

## ***Darwin Initiative Annual Report***

### **Darwin Project Information**

Project Ref Number	14-039
Project Title	Large-scale habitat mapping and local conservation initiatives for Jerdon's courser, India
Country(ies)	India
UK Contract Holder Institution	CAER, University of Reading
UK Partner Institution(s)	RSPB, U.K
Host country Partner Institution(s)	Bombay Natural History Society, India
Darwin Grant Value	£163,443
Start/End dates of Project	1 <sup>st</sup> July 2005 to 30 <sup>th</sup> June 2008
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 <sup>st</sup> April 2006 to 31 <sup>st</sup> March 2007 Report No. 2
Project Leader Name	Prof. Ken Norris
Project website	n/a
Author(s), date	Jeganathan Panchapakesan and Ken Norris

### **1. Project Background**

Jerdon's courser (*Rhinoptilus bitorquatus*) is one of the 13 most endangered of India's 170 globally threatened or near-threatened bird species. As a result, it is of global conservation importance. Jerdon's courser is listed under Schedule 1 of the Indian Wildlife Protection Act, and is, therefore, given high conservation priority by the Indian Central and State Governments. This resulted in the establishment of protected areas in areas where the birds have been or were formerly recorded by the Andhra Pradesh Forestry Department. Today, the major threat to the persistence of Jerdon's courser is the loss and degradation of scrub forest within which it lives, due to development pressure (e.g. irrigation schemes), habitat conversion to agriculture, and the inappropriate use/management of remaining scrub forest. Jerdon's courser is considered as a priority species under the National Wildlife Action Plan (2002-2016) of the Government of India. The plan states that it will "identify suitable alternative homes for single isolated populations such as Jerdon's courser [and several other species], and manage the same as protected areas effectively".

This project is a development of a previous Darwin funded project (162/9/018). The original project focused on ecological studies relating to habitat selection and population monitoring. Our present project builds on this work and it focuses on developing the analytical tools to identify and map suitable habitats over large-scales and use this information to underpin local conservation initiatives.

## **2. Project Partnerships**

The main project partnership is between University of Reading, RSPB and Bombay Natural History Society (BNHS). This partnership is extremely effective and has worked well over the reporting period. Within the partnership, the University of Reading's role is overall project co-ordination and management, plus technical input into field research and its application; RSPB's role is to provide similar technical input, plus staff and other support to field and dissemination activities; BNHS' is the lead project partner in India, and undertakes a range of activities including conducting ecological research in the field, developing local conservation initiatives with Andhra Pradesh Forestry Department (APFD), as well as consultation and dissemination involving a range of stakeholders, user groups and the public (particularly via the media). This partnership has continued to build capacity within BNHS through technical research training, plus support and guidance in applying research findings (details of activities undertaken in the current reporting year are given below). This capacity building relates to a wide range of issues relevant to CBD implementation as outlined in Section 11 of our original proposal.

The other main partnership within the project is between BNHS and Andhra Pradesh Forestry Department (APFD) – the Forestry Dept. is the statutory body responsible for the designation and management of protected areas for wildlife. APFD play an important role in the implementation of practical conservation measures that flow from the research, including the identification and designation of protected areas. Over the current reporting period, this has included an active role in ongoing discussions concerning the Telugu-Ganga canal; and land management activities (see below). Although the relationship between BNHS and APFD could potentially be difficult, particularly because of the conflicts caused by the Telugu-Ganga canal, BNHS have considerable influence with APFD in terms of land management and conservation issues, and the project has built significant capacity within BNHS through research and its application to be a credible partner with APFD in this regard.

## **3. Project progress**

### **3.1 Progress in carrying out project activities**

Satellite imagery analysis: Dr. Ioannis Vogiatzakis, the post-doctoral research assistant from University of Reading who is undertaking the satellite imagery analysis, visited the field site during May 2006 (1st to 12th May 2006). Ground-truthing was carried out to develop a multi-temporal classification of land cover using Landsat 7 imagery data. These data were then used to map scrub jungle habitat, and a range of other habitats, over the entire Landsat scene covering our study area. This means we are now able to map using remote sensing data the extent of scrub habitats. We have also produced smaller-scale habitat suitability maps for Jerdon's courser within areas of scrub jungle itself mapped from the multi-temporal classification. This allows us to identify potentially suitable habitat for the birds that can then be investigated on the ground using our field census methods (tracking strips and call playback). Over the reporting period, this work has focused on areas in and around the Sri Lankamalleswara Wildlife Sanctuary due to possible loss of scrub habitats resulting from the proposed canal, and to support discussions between BNHS and APFD concerning appropriate and management activities on APFD land. However, the tools now exist to map scrub habitat on a large-scale, and to map habitat suitability within areas of scrub for Jerdon's courser.

