
8	Establishing small scale coconut extraction units in the Nicobar islands	DST-SEED	Rauf Ali	₹9,98,480/-

Sl. No.	Programme Area/Project	Supporting Institution	PI/Head	Budget
<i>Restoration and Action Research</i>				
9	Ecological status of artisanal fisheries resources along the Coromandel coast.	The Ruffords Small Grants Foundation	Tara Lawrence	₹4,19,680/-
10	Study on fisheries stakeholders and analysis of livelihoods in pondicherry and Cuddalore	FAO	Senthil Babu	₹4,74,300/-
11	Landscape assessment of the Kalivelli basin	Natural Resources Data Management Systems, DST.	R.S.Bhalla	₹19,95,900/-
12	Long term funding mechanisms for the Gulf of Mannar Biosphere Reserve Trust	United Nations Development Programme	Dipani Sutaria	₹11,96,081/-
13	Community-based water and sanitation facilities and capacity building of local residents for adaptation to the calamity in coastal areas	UN-HABITAT, Nairobi	Abraham V.A.	\$ 1,68,000/-

Conservation and Wildlife Biology

The focus of this programme is to undertake scientific research and use outputs to steer conservation interventions in the Western Ghats. Over the last decade we have been actively undertaking research and conservation interventions in the Agastyamalai-Periyar landscape.



Conserving landscapes such as the Tenmala forest region is as much about conserving watershed services as it is about conserving biodiversity. (Photo credits: Srinivas.V.)

In the year gone by, FERAL implemented three projects under this programme. The first project was a continuation of our ecological studies on threatened arboreal mammals. This project is a comparative study of the ecology and distribution of the two colobine monkeys in the southern western Ghats, to determine distributional range and identify ecological factors that helps maintain their common boundary.

The project on payment for ecosystem services approach to improve habitat in the Shencottah gap was continued. In this project, a) we have identified two potential wildlife links in the Shencottah gap based on data from intensive field surveys, b) in the first of its kind initiative in India, we are developing mechanisms to make direct payments to individuals for specific efforts taken towards improving wildlife habitats in the identified linkages, and c) drawing up of protocols for monitoring the impact of the interventions taken by the local farmer-participants in the PES programme. We are also documenting the initiative for implementing a PES of this kind in other parts of India.

There are numerous institutions and individuals who have collected data over several decades - unfortunately the bulk of this is unavailable to the larger research community, policy makers and to the public. In a pioneering effort, FERAL collaborated with two other large organisations (French Institute, Pondicherry and Ashoka Trust for Ecology and Environment, Bangalore), in collating the data available with these institutions to create a spatially explicit baseline dataset to facilitate conservation planning in the Western Ghats. This database was used by the Western Ghats Ecology Experts Panel and will eventually find its way on various open access portals including the Western Ghats Biodiversity portal, thus setting up a platform and policy framework that will allow organisations to share data, while retaining copyrights over their datasets. These contributions towards pure ecological research, larger policy implications and collaborative research are highlighted in the subsequent pages.

Study of the distribution of primates of the genus *Semnopithecus* and understanding factors that influence parapatry between the Common Langur (*Semnopithecus priam*) and Nilgiri Langur (*Semnopithecus johnii*) in the Southern Western Ghats

Project period 3 years starting March 2010

Budget ₹ 6,48,000/-

Supporting partner Department of Science and Technology - Women Scientist Scheme (WOS-A)
SR/WOS-A/LS-164/2008

Coordinator Sunita Ram

The genus *Semnopithecus* in south India is represented by the Nilgiri langur (*S. johnii*) and the common Hanuman langur (*S. priam*). The Nilgiri langur is an endemic to the Western Ghats and a threatened species while the status of the common langur, an endemic to the Indian-subcontinent, is not known due to deficient data. The lack of knowledge of their distribution, ecology and status makes it difficult for informed conservation initiatives. These closely related langur species have been reported to hybridize in regions where their ranges adjoin i.e. regions where they are parapatric. The mechanism by which such parapatry is maintained is of considerable importance in understanding the evolution and speciation of the genus. A comparative study of their distribution and ecology is imperative for elucidating these mechanisms.

This study proposes to compare the distribution patterns of these two colobine species in the southern Western Ghats and determine the role of ecological factors in maintaining their distributional boundaries at a specific site where their ranges adjoin forming a parapatric pattern of distribution. Specifically answers to the following questions will be explored -

- How are the two langur species distributed with respect to each other and to what extent are they distributed parapatrically within the southern Western Ghats?
- What role do environmental gradients

(altitude and vegetation) play in maintaining the pattern of distribution of each species?

- What role do ecological factors including inter-specific competition and intestinal parasite loads play in maintaining the pattern of distribution of each species at a given site where the range of the two species overlaps?



Nilgiri langur-hanuman langur mixed group. Two sub-adult males (one seen in picture) were found with another hanuman langur group near Lower camp. The sub-adults were seen to forage and play alongside the hanuman langur sub-adults and juveniles, but unlike the hanuman langur, was extremely shy to the presence of humans. (Photo credits: Sunita Ram)

Distributional surveys in the Kalakkad-Mundanthurai Tiger Reserve, Tirunelveli division and Srivilliputtur Grizzled Giant Squirrel Wildlife Sanctuary and sampling for the study on intestinal parasites in the Kalakkad-Mundanthurai Tiger Reserve have been initiated. Results show that the two langurs show avoidance for each other but the strength of

this avoidance is weak. The distributional pattern of the langurs is clearly parapatric. Within Mundanthurai where vegetation study was undertaken in the areas where the distribution of the two species overlaps, difference is clearly

seen, both in species richness, and the species that are found. The next phase of field work is ongoing which will be followed with spatial analysis of the data, as well as laboratory analysis of the faecal samples.

Gastrointestinal parasites in Langurs: the influence of human settlements within a protected area in the Western Ghats, India

Project period 1 year

Budget ₹1,13,216/-

Supporting partner Primate Conservation Inc., USA.

Coordinator Sunita Ram

The Nilgiri langur (*Semnopithecus johnii*) and the common langur (*Semnopithecus priamthersites*) are colobines found in the southern tip of the Western Ghats. Changes in land use patterns and the loss of habitat for anthropogenic requirements are major causes for these and other primates being critically threatened today. Data regarding patterns of parasitic infections in langur populations in the wild are a critical indicator of the population health and will facilitate assessment and management of disease risks. This is especially important for populations that are in proximity to human settlements as infections can occur either directly through contagion from humans or indirectly due to increased stress.

