
Frontier Nicaragua – Darwin Initiative

PROJECT REF NO 14-058

Capacity Building for Sustainable Management of the Nicaraguan Pacific North Region

Final Report

August 2006



FRONTIER

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Darwin Initiative

Final Report

Darwin Project Information

Project Reference No.	14-058
Project title	<i>Capacity Building for Sustainable Management of the Nicaraguan Pacific North Region (CBNPR)</i>
Country	<i>Nicaragua</i>
UK Contractor	<i>Society for Environmental Exploration (SEE) - Frontier</i>
Partner Organisation (s)	<i>MARENA (Ministry of Environment, Nicaragua), LIDER (local NGO, co-manager of Volcán Cosigüina), SELVA (local NGO, co-manager of Estero Padre Ramos), UNAN-LEON (University of Leon, Nicaragua)</i>
Darwin Grant Value	<i>61,061 GBP</i>
Start/End date	<i>May 2005 – August 2006</i>
Project website	<i>www.frontier.ac.uk</i>
Author(s), date	<i>Paul Rubio, Project Leader</i> <i>Natasha Calderwood and Maggie Muurmans, Project Co-ordinators</i> <i>Enrique Sampson, Nicaraguan Counterpart Trainer</i> <i>Jose Gutierrez, Project Partner (SELVA)</i>

Project Background/Rationale

- Describe the location and circumstances of the project

Nicaragua is the largest country in the Central American Isthmus and the second poorest in the western hemisphere. With more than half the population living below the World Bank poverty line, and three-quarters of the poor living in rural areas and struggling to survive on less than US \$2 a day, many have no other option but to rely heavily on natural resource use, either for direct consumption or for income generation. Recovering from civil war in the early 1990s, Nicaragua restructured its new government with a Ministry of Environment and declared 76 protected areas throughout the country. However, the personnel mandated to manage and implement the Ministry's duties had rarely received any formal training in conservation management and environmental protection. This led to weak, if not non-existent, environmental protection. Through USAID, the creation of the CO-MAP system in the late 1990s, sought to enhance protection of federally declared protected areas, whereby local and regional NGOs co-managed protected areas in conjunction with the Ministry. However, balancing people's needs to make a living with their desire to preserve biodiversity proved to be an exceptionally complex issue for the protected area co-managers, again due to the chronic lack of trained personnel, funds and resources.

- What was the problem that the project aimed to address?

In the North Pacific region of Nicaragua where the population density is the highest in the country, the extraction rates of most animal and plant species are currently far from sustainable and will soon lead to the extinction of many species of biological and economic importance. By building the capacity of local and national institutions, stakeholders, and community members within the three protected areas of Volcán Cosigüina, Estero Padre Ramos, and Isla Juan Venado to manage and monitor resource use, the CBNPR project sought to help to safeguard the biodiversity of the North Pacific Region and to promote the development of sustainable livelihoods.

- Who identified the need for this project and what evidence is there for a demand for this work and a commitment from the local partner?

After making initial contact in 2002 with the University of Central America and the University of Leon, Frontier staff were invited to become active partners in discussing conservation priorities for the country and working alongside national, regional, and local stakeholders to develop a sound project that would produce tangible benefits to the local communities that rely on the country's natural resources for their livelihoods and economic well-being. In particular, the co-managed protected areas of Volcan Cosiguina, Estero Padre Ramos, and Isla Juan Venado were flagged as critical areas for immediate work, largely due to drastically dwindling numbers of sea turtles and other endangered species such as the black conch and the white-tailed deer. In 2003, Frontier was granted a pre-project funding grant through the Darwin Initiative to begin an adequate situation analysis and establish a framework for a conservation project with inputs from all stakeholders. During the pre-project visit, SEE/Frontier staff established an excellent relationship with the local communities and managing bodies of the three nature reserves. From these meetings, it became evident that rangers and regional environmental leaders in the Cosigüina Nature Reserve, Estero Padre Ramos, and Isla Juan Venado had never received formal training in conservation management and that this was the largest impediment to achieving success with current conservation efforts. MARENA, UNAN-Leon, SELVA, and LIDER all discussed how adequate training and monitoring programmes were of primary importance to fulfil MARENA's strategic objectives and to truly safeguard the biodiversity of the Pacific North Region.

All overseas partners were wholly committed in their support of the project. SELVA, LIDER, MARENA and UNAN-Leon were responsible for procuring appropriate candidates for the training and development programme, notably park rangers and those individuals directly involved in managing the protected areas. In addition, all organisations met regularly with Frontier staff throughout the project period for on-going evaluation and feedback of the training and monitoring programme. Attendance at workshops for curriculum content was unparalleled, and partners took 4 weeks from their current roles to participate in the training programme. Partners demonstrated commitment through participatory planning and execution of the project throughout its duration.

Project Summary

- What were the purpose and objectives (or outputs) of the project? Please include the project logical framework as an appendix if this formed part of the original project proposal/schedule and report against it. If the logframe has been changed in the meantime, please indicate against which version you are reporting and include it with your report.

The project logical framework has been attached as Appendix V, with progress and achievements reported against the purpose and outputs.

The overall project purpose was to design and implement a training programme in conservation skills and monitoring techniques to build the capacity of local and regional institutions and

stakeholders to sustainably manage resources in the Pacific North region of Nicaragua.

The following outputs were expected from the project:

Specific Business and Technical Education (BTEC) courses to train local Nature Reserve Rangers and templates for future use (BTEC qualification in Conservation Management)

Training programme for local, regional and national stakeholders in patrolling, surveying, monitoring of protected areas, data collection and analysis, developing conservation and eco-tourism initiatives, budget management and grant-writing, and promoting local community awareness.

Habitat and species specific terrestrial and coastal monitoring plans, particularly concerning marine turtles, within three protected areas of Nicaragua's Pacific North region: Isla Juan Venado (2,934 ha), Estero Padre Ramos (9,157 ha), and Volcán Cosigüina (13,168 ha.)

- Were the original objectives or operational plan modified during the project period? If significant changes were made, for what reason, and when were they approved by the Darwin Secretariat?

The outputs and proposed operational plan were modified only slightly during the project period. The Darwin Secretariat was informed of the modifications detailed below and subsequently acknowledged the modification.

The Conservation Management training programme was specifically structured as a Business Training and Education Council (BTEC) diploma course, providing a UK accredited qualification for individuals who successfully completed the 190 hour training programme. In August 2005, Edexcel, the accrediting body of the BTEC qualification, officially approved the course as an accredited qualification, confirming that there would be no problems in marking the assessments and written reports in Spanish. However, in October 2005, Edexcel informed us that they would not provide a certificate to participants whose work was not completed in English. Since our participants do not speak English, this meant that although the BTEC in Conservation Management remained accredited, participants were no longer able to receive their official qualification at the end of the course. Attempts were made to veto this decision by London staff, and a letter of objection was filed, accompanied by six phone calls of complaint. However, Edexcel refused to revoke their decision. Nevertheless, this has not compromised the quality and standard of the training programme by any means. Participant morale and attendance did not change, and the course content has been translated into both English and Spanish and compiled into documents and manuals to be used for future training programmes in other parts of Nicaragua. All requirements of the BTEC course were successfully fulfilled, and if post project funding is attained, the proposed creation of a BTEC centre in Nicaragua, will allow us to confer the BTEC diploma retro-actively to all participants.

Additionally, monitoring plans were consolidated into biodiversity assessments and addendums to the existing management plans at the request of local and national partners, notably the Ministry of Environment.

A new operational plan with slight modifications for the 2006/2007 financial year was submitted to the Darwin Secretariat prior to the submission of the first annual report in April 2006. The same amended plan was included in the annual report. The changes principally entailed activities accomplished and outputs produced earlier than planned.

- Which of the Articles under the Convention on Biological Diversity (CBD) best describe the project? Summaries of the most relevant Articles to Darwin Projects are presented in Appendix I.

In summary, through the intense capacity building training and monitoring programmes, and their subsequent outputs and outcomes, the project supports the Government's implementation of

Articles 7 (20%), 8 (5%), 12 (65%), and 13 (10%) of the Convention on Biodiversity with particular emphasis on forest biodiversity, sustainable use themes, protected areas, coastal biodiversity and mountain biodiversity. Please see section 5 of this report and Appendix 1 for more details.

