

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

### ***Darwin Project Information***

Project Ref Number	162/13/030
Project Title	Gurney's Pitta Research and Conservation in Thailand and Myanmar
Country(ies)	Thailand, Myanmar
UK Contract Holder Institution	RSPB
UK Partner Institution(s)	RSPB, Durrell Wildlife Conservation Trust
Host country Partner Institution(s)	Bird Conservation Society of Thailand (BCST), Biodiversity and Nature Conservation Association (BANCA, Myanmar), BirdLife Indochina Programme, Department of National Parks, Wildlife and Plant Conservation (DNPWPC, Thailand), Forest Restoration Research Unit (FORRU; University of Chiang Mai, Thailand)
Darwin Grant Value	£109,992 (total), £29,644 (this year)
Start/End dates of Project	Jan 2005 to March 2008
Reporting period	<b>1 Apr 2006 to 31 Mar 2007. Annual Report No. 2</b>
Project Leader Name	<b>Paul Donald</b>
Project website	<a href="http://www.bcst.or.th/eng/project/gp_info1.htm">http://www.bcst.or.th/eng/project/gp_info1.htm</a> (under revision)
Author(s), date	<b>Paul Donald, 12/6/07</b>

### **1. Project Background**

Gurney's Pitta *Pitta gurneyi* is a lowland forest bird species confined to peninsular Thailand and extreme southern Myanmar. It is currently listed by IUCN as Critically Endangered, because of its very small and rapidly declining population at the only known site in Thailand. The production and agreement of a Species Recovery Plan in Thailand in 2002, quickly followed by the species' rediscovery in Tanintharyi Division, southern Myanmar, in 2003, renewed hopes that the species could be saved from extinction, after two decades in which successive conservation attempts had failed to do more than slow the seemingly unstoppable decline. The current project aims to fulfil these hopes by supporting key actions from the recovery plan in Thailand (particularly those relating to research, reforestation and community development) and by undertaking research on the newly discovered population in Myanmar and feeding the results of this research into ongoing efforts to secure protected area status for lowland forests in southern Myanmar. At the same time, the project aims to use the opportunity of working with conservationists in Thailand and Myanmar to build their capacity, particularly in terms of scientific research.

### **2. Project Partnerships**

Relationships between RSPB and project partners have continued to develop well over the last year, despite (and sometimes because of) a number of problems. BCST and RSPB have expanded their relationship beyond the current project as a result of work on Gurney's Pitta, and are currently further developing proposals for work in other areas, such as the Inner Gulf of Thailand, expanding BCST's capacity to work on a range of issues. In particular, RSPB helped support key staff and Committee

members during a difficult internal dispute within BCST, which saw some of the less progressive elements of the BCST Committee voted out by the membership. This has left the organisation considerably stronger and more forward looking, and has greatly strengthened the partnership between RSPB and BCST. Throughout these difficulties, BCST remained fully engaged with the wildlife conservation authorities in Thailand, particularly DNPWPC, assisting them to meet their CBD commitments. The Memorandum of Understanding between DNPWPC, BCST and RSPB, signed before the start of the Darwin project, remains strong. FORRU has continued to work well with forestry authorities in the remaining Gurney's Pitta site in southern Thailand, despite a number of political difficulties, which saw key staff being moved and requiring replacements to be found. Meetings were held between RSPB, BCST and DNPWPC and between RSPB, BirdLife Indochina Programme and BANCA in September 2006, and there has been regular contact between FORRU and forestry authorities in southern Thailand. FORRU is providing considerable input to the forestry authorities' attempts to replace lost forest, and that relationship is catalysing changes in land cover that hold the key to the future of Gurney's Pitta in the country.

A close relationship is developing between the project staff and a local Secondary School, which has sent several groups of pupils to the nursery for education events and wishes to "adopt" one of the plots for students to monitor. More than 600 children visited the nursery during Children's Day. Forty children did nursery activities during a camp organized by the Reserved Forest and about 100 students from the local Rhajabhat College (teacher training college) took part in nursery training in March. Also in March, the local nursery team went to Bangteaw School and ran in-school activities on growing trees and raising awareness of forest conservation among the school pupils. This unforeseen relationship could bring significant benefits to the project by engendering awareness in the next generation of the problems facing the species.

A particularly important partnership in the project is that between BCST, the BirdLife Partner in Thailand, and the National Parks Department, two organisations previously enjoying poor relationships. The project has brought the two organisations together and relationships between them are now good. DNPWPC researchers continue to work alongside their colleagues in BCST.

### **3. Project progress**

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

*Output 1: Knowledge of Gurney's Pitta numbers, distribution and ecological needs across its range is provided to stakeholders*

Intensive research on Gurney's Pitta at the only known site in southern Thailand continued in 2006/7. The core area was re-surveyed, and the population found to be similar to that in the previous year, supporting last year's hopes that the population is at least stable and possibly slightly increasing. This is a major output of the project, since before the project started, the population had been in severe decline since its rediscovery in 1986. The reversal of past declines is likely to stem from two factors; a reduction in the rate of forest loss and intensive nest protection and monitoring. This continued in 2006/7, when new nests were found, guarded and monitored. Recruitment appears to be low, with only an average of one chick per nest surviving to independence and a high proportion of nests failing altogether. Further work has also been undertaken on preferred habitat structure. Measurements of soil moisture suggest that birds preferentially forage in areas where soil moisture is high, an important result when deciding which areas to reforest in the future. The results of this research indicate

that the most important nest predators are cat-snakes of the genus *Boiga*, a number of which have been intercepted while trying to attack nests. Four species have been implicated in nest predation attempts. A report entitled "Population, Distribution and Ecology of Gurney's *Pitta* *Pitta gurneyi* in Southern Thailand" (in Thai) was submitted to, and accepted by, the National Research Council of Thailand in April 2007 in fulfilment of a requirement under national law. The data collected are currently being worked into a scientific paper.

