Darwin Initiative for the Survival of Species

First Annual Report, 2001/2002

1. Darwin Project Information

Project title:	***Biodiversity basics strengthening sustainability of the Yasuní Amazonian Rainforest, Ecuador***
Country(ies)	***Ecuador***
Contractor	***The Natural History Museum***
Project Reference No.	***162/10/016***
Grant Value	***£147,227***
Start/Finishing dates	***July 2001/June 2004***
Reporting period	***July 2001-March 2002***

2. Project Background

Location: **Yasuní National Park** (YNP**)** & **Huaorani Ethnic Reserve** (HER) is a MAB reserve in Ecuador's Amazonian Region. It is the largest tract of protected forest in Ecuador (> 10^6 ha) and a region of enormous diversity. It is also the sparsely populated but traditional homeland of the Huaorani people.

Background: Although YNP-HER is protected, it was opened to oil development about 10 years ago. Balancing economic development with conservation and sustainable use of this hyper-diverse forest has been challenging. Many lessons were learned from the environmentally and socially disastrous development of the oil industry north of the Rio Napo since the early sixties. These lessons, and pressure from international and local indigenous groups, led to the adoption of many environmentally less damaging practices (e.g. burying pipelines and limiting colonisation) in YNP-HER. Unfortunately, these have not prevented the Huaorani people, once the fierce and independent sole occupants of this vast region, from suffering enormous cultural upheaval. To preserve their cultural heritage and increase their economic well-being, the Huaorani seek to be recognised as official guardians of their traditional territory and to establish community-based ecotourism. This is not yet feasible because, although superb naturalists, most Huaorani lack the experience and skills to communicate effectively with government officials, NGO staff, local scientists and ecotourists to accomplish these goals. In addition, there are no biodiversity training tools (e.g. identification guides) for the region that will enable communication among or training for these groups. There is also a widening biodiversity knowledge gap between the experienced elders of the community and the younger generation of Huao.

3. Project Objectives

Purpose: Facilitate conservation & sustainable use of biodiversity within Ecuador's hyper-diverse Yasuní National Park & Huaorani Ethnic Reserve (YNP-HER) & increase the ability of the Huaorani people to participate in these activities.

Specific objectives: Our specific objectives are a) to produce much-needed biodiversity training tools in Huao-tededo and Spanish and b) to provide practical training to the Huaorani and other Ecuadorians. This lasting legacy of experience, training, biodiversity tools, and institutional co-operation will enhance conservation and sustainable use of biodiversity, benefit the Huaorani and other Ecuadorians, and assist Ecuador in implementing the CBD (especially Articles 1, 7, 8 10, and 12).

Logical Framework: attached (Appendix)

Modifications: There have been no modifications to the purpose or specific objectives of the project during the reporting period.

4. Progress

History: The need for the Darwin Initiative project was recognized during the course of a collaborative ecology study between Dr. Garwood, the Natural History Museum (NHM), and Dr. Valencia, Director of Herbario QCA, Pontificia Universidad Católica del Ecuador (PUCE). That study, which began in January 2000, was based at PUCE's Esctación Cientifica Yasuní (ECYasuní) in YNP-HER. Through its Director, Dr. Friedemann Koester, ECYasuní has developed strong links with both local Huaorani communities and Repsol-YPF (the oil company working in the region). Further discussions identified how best a Darwin Initiative project could further conservation and sustainable development in the region and to assist the Huaorani with their goals. The proposal was prepared and submitted to the Darwin Initiative in Round 9 in November 2000. Success of the proposal was announced in March 2001. The start-date on the project was July 2001 (to allow purchase of tickets), but research activities began only in September 2001. This is the first annual report covering the initial seven months of project activity.

Progress against agreed baseline timetable. Activities were originally scheduled to begin in July 2001 at the NHM. However, Darwin Fellow (DF) Gorky Villa had found additional funds for botanical training in American herbaria from June through August 2001. As this training would greatly benefit the project, a revised start-date in September was agreed with DI and a modified Project Schedule was submitted to and accepted by DI. As scheduled in September 2001, protocols were established at the NHM with the DF Mr. Gorky Villa and the host partner counterpart Dr. Renato Valencia (PUCE). In addition, the DF received the planned training at the NHM. Note that these activities coincided with the events in the USA of 11 September 2001. Although Dr. Valencia arrived a few hours before all airline traffic stopped, Mr. Villa's arrival was delayed by one week. Given the situation, we did not attempt to distribute a national press release in the UK to mark their visit. On his return to Ecuador, Mr Gorky Villa, with the assistance of Dr. Friedemann Koester (Director, Esctación Cientifica Yasuní), began formal negotiations with two Huaorani communities to arrange their participation in the Darwin Initiative Project. In November 2001, the NHM Project leader Dr. N. Garwood was scheduled to visit Yasuní, Ecuador, to launch the project and to train project participants. Unfortunately, Dr. Garwood developed a minor medical condition that required surgery (removal of stones in the salivary gland) and her visit was delayed until January 2002. Formal agreements were signed with the communities of Dicaro and