This project aims to fill in the paucity of information on gastrointestinal parasites of langurs in the wild and help in our understanding of the influence of human settlements within Protected Areas on the parasitic loads of these primates. Permission for field work from the Tamil Nadu Forest Department was granted in May 2009 and field work in the Kalakkad-Mundanthurai Tiger Reserve was ini-

tiated from September 2009. Several groups of Hanuman langur and Nilgiri langur have been identified at differing proximity to settlements within this PA and faecal samples from individuals from these groups are being collected in 10% formalin for microscopic analysis. Laboratory work has been initiated. Three student volunteers were trained in the process of intestinal parasite laboratory analysis. This project will be completed this year and the final report should be available soon.



Hanuman langur at lower Camp, Kalakkad-Mundanthurai Tiger Reserve. (Photo credits: Sunita Ram)

Bridging the Shencottah Gap: How payments for ecosystem services can restore biodiversity outside protected areas in India

Project period: 2009-2012

Budget: \$ 4,99,443/-

Supporting partner: Critical Ecosystems Partnership Fund¹

Project lead contact: Dr.Rauf Ali

Project director: Srinivas Vaidyanathan

Collaborators: Somanathan E, (Indian Statistical Institute), Peter Bardsley, (University of Melbourne), Gary Stoneham (Department of Treasury and Finance, Govt. of Victoria, Australia)

The Shencottah gap has been recognised as one of the critical wildlife corridors that needs to be immediately restored to ensure long term sustenance of wildlife populations in the Periyar-Agasthyamalai complex.



The Ambanad hills. (Photo credits: Gopinath.S.)

It has also been acknowledged that critical wildlife corridors are likely to pass through productive human landscapes, thus necessitating involvement of local communities and individuals in restoring and maintaining connectivity. While both these facts have been debated and discussed, there has hardly been any effort to empirically identify critical links in the Shencottah gap and to develop viable mechanisms to involve local communities in restoring these linkages. The goal of the present project is to demonstrate that connectivity and biodiversity can be restored using a Payment for Ecosystem Services (PES) approach in areas like the Shencottah gap which contain several private

holdings, and to establish protocols in using this novel mechanism for wildlife conservation.



Team members going through camera trap photographs. (Photo credits: Gopinath.S.)

Primary components of the project are to a) identify key wildlife corridors for conservation wherein PES will be implemented and b) build baseline data to establish a monitoring system which will be linked to payments and measure the success of PES.

This year we completed sampling about 500 km² to identify critical links in the landscape. Our results have identified two potential links that need to be restored to enhance connectivity in the landscape. These occur in the western and eastern parts of the landscape, around the settlements of MSL and Kottavasal. Each of the critical links have their own advantages and disadvantages in terms of biological value, human presence, and conservation challenges. From a conservation perspective,

¹The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal is to ensure civil society engagement in biodiversity conservation.

ive, restoring both would be beneficial, as it would provide multiple movement routes for large mammals in a rapidly urbanising environment.



A practice auction at Priya Estate. We conducted many such sessions before arriving at a replicable auctioneering strategy. (Photo credits: Rajat Nayak)

Socio-economic profiles of all human settlements have been analysed and documented. Individual household details in ten settlements in the Kotavasal corridor have been collected to identify potential individuals likely to participate in the PES scheme.



Raorchestes chalazodes, a critically endangered species (as per the IUCN Redlist), which is restricted to the Agasthyamala Hills. (Photo credits: Robin Abraham)

Significant progress using auction theory has been made in developing a payment mechanism for individual land-holders. The auction design was tested and refined; this was done outside the project site in the coastal villages

in Tamil Nadu and Puducherry. Further refinements were carried out with tests done along with our collaborators at the project site. The entire field team went through several training sessions explaining the concepts of the payment mechanism and all of them were actively involved in conducting field experiments to refine the process.



Great pied hornbill. (Photo credits: Rutuja Dhamale)

Baseline biodiversity assessments and surveys for measuring carbon sequestration were initiated and these will be used to monitor changes in the landscape and also to assess the conservation outputs from the payment mechanism, these surveys are ongoing and results are awaited.

As a part of our learning efforts the field team visited the Lizhiba community, a community adjoining the Baishuijiang Nature Reserve, in Gansu province, China, to learn from their experience in community conservation efforts in restoring the Giant Panda habitat. This visit was facilitated by Shan Shui Conservation Centre and the Conservation Stewardship Program of Conservation International. Researchers also presented a paper and posters at the 24th International Congress for Conservation Biology, in Edmonton, Canada.

Spatial decision support for conservation planning in the Western Ghats

Project period: 2010-2011

Budget: ₹9,23,325/-

Supporting partner: CEPF-ATREE Western Ghats Small Grants Programme

Coordinator: R.S. Bhalla

This project seeks to build an open source spatially explicit dataset to help with conservation planning in the Western Ghats.



The final consultation on the project was merged with a workshop on open source GIS and remote sensing which was attended by various CEPF partners.

It specifically targets ecologically sensitive areas (ESAs), a term with a broad definition which includes:

- Representative ecosystems with high diversity and richness of native species,
- Systems facing high levels of stress on account of anthropogenic activities,

- Areas where natural ecosystems have been altered beyond their ecological resilience in the recent past and
- Ecosystems that provide a large set of ecosystem functions and services, largely watershed services.

The project involves contributions of data from three institutions (IFP - Pondicherry, ATREE - Bangalore and FERAL - Pondicherry) which will be standardised to fall under the same geographic projection and image or vector format. This collation process will also result in the creation of a detailed metadata about the contributions. Information thus collated will be distributed among the partners and also contributed to the Western Ghats Ecology Experts Panel. In addition the project intends to pursue original research which helps identify ESAs, to organise three consultations with stakeholders on ESAs and the creation of maps which can be utilised by decision makers in the identification of ESAs and help in conservation planning and decision making.

Education and Training

Learning is a core objective of FERAL. We are constantly working towards improving our own skills and techniques as well building capacities of other organisations, students and professionals. The Education and Training programme of FERAL covers a range of topics, from participatory methods to spatial statistics and vegetation sampling to fish gut analysis.

This programme comprises of a mix of workshops, seminars and formal class room teaching, although the bulk of the courses conducted by us tend to have a significant “hands-on” component. Faculty from other institutions often participate in these programmes as occasionally, FERAL staff go as guest faculty to other institutions.



Walking along the beach, Kanai Dera from ANET for an intertidal walk in the Lohabarak crocodile sanctuary.