Field research programme: The BNHS field team supported the collection of ground-truthing data in May 2006 as planned. Dr. Mark O'Brien, an RSPB Research Biologist, visited the field site from 23<sup>rd</sup> November, 2006 to 15<sup>th</sup> December, 2006 to help the BNHS researcher to catch Jerdon's Courser for conducting radio-telemetry studies. During this work over 30 hours of dazzling with a torch were undertaken at night in and around the best-known location for Jerdon's courser. Dazzling was also continued for about 10 more hours in January 2007. However, no birds were encountered. The most likely reason is that the searching method needs to be refined. We have subsequently identified methodological changes needed, and further attempts to traps birds will be made during the next reporting period. Targeted monitoring using both tracking strips and call playback has been done based on habitat suitability maps in and immediately around the Sanctuary, plus an additional area identified using satellite imagery data and field visit. However, Jerdon's courser was not encountered during any of this census work, which has recently (May 2007) been completed.

Site designation: No new sites have been identified, although our mapping tools are now able to search for potentially suitable habitat over large-scales.

Community Conservation Areas (CCAs): No progress has been made with respect to this output within the reporting period (see next section).

Habitat and monitoring manual: No planned activities during the current reporting period.

Workshops: No progress during the current reporting period (see next section).

Publicity material: As detailed in Section 3.3 below.

## **3.2 Progress towards Project Outputs**

Satellite imagery analysis: This is proceeding largely to plan. The only potential difficulty that we now have to overcome is to change the imagery data we use. It is clear that Landsat 7 data after 2003 is no longer appropriate due to problems with image capture. We are currently considering using Indian IRS imagery data. Once we have appropriate imagery data we will need to re-do some analyses to allow our existing habitat mapping tools to use the new imagery data. We anticipate this work being completed in time for the resumption of fieldwork in September 2007. In response to our 2006 annual report, we were asked to comment by the reviewer on the impact that changes from an MSc student to post-doc might have on achievement of this particular project output. Basically, work towards the output is proceeding to plan. Having the more experienced post-doc is actually benefiting this progress because of the changes in imagery data we have been forced to make.

Field research programme: The focus of fieldwork activity has been very much related to areas of scrub jungle in and around the Sanctuary. This is because of the potential loss of scrub forest due to the proposed canal and also due to inappropriate management practices by APFD. Maintaining this local focus enables BNHS to use up-to-date information in its advocacy work on the canal and with APFD. Ensuring the known Jerdon's courser population is effectively protected is the key conservation issue. Influencing the canal route and its impact on surrounding land-use, and ensuring existing scrub habitats on APFD land are managed appropriately are critical actions in this respect. We hope to be able to census other areas of scrub identified using our imagery analysis and already visited on the ground during the 07/08 field season, although the extent to which we are able to do this will be in large part dictated by how the canal issue proceeds.

Site designation: This output will depend on whether fieldwork identifies any new sites that may require designation. The boundaries of the existing Sanctuary are being discussed with the context of the Telugu-Ganga canal because our mapping and fieldwork shows clearly that areas of suitable habitat for Jerdon's courser occur outside the Sanctuary in areas that may be converted to agriculture depending on the route of the canal. This information is being fed into the canal discussions by BNHS.

