

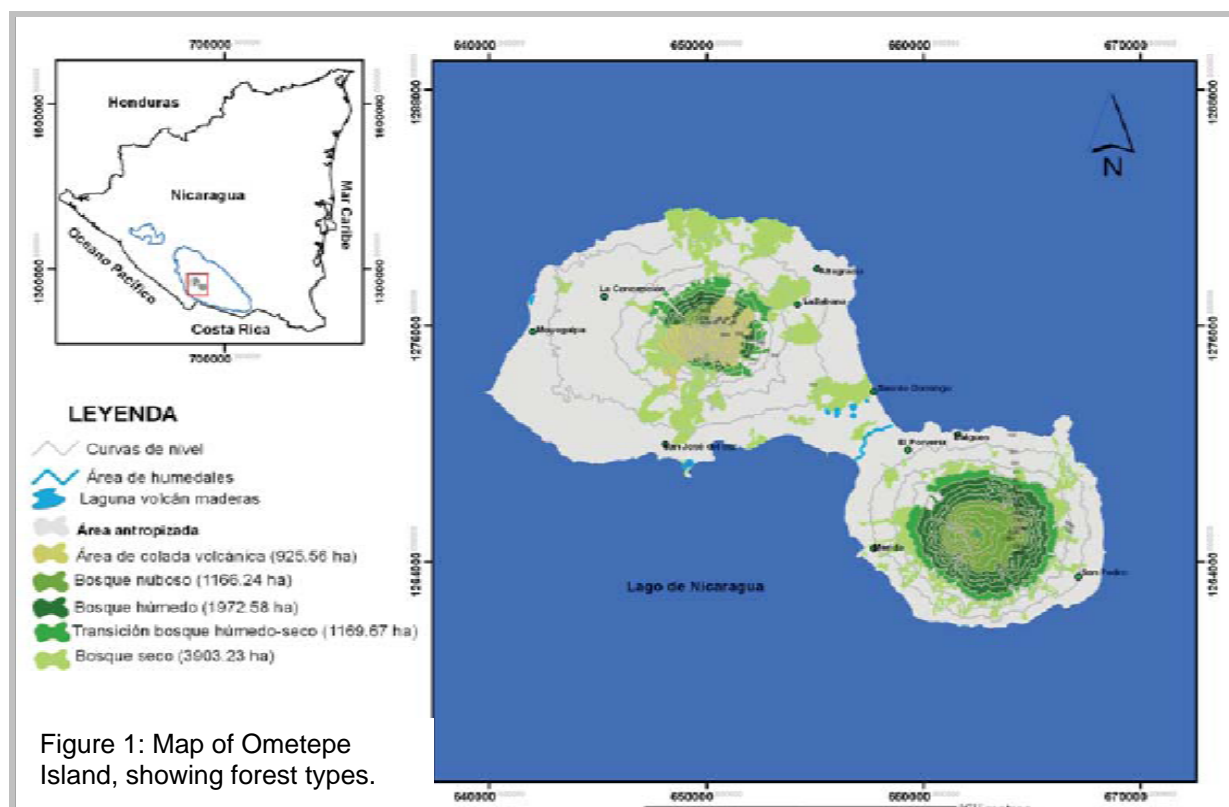
Darwin Initiative – Final Report

Darwin project information

Project Reference	15-039
Project Title	Participatory Implementation of a Management Plan, Maderas Volcano Natural Reserve, Nicaragua
Host country(ies)	Nicaragua
UK Contract Holder Institution	Fauna and Flora International (FFI)
UK Partner Institution(s)	n/a
Host Country Partner Institution(s)	Nicaragua Ministry of Environment and Natural Resources (MARENA) NGO Fundacion entre Volcanes (FEV) Carlos Diaz Cooperative National Institute of Tourism (INTUR) Union de Guias de Ometepe(UGO).
Darwin Grant Value	£98, 450
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Project Leader Name	Alison Gunn
Project Website	http://www.fauna-flora.org/ometepe.php
Report Author(s) and date	Alison Gunn (FFI Project Leader); Teresa Zuniga (FFI Nicaragua Programme Manager); Salvadora Morales (Biodiversity Coordinator & Protected Areas Specialist); June 2009.

1 Project Background

Situated in Lake Nicaragua, Ometepe is one of the world's largest freshwater islands. This project sought to protect the biodiversity of the Island of Ometepe by bringing the Maderas Volcano Natural Reserve (MVNR) under effective conservation management, to build the capacity of the stakeholders involved and to develop the tools necessary for this to become sustainable. FFI has successfully strengthened local management capacity and the MVNR has become an effectively managed reserve with a high degree of local engagement. It has a trained team of full-time park rangers, significantly improved infrastructure, and an approved management plan under implementation. The reserve's protected area status has been upgraded to that of a National Park and the boundaries have been expanded, resulting in the official protection of an additional 4,000 hectares of forest. Mechanisms for generating self-sustaining income for the MVNR have been identified and are being applied.



2 Project support to the Convention on Biological Diversity (CBD)

The Ministry of Environment and Natural Resource (MARENA) is the official authority responsible for protected area management, biodiversity conservation, compliance with environmental law and policy in Nicaragua and the Government's response to international commitments under the CBD. The effective management of protected areas is a priority within Nicaragua; however, due to financial and human resource shortages within the Ministry of Environment, the MVNR and other protected areas have been vulnerable to the kind of threats typical of 'paper parks' - namely those arising from a lack of management, infrastructure and law enforcement.

Through our work, currently focused in 4 protected areas in Nicaragua, FFI aims to increase MARENA's capacity to meet Nicaragua's commitments to the CBD. FFI is a signatory on the National Implementation Support Partnership (NISP) for the implementation of Nicaragua's program of work on Protected Areas under the CBD and, through our in-country FFI team, we work closely with the government and with the CBD focal point (MARENA's Director General of Protected Areas) in support of this. FFI supports MARENA through capacity building and training, as well as technical guidance in the development and implementation of national policy and protocols.

This Darwin Initiative was designed to support MARENA's stated aim to devolve management responsibilities for protected areas to civil society organizations. Historically, there have been few significant models of this type of co-management system in Nicaragua - local government, communities, and to a lesser extent NGOs, have not had the experience or capacity to establish and run simple co-management entities or to manage the processes involved. Accordingly a focus of FFI's work in Nicaragua has been to support the implementation of co-management mechanisms. Maderas Volcano NR in particular was identified by MARENA as a priority in the decentralization and co-management of protected areas, as well as a priority biodiversity conservation area. This project has therefore enabled FFI to bring its experience to bear in the MVNR.

This project has built local and national capacity in Nicaragua to meet its commitments under the CBD, particularly those related to Article 8 and the Protected Areas theme; successfully establishing effective management of the MVNR and supporting the implementation of its management plan. Biological monitoring has generated scientific information confirming the island's global biodiversity value (Articles 7 & 18). The project has made a significant contribution to environmental education on the island, raising awareness in schools of the MVNR buffer zone and delivering a comprehensive and accredited training programme to guards and guides (Articles 12 & 13). A new collaboration has been formed between public and private sectors to promote and regulate responsible tourism on the island (Biodiversity and Tourism theme). Mechanisms for generating self-sustaining income for MVNR have been identified and are being implemented (Article 21).

3 Project Partnerships

Working through local partnerships, to act as a catalyst for change, is one of FFI's guiding principles. Institutional partnerships and local collaboration have been central to the successful implementation of this project. FFI is registered as an international NGO in Nicaragua, where we have worked since 1998 to strengthen local and national capacity - a key limiting factor - for biodiversity conservation and protected area management. We work through a diverse network of governmental and civil society partners:

Ministry of Environment and Natural Resources (MARENA): FFI works in close consultation with this government agency in Nicaragua. FFI's institutional partnership with MARENA has been guided by a Memorandum of Understanding, signed in 2002, which allows us to develop projects of mutual interest and assures joint collaboration where beneficial in project activities. In 2007 FFI and MARENA signed a MoU specifically related to Ometepe, formalising our joint intention to work together to conserve the island's natural resources and to promote co-management for Maderas with the participation of all local stakeholders in the island. This agreement also enables us to transfer funds directly to MARENA to pay the park staff, since they are MARENA employees. A major outcome of this project has been the establishment of a new base for MARENA on the island, since, prior to the project, there were no management personnel for MVNR.

National elections took place during the course of this Darwin project, in November 2006, resulting in a change of government in January 2007 and a slowing of momentum within MARENA and other departments for some months. Subsequent government directives have taken authority for decision making away from MARENA technical personnel, often all the way up to the Director General of Protected Areas. The resulting backlog has delayed or had a negative impact upon the project where MARENA involvement or approval has been fundamental to the delivery of project activities or outputs. Nevertheless, by the end of the project term, official approval has been obtained for the Management Plan, the Co-management entity for the MVNR, the change of the management category of the reserve from Natural Reserve to National Park, and employment structures for park personnel. FFI has continued to strengthen our direct relationships with the Minister herself and within the MARENA hierarchy, including the Director General and of Protected Areas.