- Briefly discuss how successful the project was in terms of meeting its objectives. What objectives were not or only partly achieved, and have there been significant additional accomplishments?

The project fantastically succeeded in meeting its objectives. All objectives and outputs stipulated in the project logical framework and the output list were accomplished. Please see the attached Logical framework and the reporting against the framework for details of accomplishments. Some of the highlights include the following:

The rigorous training programme was implemented over three separate courses, with all objectives met regarding training and completion of the course. Monitoring plots were set up in all three reserves, incorporating the biodiversity research and sea turtle monitoring executed during the project period. The project witnessed overwhelming involvement of community members in conservation initiatives, i.e., set up of hatchery at Isla Juan Venado and its success at the end of the season (average 5000 hatchlings compared with 2000 previous year). BTEC training and assessor manuals have been compiled and translated so that the course can be further replicated by local / national NGOS.

The project has also boasted a number of additional achievements and outputs beyond the outputs planned in the original project proposal and logical framework.

On March 11, 2006, Frontier Nicaragua hosted the first ever sea turtle conference in Nicaragua. With over 80 registrants, the conference brought together local, national, and international experts involved in sea turtle conservation work across the Central American region. Many of the attendees had travelled extensively in order to attend and included representatives from MARENA, Fauna and Flora International, The Wildlife Conservation Society, UNAN (Leon and Managua), DFID/British Embassy, and the Interamerican Convention for the Protection and Conservation of Sea Turtles.

The Conference's main objectives were the following:

1. To allow the exchange of information regarding different sea turtle protection projects/organizations carried out during the nesting season 2005-2006 in Nicaragua;
2. To provide information on how Nicaragua can work towards joining the Inter American Convention for the Protection and Conservation of Sea Turtles;
3. To strengthen existing connections between organizations which are working towards sea turtle conservation in Nicaragua;
4. To allow networking between all interested parties in sea turtle conservation in Nicaragua.

Throughout the day, four posters were displayed on sea turtle conservation work in Nicaragua, and six oral presentations were carried out. The programme began with a presentation by Maggie Muurmans on capacity building and sustainable management of the sea turtle population of the Northwest Pacific region of Nicaragua. The presentation focused on the research results of the work of Frontier Nicaragua undertaking during the last two years. The second presentation, by Belinda Dick from the Interamerican Convention for the Protection and Conservation of Sea Turtles concentrated on data standardization and the importance for Nicaragua to join the convention as a ratified member. Information was also provided regarding a centralized database which would publish and share information from sea turtle protection programmes region wide.

Perla Torres Gago followed with a presentation of the results of the conservation efforts of Flora and Fauna International for the critically endangered leatherback. Information such as hatching success details and estimated population size was shared with the conference participants. Jose Urteaga, working as Project Coordinator for the leatherback conservation programme of FFI,

subsequently presented management strategies for sea turtle conservation along the Pacific coast. Problem areas which needed improvement were highlighted, as well as current threats. Walter Vaughen-Rojas followed with a presentation concentrating on the role of tropical forests in sea turtle conservation.

The last presentation of the day was held by Cynthia Laguex, from The Wildlife Conservation Society, and concentrated on sea turtle conservation efforts on the Caribbean coast of Nicaragua. Her talk explained conservation techniques used to determine population size, foraging areas and nest protection.

The conference was then closed with a ceremony for the participants of the Conservation Management course in which the BTEC certificates were handed out to each successful individual.

Furthermore, the course created a sense of empowerment in local communities and as a positive externality has led to the development of a number of micro-enterprises, free-lance job opportunities for park rangers, invitations for presentations and a greater sense of unity in specific communities for safeguarding biodiversity.

Scientific, Training, and Technical Assessment

- Please provide a full account of the project's research, training, and/or technical work.

The first 6 months of the project were spent formulating and designing the framework and curriculum of the rigorous 190-hour capacity building and training programme. This entailed numerous meetings and workshops with Frontier's local and regional partners in Nicaragua in order to structure course content and project activities. Moreover, the first six months required intense research to incorporate in lessons of the various disciplines covered through the course. The Conservation Management course was written to BTEC standards, with 190 hours of lessons accredited to certificate level.

The curriculum combined theoretical learning with practical fieldwork and was comprised of four distinct units titled: Biodiversity Assessment, Conservation Management Strategies, Conservation and Society, and Funding Conservation Initiatives. Although sea turtle conservation remained a focus of the training programme, the evaluations were designed to cover a spectrum of different subject areas, including the implementation of species monitoring programmes, data recording, eco-tourism and educational awareness campaigns. Many of the evaluations were interactive in nature (group work, question and answer sessions) so as to encourage the interchange of ideas between the participants and to provide a forum for the open discussion of those issues, which play a key role in the effective management of the protected areas.

Once the 'Conservation Management' programme manual had been written and translated, the twenty participants for the course were identified from each of the three protected areas of Estero Padre Ramos, Isla Juan Venado and Volcán Cosigüina. In September 2005, two introductory capacity building workshops on sea turtle conservation and hatchery management were carried out, and formal teaching for the first course in EPR was then initiated in October. Working in conjunction with the Frontier-Nicaragua UK volunteer project, monitoring programmes of nesting sea turtles commenced, with additional community training provided on how to record data correctly and efficiently. The second training course commenced in IJV in mid-November, with a strong focus on bird identification skills and hatchery management. In January, the success of the CBNPR project was showcased at the Conference of Ecology in an Era of Globalisation, held in Mexico. The final training course in Volcán Cosigüina began in January 2006, followed by a two-week supervision period in which the participants were given extra assistance in writing their final reports and implementing their new skills back in the reserves.

Preparations began in February for two conferences focused on sea turtle conservation. Our Darwin project was chosen as a showcase piece at the International Sea Turtle Symposium in Greece, with

an oral presentation during a prime slot. However, the high costs of getting to Greece from Nicaragua for the Symposium meant that the Project Co-ordinator of the project would be the sole representative for *all* of Nicaragua at the Conference. The Darwin team therefore took on the laborious task of hosting Nicaragua's first Sea Turtle Conference in Leon, to provide the opportunity for sharing ideas and engaging in presentations in a similar fashion to the Sea Turtle Symposium in Greece. Though the Sea Turtle Conference was not originally scheduled as output for the project, the overwhelming desire to have a regional conference was voiced throughout the project and represented a unique opportunity to Nicaraguan civil society. The Conference was held on March 11th 2006 and brought together nearly 100 attendees from around the country, including representatives from FFI, WCS, DfID, and many local and national NGO's and government institutions. The Conference was coupled with the BTEC Awards Ceremony, whereupon the training course participants were given their certificates and their projects from the training course were showcased through presentations. The field work for the project ended in March, and the following 4 months were spent writing up the Biodiversity Assessment reports for each reserve, as well as compiling the 'Conservation Management' and Sea Turtle Monitoring manuals. All reports were produced in both English and Spanish, and were handed in to all local counterparts and NGOs, as well as the head offices of MARENA in Managua. During the months of May and June, Paul Rubio (Project Leader) and Natasha Calderwood (Project Co-ordinator) completed an intense dissemination tour across Central America, engaging in presentations on project outputs and findings to MARENA-Managua, MARENA-Leon, SELVA, LIDER, UNAN, DFID, and the British High Commission in Costa Rica, providing hard and soft copies of project outputs. Ambassador Butler has expressed strong support for the project and has encouraged an application for post-project funding.

- **Research** - this should include details of staff, methodology, findings and the extent to which research findings have been subject to peer review.

Research: Biodiversity monitoring programmes were carried out in all 3 protected areas, with a main focus being placed on sea turtle conservation work. The provision of technical advice in terms of hatchery building, data collection, beach patrols and nest excavations has increased hatching success of critically endangered sea turtle species nesting on the Pacific coast beaches. Permanent terrestrial monitoring plots were also set up in order to improve standardised data collection within the areas, and to improve knowledge on existing levels of flora and fauna.

The project required intense research to complete lessons for the various disciplines covered through the course, categorised under four distinct units titled: Biodiversity Assessment, Conservation Management Strategies, Conservation and Society, and Funding Conservation Initiatives.