Community Conservation Areas (CCAs): We have over the last 3 months reached the conclusion that the project is unlikely to be able to achieve this output. This is because of the

local impact of the Telugu-Ganga canal plans. Although the canal route is still under discussion, extensive areas of land have already been allocated to local people for agriculture, and any scrub habitats on these lands will be cleared if the canal subsequently brings irrigation water. This is because of the important revenue farming would be able to generate for local communities. Against this background, it is simply not possible to develop community-based conservation programmes that are able to offer lower economic returns than irrigated agriculture. In the short-term, our strategy is, through BNHS, to campaign for integrated land-use planning that balances the needs of local people with the conservation of Jerdon's courser (and its habitat). In the longer-term, we are keen to see the development of ecotourism, particularly through bird watching, which could bring significant income into local communities and form the basis of a viable community-based conservation programme. While we will develop these plans over the coming year, it is unlikely that much practical progress will be possible within the lifetime of the current project. We were asked by the reviewer of our 2006 annual report to comment on the impact of the canal issue on overall project outputs. As outlined above, the primary impact is on the feasibility of community-based conservation work. We have amended our log-frame accordingly.

Habitat and monitoring manual: Research work to support this output is proceeding as planned.

Workshops: Our original timetable planned for two workshops by this point in the project, one in 2005 to discuss project plans and another in 2007 to report project outputs. The 2005 workshop was delayed as explained in our 2006 annual report, and has been further delayed because of the lack of progress with respect to our radio-tracking work and because of the canal issue. We decided not to hold the second workshop earlier this year for the same reasons. Our plan now is to hold probably two workshops in 2008. A field-based practical workshop as originally planned to disseminate and discuss forestry management implications of our work with APFD staff; plus a second workshop to debate our project findings within the wider context of sustainable land-use planning. We have amended our log-frame accordingly.

Publicity material: The project continues to achieve a high profile, both in India and in the UK.

### 3.3 Standard Output Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
Established codes						
1A	Number of people to submit thesis for PhD qualification		1 BNHS Research Fellow submitted thesis for PhD to University of Bombay in December 2006			
5	Research Fellows involved in the project	1	1			
6A, B	Training associated with the project field methods	>10 people for 1-2 days each				
8	UK staff in India	2 person-weeks	9 person-weeks			

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
11a	Paper published in peer reviewed Journal		One paper published in <i>Ibis</i>			
14A, B	Workshops, etc organised and attended	1 field workshop was organised for the radio-tracking work, >2 attended that featured project work				
15A, B	Press releases and coverage	Irrigation canal issue was covered by the Indian press and by the BBC (3 stories in total)	Irrigation canal issue was covered by the Indian press			
18C	TV coverage in India	Irrigation canal issue covered by local TV (1 news item)	Irrigation canal issue covered by local TV (1 news item)			
New - Project specific measures						

**Table 2 Publications**

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £ (if applicable)
Report	Jeganathan, P & Rahmani, A.R. (2006). Suggest alternate routes for Telugu-Ganga Canal and management implications to protect the suitable habitat of	Bombay Natural History Society	Director, BNHS	

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £ (if applicable)
	the Jerdon's Courser <i>Rhinoptilus bitorquatus</i> around the two protected areas in Cuddapah district, Andhra Pradesh. Report submitted to Central Empowered Committee constituted by The Hon'ble Supreme Court of India. Bombay Natural History Society. Pp.16.			
Magazine	Jeganathan, P & Rahmani, A.R.(2006). Are Jerdon's Courser's less important than Tigers? <i>Green Governance</i> . April-October (10-11).Pp.24-27.	Bombay Natural History Society, Mumbai, India.	Director, BNHS	
Journal	Senapathi, D., Vogiatzakis, I.N., Jeganathan, P., Jill, J.A., Green, R.E., Bowden, C.G.R., Rahmani, A.R., Pain, D & Norris, K. (2007). Use of remote sensing to measure change in the extent of habitat for the critically endangered Jerdon's Courser <i>Rhinoptilus bitorquatus</i> in India. <i>Ibis</i> (2007), 149, 328–337	<i>Ibis</i> , British Ornithologists' Union, U.K.	Director, CAER, University of Reading, U.K.	

### 3.4 Progress towards the project purpose and outcomes

Progress towards the project purpose is good. As outlined above, significant progress is being made with respect to building the information-base through our mapping and field research; supporting tools through our habitat mapping work; and capacity through training and dissemination activity. This activity is being done with respect to BNHS researchers through research training; local Government official through work with APFD on land management

issues and with various Government Departments through the Telugu-Ganga canal discussions; and local communities through their interaction with APFD and the Telugu-Ganga canal. Our original purpose-level assumptions hold true, and the fact that the project is playing such an active role in addressing some very difficult land management issues, through BNHS, is evidence that the key relationships identified in these assumptions are working well. The purpose-level indicators are adequate measures of progress because they relate to the acquisition of new knowledge and its application to resolving land-use conflicts; both of which are clearly highly relevant to the issues being addressed by the project and its overall purpose.