Study abroad programme

Courses under this programme are designed to provide undergraduate students from the US, academic and experiential learning opportunities while exploring the fields of natural and social sciences with an emphasis on issues of sustainable development. It provides them with the opportunity to interact with people from diverse backgrounds, those involved in research and those who try to take this research to the local communities.

Marine sciences in India

Project period 2006- ongoing

Budget ₹30,90,265/-

Supporting partner AAIS/BCA-Juniata

Coordinator Neil Pelkey & Tara Lawrence

The Marine Science Program saw many changes this year with Tara Lawrence took over the responsibility of the overall course coordinator.



One of the many field excursions done during the course is a trip with a purse seine operation.

The program also had the benefit of a senior faculty member, Dr. Dipani Sutaria who is a Marine Biologist specializing in marine mammals and last but not the least, a logistician was also recruited to ensure the smooth running of the program.

The student group this year was quite different from previous batches in several ways. Eleven students made this one of our larger groups with seven from Juniata College and the rest from Manchester College, Princeton University, Bridgewater College and University of Tulsa all recruited through BCA. This also resulted in a mix of academic backgrounds which varied from Marine Biology, Zoology, Ecology, Environmental Science and Environmental Studies to Geophysics!

The course curriculum was slightly modified to incorporate more in house teaching and at the same time, plenty of travel giving the

students the opportunity of exploring parts of south India rarely visited by Indian students themselves. Our usual stay at Barefoot Scuba in the Andaman islands was extended to ten days with alternating lecture and dive days. Students also got to go on night dives apart from being able to explore the island forests and mangroves via trekking and kayaking.

Additionally, two students from Madras Christian College were each granted a scholarship of ₹27,000/- by BCA and FERAL to participate in the Islands and Reefs course at Barefoot through which one was successful in obtaining a PADI Open water certification and the other a SCUBA diver certification.

ANET, as always, offered a fantastic environment for students to work in and presented the first opportunity for them to do mini research projects of their own either individually or in pairs. The intertidal walks, the mangrove forests, the beaches, and the fish landing centres afforded an array of possibilities for students to work with.

The new partnership with the Department of Marine Studies and Coastal Resource Management at Madras Christian College had our students residing at their field station i.e., the Estuarine Biological Station at Pulicat Lake for about 10 days on the program. This provided a unique cultural experience for the students. The Irula tribes inhabiting the areas close to the student dormitories also contributed to the unique vibe of Pulicat. Pulicat Lake happens to be the second largest brackish water lake in the country thereby adding a new ecosystem to those already covered on the program. The time spent here exposed the students to the

lives of Indian marine biology students. Goa as a destination for the spring break and where students learn about Oceanography at the National Institute of Oceanography was another highlight of the course.

A two day visit to Rameshwaram exposed the students to another unique environment of sea grass beds and coral along the South east coast of Tamil Nadu. A visit to the Central Marine Fisheries Research Institute (CMFRI) centre at Mandappam and subsequent interaction with the CMFRI scientists showed potential for possible collaborations on future Marine Science programs.

Our return from Rameshwaram concluded all the travel on the program and marked the beginning of the next course i.e., Art as Sustainable Development in Auroville which was conducted for about 15 days towards the last

month on the program. This year, the alternate option to pottery on the Art course was working with handmade paper in collaboration with Auroville papers.



The Marine Sciences students and faculty.

The students enjoyed the program and have provided detailed feedback on what will make for an improved program next year.

FERAL-Juniata peace and conflict studies in India programme

Project period: 2006 - ongoing

Budget: ₹6,48,472/-

Supporting partner: Juniata College

Coordinator: Neil Pelkey & Tara N. Lawrence

This year the “Peace and Conflict” program was conducted for about three weeks in the spring rather than summer as done in previous years. A faculty member, Celia Cooke-Huffman, from Juniata College accompanied 8 students on this program, the theme of which was Environmental Conflict in India.

The program began in Delhi with a brief tour of North India and this was facilitated by a travel and tours agency. The program then brought them to FERAL where they spent a week looking at a range of issues from gender and conflict, deep ecology at Evergreen in Auroville and sustainable waste management to coastal and fisheries resource management issues. The next part of the program was conducted in the Andaman Islands at Barefoot Scuba and one day at ANET in Wandoor. Topics covered in the Islands included Tourism and Development, the Tribals of the Andaman and Nicobar Islands and Managing Protected Areas.



The Peace and Conflict students at the Andaman islands.

Gender and Development

The ongoing projects with women groups focused on helping set up small business for individuals and providing training and exposure for these activities. Small scale entrepreneurial activities such as bakery products, pickles and squashes were initiated by women from SHGs around Pondicherry. The Andaman project was successfully completed and focus has continued on building market linkages for sale of the virgin coconut oil. This project was also nominated for the St Andrews Prize for the Environment 2011 which is an initiative by the University of St Andrews in Scotland and the international integrated energy company, ConocoPhillips.



Baking cookies is one of the activities.

Skill based micro-enterprise development for women from scheduled caste

Project period 2008-20011

Budget ₹ 10,00,000/-

Supporting partner SEED Division, Dept. of Science and Technology, New Delhi

Coordinator Anupama Pai & Rajendran K.

The goal of this project is to support women from weaker sections of society in setting up micro-enterprises and providing them with the necessary skills to do so. The two identified areas are food processing and aquarium systems.

During the first year, intensive surveys and group discussions were the focus of activities. In the past year, the focus has been on conducting a large number of skill training programs and on conducting trial runs of production in the food processing sector. Exposure visits were made to local institutions and re-

source persons and trainees identified for the programmes. A total of 7 programmes were conducted and a total of 168 women trained. These women were members of various Self Help Groups facilitated by local NGOs.

Food processing

The different food processing workshops were conducted with the help of resource persons from the C-DOT, Trichy, Center for Ecology and Rural Development (CERD), Pondicherry and Perunthalaivar Kamarajar Krishi Vigyan Kendra (PKKV), Pondicherry. The work-

shops covered topics of raw material selection, preparation of products, packaging, quality, hygiene and pricing. The women trainees were involved in each stage and actively participated in the sessions. Methods were demonstrated once and then trainees were divided into groups to carry out the tasks on their own. This ensured that they were able to gain practical experience, clarify methodologies and gain confidence in producing these items on their own.

At the Bakery unit at the Women Technology Park of CERD, Pondicherry, trainees learnt how to make a variety of buns, biscuits, bread and cakes. The trainer was a master baker in the local area who offered to continue providing technical support to those women who are interested in starting their own enterprises. All products produced were marketed in the local areas by the members.