Fundación entre Volcanes (FEV) is the principal local NGO partner, based on Ometepe, whose work is focused on biodiversity conservation and natural resource management. FFI

signed a Memorandum of Understanding with FEV in 2006, outlining the objectives of our partnership to work together in the conservation and management of biodiversity and natural resources on the island of Ometepe. FEV have been involved in the development of the management plan for Maderas Volcano and have a seat on the co-management committee; alongside FFI, MARENA, the Municipality, and community representatives. They have implemented key project activities, including scientific research and monitoring, environmental education and training, as well as in promoting conservation goals amongst Ometepe's communities. This experience has strengthened their internal capacities for delivering conservation objectives on the island - again, a major achievement of this project. FFI continues to provide technical and institutional support to FEV and aims to support its lead role in developing a consensus-based plan for the proposed Ometepe Biosphere Reserve.

Amigos de la Tierra (España): FFI and AdIT worked together to obtain stakeholder validation of the management plan for the Reserve in the first year of the project and signed a cooperation agreement (MoU) in 2006 outlining our commitment to work together in the validation, publication and dissemination of the Plan. We continue to communicate and collaborate with the AdIT team in Nicaragua in this regard.

Municipal Government: The project has worked closely with and supported the Alcaldia of Atlagracia - one of two municipal government administrations on the island - in establishing and leading the co-management committee which was awarded official co-management of the Reserve in May 2008. However, the implementation of this co-management arrangement has been one of the project's most significant challenges (see Section 4.3 below). FFI continues to support and build stronger links with the local government at this level.

Institute of Tourism: The Nicaraguan Institute of Tourism (INTUR) were key in enabling a collaboration between FFI, SwissContact and FEV to implement a comprehensive, accredited training programme for the MVNR Park Guards and local tourist guides from the Union of Guides of Ometepe. INTUR contributed specialized instructors for seminars on tourism and gave official certification to the programme and to those who completed its training. This collaboration enabled the project to deliver a more extensive training programme than was originally envisaged.

Community Involvement: The project has benefited from strong *local participation and leadership* in a number of key areas and *community benefits* have also been derived from project activities (this is expanded upon in Section 4.1).

Cooperativa Carlos Díaz Cajina: This medium-size production cooperative, which represents farmers and their families around the fringes of the volcano and operates and owns land on the flanks of the MVNR, has been strongly supportive of the project. Collaboration has included active participation in the management planning process, running local tourism services and improvement of tourism infrastructure, as well as the contribution of land and resources for the construction of essential park infrastructure (park HQ and trails) for the Reserve, regarding which FFI and CCD have signed a cooperation agreement.

Ometepe Tourism Guides Association: La Unión de Guías de Ometepe has 28 members, the majority of which have received training through, and benefitted from, the accredited training programme delivered by the project. UGO has also supported project environmental education and awareness activities. FFI continues to work with these local guides to improve interpretation and develop expertise in specialist tourist activities.

Other collaborations: We have coordinated closely with other national and international organizations working in Ometepe, enabling the project to leverage even greater resources, impact and sustainability. We have coordinated activities with other partners such as: Ometepe's Intermunicipal Tourism Committee (CITometepe), Finca Santo Domingo Hotel, and the German Cooperation (DED). For example, in 2006 FFI joined a collaboration formed between the public and private sectors (including MARENA, CITometepe, the Balgue Environmental Education Program, as well as local communities, NGOs and tourism enterprises) to promote and regulate responsible tourism on the island. This has enabled us to promote an environmental agenda as part of this process, in order that Ometepe may become known as a responsible eco-tourism destination.

4 Project Achievements

4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The project has generated the following key measurable impacts:

Conservation of biological diversity:

Increased protection of an important site for biodiversity: The project has successfully resulted in a priority area within Nicaragua's protected area system, the MVNR, becoming an **effectively managed reserve** with a high degree of local engagement where once there was a 'paper park'. The project was instrumental in securing government approval of the increased in **protected area category**, from a Natural Reserve to National Park, and the expansion of the protected area boundaries, **effectively doubling the size of the protected area** to almost 8,000 hectares. This has resulted in the protection of an additional 4,000 hectares of primary forest on the mid to lower slopes of the volcano and therefore safeguarding the additional species diversity in this transition zone.

Future positive impacts on biodiversity: Biological monitoring has generated **valuable scientific information** confirming the island's **global biodiversity value**. The project has generated significant baseline information on the diversity of habitat types, the value of the area for neotropical resident and migratory birds, as well as logging new species records for the island, including newly recorded **endemic fauna and flora**. This baseline forms part of a national database and will allow long-term monitoring of the impact of conservation action and climate change. Whilst specific changes in the status of specific biodiversity elements have not been measurable within the project's 3 year lifetime, the momentum that the project has created in terms of enhanced protection and enforcement, as well as increased local profile and support for conservation and sustainable use of the Ometepe's natural resources, will have a **lasting positive impact on the island's biodiversity**.

Strengthened capacity in Nicaragua to meet CBD commitments: As described in Section 2, the project has successfully **built local and national capacity** in Nicaragua to meet its commitments under the CBD, particularly those related to in-situ conservation and protected area management. The project's legacy - including a trained team of full-time park rangers (the first in the history of the island), significantly improved infrastructure, enhanced protection and enforcement in line with an approved management plan, and significant local support for a key conservation area - contributes to Nicaragua's National System of Protected Areas (SINAP) and MARENA's **management of protected areas**, as well as to specific lines of action within Nicaragua's National Biodiversity Strategy (2002). Technical support provided by FFI has also built local NGO capacity for biodiversity conservation, natural resource management, environmental education and outreach.

Sustainable use

Reduction in illegal poaching and timber extraction: A **decrease in deforestation** events have been recorded inside the protected area since ranger patrols and community outreach activities began. The number of other environmental infringements detected and penalties applied have increased. It is anticipated that the **increased protection and enforcement of environmental laws** initiated by the project, applied alongside community outreach to promote environmental awareness and alternative income generation, will lead to long term reductions in illegal activities.

Combining conservation and sustainable development: The **clarification of environmental laws** pertaining to Ometepe and the management of its natural resources is assisting local management authorities and community leaders alike to understand and apply the appropriate legal framework. The project has created an important foundation for sustainable resource management throughout Ometepe and FFI is now helping local partners and stakeholders design an integrated approach to **manage the whole island as a Biosphere Reserve**, combining conservation and sustainable development goals, initially under Nicaraguan law and ultimately through designation by UNESCO.

Equitable sharing of biodiversity benefits

Local governance and guardianship: A **high degree of local engagement** has been central to the success of the project, recognising that the conservation of Ometepe will only be truly secure if the island is managed in a sustainable, equitable way with local participation. Local stakeholder consultation and involvement has increased island-wide coordination and support for conservation goals and has confirmed stakeholders' desire to collectively plan and direct their own development destiny. This applies across all sectors - government authorities, local community and private interests.

Community benefits: As a discrete island ecosystem, benefits of conservation management and protection of ecosystem services are tangible and directly felt by the islanders. As such Ometepe has great potential as a **model for sustainable development based on biodiversity conservation and use**, replicable in resource-rich but economically poor areas elsewhere in Nicaragua. **Direct economic benefits** have been felt by a variety of community groups; including members of Ometepe's Union de Guías (following the training programme and promotion of their services), local people employed in the management of the area (all park guards are from the island), and community members involved in the island's first ecotourism trail at Pena Icultá. The Ometepe Conservation Fund provides a further mechanism for the equitable sharing of benefits island-wide for the long term.

Social impact: The project has made a significant contribution to **environmental education** on the island, **raising awareness** in schools of the MVNR buffer zone, delivering a comprehensive and accredited **training program** to guards and guides, and supporting collaboration between public and private sectors to **promote and regulate responsible tourism** on the island.

Financial sustainability: Mechanisms identified for generating **self-sustaining income** for MVNR and for conservation and sustainable development on Ometepe represent a major legacy of the project. A simple tariff system, incorporating tourism entrance fees to the island and trail visitation fees and feeding into the Ometepe Conservation Fund, will provide **tangible and long lasting benefits** for both biodiversity conservation and local communities.

4.2 Outcomes: achievement of the project purpose and outcomes

The purpose of this project was to protect the biodiversity of Ometepe by bringing the Maderas Volcano Natural Reserve under effective conservation management, building local capacity and developing the tools necessary for sustainability. The essential project purpose and outcomes, as per the project logframe, have been achieved:

The MVNR is being managed effectively for conservation: At project end, the MVNR is benefitting from a trained team of full time rangers and significantly improved infrastructure, including ranger stations and improved tourist trails. The reserve's management plan has been validated by local stakeholders, approved by government and is under implementation. A representative co-management entity has been established, the co-management agreement for the MVNR has been signed by government, and the transition to full co-management is underway in collaboration with MARENA. Local capacity for conservation management of the wildlife species and forest habitats has been built, with training delivered in relation to reserve management, monitoring and ecotourism. Sustainable financing mechanisms for conservation on the island have been designed and are being established.

High priority areas of biodiversity are protected: Biological monitoring has generated scientific information confirming the island's global biodiversity value. The MVNR's status has been upgraded to that of a National Park and the boundaries have been expanded, effectively doubling the size of the protected area. This has resulted in the official protection of an additional 4,000 hectares of primary forest on the mid to lower slopes of the volcano. For the first time in the island's history there is permanent, physical environmental protection and enforcement in place for the MVNR, as well as other parts of the island, including the wetland isthmus. A dedicated team of locally recruited and fully trained park rangers and park manager, where previously there were none, undertake regular patrols throughout these key

habitat areas. The Nicaraguan government now considers Ometepe to be a national treasure and has declared its intention that Ometepe should be managed as a Biosphere Reserve.