In Myanmar, progress has been disappointing, due entirely to a severe staffing issue. Although a field team managed to get into the field in southern Myanmar, despite considerable insurgent activity and heavy rains, the leader of the team, Aung Pyeh Khant, absconded with all the equipment and data shortly after returning to Yangon. RSPB and BirdLife Indochina staff went to Yangon to meet him in September 2006, and agreed with him that he would return the equipment and data in return for salary he had not claimed, but he failed to keep to this agreement. Subsequent efforts to obtain the data and equipment, or even to contact him, have all been in vain. However, detailed maps of the region, based on remotely sensed data, were recovered, and we have been able to gain valuable information on access routes into the forest that have proved valuable in subsequent visits. BANCA have managed to get a team of trusted fieldworkers into the field in March and April 2007, again despite enormous political and logistical difficulties in this troubled area, and the team managed to collect data from over 200 sites. These data are currently (June 2007) being collated and analysed, and will prove vital in assessing the distributional and habitat limits of the species in southern Myanmar. This is necessary to inform future protected area boundaries.

Through an agreement with Garmin, we were able to upgrade, free of charge, the hand-held GPS units used by field teams in Thailand and Myanmar to the new generation systems that work in thick forest, making navigation and plotting of records much easier.

Further details of research outputs from Thailand are included in Annex 3.

#### *Output 2: Measures to prevent the extinction of Gurney's *Pitta* in Thailand are in place*

This output was originally included to ensure that emergency measures were in place to prevent the extinction of the species in Thailand should the population drop below five pairs. As the population remains well above this level, and as the area of potentially suitable habitat has been stabilised, the emergency measures proposed, which included captive breeding and artificial food supplementation, have not been required. However, one method, supplemental feeding, was used in 2006 to try to boost productivity of nests. Earthworms were provided near active nests, but foraging parents tended not to use them, preferring instead to find naturally available foods. Intensive nest protection is ongoing, which has undoubtedly led to an increase in productivity. Disturbance has also been identified as a significant risk to nesting birds, so the regional forestry authorities took the step of closing all trails in the core area during the breeding season; this restriction remains in place but is commonly flouted by local people and visiting birdwatchers. Planned annual surveys will continue to monitor the population and emergency measures will be introduced if the population falls to 5 pairs or below. The expertise of the Durrell Wildlife Conservation Trust will be on-hand if this is required.

#### *Output 3: A strategy for Gurney's *Pitta* habitat restoration across the species' former range in southern Thailand is developed and agreed*

Efforts to restore habitat in southern Thailand continue to go extremely well, both in terms of training forestry staff in reforestation methods (see Output 5) and in establishing trial plots. The project currently employs two full-time and one part-time

staff. FORRU-CMU staff, Dr. Stephen Elliott, J.F. Maxwell and Mr. Cherdsak Kuaraksa had direct involvement in fieldwork and nursery work during three trips to the site in April, August and December 2006. The April trip was mainly concerned with finishing off nursery construction; training of Krabi staff; checking through nursery operations and procedures; establishing reporting and accounting procedures; finishing the phenology trail and selecting a planting site. During the August trip, J.F. Maxwell and Cherdsak Kuaraksa carried out the vegetation surveys; prepared the planting site and the trees for planting and supervised planting operations. The December trip was to monitor the planted trees; train the new Krabi staff (Jutamart and Pichaet) and collect and analyse all data from nursery experiments.

Botanist J. F. Maxwell made an additional unplanned visit to the site in July-August to continue to identify the tree species that comprise the forest habitat of Gurney's Pitta and to survey areas of natural regeneration. The number of recorded tree species for the area currently stands at 104, although some specimens have still to be identified. Voucher specimens of foliage plus flowers and/or fruit are lodged at a CMU herbarium. At the request of the former WS chief, FORRU made professional "botanical garden style" species name labels for trees along the trail to the Morakot Pool (popular tourist attraction in the WS) – to increase the educational value of the trail for visitors. These were presented to the new WS Chief in May.