Guiyero in January 2002 during the visit of Dr. Garwood. During that training visit, two students and a field assistant were chosen to start training. Darwin Fellow Gorky Villa initiated training of the student, field and Huaorani trainees in February. Given the delay and decoupling of training and launch, a press release for Ecuador was not attempted.

Research, training, and/or technical work completed:

Selection of participants: The Darwin Fellow (DF), Mr. Gorky Villa, was chosen in consultation with our host partner (PUCE). Although not named in the DI application, Mr. Villa was instrumental in designing the project proposal and was viewed by both NHM and PUCE as the ideal candidate. He also expressed keen interest in participating in the project if the application was successful, as he would benefit greatly by training in production of identification guides, work with the local indigenous community, and project and student supervision. It is widely recognised by those working in the Ecuadorian Amazon that Mr. Villa is the one of the best individuals now working in Yasuní. For more than 5 years, he had been the field coordinator for the 50 ha Forest Dynamics Plot at Yasuní. This work has included verifying the identification of more than 300,000 sterile stems of 1100 species on the FDP, databasing the plant identification information, visiting herbaria in the USA, and supervising the field team.

Advertisements for students were circulated through the Departamento de Ciencias Biológicas during the fall term at PUCE. Students were interviewed in January 2002 and the two most qualified and interested in working on the projected were selected. The first started in February, the second will start in April. Huao participants were selected from two groups: knowledgeable elders and literate younger Huao. Both men and women are participating at both levels. Monthly participation rotates among those interested in the project, but elders were always paired with younger Huao who could act as interpreters.

Training methodologies: The primary method is on-the-job training, with each participant learning from others in the group. Activities have focused around creating a nature trail at each community. (The finished nature trails will have the common trees identified and labelled with their Huao and scientific names. Additional information on the biology of the trees, and their role in Huao life, will be summarised in the book *Common Trees of Yasuní*. The nature trail and book will provide a lasting legacy to each community, providing an especially useful resource for the school in each community.) Creation of the nature trail was chosen as the primary training activity because it provides the appropriate opportunity for discussion of biodiversity information between all the trainees in a relaxed and natural situation for the Huao. The elder Huao are most knowledgeable about the local names, ecology and uses of the trees, but they speak no Spanish (and do not read or write Huao-tededo). Young adult Huao, literate to some degree in both Spanish and Huao-tededo, were chosen as interpreters. Many of the stories and songs about each tree are recorded on tape in the original language followed by a translation. At each community, teams consisted of several elder and younger Huao, one or two students, the field assistant, and the Darwin Fellow. The younger Huao are receiving training in biological field work, recording of data, and the importance of the knowledge held by their elders. The students and field assistant are receiving training in working with the Huao, the importance of indigenous knowledge, and ecology and taxonomy of Amazonian trees. The younger Huao are also learning the scientific naming of tree species and all the Ecuadorian trainees are learning the Huao names of trees and the basics of the Huao-tededo language. Further training in biodiversity techniques are provided as specimens of reproductive trees along the nature trail are collected,

photographed and pressed, and collection data entered into the collection database. (Photographs will be used in the tree book and other guides; specimens and collection data will enhance herbaria, including the field herbarium in Yasuní, and botanical databases in Ecuador.)

Students are receiving additional training by working on a biodiversity project for their licenciatura degree. An additional training opportunity for the field technician, who lacks university experience, was identified following discussions with him of ways he could enhance his ability to work in the biodiversity sector. He will study for a certificate in botany based on the botany course at PUCE, with books provided by the project and supervision from the Darwin Fellow and PUCE students. The Darwin Fellow is receiving training from NHM staff, in particular Dr. Garwood, in planning and designing the tree identification book.

Results: Field work on the nature trails began in February 2002. Eighteen Huao individuals participated in the field work, receiving a total of 32 and 33 person-days of training in February and March respectively. The field assistant and student each completed 20 person-days of field training in February and in March. The Darwin Fellow received 10 person-days each month of training in indigenous knowledge from our Huao participants. In January, working with Dr. Garwood, the Darwin Fellow Gorky Villa, agreed the major components of the tree identification book and prepared a preliminary listing of 250 tree species to include in the book. Further details of all outputs appear in Table 1.

Difficulties: No major difficulties were encountered during the period except those noted in the Progress section above which have led to changes in the schedule. Several minor problems have been, or are being, resolved through small changes in planned activities. 1) To encourage sufficient participation from each Huaorani community in the steadily worsening economic situation in Ecuador following dolarisation, it was necessary to increase the daily compensation to each individual above that that originally budgeted. Adjustments were also necessary for the field technical trainee. 2) It was originally planned that the Darwin Fellow and students would work with two different teams of Huao. But, given the initial language barriers and unfamiliarity with each others' working habitats, it was decided to work together in one group. This change, and the increased compensation, may decrease the total number of person-days of Huao participation at the end of the project. However, it will undoubtedly lead to greater satisfaction among the participants and increased likelihood that they will pursue other biodiversity-related work in the future. 3) Ongoing discussions with the UK Design Consultant (D. Alexander) indicated he would most likely drop out of this and other NHM-associated projects to pursue a new career direction. (Note: This was confirmed in May 2002). Therefore, we are dropping his expected contributions from the 2002/03 timetable and are discussing options for replacing it. Mr. Alexander contributed many helpful suggestions on the design of the tree book (without compensation). Simbioe, the Ecuadorian natural history publisher interested in publishing the tree book, has substantial design experience that will probably help fill this gap. However, we may need to divert funds originally scheduled for the UK Design Consultant to either Simboie or other project personnel to complete other work (e.g. computer graphics, maps, and illustrations) which Mr. Alexander would have undertaken. Such changes will be discussed with DI. 4) It has been difficult to find Huao-tedo language training in Quito for the Darwin Fellow (and students). Therefore, the DF and students are studying texts in Quito and getting practical training on-the-job at Yasuní from the Huao/Spanish-speaking Huao trainees.

Design of the project: The design of the project did not change significantly this year. The addition of permanent nature trails, which will be an additional legacy for education at each community, was introduced as the principle training activity for work with the Huaorani (as described above).

Timetable for 2002/03:

Date	Output ref. no	Details
April 02-January 03	4A & B	Undergraduate student (1 of 6) receives additional 10 months of training in biodiversity work [completing 12 month total]
April 02-March 03	4A & B	Undergraduate student (2 of 6) receives 12 months of training in biodiversity work [completing 12 month total]
April 02-December 02	6A & B	Field technician trainee receives 9 months training in biodiversity work [completing 12 month total]
April 02–March 03	6A & B	Huaorani participants receive training in biodiversity work in the field [at least 20 individuals, for an estimated total of 400 person-days]
April 02-March 03	5	Darwin Fellow receives 12 months training, including 1 month at NHM in UK in October [completing 18.5 of 26 month total]
April 02-March 03	10	Information and photographs to be collected for tree book and other identification guides, and written accounts of tree species to be initiated
August 02	8	NHM project leader to Ecuador to train DF, student, field and Huaorani trainees for 3 weeks
August 02	14A	Local workshop to train DF, student, field and Huaorani trainees
August 02	22	Additional: initiate 1 permanent nature trail at Estación Cientifica Yasuní for joint workshops and future training
September 02-March 03	4A & B	Undergraduate student (3 of 6) receives 7 months of training in biodiversity work [completing 7 of 12 month total]
January 02	14A	International workshop at ECYasuní
January 03-February 03	8	NHM project leader to Ecuador to train DF, students, field and Huaorani trainees for 4 weeks
February 03	14A	Local workshop to train DF, student, field and Huaorani trainees
February 03-March 03	4A & B	Undergraduate students (4-6 of 6) receive 2 months of training in biodiversity work [completing 2 of 12 month total]

5. Partnerships

The partnership developed between the NHM and the PUCE has remained strong. When Dr. Renato Valencia, the host country project leader, requested and received a one-year leave of absence from his position as Director of Herbario QCA (PUCE) to work for FUNDACYT (Ecuador's most important scientific funding agency), the Head of the Department quickly appointed an acting Director, Dr. Hugo Navarrete. Dr. Navarrete has taken on all the responsibilities as host country project leader. We have been working closely with Dr. Navarrete since January 2002. There were no problems for the project with this change of personnel at PUCE.

The Darwin Project agreed a new collaboration in September 2001 with Ms. Margot Bass, an American philanthropist. Her foundation has been financing an effort to photograph the flora of Yasuní. Her excellent photographs will be available for use in the tree book at no charge, on the reasonable condition that she is included as one of the co-authors.