Several trial rounds of food product production were taken up so that women were able to gauge their potential and also become familiar with the requirements of the trade. At present the PKKVK has agreed to provide the use of its facilities for women who are interested in starting larger scale production. Quality control and brand name will be provided by the institution.

Aquarium systems

One fisheries training program each was facilitated by the Department of Inland Fisheries and the Perunthalaivar Kamarajar Krishi Vigyan Kendra (PKKVK) Pondicherry. The following topics were covered in each of the programs along with short documentaries on rearing, practical demonstrations and building aquariums, and preparation of local fish feed.

- General information on ornamental fish keeping and their importance.

- Identification of aquatic plants and culture.
- Various income opportunity and marketing strategies for aquarium fishes, plants and other ornamental accessories.
- Morphology identification of aquarium fish and sex identification.
- Ornamental fish rearing and breeding.
- Identification of ornamental fish diseases and their control.
- Setting up of model aquarium, description and uses of aquarium pumps, motors, filters, water air filter system, etc., commonly used in aquariums.
- Field visit to Kolathur, Chennai

A total of 18 women expressed interest in pursuing the ornamental fish rearing activity and are working in groups of 3-4 members each. Each group has been provided with three cement tanks each and a small number of mollies and guppies for initial rearing. An assessment of the activity was conducted as this is a new and unfamiliar field for the women.



A group of women getting trained in rearing ornamental fish.

Entrepreneurial management

The setting of an enterprise by the women requires production skills and also understanding of how to run and manage the micro-enterprises. Two training programmes were conducted for 59 women covering these topics.

Establishing small scale coconut extraction units in the Nicobar Islands

Project period April 2008-June 2010

Budget ₹ 9,98,480/-

Supporting partner SEED Division, Dept. of Science and Technology, New Delhi

Coordinator Rauf Ali

The current production of coconuts in the Nicobar Islands is more than 2 crore annually. Apart from the amount consumed for household use, the bulk is exported in the form of copra.



The P.I. and Captain with the 'Dosti' group in Nicobar.

Cultivators in Car Nicobar get around ₹ 4/coconut. However, for household use, the Nicobari people prepare virgin coconut oil. Virgin coconut oil has a market price in Chennai of over ₹ 200 per litre. Since each coconut contains about 100 ml of VCO, this translates into about ₹ 20 per coconut as income.

The principal aims of the project have been to:

1. Develop a quick, cheap and efficient way of producing VCO
2. To train local residents of Car Nicobar to use this machine.
3. To develop market linkages for the sale of this oil, so as to ensure that the growers get the best price for the oil.

This project had a no-cost extension until June 2010 to allow a training workshop to be held. The workshop was attended by dignitaries from the island, and was inaugurated by Shri Vivek Rae, IAS, the Chief Secretary of the Andaman & Nicobar Administration.

A cooperative called the Dosti group was also set up, and consists of young men and women from Car Nicobar representative of each of the 15 villages on Car Nicobar, and who have received training in sustainable development from the Tata Institute of Social Sciences, Mumbai. This cooperative will manufacture, transport and market Virgin Coconut Oil.



"Deegan" presses being readied for work.

With this the project ended, having designed a coconut press to make Virgin Coconut Oil, and to market it. The project has been chosen as a finalist for the 2011 St Andrews Prize for the Environment.

Restoration and Action Research

Most environmental and natural resource management issues are situated in a specific social context. Consequently, a number of our projects hinge on active participation of primary stakeholders, in both the implementation and often in their research components as well. Last year, we continued work on the UNHABITAT supported environmental sanitation project while the DST-NRDMS supported watershed project was successfully concluded in November. We also extended our work with fishing communities along the Coromandel coast with a new project from the Ruffords foundation on fish landing surveys and by partnering with the FAO in their project on Fisheries Management for Sustainable Livelihoods (FIMSUL).



Discussions with fishermen during the FIMSUL surveys.

Ecological status of artisanal fisheries resources along the Coromandel coast

Project period September 2010 to March 2012

Budget ₹ 4,19,680/-

Supporting partner The Ruffords Small Grants Foundation

Coordinator Tara N. Lawrence

Project area Coastal areas of Villupuram and Cuddalore Dt. Tamil Nadu and Pondicherry

In many parts of India - particularly in small or traditional fish landing areas, fisheries data are either unreliable or non-existent. Data on boats, gear and mesh sizes, crew sizes, time spent fishing, etc., are available at very coarse scales and additionally, poor taxonomic identification of fish species, limited abundance and size class information further compounds the issues that confront fisheries managers.

The problems in this sector are many. Over-fishing, IUU (illegal, unreported and unregulated) fishing, over capacitization coupled with management plans with questionable scientific bases are some of the major concerns. The lack of accurate and reliable scientific data significantly contributes to the dearth of information in this sector. Without knowing the most basic information as to what the resource base is, how can fisheries be managed appropriately?



A juvenile sting ray caught off the Coromandel Coast in a gill net with illegal mesh size.

Establishing a baseline which addresses this lack of data with the ability to advise the various facets of fisheries management will be the first of its kind for the Coromandel Coast of India. This baseline can help determine whether changes in the current fisheries support system and existing policies are working and will also enhance the capacity to have adaptive reforms to better suit the needs of conservation and artisanal fisherfolk.

This project expands upon the work earlier done as part of the FAO supported artisanal fisheries project which later continued as an

internal effort of FERAL. 7 months of this project will be dedicated to data analysis and further write up given that this combined effort will yield a 2 year baseline on artisanal fisheries along the Coromandel Coast. Subsequent proposals with more specific conservation objectives will be developed from this baseline. Scientific communications on the ecological status of traditional fisheries will be published in peer reviewed journals. The baseline will also be published online following the completion of this project.



Mysid and shrimp larvae caught in a "Mosquito" net! This is a seasonal net which strains the waters for these larvae about 20m from the shore.

Study on fisheries stakeholders and analysis of livelihoods (FIMSUL) in Pondicherry and Cuddalore

Project period December 2010 to June 2011

Budget ₹ 4,74,300/-

Supporting partner FAO

Coordinator Senthil Babu

The FIMSUL programme is a coordinated study involving the FAO and the Governments of Tamil Nadu and Pondicherry to undertake a detailed analysis of various stakeholders and their livelihoods in the concerned districts of Tamil Nadu and Pondicherry. FERAL undertook the study in Pondicherry and the district of Cuddalore. The programme involved

identifying the multiple stakeholders in the fisheries sector, through participative methodologies, notified to us by the FAO periodically. These involved district-level consultations of all stakeholders, focus group discussions of the various stakeholder groups, household level interviews and district level validation meetings.