Environmental degradation in and around Maderas NR is reduced. Ranger patrols and community outreach activities are starting to result in a tangible reduction in illegal poaching and timber extraction. There is strong collaboration and momentum for the development of equitable tourism on the island and the project has led to direct economic benefits for a variety of community groups. Increased local support for conservation, stewardship of natural resources and sustainable development is evident through broad stakeholder backing for the establishment of Ometepe as a Biosphere Reserve.

4.3 Outputs (and activities)

The project was successfully in achieving its planned outputs as laid out in the logical framework. The following section gives an overview of activities and outputs, highlighting particular achievements, challenges encountered and resolutions reached.

Priority areas / species identified from baseline biodiversity and sociological surveys:

Biodiversity and sociological surveys undertaken by the project enhanced the baseline information upon which the management plan was developed and guided monitoring and management priorities. Biodiversity surveys led to the prioritization of certain taxa for the design of a comprehensive protocol for biological monitoring throughout the MVNR and the Istian isthmus – namely birds, vegetation, and herpetofauna - which will continue to be implemented by the trained MVNR rangers. Baseline surveys and monitoring registered a number of new records for the island, including: 23 additional bird species, increasing the bird list for Ometepe from 130 to 153 species; 4 new species of amphibian, including the identification of a salamander in the MVNR endemic to the island; an endemic tree (*Ardisia spp.*) and 2 further plant species (one of which is an orchid) which may be endemic and are currently undergoing studies.

The bird monitoring protocol was designed in line with the Institute for Bird Populations MoSI programme (Monitoring Over-Winter Survival), with increased monitoring effort during the migrating birds' winter season. An average of 272 hours monitoring effort was undertaken per month during the season (December to March). The three years' data (420 individuals captured and identified) has been compiled as part of a national database of bird banding and monitoring, facilitating wider access to scientific information regarding the birds of Nicaragua. Results confirmed the presence of a number of species not previously recorded on the island, including globally threatened species such as the Vulnerable three-wattled bellbird (*Procnias tricarunculatus*), and contributed to Volcan Maderas being designated an Important Bird Area (*BirdLife International (2009) Important Bird Area factsheet: Maderas Volcano, Nicaragua www.birdlife.org*).

The six, ½ hectare, permanent vegetation monitoring plots established, and all the data obtained from these plots, will form part of a long term habitat monitoring programme. It is hoped that in the future this habitat evaluation will form part of a collaboration between university personnel, local government and NGOs, with both educational and natural resource management (based on scientific data gathering, analysis, and interpretation) goals (*Annex 5, additional enclosure No. 3*).

Habitat surveys identified and characterized forest types on the island and also described their extension. This has created a baseline against which the changing land-use (including deforestation or agricultural expansion) on the lower slopes of Maderas Volcano and across the island can be measured and areas for management interventions prioritized. It is worth noting that the discrete nature of the island's ecosystem means that benefits of conservation management and protection of ecosystem services (such as water sources and soil retention) are tangible and directly felt by Ometepe's communities. Accordingly, participatory livelihoods analysis undertaken during a series of community workshops held by FFI and AdIT at the outset of the project, confirmed wide reaching support for conservation of the MVNR and its resources. Ad hoc analysis of attitudes and awareness throughout the project has confirmed continued support for the MVNR and socioeconomic tracking is being incorporated as part of the management regime. Community representation within the co-management committee,

from the 6 communities around the MVNR, will ensure management continues to be adaptive and takes into account local human needs and the sensitivities involved as protection within the reserve boundaries increases.

Legal Analysis of land rights and regulations for Maderas NR and buffer zone

Following land reallocations that took place in the late 1980's, conflicts over land tenure and registration is rife in Nicaragua, and Ometepe is no exception. The resulting lack of clarity affects the value and legitimacy of individual properties, national and foreign investment interest, as well as the degree of local stewardship of natural resources. The project undertook and published two legal analyses; one to clarify the environmental laws applicable to the island (two different legal instruments apply) and the other to present findings on land rights and tenancy in and around MVNR.

The analysis of land rights and regulations worked to unravel ownership in the MVNR and its buffer zone, in conjunction with local authorities and communities (*output "Análisis de Tenencia de Tierra" was sent with Yr3 Half Year Report*). Whilst the process of compiling the registries of all the properties was slow and bureaucratic, in large part because of the informal way in which many deed transfers and tenancy agreements have taken place, the analysis was able to identify 404 private landowners within the MVNR buffer zone, as well as 13 properties registered as state owned. Land over 400 m above sea level up to 1,394 masl (where the majority of the intact forest is located) was not occupied and, whilst widely accepted as state owned, is not registered as such within the land registry for the Department of Rivas. The report highlights the need for government measures to streamline land/property registration processes, alongside the need for MARENA to request from central government the right to register and manage state owned land which falls within the protected area boundaries on Ometepe.

The analysis of the current local institutional and management scenario and relevant legal framework, facilitated by FFI (*output "Análisis de la Legislación Ambiental..." was sent with Yr3 Half Year Report*), highlighted complications and conflicts between the two different legal instruments that have contributed to the island's designation as a National Heritage Site containing two Natural Reserves (MVNR and Concepción Volcano Natural Reserve). Accordingly the legal framework needs not only clarifying, as originally envisaged, but reforming. Although our focus has been upon MVNR, this legal situation concerns the entire island. In response, a local working group (ETODO) has been created by municipal ordinance to support a process of territorial ordering for the whole island (NB. at project end, this process is ongoing). The team is formed by representatives of MARENA, both Municipalities, the Tourism Commission (CITometepe), local NGOs, FFI and DED (the German Development Agency). The information generated by this process will be key to the development of a sustainable and integrated management approach for Ometepe as a Biosphere Reserve (see below) in terms of mapping and planning for different land uses.

Implementation of officially approved management plan.

As previously reported, the Management Plan for Maderas Volcano Natural Reserve was revised and updated in 2006, following a thorough consultation process involving local communities, authorities and business interests. The revised plan was initially presented to the Nicaraguan Government for official endorsement and approval in 2006 and was re-presented in April 2007, following various rounds of revision. Delays in government endorsement of this document were prolonged by the change in government administration in January 2007. Nevertheless, the project team's efforts kept the approval of the plan on the agenda of MARENA's local delegates and in June 2009 the MVNR Management Plan was officially approved and ratified (*Annex 5, additional enclosure No. 6*).

During the initial consultation process, local stakeholders voted overwhelmingly in favour of including in the Plan a two-pronged proposal to (i) change the protected area category of Maderas Volcano from a Natural Reserve to that of a National Park, thereby increasing its legal protection, and (ii) re-define and extend the boundaries of the protected area by legal decree. By the end of the project, the national government, through MARENA, had approved the change of category from Natural Reserve to National Park and the new protected area boundaries. The Reserve's boundaries were extended (from approximately 850m to 400 m

above sea level) resulting in the protection of an additional 4,000 hectares of a primary forest on the mid to lower slopes of the volcano and therefore the additional species diversity in this transition zone.

Despite delays in the MVNR Management Plan's official approval, MARENA has long been supportive of the project's efforts to promote and support its **effective implementation**. FFI has supported local implementation of management actions, building capacity and providing technical support to MARENA, the trained a team of full-time park rangers (supporting them in their day-to-day protection and monitoring functions as well as delivering a comprehensive training programme - for a full description of see Year 2 Annual Report and output "*Memoria de Capacitación y Certificación...*" sent with Yr3 Half Year Report), local NGO Fundacion entre Volcanes, the co-management committee and other stakeholders (including the union of local guides, community members, private sector).

An additional output of the Darwin project, not included in the original project logframe, relates to the proposal to **designate Ometepe as a Biosphere Reserve**. The conservation of core conservation areas on the island depend on how land and resources are used in the lowlands which surround Concepción and Maderas. The need for a broader landscape management approach is especially important in this island context and is widely recognized by the inhabitants of Ometepe, who want an agreed framework within which to develop their economic activities, especially tourism and agriculture. During the consultation process for the development of the management plan for Maderas, plans to not only redefine the boundaries of the MVNR but also to upgrade the level of protection of the whole island were proposed and discussed. It was found that the proposal to designate the island as a Biosphere Reserve - the classic model for setting protected areas in a zoned land use system - enjoyed widespread support among local stakeholders and the Government of Nicaragua. Accordingly FFI has been facilitating the preparation of a proposal to designate the whole island as a Biosphere Reserve - including strict conservation areas, sustainable use zones, reforestation or restoration areas, productive zones and human development areas - to be presented to UNESCO.