The tree nursery built at the local community centre at the entrance to the WS HQ in Y1 continues to function well. It serves 4 main purposes i) production of trees for experimental plantings; ii) production of trees for planting by other organizations; iii) generation of data on germination and seedling growth – ultimately to draft "production schedules" for each tree species and iv) act as an education facility for local people to build capacity for tree planting in the local community and raise awareness of the benefits of forest restoration. The nursery produced enough trees for planting a 4-rai experimental plot by August 2007 and is currently growing seedlings of 40 indigenous forest tree species for assessment of their potential to act as framework tree species. These will be planted in the rainy season of 2007. The nursery is also producing trees for other local organizations to plant. About 10,000 trees from the nursery were taken for planting in Khlong Phaya WS (famous for its population of Tapirs) in October. Huana Somprat, Chief of the Reserved Forest planted 500 trees from the nursery on November 24<sup>th</sup> and another 300 on December 15<sup>th</sup>. In addition, about 10 local villagers have been provided with forest trees from the nursery for planting on their own land. Research work in the nursery includes germination trials to measure percent germination and median length of dormancy for each of the species collected. Forty species have so far been tested for germination. Regular monitoring of seedling growth in the nursery is also being carried out. However, initial experiments on seedling growth were destroyed when forest officials removed the seedlings from the nursery without permission. FORRU have since re-started monitoring of seedling growth experiments in the nursery, and moved the seedling growth experiments to a fenced area with a sign to try to prevent further disturbance of the experiments. Specimens of young seedlings are now also being collected from the nursery to act as a reference collection for support of surveys of natural forest regeneration in the future. The nursery is rapidly becoming a centre for the education of local people in forest restoration techniques and to raise awareness of the value of planting trees.

A study of the phenology of 68 local forest tree species (1 to 8 individuals each, depending on availability) is continuing, with data collection having proceeded for just over one year for most species. The primary objective of this work is to determine when each species flowers and fruits to optimize seed collection times. The planted area was 4 rai in the non-hunting area (47N 0529769 UTM 0872197) of the protected area complex under the responsibility of Huana Somprat Polchu (Reserved Forest Chief). Local people said that the site had been deforested 15-20 years ago. It was dominated by grasses and burnt frequently. The site was bordered by an oil palm plantation,

where several mature dipterocarp trees had been retained. On the opposite side of the road was a rubber tree plantation. About 80 reserved forest staff, local villagers as well as local dignitaries (the Nai Amphur) joined the event. Firstly all trees to be planted were measured for height and root collar diameter in the nursery on 13-18<sup>th</sup> August to provide baseline data for assessment of growth later on. The area was surveyed for natural saplings being cleared of weeds ready for planting. The planting event took place on August 16<sup>th</sup> 2006 and fertilizer was applied to all planted trees the following day. Experimental treatments were applied to determine the effects of different fertilizer regimes on the planted trees and also to assess the relative performance of the various species planted. The treatments were single or double doses of fertilizer. In addition to the fertilizer applied the day after planting, further fertilizer applications were made on 16-19<sup>th</sup> October and on November 11<sup>th</sup> (plots 1-2) and later on December 11<sup>th</sup> (for plots 3-4). All plots were weeded on November 11<sup>th</sup>. Weeding was repeated in February and a fire break cut around the plots. Planting was supervised by FORRU-CMU staff member, Mr. Cherdsak Kuaraksa. The trees were monitored for performance on December 26<sup>th</sup> by both local staff and FORRU-CMU officers. Mortality rates were high but to be expected when testing unknown tree species in a completely new ecosystem. Mortality rates were similar when FORRU started testing unknown evergreen forest tree species in Chiang Mai. Only 3 species had greater than 70% survival (*Azelia bakeri*, *Alstonia macrophylla* and *Toona ciliata*). This may be due to both soil and vegetation conditions. The soil is very sandy and acidic and supports a dense growth of grasses. In future, we will test mulching techniques to overcome some of these problems.

Photographs illustrating the progress made this year are given in Annex 4.

#### *Output 4: Conservation strategy for key sites in Myanmar is produced*

As described above, progress towards this output was dealt a severe blow when the whole of the first season's field data were effectively stolen. However, during site visits by RSPB and BirdLife Indochina staff, a number of new sites for the species were found. Furthermore, a field team successfully collected data from a large number of sites in March to May 2007. These data will be used to model the likely distribution and approximate population size of the species in Myanmar and so contribute to ongoing efforts to extend the boundaries of the proposed Lenya National Park to include the core areas of lowland forest used by the species. These data will be fed into a conservation strategy for the species in Myanmar in 2007-8.

#### *Output 5: Capacity of Thai and Myanmar conservationists to undertake further conservation is increased*

FORRU-CMU staff, Dr. Stephen Elliott, J.F. Maxwell and Mr. Cherdsak Kuaraksa provided training to Krabi staff in April, August and December 2006. At the request of the former Wildlife Sanctuary (WS) Chief, FORRU arranged a workshop in Chiang Mai as a general introduction to forest restoration concepts and techniques for a mixed group of WS officers, Reserved Forest officers and members of the local community. The objective was to strengthen the project's relationship with the WS and to raise awareness of the value of forest restoration among the local community, as well as to build capacity amongst those involved in growing and planting trees in the Gurney's Pitta conservation area. Unfortunately, the WS Chief did not attend the workshop, so the anticipated opportunity to increase support and co-operation from the WS in this project never materialized. The workshop was run on July 13<sup>th</sup> to 16<sup>th</sup> and was attended by 10 persons. The program covered forest phenology, seed collection, seed germination, care of trees in the nursery and a visit to FORRU's demonstration

plots at Ban Mae Sa Mai and discussion of community aspects of forest restoration there. On the last day of the workshop, the participants joined in a tree-planting event at Mae Ow, Lampang Province and could observe at first hand the organization of tree planting events and the co-ordination of forest officers and local people.