Vendors at a fish market in Cuddalore.

The problem of overcapacity in fishing, increased competition in production and marketing; high levels of indebtedness among fishing families and the lack of any relevant managerial or regulatory interventions were some of the central features of learning through this study.

The final reports after the completion of the study were sent to the FIMSUL team, after

holding four different validation meetings in both districts involving different stakeholders who all largely related to and identified with the list of findings that emerged out of the study. Along with the analysis of livelihoods, information regarding some of the formal and informal institutions were also compiled and submitted.



Carpenters working on fishing boats.

Landscape assessments of the Kalivelli basin

Project period November 2007- November 2010

Budget ₹ 19,95,900/-

Supporting partner Dept. of Science and Technology, Natural Resources Data Management Systems.

Coordinator R.S. Bhalla and K.V. Devi Prasad (Pondicherry University)

This project set out to utilise tools for landscape assessments as a method for evaluating the common guidelines for watershed management in India. As a result, three manuscripts were submitted to international journals. One of these was published online in 2010 and is scheduled to be printed in 2011. The other two are presently under revision based on comments of reviewers. Two theses, one PhD (which forms the bulk of the report) and a M.Sc. were produced. This project has helped test and standardise the set up of low cost hydrological monitoring stations. It has allowed the comparison between open source software GRASS and a commercial remote sensing package, IDRISI, which is presently be-

ing prepared as a manuscript.



A stilling well being fabricated to help measure flow rates.

Finally, the project has led to collaborations between researchers at ATREE, Ban-

galore, University of Dundee, Scotland and Cranfield University, Britain. These collab-

orations are being formalised as a follow up proposal on comparisons of ecosystem services from watersheds.

Long term funding mechanisms for the Gulf of Mannar Biosphere Reserve Trust

Project period October 2010 to October 2011

Budget ₹11,96,081/-

Supporting partner United Nations Development Programme, New Delhi

Coordinators R.S. Bhalla, Neil Pelkey, Benjamin Laroquette, Dipani Sutaria

The Gulf of Mannar Biosphere Reserve Trust (GOMBRT) was established by the Government of Tamil Nadu on 18.12.2000. The Trust is registered under Tamil Nadu Society Registration Act 1975. The Trust has been established as a special purpose vehicle to coordinate and implement the project "Conservation and Sustainable Use of Gulf of Mannar Biosphere Reserve's Coastal Biodiversity" in order to ensure effective inter-sectoral coordination and facilitate main streaming of bio-diversity conservation issues into the productive sector and policy development.



The Rameshwaram fishing harbour.

The Trust aimed to replicate project methodologies and results in the rest of the coastal area of Tamil Nadu and serve as an institutional model for India as a whole. The Trust has statutory authority to play a focal role

in the implementation of the project, providing the institutional framework and working with the Government to strengthen the overall policy frame work to enable Government agencies to better coordinate and collaborate in the enforcement of coastal zone regulations and biodiversity conservation.



Boats for fishing and baskets for seaweed collection - the mainstay of many fishing villages along this coast.

FERAL was asked to develop a working mechanism for long term funding to sustain the Trust and associated conservation activities. We have held several important meetings with both primary stakeholders, representatives of community based organisations and institutions, including Govt. institutions with a stake in the Gulf of Mannar region and the Biosphere Reserve. We are currently drafting the midterm report of the project. The final report will be submitted in October 2011.

Community-based water and sanitation facilities and capacity building of local residents for adaptation to the calamity in coastal areas in Cuddalore district, Tamil Nadu, India

Project period March 2009 to November 2011

Budget \$ 1,68,000/-

Supporting partner UN-HABITAT

Coordinator Abraham V.A., Gaspard Appavou and Benjamin Larroquette

Project Area: Coastal areas of Cuddalore Dt. Tamil Nadu

The Water for Asian Cities Programme is supporting the implementation of the water and sanitation related Millennium Development Goals and targets (MDGs) in Asian cities. It specifically promotes pro-poor governance, gender mainstreaming, water demand management, increased attention to environmental sanitation; and income generation for the poor linked to water supply and sanitation.



A hand pump being marked as a non-potable water source based on the water quality monitoring surveys.

The programme seeks to achieve this by mobilising political will, raising awareness through advocacy, information and education; training and capacity building; by promoting new investments in the urban water and sanitation sector; and by systematic monitoring of progress towards MDGs. The overall goal of the

project is to assist in disaster preparedness of communities living in disaster prone coastal areas of Cuddalore District in Tamil Nadu. The key objective of the project is to increase access of a minimum of 13,500 people, including children, women, men and people with disabilities to “community owned and managed water and sanitation facilities” in urban and peri-urban areas.

As part of this ongoing project, 41 hand pumps with raised platforms; 11 ecosan latrines for women-headed households, disabled people and schools; rainwater harvesting in two schools; a mini-community water supply system and various activities to create awareness on water conservation and sanitation have been completed. These are being implemented in 16 disaster prone villages along east coast in Cuddalore district .



A newly constructed ecological sanitation toilet.

WORKSHOPS AND CONFERENCES

FERAL was an organising partner of a pre-symposium workshop at the 30th Annual International Symposium on Sea Turtle Biology and Conservation held at Goa in April 2010. We also conducted a series of village level meetings and field surveys that cumulated in Grama Panchayat level workshop attended by the Ariyankavu Panchayat president, representatives and leaders of the village forest committees and women groups. Details follow....

The fisheries forum

Dates April 25, 2010

Supported by: Pre symposium workshop of the 30th Annual International Symposium on Sea Turtle Biology and Conservation, Goa, April 27-29th 2010, International Sea Turtle Society
Host Institutes Dakshin Foundation, FERAL, FishMarc, ICSF, Kalpavriksh, Duke Marine Labs, Tata Institute of Social Sciences, FAO and Smithsonian Institute

The introduction of a forum for fisheries and related issues for the first time in the International Sea Turtle Symposium attempted to encourage greater interaction between marine conservationists and traditional fishers. This is so that marine conservation can enhance rather than jeopardise the livelihoods of fisher communities; and also to strengthen the use of fishing practices that can regenerate and sustain marine eco-systems.

To this end, the Forum drew attention to the ground reality of fisher communities, the rights of traditional fishers to coastal and mar-

ine systems, and the concerns of traditional fishers in the conservation paradigm, that arise from denial of access to the ecosystems that they depend on for survival, especially across the South Asian region. Part of this forum, was a fisheries exhibition which showcased the culture of fisheries across the coasts of India. FERAL designed 15 posters from thousands of photographs from all over the country depicting the variety of fishing crafts state-wise, fishing gear in India, the role of women in fisheries and Once on Shore.... what happens once fish are landed.

