



Submit by 13 January 2006

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 14 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation

Name: The Natural History Museum	Address: Cromwell Road, London, SW7 5BD
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2. Project title (not exceeding 10 words)

Baseline tools for management in PN La Amistad (Costa Rica/Panama)
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3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date:	Duration of project:	End date:			
Darwin funding Total requested	2006/07	2007/08	2008/09	2009/2010	
£225,993	£70,085	£69,392	£64,392	£22,124	

4. Define the purpose of the project in line with the logical framework

<p>To provide the responsible government agencies and local communities with the baseline data, tools and training that will underpin the development of a conservation plan for the sustainable management of the bi-national Parque Nacional La Amistad (PILA). To do so through the production of a unified and prioritised life zone map as part of an existing agreed strategy whereby the mapping and stratified inventory of keystone species will provide the foundation of a binational management plan. Thereby helping both countries meet commitments under Articles 8, 5, 7 and 12 as required by their BAPs whilst also contributing to international efforts through the Global Strategy for Plant Conservation, Protected Areas, Ecosystem Approach, Forest Biodiversity and Mountain Ecosystem Programmes of Work of the CBD.</p>
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5. Principals in project. Please provide a one page CV for each of these named individuals

Details	Project Leader	Other UK personnel (working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Monro		Zamora
Forename (s)	Alex		Nelson
Post held	Researcher		Director of Botany
Institution	The Natural History Museum		Instituto Nacional de Biodiversidad (INBio), Costa Rica and Sistema Nacional de Areas de Conservacion (SINAC), Costa Rica.
Department	Botany		Botany

6. Has your organisation received funding under the Darwin Initiative before? If so, give details

In the last 12 years NHM has led on 23 DI projects working in 17 countries. The lead PI on this proposal was PI on a Darwin Initiative project initiated in 1999 "Empowering local people to manage the biodiversity of El Salvador" and a Darwin Scholar award to in 2005.

7. IF YOU ANSWERED NO TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)**Aims (50 words)**

The Department of Botany has 54 scientific staff and is one of five science departments within the Natural History Museum, London. In common with its sister departments, the Department of Botany aims to maintain and develop its collections and to use them to promote the discovery, understanding, responsible use and enjoyment of the natural world

Activities (50 words)

Research involves all plant groups as well as managing and developing the extensive collections of specimens. Particular emphasis is placed on the production of practical tools for the identification of species, creating databases and reference collections to underpin biodiversity investigations, and developing interactive methods for the assessment of conservation priorities.

Achievements (50 words)

Collaborative projects are currently being pursued with 80 universities and research institutes in 44 countries. Much of the output is placed in the public arena via topical scientific articles, scholarly textbooks, field guides and contributions to conservation literature. Each year, visiting scientists spend ca. 2,500 days in the Department examining the collections and working with staff.

8. Please list the UK (where there are partners in addition to the applicant organisation) and host country partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.

In November 2004 a binational workshop of the Autoridad Nacional del Ambiente, Panama (ANAM) and SINAC in association with local experts identified a strategy that would result in unified management of the park and this project builds on this strategy.

Dr. Nelson Zamora, Director of Botany at INBio/ SINAC (which has responsibility for the management of the Costa Rican part of PILA): collaborator with the NHM on *Flora Mesoamericana*; collaborator on NHM-lead collecting trips to PILA in 2003 & 2004; at an institutional level there have been several long-term collaborations between NHM and INBio across several departments (Botany, Entomology, Zoology) and NHM staff have participated in Departmental Reviews of INBio. Nelson Zamora, and other staff from INBio and SINAC have played a central role in developing the project idea, contributing much of the key ideas, costing and schedule for the project. INBio will hire project staff, coordinate mapping and provide logistical support for key project activities, such as training and ground-truthing.

Lic. Jenny Asch, SINAC Costa Rica-Panama planning committee member, will liaise between SINAC and ANAM, will coordinate planning and life zone network workshops and ensure that project develops within agreed strategy. The Costa Rica-Panama planning committee is responsible for the Costa Rican contribution and development of the binational strategy for the management of PILA.