Establishment of Co-management Entity

The co-management rights for the Maderas Volcano Natural Reserve (MVNR) were formally granted to a coalition of the Municipality of Altagracia and local stakeholders by MARENA in May 2008. The legal formation and approval of the Reserve's management entity represented a long-awaited major step forward. However the transition to implementation of co-management for the MVNR has been the biggest challenge faced by the project. In the first year of the project, despite the formation of a local co-management committee (with representation from the Municipality, the six communities surrounding Maderas, local cooperatives, small tourism enterprises, the local NGO Fundación entre Volcanes, and government institutions), bureaucratic constraints delayed submission of the official co-management application. Following this, the change in government in January 2007 meant that the new administration entered into a national review of their position on co-management and the legal establishment of the co-management entity for MVNR continued to suffer delays. Finally, official co-management approval in May 2008 coincided with local elections, resulting in a change of personnel within the Municipality. Accordingly management responsibilities have not yet been fully transferred from MARENA to the co-management entity. Instead a temporary (one year) shared management structure has been established between MARENA and the municipality - whereby MARENA continues to oversee the management of the MVNR, whilst working closely with the Municipality of Altagracia and 24 community leaders from the newly formed 'Cabinets of Citizen Power'¹ - before the Municipality assume full management responsibilities.

Ecotourism strategy plan, with criteria for services, agreed upon.

¹ Under the current Sandinista government, local organisations called 'Cabinets of Citizen Power' ('Gabinetes del Poder Ciudadano' or GPC) have been established. Accordingly, there is an 'Environmental Coordinator' of the GPC in each community, responsible for coordinating activities between MARENA and the Municipality. This adds an additional element for local coordination on environmental issues, designed to improve local governance and empower local people within decision making structures.

Tourism linked to the natural beauty of the island is an important industry for Ometepe, with a significant number of national and international tourists visiting the island annually. The importance and relevance of protecting the island's natural resources, which form the base of most tourist attractions, is increasingly clear to the tourism sector. The project has strengthened momentum for the development of equitable tourism on the island, and a significant collaboration has been formed between the public and private sectors to promote, and regulate, responsible tourism. An advisory committee was formed between MARENA, Ometepe's Inter-municipal Tourism Commission, the Balgue Environmental Education Program, as well as local communities, NGO's and tourism enterprises, facilitated by the SwissContact development agency and INTUR. FFI joined this initiative, enabling us to promote the environmental agenda as part of this process, in order that Ometepe may become known as a responsible eco-tourism destination that bestows benefits to local communities and wildlife alike.

FFI has provided technical support to the committee, MARENA and the Ministry of Tourism (INTUR) in developing sustainable solutions to tourism in and around protected areas and the process of tourism planning for the island. A situation analysis focused upon MVNR and the Istian isthmus began in May 2007 in order to collate information about the area's natural resources, the existing trails and other infrastructure, alongside tourism numbers and activity, which will feed into tourism guidelines and the island-wide planning process. This initiative was extended to the entire island to help to ensure that actors across Ometepe's tourism industry are aware of, feed in to and comply with, environmental regulations and tariffs, but that they also use local guides and link to other local initiatives, to ensure that income trickles down to the surrounding communities. An island-wide Tourism Diagnostic Study, with a focus on the potential of tourism around Ometepe's natural resources, has been produced. Whilst the Ecotourism Plan did not receive official national approval by project end, this is more than offset by the strong local ownership of the plan, ensuring that it will serve as the guiding document for Ometepe tourism.

Improved infrastructure for Maderas NR

The project has cofinanced the construction of essential park infrastructure for the MVNR. The construction of the **Park Headquarters** was completed in May 2007 at a key site at the start of one of the principal trails up the flanks of the volcano. The building has a double function as a guard post where the rangers can be based (with dormitory and washroom facilities) as well as a visitor reception centre. We have signed a long term Rights of Usage contract with the landowners, the Carlos Dias Cooperative, who are an important local partner in this project. Photos of the official opening, which was attended by the MARENA representatives, the local Mayor and Police Chief, as well as local and national press, have been supplied to Darwin Secretariat.

The project has also supported the installation of a new ranger **guard post**, through the renovation of a pre-existing but redundant building, through a long term agreement with project partner Fundacion entre Volcanes. The guard post is located at a site before the road forks and where all vehicles must pass on their way to enter and exit the Reserve. Accordingly the station is enabling increased 24 hour surveillance, including the nocturnal control of illegal timber extraction and transportation. Actions are coordinated between MARENA's rangers, the local police and army.

There are three main trails that lead to the top of Maderas Vocano and its crater lake, but they are in poor condition. Improvements to the trail system and its signage enhance both visitor safety and nature viewing potential. The project has **improved signage** in and around the Reserve, in accordance with MARENA's guidelines for protected area signage in Nicaragua. Four large signboards and over 30 interpretative display signs have been erected at the key entrance points (in Quino, Merida, Balgua and Peña Inculca) and along the trails themselves.

Drawing on the experience of a national NGO, Fundación Cocibolca, in the construction of trails in another reserve similar to Maderas, the project has also **developed and designed plans for two main tourism trails** in the Reserve and in the lowland isthmus (*Annex 5, additional enclosure No. 2*). Improvements to the first interpretative ecotourism trail on the island, through the dry forest of the isthmus at Peña Inculca, were completed in February 2008. This community-led initiative was made possible through an alliance between the hotel Finca Santo

Domingo and the indigenous community, each of whom own part of the land over which the trail passes, and is now managed by a representative local committee. The trail passes via one of the project's bird monitoring stations and is near to important nesting sites for the Yellow-Naped Parrot, facilitating their increased protection (NB. At least one member of the local community who now manages and guides tourists along the trail, used to be involved in the illegal commercialization of this species but whose income is now reliant on the species' conservation).

Essential improvements have been made to 4 kilometres of trail up Volcan Maderas (from the Park HQ to the crater lake) in line with the recommendations and priorities identified by the study conducted by Fundación Cocibolca; the most eroded zones have been stabilized and support rails have been installed in steeper sections using locally appropriate materials and construction methods. Three people from the Carlos Díaz Cooperative have been trained in trail construction and maintenance, ensuring that these skills are retained within the local community for further eco-tourism trail renovations in the MVNR and across the island. The study analysed the full cost improvements to the trail to the summit of Maderas volcano, which at >\$200,000 is outside the scope of this project, but has enabled a fundraising plan to be put into place.

The project has also co-financed refurbishment of the Santa Cruz **Training Centre** which is in a strategic location between the Maderas Volcano and Istian Isthmus and is used for many training, environmental educational and outreach activities.

Effective awareness materials produced for key target groups.

Following the preparation and publication of an holistic environmental awareness and interpretation plan for the MVNR, a range of different educational and awareness materials have been produced and disseminated by the project:

- *Banners, brochures, and leaflets:* A large (5') project banner was designed and is displayed in the park headquarters (see Annex 5, additional enclosure No. 1) and a brochure for the reserve, providing interpretative information, and a leaflet promoting the Pena de Iculta ecotourism trail, have been produced.
- *Ometepe Tourism Guide & Map:* As part of our joint efforts with SwissContact, we collaborated with the printing of a tourism magazine to promote marketing of Ometepe as a major tour destination in Nicaragua. A total of 8,000 tourist guides were printed and are being distributed (*copy provided with Yr3 Half Year Report*).
- *Ometepe Bird List:* FFI, USAID and Amigos de la Tierra (España) collaborated in the development and publication of a bird identification guide for Ometepe, aimed at the international birding tourism market and in line with a regionally recognized and standardized format. A total of 2,000 guides were printed (*copy provided with Yr3 Half Year Report*).
- *Websites:* The project supported the development of two websites, principally as a resource for tourists. A website for the United Guides of Ometepe (www.ugometepe.com) serves as a platform from which guides can advertise their services and products. A website for the MVNR to promote Ometepe at an international level remains in production at project end. Two interns from the Netherlands, sponsored by the Dutch organisation On-Stage, led the design process for these materials.

In addition, many *educational and awareness activities* and initiatives with local schools and students in the rural communities of the MVNR buffer zone have been facilitated by the project, implemented in coordination with the MVNR park rangers as well as local NGO Fundación Entre Volcanes, building on their linkages with the local communities. As part of our efforts to strengthen the capacity of FEV we have assisted them in hiring an environmental educator. Educational activities have included:

- Festivals organized at local schools to celebrate UNEP's World Environment Day (5 June 2007 and 2008);
- An accompanied hike to celebrate International Migratory Bird Day (10 May 2008);

- Ometepe Claro Hike - two popular hikes up Maderas Volcano have been held to raise awareness and promote local guiding services (December 2007 and January 2009, www.clarohike.com). These hikes, sponsored by a national mobile telephone company, have led to the formation of a Nicaraguan Hiking Club, Senderismonica.
- The establishment of a tree nursery, as a tool for raising awareness whilst also facilitating reforestation in degraded areas;
- The use of theatre, plays and educational lessons to raise environmental awareness in local schools.

Sustainable finance mechanisms identified and implemented.

In Nicaragua limited state or local government finance is available for conservation and protected area management. While increasing numbers of tourists are being drawn to Ometepe by its exceptional biodiversity and archaeological wealth, to date revenue from these visitors has not been harnessed to protect the island's natural resources, or to bring tangible benefits to its population. Through a thorough feasibility study, published in the final year of the project, FFI identified potential mechanisms for generating self-sustaining income for Maderas Volcano Natural Reserve and for conservation on Ometepe as a whole.