Community workshop

Dates May 22, 2010

Concerned Project Bridging the Shencottah Gap: How payments for ecosystem services can restore biodiversity outside protected areas in India

Host Institute Conducted by FERAL and Ariyankavu Grama Panchayat

A half day workshop to introduce the FERAL conservation initiative in the Shencottah gap was conducted on the occasion of the “World Biodiversity Day” at the Government Lower Primary School, Ariyankavu. In his welcome note, Dr. Rauf Ali, founding trustee and senior scientist of FERAL, spoke about the need for conservation initiatives in the Periyar-Agasthyamalai landscape. The Panchayat President, Shri. H. Abdul Khader presided over the function and during his inaugural speech gave an overview of the various environmental activities conducted by the Panchayat during the past few years. He also highlighted that some of the endangered mammals in the landscape have become rarer and current approaches to prevent human-wildlife conflicts were ind-

equated and immediate steps need to be taken to address both these issues. In his speech the Vice President, Shri. Pradeep R. stressed upon the need for conservation of water resources in the region and linked the protection of forests with hydrological services. On behalf of FERAL, both of them handed over books to the VSS library. This was followed by a presentation made by Shri. Ignatius Peliyas on the various research activities carried out by FERAL in the landscape, highlighting key findings and conservation implications. There was an active discussion with the participants who raised issues such as the importance of water conservation, need to change role of VSS in conservation initiatives and the need for awareness programmes.

Stakeholder workshops with members of fishing communities

Dates 8th December 2010, 15th December 2010, 23rd May 2011, 24th May 2011, 31st May 2011

Concerned Project Fisheries Management for Sustainable Livelihoods.

Host Institute FERAL



Final workshop to validate the report prepared for the FIMSUL project.

A series of workshops were held with members and representatives of artisanal fishing

communities and owners of mechanised craft during the FIMSUL project. These were organised in the districts of Cuddalore and the Union Territory of Pondicherry. A total of five workshops were held during the project. The initial set of workshops were to consult with the different stakeholders about the nature of the study and methods proposed. The subsequent workshops were to validate the data collected and get suggestions and reactions to the reports prepared for FIMSUL.

Other than the primary stakeholders, the workshops were attended by officials from the Dept. of Fisheries, other NGOs and the FIMSUL coordination team.

PUBLICATIONS

A number of reports and few journal articles were published during this year. Most of these can be downloaded from our website and hard copies can be obtained from our offices on request.

Peer Reviewed Articles

1. Bhalla, R. S., Neil W. Pelkey, and K. V. Devi Prasad. 2011. "Application of GIS for Evaluation and Design of Watershed Guidelines." *Water Resources Management* 25: 113-140. doi:10.1007/s11269-010-9690-0.
2. Vaidyanathan, Srinivas, Jagdish Krishnaswamy, N. Samba Kumar, Harshawardhan Dhanwatey, Poonam Dhanwatey, and K. Ullas Karanth, "Patterns of tropical forest dynamics and human impacts: Views from above and below the canopy", *Biological Conservation* 143, no. 12: 2881-91.
3. Ali, Rauf, Review of "Troubled Islands: Writings on the Indigenous Peoples and Environment of the Andaman and Nicobar Islands" by Pankaj Sekhsaria. *Current Science*, 99:967-968.
4. Lawrence, Tara, Neil Pelkey, and Sara Soares, "Googleology: powerful tool or unreliable evidence? An example exploring evidence using the current debate on *Testudo gigantea* Schweigger, 1812 and *Dipsochelys dussumieri* (Gray, 1831)", *Bulletin of Zoological Nomenclature* 67(3) September 2010
5. Rauf Ali, "Invading the Andamans, From weeds to elephants, foreign organisms take over the Andamans islands, throwing the once-balanced ecosystem off sync", *Current Conservation*, 2010.

Other Articles & Reports

1. Tara N. Lawrence, Neil W. Pelkey, and R. S. Bhalla. 2010. "Fishing Catch Data Mapped off the East Coast of India", *ESRI ArcNews*, fall 2010, Vol 32; No 3, sec. GIS in Action.
2. Lawrence, Tara N., and R.S Bhalla, "Current status of artisanal fisheries along the coast of Pondicherry and two districts of Tamil Nadu: Cuddalore and Villupuram", 30th Annual Symposium on Sea Turtle Biology and Conservation, Goa, April 27-29th 2010
3. Bhalla, R.S., Tara N. Lawrence, S.Kumaran, and Gaspard A., "Livelihoods and Natural resource management- Artisanal fisheries along the Coromandel coast", 30th Annual Symposium on Sea Turtle Biology and Conservation, Goa, April 27-29th 2010
4. Gangadharan, A., Vaidyanathan, S. and Ram, S. 2011. "Identifying critical areas for a landscape level wildlife corridor in the southern Western Ghats", Final technical report. FERAL, Pondicherry.

Books and Book Sections

Rauf Ali, "Invasives and their Impact on Andaman Biodiversity", in Ramakrishna, C. Raghunathan and C. Sivaperuman, "Recent Trends in Biodiversity of Andaman and Nicobar Islands", 511-517, 2010. Zoological Survey of India.