### **3.2 Progress towards Project Outputs**

*Output 1: Knowledge of Gurney's Pitta numbers, distribution and ecological needs across its range is provided to stakeholders*

Significant progress towards this output has been made in Thailand, where knowledge of the species' distribution and numbers is now well known. This information is regularly provided to forestry protection officials to ensure that occupied patches of forest receive priority in patrolling and protecting. The ecological requirements of the species are also now well known, and methods are being developed to recreate its preferred habitat. In Myanmar, the unfortunate loss of most of the first season's fieldwork data has meant that less progress has been made than hoped. A successful field season from February 2007 onwards means that progress will be made, and will represent a significant improvement on our current knowledge, though our ability to predict the species' distribution might be reduced.

*Output 2: Measures to prevent the extinction of Gurney's Pitta in Thailand are in place*

These measures remain in place but it is hoped they will not need to be deployed. The population in southern Thailand remains well above the level at which actions under this output are necessary, though captive breeding is being considered by DNPWPC as a possible method to boost the wild population and so compensate for low productivity.

*Output 3: A strategy for Gurney's Pitta habitat restoration across the species' former range in southern Thailand is developed and agreed*

The development of methods to promote habitat restoration is proceeding well, and training has ensured that local forestry staff have the necessary skills. The development and agreement of a strategy to spread these methods more widely will depend largely on the political will of the relevant authorities in Thailand. At present, there are no reasons for thinking that this will not be forthcoming.

*Output 4: Conservation strategy for key sites in Myanmar is produced*

Despite the loss of data from 2006, it should be possible to achieve this output by careful modelling of the data collected from February 2007 onwards. The conservation strategy will be developed using these models.

*Output 5: Capacity of Thai and Myanmar conservationists to undertake further conservation is increased*

This output is likely to be met even though our assumption that staff turnover is low has not held true in certain cases. We are ensuring that training and capacity development is spread as widely as possible to prevent problems of staff turnover.

The project outputs, their indicators and assumptions all remain as in the original proposal (unless otherwise stated above). We are assuming that the problem of data loss will not be repeated and are taking steps to ensure that this does not happen again.

### 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
4C	12 Thai conservationists attended 3-day training workshop in advanced bird survey methods, followed by 1 week of field training	12				12
5	2 Thai forest staff receive 1 year of training in reforestation methods	2	2.5			4.5
5	2 Thai researchers receive 1 year of training in ornithological methods	2				2
5	Thai and Burmese researchers working in close scientific supervision with UK staff		4			4
6A	10 Thai forest staff attend training workshop in reforestation methods		10			10
6A	2 conservationists in Myanmar received 1 week of field training		2			2
8	Weeks spent by UK project staff in host countries	9	4.5			13.5

12A	3 databases established	3			3
13A	1 seed and tree reference collection established (*and maintained) in Thailand	1	1*		1
14B	3 presentations on BCST's work on Gurney's Pitta delivered at national birdfairs in UK, Thailand and Taiwan	3			3
15A	National press release in Thailand or Myanmar	1	1		2
20	Physical assets handed over to host countries	£12,200	£500		£12,700
21	1 tree nursery established (*and maintained)	1	1*		1
22	1 permanent forest study plot established (*and maintained)	1	1*		1
23	Matched funding from RSPB and BirdLife Indochina programme	£22,000	£22,995		£44,995

**Table 2 Publications**

Type *	Detail	Publishers	Available from	Cost £
(eg journals, manual, CDs)	(title, author, year)	(name, city)	(eg contact address, website)	
Report (draft)	"Population, distribution and ecology of Gurney's Pitta <i>Pitta gurneyi</i> in Southern Thailand"	BCST/DNP WPC	BCST (sirirak2003@yahoo.com)	N/a



### **3.4 Progress towards the project purpose and outcomes**

Apart from the problem in Myanmar, which led to us losing all research data, the project continues to exceed expectations, and the overall goal of developing a framework for the conservation of this species in Myanmar and Thailand and implementing conservation measures remains realistic. However, much depends on the political will of the Thai and Burmese authorities. Efforts through other projects to secure designation of Lenya National Park in southern Myanmar, with the proposed extension into the Ngawun Forest to capture a large part of the Gurney's Pitta population (the identification of which area forms the Burmese element of the current Darwin project) have stalled due to political problems. However, BANCA and the BirdLife Indochina Programme remain confident that the all-important Memorandum of Understanding can be signed with the Government soon. Whether this happens or not, the information generated by the current project will enable future monitoring of the species' habitat and distribution to be undertaken using remote sensing. In Thailand, relations with the relevant Thai national authorities are good, though local politics in the two forestry authorities at the Gurney's Pitta site remain volatile, and staff turnover remains high. Nevertheless, the success of the reforestation programme funded by the Darwin project, the stabilisation of remaining forest cover and the stable or increasing population of the species all give hope that a significant corner has been turned in the long battle to save this species in Thailand. If this progress can be maintained, this would represent a significant conservation outcome, as the species has become regarded as a cause célèbre in global bird conservation. The project remains on course to deliver its main output in Thailand, a revised species action plan, which will be based largely on the results of the work funded by this project. Lacking from the initial plan were information on the ecology and distribution of the species and information on how to re-create the habitats they require. This project is well on course to fill these gaps.

