

Darwin Initiative – Final Report

(To be completed with reference to the Reporting Guidance Notes for Project Leaders
(<http://darwin.defra.gov.uk/resources/reporting/>)

it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Darwin project information

Project Ref Number	EIDPO024
Project Title	Securing the future for Gurney's Pitta and its forest habitat
Host country(ies)	Thailand and Myanmar
UK Contract Holder Institution	Royal Society for the Protection of Birds (RSPB)
UK Partner Institution(s)	RSPB
Host country Partner Institution(s)	Forest Restoration Research Unit (FORRU), Chiang Mai University, Thailand, Bird Conservation Society Thailand (BCST), Biodiversity And Nature Conservation Association (BANCA), Myanmar
Darwin Grant Value	£76,776
Start/End dates of Project	1 st April 2009 to 30 th June 2011
Project Leader Name	Ian Barber (RSPB)
Project website	http://www.forru.org/FORRUEng_Website/Pages/enggurneyspitta.htm http://www.bcst.or.th/index.php?option=com_content&view=category&id=19&Itemid=89&lang=en http://www.rspb.org.uk/ourwork/projects/place.asp?focus=International&place=Thailand
Author(s) and main contributors, date	Ian Barber (RSPB), Steve Elliott (FORRU), Maliwan Sopha (BCST) September 2011

1 Project Background

Location: Khao Nor Chuchi including Khao Pra-Bang Khram Wildlife Sanctuary, Krabi, Thailand

Coordinates: 7° 50' N 99° 22' E **Area:** 20,000ha

The Endangered Gurney's Pitta is the only bird endemic to the Thai/Burmese Peninsula. Its lowland Sundaic forest habitat is threatened, largely by oil palm and rubber plantation. The original project developed methods to restore critical areas of nesting habitat and raised important questions about the species' altitudinal and latitudinal limits. This project has addressed the problem of loss of lowland tropical forest through reforestation from an established nursery and awareness raising with local communities. It has also significantly filled in gaps in knowledge of the entire distribution of Gurney's Pitta in Myanmar and central Thailand.

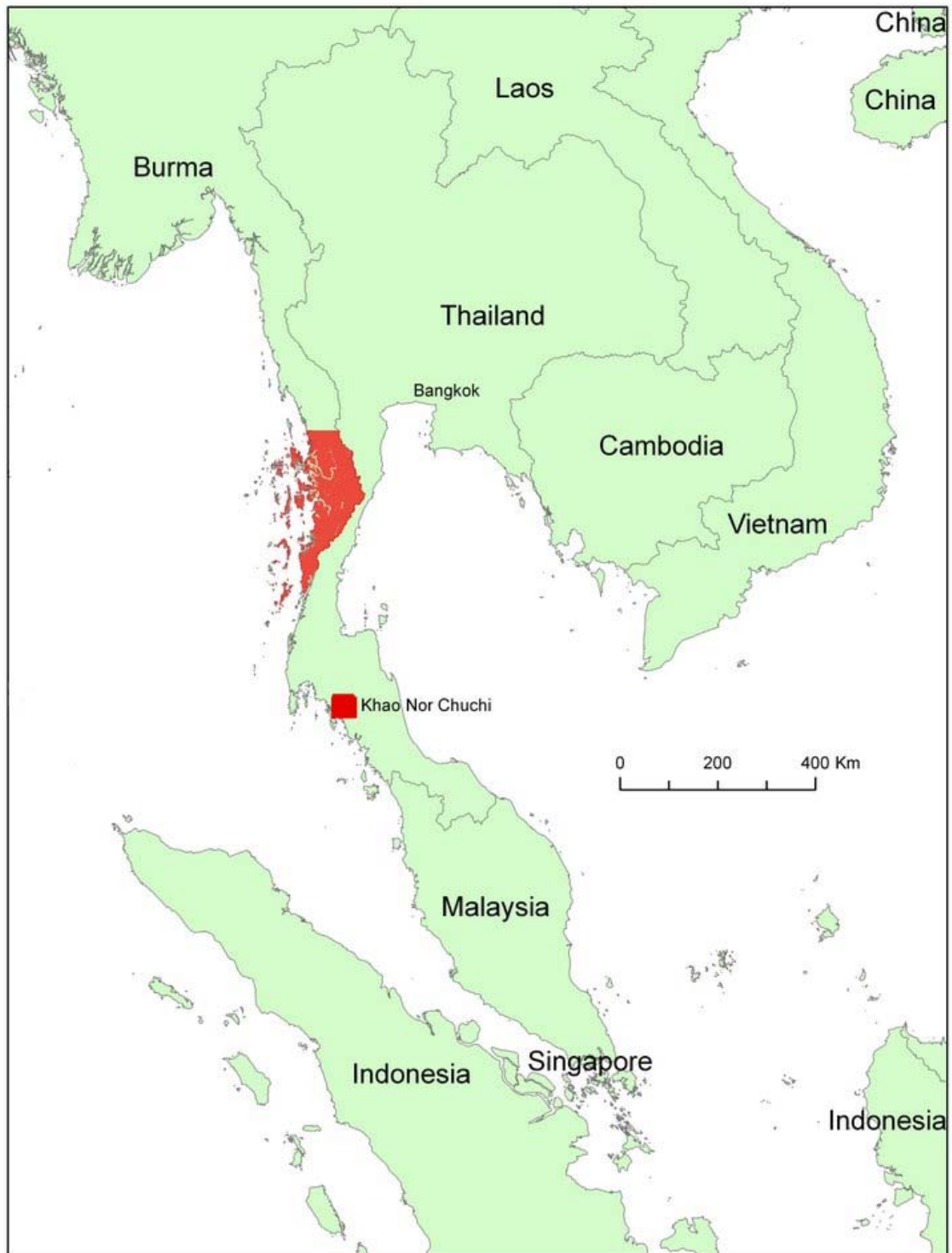


Figure 1 – Map showing location of project site at Khao Nor Chuchi, Thailand and survey area in southern Myanmar (Burma).

2 Project support to the Convention on Biological Diversity (CBD)

Through the projects reforestation efforts, education and awareness programme and research on Gurney's pitta the project has helped to support several of Thailand's CBD objectives as set out in their "National Policies, Measures and Plans on the Conservation and Sustainable Utilization of Biodiversity 2008-12". The supported objectives include:

1. Conserving, protecting and safeguarding forest ecosystems
2. Conserving and restoring rare and endangered species in protected areas
3. Conduct survey, research and compile data of species at genetic level
4. Develop and implement formal and/or informal education curriculum to promote learning process and knowledge on biodiversity
5. Promote collaboration between government and NGOs in education and awareness campaign on biodiversity to local communities
6. Sustainable forest management to facilitate recreational activities

The capacity of the host country partners was developed in several ways, the most noticeable being in reforestation techniques. The process of establishing and maintaining the tree nursery, then growing seedlings and planting out saplings was delivered to local schools and communities as well as government officials. This hands on experience together with the education and awareness aspects of the programme has encouraged a sense of stewardship in the local people which is reflected in the overall increase in forest cover in the project area during the life of the two Darwin Initiative projects, (see Section 4.3 below).

In Thailand, the Governments Wildlife Research Division and in Myanmar the BANCA members enhanced their capacity to undertake field research through the bird survey research and training work.

The CBD Focal Point is based within the Office of Natural Resource and Environmental Policy Planning (ONEP) and she has been updated with progress throughout the project. In May 2010 ONEP held a seminar and outdoor fair to celebrate "International Year of Biodiversity" and BCST participated as Gurney's pitta was selected as one of the focal species.

Engagement with the Myanmar Government proved more difficult than expected due to the announcement of elections early in 2010 and this adversely affected the discussions surrounding the boundary of the Lenya National Park. Now that the new government is settling down, negotiations will start again to try and include large areas of Gurney's pitta habitat within the boundary.

Gurney's Pitta is listed in Appendix I of CITES.

3 Project Partnerships

The organisations involved in the Post Project have remained the same as for the original Darwin Project and this has greatly facilitated the development of relationship between the main partners. The Project Leader for one of the Thai Partners (BCST), changed during the course of the project, but this did not prove to be an issue in terms of partner relationships.

The shift of emphasis of this Post Project from research to forest restoration meant that FORRU-CMU had a more significant role to play and were the main country partner in Thailand. Their role has been to oversee implementation of the Technical Forest Restoration Strategy, developed under the original project, by supervising the FORRU-Krabi staff in tree production and restoration of critical sites for GP habitat. Dr. Steve Elliott has made quarterly visits to the site to supervise the FORRU-Krabi staff and their nursery activities. The FORRU teams liaise closely with the National Parks, Wildlife and Plant Conservation Department (NPWPCD) staff at the Wildlife Sanctuary, the Reserve Forest staff and with BCST.

BCST co-ordinated the community support for the reforestation programme and co-lead the research elements of the project in Thailand. They had a Field Coordinator based at Khao Nor Chuchi Wildlife Sanctuary who worked closely with both FORRU staff, the NPWPCD Wildlife Sanctuary and Research Sections and the Reserve Forest staff. Kritsana Kaewang and more latterly Maliwan Sopha (Director - BCST) made biannual visits to the site to supervise progress and plan future work.

In Myanmar, Dr Htin Hla of BANCA were responsible for the research and survey work in collaboration with the regional BirdLife Indochina programme. Individual contracts were signed between RSPB and the project partners.

With the project spanning two countries it was difficult to get all the partners together for a project planning meeting but opportunities were taken to meet all partners at different stages. At the onset of the project a Steering Group for Thailand was established between the RSPB, FORRU and BCST and a meeting held in Bangkok in April 2009. The UK partner made a total of eight visits to Thailand throughout the project (including six visits to the project site) to see progress on the ground and hold Steering Group meetings to discuss progress and plan for future work. Two workshops were held at the project site, one in October 2009 and another in March 2011 involving representatives from appropriate sections of the Thai Govt (Central and Provincial) and local communities to discuss the project and explore potential areas for forest restoration work. A meeting was also held with Mr Chachwan, Head of the Wildlife Conservation Division (NPWPCD) to seek assistance with the issue of land tenure at the site. In between these meetings, e-mail was the main form of communication as well as occasional Skype calls between RSPB and FORRU.

For Myanmar, a planning meeting was held in the UK in August 2009 between Dr Htin Hla (BANCA), Jonathan Eames (BirdLife Indochina) and RSPB staff. This meeting discussed the delay in undertaking the survey work in Myanmar and made provisions for commencing the surveys in early 2010. Further meetings were held in May 2010 with Tony and Jonathan and in June 2011 with Jonathan to discuss survey results and future work.

In Thailand the project partners have collaborated with several new partners in the course of their work. The FORRU teams have forged a link with the Elephant Conservation Network in Kancharaburi, Western Thailand. Seven ECN members visited the Krabi site and took part in an event with local school children and an exchange visit was organised for four of the FORRU Krabi team to visit the ECN site at Kancharaburi.

An Assistant Professor and two students from the Department of Biology, Faculty of Science, Prince of Songkla University, undertook a research project entitled "Seed rain in the abandoned grassland of lowland rain forest in Khao Pra Bang Kram Wildlife Sanctuary, Krabi, Thailand". This project looked at the pattern of seed rain in grassland and how to improve management regime for forest restoration. It was based in the area where Gurney's pitta is found and ran from September 2009 to December 2010.

Similarly, BCST in the course of their education work made new contacts. This included a wetland specialist lecturer at Phuket University with experience in curriculum development for lowland wetlands and an Educational Planner from the Krabi Provincial Govt Education Department.

The CBD Focal Point is based within the Office of Natural Resource and Environmental Policy Planning (ONEP) and she has been updated with progress. In May 2010 ONEP held a seminar and outdoor fair to celebrate "International Year of Biodiversity" and BCST participated as Gurney's pitta was selected as one of the focal species.

Towards the end of the project, a new conservation NGO was being established in the resort town of Krabi. The Association for Protection of the Environment (APE www.a-p-e.org) is a locally based NGO with British backing whose objective is "To protect the existing forest and wildlife, particularly in Khao Nor Chuchi Lowland Forest and to increase biodiversity in the area." Discussions are ongoing as to how APE can best support the aims of the existing project through fundraising and education work to complement BCST and FORRU.

4 Project Achievements

4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The impact of the original Darwin project on biodiversity was already positive with Gurney's pitta being down listed from Critically Endangered to Endangered by IUCN in 2008. Under this project, the survey work in Myanmar revealed more about the species northerly and altitudinal limits which may lead to more birds being discovered or an increase in the population estimate in future. Plans are in place to conduct surveys in Myanmar and Thailand in 2011 which will further increase our knowledge of the status of the bird in the two countries.

Analysis of satellite images of a 13km x 9km forest area from a baseline of 1976 shows a steady decline in forest cover up to 2001. The decline levels off until 2005 and then during the lifetime of the original Darwin project and this Post Project there has been an increase in forest cover in this area of 1.2%. This increase in forest cover is partly due to regeneration of previously cleared areas and replanting of areas during the original Darwin project. The awareness work with local communities and schools has contributed to a sense of stewardship and helped turn around loss of forest in the area.

Local communities have been engaged at various stages of the project with some degree of success. The most conspicuous activity has been the tree planting when whole villages and schools have turned out to volunteer to help plant trees.

The Treasure Tree activity with local schools has helped to bring children closer to nature by getting them to collect seeds, grow and nurture the trees in the nursery and help plant them on tree planting days.

4.2 Outcomes: achievement of the project purpose and outcomes

The project purpose, to restore critical sites for Gurney's Pitta habitat and to clarify the species' status elsewhere has for the most part been met during the course of the project. Several sites have been replanted with framework species and the target of 6ha was exceeded. In addition, simple analysis of satellite images has shown that the forest cover in the project area has increased by 1.2% over the last 6 years.

However, it proved difficult to target some of the most critical sites as access for planting for those inside the Wildlife Sanctuary was often denied due to government bureaucracy. Some sites were identified during year 1 for the first planting season although access to some sites proved difficult. As a result, a different strategy was implemented in year 2 whereby planting would focus on streamside habitats that linked good areas for Gurney's pitta. This started to yield results as the project was finishing and will form the basis for replanting in the area for the foreseeable future.

Survey work to establish the species status in Myanmar was initially delayed but surveys at the end of year 1 and 2 revealed valuable new information regarding the range of the species. The species was found approximately 60km further north than previously known and at elevations up to 259m which is considerably higher than previous records. Funding has been found to conduct a further survey in Myanmar in 2012 and the data from all surveys will then be modelled and a peer reviewed paper published. This will then feed into a review of the threat status of the species undertaken every two years by BirdLife International.

4.3 Outputs (and activities)

Overall progress towards the project outputs has been good although some problems were encountered.

Output 1 - Capacity of tree nursery expanded and supplying saplings for site replanting and community forest restoration activities.

The staff at the FORRU-Krabi tree nursery expanded the nursery with the seed germination facility increasing to three times its former area and a similar expansion of the standing down area. This significantly increased the capacity of the nursery to around 20,000 trees. Taking into account the residue of trees left from the previous year the nursery maintained its capacity with almost 19,000 trees produced in the 1st year and 18,000 in the 2nd year. The distribution of trees is shown in Table 1.

	2008/09	2009/10	2010/11	Totals
Tree nursery production	(Left from OBC project) 5,000	18,800	18,000	41,800
Replanted by FORRU	5,000	10,500	1,833	17,333
Distributed to community/organisations		2,301	12,210	14,511
Didn't survive/too small				2,001
Left in nursery				7,955

Table 1 – Tree nursery production and distribution

Monitoring of the nursery by FORRU has been very effective with good records kept by the nursery staff (Kuhn Theerasak and Kuhn Thaweesak) and regular reports and visits by Dr Stephen Elliott and Ms. Panitnard Tunjai. In addition, the nursery staff used the project camera and sent photographs to Dr Elliott in between his visits showing activities undertaken and the dates on the photographs served as a record of project progress.

The Phenology study continued from the first Darwin Project and a seedling reference collection was established and housed at the FORRU offices at the Chiang Mai University Herbarium. This establishes a unique database and collection of seeds for southern Thailand. In addition, an interactive CD was produced and distributed to Government staff and local communities which as well as detailing material collected also enables users to interrogate the database and select the best trees for certain soil conditions in their area.

Output 2 - Area of regenerating Gurney's Pitta habitat increased and fragmentation of existing forest patches reduced in the species' range in southern Thailand

The total area of replanting to regenerate Gurney's pitta habitat exceeded the project target of 6ha with 1.6ha in the 1st planting season (2009), 4.16ha in the 2nd season and 0.64ha in the 3rd season, just as the Darwin project concluded. Two sites totalling 4.16ha were inside the Wildlife Sanctuary, 1.6ha inside the Reserve Forest Area and 0.64ha on private land.

In October 2009, an initial workshop was held with local authorities and communities to help identify sites for restoration but it became apparent that although it was a worthwhile exercise in bringing various stakeholders together it did not generate the anticipated number of sites to develop a reforestation plan. Added to this the government bureaucracy associated with replanting sites inside the Wildlife Sanctuary a different approach was tried at a 2nd workshop in March 2011.

Prior to the workshop, computer modelling was used to select the five most suitable areas for corridor establishment based on important low lying gullies and streams connecting fragmented forest areas (Fig. 2a). Discussions with local communities and Government staff at the workshop identified one potential area and ground surveys were undertaken in March 2011 by FORRU-Krabi and the Reserved Forest staff, with GPS locations and forest condition being recorded. An initial site was chosen for planting based on the land owners decision (Fig. 2b). The site was a rubber plantation with very few tree seedlings or saplings present.

A total of 20 indigenous tree species were agreed with the landowners and randomly planted in target strips between 6 to 8m from the water's edge over an area of 0.64ha. The planting dates were negotiated with the owners of the adjacent rubber plantations and weeding activities carried out prior to planting in July just as the Darwin project came to an end.

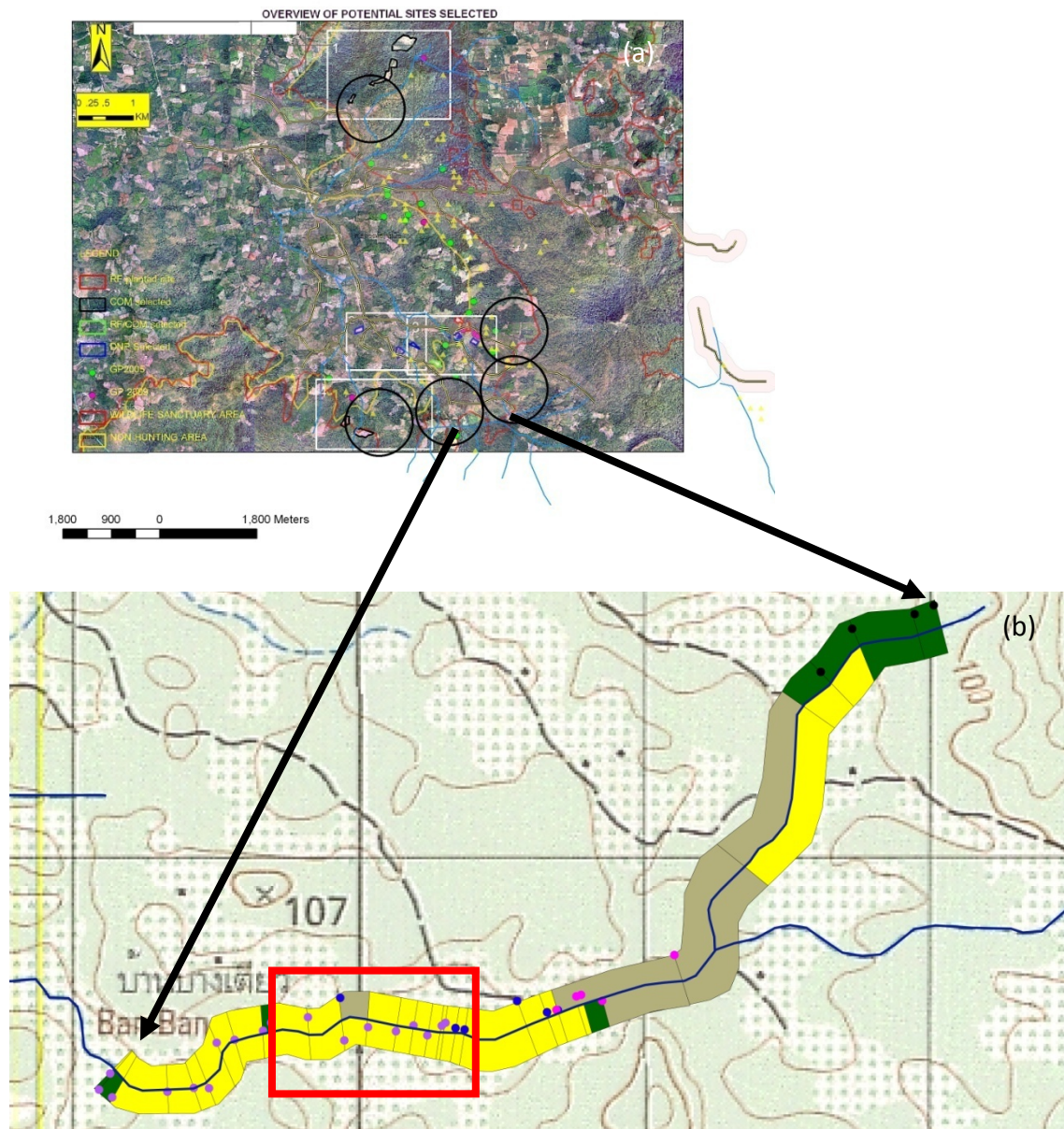


Figure 2a and 2b - Map of potential site for corridor planting in 2011; (2a) the five areas (black circles) selected by computer modelling and (2b) land use map showing primary forest (green) regenerating forest (brown) and plantation areas (yellow) The site selected for planting is shown in red.

Monitoring is an important aspect of the replanting programme and has been undertaken at all sites. An initial problem at one site with large, burrowing, beetle larvae that severed the root collar did not overly affect the tree survival rate and the site that was planted late in 2010 and suffered over 50% tree mortality recovered sufficiently well. All other sites were thriving at the time of writing.

Changes in the overall extent of forest in the project area were assessed by standardised visual interpretation of satellite images. A Landsat MSS image was used from 1976 (resolution 90m) and Landsat TM or ETM images were used from 1990, 2001, 2005 and 2011. A grid of points spaced every 500m was overlain on an area measuring 13 km by 9 km centred on the study area. All points that were assessed as falling on cloud were deleted to leave 265 points that were visible in all years. The proportion of these points which were covered in forest was counted by an observer familiar with interpretation of these types of images (Figure 3).

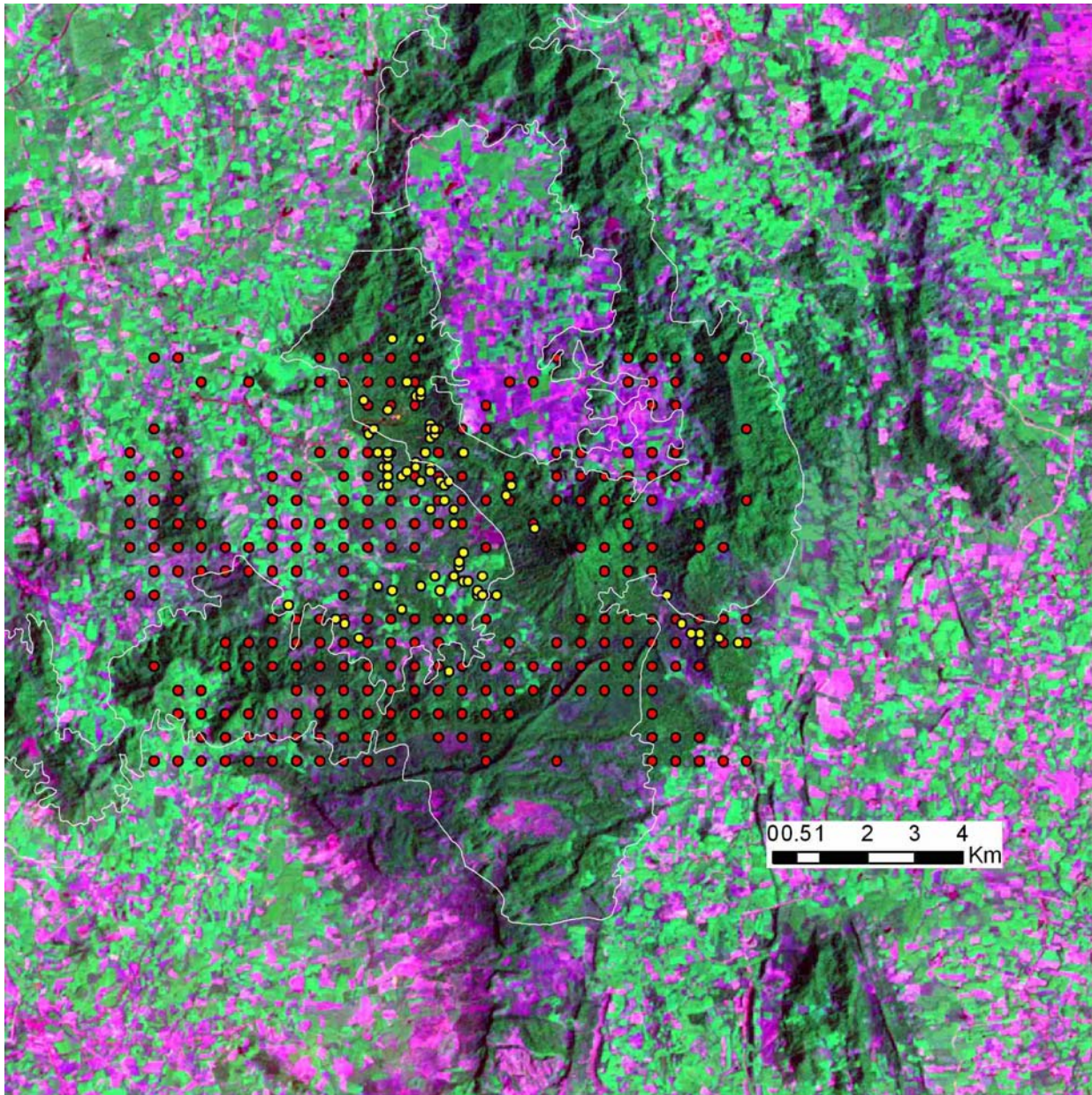


Figure 3 – satellite image of Khao Nor Chuchi showing cloud free observation points on a 500m grid (red) and location of Gurney's pitta records (yellow).

The analysis shows there was a steady decline in forest cover from 1976 to 2001, but after this date the extent of cover remained constant, with a potential 1.2 % increase between 2005 and 2011 (Figure 4).

It would be misleading to claim that the increase in forest cover is entirely down to reforestation by this project, but it is reasonable to say that the overall impact of the project, through education and raising awareness within the local communities, has helped to halt the loss of forest in the area. Although not all of the trees planted during the project would have matured sufficiently such that they are detectable with confidence from the images, there does appear to have been an increase in forest recovery, through natural regeneration, during the life of the two Darwin projects.

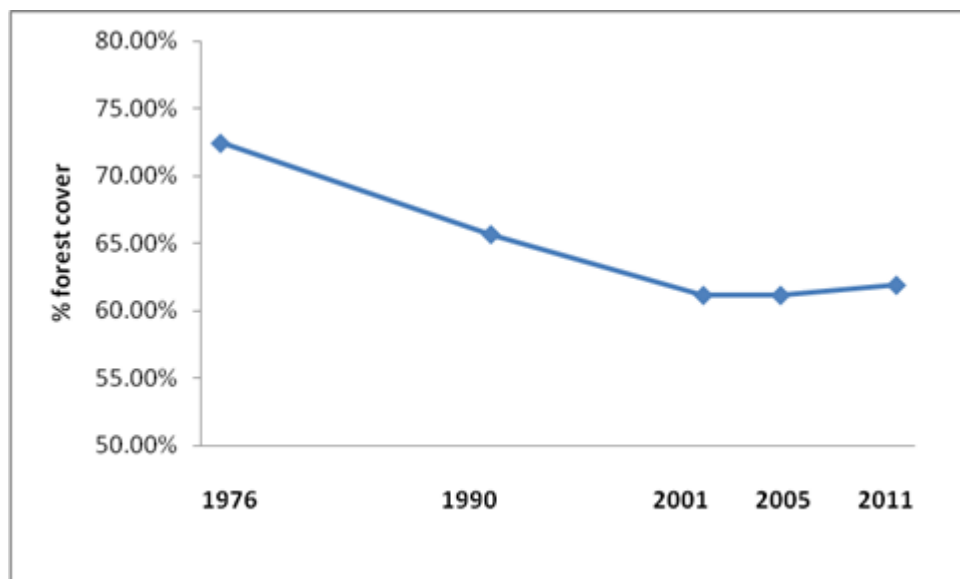


Figure 4 - The proportion of 265 sample points within and around the study area that were identified as forest from visual interpretation of Landsat images.

A key part of the project has been to involve local people in all aspects of reforestation from school children participating in a “Treasure Tree” programme (see below) to communities being mobilised to assist with the site preparation and planting programmes.

At every planting event, the involvement of local communities and schools has been forthcoming and skills in weeding, planting and maintenance have been communicated. This contact with schools and communities has helped engender a sense of “community stewardship” of the nursery and planted plots.

In addition to formal planting for restoration, the nursery has supplied trees to various community tree planting initiatives, organisations and individuals. Over 4,000 tree saplings were distributed to communities and individuals while over 10,000 were given to Government projects and local organisations. Although not formally monitored, this number of trees could plant an area upwards of 4ha.

Output 3 - Legacy of restored forest sites enhanced through community education and participation

Activities with schools has centred on the successful Treasure Tree programme involving local school children in seed collection, germination and potting of seedlings. Their participation is recorded on a Treasure Tree Club member card and after five activities the children are rewarded with “treasure” (i.e. a T-shirt). Over ten events were organised with between 20-25 local school children at each event.

The Community Liaison Officer BCST employed was a local person and he developed his capacity through school visits and liaising with local teachers. Along with a colleague from the Government Department of Parks and Wildlife staff, regular visits were made to three schools adjacent to the Wildlife Sanctuary. Talks and activities were developed relating to the forest and Gurney’s pitta conservation. The CLO also organised two weekend youth camps with 50 children between the ages of 10-14 years. The programme included participating in the Treasure Tree programme, talks and practical exercises relating to birds and their habitats, bird watching, educational games, painting etc.

Unfortunately, the CLO left rather abruptly in late November 2010 and it became apparent that he had not progressed the activities with school teachers to develop materials for the Education Toolkit or the Interpretation Centre. This happened while BCST were undergoing senior level staff changes in Bangkok and their capacity to supervise the work at KNC was severely restricted. Kritsana Klaewplang left in May 2010 and was replaced in August by a new Director Maliwan Sopha. After visiting the project, she engaged the help of an experienced school teacher from Bangkok and between them they managed to produce the materials albeit with

the help of a three month project extension. As a consequence, the materials are largely untried but have been developed from several previously successful materials from other education programmes and their effectiveness and review will be undertaken as part of a continuing project funding through the Disney Foundation.

Leaving behind a legacy is not an easy concept to measure and monitor, however engagement with schools and local communities has been encouraging particularly with input at workshops and tree planting days. Participation by school children in the "Treasure Tree" programme has been excellent and is something worth expanding to other projects. The one group that have proved difficult to engage with are the plantation owners. Understandably they were not too willing to see their rubber or oil-palm plantation areas impacted on but have started to show some interest in the recent idea of planting streamside areas as corridors linking bigger forest plots. A small number of plantation owners have formed a local conservation group and they try to use sustainable management practices on their land. We are developing ways to work with this group and how to get messages across to other owners who are reluctant to engage with the project objectives.

Output 4 - Species' status reassessed after fieldwork in Myanmar clarifies the species' altitudinal and latitudinal limits and results fed into conservation initiatives

The fieldwork in Myanmar in year one was unfortunately delayed largely due to the relatively late announcement of the successful Darwin applications in late February leaving too little time to organise survey work between March and May. However, analysis of existing data to identify key sites in Myanmar was done and a survey was undertaken at the start of year two. The results of this survey were analysed and the model for potential survey areas informed the second survey at the end of the project extension period.

The team surveyed for birds on foot following old logging tracks, exiting trails, wild elephant tracks etc, navigating through the forest using a GPS and local guides. Pre-recorded calls of Gurney's pitta ("lilip" and "skew") were broadcast at approximately 100m intervals along the survey route using a Sony MP3 player and loudspeakers. The team spent 20 minutes or more at each point and recorded the coordinates and type of forest habitat. The type and number of all response calls were noted. All birds and other species observed and heard were also recorded.

The results from Myanmar proved to be very encouraging with new limits to the species' northern range edge (north of 12 degrees N) and a new altitudinal record of 259m (see Table 2). Gurney's Pitta were recorded in secondary and semi- evergreen forest only with no evidence of the species in primary, mix primary, secondary/plantation, secondary/mix semi-evergreen, secondary/bamboo, secondary/degraded, primary/semi- evergreen, primary/bamboo forest.

Clear felling was recorded in all survey sites, mostly small areas by villagers to accommodate shifting cultivation for paddy, betel nut and maize plantation or larger areas by companies for oil palm and rubber plantations. This habitat loss appears to be the single most important threat to the survival of the species in Myanmar and will only increase now that the Myanmar government is embracing a degree of democracy. It is likely that as the country becomes more open to external investment then the pressure on the relatively intact lowland forests for logging and conversion to oil palm and rubber by big international companies will increase.

Funding has been found to do a further survey in Myanmar in 2012 which will help fill in the gaps in the coverage of potential areas. As a result, it is felt that the write up for a scientific paper would be better delayed until the final year of data is available when a more complete assessment of the species in Myanmar can be made.

Progress with engaging with the government to reassess the boundaries of the proposed Lenya National Park proved difficult particularly during the second year of the project. During this period, the Government announced their intentions to hold elections and as a result it was almost impossible to hold meaningful meetings with Government staff as no one was prepared to take any decisions during this transition period. Now that the new government has settled down reengagement is possible and it is hoped that discussions with the new Ministry of Environment Conservation and Forestry will reconvene soon.

	2010	2011
No. of sites surveyed	37	21
No. of call playback points	304	232
No. of observation days	37	18
No. of areas with contact with bird	6	8
No. of individual birds	13	12
Max Elevation	69m	259m
Max latitude	11° 46' 56.5" N	12° 17' 39.3" N

Table 2 - Summary of Gurney's Pitta survey results from Myanmar in 2010 and 2011

Output 5 - Sites identified by models as potentially suitable for the species elsewhere in Thailand searched and if birds are found, appropriate steps taken to conserve them

With the survey work in Myanmar delayed in the first year and no new data on which to assess potential new sites in Thailand it was agreed with the Department of National Parks and Wildlife Conservation (DNPWC) that they would survey all possible sites within protected areas in southern and central Thailand.

Fifteen protected forest areas in southern and central Thailand were surveyed by the DNPWC at the start of the first year. Over 60 staff from the 5 Research Stations across the country came together for the survey. An initial training exercise in the methodology was given, representative transects were selected and bird call playback method used to locate the birds up to an elevation of 300m. The sites are distributed across the Central and Southern Regions of Thailand with 5 of the sites bordering Myanmar, adjacent to Lenya National Park. In addition, a population survey was undertaken in Khao Nor Chuchi (KNC).

Disappointingly, the distribution survey revealed no evidence of Gurney's pitta in any of the 15 protected forest areas although other species of pitta were found. One area which held Gurney's pitta in the past has suffered from encroachment and been converted to a rubber plantation. Other promising areas were adjacent to various plantations and the integrity of the forest compromised.

The survey at KNC covered 19 transects across all the lowland forest both inside and outside the protected area and found at least 12 individual birds. 62% of birds were found outside the protected area, all birds were at an altitude below 200m and over 70% within 500m of a stream.

In the second year, survey work covered KNC and four of the 15 protected forest areas that were considered to have the potential to hold Gurney's pitta and suitable for forest restoration. These four sites were re-surveyed but again no birds were found. At KNC 13 individuals were found from surveying 16 transects with 65% of birds found outside of the protected areas.

These figures are slightly down on recent years but not unexpected as it was a particularly dry, hot season and bird activity such as calling would be greatly reduced. Also the survey work during the first Darwin Initiative project allowed for a full-time researcher to be based at KNC and therefore the survey effort would have been higher.

4.4 Project standard measures and publications

See Annex 4 and 5

4.5 Technical and Scientific achievements and co-operation

FORRU have a draft scientific paper in preparation entitled "Selecting framework tree species for restoring lowland evergreen tropical forest based on field performance" which they will submit to the *Journal of Forest Ecology and Management* before the end of 2011.

FORRU tested the extent to which 58 native forest tree species act as framework tree species to restore lowland evergreen tropical forest. The FORRU nursery staff propagated trees in the community tree nursery from seeds collected in local remnants of the original forest ecosystem. They were then planted at a density of 3,125 ha⁻¹, in a series of experimental plots, established annually from 2006 to 2010. The plots were hand weeded, and fertiliser applied around planted trees 3 times during the rainy season. Field performance of planted trees was assessed at the end of the second rainy season after planting by monitoring height, crown width and weed cover.

A composite performance score was developed which combined survival, growth, crown development, attractiveness to seed dispersers and ease of propagation. This score was used to rank the species in descending order of overall suitability as framework tree species. The final paper will be authored by Dr Stephen Elliott, Cherdasak Kuaraksa, Panitnard Tunjai, Taweesak Polchoo and Theerasak Kongho and will be submitted to the journal for peer review.

The information was also included in on an interactive CD (Microsoft Access format) enabling interrogation to find the most suitable trees for certain environmental conditions. The CD was distributed at a workshop to landowners and Government staff and further copies are available.

Bird survey work was undertaken in both Myanmar and Thailand using a call playback method. In Thailand, the Governments Wildlife Research Division undertook a rapid survey of 15 sites in year one and 4 sites in year two along with the core areas at KNC in both years. The methodology involved initial training of between 50-60 people in call play back technique and using this technique in suitable habitat over a single day in January, March and May to coincide with the peak calling period.

The numbers recorded at KNC in 2010 and 2011 were 12 and 13 individuals respectively. Although slightly less than the minimum 15 individuals recorded during the first Darwin Initiative project (2005-08), comparisons are difficult due to the different observer effort involved. The original surveys employed a researcher to extensively look for birds and nests during the entire breeding season and detection rates are likely to have been higher with this more intensive method.

In Myanmar, the survey team was experienced in Gurney's pitta survey work and several team members were involved in both years for consistency. Their findings were in line with population estimates based on a model using data from previous surveys. Encouragingly, new limits to the species' northern range edge (12° 17' 39.3" N) and a new altitudinal record of 259m were recorded, suggesting that the species is more widespread than previously thought.

With funding in place for a further survey in Myanmar in 2012 it was considered appropriate for the final scientific paper to be delayed by a year to include these extra data, so that a more complete assessment of the species in Myanmar can be made.

4.6 Capacity building

The project benefitted from recruiting local staff to run the tree nursery at KNC and with the assistance of Government staff many of the activities it is hoped the training and capacity building in reforestation techniques, from establishing a nursery to planting out trees, will continue to benefit the local communities and government programmes in the future. The close supervision, training and mentoring by experienced FORRU staff was invaluable and helped deliver a complete package of practical forest restoration techniques.

As well as training directly employed staff, there was considerable sharing of knowledge and training of local community members in forest restoration techniques. The "Treasure Tree" programme for school children and community planting days enabled them to gain first hand experience of growing trees from seeds in the nursery to preparing and maintaining areas for replanting. All of these reforestation activities were reinforced by the education programme and the meetings and workshops held with community members and Government officials.

Approximately 40% (14,511) of tree grown in the nursery during the project period were distributed to the community or organisation, all of which has helped engender a sense of stewardship in the area as can be seen by the increase in forest cover during the course of the two Darwin Initiative projects.

Approximately 60 Thai government officials from the Wildlife Research Department were trained in call playback techniques for the bird surveys they undertook in 15 forest protected areas as well as at KNC. This will help increase their ability to undertake field research across southern Thailand and further afield. Similarly, the survey work in Myanmar will help further develop the skills of the more experienced surveyors there.

Both of the BirdLife partners (BANCA in Myanmar and BCST in Thailand) have improved their capacity in managing project. This is particularly true of BCST whose Director left during the course of the project and her replacement, Maliwan Sopha was relatively inexperienced in project management. However, she soon developed the necessary skills and coped well when the Community Liaison Officer departed in December 2010 with some education activities still to complete.

4.7 Sustainability and Legacy

In Thailand, the project is well established and both local communities and Government staff have shown encouraging signs of stewardship towards the conservation of Gurney's pitta. This is reflected in the visual interpretation of satellite images from 1976 to 2011 which reveals a steady decline in forest cover from 1976 to 2001 then the extent of cover remained constant, with a potential 1.2 % increase between 2005 and 2011.

Discussions took place towards the end of the project about the best way to keep the activities going once the Darwin Initiative funding finished. There was general agreement that the community would like to take over the running of the nursery and tree planting activities but the process would need to be gradual with support from the local FORRU nursery staff and the District Community Forest Programme providing assistance.

This scenario is in progress as the project partners were successful in their application for one year funding through the Disney Foundation starting in October 2011 and obtaining a short grant from the Oriental Bird Club for the interim period July-September. The OBC grant has enabled the existing nursery staff to be retained and the Disney funding will build on both the reforestation plan and the education activities with local schools and communities.

As the project was drawing to a close, a new conservation NGO was in the process of being established about 30 miles away in the resort town of Krabi. The Association for Protection of the Environment (APE) is a locally based NGO with a focus on conserving lowland forests and Khao Nor Chuchi in particular. Discussions are ongoing as to how APE can best support the aims of the existing project but it is anticipated their strong focus on fundraising will help develop some sustainable funding streams from local and national initiatives and their education work will complement the work established by BCST.

In Myanmar, the picture has been less encouraging with engagement by the Government very limited and almost on hold during the 2nd year of the project as Myanmar prepared itself for their first elections in over a decade. The announcement of the elections left most government department in a state of limbo with uncertainty about how things would operate in a new system of government. Meaningful discussions have not yet been possible although recent signs are encouraging that the new government are serious about the environment and meetings are planned for later in 2012 to revive efforts to define the boundaries of the proposed Lenya National Park. The danger for the environment is that a new more open style of government may bring in unscrupulous foreign investors eager to exploit the fertile forests of southern Myanmar and other natural resources across the country.

On a more positive note, monies that had been set aside by BirdLife Indochina to further the boundary issues at Lenya NP have now been set aside for a third survey of Gurney's pitta in 2012 that will further assist our understanding of the population and distribution in the country. Once this survey is complete in May 2012 then RSPB and project partners will publish the results in a peer reviewed paper late next year.

The project resources will remain with the partners and will be utilised during the course of future projects. All partners will continue working together as new funding from the Disney Foundation and OBC has been found to continue the programme. RSPB will also continue supporting BCST as part of their international partner development work.

5 Lessons learned, dissemination and communication

Any project that involves possible land use change is always a difficult concept to sell to stakeholders. It was originally envisaged that the focal point for reforestation would be inside the KNC Wildlife Sanctuary and one of the key players would be the senior Government staff at the Sanctuary. However, engagement proved to be difficult at times as the position of the Wildlife Chief changed on a regular basis and the interest in the project of the incumbent was variable, which often lead to problems in obtaining permission to replant identified areas. Likewise, it proved difficult to persuade landowners to replant large areas on private land that were invariably in either rubber or oil-palm plantation, and so a shift in strategy to streamside corridors linking good forest areas was developed.

This approach has started to yield some results with the first areas being planted as the project drew to a close. Interest from adjacent landowners is encouraging with several indicating their willingness to try replanting selected species under their existing plantations if it proves successful with their neighbours and does not impact on yields from their plantations.

The project benefitted from employing local staff to run the tree nursery at KNC coupled with close supervision by FORRU. It is hoped the training and capacity building of these staff will continue to be beneficial to the local communities in future.

Dissemination of the project achievements and highlighting the plight of Gurney's pitta and loss of lowland forest was increased during the 2nd year particularly at the end of the project which coincided with the 25th anniversary of the rediscovery of Gurney's pitta in Thailand. A high profile event was held in Bangkok which included a national press release and a presentation and discussion forum. The forum highlighted the issues relating to the loss of lowland forests and the survival of Gurney's pitta and the conservation efforts under the Darwin Initiative projects. The need for an increased effort by government to prevent further encroachment and to continue to support reforestation initiatives was emphasised. Project partners were present along side central and local Government officials as well as community representatives from KNC. The event reached the wider Thai public as it was covered by several national and local TV news station.

The June 2011 edition of the BCST Bird Bulletin, which goes to their members and other conservation NGOs in Thailand and overseas, also marked the 25th anniversary and included articles on the life of John Henry Gurney, the rediscovery in 1986 and the early conservation efforts to save the species. The Darwin Initiative projects were covered in detail including reforestation and community work at KNC and survey work in both Thailand and Myanmar. Copies of the Bulletin are available but most of the articles are written in Thai.

With new funding enabling the programme of reforestation and awareness work to continue dissemination of this and future project achievements will persist.

5.1 Darwin identity

At a national level in Thailand the press and TV coverage of the 25th anniversary forum was very successful and the Darwin logo was prominent on the stage area along with other partner logos. Interviews with Government and project staff also mentioned Darwin as the funding agency. The BirdLife website carried a report of the event in their Community News pages.

Both project partners in Thailand (BCST and FORRU) featured articles in their respective newsletters and bulletins culminating in the last BCST Bird Bulletin celebrating the 25th anniversary of the birds' rediscovery. In all publications, the Darwin logo was prominent alongside those of the project partners.

A local Radio station has a one-hour slot per week for staff from the Khao Nor Chuchi Wildlife Sanctuary to talk about wildlife in general and things happening around the Sanctuary. This has proved to be a useful medium to tell people about the Gurney's pitta work and generate support for the tree planting activities.

The Darwin logo is prominently displayed at the nursery site on information boards both inside and out and signboards are also displayed at replanted sites. These local initiatives target communities around the sanctuary.

The in-country project partners and RSPB have sections on their respective websites dedicated to Gurney's pitta and the Darwin projects to help reach a wider audience of wildlife and environment enthusiasts.

Education materials for local schools and the Interpretation Centre explain the conservation issues around Gurney's pitta and its forest habitat and carry the Darwin Initiative logo.

To celebrate the 25th anniversary BCST produced a special Gurney's pitta t-shirt which has sold well to both members and the general public and will be promoted at the BCST annual Birdfair in November.

The Darwin Initiative support to the project is well known around the project area within schools, local communities and Government officials. It is difficult to gauge how far this recognition stretches but many central Government officials were familiar with the project and its aim and activities.

Images of the Darwin logo on various products are illustrated in a separate file accompanying this report.

6 Monitoring and evaluation

The logframe including indicators and means of verification did not change during the course of the project. Monitoring and evaluation activities at the nursery and reforested areas were rigorously undertaken. The staff kept records at all stages including initial seed collection, sowing, germinations of tree growth, seedlings and planting out. Photograph records of selective activities and all planting events were kept and all reports were submitted to Dr Stephen Elliott at FORRU-CMU. Dr Elliott made quarterly visits to the area during the project and provided 6-monthly reports on activities via e-mail.

More regular nursery inspection and trainings were undertaken by Ms. Panitnard Tunjai (Dia). She visits the site monthly to help out with staff management, set work schedules and check on data collection. She contributed to the restoration strategy document (and translated it into Thai) and her experiments on direct seeding on-site have recently lead to the award of her PhD.

Dr. Stephen Elliott supervises staff training, reporting and financial administration. He made quarterly visits to provide on-site project development and supervision and to assess progress with tree production and the site planting preparations.

As well as monitoring the growth and survival rates on replanted plots, the overall regeneration of forest in the KNC area was assessed at the conclusion of the project by visual interpretation of satellite images from 1976 to 2011. These revealed a potential 1.2 % increase between 2005 and 2011 during the lifetime of the two Darwin Initiative projects.

Two surveys were undertaken in both Thailand and Myanmar to assess the status of Gurney's pitta. In Thailand, the government Wildlife Research Division surveyed 15 sites with the potential to support Gurney's pitta in the first year using call back methods but disappointingly they did not discover any new sites. Four sites were again surveyed in the 2nd year with the same result. In both years, the birds at KNC were surveyed and although the numbers appear to be slightly down on previous surveys during the original Darwin Initiative project, there is some doubt as to the consistency and comparison of effort to draw any firm conclusions that the species is declining at the site.

In Myanmar, suitable sites were identified through data modelling and extensive areas were surveyed by BANCA at the end of year one and two. The surveys found birds at a higher altitude and further north than had previously been recorded. With funding being found for a third survey in Myanmar which will take place in 2012 and provide further useful data. As a consequence, the decision was taken to delay the production of a scientific paper for a year and the results will then feed into the global conservation status reassessment by BirdLife/IUCN.

Monitoring and evaluation of the educational activities was limited, particularly the formal contact with school children. For the Treasure Tree programme, school visits and Youth Camps formal assessment of levels of understanding and learning has proved difficult. Monitoring during the Youth Camps takes the form of getting the students to demonstrate what they have learnt by acting as bird guides to other students, but a more formal assessment was not undertaken.

The education materials for the school toolkits and the Interpretation Centre were delayed and only completed as the project drew to a close. Hence monitoring of their impact was not possible. However, with funding from the Disney Foundation secured to extend the programme for a further year there is scope to set in place a “before and after” style questionnaire to evaluate how much the participants have learned from contact with the material.

6.1 Actions taken in response to annual report reviews

Not applicable

7 Finance and administration

7.1 Project expenditure

Item	Budget (£)	Expenditure (£)	Variance
Rent, rates, heating, overheads etc			
Travel and subsistence			
Operating costs			
Capital items/equipment (see below) <i>Computer equipment & laptop</i> <i>Fieldwork equipment (GPS, scopes, recording)</i> <i>Education field kit & resources</i>			
Other costs			
Salaries (see below) <i>Steve Elliott (Restoration Leader)</i> <i>Htin Hla (Project Leader, Myanmar)</i> <i>Jonathan Eames (Project Manager, Myanmar)</i> <i>Nursery & Planting Staff - Thailand</i> <i>Fieldwork Staff - Myanmar</i> <i>BCST Project Staff - Thailand</i> <i>Ian Barber - Project Coordinator</i>			
TOTAL			

7.2 Additional funds or in-kind contributions secured

Additional investment in the project was possible by the RSPB as the Project Leader made additional trips to Thailand during the second year to assist BCST in selecting a new Director. Two extra trip were undertaken and the opportunity taken for additional meetings and a site visit to assess progress and meet with project partners and stakeholders.

Towards the end of the project, an application was submitted to the Disney Foundation for a further year of funding to build on the reforestation and awareness raising successes of the Darwin project. If successful, the funding would come on stream from October and so a request was also make to the Oriental Bird Club for a small grant to bridge the gap as the Darwin Initiative project finished in June. Both applications were successful and so we have funding in place for an additional 15 months beyond the Darwin project.

7.3 Value of DI funding

With this and the previous Darwin project the security and continuity of long-term financial support has enabled the partners to focus on the programme of conservation work and not be too concerned about looking for future funding.

The well established tree nursery at Khao Nor Chuchi has been further developed and expanded to produce around 20,000 trees per annum and the phenology study and seedling reference collection was established and housed at the FORRU offices during the course of this project. The local nursery staff have benefitted from extensive training and their skills and capacity increased. These will be lasting legacies to benefit the community.

Engagement with the local communities and schools has been greatly enhanced as a result of the Darwin funding and has helped to bring about a sense of stewardship which has resulted in a 1.2% increase in forest cover during the two Darwin funded projects between 2006-11.

Survey work in Thailand was taken over by the Government's Wildlife Research Division but in Myanmar the funding has allowed for two surveys of Gurney's pitta and improved our knowledge of the species northerly and altitudinal limits.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements April 2009 - June 2011	Actions required/planned for next period
<p>Goal: <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>(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)</i></p>	<p><i>(do not fill not applicable)</i></p>
<p>Purpose To restore critical sites of Gurney's Pitta habitat in southern Thailand by planting framework tree species and to clarify the species' status elsewhere</p>	<p>Regenerating forest area in range of species in southern Thailand in t2 is greater than in t0</p> <p>Population of Gurney's Pitta in southern Thailand in t2 equal to or greater than in t0</p> <p>Improved estimates of population and distribution fed into conservation assessments and global reporting mechanisms</p>	<p>Excellent progress with nursery capacity and replanted area targets reached. GIS analysis shows the area of forest cover increased by approximately 1.2% over the 6 years of the two Darwin projects.</p> <p>No new Gurney's pitta found in surveyed areas in southern Thailand but the number of birds at KNC remained stable. Allowing for differences in survey techniques, numbers are similar to first Darwin project 2005-08.</p> <p>Survey work in Myanmar was delayed and final assessment of population and distribution has been deferred until 2012 survey. Political situation in Myanmar prevented progress on redrafting the boundary of Lenya NP to protect Gurney's pitta habitat.</p>	
<p>Output 1. Capacity of tree nursery expanded and supplying saplings</p>	<p>Tree production increases to at least 40,000 trees by t2</p>	<p>Progress was good with an efficient production maintaining tree nursery capacity at 20,000 pa. Indicator was appropriate.</p>	

for site replanting and community forest restoration activities		
Activity 1.1 Expand tree nursery, recruit and train additional staff		Tree nursery expanded to 20,000 capacity and staff recruited and trained.
Activity 1.2 Expand seed collection and increase tree production		Phenology study completed and seedling reference collection housed at Chiang Mai University Herbarium. Tree production increased to maintain 20,000 capacity.
Activity 1.3 Monitor tree production (monthly reports)		Monthly monitoring reports produced.
Activity 1.4 Undertake nursery inspections and training by FORRU-CMU		Regular inspection by FORRU Senior staff and training given as necessary.
Output 2. Area of regenerating Gurney's Pitta habitat increased and fragmentation of existing forest patches reduced in the species' range in southern Thailand	At least 6 ha of former Gurney's Pitta habitat planted with framework tree species and undergoing recovery by t2 At least 2 occupied forest fragments re-connected by restoration	Three discrete sites and streamside areas replanted giving total area replanted >6ha. Replanting streamside corridors to connect existing forest patches started and will continue after completion of project. Occupied forest patches difficult to access so better to have indicator as "suitable forest fragments".
Activity 2.1 Supply trees to local tree planting initiatives		Almost 40% of trees (over 14,000) supplied to communities and local organisations
Activity 2.2 Train local people in tree planting and forest restoration		Very successful Treasure Tree programme and other school activities initiated and good community participation in planting activities.
Activity 2.3 Undertake spatial analyses of existing forest cover and consult local authorities and communities to identify key sites for restoration		Analysis done and stakeholders consulted but only one new area suitable for replanting. New approach in year two focused on streamside corridors.
Activity 2.4 Liaise with local forest authorities to obtain formal permission to restore forest		Some bureaucratic problems were experienced when dealing with areas inside the Wildlife Sanctuary. This was resolved but efforts shifted to finding areas both inside and outside the Sanctuary.
Activity 2.5 Undertake forest restoration at two critical sites		One site planted in year 1 and a further two sites planted in year two.
Activity 2.6 Monitor recovery of planted sites		Regular monitoring revealed first site initially had disappointing tree survival rate due to the late planting date, but was recovering by end of project. Recovery of other sites was very good.
Output 3 Legacy of restored forest sites enhanced through community education and participation	Local people involved in site protection and monitoring by t2 Local schoolchildren participate in forest monitoring Local schoolteachers have access to educational material	Local community leaders participated in a workshop to identify areas to reforest and participation in the planting events was encouraging. The Treasure Tree programme for school children was excellent. Both of these give hope that there will be a lasting legacy of forest protection. School visits and Youth Camps held but educational toolkit only developed towards end of project. Indicators appropriate.

Activity 3.1 Recruit staff for interpretation centre		Reopening of the Interpretation Centre was delayed which impacted on the recruitment of staff.
Activity 3.2 Develop education and awareness-raising programme for local people		Treasure Tree programme, school visits and Youth Camps have all run well and local people have engaged in the replanting efforts.
Activity 3.3 Prepare educational material for local schools		Materials developed with teachers at the end of year 2 but effectiveness not tested.
Output 4 Species' status reassessed after fieldwork in Myanmar clarifies the species' altitudinal and latitudinal limits and results fed into conservation initiatives	Altitudinal and latitudinal limits identified and species' global conservation status reassessed using results	Survey work in Myanmar at end of year 1 & 2 identified altitudinal and latitudinal limits but 3 rd survey in 2012 will finalise data set and analysis will inform conservation status reassessment. Indicator appropriate.
	Boundaries of proposed Lenya National Park redrafted to include substantial population of Gurney's Pitta	No progress due to issues dealing with Government in Myanmar after announcement of elections. Indicator was not measurable due to political situation in Myanmar.
	Areas potentially suitable for Gurney's Pitta in central Thailand identified from models outputs	Potential areas in central and southern Thailand were identified and surveyed but no new areas supporting gurney's pitta found. Indicator appropriate.
Activity 4.1 Analyse existing data to identify key sites for surveys in Myanmar		Analysis was done and sites chosen for survey.
Activity 4.2 Undertake fieldwork in southern Myanmar		Fieldwork was delayed until end of year 1 and second survey completed at end of year 2.
Activity 4.3 Analyse data to improve current models of distribution		Data from both surveys used to improve distribution model.
Activity 4.4 Redraw boundaries of proposed Lenya NP		No progress.
Activity 4.5 Reassess species' conservation status against Red List Criteria		Scheduled for 2012 after 3 rd survey complete
Activity 4.6 Write up results for scientific literature		Delayed until 2012 after 3 rd survey complete
Output 5 Sites identified by models as potentially suitable for the species elsewhere in Thailand searched and if birds are found, appropriate steps taken to conserve them	Sites identified by models as potentially suitable for Gurney's Pitta in Thailand searched and size of any populations assessed	The sites identified from Output 4 were surveyed but disappointingly, no records of Gurney's pitta were found at any new site. Indicator appropriate.
	Department of National Parks alerted to any populations found	Pleasingly the surveys were undertaken by the Governments own Wildlife Research Department with support from BCST. Indicator appropriate.
Activity 5.1 Use results of activity 4.3 to identify potentially occupied sites in central Thailand		Activity 4.3 was delayed but sites were identified based on existing knowledge.
Activity 5.2 Undertake field visits to potential sites to assess species' presence and assess threats to forest		Survey work was undertaken by Government at 15 sites in year 1 and repeated at four sites in year 2 but no new populations were discovered.

Annex 2 Project's final logframe, including criteria and indicators

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: To clarify and improve the global conservation status of Gurney's Pitta	IUCN Red List categorisation revised in the light of project outcomes IUCN Red List status does not decline from Endangered	IUCN Red List category	
Purpose To restore critical sites of Gurney's Pitta habitat in southern Thailand by planting framework tree species and to clarify the species' status elsewhere	Regenerating forest area in range of species in southern Thailand in t2 is greater than in t0 Population of Gurney's Pitta in southern Thailand in t2 equal to or greater than in t0 Improved estimates of population and distribution fed into conservation assessments and global reporting mechanisms	GIS database of forest area Population survey IUCN threat status assessments	Political situation in both countries permits work to proceed
Outputs (add or delete rows as necessary) 1. Capacity of tree nursery expanded and supplying saplings for site replanting and community forest restoration activities	Tree production increases to at least 40,000 trees by t2	Monthly nursery reports, submitted to FORRU-CMU by FORRU-Krabi staff and twice yearly inspection of the nursery by senior FORRU-CMU staff	

<p>2. Area of regenerating Gurney's Pitta habitat increased and fragmentation of existing forest patches reduced in the species' range in southern Thailand</p>	<p>At least 6 ha of former Gurney's Pitta habitat planted with framework tree species and undergoing recovery by t2</p> <p>At least 2 occupied forest fragments re-connected by restoration</p>	<p>Assessment of field performance of planted trees in restored sites.</p> <p>GIS database of forest area</p>	<p>Thai authorities continue to support forest restoration work</p>
<p>3. Legacy of restored forest sites enhanced through community education and participation</p>	<p>Local people involved in site protection and monitoring by t2</p> <p>Local schoolchildren participate in forest monitoring</p> <p>Local schoolteachers have access to educational material</p>	<p>Reports of reforestation events</p> <p>Monitoring reports</p> <p>School visits by project staff</p>	
<p>4. Species' status reassessed after fieldwork in Myanmar clarifies the species' altitudinal and latitudinal limits and results fed into conservation initiatives</p>	<p>Altitudinal and latitudinal limits identified and species' global conservation status reassessed using results</p> <p>Boundaries of proposed Lenya National Park redrafted to include substantial population of Gurney's Pitta</p> <p>Areas potentially suitable for Gurney's Pitta in central Thailand identified from models outputs</p>	<p>Scientific paper</p> <p>IUCN categorisation</p> <p>Maps of proposed Lenya NP</p> <p>Scientific paper</p>	<p>Political situation in southern Myanmar permits field visits</p>
<p>5. Sites identified by models as potentially suitable for the species elsewhere in Thailand searched and if birds are found, appropriate steps taken to conserve them</p>	<p>Sites identified by models as potentially suitable for Gurney's Pitta in Thailand searched and size of any populations assessed</p> <p>Department of National Parks alerted to any populations found</p>	<p>Scientific paper</p> <p>Meeting reports</p>	

Annex 3 Project contribution to Articles under the CBD

Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring		Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	50	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity		Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	20	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	15	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.

Article No./Title	Project %	Article Description
16. Access to and Transfer of Technology		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol		Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Other Contribution	15	Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
Training Measures		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	2
4b	Number of training weeks provided to undergraduate students	10
4c	Number of postgraduate students receiving training (not 1-3 above)	1
4d	Number of training weeks for postgraduate students	4
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(ie not categories 1-4 above)	
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	
6b	Number of training weeks not leading to formal qualification	
7	Number of types of training materials produced for use by host country(s)	1 Interactive CD of tree database 1 information leaflet, 1 poster
Research Measures		
8	Number of weeks spent by UK project staff on project work in host country(s)	6
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	
10	Number of formal documents produced to assist work related to species identification, classification and recording.	
11a	Number of papers published or accepted for publication in peer reviewed journals	1 in prep and 1 deferred to 2012
11b	Number of papers published or accepted for publication elsewhere	
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	
12b	Number of computer-based databases enhanced (containing species/genetic	1 Interactive CD of tree database

Code	Description	Totals (plus additional detail as required)
	information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	1 seedling reference collection at Chiang Mai University
Dissemination Measures		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	2 local workshops with community and Government officials 1 national forum celebrating 25 th anniversary of rediscovery
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	1
15a	Number of national press releases or publicity articles in host country(s)	1
15b	Number of local press releases or publicity articles in host country(s)	1
15c	Number of national press releases or publicity articles in UK	1 article on BirdLife website
15d	Number of local press releases or publicity articles in UK	
16a	Number of issues of newsletters produced in the host country(s)	1 BCST Bulletin celebrating 25 th anniversary of rediscovery
16b	Estimated circulation of each newsletter in the host country(s)	1,000 copies
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	1 local conservation group
18a	Number of national TV programmes/features in host country(s)	2 features on news channels
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	2 features on news channels
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	2

Code	Description	Totals (plus additional detail as required)
19d	Number of local radio interviews/features in the UK	
Physical Measures		
20	Estimated value (£s) of physical assets handed over to host country(s)	£1,500 or electronic equipment £2,000 of reference material
21	Number of permanent educational/training/research facilities or organisation established	
22	Number of permanent field plots established	4 monitoring plots within replanted areas
23	Value of additional resources raised for project	Additional visits from RSPB £2,000 (in kind) Funding secured for continuation of project (Disney Foundation US\$25,000 and OBC £5,500)
Other Measures used by the project and not currently including in DI standard measures		

Annex 5 Publications

Type *	Detail	Publishers	Available from	Cost
(eg journals, manual, CDs)	(title, author, year)	(name, city)	(eg contact address, website)	£
Journal	BCST Bulletin, June 2011 (Most articles in Thai language)	BCST, Bangkok	221, Moo 2, Soi Ngamwongwan 27, Bangkok, Muang District, Nontaburi 11000, Thailand	£5 plus P&P
Interactive CD	Database of trees at Krabi, FORRU, 2011	FORRU, Chiang Mai University	Dr Stephen Elliott, FORRU, Biology Department, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand	Free plus P&P
Scientific paper	“Selecting framework tree species for restoring lowland evergreen tropical forest based on field performance” Dr Stephen Elliott <i>et al</i> , In Prep	<i>Journal of Forest Ecology and Management</i>	Dr Stephen Elliott, FORRU, Biology Department, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand	

Annex 6 Darwin Contacts

Ref No	EIDPO024
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Partner 2 (if relevant)	
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Partner 3 (if relevant)	
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