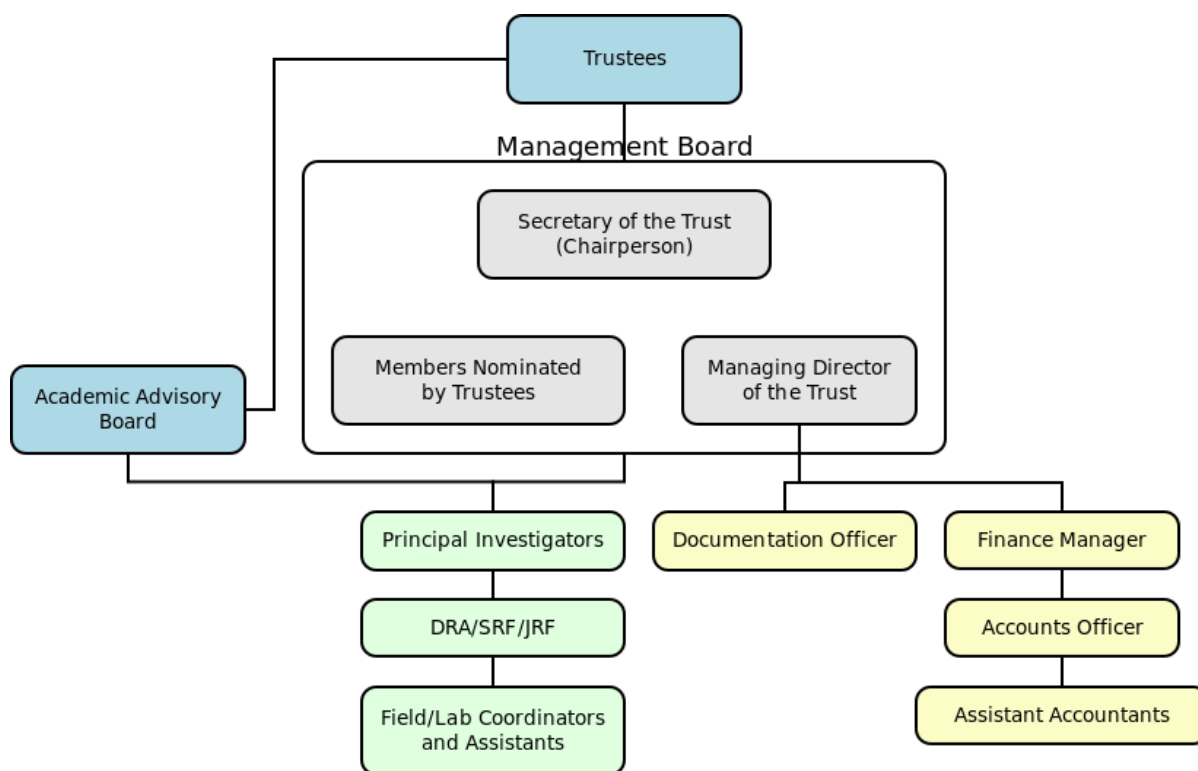
Conference papers

1. Sunita Ram and Srinivas Vaidyanathan , "Within site variation in the feeding ecology of the Nilgiri Langur (*Semnopithecus johnii*) in a human altered landscape", 23th Congress of the International Primatological Society, September 2010, Kyoto, Japan.
2. Aditya Gangadharan, Srinivas Vaidyanathan and Sunita Ram, "Modelling population-level linkages for elusive large mammals in the southern Western Ghats", India. 24th International Congress for Conservation Biology, July 2010 in Edmonton, Alberta, Canada
3. Srinivas Vaidyanathan, Aditya Gangadharan, Sunita Ram, "A comprehensive ground-based framework for quantification of human impacts on wildlife and habitat". 24th International Congress for Conservation Biology, July 2010 in Edmonton, Alberta, Canada.
4. Bhalla, R. S., Jagdish Krishnaswamy, and Srinivas Vaidyanathan. 2011. "Vulnerabilities of Critical Ecosystems and Services in the Western Ghats to Overland Flows and Sedimentation during Extreme Rainfall Events". In Geospatial World Forum: Seminars: Disaster Management, 66. Hyderabad, A.P. India: GIS Development, January 18.

ADMINISTRATIVE INFORMATION

Organisational Structure

FERAL is registered as a trust under the Indian Trust Act in 1997 (reg. no. 1327/97), as a non profit organisation with a certification from the Department of Scientific and Industrial Research, Ministry of Science and Technology, Govt. of India, as a research organisation (No.11/493/08-TU-V). FERAL also has a Foreign Contributions Regulation Act clearance (Registration number: 285130074, Nature: Educational Social) which allows it to receive foreign funds. The simple organisational structure we follow ensures a high level of autonomy within projects with principal investigators or coordinators in charge.



The FERAL organogram.

Feralidae

The people behind FERAL are a diverse group with specific interests in the wide field of ecology. This team is responsible for formulating and co-ordinating the organisations activities and comprises of a number of persons introduced alphabetically below:²:

Abraham Varampath (S.R.F./P.I.): Aby has expertise in the areas of water and sanitation. He has worked in several regions including with the UNICEF in the Nicobar Islands after the tsunami and Save the Children in Haiti. He is currently heading the UN HABITAT project. He is also pursuing his PhD on “Reducing social and environmental vulnerabilities to natural hazards through process optimisation of social networks /coalitions in Water, Sanitation and Hygiene (WASH) interventions”.

Aditya Gangadharan (J.R.F./P.I.): - Aditya is currently interested in evaluating connectivity for large mammals and is involved in our wildlife corridor program. His particularly interest is in measuring functional connectivity in human modified landscapes. He is currently pursuing his PhD at University of Alberta, Edmonton.

Anupama Pai (P.I.): Anu, who in the previous years was an administrator and logistics organiser for FERAL’s educational activities, now oversees the gender initiative programme. She is assisted by Rajendran K.

Dipani Sutaria (D.R.A./P.I.): Dipani has a Ph.D. degree in environmental sciences from James Cook University, Australia. She has worked as academic support on the Study Abroad Marine Science course for FERAL and is involved in ecological research, specifically in the marine environment.

Gaspard Appavou (J.R.F./F.C.): Gaspard has been coordinating the field surveys and data collection for the FAO-UNTRS project. He holds a master’s degree in human resources management and a bachelor’s degree in law. His ability to moderate during meetings and discussions and manage multiple field teams during surveys has been a boon to the organisation.

Dr.H.S Sushma (D.R.A.): Has a post graduate degree in psychology and studied resource partitioning and inter-specific interactions of arboreal mammals in the rainforest’s of Annamalai’s for her doctoral dissertation. Her broad research interests are community ecology, restoration ecology, conservation of tropical evergreen forest patches in human altered landscapes and primate behaviour. Her primary academic interests lie in behavioural ecology of primates and the role primates play in forest ecosystem functioning.

Ignatius Peliyas (J.R.F.): Ignatius is interested in understanding human dimensions of conservation. He is currently working in the Agastyamalai complex assessing the role human settlements and community based organisations play in conserving wild habitats. Other than talking to people he is also interested in watching wild animals and accompanies us during our field surveys.

Karthik T (J.R.F.): Karthik possess a Master’s degree in wildlife biology and has previously worked on different ecological projects in diverse habitats from the wet evergreen forests of the Western Ghats to arid zones of Gujarat. He is primarily interested in amphibians and reptiles.

