

## CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

<b>Organization Legal Name:</b>	-
<b>Project Title:</b>	Bat communities in the Western Ghats: status, ecology and conservation
<b>Date of Report:</b>	31 <sup>st</sup> January 2011
<b>Report Author and Contact Information</b>	Dr. Mahesh Sankaran, National Centre for Biological Sciences, GKVK, Bellary Road, Bangalore Karnataka

### CEPF Region: Western Ghats

- Anamalai Corridor
- Mysore-Nilgiri corridor
- Malnad-Kodagu Corridor

### Strategic Direction:

2. Improve the conservation of globally threatened species through systematic conservation planning and action

#### Investment priorities

- 2.1 Monitor and assess the conservation status of globally threatened species with an emphasis on lesser-known organisms such as reptiles and fish
- 2.2 Support efforts to conserve Critically Endangered and Endangered species through the creation and implementation of species recovery and management plans
- 2.3 Evaluate the existing protected area network for adequate globally threatened species representation and assess effectiveness of protected area types in biodiversity conservation
- 2.4 Support interdisciplinary efforts to analyze and disseminate biodiversity data

**Grant Amount: \$ 15,740**

**Project Dates: 1<sup>st</sup> December 2009 to 31<sup>st</sup> January 2011**

### Implementation Partners for this Project (please explain the level of involvement for each partner):

- National Centre for Biological Sciences, Bangalore (provided logistical support)
- Nature Conservation Foundation, Mysore (provided logistical and technical support)
- Prof. John Altringham, University of Leeds, Leeds, UK (provided scientific expertise and outreach support)

### Conservation Impacts

*Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.*

CEPF's strategic direction 2 emphasizes the need for improved conservation of globally threatened species through systematic conservation planning and action, with the recognition that knowledge about the distribution and status of several threatened

species is inadequate. This project focused on building a detailed understanding of the distribution, ecology and status of a widespread but relatively unstudied taxon in the Western Ghats: bats. The order Chiroptera has the largest representation of mammals in Western Ghats; 41 out of 137 mammals in the Western Ghats are bats. However, most of these are unstudied, and little is known about their distribution and status.

In all, we surveyed 11 different sites within the Mysore-Nilgiri, Anamalai and Kodagu-Malnad corridors (Appendices 1 & 2). Of these, 9 were part of the 126 key biodiversity areas (7.1%) identified in the CEPF ecosystem profile, all of which are included amongst the 80 CEPF priority sites. Sites ranged in altitude from 460 – 1900m and included both human modified landscapes (e.g. plantations) and four broad forest categories identified in the profile: evergreen, semi-evergreen, moist deciduous & dry deciduous forest. There was little to no previous information or knowledge of bats in most of the sites we sampled. We collected baseline information on bat species diversity and distribution in these sites (Investment priority 2.1), and also initiated the creation of an echo-location call library which will be made publicly available in the near future and can serve as the basis for non-invasive monitoring of bat populations (Investment priority 2.4). In addition, the data generated by our study can serve as the starting point for the development of species/ taxon specific conservation strategies (Investment priority 2.2), and also to evaluate the efficacy of the current protected area network for the conservation of bat species in the region (Investment priority 2.3).

***Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.***

1. Generation of an open access echo-location call library for different bat species in the southern Western Ghats

We have call structures for 11 insectivorous species in total based on mist-netting and call recording during release. In addition, we have recordings of several other species from transect surveys that can be broadly classified into foraging guilds.

2. Generation of a spatially explicit database of bat species occurrence and activity in the southern Western Ghats which can serve as the basis for future monitoring of bat communities

We sampled a total of 42 different transects (each sampled multiple times) in 11 different areas across the Anamalai, Mysore-Nilgiri and Malnad-Kodagu corridors. We have spatially explicit data on bat morpho-species richness and activity patterns in these different sites, both inside and outside protected areas.

3. Assessment of the conservation status of echo-locating bat species in the southern Western Ghats

4. Submission of scientific publications in peer reviewed journals relating to the distribution, conservation status and ecological determinants of bat communities in the Western Ghats.

At the minimum, we envision at least 2-3 publications arising from this work: i) the effect of habitat fragmentation and land use (plantations) on bat species richness and activity in the Anamalai hills, ii) environmental and biotic correlates of insectivorous bat species distributions, iii) call descriptions for common insectivorous bats.

5. Dissemination of study results to the public through a workshop, and associated outreach activities:

We organized a workshop on “bat biology and conservation” on 23<sup>rd</sup> February, 2010 at the National Centre for Biological Sciences, Bangalore. The workshop, co-funded by the UKIERI, was conducted by Prof. John Altringham & Dr. Anita Glover from the University of Leeds, Leeds, UK. The workshop was attended by ~20 participants, including one from Nepal, and a write-up on it appeared in the Meetings report section of Current Science (Monto 2010; Current Science, Vol 99 (1): 13-14) (Appendix 3). Results of the study were also presented at the SCCS conference in Bangalore (Eleni Foui, Oral presentation, “Bat communities in a highly fragmented landscape in Anamalai Hills, Western Ghats”)(Appendix 4). Further, a poster on the work was also presented at the SCCS Conference in Cambridge, UK in March 2011 (Foui et al. Do bats like tea and/or coffee? Assessing bat activity and richness in a modified landscape in Valparai plateau, southern Western Ghats, India; poster presentation; Appendix 5). Finally, we are also producing an outreach poster/ pamphlet for the general public that will provide some basic information on the ecology and conservation status of bats (Appendix 6).

***Please provide the following information where relevant:***

**Hectares Protected:** N/A

**Species Conserved:** N/A

**Corridors Created:** N/A

***Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.***

The biggest challenge was the delay in obtaining Forest Department permits to sample within protected areas. The permits took over a year to be processed, and as a result we were unable to sample sites within the Agastyamalai corridor as originally proposed. In terms of successes, we were able to generate an echo-location call library of 11 insectivorous species, and obtain distribution data for ~20 morphospecies based on transect recordings.

***Were there any unexpected impacts (positive or negative)?***

None

<b>Lessons Learned</b>
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***Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.***

Most people, including forest department officials, are often not aware of the importance of taxa such as bats. This makes it imperative for researchers and conservation practitioners to spend time in education and training programs for the public on the importance of lesser known and less appreciated taxa.

**Project Design Process: (aspects of the project design that contributed to its success/shortcomings)**

The basic sampling design was simple and straightforward which allowed us to collect a large amount of spatially replicated data in a short amount of time. As such, there were no obvious short comings in terms of study design. However, problems with taxonomy and the lack of prior data on echolocation call structures were short comings in terms of the efficacy of data analysis.

**Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)**

The major problem with field research and implementation was the delay in obtaining field permits to sample within protected areas.

**Other lessons learned relevant to conservation community:**

People, including forest staff, don't know much about bats. Some forest officials were even convinced that there were no bats in the region. There is an urgent need for targeted outreach and dissemination programs to educate people on the ecological importance of bats.

## ADDITIONAL FUNDING

**Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.**

Donor	Type of Funding*	Amount	Notes
UKIERI	A	\$5000	
NCBS	A	\$1500	In kind support

**\*Additional funding should be reported using the following categories:**

- A** Project co-financing (Other donors contribute to the direct costs of this CEPF project)
- B** Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)
- C** Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)

## Sustainability/Replicability

**Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.**

The project employed simple and straight-forward sampling strategies that are easily replicated. Further, the echo-location call library generated by the project will permit the continued monitoring of insectivorous bats using non-invasive techniques.

**Summarize any unplanned sustainability or replicability achieved.**

The work carried out on this project has resulted in follow-up research on bat communities in Valparai by a PhD student (Claire Wordley) registered at the University of Leeds, UK.

**Safeguard Policy Assessment**

***Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.***

Not applicable

**Performance Tracking Report Addendum**

**CEPF Global Targets**

**(1<sup>st</sup> Dec 2009 – 31 Jan 2011)**

Provide a numerical amount and brief description of the results achieved by your grant.  
Please respond to only those questions that are relevant to your project.

<b>Project Results</b>	<b>Is this question relevant?</b>	<b>If yes, provide your numerical response for results achieved during the annual period.</b>	<b>Provide your numerical response for project from inception of CEPF support to date.</b>	<b>Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)</b>
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	No			Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	No			Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	No			
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many	No			

hectares.				
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.	No			

**If you answered yes to question 5, please complete the following table.**



### **Additional Comments/Recommendations**

Appendices:

1. List of project sites (table)
2. Map of sampling sites
3. Published write-up on workshop
4. Eleni SCCS presentation
5. Eleni SCCS poster
6. Text for outreach pamphlet on bats

### **Information Sharing and CEPF Policy**

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, [www.cepf.net](http://www.cepf.net), and publicized in our newsletter and other communications.

**Please include your full contact details below:**

Name: Mahesh Sankaran

Organization name: National Centre for Biological Sciences, TIFR

Mailing address: GKVK, Bellary Road, Bangalore 560 065, India

Tel: +91 (80) 23666221

Fax:

E-mail: [mahesh@ncbs.res.in](mailto:mahesh@ncbs.res.in)