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

This project is already contributing towards the DI goal, by setting in place methods to improve the conservation status of Gurney's Pitta (through site protection and habitat restoration in southern Thailand and by designation of a National Park in southern Myanmar). This will contribute not only to the future survival of Gurney's Pitta but will also help protect lowland Sundaic forest, one of the most threatened habitats in the world, and its many associated species. The forest restoration work in progress in Thailand will develop methods that would be applicable in other deforested areas. Successful designation of the extension to the proposed Lenya National Park in Myanmar would protect a high proportion of the world population of the species. Forest protection in both countries would promote sustainable use of non-timber forest products and both in Thailand and Myanmar the potential for ecotourism is high.

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

Roll-out of the project has been monitored through meetings with project partners in Myanmar and Thailand and by frequent e-mail contact. Monitoring remains difficult, largely for cultural reasons and language problems, but we believe that all the achievements of the last year contribute towards the overall project goal. However, the loss of data from Myanmar suggests that elements of the project could require closer supervision and the setting of safeguards to ensure such problems do not recur. We propose in the final year of the project to increase the level to which progress is monitored to ensure that all the objectives of the project are delivered on time. This will

include visits to partner countries to design work-plans followed by monthly assessments of progress.

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

Last year's review noted the lack of detail in certain sections of the report, the result of late reporting by one of the partners. This has occurred again this year, due to staff being in the field and not receiving email reminders, but we hope the level of detail is sufficient.

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

So far, the project has stuck largely to the log-frame presented in the initial application and we have at present no plans to change this. The main problem encountered was, as described above, the loss of most of the first year's field data from Myanmar. There was no indication this was going to happen, and the staff member concerned appears to have carried out the work as agreed. We are unsure why when he returned to Yangon he decided to behave the way he did, though we suspected that personal problems underlay this behaviour. We have taken steps to try to ensure this does not happen again, though loss of data remains a risk. The other main risks to the project remain political; the success of the project in both Myanmar and Thailand depends in large part on the cooperation and agreement of national and local authorities. While the political environment the project operates in is currently favourable, politics and staff can change very quickly in both countries. These risks appear no higher now than when the project first started.

## **7. Sustainability**

Within Thailand, Gurney's Pitta remains very high on the conservation agenda, and is one of the few species that the statutory and voluntary sectors are working on specifically. As a result, both sectors are working together more positively and efficiently, and owing to the training provided through the project, more effectively. The project is regularly discussed at high political levels. Because of this, and the MoU signed between RSPB, BCST and DNPWPC, it is likely that high levels of involvement will continue after the end of the project. A strategy will be developed in the next year to ensure this happens. In Myanmar, the political situation means that engagement with high levels of government is extremely difficult. However, BANCA continues to deal with high ranking officers in the Forestry Department in an effort to secure the gazetting of Lenya NP and the extension into Ngawun that the current project will guide. The current availability of funds to support the establishment of this protected area will ensure that the recommendations arising from this project can be addressed. A detailed exit strategy for both Thailand and Myanmar will be prepared in June 2007.

## **8. Dissemination**

Dissemination of the project this year in Thailand has focussed on people living and working around the remaining Gurney's Pitta site. This has had some success and the species is becoming recognised and even branded locally (see Fig. 2 in Annex 4). This process will be continued by BCST after the end of the project, funded partly by RSPB's ongoing commitment to BCST. In Myanmar, dissemination is more difficult; the area where the species occurs is sparsely populated, and access to Government officials is complicated, not least by the recent removal of the capital from Yangon (where NGOs are based) to Pyinmana. It is hoped that progress on this and other projects in Myanmar will become more widely disseminated as they develop.

## 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**

As most of this year's activities involve ongoing work towards longer-term aims, it might be inappropriate to try to identify outstanding achievements ahead of the final report next year.

## 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> 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</p> <p>The conservation of biological diversity,</p> <p>The sustainable use of its components, and</p> <p>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>		<p>(report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity eg steps towards sustainable use or equitable sharing of costs or benefits)</p>	<p>(do not fill not applicable)</p>
<p><b>Purpose:</b> A framework for the conservation of Gurney's Pitta established and strategic conservation measures implemented in Thailand and Myanmar</p>	<p>All activities in Gurney's Pitta Species Recovery Plan in Thailand requiring external expertise initiated by end of project</p> <p>Project proposals developed and submitted for all activities in Species Recovery Plan in Myanmar</p>	<p>All activities in Gurney's Pitta Species Recovery Plan in Thailand requiring external expertise have been initiated</p> <p>Progress made towards Species Recovery Plan in Myanmar through collection of field data</p>	<p>Complete ongoing technical activities and plan for future technical requirements</p> <p>Complete analyses of field data and produce species recovery plan for Myanmar</p>
<p><b>Output 1:</b> Knowledge of Gurney's Pitta numbers, distribution and ecological needs across its range is provided to stakeholders</p>	<p>Gurney's Pitta stakeholders have access to recent research results by end of Year 3</p>	<p>Stakeholders already have access to all results available to date, and this process of technology transfer will continue to the end of the project</p>	
<p>Activity 1.1 Assess extent and types of lowland forest in Myanmar <b>(NB Activities listed in this table follow those outlined in the Project Timeplan submitted as Annex 5 of the original proposal)</b></p>		<p>Extent of forest assessed from remote sensing. Data on habitat structure were collected in early 2007 and will be analysed in 2007-8.</p>	
<p>Activity 1.2 Develop survey protocol for Myanmar</p>		<p>Completed in 2006/7</p>	
<p>Activity 1.3 Surveys of Gurney's Pitta in Myanmar</p>		<p>Undertaken in Feb-Jul 2006, data lost, repeated in Feb-June 2007, data to be analysed and published</p>	
<p>Activity 1.4 Comparison of habitat types in Myanmar and Thailand</p>		<p>Data collected in both countries, will be analysed in 2007-8</p>	
<p>Activity 1.5 Assessment and quantification of threats and opportunities in</p>		<p>Data collected on forest loss in 2006 and 2007. Analyses of remote</p>	