6. Impact and Sustainability

Promotion of work: As the project's primary activities were only beginning this year, we have not yet tried to promote the project extensively. Original plans for a UK press release to mark the launch of the project were dropped, as the launch coincided with the 11 September tragedy. Plans for an Ecuadorian press launch in November to mark the launch of the project in Ecuador were also dropped because of changes to the schedule (see Section 4, paragraph 2). In the future, oral or poster presentations at national and international meetings, a project description on the websites of the NHM and PUCE, and a project T-shirt will promote the work. Publications and project reports will be disseminated to appropriate stakeholders within Ecuador at the end of the project.

Exit strategies, described in the original application, include the following. The training provided and guides and educational materials produced will provide an immediate impact on and a lasting legacy for developing conservation and sustainable use of biodiversity in YNP-HER. They will promote future scientific research in Yasuní, such as further inventory work, monitoring changes in biodiversity, and studying the food habitats of animals, by providing trained personnel, training materials, and trainers. This will also enable management plans to be developed and carried out for the YNP – HER region and long-term monitoring of permanent plots which have already been established. All text and images used in the guides and educational materials will be transferred to PUCE on CD, to encourage additional print runs, new editions, and translation into other indigenous languages (especially Quechua). These could also form the basis for a more complete illustrated flora of Yasuní. Project reports and recommendations will be distributed to government bodies and NGOs to facilitate up-take of results. During the final Workshop, we will discuss priorities for further biodiversity work within YNP-HER, make recommendations for suitable projects, and identify likely funding mechanisms to carry these out. Possibilities for continuing and strengthening current collaborations and adding new partners will be discussed. Further training needs of participating individuals will be identified.

7. Outputs, Outcomes and Dissemination

Table 1. Project Outputs in 2001/02 (According to Standard Output Measures)

Code No.	Quantity	Description
4A 4B	1 person 2 months	Undergraduate student (1 of 6) receives training in biodiversity work, including 6 weeks in field [in progress and on schedule; 2 months completed of 12 month total]
4A 4B	0 0	Undergraduate student (2 of 6): training delayed 2 months, as she could not start until April [0 of 12 month total]
5	6.5 months	Darwin Fellow receives training, including 1 month at NHM in UK [in progress and on schedule; 6.5 months completed of 26 month total]
6A 6B	1 person 3 months	Field technician receives training in biodiversity work in the field [in progress, start delayed 1 month; 3 months completed of 12 month total]
6A 6B	18 people 65 person-days	Huaorani participants receive training in biodiversity work in the field [in progress, start date delayed by 2 months because of delay in NHM project leader's schedule; 65 person-days in two months completed of estimated 480 person-days for 12 month period]
8	4 weeks	NHM project leader to Ecuador to train Darwin Fellow, student, field technician and Huao participants [only 4 of 5 weeks completed because of delay in schedule]
10	-	*Common Trees of Yasuní* book: general layout and preliminary species list agreed [work toward completion of book in 2003/04]
12B	-	Enhancement of Yasuní collection database initiated [work toward completion in 2003/04]
13B	-	Enhancement of Yasuní plant collection initiated [work toward completion in 2003/04]
15C	-	UK press release to mark launch of project not completed [because it coincided with 11 September]
15A	-	Ecuador press release to mark local launch of project not completed [because of change in NHM's project leader's schedule]
22	-	Additional: 2 permanent nature trails initiated at Huao communities of Dicaro and Guiyero

Table 2: Publications

Type * (e.g. journals, manual, CDs)	**Detail** (title, author, year)	**Publishers** (name, city)	**Available from** (e.g. contact address, website)	***Cost £***
None in the first 7 months of project	-	-	-	-

Publications, when completed, will be disseminated within Ecuador.

8. Project Expenditure

Table 3: Project expenditure during the reporting period

Item	*Budget*	Expenditure

9. Monitoring, Evaluation and Lessons

The NHM project leader, Dr. Garwood, receives monthly summaries of activities in Yasuní from Mr. Gorky Villa, the project co-ordinator and Darwin Fellow, and communicates regularly with Dr. Hugo Navarrete, the host partner leader. These communications are through email. In addition, Dr. Garwood visits Yasuní and Quito twice yearly for on-site supervision lasting about one month, and Mr. Villa visits the NHM once each year for at least one month. The project is also evaluated through the NHM's internal project assessment system, which is linked to staff reporting and forward job plans.

Open community meetings were held in the two Huao communities to determine interest, expectations and training needs of participants. Compensation for project participants, needed as examples of the economic benefits to the community of participation in biodiversity studies, were negotiated with community presidents and other key participants. The two communities had very different viewpoints on what was most valued at the start of the project: one rated the transfer of knowledge to their descendants most highly, the other the direct economic contribution. Progress and satisfaction are monitored frequently through discussion.

Student licenciatura thesis projects will be monitored and co-supervised by Dr. Hugo Navarrete, Director of Herbario QCA (PUCE) and Dr. Garwood (NHM). Mr. Villa will provide guidance and supervision of field work in Yasuní and aid in initial tree identification.

In the future, oral or poster presentations at national and international meetings will disseminate results and elicit evaluation of work. Identification guides and educational and training materials will be sent for review before publication.

All expenditure is controlled by the NHM project leader, subject to the NHM's financial control procedures and Darwin guidelines, and monitored by the Botany Departmental Administrator. Financial transactions in Ecuador are controlled by the Darwin Fellow, under approval of the main partner at PUCE. A part-time financial administrator assists them at PUCE and submits monthly financial statements to the Botany Departmental Administrator. Accounts are audited on a regular basis.

10. Author(s) / Date

Dr. Nancy C. Garwood, NHM Project leader/ 30 September 2002

Appendix: Logical framework

	Project summary	Measurable indicators	Means of verification	Important assumptions
Goal	**Darwin Initiative Main Objective**: To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention	Countries assisted by DI projects to conserve biodiversity and implement CBD	DI annual reports Press cuttings	DETR funding for DI continues
Purpose	Facilitate conservation & sustainable use of biodiversity within Ecuador's hyper-diverse Yasuni National Park (YNP) & Huaorani Ethnic Reserve (HER) & increase ability of Huaorani to participate in these activities by a) producing training tools and b) providing practical training	Training tools produced Ecuadorian and Huaorani personnel trained Conservation & sustainable use in YNP-HER promoted by uptake of training tools & trainees	-Government and NGO reports on conservation and sustainable development in Ecuador -Correspondence from former trainees indicating employment or training in biodiversity area in YNP-HER	-Ecuador maintains commitment to CBD and protected areas -International/national funding available for uptake of products -Government and NGO reports on biodiversity produced and available
Outputs	1) Huaorani trained locally in modern biodiversity concepts & working practices 2) Ecuadorians trained locally in traditional biodiversity concepts & knowledge, production of guides & educational material 3) Ecuadorian trained in UK on production of guides and project management 4) Multilingual identification guides produced for monitoring biodiversity, training, and community-based ecotourism 5) Multilingual biodiversity educational materials produced for Huaorani schools to link non-Huaorani teachers & concepts to traditional knowledge 6) Links among Huaorani, PUCE, Repsol-YPF & NHM strengthened and focussed on biodiversity issues	1) Huaorani receive 720 person-days in-service training & participate in workshops, 2001-2003, 2) Ecuadorians receive 107 person-months in-service local training & participate in workshops, 2001-2004, 3) Ecuadorian receives 3 months in-service training in UK, 2001-2003 4) Guides published in Spanish by August 2003, published in English & Huao by January 2004 5) Educational materials produced in Spanish by August 2003, produced in Huao by January 2004 6) Joint PUCE, NHM, Repsol-YPF and Huaorani biodiversity activities increased, in-kind or other finanacial contributions directed toward biodiversity objectives	1-3) Interim and final project reports 4-5) Guides and educational materials disseminated on schedule 6) Annual reports of Repsol-YPF, PUCE, and NHM 6) Oral reports from Huaorani community meetings	1-3) Huaorani and Ecuadorian trainees learn techniques and cooperate with each other 4-5) Spanish to Huao translator(s) interested in project and willing to participate 6) PUCE & Repsol-YPF continue to support biodiversity work in YNP-HER 1, 6) Huaorani remain interested and committed to project opportunities
Activities	i) Small teams of Huaorani and Ecuadorians collect and exchange biodiversity concepts and knowledge in field, training each other (outputs 1-4) ii) International & local workshops (outputs 1-6) iii) Research and writing of identification guides and educational materials (outputs 3-4) iv) Train Ecuadorians in production of guides (outputs 2, 4) v) Presentations and workshops attended by staff and trainees from all institutions (outputs 1-2, 6).		Interim and final project reports PUCE & NHM accounting procedures	i, iii, iv) Suitable Huaorani and Ecuadorian trainees can be recruited to project; trainees continue with project and keep to schedule ii) International workshops attract international interest i, ii) Relationships among PUCE, Repsol-YPF and Huaorani remain strong; criminal or guerrilla activity does not escalate in Yasuní region v) suitable venues and audiences for presentations identified and addressed