Science training methodology: Scientific methodologies used throughout the project were to the quality standards of Frontier's comprehensive methods manuals. These methods manuals define the standards for biodiversity data collection in East Africa and are available online at www.frontier.ac.uk. Specific methods used for biodiversity assessments in the three reserves are found under the Methods section of the Biodiversity Assessments, attached to this report as appendices.

As mentioned earlier, the field work component of the course focused largely on sea turtle conservation, given the importance that this has within the three protected areas. Capacity training therefore focused on hatchery building according to standardised IUCN methodology. It was also possible to provide training in the use of technical equipment such as Hbuttons and temperature probes, designed to collect further data on hatchling success rates. In fact, the hatcheries this season proved to be far more successful than the previous year, with Isla Juan Venado doubling last year's nesting season hatching success rate within the first two months. Beach patrolling was also effective by demonstrating efficient hatchling releasing techniques and nest relocation to the

participants as well as data collection on carapace measurements and in-situ nest demarcation. Nest temperature measurements showed that temperatures were close to pivotal. Details of sea turtle methodologies can be found in the attached appendix, Sea Turtle Monitoring Manual.

- **Training and capacity building activities** – this should include information on selection criteria, content, assessment and accreditation.

Course participants were selected through an application process managed by the protected areas and Frontier, and represented a broad range of stakeholders, from local community members, to members of local and regional NGOs, students from UNAN-Leon, and staff of MARENA. This was purposely sought as each group of stakeholders would bring a comparative advantage to the course and these groups had rarely interacted prior to the project. Those who were not chosen for the training were allowed to attend as *oyentes*, meaning they could attend as few or as many lectures as desired of the training course, without having to complete the BTEC certificate. This allowed significantly greater participation in the course.

The curriculum combined theoretical learning with practical fieldwork and was comprised of four distinct units titled: Biodiversity Assessment, Conservation Management Strategies, Conservation and Society, and Funding Conservation Initiatives. Although sea turtle conservation remained a focus of the training programme, the evaluations were designed to cover a spectrum of different subject areas, including the implementation of species monitoring programmes, data recording, eco-tourism and educational awareness campaigns. Many of the evaluations were interactive in nature (group work, question and answer sessions) so as to encourage the interchange of ideas between the participants and to provide a forum for the open discussion of those issues, which play a key role in the effective management of the protected areas.

During the capacity building programme, training was also provided on more general scientific data collection in order to stimulate a greater understanding of conservation issues and tropical ecology. Activities such as bird observation and identification, mist netting, trapping butterflies and reptiles, the use of GPS and cartography added to this general concept. For example, bird walks and date lists were compiled early in the morning during which the participants would go out in groups of two to compile a bird list of the monitoring plot. The birds would be described by their individual characteristics and later identified with help from a field guide. During the course at Isla Juan Venado, a bird specialist from UNAN-Leon accompanied the group on a boat tour to identify birds inhabiting the 15km network of mangroves found there. In order to identify bat species in the area, training in the use of mist nets was provided. This order of mammals is one of the least studied groups within all 3 reserves and there is an immense lack of knowledge regarding the species. During one particularly successful night of mist netting in Estero Padre Ramos, an unregistered species of bat (*Myotis myotis*) for the area was captured and identified, therefore adding to the species inventory list that is being compiled.

In order to monitor effectiveness, each trainee was required to keep a daily logbook (provided to them), complete a number of evaluations, conduct an oral presentation and submit a written report. All materials were marked and returned to the trainees. At the end of each training programme, trainees were asked to complete feedback forms, and any issues, concerns, and suggestions for future programmes were discussed in an open seminar. Weekly mentor meetings were also built into the training programme so that both trainees and trainers were constantly engaged in open dialogue and could freely suggest improvements to the programme. In order to monitor trainee outcomes following completion of the course, each trainee received a two-week supervision period by a member of the project team in order to provide any additional support needed to apply their new skills. Successful completion of the training programme resulted in a vocational qualification in Conservation Management.

Project Impacts

- What evidence is there that project achievements have led to the accomplishment of the project purpose? Has achievement of objectives/outputs resulted in other, unexpected impacts?

As stated earlier the project purpose was to “design and implement a training programme in conservation skills and monitoring techniques to build the capacity of local and regional institutions to manage and monitor resources in the Pacific North region of Nicaragua sustainably.” A number of verifiable indicators are presented to demonstrate that project achievements have led to the accomplishment of the project purpose. These are detailed in the logical framework, Appendix V under the categories of measurable indicators and project achievements. To highlight:

Tailor-made BTEC equivalent diplomas were awarded to 20 Nicaraguan personnel from LIDER, SELVA, UNAN-Leon, and MARENA based on strict grading criteria.

An awards ceremony for training course participants and the first ever Sea Turtle Symposium in Nicaragua was hosted by Frontier Nicaragua Darwin project in March 2006.

Research outputs and training manuals have been made available to all partners and are downloadable from the web. In particular, the BTEC training manual has been completed, translated and hand delivered to project partners and Nicaraguan stakeholders by the Project Leader and Project Co-ordinator, and the BTEC training manual will be made available on-line by late August 2006.

Data collected from previous quarters has been collated and compiled to form recommendations and addendums to current management plans for IJV, EPR, and VC. These management recommendations and addendums have been presented to MARENA and are now in MARENA's hands for integration into MARENA's current management plans.

Sea Turtle monitoring and conservation manuals have been translated and printed for all three reserves.

Positive externalities to the project include the following: Hatcheries will be built this season in all reserves using the knowledge and expertise gained from training with Frontier. SELVA has an interest in trying to pursue further funding for mangrove studies equipped with the tools gained during the week-long training of Funding Conservation Initiatives. Following the success of the sea turtle conference, this will hopefully become an annual event, hosted by a different regional organisation each time. Furthermore, the course created a sense of empowerment in local communities and as a positive externality has led to the development of a number of micro-enterprises, free-lance job opportunities for park rangers for GPS work (commissioned by USAID and Nicaraguan government), invitations for presentations at Central American conferences and a greater sense of unity in specific communities for safeguarding biodiversity.

- To what extent has the project achieved its purpose, i.e. how has it helped the host country to meet its obligations under the Biodiversity Convention (CBD), or what indication is there that it is likely to do so in the future? Information should be provided on plans, actions or policies by the host institution and government resulting directly from the project that building on new skills and research findings.

First and foremost, the project contributes to Article 12 (Research and Training) through the creation of pioneering BTEC course in Conservation Management, providing training opportunities,

“generating the scientific and technical education necessary for the identification, conservation and sustainable use of biological diversity and its components [in Nicaragua].” The training courses were carefully tailored to the needs of the country and in accordance with national conservation priorities.

The scientific research conducted through the project as part of the training course and as an auxiliary component of the project produced biodiversity assessment reports, which support Article 7 (Identification and Monitoring). The subsequent addendums to current management plans supports Article 8 (In Situ Conservation) “by regulating and monitoring biological resources important for the conservation of biological diversity within protected areas.” These management recommendations and addendums have been presented to MARENA and are now in MARENA’s hands for integration into MARENA’s current management plans.

Furthermore, public awareness formed an integral part of the training course, and resulted in countless workshops and educational activities at local schools. Dissemination of information was exemplary at all the international, national, regional and local levels contributing to Article 13 (Public Education and Awareness).

Following the project, it is anticipated that the upcoming year will include continuation of sea turtle work in all three reserves, including hatcheries, patrolling and data collection. SELVA has plans to set up 3 hatcheries this year along the EPR coastline. MARENA and FFI are making plans to develop a monitoring/conservation programme for sea turtles in which both Atlantic and Pacific coasts will come together. Management plans are scheduled to be revised in the next two years and will incorporate Frontier’s suggestions and the findings of the three biodiversity reports.

- Please complete the table in Appendix I to show the contribution made by different components of the project to the measures for biodiversity conservation defined in the CBD Articles.

Please refer to Appendix I.

- If there were training or capacity building elements to the project, to what extent has this improved local capacity to further biodiversity work in the host country and what is the evidence for this? Where possible, please provide information on what each student / trainee is now doing (or what they expect to be doing in the longer term).