Myanmar		sensing data will be undertaken in 2007-8
Activity 1.6 Surveys throughout KNC region		Full survey carried out in 2006, surveys of core area in 2007
Activity 1.7 Assessment of biodiversity value of agricultural forest alternatives		Completed and published in 2006
Activity 1.8 Research into breeding success at KNC		Data collected in 2006, ongoing analyses in 2007-8
Activity 1.9 Research into habitat use, movements and feeding ecology at KNC		Undertaken in 2005 and 2006, to be analysed and published in 2007-8
Activity 1.10 Design and implement GP and habitat monitoring protocol in both countries		Data for such a protocol collected, protocol to be agreed and published in 2007-8
<b>Output 2.</b> Measures to prevent the extinction of Gurney's Pitta in Thailand are in place	Population in S Thailand does not fall below 5 males and 5 females	The population in Thailand remains stable at around 20 pairs
Activity 2.1 Establishment of worm farm at KNC		Established in 2006, but birds found not to respond to provided food, so discontinued. Will be restarted if captive breeding occurs
Activity 2.2 Intensive guarding of nests at KNC		Started in 2005, continued in 2006. May be continued in 2007-8 depending on resources
Activity 2.3 Provide advice to forest patrols to protect most important areas		Ongoing, will be continued in 2007-8. Extremely successful at reducing loss of key forest.
Activity 2.4 Design and publish species management protocol		Will be agreed and published in 2007-8
Activity 2.5 Workshop to update GP recovery plan in Thailand		Will take place in 2007-8
<b>Output 3.</b> A strategy for Gurney's Pitta habitat restoration across the species' former range in southern Thailand is developed and agreed	Restoration projects that are part of the strategy are submitted to funders by end Yr 2	Research necessary to guide development of the strategy is ongoing, so funding for projects will be sought in 2007-8
Activity 3.1 Compile list of indigenous tree species in GP habitat		Largely completed in 2006-7, will be finalised in 2007-8
Activity 3.2 Recruit and train local field team		Completed, training for field team ongoing
Activity 3.3 Phenology, seed collection, ecological monitoring		Largely completed, will be finalised in 2007-8
Activity 3.4 Establish nursery		Completed, maintenance ongoing

Activity 3.5 Planting field plots and monitoring	Field plots planted, monitoring ongoing in 2007-8
Activity 3.6 Follow up on site training	Ongoing in 2007-8
Activity 3.7 Develop lowland forest restoration strategy	Will be developed in 2007-8 when research is further advanced
<b>Output 4.</b> Conservation strategy for key sites in Myanmar is produced	Species Recovery Plan for Myanmar produced, agreed and published by end Yr 3 Despite loss of first year's data, this is on schedule to take place before the end of the project
Activity 4.1 Results of 1.1 and 1.3 used to identify key sites for GP in Myanmar	Ongoing, results will be analysed and written up in 2007-8
Activity 4.2 SAP workshop	Planned for 2007-8
Activity 4.3 SAP produced	Will follow from 4.2
Activity 4.4 Site monitoring protocol developed	Will follow from 1.1, 1.3 and 4.3
<b>Output 5.</b> Capacity of Thai and Myanmar conservationists to undertake further conservation is increased	New research and management projects developed and undertaken by end Yr 1 (in Thailand) or end Yr 3 (Myanmar) Objectives for Thailand met, and for Myanmar will follow from 4.3 and 4.4
Activity 5.1 Training of ornithologists in Myanmar in census and survey methods	Ongoing
Activity 5.2 Production of project proposals to ensure project sustainability	Will be completed by end of project
Activity 5.3 Review of remaining training needs	Will be undertaken in July 2007 and implemented by end of project