### **3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits**

A key objective of our project is to effect a change in state of the Jerdon's courser population through a reduction in the loss of its scrub habitat. While it is quite difficult to measure the impact of the project (since we have no control data), it is clear that the project to date has been effective in preventing habitat loss and in promoting more appropriate habitat protection and management. We would also argue that the project is working towards more sustainable land-use planning, and in this respect is attempting to move land-use from a relatively unsustainable position to a more sustainable one. In the longer-term, if economic benefits can be realised through ecotourism the next phase of the project might be able to increase the benefits of biodiversity to local communities.

## **4. Monitoring, evaluation and lessons**

We have nothing to add to what we stated in this section of our 2006 annual report (given below).

Our methods are outlined in Sections 18 and 22 of our original proposal and we have followed these during the reporting period. Although this project is new, the outputs and outcomes of the project, plus those from the previous project, are already making a contribution to the project purpose. The irrigation canal issue provides direct evidence. The *information-base* developed by the project was used by *researchers* from BNHS and *Government officials* to *identify and protect* (from habitat loss arising from canal construction) *sites important for Jerdon's courser*.

There are no obviously new lessons. The UK partners have now worked in India for a number of years, and the project team has learnt how to develop and maintain the collaborative relationships necessary to sustain effective conservation work. Collaboration is the key to this project and its legacy, and this is currently working well. We understand the need to maintain existing relationships through participation and effective communication.

## **5. Actions taken in response to previous reviews (if applicable)**

We have added the requested clarification in section 3.2 above.

## **6. Other comments on progress not covered elsewhere**

None.

## **7. Sustainability**

The project has a high profile. BNHS have been very effective at using the information generated by the project in advocacy and publicity work. The conservation issues are very much part of the discussions concerning the Telugu-Canal, providing clear evidence of the capacity that the project has built within BNHS. The exit strategy for the project is to provide BNHS with the tools to monitor Jerdon's courser habitat using remote sensing data, which

would then allow them to plan repeat censuses for the birds, and use the habitat maps in their advocacy work as is currently the case. However, longer-term sustainability of land management requires steps to be taken to increase the value of scrub habitats to local communities through, for example, ecotourism. Part of the exit strategy for the current project will involve planning for this next phase.

**8. Dissemination**

Outputs with respect to dissemination are given in Section 3. After the project ends dissemination will be continued by BNHS as part of their ongoing work as the India Birdlife partner.

**9. Project Expenditure**

**Table 3 Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)**


**10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes**

I agree for ECTF and the Darwin Secretariat to publish the content of this section



## Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p><b>Goal:</b> <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>			<p><i>(do not fill not applicable)</i></p>
<p><b>Purpose</b> (insert original project purpose statement)</p> <p>To build the information-base, supporting tools and capacity among researchers, local Government officials and local communities to identify and protect sites important for the critically endangered Jerdon's courser in Andhra Pradesh, India.</p>	<p>(insert original purpose level indicators)</p> <p>New knowledge on the spatial location of potentially suitable habitats, threats to the remaining habitat and the locations of new sites supporting birds used for the identification, designation and management of key sites.</p> <p>Effective management of existing areas.</p> <p>Establishment of new protected areas.</p>	<p>(report on progress towards achieving the project purpose, ie the sum of the outputs and assumptions )</p> <p>The ongoing discussion about the Telugu-Ganga canal route and associated land-use, and the relationship between BNHS and APFD shows that information, tools and capacity are being developed and applied to promote more sustainable management of Jerdon's courser habitat.</p>	<p>(Highlight key actions planning for next period)</p> <p>Maintaining key relationships between the project partnership led by BNHS, and India State and National Government Agencies</p>
<p><b>Output 1.</b> Imagery analysis completed giving estimates of habitat loss, threats and potentially new areas supporting birds.</p>	<p>Report on new areas drafted. Minimum of 1 Indian student trained in satellite imagery analysis.</p>	<p>Data collection and analysis are proceeding to plan (see Section 3). These are already feeding into BNHS' advocacy work on habitat loss and potential threats (i.e. canal or inappropriate habitat management). Re-analysis adapting the mapping tools to new imagery data will be done in 07/08. Habitat loss paper has been published (see Section 3). Maps of existing and potentially new areas will be produced in 07/08. Indicator is appropriate – reports on the importance of existing areas have already been produced (see Section 3), any new areas need to be documented, and BNHS' capacity to monitor habitat extent and loss needs to be completed.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<b>Output 2.</b> Partner organisations able to assess and monitor the long-term status of Jerdon's courser and its habitat.	Minimum of 1 BNHS staff member and 1 APFD staff member trained in monitoring and management methods.	BNHS researcher has submitted a PhD thesis based on work conducted in the previous and current Darwin projects. Basic training on imagery analysis for the BNHS researcher has been done; training to use tools will be done in 07/08. It is unlikely that one single staff member in APFD will be trained, but field workshops were undertaken during the last (05/06) reporting period (see Section 3), and planned workshops either in 07/08 or 08/09 will provide additional progress towards the output. The indicator is appropriate since it is clearly related to the project purpose.	
<b>Output 3.</b> Plans for site designation in place for appropriate areas.	Discussions on new sites for designation initiated.	Discussions concerning the existing APFD sanctuary boundaries have been ongoing as part of the Telugu-Ganga canal debate. No plans for new protected areas can be initiated until new areas are found. We have plans to do this in 07/08, but as explained in Section 3 these plans depend to some extent on how the canal debate proceeds. The indicator is appropriate because it shows new sites have been located and that plans are progressing to protect them.	
<b>Output 4.</b> Community Conservation Areas in place.	CCAs developed in at least 2 areas not covered by existing protected areas.	As explained in Section 3, we now no longer think that this is the most effective way to achieve the project purpose, and have an alternative strategy that recognises the short-term needs to protect existing habitat through canal plans and habitat management by APFD. The log-frame has been amended to reflect this change in output details (see below).	
<b>Output 5.</b> Monitoring and management manual published and distributed.	Manual drafted and reviewed, publication date established, 50 copies produced/distributed.	The basic research work to support this output has been done or is nearing completion. A draft manual will be produced in 07/08. The indicator is directly appropriate to the output.	
<b>Output 6.</b> Dissemination workshops.	Three workshops planned, timetabled and conducted.	As explained in Section 3, workshop plans have changed. In the previous reporting period (05/06) we held field workshops. Two workshops will be held either in 07/08 or in 08/09 depending on the most appropriate timing for the project and related activities (i.e. canal, APFD habitat management). The indicator is still appropriate because it relates to the dissemination and discussion of project outputs, but the precise number has been amended in the log-frame (see below).	
<b>Output 7.</b> Publications and presentations.	Six seminars, 3 press releases, 3 popular articles, 3 papers.	Progress is given in Section 3. All indicators have already been achieved with the exception of paper production. Two papers are planned for 07/08 or perhaps 08/09 on habitat mapping and population estimates for Jerdon's courser. The indicators are still appropriate because they reflect dissemination activities.	