Dr.Neil Pelkey (D.R.A./P.I.): A Founding Member of FERAL and currently Senior Advisor, Neil is an Assistant Professor at the Juniata College, Pennsylvania, USA. He is an expert on GIS

²Doctoral Research Associate (D.R.A.), Senior Research Fellow (S.R.F), Junior Research Fellow (J.R.F), Project Investigator (P.I.), Field Coordinator (F.C).

and remote sensing and environmental studies. He is an advisor on many of the projects and research proposals of FERAL. Neil is also responsible for developing the ongoing collaboration with the Juniata College for facilitating their undergraduate study abroad program in India.

Dr. Rauf Ali (D.R.A./P.I.): Founding Trustee of FERAL. Rauf is involved in various research efforts in the Andaman and Nicobar islands with a focus on assessments and impacts of exotic species. A primatologist by training, Rauf is active in policy advocacy for conservation efforts and is part of the researcher network across the country and worldwide.

R.S. Bhalla (S.R.F./P.I.): Founding Trustee, Ravi's area of interest is natural resources management with specific interest in water resources management. He is presently wrapping up his PhD in landscape ecology. He conducts occasional training programs on participatory GIS and remote sensing.

Rajat Nayak (J.R.F.): Rajat did his Masters in Wildlife Biology and Conservation from National Centre for Biological Sciences, WCS-India Programme, Bengaluru. He wishes to continue studies on the long-term changes in ecosystem components and processes due to anthropogenic factors in Indian forests. His current interests are directed towards understanding the role played by anthropogenic fire in different habitat types, ranging from tropical seasonal forests to savannah woodlands to sub-tropical sub-alpine and alpine forests.

Rajendran K (J.R.F.): Raji is closely involved with the Gender initiative, particularly the organisation and conducting of training programmes for women. Raji is also the Office Manager at FERAL and is engaged in keeping the campus at Morattandi operational and organisation of workshops and events for various projects.

Rohini Mann (J.R.F.): Rohini did her Master's thesis assessing the response of herbivores after the relocation of people from Rajaji National Park. Lion-tailed macaques took her to Kalakad Mundanthurai Tiger Reserve where she assessed their population and distribution. Her current interests are to study the responses of animals to changes in their habitat and to evaluate the sustainable balance in the use of land and resource amongst humans and wild animals.

Saravanan S (F.C.): Saravanan is a self taught GIS expert and coordinates the field activities on various projects, particularly the NRDMS supported work on landscape assessments. He is presently completing his post graduate degree in environmental economics.

Senthil Babu (P.I.) Babu has an MPhil in History of Science. He is interested in issues affecting the coastal communities in general and the fishing community in particular. He has worked along the east coast on various issues for the last six years.

Shanth Kumar (J.R.F.): After obtaining his Master's degree in wildlife biology from Bharadidasan University, Trichy, he worked extensively on various issues related to conservation of the fauna in Southern Western Ghats, especially focusing on human wildlife conflict. Currently he is involved in assessing economic losses due to crop raiding in the southern Western Ghats.

Srinivas Vaidyanathan (S.R.F./P.I.): Srinivas, the managing trustee of FERAL. He is a wildlife biologist with particular interest in understanding changes in landscape level processes and structure and how the same affect large mammal populations and distributions, in particularly wide ranging mammals. Sriniv's expertise lies in monitoring animal populations using a variety of advanced sampling techniques and the use of GIS and remote sensing to develop decision support systems for conservation initiatives.

Sunita Ram (S.R.F./P.I.): Sunita is a PhD scholar currently working on the behaviour and distribution of Langurs. Her interests lie in the identification of habitats of these shy primates

so that conservation efforts may be improved.

Tara Lawrence (J.R.F./P.I.): Tara Lawrence - Tara is a junior research fellow with a masters degree in Marine Biology and has worked on the artisanal fisheries project. She is also the Course coordinator on the Study abroad Marine Science course. She is also working alongside on building fisheries baselines for the Coromandel Coast and is examining the ecological status of artisanal fisheries of the same.

FERAL has a small administrative support system which comprises of a Managing Director, an accountant and an office manager. Most of our administrative staff contribute to other projects by way of facilitating training programmes, workshops and reporting and include:

Benjamin Larroquette: Benjamin is the Managing Director of FERAL, he is in charge of the financial and administrative oversight and plays a significant role in advising projects and programmes such as the Water, Environment and Sanitation effort, as well as the study abroad program. Benjamin is also very involved with the communication with the Government and UN agencies.

Shanthi. R: Shanthi is the Accounts Manager at FERAL handling the day to day accounting responsibilities of the organisation. She is a graduate and is versatile in the use of a range of financial software. Shanthi also participates in various training programmes for women, particularly those involving food processing. In addition she handles the SHG accounts of these groups.

S. Velmurugan: Velu is working as the Finance Manager. He has an MBA degree in Human Resource Management and had already three years experience as a senior executive in finance before joining the organisation. Velu manages the FERAL's finance department which involves providing financial analysis to the P.I.'s and to the donors. He closely follows up on the Central and State Government statutory compliance.

Balance Statement

FOUNDATION FOR ECOLOGICAL RESEARCH ADVOCACY AND LEARNING
No 27 , 2nd Cross Appavou Nagar , Vazhakulam, Pondicherry-605012.

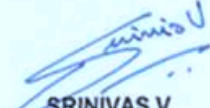
BALANCE SHEET AS AT 31.03.2011


(Amount in ₹)

Particulars	Sch.Ref	31.03.2011	31.03.2010
<u>SOURCES</u>			
Corpus	1	742,275	665,294
Project Asset Reserve	2	2,599,439	2,058,624
Projects Account (Cr)	3	4,570,402	5,017,763
SBI - Bolero Vehicle Loan		542,836	
		8,454,952	7,741,681
<u>APPLICATION</u>			
Fixed Assets less Depreciation	4	3,277,381	2,568,590
CURRENT ASSETS, LOANS AND ADVANCES			
Cash and bank balances	5	5,138,923	5,276,231
Loans and advances	6	77,845	39,987
	(i)	5,216,769	5,316,219
Less: Current liabilities	7	39,197	143,129
	(ii)	39,197	143,129
Net Current Assets (i) - (ii)		5,177,571	5,173,090
		8,454,952	7,741,681
Notes on Accounts	9		

As per our report of even date

**For FOUNDATION FOR ECOLOGICAL RESEARCH
ADVOCACY AND LEARNING**


SRINIVAS V
Managing Trustee


BENJAMIN LARROQUETTE
Managing Director

FOR ASA & ASSOCIATES
(Murali Associates merged with ASA)
Chartered Accountants


K.VENKATRAMAN
Partner
M.No:200/21914
Firm Reg No: 009571N

Place : Chennai
Date : 16.08.2011

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