## Annex 2 Project's full current logframe

<b>Project summary</b>	<b>Measurable indicators</b>	<b>Means of verification</b>	<b>Important assumptions</b>
<p><b>Goal:</b></p> <p><i>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</i></p> <ul style="list-style-type: none"> <li><i>the conservation of biological diversity,</i></li> <li><i>the sustainable use of its components, and</i></li> <li><i>the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></li> </ul>			
<p><b>Purpose</b></p> <p><i>A framework for the conservation of Gurney's Pitta established and strategic conservation measures implemented in Thailand and Myanmar</i></p>	<p><i>All activities in Gurney's Pitta Species Recovery Plan in Thailand requiring external expertise initiated by end of project</i></p> <p><i>Project proposals developed and submitted for all activities in Species Recovery Plan in Myanmar</i></p>	<p><i>Quarterly progress reports</i></p> <p><i>Recovery plan annual reviews</i></p>	<p><i>All stakeholders remain committed to saving the species</i></p>
<p><b>Outputs</b></p> <p>Knowledge of GP numbers, distribution and ecological needs across its range is provided to GP stakeholders</p> <p>Measures to prevent the extinction of Gurney's Pitta in Thailand are in place</p> <p>A strategy for Gurney's Pitta habitat restoration across the species' former range in southern Thailand is developed and agreed</p> <p>Conservation strategy for key sites in Myanmar is produced</p> <p>Capacity of Thai and Myanmar conservationists to undertake further conservation is increased</p>	<p>Gurney's Pitta stakeholders have access to recent research results by end of Year 3</p> <p>Population in S Thailand does not fall below 5 males and 5 females</p> <p>Restoration projects that are part of the strategy are submitted to funders by end Yr 2</p> <p>Species Recovery Plan for Myanmar produced, agreed and published by end Yr 3</p> <p>New research and management projects developed and undertaken by end Yr 1 (in Thailand) or end Yr 3 (Myanmar)</p>	<p>3 scientific papers published; reports and paper distribution lists</p> <p>Population monitoring reports</p> <p>Funding proposals</p> <p>Species Recovery Plan</p> <p>Project proposals and reports</p>	<p>No novel mortality incidents arise</p> <p>The political situation in Myanmar permits development of strategy</p> <p>Staff turnover in Thailand and Myanmar is low</p>

<b>Activities</b>	<b>Activity Milestones (Summary of Project Implementation Timetable)</b>
Project management	Yr 1: Establish project management systems and structure; Establish regular liaison meetings between Thai and Myanmar biologists and conservationists; Establish project Steering Group, have first meeting of group and set up information sharing mechanisms between Steering Group members; Recruit project staff. Yr 2: Second Steering Group meeting. Yr 3: Third Steering Group meeting
Research and survey	Yr 1: Complete analysis of forest types in S Myanmar; Design research protocol for Myanmar; Undertake bird surveys in Thailand; Measure territory quality by habitat and food supply in Thailand; Undertake species management work in Thailand; Determine biodiversity values of lowland agricultural habitats within ecoregion; Start forest seed bank collection. Yr 2: Determine limiting factors in S Thailand; Continue all research work started in Yr 1 and start surveys in Myanmar; establish tree nursery and reforestation plots in S Thailand and collect seed bank Yr 3: Complete seed bank collection; Establish optimal forest restoration patterns; produce and submit papers to the scientific literature
Training	Yr 1: Train key personnel in technical aspects of conservation, research and forest regeneration; First cross-border liaison meeting Yr 2: Second cross-border liaison meeting. Yr 3: Train project staff in fundraising and marketing of recovery plan
Advocacy and PR	Yr 1: Raise awareness among key stakeholders of the value and purpose of research work; establish project website Yr 2 and 3 raise awareness of value of lowland forest; Yr 3: Develop restoration plans using key tree species; Publish forest regeneration strategy for S Thailand; Produce Species Recovery Plan for Myanmar and update Plan in Thailand Yr1-3: All major outputs accompanied by press releases in relevant countries
Conservation action	Yr 1: Agree in situ management protocols in Thailand; establish worm farm in S Thailand; Yr 3: Initiate long term forest restoration plans in southern Thailand; Produce funding proposals to continue conservation process.