Prof. Mireya Correa, University of Panama. Chair of the Mesoamerican Herbarium Network. Collaborator with the NHM on *Flora Mesoamericana*; collaborator on NHM-lead collecting trips to PILA in 2003, 2004 & 2005. Mireya Correa and other staff from the University of Panama have played a central role in the development of this project proposal, contributing ideas and coordinating input from the Mesoamerican Biological Corridor project.

Magister Aleyda Salazar, Directora Nacional de Áreas protegidas y Vida Silvestre, ANAM. As director of Panama's protected areas programme, the management of the Panamanian component of PILA fall under her responsibility. Aleyda Salazar has provided support for the development of this proposal and ANAM have collaborated on NHM-lead collecting trips to PILA in 2003, 2004 & 2005. ANAM will ensure compatibility between the Costa Rican and Panamanian maps.

9. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities? Please include details of any contact with the government not already provided.

In November 2004 a binational workshop of ANAM, SINAC in association with local experts identified a strategy that would result in unified management of the park and this project uses this strategy as the basis for this project.

Local communities: PI and staff from INBio, ANAM and the University of Panama have been in dialogue with Finca Hartmann (coffee producer) and Finca Las Tablas (cattle ranching farm) on a range of possible conservation projects. A priority will be to strengthen and expand existing links with these communities.

There has also been consultation with the Mesoamerican Biological Corridor and field staff who have worked on the mapping of the Panamanian component of PILA and fieldworkers from INBio who have worked in the Costa Rican component of PILA.

PROJECT DETAILS

10. Is this a new initiative or a development of existing work (funded through any source)? Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.

Similar tools to those that will be delivered by this proposal have been recently produced by ANAM/ University of Panama and partners, for the Panamanian component of PILA. It is because tools to the the Costa Rican component of PILA are lacking that a unified management plan for PILA cannot be developed and that this proposal is timely. In addition to these tools this project will also deliver bi-national training and workshops to ensure the integration and unification of both life zone maps and deliver the skills and contacts necessary to update and maintain the unified map. This will represent the first and second stages of a strategy agreed by Costa Rica and Panama in 2004. This is a new initiative, a different (Stage 1) proposal to work in the same locality was submitted in 2004.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

The most important legacy of the planned work will be the jointly held and agreed lifezone map for PILA. This map will contribute to the development of a management plan for the Costa Rican component of the park (**Article 8, Protected Areas Programme of Work – 20%**), and ultimately the establishment of a binational management plan (**Article 5, Protected Areas Programme of Work – 15%**)
 The map will also contribute to international efforts to implement the ecosystem approach in the region (**Ecosystem Approach, Forest Biodiversity and Mountain Ecosystem Programmes of Work – 10%**)
 The project will also support the identification and characterization of the diverse communities within the park through specimen collecting and ground-truthing satellite images (**Article 7, Global Strategy for Plant Conservation, Protected Areas Programme of Work, Forest Biodiversity Programme of Work – 20%**).
 The permanent legacy of the collections themselves will provide a resource for future biodiversity monitoring and inventory (**GTI programme of work – 20%**).
 In order to ensure regular verification of the map as it is updated a cross-border network of trained park staff will be established (**Article 12, Protected Areas Programme of Work – 10%**)
 A complete set of all data collected will be deposited with the partner institutions in Costa Rica and Panama.

(Article 17, Protected Areas Programme of Work – 5%)

12. How does this project meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

Both Costa Rica and Panama's BAPs place strong emphasis on networks of protected areas and this is also reflected at regional level by the Mesoamerican Biological Corridor and the establishment of PILA as a binational park in 1988.

PILA covers 401,000 ha of tropical forest and is the largest nature reserve in Central America and together with a 15 km buffer zone it represents a major biodiversity resource at a regional (ca 20% of the regions species diversity) and global level. This is recognized in its strategic position in the Mesoamerican Biological Corridor and its designation as a UNESCO World Heritage Site. Its cross-frontier position gives it unique potential to improve bioregional planning. The park's buffer zone includes coffee and beef producers and indigenous subsistence farmers. A consequence of the difficulty of the terrain, the park is relatively unexplored and the only substantial scientific explorations deep into the park have been lead by the NHM in the last 5 years (2003, 2004, 2005 and 2006 planned).

