CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Wildlife Conservation Society
Project Title:	Improving Protected Area Effectiveness through Enhanced Civil Society Support and Rigorous Monitoring of Wildlife Populations and Conservation Threats
Date of Report:	December 17, 2012
Report Author and Contact Information	N. SAMBA KUMAR, K. ULLAS KARANTH & PETER J CLYNE <pclyne@wcs.org>

CEPF Region: **Western Ghats & Sri Lanka**

Strategic Direction: **1. Conservation of key biodiversity areas**

Grant Amount: **$350,000.00**

Project Dates: **Sep 1, 2009-Aug 31, 2012**

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

Centre for Wildlife Studies, Bangalore: **Chief agency that implemented the project with collaborative assistance from local governments and local NGOs.**

Foundation for Ecological Research, Advocacy and Learning, Pondicherry: **Provided technical support in threat monitoring survey design and analysis through Mr. V. Srinivas.**

State Forest Department of Karnataka: **Facilitated the project implementation through appropriate permits and deputation of staff for training**

National Tiger Conservation Authority, New Delhi: **Facilitated the project implementation through appropriate permits.**

Nature Conservation Foundation, Mysore: **NONE, as the partnership did not fructify at the initial stages of the project.**

Living Inspiration for Tribals, Hunsur: **Provided local logistic support and facilitated participation of local community members in monitoring surveys around Nagarahole and Coorg region**

Bhadra Wildlife and Conservation Trust: **Provided local logistic support and facilitated participation of local community members in monitoring surveys around Bhadra**

Kudremukh Wildlife Foundation, Mangalore: **Provided local logistic support and facilitated participation of local community members in monitoring surveys around Kudremukh-Someshwara region**

Sahyadri Wildlife and Forest Conservation Trust, Sirsi: **Provided local logistic support and facilitated participation of local community members in monitoring surveys around Dandeli-Anshi region**

Forestry College, Sirsi: Facilitated participation of students in monitoring surveys around Dandeli-Anshi region and deputed Mr. Shridhar Bhat, Faculty to participate as a resource person in the training workshops

Wildlife Conservation and Action Team in Chikmagalur: **Provided local logistic support and facilitated participation of local community members in monitoring surveys around Bhadra and Kudremukh region**

Forestry College, Ponnampet: **NONE; Individual faculty showed interest in deputing their students but institutional arrangements did not fructify.**

Growing Wild, Bangalore: **Provided local logistic support and facilitated participation of its members in monitoring surveys around Nagarahole, Bandipur, BRT, Bhadra, Kuduremukh and Dandeli-Anshi regions**

Conservation Impacts

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

This project has carried out rigorous scientific monitoring to assess the status of several species and levels of conservation threats across 600,000 hectares of biodiversity rich areas within the three CEPF identified corridors in Karnataka. These surveys resulted in the *first-ever* rigorous population assessment data for several species across 265,000 hectares of prime wildlife habitat that included forests both within and around protected areas. The surveys also generated data that will help assess monitoring of population trends in 320,000 hectares of protected areas, where WCS has been involved for many years prior to this project. The project during its implementation provided critical management inputs that helped expansion of protected areas in Karnataka by nearly 100,000 hectares. The project also trained more than 500 volunteers from civil society groups and 100 staff from the state forest department to enhance their technical capability to monitor and manage these biodiversity areas better.

Please summarize the overall results/impact of your project.

Planned Long-term Impacts - 3+ years (as stated in the approved proposal):

1. Key constituencies, consisting of local wildlife monitoring staff, civil society volunteers and state forest department staff capable of gathering high-quality ecological data for monitoring biodiversity around key sites within the three CEPF corridors of Karnataka.
2. A committed and motivated network of civil society organizations working in partnership with the government to effectively monitor large mammal populations and contribute to more efficient management of these populations and their habitats.

3. Obtaining annual biological measures of conservation success through rigorous ecological audits at the few highly threatened protected areas and thus establishing an ecological benchmark for population trend analysis.