Course participants represented a broad range of stakeholders, from local community members, to members of local and regional NGOs, students from UNAN-Leon, and staff of MARENA. This was purposely sought as each group of stakeholders would bring a comparative advantage to the course. Even upper level personnel, normally office based in air-conditioned suites, participated in rustic field work with their employees, some of whom they had never even met previously!

A supervisory period was planned and executed following the training courses, specifically to ensure that the project achieved its purpose and that local capacity had indeed been improved to further biodiversity work. On supervision visits, project co-ordinators witnessed the use of GPSs as a critical part of daily work in the three reserves, a skill that was acquired on the training course and utilizing equipment made available through the Darwin project. NGOs involved in the training course have already developed monitoring plans for this season’s sea turtle work, building on Frontier’s previous improvements. Community members have been instrumental in this process and there is indeed much greater interest and cooperation since the course brought together such a variety of stakeholders. Several of the course participants (Eddy Maradiaga and Reyner Calderon for example) hold key roles within the communities and are helping develop conservation/development plans for the young people living there, including patrolling timetables for sea turtles. Also, as one third of the course participants were biology UNAN students (Gerald Camacho, Roger Santos, Richard Santamaria, Nilson Aguilar, Reyner Calderon and Eddy Maradiaga), they have now gained vital field work experience which will help them find jobs in this field later and will form a central role in shaping

Nicaragua's conservation efforts in the future through their work and the application of funding proposals.

Moreover, from the VC course, four of the participants are in training to become park rangers themselves. As they are still young (average age of 20), the course has increased their interest and skills substantially. They are residents of the VC area and so have a direct interest in helping preserve this reserve for the future.

- Discuss the impact of the project in terms of collaboration to date between UK and local partner. What impact has the project made on local collaboration such as improved links between Governmental and civil society groups?

SEE/Frontier staff have established an excellent relationship with the local communities and managing bodies of the three nature reserves. There is exemplary open communication between UK and local partners, with a strong network of trust and alliance.

The course successfully brought together people in the community members with heads of local NGOs and relevant government bodies, allowing conducive exchange of ideas and points of view in a constructive manner. Community members have been instrumental in the process of creating action plans with the NGOs for the upcoming turtle nesting season. Indeed, there is much greater interest and cooperation since the course brought together such a variety of stakeholders.

As stated before, course participants represented a broad range of stakeholders, from local community members, to members of local and regional NGOs, students from UNAN-Leon, and staff of MARENA. This was purposely sought as each group of stakeholders would bring a comparative advantage to the course. Even upper level personnel, normally office based in air-conditioned suites, participated in rustic field work with their employees, some of whom they had never even met previously. This has allowed a greater legacy for the project as communication has opened up significantly across different groups and stakeholders.

- In terms of social impact, who has benefited from the project? Has the project had (or is likely to result in) an unexpected positive or negative impact on individuals or local communities? What are the indicators for this and how were they measured?

The project has fostered positive social impacts and has generated significant interest in biodiversity work throughout the Pacific Northwest of Nicaragua. This was accomplished principally through the use of media and the filming of work by the Darwin project in constructing the IJV hatchery in December 2005, combined with presentations throughout Latin America and the sea turtle community. Moreover, those who were not directly chosen for the training were allowed to attend as *oyentes*, meaning they could attend as few or as many lectures as desired of the training course, without having to complete the BTEC certificate. This generated tremendous interest through the local communities and at times course numbers doubled for specific lectures and field exercises. The project team hopes that as more community members become involved in sea turtle conservation, the eco-tourism plans designed by course participants can be implemented, creating an alternative economic income to turtle egg harvesting.

- **Project Outputs**

- Quantify all project outputs in the table in Appendix II using the coding and format of the Darwin Initiative Standard Output Measures.
- Explain differences in actual outputs against those in the agreed schedule, i.e. what outputs were not achieved or only partly achieved? Were additional outputs achieved? Give details in the table in Appendix II.

All research and training outputs agreed in the Project Implementation Timetable and Project Outputs Schedule have been realized. In fact, the supervisory period and BTEC Awards ceremony originally planned for year 2 of the project took place at the end of year 1.

Training outputs: All the outputs due to be completed have been achieved. The twenty participants successfully completed the course and received their certificate in March 2006.

Research outputs: The training and field work component of the project was finalised at the end of February, and the monitoring and management plans for each reserve resulting from this work were written and handed in to all relevant organisations and institutions in June 2006.

Dissemination outputs: Monthly progress statements and web updates were provided throughout the project period. The listed workshops have also been completed, with additional environmental awareness / conservation careers talks carried out at local schools. A presentation of the CBNPR's work was conducted by Project Coordinator, Maggie Muurmans, at the opening of the León Sea Turtle Conference, and the event was covered by reporter Irving Guerrero, who filmed the proceedings. Radio, TV and press coverage were included. It has resulted to be very difficult to conduct the radio interviews detailed in the Outputs Schedule, however. Frontier's work has been acknowledged in interviews and press statements carried out by our counterparts, but due to the time spent in the field, it was logistically complicated to arrange with local radio stations. However, this has not been detrimental to the dissemination work of the project. The organisation has a high profile within the three reserves and due to the workshops and monitoring programmes carried out, community members were aware of the purpose and development of the work being carried out.

- Provide full details in Appendix III of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website database.
- How has information relating to project outputs and outcomes been disseminated, and who was/is the target audience? Will this continue or develop after project completion and, if so, who will be responsible and bear the cost of further information dissemination?

Dissemination of outputs and outcomes at all levels formed an integral part of the project.

The most important target audiences have been those communities based within the three reserves and directly responsible for the unsustainable use of the natural resources there. Workshops were held before the start of the training courses to teach community members about hatchery management and data collection, and at the same time, explain the background and intended work of the project. During the training courses themselves, monthly statements were provided and an update detailing the progress and work achieved so far were written for the Frontier website. In February, a newsletter in Spanish designed specifically for local and regional stakeholders was produced. This included information about the Darwin Initiative, the background to the project, and a summary of the work and results achieved in each of the reserves. The sea turtle studies were also highlighted, as was the upcoming Conference. The newsletter was printed and sent to all of Frontier's contacts in Nicaragua. Further copies were distributed at the Sea Turtle Conference. It was also pdf'd and emailed to the Nicaraguan Sea Turtle Network (which includes 100 members), as well as other conservation organisations working in Central America. A second newsletter was then distributed in June 2006, detailing the main results of the biodiversity research conducted in each reserve.

Prior to the start of the Sea Turtle Conference, posters and leaflets promoting the event were posted in prominent locations around Leon, including the University and NGO head offices.

Two local TV programmes about the project were aired throughout the reporting period. The first was for Canal 51 in December 2005, and focused on the sea turtle work being carried out in Isla Juan Venado. Footage was taken of the hatchery, and of community members carrying out data research, releasing hatchlings and patrolling the beaches. The second programme showcased the Turtle Conference, and included interviews with Frontier staff and attendees as well as the main highlights of each oral presentation. The programme was aired 6 times on Canal CDNN-23 over a two day period. A summary of the event was also broadcast by the local radio station San Cristóbal.

During the months of May and June, Paul Rubio (Project Leader) and Natasha Calderwood (Project Co-ordinator) completed an intense dissemination tour across Central America, engaging in presentations on project outputs and findings to MARENA-Managua, MARENA-Leon, SELVA, LIDER, UNAN, DFID, and the British High Commission in Costa Rica, providing hard and soft copies of project outputs. Ambassador Butler has expressed strong support for the project and has encouraged an application for post-project funding.

At the international level, the Darwin project was showcased at the Ecology in an Era of Globalization Conference in Mexico (in January 2006) and at the International Sea Turtle Symposium in Greece (in March 2006), and project team members engaged in numerous meetings and workshops throughout Europe to discuss project results.

Project Expenditure

- Tabulate grant expenditure using the categories in the original application/schedule.
- Highlight agreed changes to the budget.
- Explain any variation in expenditure where this is +/- 10% of the budget.

No major changes were applied to the budget throughout the duration of the project, and expenditure did not vary +/-10%.

Budget Summary	GRANTED	CLAIMED	PERCENTAGE
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Project Operation and Partnerships

- How many local partners worked on project activities and how does this differ from initial plans for partnerships? Who were the main partners and the most active partners, and what is their role in biodiversity issues? How were partners involved in project planning and implementation? Were plans modified significantly in response to local consultation?

The Ministry of Environment and Natural Resources (MARENA) co-manages protected areas in the

Pacific Northwest of Nicaragua, alongside the local NGOs, LIDER and SELVA, and the University of Leon (UNAN-Leon). Utilising pre-project funding, MARENA and SEE were able to hold a series of meetings in January 2004 regarding the development of a long-term monitoring programme and the imperative skills to be included in the BTEC training programme. The local NGO, LIDER, co-manages the protected area of Volcán Cosigüina while SELVA co-manages the protected area of Estero Padre Ramos. Both expressed a strong interest in the proposed project through a series of monthly meetings that began in early 2004 and have continued to present day. While MARENA handles the bureaucratic side of conservation in Nicaragua, LIDER and SELVA reach out to their community members by holding monthly meetings for all communities in and around the nature reserves to disseminate information. Areas that are managed by LIDER and SELVA have been legally declared part of the National System of Protected Areas (SINAP). MARENA is currently solely managing Nature Reserve Isla Juan Venado and is hoping to delegate local management responsibility to trained community members.

SEE's relationships with UNAN Leon and LIDER are now consolidated through separate Memorandums of Understanding (MoU), solidifying long-term commitments by all parties to conservation of the region. SEE/Frontier staff met with Vice-rector Dr. Edmundo Torres of UNAN Leon on a regular basis throughout the project period. MARENA is also in the process of systemising monitoring systems across the entire country and has worked closely with SEE/Frontier in designing and implementing the appropriate monitoring programme in the Pacific Northwest. As part of the exit strategy, at the end of the project period, a workshop was held with the National Department of Protected Areas (DGAP) in Managua in order to discuss all project findings and to formulate further plans for continued biodiversity work in the region.

- During the project lifetime, what collaboration existed with similar projects (Darwin or other) elsewhere in the host country? Was there consultation with the host country Biodiversity Strategy (BS) Office?

There is currently another Darwin Initiative project running in the Central America Region, "Building Nicaraguan and Costa Rican Capacity in Biodiversity Conservation", led by Dr. Lorraine Gormley at the University of Bangor in Wales. A strong dialogue was established with Dr. Gormley during the planning stages of the project to discuss our project proposal, to avoid overlap, and to learn from both the positive and negative experiences of her project. This project is located in the San Juan river basin in the north east of Costa Rica and south east of Nicaragua, specifically in the proposed Maquenque National Park area (San Carlos) of Costa Rica and the Indio Mais reserve in Nicaragua.

Several meetings were held with MARENA Managua, who houses the CBD focal point. However, the focal point changed during the time period of the project, and the focal point was not able to meet directly with the project team.

- How many international partners participated in project activities? Provide names of main international partners.

Collaboration between Frontier Nicaragua and other NGO's in-country has been very successful throughout the project. Collaborative efforts to standardize data for effective sea turtle conservation has meant that strong ties were developed with all stakeholders involved in sea turtle conservation work in the country. In IJV in particular, a good working relationship with Fauna and Flora International (FFI) was established so as to coordinate conservation efforts and prevent an overlap of project activities. For although FFI has been concentrating on the conservation of the critically endangered leatherback (*Dermochelys coriacea*) and Frontier Nicaragua has focused more on the conservation of the Olive Ridley (*Lepidochelys olivacea*), collaboration was needed in order to protect the entire nesting beach and ensure the successful management of the shared species hatchery. Frontier Nicaragua was therefore invited to several workshops organised by FFI in order to join work forces and standardize data collection.

As a member of the Nicaraguan Sea Turtle Alliance, Frontier was also able to propose

recommendations for the creation of national strategies for sea turtle conservation in the Pacific region. Meetings were held on a regular basis and Frontier was actively involved in helping develop national sea turtle protection management techniques. On an international level, contact was also made with The Wildlife Conservation Society, based on the Caribbean coast, and further meetings were held with the latter in order to share and promote conservation plans proposed by both organisations.

- To your knowledge, have the local partnerships been active after the end of the Darwin Project and what is the level of their participation with the local biodiversity strategy process and other local Government activities? Is more community participation needed and is there a role for the private sector?

The course successfully brought together people in the community members with heads of local NGOs and relevant government bodies, allowing conducive exchange of ideas and points of view in a constructive manner. Community members have been instrumental in the process of creating action plans with the NGOs for the upcoming turtle nesting season. Indeed, there is much greater interest and cooperation since the course brought together such a variety of stakeholders.

As stated before, course participants represented a broad range of stakeholders, from local community members, to members of local and regional NGOs, students from UNAN-Leon, and staff of MARENA. This was purposely sought as each group of stakeholders would bring a comparative advantage to the course. Even upper level personnel participated in rustic field work with their employees, some of whom they had never even met previously. This has allowed a greater legacy for the project as communication has opened up significantly across different groups and stakeholders.

A potential role for the private sector would include the development of an adequate eco-tourism infrastructure, which would allow for ecological tours on par with those offered in Costa Rica.

Monitoring and Evaluation, Lesson learning

- Please explain your strategy for monitoring and evaluation (M&E) and give an outline of results. How does this **demonstrate** the value of the project? E.g. what baseline information was collected (e.g. scientific, social, economic), milestones in the project design, and indicators to identify your achievements (at purpose and goal level).

Weekly situation reports and progress reports were sent between the field and London headquarters. The logical framework for the project was used as a management tool; and verifiable indicators were realized for all outputs. For example, the training course participants were required to keep daily logbooks of their lessons and activities and were marked through group discussions, exams, oral and written presentations. Course participants were asked to provide feedback on the course on a weekly basis and then formalise suggestions through feedback forms and closing local workshops to improve course content and lessons. Statistical data collected from the course participants through questionnaires about the acquisition of new knowledge helps demonstrate the value of the training course. In effect, 84% of the participants stated that they had learnt new conservation tools by the end of the course, with 42% stating that over 80% of the course provided them with knowledge and skills they did not have before. Information was also collected on the topics participants considered they had the least knowledge on prior to starting the training programme, as well as which lectures and field work they found to be the most useful following the completion of the course. This allowed Frontier staff to modify future curriculum to ensure that everyone's needs were targeted and to maximise the educational value of the programme.

Project achievements and measurable indicators are detailed in the logical framework in Appendix V.

- What were the main problems and what steps were taken to overcome them?

There were very few problems encountered during the running of the programme largely due to extensive planning, open communication, and a strong network of trust and alliance with the target beneficiaries and stakeholders.

The greatest challenge to the project was finding a method for course participants to leave their current jobs for an entire month to complete the training programme. Given the intensive nature of the training programme, it proved to be difficult for some park guards to find 190 hours free from work to enrol on the programme full-time. Most were still required to perform other duties within the protected areas and it became necessary to structure the timetable around this. In IJV, a temporary replacement park guard had to be found so that the main personnel in the protected area could still take part on the course without leaving the reserve unmanned. In other instances, the park guards could only get leave of absence for two-week periods, and therefore had to conduct the first part of the course in one area, and complete the remainder in another. This was not logistically impossible to do, but it meant that each course timetable had to follow the same structure and layout as the previous so that participants joining at a later stage would not miss or repeat specific topics or field work on the syllabus. However, it did have the added bonus of allowing the participants to spend time in different protected areas and witness at first hand how these were managed in comparison to their own.

- During the project period, has there been an internal or external evaluation of the work or are there any plans for this?

A project evaluation was conducted by an external evaluator (Sarah Woodcock) during the Volcán Cosigüina training course in February 2006. A summary of this evaluation is attached as Appendix VII. Participants were interviewed in order to provide comments on course proceedings. Interviews showed that the participants particularly enjoyed the field work component. Comments were positive on the successful development of the training course and seen as very useful for personal and professional development.

- What are the key lessons to be drawn from the experience of this project? We would welcome your comments on any broader lessons for Darwin Initiative as a programme or practical lessons that could be valuable to other projects, as we would like to present this information on a website page.

Bringing together a wide range of stakeholders through the training programme, each with a different comparative advantage and a different reason for interest in conservation, facilitated successful exchange of ideas and different points of view. This has now fostered better co-operation between stakeholders for environmental decision-making in the region.

The distribution of Darwin pins was a key motivation factor for many course participants and their families. Darwin pins were highly esteemed throughout local communities and were admired by many. The distribution of pins should be integrated into ALL Darwin projects. However, pins should only be distributed at the conclusion of presentations on the Darwin Initiative and the project at hand to those who have taken the time and effort to attend.

When designing such an intense training programme with such a broad scope and breadth it is imperative to complement general course content with specific examples and lessons relevant to the area under study. Each protected area had different interest and visions on how they saw conservation becoming a reality. These ideas were specifically incorporated into the various courses. The BTEC allowed great flexibility in its execution as a general framework and course structure was designed with the inclusion of context-specific exercises and activities.

An intensive month-long training programme faces the challenge of continue to captivate its audience over a considerable period of time and requires participants to leave their jobs for a

significant duration. In this sense, the course must provide *exceptional* added value to all participants involved. This was achieved through a combination of lectures and field work, with a strong emphasis of hands-on activities, such as hatchery construction, mist-netting complemented by group exercises and presentations. The regional workshops were *instrumental* in getting the curriculum right and designing a successful course.

The reviewer from the first annual report of the project also highlighted key lessons from our project.

“The excellent planning, implementation and follow-up monitoring, combined with external course accreditation is an example of good practice which Darwin Initiative should note and disseminate to other capacity building projects.”

“The project reports that it is possible to provide vocational training to a range of stakeholders from government officials to community members. This is an important conclusion (and one reached elsewhere) and, in fact, is the best way of providing such training – bringing all stakeholders together in a common learning experience.”

Actions taken in response to annual report reviews (if applicable)

- Have you responded to issues raised in the reviews of your annual reports? Have you discussed the reviews with your collaborators? Briefly summarise what actions have been taken over the lifetime of the project as a result of recommendations from previous reviews (if applicable).

The reviewers' comments from the first annual report were overwhelmingly positive. The review was shared among project partners and discussed, so as to appropriately action and respond to the few points that were raised. The reviewer asked for clarification on three main points. These points are stated below, and responses are provided.

1. To provide information on scientific methodology used during scientific work.

This information can be found in the appendices to this report, specifically under methodology headings in the biodiversity assessments for the three separate reserves and the sea turtle training manual. This information was in the process of being published when the annual report was submitted in April.

2. To discuss how “LIDER and SELVA represent the wider community?”

Local NGOs such as LIDER and SELVA assist in the management of protected areas through the CO-MAP system, funded by USAID. In this sense, protected areas in the Pacific Northwest of Nicaragua are co-managed by the Ministry of Environment (administratively and financially) and by local NGOs (for on-the-ground implementation). LIDER and SELVA are comprised of all local community members, and meetings are held on a regular basis (often monthly) so that the actions of the LIDER and SELVA incorporate the concerns and wants of the local communities. LIDER and SELVA, however, tend to be dominated by men; and therefore, the Darwin project encouraged the participation of women in the community to take an active role in conservation and participate in the course offered by Frontier.

3. To address specific questions relating to long-term impact indicators –“what level of competence is it intended that the local institutions reach? How will this be translated (and measured) into improved management and protection of the reserves? What level of multiplier effect (trainees passing on acquired knowledge and skills to others) is intended”

The course designed and implemented intends to educate the multiple stakeholders involved in

management of Nicaragua's precious natural resources in a variety of disciplines essential to the successful conservation management of a protected area. As the curriculum was developed in a participatory manner, the intense 190 hour course aims to be exceptionally comprehensive in nature. The BTEC course itself states the pragmatic learning objectives of the candidates who participate on the course. The initial success of the course was evaluated through questionnaires on the development of new essential knowledge, revealing that 84% of the participants had learnt new conservation tools by the end of the course, with 42% stating that over 80% of the course had provided them with knowledge and skills they did not have before. Training manuals are also now available as reference materials for all previous students on the course. In addition, a trainer was trained through the course, Enrique Sampson, with the idea that Enrique would continue to train other trainers in country. Enrique reached an exceptional level of competency in his job, but has now been accepted for a very prestigious job in the United States. This is bittersweet, as we are very proud of Enrique's accomplishments, but did not directly encourage brain drain from the project. The various leaders at MARENA and of the local NGOs also have assessors manuals to run future courses, with course content, exercises, and lessons laid out.

Darwin Identity

- What effort has the project made to publicise the Darwin Initiative, e.g. where did the project use the Darwin Initiative logo, promote Darwin funding opportunities or projects? Was there evidence that Darwin Fellows or Darwin Scholars/Students used these titles?

Tremendous efforts have been made to publicise the Darwin Initiative throughout the duration of the project and to extend our gratitude for the gracious support of the Darwin Initiative. Over 300 Darwin pins were distributed during the project, while the Darwin logo was showcased on all printed materials and presentations (including newsletters, presentations at international conferences, etc.). Thanks and recognition to Darwin Initiative has been included on the front page and acknowledgments of all printed documents and reports. Throughout the project, presentations by the Project Leader and Project Co-ordinator included an entire section on the Darwin Initiative itself, leading into the objectives and goals of our project and how it fits in to the Darwin portfolio. Moreover, at the start of each training course, environmental education talk and workshop, the project team gave introductory talks about DI, its main aims and objectives. The project team wore Darwin pins at all times, and even had staff from the British Embassy, including Ambassador Butler, wearing their Darwin pins.

Darwin was graciously acknowledged during all radio and television presentations.

- What is the understanding of Darwin Identity in the host country? Who, within the host country, is likely to be familiar with the Darwin Initiative and what evidence is there to show that people are aware of this project and the aims of the Darwin Initiative?

There is a significant understanding of the Darwin Initiative among partners in Managua and civil society and communities in the Pacific Northwest. Presentations explaining the Darwin Initiative took place when the project commenced and throughout the duration of the project. Our final presentations included a discussion again about the Darwin initiative and how our project supports the Convention on Biodiversity. Local, regional, and national partners would be highly familiar, as well as personnel in the Central American offices of HMG, including representatives of DFID, FCO, and Ambassador Butler herself. All park guards and heads of the NGOs in three reserves are familiar with the Darwin Initiative.

The project team distributed several hundred Darwin pins, which were unbelievably popular. In fact, the distribution of Darwin pins was a key motivation factor for many course participants and their families. Darwin pins were highly esteemed throughout local communities and were admired by

many. The distribution of pins should be integrated into ALL Darwin projects. However, pins should only be distributed at the conclusion of presentations on the Darwin Initiative and the project at hand to those who have taken the time and effort to attend.

- Considering the project in the context of biodiversity conservation in the host country, did it form part of a larger programme or was it recognised as a distinct project with a clear identity?

The project was seen as a distinct piece of work due to the heavy emphasis by the project team on dissemination of information and open communication. During presentations and workshops, it was explained how the project fit into the wider context of the Darwin Initiative, the CBD, and conservation in Nicaragua.

Leverage

- During the lifetime of the project, what additional funds were attracted to biodiversity work associated with the project, including additional investment by partners?

As the project was quite short in duration (17 months), additional funds were not secured during the lifetime of the project beyond the co-funding provided by SEE/Frontier and the in-kind funding provided by the Project Leader and Project Co-ordinators (90 hour weeks!) and UNAN-Leon. However, the project team plans on submitting an application for post-project funding from Darwin Initiative.

Our presence in-country has been a constant situation analysis. The need to have a course such as the Conservation Management course across Nicaragua (beyond the three pilot reserves covered under the current grant) has been repeatedly voiced by government and civil society. Three of seventy three reserves were covered under this project. Post-project funding would allow the continuation of a highly successful project through dissemination of essential knowledge throughout various protected areas of Nicaragua.

- What efforts were made by UK project staff to strengthen the capacity of partners to secure further funds for similar work in the host country and were attempts made to capture funds from international donors?

An entire unit of the BTEC course in Conservation Management was dedicated to grant writing and budget management. The unit, entitled Funding Conservation Initiatives, allowed participants received a full week's training on securing funds for further work, including lectures on different funding bodies and international NGOs to whom they could apply for funds. Certain course participants, such as those representatives of SELVA and community members of Estero Padre Ramos, are now applying for micro-grants for mangrove studies in Estero Padre Ramos.

Sustainability and Legacy

- What project achievements are most likely to endure? What will happen to project staff and resources after the project ends? Are partners likely to keep in touch?