Need for the project

There is no unified binational management plan for PILA, each country managing its half of the Park.

There is no binational management plan for La Amistad and no life zone map for the Costa Rican component of the park albeit a crude (part of a national programme) map for the Panamanian component does exist.

In November 2004 a binational workshop of ANAM, SINAC in association with local experts identified a strategy that would result in unified management of the park. This consists of a stratified inventory of the entire park that will result in a life zone map that will underpin the production of a binational management plan. The lack of a unified map for the park is a major impediment to this strategy.

The binational workshop also identified a eight conservation priorities for PILA of which five were plant-based life zones: natural grasslands, cloud-oak-páramo vegetation, montane forest transition, upland wetlands, and upland aquatic ecosystems.

Although life zones will be central to inventory and park planning activities, only the Panamanian side of the park has been mapped. No life zone map and little biodiversity data exists for the Costa Rican side of PILA or its buffer zones. A crude Panamanian component, part of a national life zone map does exist.

This strategy will require the mapping and characterization of life-zones within the Costa Rican side of PILA is absolutely essential to the development of a joint management plan. The transformation of remote censused satellite data followed by extensive ground-truthing (verification) represents the most cost effective and reliable way of doing this.

Due to PILA's remoteness and the difficulty of the terrain there is little baseline biodiversity data for the park. Ground-truthing will not only establish baseline data on life-zones but, where collections based, will generate valuable baseline biodiversity data that will contribute directly to Costa Rica's BAP and the Global Strategy for Plant Conservation.

Costa Rica currently lacks the capacity and resources to undertake such a project, partly a result of the Park's location and terrain. INBio recognizes the development of a biodiversity management plan for PILA as a high priority, and launched an urgent appeal for funds this year.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country.

PILA buffer zone and in some instances, the park itself is occupied by a number of indigenous groups in addition to cattle and coffee farmers. These groups will be consulted during the production of the life zone map and copies of the map will be distributed to these groups, assisting them to manage their activities. The role of the life zone map in underpinning the establishment of a binational management plan will support the sustainable management of the buffer zone ensuring a long-term future of their activities.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact.

The immediate impact of this work will be the jointly (SINAC/ANAM) held and agreed prioritised life zone map for PILA that will contribute directly to and underpin the development of a sustainable bi-national management plan, as set out in the 2004 binational conservation planning workshop for PILA. This will contribute directly to both country's BAP as well as international efforts to implement the ecosystem approach in the region through the CBD work programme and regional projects such as the *Mesoamerican Biological Corridor*. In addition to this will be the identification and characterization of the diverse habitats and ecological communities within the park.

Results of the project will be disseminated through the project partner institutions. This will take the form of a launch of the life zone map, annotated checklist of baseline data and project web site in June 2009. The project web site will be modelled on that produced for INBio for La Selva National Park. Printed copies of the life zone map will also be distributed to indigenous and farming communities. Scientific results of the project, including the life zone map and baseline biodiversity data will be published in peer-reviewed scientific journals and the database of baseline data will contribute to the following national inventories, the '*Manual de Plantas*' of Costa Rica and the '*Checklist of Plants of Panama*'. Duplicates of the baseline database and biological collections will be deposited with INBio and the University of Panama.

Workshops, the establishment of a life zone map network and training will result in connections being formed between individuals working in different institutions and countries during the course of this project. These will strengthen the project's impact, as it will facilitate the foundation of the binational management plan for PILA, as well as promoting the possibility of future collaborations between the project partners.

15. How will the work leave a lasting legacy in the host country or region?

The immediate legacy of planned work will be the jointly held and agreed life zone map for PILA that will directly contribute to and underpin the development of a binational management plan for PILA and therefore the sustainable management of the park and conservation of the biodiversity therein. This will transform current commitments into effective conservation action based on sound scientific knowledge and training. It will also contribute directly to the BAP's of Costa Rica and Panama, and to ongoing regional conservation initiatives such as the Mesoamerican Biological Corridor. This map will remain current for the foreseeable future.

The identification and characterization of the diverse communities within the park, the generation of baseline biodiversity data and associated biological collections will form a solid basis for future biodiversity monitoring in the park as well as contributing to the host countries national inventory programmes.

The establishment of a cross-border network of trained park staff will ensure the capacity to refine and update the map after the life of the project. The formation of connections between individuals working in different institutions and countries during the course of this project should result in future collaborations not directly associated with the outputs of this project but that support national BAPs and the CBD

16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.

This project will deliver the baseline data, tools and training necessary to produce a conservation plan for the sustainable management of the bi-national Parque Nacional La Amistad (PILA) for the medium and long-term future. This project has been developed and operates within a strategy agreed by ANAM and SINAC in 2004. The next phase of this strategy will be the use of the map to produce a unified binational management plan for the park that will then be applied by the two agencies responsible for PILA's management. More specifically the final project workshop will be used to draft a timetable and strategy for the development of

the binational conservation/ management plan.

The main impediment to securing this legacy would be the failure of ANAM and SINAC to adopt this map for planning and management purposes or agree to the unified management of PILA. In November 2004 a binational workshop of ANAM and SINAC in association with local experts identified and agreed a strategy that would result in unified management of the park and this project builds on this strategy. In addition both will be partners in the production of the map and will participate in regular workshops and training courses and asked to approve the final version. To ensure compatibility between the Costa Rican and Panamanian maps, satellite data will be obtained to cover the whole park ensuring the identification of equivalent classes both sides of the Costa Rica/Panama border.

Planned training activities will ensure that capacity exists within the partner institutions (INBio, SINAC, ANAM, University of Panama), as well as Asociación Nacional para la Conservación de la Naturaleza (ANCON) and other NGOs, to update and modify the life zone map with a minimum of resources. Dissemination of the map amongst local indigenous and farming communities will provide them with knowledge that will help them conduct their livelihoods in a sustainable manner.

INBio will provide server space for the project web pages and once project funding has ended will maintain the web pages on their server.

17. How will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used?

The DI logo will be used on all publications, on the project web pages and in the project workshops and training courses. DI will be acknowledged in writing in all publications and in press releases for the launch of the project and outputs. As part of any activities associated with this project the aims of the Darwin Initiative and its relationship to the CBD will be explained.

18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

Central to this project is the training of staff from partner institutions in two key areas that will ensure the project legacy. Three training courses will be attended by participants from the government and non-governmental agencies involved in the management of La Amistad from Costa Rica and Panama. The first two training courses will be for a total of 16 participants from SINAC, ANAM, ANCON, Universidad de Panama, the Mesoamerican Biological Corridor (Costa Rica and Panama) and INBio and will last for 1 week. These courses will be field based and will train participants in the field identification and ground-truthing of life zone classes. Course content will not require graduate training but will be aimed at participants with equivalent experience who regularly work within the park, namely park guards and technical staff. The third course will be for 10 participants from SINAC, ANAM, INBio and the Universidad de Panama and will last for 1 week. The course will train participants in the delimitation, use, updating and modification of life-zones. Course content will not require postgraduate training but will be aimed at participants with equivalent experience. Candidates will be selected who are involved in park management planning or equivalent activities. For both courses the partner institutions will jointly select participants and feedback will be requested in the form of a questionnaire.

LOGICAL FRAMEWORK

19. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal:			
To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in			

<p>countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> •1 the conservation of biological diversity, •2 the sustainable use of its components, and •3 the fair and equitable sharing of benefits arising out of the utilisation of genetic resources 			
	Life-zone map of the Costa Rican component of PILA will form the basis of conservation plan.	Life-zone map produced and forms the basis for the Park's management plan.	Sustainable management of PILA will require the prioritisation of activities.
	Costa Rican PILA management plan includes a prioritised strategy for life-zones.	PILA life-zones prioritised and characterized in PILA management plan.	Prioritisation will be based on sound scientific data.
	New knowledge on life-zone and species diversity for PILA.	Species and life-zone list for trees of PILA deposited with SINAC and ANAM, published locally.	Monitoring and assessment of La Amistad life-zones requires a base line map.
	New knowledge on conservation status of key stone species.	Conservation status of keystone species evaluated, assessment used in characterisation of life-zones.	Monitoring and assessment of biodiversity will remain a key component of Costa Rica's BAP.
Outputs Life-zone map of Costa Rican component of PILA, produced.	Map in use by park authorities; compatible with that for Panama side, all life-zones ground-truthed	Map published and cited in conservation plan; project reports	INBio and NHM continue to maintain GIS/ remote sensing facilities.
Life-zones prioritised.	Priorities inform park conservation strategy Deposited with INBio, SINAC and ANAM.	Included in SINAC and project reports. Cited in SINAC, INBio, project reports.	Baseline life-zone map needs to be ground truthed.
Database and species list for keystone species produced.	Deposited with INBio, SINAC, ANAM and the University of Panama.	Cited in SINAC, INBio and ANAM project reports.	Local taxonomic capacity continues to support identification of keystone and indicator species.
List of indicator species produced. Keystone species conservation status assessed.	Included in database.	Deposited with INBio, SINAC and ANAM.	SINAC and ANAM remain responsible for management of PILA.
Staff at SINAC trained in use and updating of life-zone map.	12 staff trained in the delimitation, use and updating/ modification of life zones.	Staff listed in project reports.	SINAC and ANAM remain responsible for management of PILA. Staff gain appropriate knowledge from the training.
Park guards, local community representatives, staff at ANAM and SINAC trained in use of life-zone map.	16 staff trained in the ground-truthing of life-zones.	Staff listed in project reports.	Staff gain appropriate knowledge from the training.

Mechanism for updating and maintaining life-zone map developed.	A binational network in place undertaking coordinated and joint monitoring activities	PILA management plan, SINAC, ANAM, project reports	Mechanism is used and maintained by project partners.
Biological collections of keystone plant species produced.	Collections deposited at INBio, University of Panama, and NHM.	Acknowledged by partner institutions.	Project partners maintain collections.
Local perception of life-zones and their importance	Perceptions incorporated into life-zone priorities.	Acknowledged in reports and map.	Local communities have good knowledge of the buffer zone.
Activities Workshops/ training	Activity Milestones Yr 1: Project planning workshop, sign project MOUs (1 wk, July.06).		Assumptions Project partners continue to agree on role and function of life-zone map.
Production and ground-truthing of life-zone map.	Yr 1: planning workshop to agree methodologies for the transformation and mapping of remote censused data and protocol for ground-truthing (verifying) life-zone classes identified. (July 2006). Yr 2: Life zone network workshop (3 days, Aug. 2007), production of a baseline map. Yr 3: Life zone network workshop (3 days, Mar. 2009), training course for ANAM and SINAC staff in the use and updating of the life-zone map (Apr. 2009)		Zonation of the park remains a prerequisite for an effective management plan. NHM and INBio specialist GIS / vegetation mapping staff agree on data transformation methodologies.
Develop a network of ANAM/ SINAC staff to maintain and update life-zone map as part of the PILA management plan	Yr 2: field course in ground-truthing and life-zone verification (Dec. 2007), field course in ground-truthing and life-zone verification (Apr. 2008). Yr 3: life zone map use and interpretation training course (Apr. 2009).		ANAM and SINAC release staff for training.
Identification of regionally important and threatened life-zones.	Yr 2-3: Assess conservation status of life-zones at global, regional and national level. Prioritise life-zones according to these criteria, submit this to SINAC and ANAM.		Regionally agreed life-zones for Central America (based on the Holdridge system) remain current.
Identification of keystone species.	Yr 1-3: Identification of collections with partner institutions and <i>Flora Mesoamericana</i> network of specialists (Apr. 2008- Dec 2008)		INBio/ University of Panama and NHM remain taxonomic centres of excellence.
Assess conservation status of key stone species.	Yr 2-3: Assess according to revised IUCN Red Data list guidelines and local knowledge of local specialists at INBio, PMA and NHM.		Revised IUCN guidelines remain current.
Pursue project exit strategy	Yr 1-3: Develop a consortium of partners and local community representatives capable of updating life-zone map on ground. Confirm a commitment to periodic updating from SINAC and ANAM. Agree a timetable and strategy for the development of the binational management plan.		

20. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	Financial year	Key milestones
Jul 2006	Apr-Mar 2006/7	Project begins, project planning workshop, establish life zone map network, hiring of staff
Sep 2006	Apr-Mar 2006/7	First workshop of life zone map network to agree life zone map

		parameters and criteria for prioritizing, begin processing of satellite data, tree species database design, establishment of guidelines for assigning IUCN conservation status.
Oct 2006	Apr-Mar 2006/7	Inventory of existing tree biodiversity data for La Amistad at NHM, Universidad de Panama and INBio
Nov 2006	Apr-Mar 2006/7	Ground-truthing and field data collection trip 1
Dec 2006	Apr-Mar 2006/7	Identification of collections
Mar 2007	Apr-Mar 2006/7	First year report
Jun 2007	Apr-Mar 2007/8	Ground-truthing and field data collection trip 2
Jul 2007	Apr-Mar 2007/8	Identification of collections
Aug 2007	Apr-Mar 2007/8	Processing of satellite data complete, preliminary draft of life zone map produced, second life zone map network workshop, begin assigning conservation status to species in database
Sep 2007	Apr-Mar 2007/8	Ground-truthing and field data collection trip 3, ground-truthing training course 1 undertaken
Oct 2007	Apr-Mar 2007/8	Identification of collections
Dec 2007	Apr-Mar 2007/8	Ground-truthing and field data collection trip 4
Jan 2008	Apr-Mar 2007/8	Identification of collections
Mar 2008	Apr-Mar 2007/8	Preliminary checklist of tree species diversity and conservation status produced, second year report
Apr 2008	Apr-Mar 2008/9	Ground-truthing and field data collection trip 5, ground-truthing training course 2 undertaken
May 2008	Apr-Mar 2008/9	Identification of collections
Jul 2008	Apr-Mar 2008/9	Ground-truthing and field data collection trip 6
Sep 2008	Apr-Mar 2008/9	Identification of collections
Oct 2008	Apr-Mar 2008/9	Final ground-truthing and field data collection trip 7
Nov 2008	Apr-Mar 2008/9	Identification of collections, finalise species list for annotated checklist
Jan 2009	Apr-Mar 2008/9	Begin web site production for dissemination of life zone map and associated biodiversity data
Mar 2009	Apr-Mar 2008/9	First draft of life zone map produced, third life zone map network meeting to agree prioritization of life zones and agree the modifications needed to complete the map, final checklist to tree species with associated images produced
Apr 2009	Apr-Mar 2009/10	Life zone map use and interpretation training course
May 2009	Apr-Mar 2009/10	final modifications of the life zone map, final version of annotated completed tree species checklist
Jun 2009	Apr-Mar 2009/10	Launch of life zone map, checklist to tree species and launch of project web site, agree timetable and strategy for the production of the binational management plan for PILA, produce project final report, submit life zone map for publication in a peer-reviewed journal

21. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	Standard output number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc.)
Sep 2007	6A = 8, 6B = 2	Ground-truthing training course, participants from Costa Rica and Panama
Apr 2008	6A = 8, 6B = 2	Ground-truthing training course, participants from Costa Rica and Panama
Apr 2009	6A = 12, 6B = 1	Life zone map use and interpretation course, participants from Costa Rica and Panama
Sep 2007 - Apr 2009	7 = 1	Field course exercise list
Jul 2006	8 = 3	Full UK project team to attend planning workshop
Sep 2006	8 = 2	Malcolm Penn and Alex Monro to participate in life zone map workshop

Nov 2006	8 = 3	Alex Monro to participate on first ground-truthing trip
Jun 2007	8 = 6	Sandra Knapp and Alex Monro to participate on ground-truthing trip
Sep 2007	8 = 2	Malcolm Penn and Alex Monro to participate in life zone map network workshop
Dec 2007	8 = 9	Sandra Knapp, Malcolm Penn and Alex Monro to participate on ground-truthing trip and ground-truthing training course
Apr 2008	8 = 9	Sandra Knapp, Malcolm Penn and Alex Monro to participate on ground-truthing trip and ground-truthing training course
Mar 2009	8 = 2	Malcolm Penn and Alex Monro to participate in life zone map network workshop
Jun 2009	8 = 3	Sandra Knapp, Malcolm Penn and Alex Monro to participate in launch of life zone map and project web pages
Jun 2009	9 = 1	Habitat action plan/prioritisation delivered to SINAC and ANAM, agreed timetable and strategy for development of binational management plan
Sep 2007	10 = 1	Ground truthing manual produced
Jun 2009	10 = 2	Life zone map, life zone map interpretation manual and annotated checklist to the trees of La Amistad produced
Jun 2009	11B = 2	Life zone map submitted for publication in an international journal, checklist of the tree species of PILA submitted for publication
Jun 2009	12A = 1, 12B = 2	Database of biodiversity data, linked to images of living material produced and handed over to both SINAC and ANAM, most of the data in this database will enhance the <i>Manual de Plantas de Costa Rica</i> database and the <i>Flora of Panama</i> checklist
Jun 2009	13A = 1, 13B = 2	Duplicate baseline collection of tree and other indicator species handed over to INBio and University of Panama herbaria, thereby enhancing these national collections
Jul 2006	14A = 1	Project planning workshop, 10 people, 2 days, 1 report
Sep 2006	14A = 1	Life zone map network workshop to agree life zone classes and strategy, 12 people, 3 days, 1 report
Aug 2007	14 A = 1	Life zone map network workshop to review preliminary draft of life zone map, 12 people, 2 days, 1 report
Mar 2009	14 A = 1	Life zone map network workshop to review first draft of life zone map, 12 people, 2 days, 1 report
Jul 2006	15A = 2, 15C = 1	Press release announcing start of project in UK, Costa Rica and Panama
Jun 2009	15A = 6, 15C = 1	Press release announcing launch of life zone map, web pages and checklist in UK, Costa Rica and Panama
Jul 2006- Jun 2009	16A = 6, 16B = 30, 16C = 12	Project newsletter produced twice a year and circulated to all participants and interested parties
Jul 2006	17A = 1	Establishment of life zone map network, 12 people
Jun 2009	17 B = 2	Enhance the existing SINAC and ANAM networks responsible for the management of PILA
Jun 2009	18A = 2	News item on Costa Rican and Panamanian news to mark launch of life zone map
Jun 2009	19A = 2, 19B = 1, 19C = 2	News item on Costa Rican and Panamanian news and

		to UK media to mark launch of life zone map
Jun 2009	20 = £4,500	Satphone, camping equipment, computer, digital camera
Jun 2009	22 = 36	Number of permanent ground-truthing plots established as baseline for interpreting and monitoring change of map
Jun 2009	23 = £204,063	See section 23, Table C
Additional output 1	ca 2000 species	Species conservation status assessments
Additional output 2	ca 2000 species	Photographic images of living tree species disseminated (through project web site)

PROJECT BASED MONITORING AND EVALUATION

22. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

Progress of the project will be monitored and evaluated by project partners in the following ways:

- 1) The NHM's annual performance review process, together with DI annual reports will be used to monitor outputs.
- 2) Quarterly reports from NHM to partners and vice versa will negate any potential problems, and identify areas of concern.
- 3) Annual meetings between all partners in association with workshops and training courses will be used to review progress and evaluate objectives.
- 4) The PI will continuously monitor progress towards outputs and overall purpose through regular communication by phone, fax and e-mail with and between all project partners, and consultation with relevant specialists not directly involved in the project.
- 5) Scientific publications resulting from work undertaken as part of this project will be published in international peer-reviewed journals.