Actual Progress Toward Long-term Impacts at Completion:

1. Discussions and continuous interactions with the Chief Wildlife Warden of Karnataka, Senior Management staff of Karnataka Forest Department and site-level Wildlife Managers at key individual sites (Nagarahole, Bandipur, Bhadra, Dandeli-Anshi, Kudremukh and BRT) enabled involvement of forest department staff in annual monitoring exercises. Other members of the key constituencies involved in biodiversity monitoring included members of local communities and other civil society volunteers, local students and teachers. All the participants were trained in field survey techniques and the focus of training was on gathering of high quality ecological data that will help assess population status of several species of mammals besides monitoring their population trends. The main sites included protected areas (PAs) and forested areas adjacent to these PAs. The sites monitored were Nagarahole and adjoining Maukal and Devmachi Reserved Forests, Bandipur and adjoining Omkar Reserved Forest in the Mysore- Nilgiri corridor; Bhadra and its adjacent Revenue and Reserved Forests, and Kudremukh, Someshwara and Mookambika Wildlife Sanctuaries with its neighboring Reserved Forests in the Malenad-Kodagu corridor; and, Dandeli-Anshi Tiger Reserve and its surrounding forests, in the Sahyadri-Konkan corridor. Among these key sites, new sites where monitoring work was initiated for the first time under this project were: Kuduremukh, Someshwara, Mookambika, Sharavathi, BRT, MM Hills and Cauvery Wildlife Sanctuaries and forested areas surrounding these PAs. Further, monitoring areas around Nagarahole, Bandipur, Bhadra and Dandeli-Anshi were considerably expanded under this project. First-ever reconnaissance surveys were also carried out in Bramhagiri, Pushpagiri and Talakaveri Wildlife Sanctuaries. These concerted efforts involving all the key constituencies are expected to result in effective monitoring of biodiversity around the key sites within the three CEPF corridors in the long term.

2. One of the key features of this monitoring was the participation and involvement of a network of local communities, civil society volunteers and forest department staff. The field activities were treated as intensive training programs to both empower forest department staff as well as to train volunteers from the civil society in efficient data collection methods, besides fostering a sense of collective responsibility for effective biodiversity monitoring. Besides the forest department, 8 NGOs participated in these surveys. Forestry College students in Sahyadri-Konkan corridor, members of Wildlife Conservation and Action Team in Chikmagalur and Growing Wild in Bangalore in Malnad-Kodagu corridor and members of local communities in Mysore-Nilgiri corridor showed enthusiasm and participated actively. Gauging from their contributions and participation, there appears to be immense potential for the continued biodiversity monitoring by these civil society groups under WCS technical support and guidance.

3. This project resulted in annual measures of population estimates of 12 species of mammals in and around several protected areas within the three CEPF corridors in

Karnataka. The project established *first-ever* ecological benchmarks across 265,000 hectares of biodiversity rich areas where no prior reliable information existed on the population status of large mammals. In addition to this, the project also generated annual measures of population estimates across 320,000 hectares of protected areas where WCS had carried out prior population assessment. Both these data sets will help determine population trends of large mammals that indicate the management effectiveness of forest matrix in and around protected areas. The project used state-of-the-art monitoring tools to assess population status as well as threats to their habitats. Both the forest department staff and civil society volunteers were exposed to these advanced field survey techniques. Both formal and informal discussions were held with senior management staff and site-level PA managers periodically and inputs were provided based on preliminary analysis each year.

Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal):

1. Obtain immediate measures of animal abundance to inform park managers and state policy of the status of wildlife and measures of threat levels.
2. Provide motivation and capacity building opportunities to local civil society members in the field of biodiversity monitoring and research and conservation.
3. Detect pronounced declines in large mammal populations, if any, within a short time.
4. Enable informed management by the State forest department for site-specific conservation issues.
5. Provide active local support for site-based conservation initiatives.

Actual Progress Towards Short-term Impacts at Completion:

1. Annual population estimations of the large mammals and threat assessment were made through rigorous collection of data and use of advanced statistical methods. These results were discussed with site-level managers and senior officials of the Karnataka Forest Department through periodic discussions. Two primary sampling techniques were used: line transect methodology to estimate animal abundance where sufficient sample sizes were available for useful inference; occupancy sampling methodology to assess relative abundance of animals where ever insufficient sample sizes were expected. Over the 3-year project period, a total of 13,866 km of walk-efforts along 228 transect lines resulted in encounters of 20,536 animal clusters for analysis under transect sampling method, whereas 2128 km of walk-efforts in 576 grid-cells helped record animal signs under occupancy sampling framework. These rigorous surveys have enabled reliable assessment of population status as well as threat monitoring in the CEPF landscape.

2. A large number of members from the civil society were offered training in field data collection. In view of the large response (> 1000 requests) received for participating in the field surveys, the volunteers were screened and interviewed before selection. More than 500 civil society members were trained in field survey techniques. Besides introducing the trainees to the nuances of sampling and biodiversity monitoring, the participants were also exposed to the conservation issues. Interactions with forest department on-ground protection staff helped civil society volunteers to understand and

appreciate the challenges involved in protected area management. Several of the volunteers were offered with field internships and subsequently 20 of them recruited for intensive field work upon successful completion of the internship. Presentations and interactions were also held with students and teachers from rural educational institutions, living in close proximity to the key sites in the landscape. Discussions were held with a host of local civil society groups, including state-level partners in conservation action.

3. Preliminary assessment of population trends of 12 species across the key sites in three corridors suggest a stable population in Nagarahole, Bandipur and BRT sites, an increasing trend in Bhadra and Dandeli-Anshi. Data from Kuduremukh-Someshwar-Mookambika areas indicated high potential of the sites in conserving biodiversity and planning/upgrading the protected area status.

4. Specific steps were taken to keep the forest department fully informed about the monitoring activities. Regular workshops, informal discussions and interactions with department staff were held before, during and post-field work. Inputs were provided to the drawing up of site-specific management plans. The department staff members at each site were trained in monitoring methods, use of field equipment and encouraged to participate in collection of data.

5. In order to actively support site-specific conservation initiatives of the forest department, regular meetings were held with senior officials and inputs were provided to the forest department for management of the PAs. Scientific inputs were also provided to the civil society groups who are involved in implementing site-based conservation initiatives.

Please provide the following information where relevant:
Hectares Protected: **110000**
Species Conserved: **12**
Corridors Created: **NA**

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

The project has been successful in accomplishing its short-term objectives of generating the annual measures of populations of 12 species in both areas where prior information did not exist and where it existed. These data serve as ecological benchmarks that will enable objective assessment of protected area management effectiveness through rigorous ecological audits. The project has also succeeded in building the technical capacity of civil society groups in biodiversity monitoring. Centre for Wildlife Studies, the chief implementation agency of WCS-CEPF project, has strengthened relationships with federal and state government agencies to continue monitoring with its network of committed civil society partners in key sites over long term.

Were there any unexpected impacts (positive or negative)?

The protected area network was expanded by nearly 110,000 hectares by Government of Karnataka largely due to the sustained efforts of WCS's local partners over long term.

Though this conservation success cannot be particularly attributed to any single project, the new information generated under this CEPF-funded project through rigorous monitoring surveys also contributed to the consolidation of key biodiversity areas within the CEPF landscape in Karnataka.

Project Components

Project Components: *Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.*

Component 1 Planned: Ecological assessment of large mammals in forested areas around protected areas.

Component 1 Actual at Completion: Ecological assessments were made through line transect surveys and occupancy surveys along with reconnaissance surveys in additional sites. The sites monitored were Nagarahole and adjoining Maukal and Devmachi Reserved Forests, Bandipur and adjoining Omkar Reserved Forest, and BRT sanctuary in the Mysore-Nilgiri corridor; Bhadra and its adjacent Revenue and Reserved Forests, Kudremukh, Someshwara and Mookambika Wildlife Sanctuaries with its neighboring Reserved Forests, and, Sharavathi sanctuary and its adjoining Reserved Forests in the Malenad-Kodagu corridor; and, Dandeli-Anshi Tiger Reserve and its surrounding forests, in the Sahyadri-Konkan corridor. Reconnaissance surveys were also carried out in Brahmagiri, Pushpagiri and Talakaveri Wildlife Sanctuaries. Data was collected on two species of primates (common langur and bonnet monkey), 8 species of herbivores (mouse deer, muntjak, four-horned antelope, chital, sambar, wild pig, gaur, elephant), one sciurid species (malabar giant squirrel) and sloth bear. Population assessments were made for target species annually.

Component 2 Planned: Ecological assessment of threats to large mammals in forested areas around protected areas.

Component 2 Actual at Completion: Line transects and occupancy routes were surveyed to assess threats to large mammals in all the key sites. The sites monitored were Nagarahole and adjoining Maukal and Devmachi Reserved Forests, Bandipur and adjoining Omkar Reserved Forest, and BRT sanctuary in the Mysore-Nilgiri corridor; Bhadra and its adjacent Revenue and Reserved Forests, Kudremukh, Someshwara and Mookambika Wildlife Sanctuaries with its neighboring Reserved Forests, and, Sharavathi sanctuary and its adjoining Reserved Forests in the Malenad-Kodagu corridor; and, Dandeli-Anshi Tiger Reserve and its surrounding forests, in the Sahyadri-Konkan corridor. Reconnaissance surveys were also carried out in Brahmagiri, Pushpagiri and Talakaveri Wildlife Sanctuaries.

Component 3 Planned: Building local capacity of trained biodiversity monitoring staff, building a key constituency of civil society volunteers and lower level state forest department staff which is supportive of conservation.

Component 3 Actual at Completion: More than 500 civil society volunteers and 100 forest department staff were trained in field monitoring techniques. They included potential wildlife biologists, amateur naturalists, field conservationists, students, teachers,

local community members and on-ground field protection staff. Periodic workshops and training camps were also held exclusively for site-level forest department staff.

Were any components unrealized? If so, how has this affected the overall impact of the project?

Intensive occupancy sample surveys in Brahmagiri, Pushpagiri and Talakaveri Wildlife Sanctuaries could not be carried out as per the plan and only field reconnaissance surveys could be carried out due to local conservation issues. However, this has not affected the overall impact of the project.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

WCS is in the process of completing detailed analyses and publishing the results in high-quality scientific journals through peer review process. These will be shared with CEPF as and when they are available.

Lessons Learned

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.

Motivating and building technical capacity within the staff of state agency is a complex and challenging task. To succeed, one will need continuous and iterative discussions with staff at multiple levels. Persistent follow up and interactions with staff at all levels *sustained over long term* is essential to building technical capacity of state agencies.

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

A well-thought out strategy of embedding individual project components within the overarching goals of a long term program is essential to implement a challenging project such as this one.

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

Continuous interactions with senior management of forest department and site-level managerial and ground staff helped implement this project successfully.

Other lessons learned relevant to conservation community:

Enhancing protected area management effectiveness through improved technical capacity of civil society and state agencies is a long term but doable task and it demands a long term commitment by a local lead implementation agency with a strong network of site-specific partners. Sustained funding support is critical for such a civil society endeavor.

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

Donor	Type of Funding*	Amount	Notes
Wildlife Conservation Society	D	$ 185,000	Salaries of Senior staff, field vehicles & program administration support

Additional funding should be reported using the following categories:

A *Project co-financing (Other donors or your organization contribute to the direct costs of this 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 funded project.)*

C *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

D In-Kind contributions can include staff and volunteer time, supplies, and other materials your organization provides to the project.

Sustainability/Replicability

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

Summarize any unplanned sustainability or replicability achieved.

This project has strengthened the network of local civil society groups and state agencies to monitor biodiversity within and around protected areas beyond the project period. Particularly, the training workshops have helped civil society members to practice knowledge-based conservation action in key sites within the larger CEPF landscape. WCS is in the process of publishing cutting-edge methods employed in the CEPF study in peer-reviewed journals such that these monitoring tools can be replicated elsewhere. This project has also helped to continue attract long term donor support for WCS work in India. During the project period, WCS local implementation partner Centre for Wildlife Studies obtained an extension of the permit from state Forest Department to continue monitoring of animal populations in this landscape for a further period of 5 years that will allow us to sustain the conservation monitoring work through the network of local partners.

Safeguard Policy Assessment

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

This project did not envisage any adverse impacts either on the environment or on the local communities.

Additional Comments/Recommendations

NONE

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, and publicized in our newsletter and other communications.

Please include your full contact details below:

Name: Dr. Peter Clyne
Organization name: Wildlife Conservation Society
Mailing address: 2300, Southern Boulevard, Bronx, NY 10460, USA
Tel: +1 718 741 8153
Fax: +1 718 364 4275
E-mail: pclyne@wcs.org

If your grant has an end date other than JUNE 30, please complete the tables on the following pages

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

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.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from September 1, 2009 to August 31, 2012. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	NO	-	-	-
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	YES	-	110000	Expansion of PAsthrough legal declaration (Figures rounded off to nearest integers) DANDELI SANCTUARY: 25000 CAUVERY SANCTUARY: 50000 SOMESHWARA SANCTUARY: 22600 MOOKAMBIKA SANCTUARY: 12400
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.	YES	-	160000	BHADRA: 49500 SOMESHWAR: 8800 MOOKAMBIKA: 24700 SHARAVATHI: 27000 KOLLEGAL / MM HILLS: 50000
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	YES	-	41900	AGUMBE-HEBRI: 25000 RF OUTSIDE SHARAVATHI: 16900
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	NO	-	-	-

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

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit												
									Increased Income due to:												
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance.	Other
Total																					

If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit: