

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

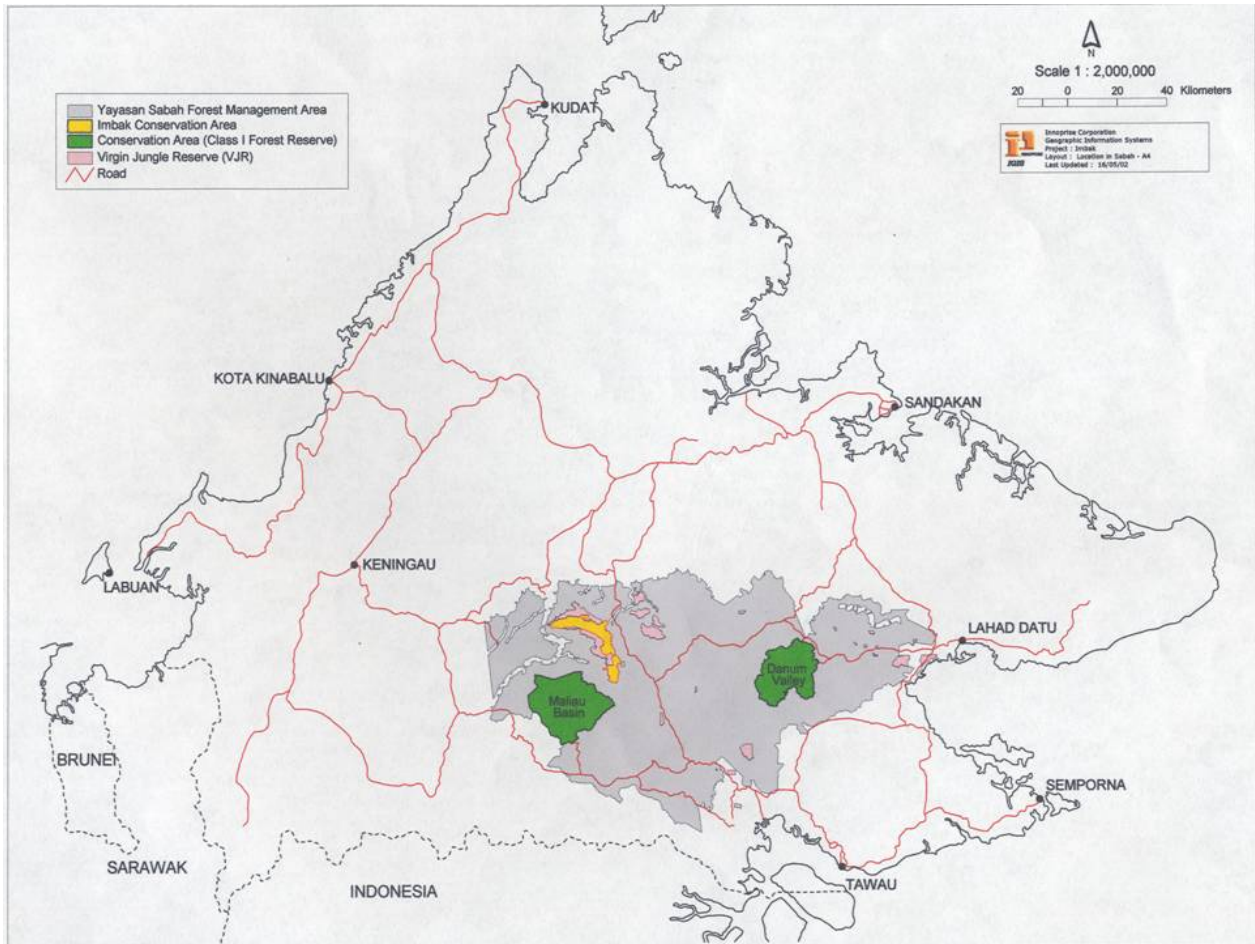
Submission deadline 30 April 2008

Darwin Project Information

Project Ref Number	14-016
Project Title	Assessing and conserving plant diversity in commercially managed tropical rainforests
Country(ies)	Malaysia
UK Contract Holder Institution	Royal Botanic Gardens, Kew
UK Partner Institution(s)	Royal Society
Host country Partner Institution(s)	Yayasan Sabah; Sabah Forest Department
Darwin Grant Value	£ 173,100
Start/End dates of Project	April 2005 to April 2009
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	annual report number 3
Project Leader Name	Rogier de Kok
Project website	http://lion.rbgkew.org.uk/science/directory/projects/DiversityForestsSaba.html
Author(s), date	Rogier de Kok, 30 April 2008

1. Project Background

Much of the plant diversity of the lowland rainforests of Sabah (Malaysian Borneo) resides in the timber concessions of forestry companies. As a key ecosystem component in supporting and maintaining general biodiversity, it is critically important that plant diversity in managed forests is assessed and high conservation value forests are protected. This would ideally be done through the framework of Forest Stewardship Council certification (FSC), which endorses timber from forests which are sustainability managed. Part of this certification is the recognition and protection of areas with high conservation values. However, there is a lack in plant identification and habitat assessment skills in Sabah. This project aims to address this knowledge hiatus through a programme of training, research and institutional capacity building within the Sabah Forest Department (SFD), Yayasan Sabah (YS) and other major Malaysian forest management companies. The project concentrates on the biggest logging company Yayasan Sabah (YS), which apart from a commercial logging company, also manages on behalf of the Sabah government, two conservation areas (Danum Valley and Maliau Basin) and has proposed to the Sabah government that a third area out of its logging concession should be protected (Imbak Canyon) (see Map 1).



Map 1. Sabah, Malaysia. The grey area is the Yayasan Sabah concession area, with the two protected areas Danum Valley and Maliau Basin in green and the proposed protected area Imbak canyon in yellow. The pink areas are protected Virgin Jungle reserves or water catchment areas.

2. Project Partnerships