The skills acquired from the training programme will be utilized throughout the jobs of the candidates and the project team believes that the protected areas are now equipped with the necessary knowledge to maintain successful hatcheries. The training manual for the BTEC course has been made available to all participants and stakeholders as a reference tool for future training and as a refresher to many participants. These manuals have been made available to the Ministry at the regional, local, and national levels and to local and regional NGOs for future implementation. NGOs involved in the training course have already developed monitoring plans for this season's sea turtle work, building on Frontier's previous improvements. Community members have been instrumental in this process and there is indeed much greater interest and cooperation since the course brought together such a variety of stakeholders.

Project resources and equipment were donated to the protected areas, to be used for work on a library type system. Unfortunately, some of the equipment was stolen before the end of the project, notably the extensive sea turtle equipment. The project leader, Paul Rubio will continue to work in Central America on development projects but under the organisation Econservation, rather than Frontier/Society for Environmental Exploration. The project co-ordinator, Natasha Calderwood, has returned to London to continue with her graduate work, but has plans to return to Central America by mid-2007. The other project co-ordinator Maggie Muurmans has now accepted a job with Conservation International in Indonesia. Enrique Sampson, our counterpart trainer, has now been hired by a US company and has been offered the job of his dreams. We are very proud of Enrique, though we would have liked to avoid the brain drain from the training programme. The training course participants are current utilizing the skills gained through their jobs.

Several of the course participants (Eddy Maradiage and Reyner Calderon for example) hold key roles within the communities and are helping develop conservation/development plans for the young people living there, including patrolling timetables for sea turtles. Also, as one third of the course participants were biology UNAN students (Gerald Camacho, Roger Santos, Richard Santamaria, Nilson Aguilar, Reyner and Eddy), they have now gained vital field work experience which will help them find jobs in this field later and will form central role in shaping Nicaragua's conservation efforts in the future through their work and the application of funding applications.

Partners will definitely keep in touch as they will be independently entering MoUs for further work with Frontier and Econservation in Nicaragua. As Frontier Nicaragua will continue to operate in the Pacific North region of Nicaragua, partners will be integral for continuing our biodiversity assessments in the three protected areas. They will work side by side with our scientists and help implement our volunteer programme.

- Have the project's conclusions and outputs been widely applied? How could legacy have been improved?

The projects conclusions and outputs have been widely disseminated across civil society and relevant organisations. In the project's closing months, the Project Leader and Project Co-ordinator hosted a series of presentations and workshops across Central America in order to discuss project achievements and posit lessons learned and the way to move forward with the work accomplished during the project. These presentations included workshops with all local and regional partners, with MARENA Managua, with DFID, and the British High Commission in San Jose. Ambassador Butler personally commended the project team on a job well done.

The legacy of the project could be improved through the opening of a BTEC training centre in Nicaragua. This would allow Nicaraguan participants to receive a British accredited vocational qualification for the 190-hour Conservation Management course designed and implemented by the Society for Environmental Exploration. Such a qualification is unprecedented in the history of Central America. Though the course has been designed and implemented, the physical opening of a training centre would be required to confer degrees in the foreign language.

- Are additional funds being sought to continue aspects of the project (funds from where and for which aspects)?

The project will apply for post-project funding in the upcoming round of Darwin Initiative applications in September 2006.

Though the project boasts significant achievements, critical follow-up activities would allow a true legacy for the project. The opening of a BTEC training centre in Nicaragua would allow Nicaraguan participants to receive a British accredited vocational qualification for the 190-hour Conservation Management course designed and implemented by the Society for Environmental Exploration. Such a qualification is unprecedented in the history of Central America. Edexcel has informed us

that if we actually create a BTEC training centre in Nicaragua then we will be able to confer diplomas to individuals completing the diploma in Spanish and that students who already completed the training programme could receive their diploma through retro-active credit.

Our presence in-country has also been a constant situation analysis. The need to have a course such as the Conservation Management course across Nicaragua (beyond the three pilot reserves covered under the current grant) has been repeatedly voiced by government and civil society. Three of seventy three reserves were covered under this project. Post-project funding would allow the continuation of a highly successful project through dissemination of essential knowledge throughout various protected areas of Nicaragua.

Value for money

- Considering the costs and benefits of the project, how do you rate the project in terms of value for money and what evidence do you have to support these conclusions?

The project is a true example of fantastic value for money. This is largely attributed to the tremendous dedication and effort of staff on the project, notably the Project Leader and Project Co-ordinators who often worked 90-100 hour weeks without financial compensation for extra time spent on the project. By using a well educated but younger labour force, the project achieved high quality outputs that would cost many other organisations five times the amount. We believe that both the *quantity and quality* of our training, research and dissemination outputs are testimony to the success and value for money of the project.

Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	0%	Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	20%	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	5%	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation	0%	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	0%	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	0%	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.

12. Research and Training	65%	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	10%	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts	0%	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources	0%	Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
16. Access to and Transfer of Technology	0%	Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information	0%	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	0%	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Total %	100%	Check % = total 100

Appendix II Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (←expand box)
Training Outputs		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	
3	Number of other qualifications obtained	20 BTEC equivalent certificates in 'Conservation Management' awarded to Nicaraguan participants of training programme.
4a	Number of undergraduate students receiving training	
4b	Number of training weeks provided to undergraduate students	
4c	Number of postgraduate students receiving training (not 1-3 above)	10 UK self-funded volunteers received on-site training on how to collect biodiversity data and carry out sea turtle monitoring plans
4d	Number of training weeks for postgraduate students	100 total taught training weeks provided to the 20 course participants
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(i.e not categories 1-4 above)	Enrique Sampson was hired as the counterpart trainer for the project in September 2005
6a	Number of people receiving other forms of short-term education/training (i.e not categories 1-5 above)	20 community members received training on hatchery management and data collection in IJV and EPR
6b	Number of training weeks not leading to formal qualification	120 total training weeks provided to the course participants, including 2 weeks supervision period
7	Number of types of training materials produced for use by host country(s)	1 website link constructed for project updates (workshop dates, course timetable, etc); 1 information DVD; 1 BTEC Candidate Handbook; 1 BTEC training manual (both produced in Spanish and English) which incorporates lessons for all 3 reserves
Research Outputs		
8	Number of weeks spent by UK project staff on project work in host country(s)	223 staff weeks
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	3 Management Plan addendums for IJV, EPR and VC written and handed to local ngos and counterparts; 3 Biodiversity reports for IJV, EPR and VC written and given to stakeholders; 1 final report

Code	Total to date (reduce box)	Detail (←expand box)
10	Number of formal documents produced to assist work related to species identification, classification and recording.	1 Sea Turtle Monitoring Manual produced
11a	Number of papers published or accepted for publication in peer reviewed journals	
11b	Number of papers published or accepted for publication elsewhere	2 papers accepted for presentation at Ecology in an Era of Globalization conference and Sea Turtle Symposium.
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	
12B	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	Updated species inventory lists for each reserve handed in to MARENA head office.
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	3 biodiversity assessment reports for IJV, EPR and VC produced. This included updated species inventory lists for each reserve. Documents written in both English and Spanish.