## Annex 2 Project's full current logframe (amendments are underlined>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <p>the conservation of biological diversity,</p> <p>the sustainable use of its components, and</p> <p>the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</p>			
<p>Purpose</p> <p>To build the information-base, supporting tools and capacity among researchers, local Government officials and local communities to identify and protect sites important for the critically endangered Jerdon's courser in Andhra Pradesh, India.</p>	<p>New knowledge on the spatial location of potentially suitable habitats, threats to the remaining habitat and the locations of new sites supporting birds used for the identification, designation and management of key sites.</p> <p>Effective management of existing areas.</p> <p>Establishment of new protected areas.</p>	<p>Reports on the research programme and publications by partner organisations.</p> <p>Participation by Indian partners in dissemination and training initiatives.</p> <p>Records of site designation and community conservation areas meetings.</p>	<p>APFD officials incorporate new knowledge, tools and capacity into future management programmes.</p> <p>Effective collaboration between BNHS, APFD and local communities maintained and developed</p>
<p>Outputs</p> <p>(1) Imagery analysis completed giving estimates of habitat loss, threats and potentially new areas</p>	<p>(1) Report on new areas drafted. Minimum of 1 Indian student trained in satellite imagery analysis.</p> <p>(2) Minimum of 1 BNHS</p>	<p>(1) &amp; (2) Assessment via exchange visits between UK &amp; India, research reports, records of participation, correspondence records, data collected.</p> <p>(3) Site designation meeting reports.</p>	<p>(1) None. Methodologies already partially developed and applied.</p> <p>(2) APFD maintains its positive support for the project.</p> <p>(3) &amp; (4) Co-operation between BNHS,</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>supporting birds.</p> <p>(2) Partner organisations able to assess and monitor the long-term status of Jerdon's courser and its habitat.</p> <p>(3) Plans for site designation in place for appropriate areas.</p> <p><u>(4) Sustainable plans for Telugu-Ganga canal and APFD land in place.</u></p> <p>(5) Monitoring and management manual published and distributed.</p> <p><u>(6) Dissemination workshops.</u></p> <p>(7) Publications and presentations.</p>	<p>staff member and 1 APFD staff member trained in monitoring and management methods.</p> <p>(3) Discussions on new sites for designation initiated.</p> <p><u>(4) An agreed plan for the canal route and management plan for APFD land.</u></p> <p>(5) Manual drafted and reviewed, publication date established, 50 copies produced/distributed.</p> <p>(6) <u>Two</u> workshops planned, timetabled and conducted.</p> <p>(7) Six seminars, 3 press releases, 3 popular articles, 3 papers.</p>	<p><u>(4) Meeting reports for the canal; land management on the ground by APFD.</u></p> <p>(5) Feedback on manual components, 2 copies sent to Darwin.</p> <p>(6) Direct involvement from participants, press releases associated with workshops.</p> <p>(7) Copies of publications sent to Darwin Initiative.</p>	<p>APFD, other Governmental Agencies and local communities maintained.</p> <p>(5) Publisher and distribution method identified.</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Activities</p> <p>(1) Satellite imagery analysis.</p> <p>(2) Field research programme.</p> <p>(3) Site designation.</p> <p><u>(4) Sustainable land-use planning.</u></p> <p>(5) Development of habitat and bird monitoring and management manual.</p> <p><u>(6) Workshops.</u></p> <p>(7) Publicity material.</p>		<p>Activity Milestones (Summary of Project Implementation Timetable)</p> <p>(1) Image capture and preliminary analysis (Jul-Dec 05). Collection of additional ground-truthing data (Jan-June 06). Model validation, refinement and site identification Jul-Dec 06). Additional validation and analysis (Jan-June 07). Development of habitat monitoring tools (Jul 07-Mar 08).</p> <p>(2) Monitoring known sites (Jul 05-Apr 06). Support ground-truthing data collection (June 06). Surveys of new areas identified by image analysis (Oct 06-Apr 07; Oct 07-Apr 08).</p> <p>(3) Identify potentially new areas for site designation and provide support to APFD during any subsequent designation process (reactive: Oct 06-June 08).</p> <p><u>(4) Continue discussions concerning the Telugu-Ganga canal (reactive: May 07-June 08). Continue discussions with APFD about forestry management practices (reactive: May 07-June 08).</u></p> <p>(5) Collation of information from imagery analysis and fieldwork (by Oct 07). Draft manual for review and consultation (by end Dec 07). Manual published and distributed (by June 07).</p> <p><u>(6) Dissemination workshop for local, state and national Government officials, NGOS and interested individuals (Hyderabad, Apr 08). Field-based workshop on habitat requirements, management and monitoring methods for local APFD officials and local communities (Apr 08).</u></p> <p>(7) Two seminars per year, two press releases associated with workshops (Mar 07, 08) plus one other (reactive). One popular science article per year, three papers by Apr 08.</p>	

**Annex 3 onwards – supplementary material (optional)**

### ***Checklist for submission***

	Check
<b>Is the report less than 5MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ectf-ed.org.uk">Darwin-Projects@ectf-ed.org.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 5MB?</b> If so, please advise <a href="mailto:Darwin-Projects@ectf-ed.org.uk">Darwin-Projects@ectf-ed.org.uk</a> that the report will be send by post on CD, putting the project number in the Subject line.	
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you completed the Project Expenditure table?	
Do not include claim forms or communications for Defra with this report.	