Project partnerships: This project aims to address the lack in plant identification and habitat assessment skills in Sabah, through a programme of training, research and institutional capacity building within the Sabah Forest Department (SFD) and Yayasan Sabah (YS). The project aims to reach these goals through training courses. The habitat assessment skills training was done in the first two years of the project and is reported on in earlier annual reports

Yayasan Sabah:

In this financial year 16 staff members from the various departments within Yayasan Sabah were trained in plant recognition (see annex 1, 2 & 3). The training this year took place at Maliau Basin, which is part of the YS logging concession and is managed by them as a protected area. This course was one of the first to be held at the newly build Maliau Basin research station. This station is part of the move of YS to use, study and manage the Maliau Basin protected area in a sustainable and scientific way. YS supported the course in kind by allocating staff time (on top of the time of the YS participants) and providing free use of the facilities.

As part of the increasing general awareness of biodiversity issues in Sabah and within YS in particular, most of the land around Danum Valley has now been declared a no logging area by the prime minister of Sabah (see newspaper article Daily Express 16 March 2006, annex 4). This was partly possible because of the training and the workshops given by ProForest in the first year of the project, which advised staff of both Yayasan and Sabah Forest Department in new developments in suitable forestry practise. WWF is currently looking for funding for a reforestation project in this area. The products from our project (habitat assessments, maps, databases) and the staff trained during the project (WWF, YS and Forestry department) will play a major part in the further development of this area.

Sabah Forest Department:

One person has been employed for the last year in order to database existing collections from the target area (grey area on the map above) held at the herbarium of the Sabah Forest Department. This has resulted in the addition of 3743 records to the permanent herbarium data base (BRAHMS) of the Sabah Forest Department. These records will help the forestry department to monitor biodiversity changes in Sabah more effectively (CBD articles 6, 7, 8, 10, 12 & 14). This employment contract has now come to an end and the management of the herbarium has expressed a wish to continue her employment in order not to lose the experience she has gained during the project and they are now actively looking for funds.

In this financial year 14 staff members from the various research groups within the Sabah Forest Department were trained in plant recognition (see annex 1, 2 & 3). The training this year took place at Maliau Basin and the herbarium of the Sabah Forest Department very kindly allowed us to loan 3 boxes of specimens for use during this course, free of charge.

Material collected during this project is now being processed by the Sabah Forest Department and the first set is being deposited in its herbarium, leaving an important legacy of the project and the possibility that the herbarium can monitor biodiversity changes in Sabah more effectively (CBD article 7 & 8). The second set is now being named and incorporated in the Herbarium at Kew and the information concerning the first identifications done at Kew will be sent back to Sabah within the next couple of months. This information exchange has been in place for the last 40 years, but this project has played an important role in the enhancement both in quantity and most important in quality, of the specimens sent. This is partly due to the courses taught during this project, but mainly due to the increases contact between Kew staff and collecting/curation staff in Sabah. For instance, discontinuing the use of the highly toxic chemical naphthalene as an insect repellent in shipments to Kew, the use of which is now illegal in the UK. This means that we at Kew can now very quickly deal with specimens from Sabah, without the need of first going through time consuming and expensive detoxification processes.

Other Collaboration:

The members working on this project have been in contact with several related projects in the area, in particular the proposed setting up of permanent plots in Danum and Imbak by Prof. Dr D.M. Newbery, Institute of Plant Sciences, University of Bern, Switzerland. This proposed project will build on the database, habitat assessments and the trained staff produced by the Darwin Project.

The proposed reforestation project of the area around the Danum Valley by WWF (see newspaper article Daily Express 16 March 2006, annex 4), will build mainly on the products (databases, field guide, and trained staff) made during this project (4 staff members of WWF were trained in the 2007 Plant Identification Course).

3. Project progress

Databasing the existing collections from the herbarium of the Sabah Forest Department has now finished. This part of the work has resulted in the addition of 3743 records to its permanent herbarium data base. The data base will be used as the basis for the field guide for the region, which is going to be written in the last phase of the project.

The collecting part of the project has now finished. In total about 3000 specimens were made. This is well below the target of c. 10,000, which was, with hindsight, a far too ambitious target. However, we could have done much better was it not for some managerial problems in Sabah, where people paid by the project were often prevented from serious collecting by being asked to work on other projects by their line managers. In order to overcome this problem, Kew staff were sent to Sabah to make collections with the project staff (one month in 2007; two periods of two weeks in 2007 and one in 2008). Apart from the opportunistic collecting done in Danum Valley and to a lesser extent Maliau Basin, two expeditions were made by all Sabahan members of the project to Maliau Basin and two to Imbak Canyon. These expeditions were necessary as due to accommodation problems (no living quarters were built within the time frame of the project) at Imbak, no member of the team was able to be stationed there. In the case of Maliau Basin it proved to be very difficult for the two resident project staff members to make collections, due to the management problems mentioned above. All collections have now been sent to Kew or are in the process of being sent.

The last Plant Identification course was held at Maliau Basin on 9-13 August 2007. Four Kew staff members (total amount of person hours donated by Kew for this course is 30 days) trained the 35 participants from 13 different organisations (see annex 1, 2 & 3). The course was opened and the closed by Lord Selborne, Chair of the Board of Trustees of the Royal Botanic Gardens, Kew and member of the House of Lords Science committee (see annex 2).

The website with the database of the plants collected has been developed and the database has been filled with data (c. 4000 records). Due to the problems hosting an active website at a remote station such as Danum an alternative solution is being sought, either at Kew or on the Royal Society, S.E. Asian programme website at Cardiff University.

FSC certification. This part of the project was finished well before time and has been reported on in earlier annual reports (see annex 5).

3.1 Progress in carrying out project activities

Most project activities have now come to a close. All the training parts of the project have been particularly successful and were always oversubscribed. There were no problems in carrying out this part of the project. The habitat assessment part of the project was finished well before time and has been reported on in earlier reports. The plant collection part of the project has run into problems of a managerial nature, which we could only partly circumvent by sending Kew staff (mainly at Kew's expense) to help with the work. Most specimens have now been sent or are in the progress of being sent to the various herbaria.

3.2 Progress towards Project Outputs

The specimens collected during the project and the databased collections in the herbarium of the Sabah Forest Department will form the basis of the field guide of East Sabah, which is the last part of this project. Pictures have been taken of most of the specimens collected during the project. These, together with the extensive picture collections of the S.E. Asian Team of the Royal Botanic Gardens, Kew will form the basis of the book. A contract with publishing company is being negotiated at the moment.

All the training parts of the project have now been finished.

The habitat assessment part of the project was finished well before time and has been reported on in earlier reports.

The plant collection part of the project has now been finished and the last sets of specimens are now being sent to the various herbaria.

Databasing the existing collections from the herbarium of the Sabah Forest Department has now finished, resulting in 3743 additional records.

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	Total planned from application
6A	One week plant identification course	20	37	35	-	92	80
8	Teaching and field work	6	10	8	-	22	12
9	ProForest document see annex 5		1			1	1
10	Field Guide for East Sabah				1 (not yet done)	-	1
11A	Papers				2 (will now not be done)	-	2
12B	3743 additional records to the herbarium data of the Sabah Forest department			3743		3743	-
13A	Herbarium specimens	1000	500	500		2000	10000
20	Digital cameras and computer and office equipment	£ 10,250				£ 10,250	£ 10,250

In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, eg title, name of publisher, contact details, cost. Mark (*) all publications and other material that you have included with this report.

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

This project has played its part in stimulating the general increase in awareness of biodiversity issues in Sabah and within Yayasan Sabah in particular. The YS staff trained by the project in the FRC certification processes played a major roll in putting together the Yayasan Sabah bid for certification for the western part of the concession (see ProForest report, annex 5) and they are also very well placed to do the same for the eastern part (see newspaper article Daily Express 16 March 2006, annex 4).

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

This project has played a major role in the campaign to get Imbak Canyon a protected status similar to Maliau Basin and Danum Valley. This campaign started 5 years ago, before this project was even conceived, but the interest the project has displayed in the area by its collecting efforts has played a very positive role in getting a research station built in the area (although too late to be of use for this project).

It has played a similar role in the campaign to get the area around Danum Valley declared a no logging area by the prime minister of Sabah (see newspaper article Daily Express 16 March 2006, annex 4).

4. Actions taken in response to previous reviews (if applicable)

I have provided more details about the background of the project and have given more measurable details about the project progress. The final version has been read and corrections made by a native English speaker.

5. Other comments on progress not covered elsewhere

The design of the project has not been changed in the last year, however the project has changed some of its methods in the previous years and this has been reported on in earlier annual reports.

6. Sustainability

The move to make Imbak Canyon a protected area, which was one of the key recommendations of the HCVF elements of our report (see ProForest report, annex 5) has highlighted the need for more protection of lowland rainforest in Sabah. This has been taken up by WWF (who were part of the HCVF discussions) and the Sabah government, leading to the protection of 300,000 hectares in the Ulu Segama and Malua Forest (near Danum Valley) and in expanding the sustainable use of the forest between Danum, Maliau and Imbak (the research area of the project) (see newspaper article Daily Express 16 March 2006, annex 4).

Most of the staff employed by this project are permanently employed either by the Royal Society, S.E. Asian program, Sabah Forest Department or Yayasan Sabah. Given the biodiversity projects proposed by WWF and the University of Bern (see section 2. Other Collaboration), further employment where skills acquired during this project can be used again is very likely. The database housed at the Sabah Forest Department will be curated by the staff of the herbarium.

7. Dissemination

A copy of the ProForest report dealing with the High Conservation Value Forest (HCVF) recommendations for the FSC certification (see ProForest report annex 5) has been requested by the Sarawak Forest Department and by WWF-Malaysia. The former are using the methods developed during our HCVF assessments for their own HCFV work in Sarawak, Malaysia. The latter are using the report as part of their proposed reforestation work in Sabah and in the Danum area in particular.

8. Project Expenditure

Please expand and complete Table 3.

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

Item	Budget (please indicate which document you refer to if other than your project application)	Expenditure	Balance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others			
Salaries (specify)			
TOTAL			

Highlight any agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

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

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2007/08

Project summary	Measurable Indicators	Progress and Achievements April 2007 - March 2008	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <p>The conservation of biological diversity,</p> <p>The sustainable use of its components, and</p> <p>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>		<p>(report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity eg steps towards sustainable use or equitable sharing of costs or benefits)</p>	<p>(do not fill not applicable)</p>
<p>Purpose To build capacity in forest management companies to assess the plant diversity of commercial forest reserves & protect HCVF's through FSC certification</p>	<p>Forest management companies have the capacity to assess plant diversity, use this as a basis to identify HCVF's</p>	<p>(report on progress towards achieving the project purpose, ie the sum of the outputs and assumptions)</p>	<p>Writing the field guide using the checklist, collections and pictures taken during the project</p>
<p>Output 1.</p> <p>1.1 Plant collections made and deposited at SFD & RBG Kew herbaria</p> <p>1.2 Checklist of plant diversity</p> <p>1.3 Vegetation maps & habitat assessments of YS concession</p> <p>1.4 Series of scientific papers</p> <p>1.5 SFD and YS staff trained in plant identification, habitat assessment & identification of HCVF's etc</p> <p>Extension training for staff from other Malaysia forest management companies</p>	<p>Collections accessioned in SFD & RBG Kew herbaria</p> <p>Published as a field guide (printed & on-line)</p> <p>Identification of areas of high plant diversity & used as a basis for assessing HCVF's</p> <p>Papers submitted to local & international journals</p> <p>15 key staff trained within SFD & YS – & as trainers for subsequent workshops</p> <p>30 staff trained via a series of workshops at key project stages</p>	<p>2000 specimens made and duplicates send to Kew</p> <p>The checklist and field guide will be published in the in the next financial year. Preparation is well advanced.</p> <p>This part of the project has been finished well before its deadline (see annex 5).</p> <p>This part of the project had to be abandoned as reported on in the 2007 annual report.</p> <p>14 SFD and 17 YS members of staff trained during the last Plant Identification Course in Maliau in 2007. The habitat assessment workshops were done in 2006-2007 and was reported on in the relevant annual reports</p> <p>4 staff members of WWF-Sabah were trained during the last Plant Identification Course in Maliau in 2007. The habitat assessment workshops were done in 2006-2007 and reported on in the relevant annual report</p>	
<p>Activity 1.1 plant collecting has continued during the last year, but has now come to an end. All specimens are sent to Kew or are being prepared to be sent.</p>		<p>This activity has now finished, well below the original target (see item 3 of this report)</p>	

Activity 1.2 The databasing of the Sabah herbarium has now finished with 3743 records added to the herbarium database of the Sabah Forest Department	This checklist will be published as part of the field guide, which is in preparation
Activity 1.3 This part of the project was finished in 2007	Reported on in the 2007 annual report
Activity 1.4. This part of the project will now not be done	Reported on in the 2007 annual report
Activity 1.5. This part of the project has now finished	92 people were trained
Activity 1.6 This part of the project was finished in 2007	Reported on in the 2007 annual report

Annex 2 Project's full current logframe

Please highlight any changes.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>To build capacity in forest management companies to assess the plant diversity of commercial forest reserves & protect HCVF's through FSC certification</p>	<p>Forest management companies have the capacity to assess plant diversity, use this as a basis to identify HCVF's</p>	<p>Key problems in the implementation of FSC guidelines removed & more companies able to move towards certification</p>	<p>Forest management companies intend to implement the FSC certification scheme (information from personal communication with forest managers and from newspapers articles)</p>
<p>Outputs</p> <p>Plant collections made and deposited at SFD & RBG Kew herbaria</p>	<p><i>Collections accessioned in SFD & RBG Kew herbaria</i></p>	<p><i>Collections accessioned in SFD & RBG Kew herbaria</i></p>	<p><i>Critically named collections required to improve botanical naming (esp. in non-commercial species)</i></p>
<p>Checklist of plant diversity</p>	<p><i>Published as a field guide (printed & on-line)</i></p>	<p><i>Field guide distributed & website on-line</i></p>	<p><i>Checklist is a key tool for assessing plant diversity & identifying HCVF's</i></p>
<p>Vegetation maps & habitat assessments of YS concession</p>	<p><i>Identification of areas of high plant diversity & used as a basis for assessing HCVF's</i></p>	<p><i>Reported to concession holders & incorporated into management strategies</i></p>	<p><i>Forest management companies incorporate findings as part of FSC certification process</i></p>
<p>Series of scientific papers</p>	<p><i>Papers submitted to local & international journals</i></p>	<p><i>Papers accepted for publication</i></p>	<p><i>Forest managers incorporate results in their work.</i></p>
<p>SFD and YS staff trained in plant identification, habitat assessment & identification of HCVF's etc</p>	<p><i>15 key staff trained within SFD & YS – & as trainers for subsequent workshops</i></p>	<p><i>SFD and YS staff contribute directly to FSC certification process, & training of other staff</i></p>	<p><i>Lack of capacity in SFD & YS to assess plant diversity & identify of HCVF's is removed as limiting factor in securing FSC certification for Malaysian forest</i></p>
<p>Extension training for staff from other Malaysia forest</p>	<p><i>30 staff trained via a series of workshops at</i></p>	<p><i>Wider capability in Malaysia to implement</i></p>	<p><i>General intent among forestry companies to move towards FSC certification</i></p>

management companies	<i>key project stages</i>	<i>FSC certification</i>	
Activities		Activity milestones	
Staff training component: - Plant identification & assessing plant diversity - Habitat assessment & identification of HCVF's		Years 1, 2 & 3: Training workshops (held in Sabah) for up to 20 participants per year Year 1, 2 & 3: Training in habitat assessment, identification of HCVF's & other aspects of FSC certification by ProForest (Oxford, UK)	
Collection/collation of plant specimens: - Collation & databasing of existing specimens held at SFD & RBG Kew herbaria - Targeted collection of new specimens		Year 1: Training in plant collecting & identification in Sabah & RBG Kew for core collecting staff Years 1, 2 & 3: Advanced plant identification training & botanical databasing for key SFD & YS staff at RBG Kew	
Production of plant checklist & interactive key: - Printed checklist - Web-based checklist & interactive identification key		Years 1, 2 & 3: Preliminary printed & web-based checklists produced each year Year 4: Final checklist published & completed web-based checklist on-line	
Assessment of plant diversity in YS concession: - Targeted collecting & collation of existing data from major primary forest conservation areas (Danum Valley, Maliau Basin, Imbak Valley etc.) - Non-permanent plots established within commercial forest reserves, including already logged areas		Years 1, 2 & 3: Targeted collecting & collation of plant specimens Years 2 & 3: Establishment of plots in commercial forest reserves Year 3: Data analysis	
Vegetation mapping of YS concession: - Interpretation of high-resolution of satellite images		Year 1: Basic vegetation mapping of YS concession	
Habitat assessment & identification of HCVF's: - Based on plant diversity of YS commercial forest reserves, proximity to existing conservation areas etc		Year 3: Habitat assessment & identification of HCVF's	

Annex 3 onwards – supplementary material (optional)

Checklist for submission

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