## Annex 3 Examples of analyses of data collected in Thailand

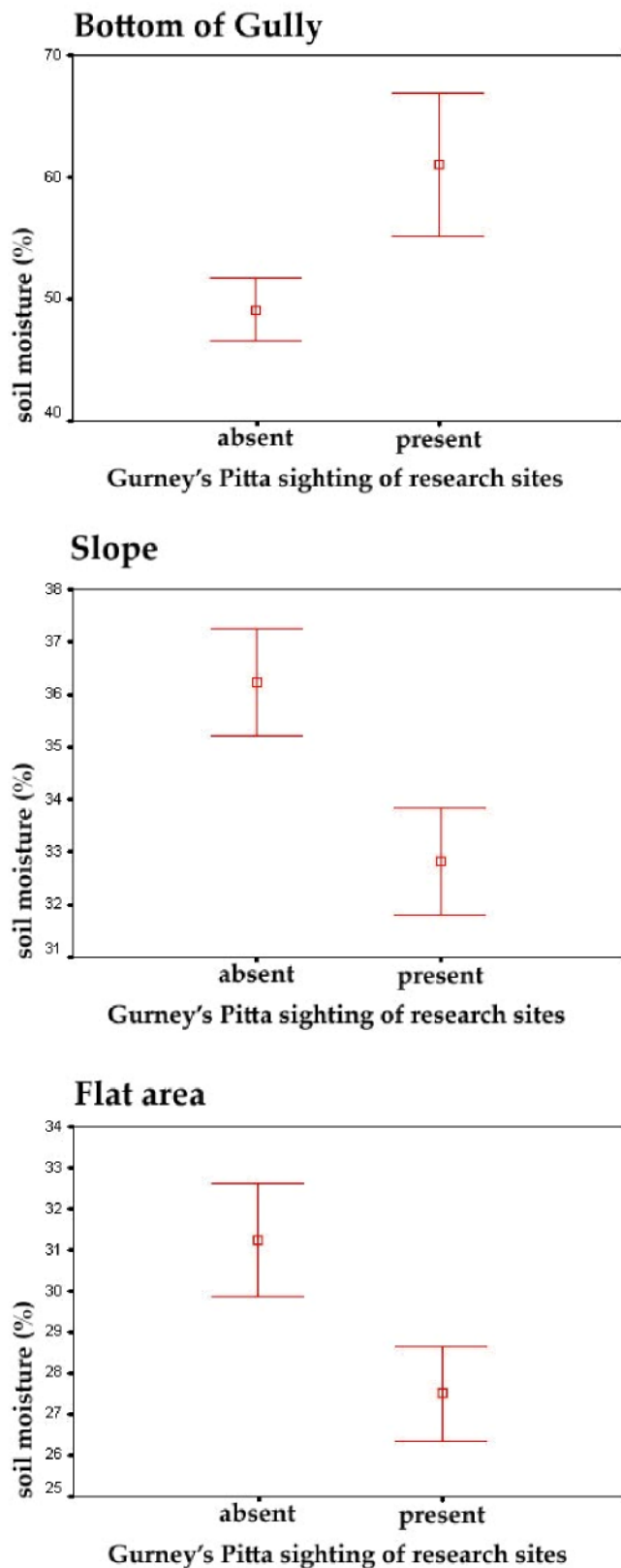



Fig. 1. The important relationship between Gurney's Pitta foraging sites and soil moisture. The bottom of gullies where pittas foraged was significantly wetter than the bottom of gullies where they did not forage. Unexpectedly, the other parts of gullies used by pittas were significantly less wet. This suggests that soil moisture is an important variable to consider when choosing sites for habitat restoration.

Table 1. Photograph of canopy, using a fisheye lens. The Leaf area index (LAI) and ground cover are showed.

Fisheye lens photographic	LAI	ground cover (%)
 <p data-bbox="177 775 448 813">Under nesting tree</p>	2.713	68.60

Note : leaf area index (LAI) mean the ratio of leaf area to ground area

Fig. 2. Example of fisheye lens method for measuring canopy cover. Methods like this allow quantitative estimation of habitat variables that are difficult to estimate by eye.

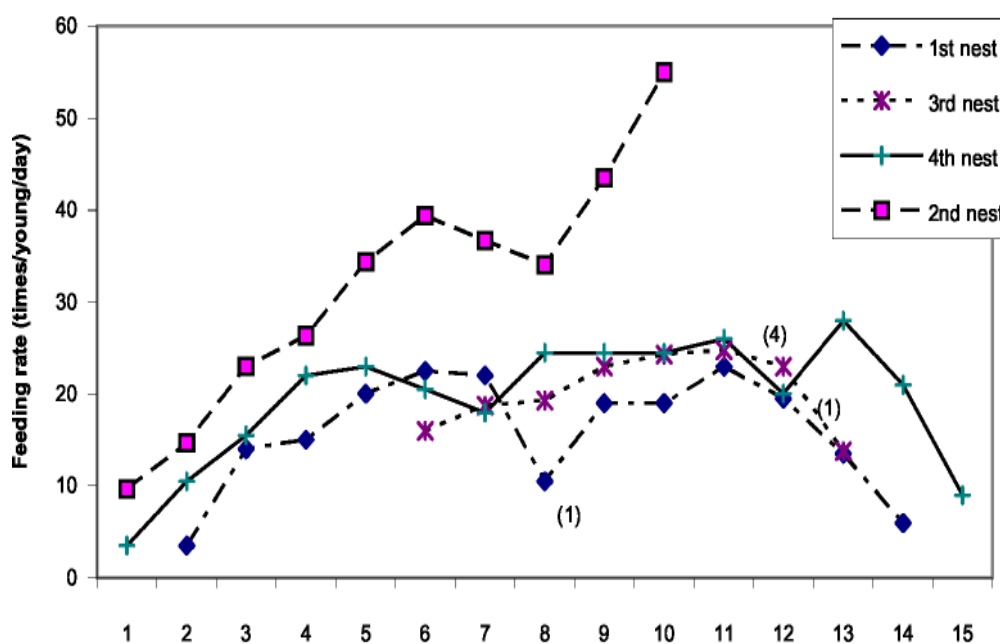


Fig. 3. Painstaking observations of nests from carefully concealed hides have allowed detailed information to be collected on nesting behaviour. This graph shows food delivery rates to chicks at four different nests, and how these change as chicks get older.

Annex 4 Photographs



**Fig. 1. Two species of snake in the genus Boiga that are now known to attack Gurney's Pitta nests. Left: Mangrove snake *Boiga dendrophila*, Right: Dog-toothed Cat-snake *B. cynodon*.**



**Fig. 2. Gurney's Pitta is entering local culture in Krabi province. A road sign in the nearest town to the remaining population and a bottle of Krabi wine are both decorated with images of the bird.**





**Fig. 3. Project vehicle, Myanmar. Buying 4x4 vehicles in Myanmar is extremely difficult, as is driving in the region where Gurney's Pitta are found. Wheel chains are required on most roads even after light rainfall.**



**Fig. 4. Project staff working outside the tree nursery, southern Thailand**





**Fig. 5. Delegates at a workshop on forest restoration techniques, held at Chang Mai University, July 2006 for forestry staff working in the area of southern Thailand where Gurney's Pitta occurs.**



**Fig. 6. Project staff and local people join forces to plant an experimental reforestation site in southern Thailand**

### ***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.	Yes
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<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.	No
Have you completed the Project Expenditure table?	
Do not include claim forms or communications for Defra with this report.	