Dissemination Outputs		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	3 local workshops (IJV, EPR, VC) organised, 1 Sea Turtle Conference and 1 Pacific NW Alliance meeting; 3 regional workshops; Workshop at MARENA Managua in June 2006; meetings at office of DFID, FCO.
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	5 above mentioned events, plus poster/oral presentations at Conference of Ecology in an Era of Globalisation (April 2006, Mexico), Sea turtle biology workshop (Nov 2006), Sea Turtle Conference (March 2006, Nicaragua), Sustainable Tourism Workshop (March, Nicaragua), International Sea Turtle Symposium (April, Greece)
15a	Number of national press releases or publicity articles in host country(s)	1 Local press release released after Turtle Conference
15b	Number of local press releases or publicity articles in host country(s)	4 progress statements posted on Frontier's website
15c	Number of national press releases or publicity articles in UK	2 updates and articles in bi-annual Frontier newsletter
15d	Number of local press releases or publicity articles in UK	
16a	Number of issues of newsletters produced in the host country(s)	2 newsletters written in Spanish and circulated in Nicaragua

16b	Estimated circulation of each newsletter in the host country(s)	800 newsletters distributed via paper copies and email in Nicaragua
16c	Estimated circulation of each newsletter in the UK	2000 Frontier newsletters distributed in the UK
17a	Number of dissemination networks established	1 NW Alliance established and 1 meeting hosted
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	1 TV feature about Nicaragua's Sea Turtle Conference hosted and organised by Frontier.
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	1 TV local programme made about the sea turtle hatchery and work being conducted in IJV with Frontier
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	1 Radio interview conducted (though four more were scheduled and did not take place due to requests for extortionate sums from the radio stations)
19d	Number of local radio interviews/features in the UK	
Physical Outputs		
20	Estimated value (£s) of physical assets handed over to host country(s)	Estimated value of 7340 GBP
21	Number of permanent educational/training/research facilities or organisation established	1 Pacific NW Alliance meeting in March 2006 2 BTEC Trainers trained (Enrique Sampson in Nicaragua; Charlene Watson in UK) 0 BTEC Outreach Programmes (This was not able to be confirmed in the original output table. Creation of the training centre and outreach programme would require post-project funding.)
22	Number of permanent field plots established	3 Permanent field plots established in IJV, EPR, VC
23	Value of additional resources raised for project	£10,000 of in-kind contributions and £4,917 of co-funding by SEE

Appendix III: Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications Database that is currently being compiled.

Mark (*) all publications and other material that you have included with this report

Type * (e.g. journals, manual, CDs)	Detail (TITLE, AUTHOR, YEAR)	Publishers (NAME, CITY)	Available from (e.g. contact address, website)	Cost £
Report (English and Spanish)	<i>Biodiversity Assessment of Estero Padre Ramos Nature Reserve, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Report (English and Spanish)	<i>Biodiversity Assessment of Isla Juan Venado Nature Reserve, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Report (English and Spanish)	<i>Biodiversity Assessment of Volcán Cosigüina Nature Reserve, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Manual (Spanish)	<i>Manual para el Monitoreo de Tortugas Marinas, Muurmans. M, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Manual (English and Spanish)	<i>BTEC Candidate Handbook, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Manual (English and Spanish)	<i>BTEC Assessor Manual, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a
Report (English)	<i>Management Plan addendums for IJV, EPR and VC, SEE, 2006</i>	SEE, London	operations@frontier.ac.uk	n/a

Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide contact details below.

Project Title	Capacity Building for Sustainable Management of the Nicaraguan Pacific North Region
Ref. No.	14-058
UK Leader Details	
Name	Paul Rubio
Role within Darwin Project	Project Leader and Programme Manager (Development)
Address	50-52 Rivington Street London EC2A 3QP
Phone	
Fax	
Email	
Partner 1	
Name	Mr. Jose Gutierrez
Organisation	SELVA
Role within Darwin Project	Counterpart organisation – Manager of Estero Padre Ramos
Address	Mercado central 6 cuadras al Oeste 1 cuadra al Sur ½ cuadra al Oeste.
Fax	
Email	
Partner 2 (if relevant)	
Name	
Organisation	
Role within Darwin Project	
Address	
Fax	
Email	

Appendix V. Report of progress and achievements against Logical Framework for Financial Years: 2005/2006/2007

Project summary	Measurable Indicators	Progress and Achievements April 2005- July 2006
<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 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 the benefits arising out of the utilisation of genetic resources 		
<p>Purpose <i>Design and implement a training programme in conservation skills and monitoring techniques to build the capacity of local and regional institutions to manage and monitor resources in the Pacific North region of Nicaragua sustainably.</i></p>	<p><i>Training programme curriculum consolidated in Q1 and 12 month training programme begins end of Q2.</i></p> <p><i>Acceptance of habitat and species monitoring plan as part of MARENA's current monitoring programme.</i></p>	<p><i>Tailor-made BTEC equivalent diplomas awarded to 20 Nicaraguan personnel from LIDER, SELVA, UNAN-Leon, and MARENA.</i></p> <p><i>Pacific NW monitoring programme integrated into MARENA's programme. Ten progress reports and mid-term project report compiled and submitted to ensure quality assurance.</i></p> <p><i>BTEC equivalent awards ceremony and first ever Sea Turtle Symposium hosted by Frontier Nicaragua Darwin project.</i></p> <p><i>Completion of research outputs and publication of training manuals and continued liaison with host country partners to ensure legacy of project.</i></p> <p><i>Strong emphasis on dissemination of information including presentation of sea turtle monitoring work and the project at the International Sea Turtle Symposium in Greece, Participation in Latin America sea turtle strategy meetings (in Europe this spring), presentations of project within British government offices – DFID, High Commissions, DEFRA.</i></p>
<p>Outputs</p>		

<p><i>Specific BTEC courses to train local nature reserve rangers and templates for future use.</i></p>	<p><i>Course curriculum constructed from input of various stakeholders.</i></p>	<p><i>Workshops for curriculum development (Q1). Approval by Edexcel and SEE LHQ (Q1-2). Meetings with project advisors and consultants (Dr. Lorraine Gormley in Wales; Edexcel)</i></p> <p><i>Project Manager and Project Co-ordinator meet with local and regional partners in Nicaragua. Workshops held for constructing and finalising training programme curricula. Training programme written. MARENA approves training programme.</i></p> <p><i>SEE/Frontier to apply for post-project funding to disseminate course across more protected areas and to establish a BTEC training centre in Nicaragua.</i></p>
<p><i>Training programme.</i></p>	<p><i>20 Nicaraguan personnel (from LIDER, SELVA, UNAN-Leon, MARENA) trained in appropriate context-specific conservation and data analysis skills.</i></p>	<p><i>BTEC training manual completed and translated and hand delivered to project partners and Nicaraguan stakeholders by Project Leader and Project Co-ordinator. BTEC training manual made available on-line.</i></p>
<p><i>Habitat and species specific terrestrial and coastal monitoring plan (Estero Padre Ramos)</i></p>	<p><i>Presentation of monitoring plan to head of SELVA and MARENA. Mgmt. plan devised.</i></p>	<p><i>Biodiversity and species inventory data collection and analysis for Estero Padre Ramos (Q2-Q3). Local monitoring plans written and presented by training programme participants (Q3). Compile management plan recommendations and addendums. Local workshop to discuss results of training programme and lessons for monitoring programme.</i></p> <p><i>Data collected from previous quarters collated and compiled to form recommendations and addendums to current management plans for IJV, EPR, and VC. Management recommendations and addendums presented to SELVA and MARENA. Management plans addendums translated and integrated into MARENA's current management plans. Sea Turtle monitoring and conservation manual translated and printed for all three reserves.</i></p>

<p><i>Habitat and species specific terrestrial and coastal monitoring plan (Isla Juan Venado)</i></p>	<p><i>Presentation of monitoring plan to head of UNAN-Leon and MARENA. Mgmt. plan devised.</i></p>	<p><i>Data collected from previous quarters collated and compiled to form recommendations and addendums to current management plans for IJV, EPR, and VC.</i></p> <p><i>Management recommendations and addendums presented to MARENA.</i></p> <p><i>Management plans addendums translated and integrated into MARENAs current management plans.</i></p> <p><i>Sea Turtle monitoring and conservation manual translated and printed for all three reserves.</i></p>
<p><i>Habitat and species specific terrestrial and coastal monitoring plan (Volcan Cosiguina)</i></p>	<p><i>Presentation of monitoring plan to head of LIDER and MARENA. Mgmt. plan devised.</i></p>	<p><i>Biodiversity and species inventory data collection and analysis for Volcan Cosiguina.</i></p> <p><i>Local monitoring plans written and presented by training programme participants (Q4).</i></p> <p><i>Compile management plan recommendations and addendums.</i></p> <p><i>Local workshop to discuss results of training programme and lessons for monitoring programme.</i></p> <p><i>Data collected from previous quarters collated and compiled to form recommendations and addendums to current management plans for IJV, EPR, and VC.</i></p> <p><i>Management recommendations and addendums presented to LIDER and MARENA.</i></p> <p><i>Management plans addendums translated and integrated into MARENAs national strategy and integrated into national environmental policy.</i></p> <p><i>Sea Turtle monitoring and conservation manual translated and printed for all three reserves.</i></p>

Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels