



## Darwin Initiative Annual Report



### Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders – it is expected that this report will be about 10 pages in length, excluding annexes

**Submission deadline 30 April 2009**

### Darwin Project Information

Project Ref Number	17-008
Project Title	Can Hunting and Conservation of Endemic Annamite Ungulates be Reconciled?
Country(ies)	Vietnam (Lao)
UK Contract Holder Institution	Department of Geography, University of Cambridge
Host country Partner Institution(s)	WWF Greater Mekong Vietnam Programme, Vinh University
Other Partner Institution(s)	Vietnam Forest Protection Department, Hue University, American Museum of Natural History
Darwin Grant Value	<b>£ 294,469</b>
Start/End dates of Project	01/09/09 – 31/08/12
Reporting period (Apr 200x to 31 Mar 200y) and annual report number (1,2,3....)	01/09/09 – 31/03/10 Annual report no. 1
Project Leader Name	Nigel Leader-Williams
Project website	
Author(s) and main contributors, date	Nicholas Wilkinson, Project Officer Nigel Leader-Williams, Project Leader

### 1. Project Background

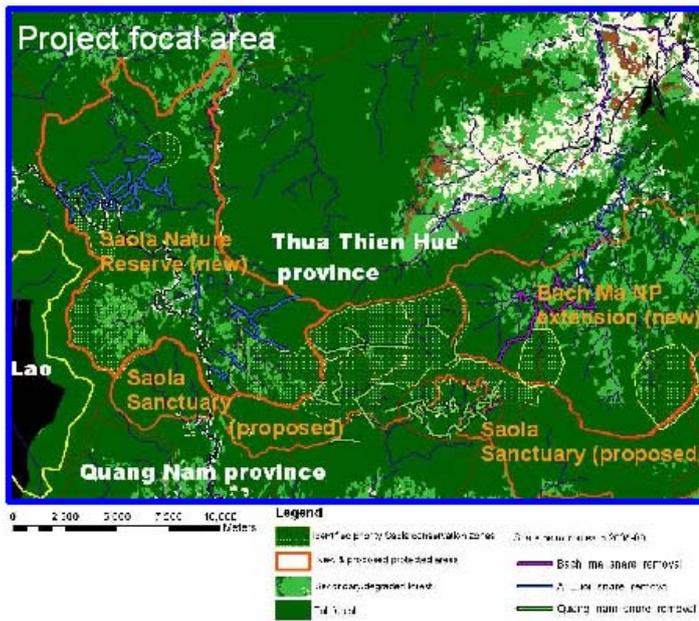
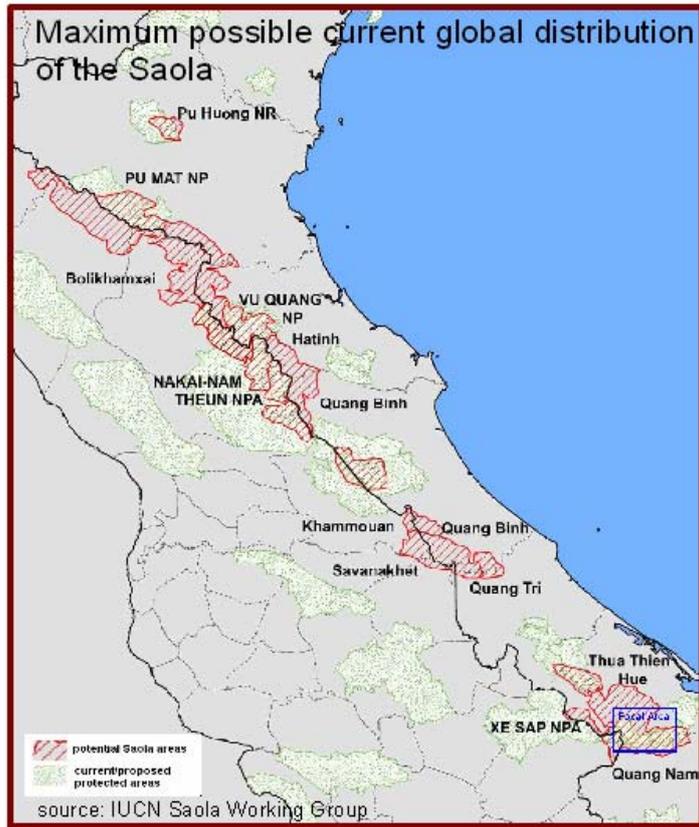
The Saola *Pseudoryx nghetinhensis* and the large-antlered and Annamite muntjacs *Muntiacus vuquangensis* and *M. truongsonensis* have only recently been described for science. All three are endemic species that are restricted to the Truong Son Mountains that straddle the international border between Vietnam and Lao. The Saola, in particular, is of immense concern to conservation, as a mono-specific genus that is threatened by indiscriminate snaring to supply the regional trade in wild meat in Vietnam and Laos.

All conservation planning documents for the Saola, including the draft National Saola Conservation Action Plan (2006) in Vietnam have stressed that the lack of knowledge about this very difficult to study species is a major problem for its effective conservation. Likewise, both muntjac species are also very poorly known and difficult to study. However, research needs to be prioritised to focus on those questions most important in guiding conservation action. Appropriate social science research is of particular concern, in order to engage local communities that currently hunt Annamite ungulates, and to understand the economic basis for hunting.

Various alternative plans exist about how to engage with local communities to conserve Annamite ungulates. Negotiating no-trapping zones, facilitating sustainable hunting of commoner species through 'hunters clubs' and offering financial rewards for a snare-free forest are some of the options that have been considered. These plans are based on different ideas about how and why local people (and outsiders) are hunting. To help choose a strategy that can work, research into the socio-economic basis of hunting is also needed.

This project seeks to build capacity to conduct high-quality conservation research on these hunted ungulate species in key Vietnamese universities. It also seeks to engage with key conservation actors (notably the National and appropriate provincial Forest Protection Departments and WWF) to plan and conduct research that is tied directly to possible conservation actions.

The global range of the Saola sets the limits of project activities but the main focal area will be the border between Thua Thien Hue and Quang Nam provinces in Vietnam (see maps)



## 2. Project Partnerships

Project funds were originally granted to DICE at the University of Kent (see below). However, the project is now based at the University of Cambridge, which in turn provides two separate sub-grants to the main host-country partners: Vinh University and WWF. MoUs with these partners have been submitted along with this report. Broadly, Vinh University is responsible for the budget for training activities (outputs 1&2), while WWF is responsible for research and conservation planning (outputs 3&4). However there are strong synergies between outputs 2 & 3, and the partners are expected to collaborate closely on these as the project moves further into its implementation phase.

The main link between the University of Cambridge and the host country partners is the Project Officer, Nicholas Wilkinson, who is based for 11 months of the year in Vietnam. With a space in the WWF offices in Hanoi, and in the provinces of Hue and Quang Nam, as well as in the Zoology Department at Vinh university, the Project Officer has been making regular trips to meet with partners at all levels of the hierarchy from the university rectors, WWF senior management, FPD provincial directors to students, field staff and rangers. The Project Officer is in regular email and skype contact with the Project Leader for guidance on technical issues, and to facilitate communication about administrative issues between Cambridge and the host country partners. The Project Leader has paid two visits to Vietnam, first for an inception workshop from 20-24 September 2009 and second for a Steering Group meeting from 13-21 March 2010.

The project has formed a Steering Committee with representatives from Cambridge, Kent, Vinh and Hue Universities, WWF and the provincial FPDs. The Steering Committee expects to meet in Vietnam at the end of each financial year to confirm the work plan for the subsequent year. The first Steering Committee was held in Hue on 19 March 2010 and set the workplan for Financial Year 2.

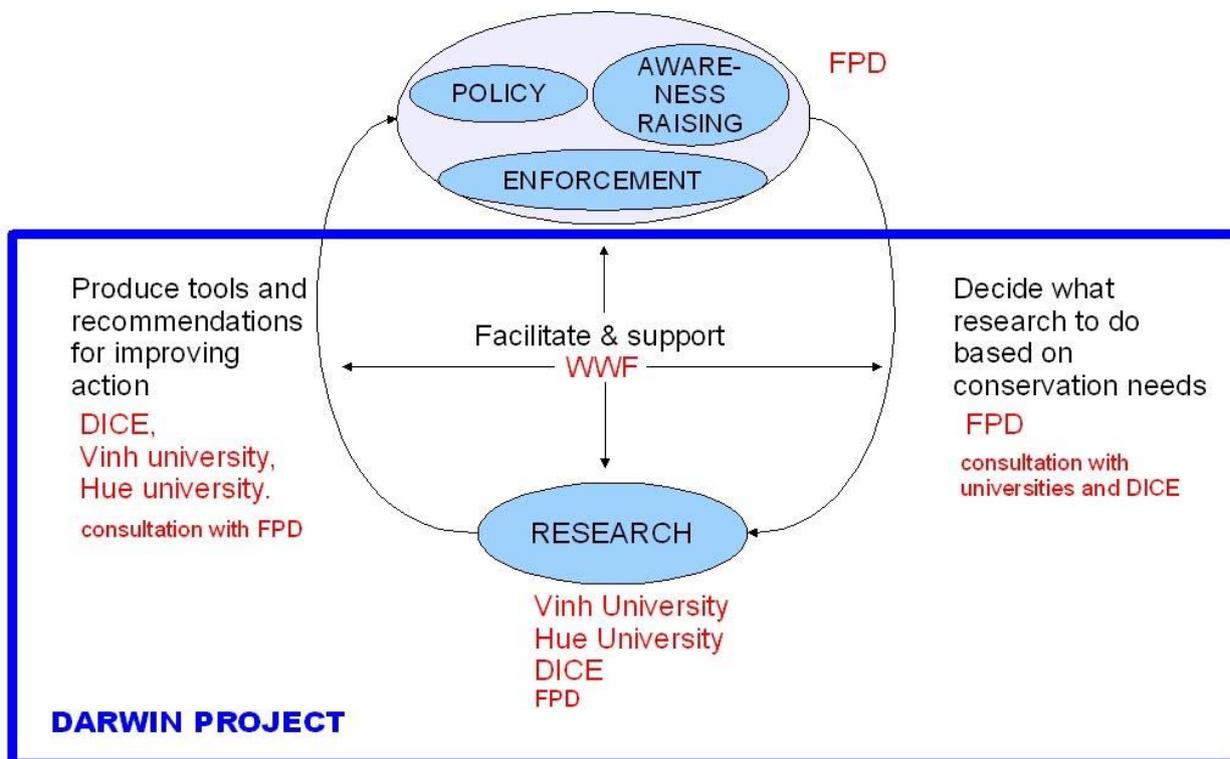
For its project work in Thua Thien Hue and Quang Nam provinces, WWF has formal agreements with the two provincial Forest Protection Departments, who are now its official government partners for this Darwin Initiative project. The FPDs need to approve all work within their provinces and refer to higher authorities such the national FPD if necessary.

At a meeting in September 2009, Vinh University developed a formal agreement with Hue University. While Hue University will not receive a direct grant, students from Hue University will receive training from the project and will be eligible to apply for support for Masters' degrees in Vietnam and the UK.

As noted briefly already, the project was previously based at the Durrell Institute of Conservation and Ecology (DICE) at the University of Kent. However, the Project Leader resigned from Kent and took up a new post at Cambridge in October 2009. Although the project has moved to Cambridge, DICE staff will still play a strong role in delivering training, most notably Professor Douglas MacMillan as Co-Investigator. Staff delivering training courses in Vietnam will be hired as consultants to the project. Lecturers will be hired through the School of Anthropology and Conservation at Kent, while other staff will be hired through private contracts, as will any staff from Cambridge or other institutions.

The American Museum of Natural History is no longer able to support camera trap work in Saola areas due to unforeseen budget cuts following the recession. However the AMNH network of Conservation Educators and Practitioners (NCEP) has a programme to develop conservation training materials in Vietnam in partnership with CRES (Center for Natural Resources and Environmental Studies) at the University of Hanoi and with funding from the MacArthur Foundation. Although our project is aimed primarily at higher-level training for Masters students we envisage a fruitful collaboration with NCEP involving the sharing of materials to mutual benefit. Opportunities to collaborate with AMNH on species distribution modelling are also currently being discussed.

The following diagram was presented at the inception workshop to explain the roles of the partner organizations and the scope of the project, although some DICE roles have since passed to Cambridge (see above).



### 3. Project progress

#### 3.1 Progress in carrying out project activities

Overall the project’s progress in this financial year has been slow due to a long process of achieving consensus and resolving administrative and management issues, in part arising from the change of institution administering the grant. It has taken most of the six months available to resolve these issues but, as they now appear fully resolved, we have every confidence that project activities will proceed apace.

Although the project proposal was built directly on joint planning documents from WWF and FPD, the direct involvement of key figures in those institutions in designing the proposal was limited. Staff turnover in WWF since writing of planning documents and, indeed, the project proposal itself exacerbated this problem. The complex, and somewhat unfamiliar nature of the project, as an action-based research project involving both universities and state protection agencies also caused some confusion. For these reasons, it was necessary to begin with an introduction and consensus building exercise.

#### Inception workshop

To launch and publicise the project and to achieve a strong consensus among the partners on key activities, an inception workshop was held in Hanoi on 21 September 2009 that was attended by senior representatives of all key partner organizations in Vietnam as well as the Project Leader and Project Officer. The project was combined with, and co-financed by, a WWF event publicising the collection of 25,000 signatures in support of Saola conservation worldwide.

The main aim of the inception workshop was to ‘reach consensus on research needs for conservation of Saola and endemic muntjacs.’ In fact, while the workshop succeeded in identifying different research areas and identifying the issues relevant to choosing between them, it was not possible to explore the relative merits of different research topics in detail. The inception workshop was very successful, however, in achieving consensus on the importance of research in general, in part by referring to the conclusions of earlier planning documents: the draft National Saola Conservation Action Plan (2005) in Vietnam and the first meeting of the IUCN Saola Working Group (2009). This clarified the role of the project as part of a larger initiative and, hopefully, as a catalyst to secure further funds for conservation action.

Key decisions about project management and the relationship between partners were also made at the inception workshop, resolving issues which had previously led to some confusion and mixed support for the project. The relative roles of the partners were discussed and clarified. Key management decisions following the meeting were that:

- Vinh University and WWF should be separately engaged by DICE (later Cambridge) rather than with one sub-contracting the other.
- the provincial FPDs of Thua Thien Hue and Quang Nam, rather than national FPD, would be the government partners responsible for the WWF component.
- university-based training would be conducted under the Vinh University component of the project, with students of Hue University invited to participate as well as FPD staff where the training was relevant to their work.
- research would often be conducted by Masters students, but that funding for fieldwork in Thua Thien Hue and Quang Nam would come through the WWF project with WWF and provincial FPDs being able to prioritise what research was done in these provinces.
- Masters studentships undertaken in Vietnam and in the UK should attempt to be evenly divided between applicants from Vinh University and from Hue and Quang Nam.

However, suggestions to define at this stage where students from the different institutions should do their fieldwork were not accepted.

### **Administrative and management issues**

Following the success of the September inception workshop in achieving consensus among partners, there was an unfortunate delay due to the necessary decision to transfer the grant from Kent to Cambridge. Key administrative procedures needed to be conducted in series, rather than in parallel and to be conducted by higher administrative and management staff with limited time to devote to the project.

22/09/09	Inception workshop in Hanoi.
01/10/09	Date of transfer of project from DICE to Cambridge.
09/10/09	Administrative and management arrangements at Cambridge finalised
19/10/09	Draft MoUs sent to Host Country partners
24/10/09	MoU with Vinh University signed
24/11/09	Final draft of MoU with WWF returned (Vinh MoU revised and re-signed to match changes to WWF MoU)
04/01/10	Meeting held with key representatives of government agencies in Thua Thien Hue province to request official permission for project.
08/01/10	WWF MoU officially signed after international review process by WWF. Permission sought of provincial People’s Committees in Thua Thien Hue and Quang Nam provinces
18/01/10	Permission granted by Quang Nam Provincial People’s Committee.

29/02/10	Permission granted by Thua Thien Hue Provincial People's Committee. (NB: longer review process in Thua Thien Hue reflects the greater amount of funds expected to be spent in that province)
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Development of management structures and work plans were hindered by lack of formal permission at higher levels. In addition, Vinh University has little experience of managing international projects. This meant that all project activities, aside from database development, had to occur in March 2010, alongside activities already planned for March (Community-based Conservation Workshop and Steering Committee meeting).

**Output 1:** Improved capacity of Vinh University to produce graduates able to deliver the research components of Vietnam and Lao's contributions to the CBD.

### **Activity: 1.1 Identify gaps in current syllabuses**

In November 2009 and the Project Officer met with the Dean and Vice-Dean of the Biology Faculty, the head of the Zoology Department and the Dean of the Faculty of Agriculture, Forestry and Fisheries to discuss possibilities for the development of training materials. It was agreed that the most appropriate approach is to develop entire new modules for existing courses. A typical workload for a module would be fifteen 50-minute lectures, a two-three day field trip and a piece of coursework. Several relevant modules, both compulsory and optional, are taught at the zoology department at masters and undergraduate level.

To get an idea of the likely background knowledge of the students in key areas, the project officer also met with teaching staff from the GIS and mathematical biology units. Some students take an optional course in Species and Habitat Conservation based on Primack's Essentials of Conservation Biology (1993) Sinauer, Mass. (USA).

### **Activity 1.2: Planning workshop with staff from DICE, [Cambridge] and Vinh University**

On 18 March 2010, a meeting was held at Vinh University was attended by the Rector of Vinh University, as well as representatives from DICE and Cambridge. Dr Madhu Rao of the Network of AMNH's Network of Conservation Educators and Practitioners (NCEP) was also present.

Presentations were made on the structure of Masters training at Vinh and in Vietnam generally:

- 1) To develop short courses in methodological subjects relevant to the project (primarily social survey methods, GIS and ecological survey methods).
- 2) To engage with Vietnamese academics, following NCEP's approach to ensure that relevant issues and examples are included in the course materials, and that these are correctly translated.
- 3) To arrange a number of one-off lectures by visiting academics on key issues relevant to conservation in Vietnam. With additional funding, these could be expanded into lecture series or 2-3 day seminars. Promising topics identified for lectures were "use and abuse of term 'ecotourism'", "Incentives-based conservation" and "Payment for environmental services."
- 4) After short courses or lecture series have been delivered and student feedback received, they should be developed into modules within existing Masters courses. Meetings will need to be held with the Ministry of Education and Training (MoET) to approve the teaching of these Masters courses at Vinh and other Vietnamese Universities.
- 5) An entirely new Masters course in conservation should be developed using these materials as a core in the final year of the project (2012). The course would be held at Vinh's Centre for Environment and Rural Development.

A final decision has not yet been made about the form of training required for university teachers. The Project Officer has been requested to investigate training needs further over the course of the next year. Further collaboration with NCEP may also be appropriate here.

### **Activity 1.3: Lectures by DICE [& Cambridge] staff at Vietnamese universities**

The Project Leader, Professor Nigel Leader Williams gave a lecture entitled: "Incentives for communities to conserve – an overview" to over 200 undergraduate and masters students at Vinh University on 14 March 2010.

### **Activity 1.4: Development of new teaching materials**

A 'manual' for a community mapping method, developed under a previous project was revised and translated for the community mapping training course held in March.

**Output 2.** Training of two Vietnamese students to MSc level at DICE, 10 Vinh and Hue universities' Masters projects, both Lao and Vietnamese, supervised by DICE, and 20 Vinh and Hue university undergraduate projects supervised by DICE.

### **Activity 2.1: Community mapping training (10 masters students and FPD staff)**

The Project Officer gave a training course to 20 Masters students and young staff from Vinh and Hue universities and four provincial FPD and protected area staff. This comprised a classroom-based exercise, for which sessions held separately in Vinh and Hue, and a three-day field session in Thuong-Nhat commune constructing basic maps and conducting map-based group interviews with villagers about spatial patterns of perceived ungulate distribution and use of major forest products.

**Activities 2.3-2.4: Training courses.** The need for training courses in GIS, social and ecological survey methods was confirmed at the meeting on 18 March 2010, and these courses are currently being planned.

### **Masters studentships in Vietnam**

Two 2nd year Masters students at Hue University College of Science (Nguyen Thi Thu Hieu and Luong Van Duc) have had Masters thesis proposals accepted by the university for research based on work relevant to the project. They have received half-studentships from the project that are administered through Vinh University.

Their research will be based on community mapping work (Activity 3.4). The projects (especially LVD's) will also involve significant GIS components and will build on their existing knowledge of GIS. The Project Officer will be a co-supervisor on their theses, and they are also working closely with Ong Dinh Bao Tri (WWF) from whom they will receive important on-the-job GIS instruction.

Both students have already attended the participatory mapping training course (Activity 2.1) and have begun their fieldwork (Activity 3.4). They are due to present their theses in September 2010.

The decision has been made to support two or three more Masters' students from Hue University and four or five from Vinh University to conduct their research in the academic year October 2010 to September 2011. Information sheets about opportunities under the project have been circulated and two further proposals have already been received.

### **Undergraduate projects**

Involving undergraduates in the project will not be possible in the way that was originally conceived. The initial idea was that landscape-wide snare and habitat surveys (Activity 3.8) would be conducted on university field trips with undergraduate students collecting much of the data. A pilot survey in Saola habitat with Masters students in August 2009 indicated this was impractical both for time and safety reasons. We are now considering an alternative model of

employing undergraduates as field assistants to Masters' students, able to collect enough data of their own to complete separate dissertations.

### **Activity 2.5 and 2.6: Conservation Biology training at DICE [or Cambridge]**

Since the announcement new Masters in Conservation Leadership at, and the move of the project to, Cambridge, this has become a possible alternative to DICE for one of the Masters degrees to be offered in the UK. However, if no suitable candidate can be found for Cambridge, both Masters' training will take place at DICE.

Information sheets about the opportunities to study for Masters courses in the UK have been produced and distributed within Vinh and Hue universities and to Thua Thien Hue and Quang Nam FPDs. To date three candidates have contacted the Project Officer and two applications have been completed. The Project Officer is advising candidates on their applications, in particular on finding booster English language training in Vietnam before the course start date.

### **Activity 2.7: Training in analysis and interpretation of monitoring and other management data.**

This will begin once data management systems are complete (Activities 3.1 to 3.3) but important training needs have been identified in the course of developing those systems.

A key source of co-financing has become available through WWF, and the Russell E Train Foundation will fund a training course for rangers in late May 2010. These funds have been raised through the work of the Emerging Wildlife Conservation Leaders (EWCL) Saola Team. The tools developed by this project (see below) will now form the basis of this training and, hence, of data collection by ranger patrols (see Activity 3.8)

**Output 3.** Applied research ties all student work together into two outputs: i) models of endemic ungulate distribution across the wider landscape; ii) bio-economic model of hunting and ungulate abundance in the Hue-Quang Nam landscape.

### **Database and GIS work – Activities 3.1, 3.2 and 3.8**

Although administrative factors delayed fieldwork, preparatory work was able to proceed on designing databases as soon as the MOU with WWF was signed (in fact, shortly before). Important statistical and software issues have been resolved after dedicated work by the WWF project assistant (Ong Dinh Bao Tri) and an interlinked series of spatial database tools for ungulate conservation are close to completion. These are:

Saola record database (Activity 3.1)

Participatory GIS database (Activity 3.2)

Ranger patrol record database (part of Activity 3.8).

#### **Activity 3.1 Saola record database:**

This activity was initially conceived of as an expansion of the existing database to other areas, primarily to allow improved species distribution modelling which, in turn, would provide information about Saola habitat perhaps useful for site-based conservation planning. It became clear, however, that improvements to the database structure would provide much greater benefits to site-based planning and there was expertise available within the project team to do this.

The key scientific issue was how best to present these imperfect data such that they would genuinely assist spatial targeting of conservation action within a landscape. We aim to produce a GIS density surface indicating a subjective but consistent measure of confidence in the presence of the species within a given grid-square. The key elements to this are an automatic scoring system for the records and a link between the Saola database and the new participatory GIS (see below), both of which have been completed.

Records from areas outside Thua Thien Hue and Quang Nam provinces were collated with help from the Institute of Ecology and Biological Resources in Hanoi and the Wildlife Conservation Society in Lao. However the final entry of these data into the database will await

the final form of the database. The purchase of topographic maps of the areas concerned was also deemed necessary and these maps were purchased for areas in Vietnam, although not yet for Lao.

### **Activity 3.2: Participatory GIS database:**

At the start of the project, information from previous community mapping work had been stored as an ArcGIS shapefile of place names with associated data (including confidence scores in the accuracy of the name). However, these data were stored as points. A system has now been developed which allows these data to be stored as polygons. Based on a 30m-resolution Digital Elevation Model derived from published contour data, a GIS layer of stream catchments has been produced with the ArcGIS hydrology toolset. These stream catchments are now being manually linked to place names from past and current community mapping exercises.

One advantage of this system is to better represent the spatial data from the Saola record database. Records in the database are largely interview records and their location is given as a place name, rather than co-ordinates. In order to convert these data to a map, information is needed on the extent of the areas to which these place names refer.

Data will continue to be entered in these databases in the next financial year and a piece of novel research is planned to examine their usefulness for management. This research will involve one Masters student from Hue University (Luong Van Duc).

### **Activity 3.3: Expert workshop**

Administrative delays and the consequent delay in transfer of funds made it impossible to implement this workshop in the current financial year. The Steering Committee decided that supporting Vietnamese experts to attend the second meeting of the IUCN Saola Working Group would now best fulfil the aims of this activity. This meeting is planned for late 2010.

### **Activity 3.4: Community mapping in Hue – Quang Nam**

The delay in this activity for administrative reasons has been the most significant setback to the log frame. However two Masters students from Hue University supported by the project (see above) have received training and developed research proposals and are currently conducting the first stage of the fieldwork: gathering place name data in all communes in the Hue-Quang Nam landscape for which these data are lacking. WWF has accrued funds from the financial Year 1 budget to support these students, with support from the Project Officer and from WWF and FPD staff to conduct the next stage of the work (map-based interviews) in May-June 2010.

The participatory mapping training course (activity 2.1) itself collected data on place names, perceived ungulate distribution and forest product use from three villages in Thuong Nhat commune, filling in the information gap for that commune which includes most of the Bach Ma National Park Extension.

### **Activity 3.8: Landscape-wide snare and habitat surveys**

At both the Saola Working Group meeting in August 2009, and the inception workshop in September 2009, the idea was raised of making the best possible use of data collected by FPD snare removal patrols to determine patterns of snaring and other threats as well as habitat data. A pilot survey funded by AMNH in 2009 to trial survey methods for snare and habitat surveys also highlighted the difficulties of using undergraduate students to conduct systematic landscape wide surveys following approximately straight lines. The difficult terrain would require a very high survey effort. For these reasons, the Steering Committee decided to investigate using data from FPD patrols as a research method to uncover snaring patterns and habitat variables.

Currently the main limiting factor to using patrol data is data collection protocols and training. Database tools for patrol data collection have been developed in ArcGIS. These tools have a function in monitoring but also potentially in research.

A key innovation has been the development of data entry forms for GPS tracklogs, avoiding the intermediate step of manual entry of GPS data into spreadsheets. This system is both user-friendly and resistant to accidental and deliberate error. A second key innovation has been the development of a system for determining whether patrol effort within a forest compartment has

been sufficient, and sufficiently evenly distributed, to produce an accurate picture of the whole compartment.

The next step will be training for the patrol teams, to be conducted in late May 2010 with co-financing from the Russell E Train Foundation. The project will then directly support the first patrols to employ these techniques in June. WWF will accrue funds from Financial Year 1 budget to achieve this. Subsequently, these patrols will be supported by other WWF funds and, it is hoped, by government funds after the end of this project. The patrol data collection system will be trialled in Financial Year 2 of the project and evaluated at the 2nd Steering Committee meeting in March 2011. Should the approach prove inadequate to produce data of sufficient quality on snare distribution, an alternative, independent research programme will be conducted in 2011.

**Output 4.** Forest management plans within the Hue-Quang Nam landscape incorporate the results of applied Saola research to the benefit of conservation and community benefit sharing mechanisms.

#### **Activity 4.1: Research planning workshops**

Three workshops have been held:

- Inception Workshop (Hanoi, 19/09/09, see above)
- Community-based Conservation Workshop (Vinh, 15/03/10 – 16 /03/10, see activity 4.2 below)
- Steering Committee (Hue, 19/03/10)

The community-based conservation workshop in Vinh was intended to guide further research by producing a shortlist of potentially useful conservation actions that would require research to investigate further.

The inception workshop and the Steering Committee meetings were both part of a process of dialogue with host country partner institutions, including national and provincial FPDs and the universities of Hue and Vinh about the most useful and practical research. Previous prioritizations of research for Saola conservation had focussed on biological and ecological questions about the species, while no separate research had been proposed or completed to identify important questions for endemic muntjacs. At both the inception workshop and the Steering Committee meeting, an increasing focus was given to questions about the patterns and determinants of threat, primarily through hunting of the full range of ungulates, and the likely effects of different proposed conservation actions. This moves away from a situation in which ignorance about the species is seen as an overarching driver of threat, to a process of identifying key questions directly related to assessing the effectiveness of conservation action.

At the Steering Committee, the idea of conducting telemetry work on the endemic ungulates was raised. This had previously been identified at the Saola Working Group as one of the key priorities for research on Saola but was considered by the Steering Committee to be less important than gaining an understanding of socio-economic issues about hunting, especially given the attendant risks. The proposal to conduct telemetry work under this project was therefore rejected. Consequently, we are now considering whether the relative importance of different research strategies can be assessed with a formal decision analysis.

A second key decision made at the Steering Committee, and following on from issues raised at the inception workshop, was to make better use of data collected by snare removal patrols themselves (see activity 3.8 above).

#### **Activity 4.2: Protected area management planning & zonation**

The new Saola Nature Reserve in Thua Thien Hue was gazetted in December 2009. The success in establishing this reserve is considered by WWF and FPD partners to be a valid model for the same procedure in the proposed reserve in Quang Nam.

WWF has accrued funds from the first financial year of the project in order to hold two meetings in April 2010.

An opening ceremony for the Saola Nature Reserve in Thua Thien Hue will invite key provincial district and commune government agency officials as well as press representatives to publicise and encourage co-operation in the establishment of the reserve.

In Quang Nam, a meeting will be held with representatives of key government agencies to produce a roadmap to the gazetting of the proposed Quang Nam reserve. A key issue will be determining the necessary survey work to be done for the feasibility study.

Both these workshops are preliminaries to management planning for the reserves in which the project hopes to take an active advisory role. Management planning for the Saola Nature Reserve in Thua Thien Hue should begin in 2010. For the Quang Nam reserve, dates remain uncertain.

#### **Activity 4.3: Evaluation of participatory resource-use planning approaches**

Following the inception workshop the need became apparent to re-investigate past and novel proposed models for community-based conservation in the context of endemic ungulate conservation, and of Vietnam more generally. A workshop was held at Vinh University on 15-16 March with the following aims:

1. To provide an overview of different approaches to community-based conservation which might work in Vietnam, both in the short term, and in the longer term.
2. To investigate the relative merits of these approaches with regard to a particular conservation problem: conservation of the Saola and endemic muntjacs in the Central Truong Son, including the west of Nghe An province.
3. To share expertise and experience of Vietnamese government, NGO partners and local people from west Nghe An with international experts in community-based conservation.
4. To understand the priority needs for university-level training in community based conservation in Vietnam.

The final English report from the workshop is still in preparation so only a very brief summary is presented here.

Workshop attendees:

Project Leader, Project Officer, DICE Co-investigator	3
NGO and bilateral donor agency staff	11
Vietnamese academics	14
Provincial FPD staff	7
Local district admin and protected area staff	8
Other provincial staff	4

The workshop succeeded in identifying a wide range of community-based conservation options and uncovered a great deal of support for the idea in general. Several new developments indicate that the government of Vietnam is modifying its stance from a disincentive ('preservationist') approach to conservation towards one where some communities receive limited use rights. A new draft decree (online in Vietnamese: [http://www.kiemlam.org.vn/Desktop.aspx/News/Thong-bao/De nghi to chuc ca nhan co lien quan gop y cho du thao Nghi dinh ve to chuc v a quan ly he thong rung dac dung/](http://www.kiemlam.org.vn/Desktop.aspx/News/Thong-bao/De%20ngh%20to%20chuc%20ca%20nhan%20co%20lien%20quan%20gop%20y%20cho%20du%20thao%20Ngh%20din%20h%20ve%20to%20chuc%20v%20a%20quan%20ly%20he%20thong%20rung%20dac%20dung/)) is evidence of this, as is the current effort to implement pilot Benefit Sharing Mechanisms under the Vietnam Conservation Fund. Against this background we uncovered a lot of support for community-based conservation in general.

However, although the workshop aimed to elucidate the mechanisms by which interventions were intended to lead to a conservation outcome, this proved surprisingly difficult. There was much discussion about the technical obstacles and opportunities for schemes to provide livelihood benefits. However, only a small minority of these suggested actions could be linked to conservation outputs

Experience at the workshop indicates the existence of a number of different conceptualizations among the participants about the forces underlying hunting. The appropriateness of different community-based conservation measures clearly depended on whether hunting was seen as primarily an economic, subsistence or cultural activity. Determining the relative merits of these different conceptual models would be one valuable focus for future research. Additional insights from the workshop are expected after the publication of the final report.

## **3.2 Progress towards Project Outputs**

### **Output 1. Improved capacity of Vinh University to produce graduates able to deliver the research components of Vietnam and Lao's contributions to the CBD.**

#### **Indicators**

- Conservation courses developed in Vietnamese university.
- Feedback from Vinh University lecturers and students.

#### **Assumptions**

- Individual lecturers willing to collaborate.
- Individual lecturers maintain new courses after project ends.
- Students appreciate new course content and style of teaching.

Partners at Vinh University have shown a very strong interest in collaboration to produce new training courses, backed by the current Rector of the Vinh University. Significant co-financing has now been promised for future years from the university, potentially tripling project spending and university co-financing in the first financial year has already been generous. In addition, a developing collaboration with AMNH-NCEP promises to help with the development of certain materials and, more importantly, with sharing experience of delivering them in the region and in Vietnam.

Experience from a single training course given by the Project Officer in this financial year suggests that differences in teaching style between UK and Vietnamese norms are unlikely to be an obstacle for students. Strong interest in the lecture by the Project Leader also largely lays to rest the concern that students and staff from a biology background and will be unwilling to study conservation as an interdisciplinary subject.

Given the interest by higher levels of the university, the commitment of individual lecturers should perhaps be seen as less of an issue. However the capacity of lecturers to deliver courses in future remains to be determined, and will be investigated further in the coming year and discussed at the 2nd Steering Committee.

### **Output 2. Training of two Vietnamese students to MSc level at DICE, 10 Vinh and Hue university masters projects, both Lao and Vietnamese, supervised by DICE, and 20 Vinh and Hue university undergraduate projects supervised by DICE.**

#### **Indicators**

- Students graduate from DICE, and Vinh and Hue, universities.
- Thesis reports from each project.

#### **Assumptions**

- Students with sufficient English skills exist
- Students successfully complete fieldwork.
- Weather and other unknown variables do not prevent completion of fieldwork
- Students obtain permission for fieldwork.

Applications have been received for studentships at DICE and also at Cambridge. However, English language skills of applicants requires improvement, and all applicants are preparing self-funded English study and targeted IELTS test preparation from April to July. The project has announced, however, that we expect eight applicants to these two studentships by the end of April, to ensure that at least two will pass the entry requirements. Failure to find eight applicants will lead to us opening the competition to other universities.

Two students have already been selected for Masters studentships at Hue University, and interviews and informal meetings suggest that there will be sufficient candidates for the future. A list of proposed research topics has been received. A series of training courses are planned to ensure that all students have the necessary skills required to conduct fieldwork. The Project Officer's own Vietnamese language skills facilitate working with students whose English is not perfect. However, given the fall of the pound against the dong there are currently insufficient funds for ten half-studentships in Vietnam and the number will be reduced to eight if the exchange rate does not improve.

The chances of obtaining permission for fieldwork and of completing it thereafter are improved by adopting a degree of flexibility. All key research aims of the project can be achieved in a variety of ways and in a number of alternative administrative regions. The degree of involvement of students, WWF staff, project staff and FPD staff in each project is also flexible. We are confident of finding achievable research, relevant to the aims of the project to satisfy the requirements of all Masters' theses supported by the project.

**Output 3. Applied research ties all student work together into two outputs: i) models of endemic ungulate distribution across the wider landscape; ii) bio-economic model of hunting and ungulate abundance in the Hue-Quang Nam landscape.**

#### Indicators

- Report and published manuscript on the distribution of endemic ungulates across their range in Vietnam and Lao with recommendations on how to strengthen the two protected area systems to support national pledges to the CBD.
- Report and published manuscript on the bio-economics of the Hue-Quang Nam landscape and its implications for saola conservation at the community, protected area and ecosystem levels.

#### Assumptions

- Permission to publish reports granted by local authorities
- Journals accept submitted manuscripts
- Governments willing to expand the protected area system.

Little progress towards this outcome has been made in this financial year as little fieldwork has been conducted. However research on ungulate distribution within the Hue – Quang Nam landscape will hopefully lead to a publication in the next financial year and a model for further work in the rest of the project area.

The government of Vietnam has already shown willingness to expand the protected area system by gazetting the new Saola Nature Reserve in Thua Thien Hue province. Furthermore, alternatives to traditional protected areas are also being considered.

**Output 4. Forest management plans within the Hue-Quang Nam landscape incorporate the results of applied saola research to the benefit of conservation and community benefit sharing mechanisms.**

#### Indicators

- Community forest management systems adapted based on the results of bioeconomic model.
- New protected area management plans incorporate the results of participatory mapping, ungulate and snare distribution surveys and the bio-economic model

## Assumptions

- Results of research indicate changes to management plans are required.
- Government agencies accept adapted community forestry model.
- Communities willing to conserve endemic ungulates.
- Protected area management boards willing to adapt.

Significant progress is not expected on this outcome until Financial Years 3 and 4 of the project. However literature review and workshop discussions have given the project team an improved understanding of the current state of community-based conservation in Vietnam. We now have to consider the appropriate task to be to develop and evaluate models of community-based conservation. We do not believe it is currently helpful to specify further whether these will involve 'community forestry' or 'participatory land-use planning' or other specific approaches.

### 3.3 Standard Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for this reporting period	Total planned from application
Established codes								
2	Number of people to attain masters qualification							
3	Number of people to attain other qualifications							
4A	Number of undergraduate students to receive training							
4B	Number of training weeks to be provided							
4C	Number of postgraduate students to receive training	17						
4D	Number of training weeks to be provided	1						
6A	Number of other people to receive education/training	3						
6B	Number of training weeks	1						
7	Number of training materials to be produced	1						
8	Weeks to be spent by UK project staff on project work in the host country	32						

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for this reporting period	Total planned from application
9	Species/habitat management plans							
10	Field guides/manuals to assist work related to species identification, classification and recording							
11A	Number of papers to be published in peer reviewed journals							
11B	Number of papers to be submitted to peer reviewed journals							
12A	Number of computer based databases to be established and handed over to the host country	2						
12B	Number of computer based databases to be enhanced and handed over to the host country							
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings							
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.							
15A	Number of national press releases in host country	x						
15B	Number of local press releases in host country	x						
15C	Number of national press releases in UK							
17B	Number of dissemination networks to be enhanced/ extended	x						

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for this reporting period	Total planned from application
18A	Number of national TV programmes/features in host country(ies)							
18B	Number of national TV programmes/features in UK							
18C	Number of local TV programmes/features in host country(ies)							
18D	Number of local TV programmes/features in UK							
19A	Number of national radio interviews/features in host county(ies)							
19B	Number of national radio interviews/features in UK							
19C	Number of local radio interviews/features in host country(ies)							
19D	Number of local radio interviews/features in UK							
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)							
23	Value of resources raised from other sources (ie. in addition to Darwin funding) for project work	x						

**Table 2 Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £

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

Ideas for reconciling livelihoods and conservation have been provided at a national-level workshop and will be investigated further. Approaches to collect data on distribution and, particularly, habitat use have been investigated and some key decisions have been made. A call for applications to UK Masters courses has gone out and three responses have been received so far from the partner institutions. Two Vietnamese Masters students have been accepted by their university to conduct Masters' research on topics relevant to the project and are being co-supervised by the Project Officer. The project has not yet produced any outputs relevant to management planning.

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

The first (half) year of the project has been largely preparatory. As a research and training project, direct benefits to biodiversity, sustainability and local livelihoods are expected to take time to develop, and to function through influence on other initiatives and projects. Hence we do not believe it is possible to report on progress at this level yet.

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

Discussed in sections 3.1-3.4 above

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

Not applicable

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

Discussed in sections 3.1-3.4 above

## **7. Sustainability**

Our project devolves considerable responsibility to the host country partners in decision-making, planning and consultation. With the inception workshop and Steering Committee meeting we have engaged partners in discussing not only the actions but the rationale behind them and have so greatly increased their ownership of the project. Despite the project's original co-financing plans being upset due to the delay and to the loss of a major WWF project, both host country partners have found alternative sources of funding with which to augment our work.

Both the inception workshop and the Community-based conservation workshop in Vinh received a high degree of national-level publicity (see section 3.3 and selection of attached publicity materials).

## **8. Dissemination**

Because of the strong links with the provincial Forest Protection Departments, with whom WWF has a longstanding relationship, we are able to collaborate closely with key decision-makers in planning research. This will greatly assist dissemination of findings to our main target audience of relevant provincial government officials.

The Community-Based Conservation Workshop in Vinh has helped us to identify a number of key senior academic and local government figures with an active interest in the wider issues addressed by this project. This will also improve the process of dissemination of research findings.

## 9. Project Expenditure

Please expand and complete Table 3.

**Project expenditure during the reporting period (Defra Financial Year 1 April 2009 to 31 March 2010)**

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence International travel National travel Fieldwork travel/subsistence			
Printing			
Conferences, workshops, seminars, etc Fieldwork operating costs			
Capital items/equipment (specify)			
Others (specify) Studentships			
Salaries (specify by individual) Wilkinson, Cambridge Brook, project supervisor, WWF Thin, project manager, WWF Admin staff, WWF Trung, co-ordinator, Vinh Khanh, admin staff, Vinh			
TOTAL			

As mentioned in part 3, the project's progress in this financial year has been slow due to a long process of achieving consensus and resolving administrative and management issues, in part arising from the change of institution administering the grant. It has taken most of the six months available to resolve these issues. As a consequence of this, some expenditure is delayed as well.

International travel:

Flights were more expensive than expected because the Project Leader and Co-Investigator had to postpone booking until soon before traveling, while waiting for dates of the meeting held at Vinh University in March 2010 to be confirmed.

Conferences, workshops, seminars:

Administrative delays and the consequent delay in transfer of funds prevented some planned workshops from being held in the current financial year.

Regarding the planned Expert Workshop (activity 3.3) the Steering Committee decided that supporting Vietnamese experts to attend the second meeting of the IUCN Saola Working Group would now best fulfill the aims of this activity. This meeting is planned for late 2010.

Regarding protected area management planning and zonation: WWF has accrued funds from the first financial year of the project in order to hold two meetings in April 2010.

Training for the patrol teams, to be conducted in late May 2010 will be supported by funds accrued from the FY1 in June by WWF (see activity 3.8 above)

Fieldwork:

The delay in community mapping in Hue for administrative reasons has been the most significant setback to the log frame. WWF has accrued funds from the Financial Year 1 budget to support two masters students from Hue University to conduct the next stage of the work (map-based interviews) in May-June 2010.

Although administrative factors delayed fieldwork, preparatory work was able to proceed on designing databases.

The purchase of topographic maps of the areas concerned was also deemed necessary and these maps were purchased for areas in Vietnam, although not yet for Lao.

Overheads:

Part of Financial Year 2 overheads budget for Cambridge was brought forward following discussion with LTS.

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

Not applicable - yet!

## Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2009/10

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
<p><b>Goal:</b> <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><i>First six months has been largely preparatory. Progress at this level not expected yet.</i></p>	<p><i>(do not fill not applicable)</i></p>

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
<p><b>Purpose</b></p> <p>More effective conservation of a globally important ecosystem by i) conducting applied conservation research on the highly endemic Annamite ungulate community and threats posed by hunting, ii) strengthening the capacity of leading universities within the region to produce well-trained graduates in biodiversity conservation who value traditional knowledge and iii) influencing on-the-ground community and government forest management systems.</p>	<ul style="list-style-type: none"> <li>• Clear understanding of how to reconcile hunting, livelihoods and conservation through a bio-economic model.</li> <li>• First accurate understanding of distribution and habitat of endemic ungulates across northern Annamites</li> <li>• Capacity of research organisations enhanced through UK MSc training of two trainers and support in developing courses.</li> <li>• 10 Vietnamese and Laotian masters and 20 undergraduate projects supervised by UK experts.</li> <li>• Forest management plans incorporate needs of ungulate species and local people.</li> </ul>	<p>Ideas for reconciling livelihoods and conservation have been provided at a national-level workshop and will be investigated further. Approaches to collect data on distribution and, particularly, habitat use have been investigated and some key decisions have been made. A call for applications to UK Masters courses has gone out and three responses have been received so far from the partner institutions. Two Vietnamese Masters students have been accepted by their university to conduct Masters' research on topics relevant to the project and are being co-supervised by the Project Officer. The project has not yet produced any outputs relevant to management planning.</p>	<p>Community mapping data from Hue – Quang Nam landscape provides basic information on patterns of forest use for preliminary bio-economic model.</p> <p>Data collection by snare patrols systematically improved and fully evaluated as a source of information on hunting patterns.</p> <p>Draft bio-economic model produced, perhaps as a companion-based model (role-playing game)</p> <p>All Saola records entered into new database.</p> <p>First predictive model of Saola habitat produced.</p> <p>Two Vietnamese students to begin training in the UK</p> <p>Training, selection and provision of studentships to 6 masters students in Vietnam.</p> <p>Completion of two current masters degrees and submission for publication of some findings.</p>
<p><b>Output 1.</b> Improved capacity of Vinh University to produce graduates able to deliver the research components of Vietnam and Lao's contributions to the CBD.</p>	<ul style="list-style-type: none"> <li>• Conservation courses developed in Vietnamese university.</li> <li>• Feedback from Vinh University lecturers and students.</li> </ul>	<p><i>A model for course development has been agreed with Vinh University and several areas of interest have been defined.</i></p>	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
1.1: Identify gaps in current syllabuses		Project Officer worked to develop an understanding of masters programme at Vinh University. Course outlines obtained for mathematical biology, GIS and current conservation biology course.	
1.2: Planning workshop with staff from DICE and Vinh university		Held on 17 <sup>th</sup> March. Decision to develop major course materials around the short courses developed for project and to develop minor course materials around lectures. Short course needs and University's ideal timetable specified. Significant promise of cofinancing from Vinh University	
1.3: Lectures by DICE staff at Vietnamese universities		Lecture given by Prof Leader-Williams to ca 200 students on 14 <sup>th</sup> March	
1.4: Development of new teaching materials		Existing Participatory mapping methods manual improved, reviewed by DICE and Vinh University experts and translated into VN Potential collaboration identified with parallel project by AMNH-NCEP, also developing Vietnamese language teaching materials.	
1.5: Training for Vietnamese university staff		No activities yet.	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
<p><b>Output 2.</b> Training of two Vietnamese students to MSc level at DICE, 10 Vinh and Hue university masters projects, both Lao and Vietnamese, supervised by DICE, and 20 Vinh and Hue university undergraduate projects supervised by DICE.</p>	<ul style="list-style-type: none"> <li>• Students graduate from DICE, and Vinh and Hue, universities.</li> <li>• Thesis reports from each project.</li> </ul>	<p>Two students have already been registered, received studentships and begun fieldwork. Over 20 other students have contacted with interest in the next round of studentships.</p>	
<p>2.1: Community mapping training (10 masters students and FPD staff)</p>		<p>Training course conducted in Nam Dong district with 20 Masters students and young staff from Vinh and Hue universities and four provincial FPD (Thua Thien Hue) by Project Officer gave a training course to 20 Masters students and young staff from Vinh and Hue universities and four provincial FPD and protected area staff.</p> <p>Two masters proposals on community mapping developed with support of Project Officer.</p>	
<p>2.2: Training in GIS (students, FPD and university staff)</p>		<p>Basic needs assessed</p>	
<p>2.3: Training in basic ecological survey methods (students, FPD and university staff)</p>		<p>No activities yet</p>	
<p>2.4 Training in basic social survey methods (students, FPD and university staff)</p>		<p>Basic needs assessed</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
2.5: Conservation Biology training at DICE (1 Masters student) (will include training relevant to landscape-wide snare and habitat surveys)		Decision that, if a suitable candidate can be found, the new Conservation Leadership masters course at Cambridge could be an alternative to DICE training for this activity.  Opportunities announced with factsheet sent to all partners and announcement on Vinh university website. One Candidate has applied so far to DICE and one to Cambridge Project officer has assisted the candidates with their application, including investigating English language training options, advising candidates on this.	
2.6: Wildlife trade training at DICE (1 Masters student) (will include training relevant to research into hunting patterns)		1 candidate has applied (see above for further details)	
2.7: Training in analysis and interpretation of monitoring and other management data (FPD staff)		Additional funds raised by WWF through EWCL programme.	
<p><b>Output 3.</b> Applied research ties all student work together into two outputs: i) models of endemic ungulate distribution across the wider landscape; ii) bio-economic model of hunting and ungulate abundance in the Hue-Quang Nam landscape.</p>	<ul style="list-style-type: none"> <li>• Report and published manuscript on the distribution of endemic ungulates across their range in Vietnam and Lao with recommendations on how to strengthen the two protected area systems to support national pledges to the CBD.</li> <li>• Report and published manuscript on the bio-economics of the Hue-Quang Nam landscape and its implications for saola conservation at the community, protected area and ecosystem levels.</li> </ul>	<p>Some important approaches have been developed for further testing.</p> <p>Use of interview data in conjunction with info-gap analysis to investigate the uncertainty in current estimates in the context of planning action.</p> <p>Tools for data collection by snare patrols to be trialled and evaluated over the course of next year as an efficient tool for collecting data on patterns of hunting.</p> <p>The use of companion-based modelling (involving role-playing games) as a technique for constructing the initial bioeconomic model.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
3.1: Construct range-wide database		GIS-linked database constructed, with scoring system. Maps purchased and records collected but all data not yet entered. Participatory mapping data are needed to enter location data according to database developed in 3.2	
3.2: Construction of Participatory GIS		Completed and currently being used to enter field data from community mapping. Tools developed for linking stream names with catchment polygons.	
3.3: Expert workshop		Postponed	
3.4: Community mapping in Hue – Quang Nam		Student proposals developed; Preliminary mapping trips have now started (April 2010) Data collection trips remain to be done in April – June 2010 and students have been contracted to do these.	
3.5: Range-wide community mapping		To begin Year 2	
3.6: Species distribution modelling		Thought on finer scale (habitat) modelling has been developed through discussions and literature review. Alternative sources of information on habitat use are telemetry and records of trapped ungulates. Steering Committee has decided to follow the second option beginning in Year 2. A GIS layer of habitat classes has been developed and needs ground-truthing.	
3.7: Specific training for research into hunting patterns		To begin Year 2	
3.8: Landscape-wide snare and habitat surveys		The approach to be followed has been decided: using patrol data rather than independent surveys and rigorous data collection protocols using GPS and cameras to ensure accuracy of data.	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
3.9: Targeted Saola surveys		This activity has effectively abandoned with the decision not to undertake telemetry work. The issue is likely to be discussed again next year at the Saola Working Group meeting.	
3.10: Bio-economic modelling		Approach of companion-modelling proposed and initial investigations made.	
<p><b>Output 4.</b> Forest management plans within the Hue-Quang Nam landscape incorporate the results of applied saola research to the benefit of conservation and community benefit sharing mechanisms.</p>	<ul style="list-style-type: none"> <li>• Community forest management systems adapted based on the results of bioeconomic model.</li> <li>• New protected area management plans incorporate the results of participatory mapping, ungulate and snare distribution surveys and the bio-economic model</li> </ul>		
4.1: Research planning workshops		<p>Inception workshop brought out issues of prioritizing research</p> <p>Steering Committee meeting made key decisions following on from Inception workshop</p> <p>Community-based Conservation Workshop in Vinh outlined issues of producing working models of community-based conservation and identified some key questions related to their performance</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2008 - March 2009	Actions required/planned for next period
4.2: Protected area management planning & zonation		<p>The Thua Thien Hue Saola reserve has been officially gazetted in the course of this year.</p> <p>Meetings are to be held in April to publicise the TTH Reserve and to facilitate the planning process for the reserve in Quang Nam. The project is facilitating this process at present. Key management planning decisions remain in the future.</p> <p>A database for patrol data (see 3.8) is in development and nearing completion. And protocols for snare removal patrols will follow. It is hoped that these will be integrated into PA management in future.</p>	
4.3: Evaluation of participatory resource-use planning approaches		<p>The Community-based Conservation workshop in Vinh (report in prep) was the first stage in this process.</p>	
4.4: Participatory Resource Use Planning		<p>No activities planned in Year 1</p>	

## Annex 2 Project's full current logframe

Activities	Main partner	2009		2010				2011				2012	
		FY1	10–12	FY2	FY2	FY3	FY3	FY3	FY3	FY3			
Identify gaps in current syllabuses	Vinh	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>								
Planning workshop	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>								
Lectures by DICE staff at VN universities	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Development of new teaching materials	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	■■■	■■■	■■■	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>
Training for VN university staff	Vinh	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■					
Community mapping training (10 masters students and FPD staff)	Vinh	<input type="checkbox"/>		■■■	<input type="checkbox"/>	■■■	<input type="checkbox"/>						
Training in GIS (students, FPD and university staff)	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training in basic ecological survey methods (students, FPD and university staff)	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training in basic social survey methods (students, FPD and university staff)	Vinh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conservation Biology training at DICE (1 Masters student preferably from TTH/QN FPD)	Vinh	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Wildlife trade course at DICE (1 Masters student preferably from Vinh University)	Vinh	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Training in analysis and interpretation of monitoring and other management data (FPD staff)	WWF	<input type="checkbox"/>	<input type="checkbox"/>		■■■	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	■■■
Construct range-wide database	WWF	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>								
Construction of PGIS	WWF	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>								
Expert workshop	WWF	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>					
Community mapping in Hue – Quang Nam	WWF	<input type="checkbox"/>		■■■	■■■	■■■	<input type="checkbox"/>						
Range-wide community mapping	Vinh	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>								
Species distribution modelling	WWF	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		2009		2010				2011				2012	
		FY1		FY2				FY3				FY4	
Specific training for research into hunting patterns	WWF	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landscape-wide snare and habitat surveys	WWF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Targeted Saola surveys	WWF	<input type="checkbox"/>											
Bio-economic modelling	WWF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■
Research planning workshops	WWF	■■■	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■■■	<input type="checkbox"/>
Protected area management planning & zonation	WWF	<input type="checkbox"/>		■■■	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaluation of participatory resource-use planning approaches	WWF	<input type="checkbox"/>		■■■	<input type="checkbox"/>	■■■							
Participatory Resource Use Planning	WWF	<input type="checkbox"/>	■■■	■■■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

## **Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)**

Press articles

MOUs with WWF and Vin

Vinh ideal schedule and co-financing

Financial Year 2 workplan.

Training manual for community mapping in VN & English

Duc and Hieu (masters students) proposals

Student interest

training course participants' list

the information documents about UK and VN masters courses distributed in Vietnam

screenshots of database tools already developed.

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

	Check
<b>Is the report less than 5MB?</b> If so, please email putting the project number in the Subject line.	
<b>Is your report more than 5MB?</b> If so, please advise <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> that the report will be send by post on CD, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	
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