The process of investigating sustainable financial mechanisms for MVNR and its buffer communities through environmentally and culturally sensitive tourism and other alternatives began in February 2008. This process was conducted in conjunction with MARENA's Protected Areas department, local governments and other local stakeholders. This analysis was developed based upon and in line with the present financial situation of the National System of Protected Areas (SINAP), as the government is keen to replicate its outputs at a national level in other protected areas. The protected area's financial needs were identified, potential finance mechanisms identified, designed and prioritised, and the critical path for achieving long-term financial sustainability for the Reserve outlined.

The resulting financial sustainability plan for MVNR is based upon benefit sharing mechanisms from park and tourism tariff structures, but also incorporates strategic guidance for the implementation of other financing mechanisms. The analysis indicates that within five years, simple measures such as tourism entrance fees to the island and trail visitation fees could generate 90% of the estimated annual cost of basic conservation management (an annual cost of approximately US \$290,000 per year for administration and planning, regulation and control, research, monitoring, and environmental education) or 53% of optimal conservation management.

The two main income generating mechanisms identified by the study are an entry fee for visitors to the island and charges for the use of trails. Both tariff systems have been designed and are being put into operation, following the consensus reached with the new municipal authorities by project end to apply them, from a wider management perspective, across the entire island.

The first priority mechanism - the collection of visitor entrance fees at point of entry to the island (i.e. at the landing point of the ferry) - takes advantage of the many visitors that the island attracts. National statistics estimate that the number of tourists visiting the island is in the region of 60,000 visitors per year, 80% of which are international tourists and 20% of which are national. Using a conservative scenario, it has been estimated that entrance fee revenue alone would total approximately US\$76,000 in year 1 (based on 20,000 visitors and charging \$3.50-\$5.00 for foreigners and \$1-\$2 for nationals), and would continue to increase in subsequent years.

The second mechanism intends to standardize the different fees currently charged to use the island's nature trails (both inside and outside the Reserves) through a single payment that will allow the tourist to use every trail in the island. Private owners of trails receive a share of the income according to a benefit sharing agreement, with the remainder feeding into a centralised conservation fund for the island.

The groundwork undertaken through the Darwin project to develop conservation finance mechanisms for Ometepe has enabled FFI to leverage further co-funding to underpin the next key step in the process - the establishment of an **Ometepe Conservation Fund (OCF)** to

house all proceeds from entrance fees, trail fees, and other established systems. A transparent and participative governance structure, that will involve key stakeholders in the decision making-processes for the Fund, is currently being defined. It is likely to involve two levels: a *Directive Committee* (incorporating representatives from MARENA, the two Municipalities, and the NGO sector) which will assume executive functions, management and tracking of the fund; and an *Advisory Committee* (incorporating representation from local NGOs, cooperatives, indigenous and community organizations, academic sector, private sector and international cooperation agencies) to advise on implementation and agree the conservation actions that the fund will support. FFI is providing technical support to build local capacity for the management of this fund through a training program designed to support management of the Fund, helping ensure that staff are fully equipped to handle both the financial obligations and conservation impacts of the new conservation finance mechanism.

4.4 Project standard measures and publications

See Annex 4 for standard measures and Annex 5 for full list of publications.

4.5 Technical and Scientific achievements and co-operation

The project has contributed to and facilitated technical and scientific cooperation between national and international institutions, particularly in relation to biological research and monitoring and their contribution in informing conservation and sustainable development strategies for the island. The methods applied and collaborations facilitated were specific to work undertaken for different taxa (birds, mammals, herpetofauna) and habitats. All data fed into a nationally available biological database for the island, which also includes species inventories for insects, fish, and gasteropods.

Notable examples of successful technical cooperation initiated by the project include:

Avian monitoring: The project applied the MoSI protocol for monitoring overwintering survival in migratory birds as developed by the Institute for Bird Populations (California, USA). MoSI is a collaborative effort among organizations, researchers and bird banders across the northern Neotropics aimed at enhancing understanding of habitat needs of migratory birds during the non-breeding season. This work has also benefitted from collaboration between FFI and the Bruce Peninsular Bird Observatory (Canada). For resident birds, the project team (including MARENA rangers) applied research and monitoring methods standardized at a national level, collaborating with the National University UNAN-Managua and the School of Biological Sciences in the collation and interpretation of data. Following 3 years of data collection, FFI facilitated a national workshop for interpretation and dissemination of the avian monitoring data for Ometepe, as an important step in ensuring this information is used to inform the conservation and management of both migratory and resident species of birds.

Habitats: The project established a series of permanent vegetation plots on Maderas Volcano and within the istian. Monitoring of these plots was undertaken as a collaboration between the project team and forestry students from Nicaragua's National Agrarian University. Having established these plots they will form part of a long term ecological study, to involve local government agencies, NGOs and university personnel, which will help establish a tradition of natural resource management based on data gathering, analysis and interpretation, rather than conjecture. Permanent monitoring of these plots will provide structural and dynamic information about the forest habitats along elevation and topographic gradients, over time illustrating possible climate change impacts. This work has already led to an inventory being undertaken by Fundación entre Volcanes of the endemic Marlberry tree *Ardisia ometepensis* - the first ever survey of the species - which is now informing the sustainable management of this important endemic tree.

The scientific information generated by the project on Ometepe's biodiversity confirms the high biodiversity value of the island.

4.6 Capacity building

Building local capacity of host country partners for biodiversity conservation has been a central component of this project and represents a key part of the project's legacy.

The project has increased protected area management capacity and technical skills within MARENA, having recruited and trained of park staff and **created the necessary capacities for the management of the MVNR**. FFI has also supported the development of a model of participative co-management through the formation of a local co-management committee, with representation from the Municipality, the six communities surrounding Maderas, local cooperatives, small tourism enterprises, the local NGO Fundación entre Volcanes, and government institutions (Environment, Education and Agriculture Ministries). At the end of the project, we have

Park rangers and local guides have benefitted from the **delivery of a comprehensive training programme** for protected area management, conservation, monitoring and enforcement. Developed in accordance with national legislation, MARENA and National Forest Institute (INAFOR) regulations, and officially accredited by the Nicaraguan Institute of Tourism, this was the first such training programme implemented on the island. The training syllabus has been documented for replication in other of Nicaragua's protected areas (for further information see Year 2 Annual Report).

The project also facilitated valuable **exchange visits to other co-managed protected areas** in Nicaragua, providing valuable insights into shared conservation management in action. The MVNR park guards and reserve manager, alongside representatives from the local authorities, community leaders and other stakeholders visited two protected areas under co-management; Cosiguina Volcano in the north-west of Nicaragua, which is managed locally by Fundacion LIDER, and Volcan Mombacho, which is managed by Fundacion Cocibolca.

Local organisational capacities have been strengthened, particularly within FFI's main local NGO partner on the island, Fundacion entre Volcanes, but also through support to local collaborative initiatives such as the tourism committee. FEV have implemented key project activities, including scientific research and monitoring, environmental education and training, as well as in promoting conservation goals amongst Ometepe's communities. This experience has strengthened their internal capacities for delivering conservation objectives on the island. FFI continues to provide technical and institutional support to FEV and is supporting its lead role in developing a consensus-based plan for the proposed Ometepe Biosphere Reserve.

The lack of sustainable or replicable financing mechanisms or models within Nicaragua's national system of protected areas is a major weakness. The feasibility study into **self-sustaining income generation mechanisms** undertaken by this project, and the initiation of their implementation, represents a key step not only in building sustainability of conservation finance on the island but will also contribute to national capacity for sustainable financing of protected areas.

Finally, the project has enabled FFI's team in Nicaragua to **strengthen our capacity to act as an effective project partner** at local and national levels. This is in terms of building both the necessary technical skills and organisational capacities for effective conservation action, successfully bringing environmental considerations to the fore within island-wide development initiatives.

4.7 Sustainability and Legacy

The project's enduring features include:

Protected area management. MARENA now has the resources in place - in terms of park infrastructure, fully trained personnel, management plan and co-management structure - in order to fulfil its mandate to actively promote, sustain and monitor on-the-ground conservation of a well-known protected area (MVNR) and a desirable tourism destination (Ometepe Island). The project also leaves a legacy in terms of additional personnel (local guides and community members) with greater knowledge and understanding of the island's biological resources and trained in aspects of biological monitoring.

Sustainable finance and replicability: At project end co-financing is supporting ranger salaries and a sustainable tariff system has been designed in order to generate long-term sustainable financing for conservation of the island's natural resources, including the cost of protected area personnel. Ometepe's Economic Development Agency (ADELO) is in the process of being legally constituted and funding mechanisms will be applied under the framework of this agency. By designing and initiating the implementation of these mechanisms, and by educating visitors and local people as to the importance of such a tariff system in supporting conservation, the project leaves a valuable, sustainable legacy for conservation on the island. Furthermore, this project aims to provide a model for protected area management approaches in Nicaragua, as MARENA's protected areas work frequently suffers insufficient lack of funds and staff.

Local collaboration and coordination: Local stakeholders across all sectors (local government, communities, NGOs and private sector) have become more actively engaged in collectively planning and directing their own development destiny. This is particularly apparent in the island-wide tourism committee, formed between public and private sectors to promote and regulate responsible tourism on the island, as well as the consensus and collaboration reached around the proposal to develop Ometepe as a Biosphere Reserve. Project partners continue to coordinate closely with other national and international organizations working in Ometepe, enabling the project to leverage even greater resources, impact and sustainability.

By raising local awareness and support within the communities, municipalities and organizations of Ometepe for habitat and wildlife protection and management, our approach aims to achieve sustainable local guardianship of the island's natural heritage. Community involvement at all levels represents both an opportunity and a mechanism for local people and organizations to become more committed to, and gain the necessary skills for, conservation management of the island as a whole. In this way, the project has a legacy of realistic and on-the-ground application of conservation management approaches, identified and supported by participatory mechanisms.

Supporting next steps for island-wide conservation and sustainable development: FFI will continue to build on the results of the project, helping local partners and stakeholders achieve sustainable resource management throughout Ometepe, in equitable way with local participation. A major focus of this work is supporting the development of Ometepe as a Biosphere Reserve; a concept which benefits from widespread local, as well as governmental, support. We are supporting the municipalities in a new island-wide initiative to create territorial zoning plans, with the change in PA status of the MVNR and CVNR forming part of this process. Ranger patrols are now being extended to the island's other volcano, Concepcion.

5 Lessons learned, dissemination and communication

The most significant lessons drawn from the experience of this project relate to the major benefits and challenges related to **local involvement in management decisions**. A simple but positive example was that of the creation of a local working group (comprising governmental authorities, local NGO's and community leaders) which headed the selection process to recruit local people as parks rangers at the start of the project. **This ensured local support** for those put in charge, on a daily basis, of habitat and species protection. The working group remained involved in follow up and monitoring of the rangers' performance. A further example relates to that of bringing a variety of stakeholders together in the establishment of the co-management entity, as described in section 4.3. However this experience also highlighted the **difficulties inherent in reaching consensus** and obtaining official approval regarding the handover of management responsibilities from national government authorities to local stakeholders, and the need to build flexibility into project plans in order to find alternatives and solutions in order to fulfill project objectives when circumstances change.

Project achievements have been disseminated via a variety of means, including:

- **Stakeholder workshops:** including at least 3 workshops focussed on dissemination of project achievements on the island amongst local community leaders, the municipal authorities, local NGOs, hoteliers and other project partners. Over 65 stakeholders participated in these events.
- **Exchange visits:** Between MVNR rangers and staff of other co-managed protected areas in Nicaragua facilitated not only learning but also dissemination of the early stages of the MVNR experience.
- **Local events:** including the official inauguration of the Park HQ & Ranger Station in June 2007, the inauguration of the ecotourism trail in February 2008, the 'Claro Hike' to the summit of Maderas Volcano in 2007 and 2009, local celebrations of 'World Environment Day' and 'International Migratory Bird Day', as well as events in local schools.
- **Media coverage:** Throughout the project, project activities have received excellent media coverage, with 14 national newspaper articles and 5 online articles written about the MVNR. National journalists have been invited to attend key events, such as the project launch and the inauguration of the park buildings, leading to the attendance of ~20 journalists and resulting in considerable publicity for project activities via Nicaraguan television and national press.
- **Promotional materials:** The project printed a suite of promotional materials including a project banner, leaflets, bird list, etc (as described in section 4.3). In addition, BAT Central America, who have provided co-financing to the project since 2005, in 2007 recorded and produced a short promotional video highlighting the elements of our conservation work on the island. This video, in Spanish, has been used in a variety of talks with students and local stakeholders. Claro Enitel have also promoted publicity for the MVNR and Ometepe through sponsorship of specific activities such as the Claro Hike.
- **FFI Communications:** FFI maintain a webpage about the project (www.fauna-flora.org/ometepe.php) and have published two short articles about Ometepe within our communications materials ([FFI Update](#) and [Fauna & Flora](#) magazine) which are shared with all our members, offices and partners around the globe.

Although we have not been able to directly measure the impact of our dissemination of project achievements, we believe these media have made an important contribution towards raising awareness about the importance of Ometepe for biodiversity in Nicaragua, locally, nationally and internationally.

5.1 Darwin identity

The Darwin Initiative logo has been included in all project materials – the series of printed reports, leaflets and other project publications, powerpoint presentations given to local, national and international audiences, as well as on the larger signs erected in and around the protected area. Project materials have been made available at local and national events, such as the Earth Fair held in Nicaragua in 2007, and at international tourism fairs where the island of Ometepe has been promoted.

This Darwin project formed part of a larger programme of work for Fauna & Flora International in Nicaragua. Since 2006 FFI's "Proyecto Ometepe" has benefitted from financial support from three main sources; the **Darwin Initiative**, the **US Fish & Wildlife Service** for elements related to integrated management of migratory bird habitats, and **BAT Central America** for biodiversity conservation and community-based ecotourism. We have also secured smaller grants for specific activities from the US Wildlife Without Borders programme and UK foundations.

The project has raised the profile and increased understanding of the Darwin Initiative in Nicaragua, although principally within the relatively small conservation community in the country.

6 Monitoring and evaluation

No major changes were made to the project logical framework during the lifetime of the project. However it is worth noting that, during implementation, a unified logframe was developed to integrate project activities with those financed or co-financed by other sources. Annex 1 provides a report of project progress and achievements against the DI project logframe. Throughout the lifetime of the project, regular meetings were held locally with the main stakeholders from the project (>25 people) to evaluate progress, and activities were under continuous supervision, review (against logframe, workplan and milestones) and follow up by FFI's Nicaragua Programme Coordinator and Americas & Caribbean Programme Manager.

Project level indicators as originally defined were effective. However, a participatory monitoring and evaluation system was developed within the project, following stakeholder consultations, to ensure that management is adaptive and takes into account local human needs. The emphasis was on the establishment of a long term monitoring system, which can be implemented for the MVNR and across the island by municipal authorities, with standard indicators related to both conservation and sustainable development. Comprehensive biological baseline information was collected and a participatory livelihoods analysis took place at the outset of the project. Whilst the biological monitoring system established by the project is robust (as described in Section 4.3), as the project enters its next phase the project team recognise that more in depth tracking of socioeconomic factors is essential for the adoption of a Biosphere Reserve approach and will make biodiversity conservation and development across the whole island more resilient and sustainable.

6.1 Actions taken in response to annual report reviews

The project team took on board and responded to the issues raised in the reviews of our DI annual reports. Whilst no major changes were made to project design - in relation to the implementation of this grant - in response to the reviews, many of the issues raised (particularly in the Year 2 report review) were particularly relevant to the next phase of the project, where we are looking to support local partners and stakeholders to manage the whole island as a biosphere reserve. It is recognised that the conservation of Ometepe will only be truly secure if the island is managed in a sustainable, equitable way with local participation, with greater integration of conservation and sustainable development goals. Issues raised by the reviewers regarding stakeholder participation, rights-based analyses, impact on local livelihoods, and improved local governance structures will all be increasingly addressed as part of this biosphere reserve approach to conservation and development on the island.

7 Finance and administration

7.1 Project expenditure

	2006/2007			2007 / 2008			2008 / 2009		
	Budget	Expenditure	variance	Budget	Expenditure	variance	Budget	Expenditure	variance
Rents, rates, heating, overheads									
Office costs post,phone,stationary									
Travel and subsistence									
Printing									
Conferences, seminars, etc.									
Capital items/equipment									
Laptop									
Infrastructure improvement									
Field Equipment									
Other costs									
Audit									
Salaries (from table below)									
TOTAL									

Salaries	2006/2007			2007 / 2008			2008 / 2009		
	Budget	Expenditure	variance	Budget	Expenditure	variance	Budget	Expenditure	variance
UK									
FFI Americas Regional Director									
FFI Project Leader									
FFI Livelihoods specialist									
FFI Communications Officer									
FFI Programme Officer									
Nicaragua									
FFI Nicaragua Programme Director									
Biodiversity & PA Specialist									
NR Manager									
Project Admin & Finance Officer									
Park guards/rangers									
Community coordinators									
Consultants									
PA Finance Specialist									
Env awareness Specialist									
Ranger Training									
Protected Areas Specialist									
Environmental Lawyer									
Tourism Consultant									
Civil Engineer									
TOTAL COST OF SALARIES									

Agreed reallocations and variations in expenditure:

Please note that the year 1 and 2 budgets shown above remains as per original proposal, whilst expenditure reflects reallocations discussed with Darwin Finance in February-March 2007 and approved by email on 7th March 2007. During the first year of the project it became apparent that additional funds were needed to enable the park infrastructure (particularly the park management office) to be built to a higher specification, in better keeping with the natural environment. The project successfully secured co-financing for a significant part of this increased cost but, in addition, DI Secretariat approved reallocations to increase the infrastructure budgetline. This was offset by: (i) the reduced need for travel and printing costs also covered by project co-finance; (ii) the reduced cost of the Environmental Lawyer and Ranger Training consultancies, and (iii) the PA Finance Specialist consultancy which was moved forwards to take place in year 2 (*which in turn was offset by a reduction in infrastructure expenditure in Year 2 and reductions in other salary costs*).

With respect to project staff roles and responsibilities, and therefore associated expenditure against salary budgetlines, it should be noted that: (i) FFI's Regional Director assumed specialist livelihoods inputs during Q4 of year 1 and throughout Year 2. This was reflected by the increased expenditure against RD time spent on the project against budget and zero expenditure against the Livelihoods Specialist in year 2; (ii) FFI's Ometepe project manager, Salvadora Morales, provided expertise to the project in the fields of both biodiversity and protected areas, and therefore these budgetlines were combined; (iii) FFI's Programme Officer provided support to the project on both financial management and communications in year 3.

A change request was approved in year 3 and the budget shown above reflects the approved revisions. The reallocations requested related to: (i) increased costs of improvements to the trails that climb the volcano, particularly for the steeper sections, to ensure their durability and longevity; (ii) an anticipated need to increase the budget for publications and local office costs for the production and publication of project outputs in Yr3 (in the event, we were able to keep printing costs low); (iii) reduced costs for seminars, travel and field equipment (covered by project cofinancing), and the funds originally budgeted for an independent audit which was no longer a requisite of the Secretariat; (iv) reallocations within salary budgetlines to reflect the fact

that FFI had successfully secured project co-financing to cover 100% of the salaries of the park rangers and reserve manager until 2010, whilst increased contributions were necessary to cover realistic salary costs for project personnel key to project implementation based both in the UK and nationally.

7.2 Additional funds or in-kind contributions secured

During the project period FFI successfully **secured co-financing** from:

- **US Fish & Wildlife Service:** Two 2-year grants have been awarded to FFI for conservation management of migratory bird habitat on the island of Ometepe, through the USFWS Neotropical Migratory Bird fund, totalling over \$XXXX USD in cash contributions to the project continuing through to 2010. We have also secured co-funding for training and capacity building through the USFWS Wildlife Without Borders fund (\$XXXX) and anticipate further support from them to increase PA sustainability through the implementation of conservation finance mechanisms on Ometepe.
- **BAT Central America:** FFI has a global partnership with British American Tobacco, working with the company to incorporate biodiversity policy and strategy within its operations. In Nicaragua we have developed local linkages with BAT Central America and FFI's work on Ometepe is the first environmental project they have supported directly in the region. To date, BATCA have supported biodiversity conservation and community-based ecotourism on Ometepe through two grants to FFI totalling \$XXXX over 4 years.
- **Franklinia Foundation:** We have also secured a small grant from this UK based foundation to work with local NGO partners to promote conservation and raise awareness of the endemic tree *Ardisia ometepensis* and its forest habitat on Ometepe.

The project has also benefitted from significant **in-kind support** from our project partners:

- Time and resources invested by Nicaraguan authorities, including local and national personnel from the Ministry of Environment (in PA management), the Institute of Tourism (in training and certification of guards and guides) and the local municipality (through the co-management of MVNR). Estimated value >\$XXXX USD.
- Management planning work undertaken at the start of the project and drafting of the management plan for Maderas Volcano Natural Reserve undertaken by Amigos de la Tierra (Espana). Estimated value ~\$XXXX USD.
- Contribution of land and resources for park infrastructure construction, support to local tourism services (including Ometepe's Union de Guias) and the provision of local facilities (meeting space and accommodation) by the local Cooperativa Carlos Díaz Cajina. Estimated value ~\$XXXX USD.
- Role of local partner NGO Fundación entre Volcanes (FEV) in implementation of project activities; including management planning, research and monitoring, environmental education and training, outreach amongst Ometepe's communities, as well as involvement in the co-management committee. Estimated value ~\$XXXX USD.
- Awareness raising events on the island, including two sponsored hikes up Maderas Volcano, have been supported by the national mobile phone company Claro Enitel (contribution of \$XXXX USD). Two internships provided inputs to the design of awareness materials and were sponsored via the Dutch organisation On-Stage Nicaragua (estimated value \$XXXX USD).

The project has both catalysed and benefitted from significant **collaborations** with other organizations and stakeholders, thereby leveraging even greater resources, impact and sustainability for conservation and sustainable development on Ometepe:

- Collaboration with the Nicaraguan Institute of Tourism (INTUR), SwissContact and FEV around the implementation of the comprehensive, accredited training programme for the MVNR Park Guards and local tourist guides from the Union of Guides of Ometepe. Estimated value ~\$XXXX USD.

- Collaboration with Ometepe's Intermunicipal Tourism Committee (CITOmetepe), the Bague Environmental Education Program, as well as local communities, NGOs and tourism enterprises (local hotels) to promote and regulate responsible tourism on the island.

7.3 Value of DI funding

This DI project has resulted in the Maderas Volcano Natural Reserve (MVNR) becoming an effectively managed reserve and has been fundamental in successfully strengthening local management capacity, with highly significant impacts on the conservation of biodiversity and protection of natural resources on the island of Ometepe. Whilst the project successfully leveraged significant co-financing (as described above), the DI funded elements have represented the **central pillar of FFI's conservation efforts on the island**, around which the co-financed elements have been brought together. As such, without this essential DI support, the MVNR would not be benefitting from the effective conservation management it enjoys today and the momentum and consensus around the proposed establishment of Ometepe as a Biosphere Reserve would not have been catalysed to the same extent.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <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>The project has achieved increased protection of an important site for biodiversity within Nicaragua's protected area system, increased support for conservation and sustainable development goals, and has successfully built local and national capacity for in-situ conservation and protected area management.</p>	<p>(do not fill not applicable)</p>
<p>Purpose Natural resources and biodiversity of Ometepe protected, through strengthened local management capacity for the implementation of the Maderas Volcano Natural Reserve management plan.</p>	<p>Approved management plan implemented by co-managers and supported by stakeholders. Effective co-management of the reserve is being implemented. High priority areas of biodiversity are protected. Environmental degradation in and around Maderas NR is reduced.</p>	<p>The project has resulted in the Maderas Volcano Natural Reserve (MVNR) becoming an effectively managed reserve, with a high degree of local engagement.</p> <p>Management plan, supported by local stakeholders, was submitted in Yr1, approved in Yr3* and is under implementation.</p> <p>Local management is strengthened and the co-management agreement was approved in Yr3; however management responsibilities have not yet been fully transferred from MARENA to co-management entity.</p> <p>Increased protection for MVNR is in place through trained park staff and ranger patrols. Infrastructure has been built and enforcement has improved.</p> <p>Monitoring protocols are established and beginning to show positive impact of management interventions against baseline.</p>	<p>To continue supporting the conservation management of the MVNR, further expanding protection into the Concepcion Volcano NR (already in progress at project end).</p> <p>To consolidate biodiversity conservation and development on the Island of Ometepe, and make it more resilient and sustainable, through the adoption of a Biosphere Reserve approach.</p> <p>To construct the local capacities essential for the establishment of a Biosphere Reserve encompassing the whole island.</p> <p><i>*NB. Management plan was finally ratified by the government in June 2009.</i></p>

Output 1. Priority areas/species identified from baseline biodiversity and sociological data	Species and habitat conservation and action plans published by end Yr 1 and applied in field Yr 2	Baseline data for MVNR has been generated and analyzed, a database established, priority species identified (migratory birds, endemic plants, reptiles and amphibians) and monitoring systems established in line with Management Plan.
Activity 1.1 Baseline biodiversity surveys		Initial baseline surveys completed, including habitat surveys to determine, describe and map the extension of different forest types of MVNR and the wider island.
Activity 1.2 Biodiversity monitoring (migratory birds)		Two permanent bird monitoring stations established in different habitats; one located in the dry forest of the Istian isthmus (~40m above sea level), and another in the transitional rainforest on the flanks of the volcano (~400m above sea level). Data collected each migratory season and analyzed as part of a national database.
Activity 1.3 Biodiversity monitoring (habitats & endemic species)		Six permanent ½ hectare plots for vegetation monitoring established in MVNR (between 600 and 1300 masl). Crown classes recorded, trees tagged and identified to species level, understory surveyed, other taxa also monitored in these sites. Protocols developed to capture data on endemic species (including; <i>Ardisia</i> tree, orchid, salamander).
Output 2. Legal Analysis of land rights and regulations for Maderas NR and buffer zone	Current land ownership rights, and applicable laws/regulations, clarified to stakeholders.	Land rights and titles in Nicaragua are complex due to land reallocations of the 1980's and obtaining information has been slow and bureaucratic.
Activity 2.1. Legal Analysis of land rights for Maderas NR and buffer zone		Detailed analysis identified the private landowners and state owned properties in the project area, but revealed the need to streamline land registry and for MARENA to officially register state owned land within the MVNR. Report published Yr3.
Activity 2.2. Analysis of legal framework for the Reserve		The MVNR is both a Natural Reserve and part of the island-wide national heritage site. This analysis has highlighted need for a process of 'territorial ordering' for the whole island, which will be key to informing its integrated management as a Biosphere Reserve.
Output 3. Implementation of officially approved management plan.	Approved management plan being implemented by co-management entity.	Despite delays in government endorsement, both the management plan and the co-management rights for MVNR have been granted official approval by the Nicaraguan authorities. Not explicit in the original indicators, this output also encompassed capacity building of rangers and management entity.
Activity 3.1 Management Plan validated by local stakeholders and endorsed by government authorities.		Community consultations validated management plan in Yr1. The management plan and proposal to upgrade the MVNR's status to that of a National Park and extend the park boundaries, received government endorsement in Yr3.
Activity 3.2 Co-management entity established and MVNR co-		Co-management committee established Yr1. Bid for co-management rights

management rights sought		granted in Yr3.
Activity 3.3 Build local capacity for implementation of management plan.		Park rangers recruited, accredited training programme delivered, training manual published. Management plan under implementation. Exchange visits made to other co-managed PAs. Technical support provided to co-management entity. Continued capacity building required as transition to full co-management of MVNR is made in 2009/10 & as proposal to designate Ometepe as a Biosphere Reserve takes shape.
Output 4. Ecotourism strategy plan, with criteria for services, agreed upon.	Ecotourism plans approved and enacted by INTUR (Nic. Tourism Institute). Set of criteria written into tourism plans.	Technical support provided to public / private collaboration for responsible tourism on the island and island-wide tourism planning process. Tourism diagnosis and plan enjoy strong local ownership. NB. Committee will lead implementation of strategic plan, rather than INTUR.
Activity 4.1 Eco-tourism diagnosis and strategic plan published		Tourism Diagnostic Study published (Yr3). Ecotourism planning ongoing at project end, enjoying strong local ownership.
Activity 4.2 Promote Ometepe as a responsible eco-tourism destination		Technical support provided to tourism committee and environmental agenda promoted as part of island-wide tourism planning process.
Output 5. Improved infrastructure for Maderas NR	Guard posts, management office and field station built. Tourists have basic facilities. Rangers have better means of patrolling the NR.	Infrastructure significantly improved - Park HQ built, guard post installed, trails improved, training centre refurbished. Cofinancing was leveraged in order to complete these facilities and more finance is now being sought to complete work on trails and interpretative centre.
Activity 5.1 Park HQ and ranger station complete and equipped.		Park HQ and ranger station was built, equipped and officially opened in Yr2. The HQ contains basic amenities for rangers on patrol (kitchen, bunk beds, bathroom, computer, training materials, etc) and also serves as the main entrance point for visitors to the Reserve. A second ranger post has been renovated. Rangers are trained, equipped and undertaking regular patrols of the main trails on the Volcano.
Activity 5.2 Access trails in and around the MVNR improved.		Interpretative community-run ecotourism trail in the Istian upgraded (Yr2). Plans developed for improvements to main trail to the summit of the volcano and priority improvements made (Yr3).
Output 6. Effective awareness materials produced for key target groups.	Interpretational trails in place. Tourists, managers, locals able to acquire materials from key points.	Awareness and interpretation plan shared with island's new environmental educator. Park and trail signage installed. Range of materials published and awareness activities held, increasing profile amongst local communities and visitors of the reserve, its wildlife and importance. This work will continue post-project, led by FEV.
Activity 6.1 Environmental awareness and interpretation plan developed for the MVNR		Plan developed and informing production of materials, signage and activities.

Activity 6.2 Improved signage and interpretation materials in and around the MVNR	6 large signs, plus 30 smaller interpretive displays, produced for the entrance to the reserve and the main tourist trails (including the trail in Istian)
Activity 6.3 Educational and awareness materials published	Project banner produced, Ometepe Bird List published, supported production of Ometepe Tourism Guide & Map (article on MVNR published), Union de Guias website launched, leaflets for interpretative trails printed.
Activitiy 6.4 Educational and awareness activities	In partnership with FEV and new environmental educator, the project has facilitated celebrations of World Environment Day and International Migratory Bird Day, sponsored hikes up the volcano, and educational events in local schools.
Output 7. Sustainable finance mechanisms identified and implemented.	Entrance tariff system in place and generating income. The feasibility study identified 2 priority financing mechanisms with potential to generate 90% of management costs within 5 yrs. The change in municipal government in Yr3 slowed their implementation but progress was being made in last months of the project. Further funding has been secured to establish these mechanisms through an island wide Ometepe Conservation Fund.
Activity 7.1 Sustainable finance mechanisms for conservation on the island identified.	Analysis of income generation needs and alternatives, and resulting plan designed and published (Yr2)
Activitiy 7.1 Tariff system designed and implemented	Dual approach tariff system and benefit sharing structures designed and first steps taken for implementation. Income not yet being generated by project end.

Annex 2 Project's final logframe, including criteria and indicators

Please note: No major changes were made to the project logframe, although during implementation a unified logframe was developed to integrate project activities with those financed or co-financed by other sources. The Darwin-specific logframe as used to guide implementation is shown here.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve <ul style="list-style-type: none"> • the conservation of biological diversity, • the sustainable use of its components, and • the fair and equitable sharing of benefits arising out of the utilisation of genetic resources 			
Purpose			
Natural resources and biodiversity of Ometepe protected, through strengthened local management capacity for the implementation of the Maderas Volcano Natural Reserve management plan.	Approved management plan implemented by co-managers and supported by stakeholders. Effective co-management of the reserve is being implemented. High priority areas of biodiversity are protected. Environmental degradation in and around Maderas NR is reduced.	Co-management structure in place. Progress reports by managers and guards. Biodiversity/sociological assessments. Improved infrastructure.	MARENA is supportive of the initiative. Local stakeholders support and attend workshops and training and remain committed to the project.
Outputs			
Priority areas / species identified from baseline biodiversity and sociological data.	Species and habitat conservation and action plans published by end Yr 1 and applied in field Yr 2	Baseline data and GIS maps published. Species and habitat plans at MARENA and in use by co-management entity.	Partner organisations willing to cooperate and share information
Legal analysis of land rights and regulations for Maderas NR and buffer zone.	Current land ownership rights, and applicable laws/regulations, clarified to stakeholders.	Legal agreements; signed MoUs; Analysis report.	Stakeholders can reach consensus on potentially contentious issues.
Implementation of officially approved management plan.	Approved management plan being implemented by co-management entity.	Approved plan published. Progress reports from co-managers.	Co-managers and stakeholders able to co-operate effectively.
Ecotourism strategy plan, with criteria for services, agreed upon.	Ecotourism plans approved and enacted by INTUR (Nic. Tourism Institute). Set of criteria written into tourism plans.	Web-site (MARENA/ INTUR). Promotional materials at tourist offices, hotels, airports, schools & cooperatives.	INTUR accepts ecotourism as positive option on Ometepe
Improved infrastructure for Maderas NR	Guard posts, management office	Photos of outposts, office, field station,	Recommendations of

	and field station built. Tourists have basic facilities. Rangers have better means of patrolling the NR.	and tourist facilities. Reports from ranger patrols.	Environmental Impact Assessments for infrastructure construction.
Effective awareness materials produced for key target groups.	Interpretational trails in place. Tourists, managers, locals able to acquire materials from key points.	Copies of all awareness materials and photos sent to Darwin.	Awareness materials are appropriately targeted towards target audiences.
Sustainable finance mechanisms identified and implemented.	Entrance tariff system in place and generating income.	Tariff system covers portion of park costs and salaries; Co-management reports outline other sustainable fundraising strategies.	Tourists willing to pay fee system. Additional mechanisms can be agreed by all stakeholders

Annex 3 Project contribution to Articles under the CBD

Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		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	50	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		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		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		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	10	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		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		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		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.

Article No./Title	Project %	Article Description
16. Access to and Transfer of Technology		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		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		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.
Other Contribution	20	Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
Training Measures		
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	
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)	
4d	Number of training weeks for postgraduate students	
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(ie not categories 1-4 above)	
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	A total of 30 people completed a nationally accredited training programme for park rangers and local tourist guides designed by the project, 14 of whom also undertook an educational exchange visit to see protected area co-management models.
6b	Number of training weeks not leading to formal qualification	A total of 10 weeks training was delivered
7	Number of types of training materials produced for use by host country(s)	1 Ranger Training Manual published
Research Measures		
8	Number of weeks spent by UK project staff on project work in host country(s)	Approx 14 weeks throughout project period.
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	2 (two): MVNR Management plan published (includes species & habitat action plans); Sustainable financing plan for Ometepe.
10	Number of formal documents produced to assist work related to species identification, classification and recording.	2 species ID documents: Ometepe Bird Identification Guide and the Ometepe Amphibian and Reptiles Guide
11a	Number of papers published or accepted for publication in peer reviewed journals	
11b	Number of papers published or accepted for publication elsewhere	

Code	Description	Totals (plus additional detail as required)
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1 excel-based database designed and established for biological monitoring data for the MVNR
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	1 national bird database enhanced with data from avian monitoring on the island (MoSI)
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)	
Dissemination Measures		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	3 dissemination workshops held
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	1 conference attended
15a	Number of national press releases or publicity articles in host country(s)	8 national press releases , leading to 14 national newspaper articles and 5 online articles.
15b	Number of local press releases or publicity articles in host country(s)	1 local press release and 1 local publicity article
15c	Number of national press releases or publicity articles in UK	
15d	Number of local press releases or publicity articles in UK	2 local publicity articles (FFI materials)
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	1 tourism network enhanced
18a	Number of national TV programmes/features in host country(s)	
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	

Code	Description	Totals (plus additional detail as required)
19a	Number of national radio interviews/features in host country(s)	1 national radio interview
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	
19d	Number of local radio interviews/features in the UK	
Physical Measures		
20	Estimated value (£s) of physical assets handed over to host country(s)	£xxxx (Park infrastructure, scientific equipment, reference materials)
21	Number of permanent educational/training/research facilities or organisation established	6 (Six): Park HQ, guard post, education centre, 2 educational trails (including ~40 interpretative signs), 1 organisation (Co-management entity).
22	Number of permanent field plots established	8 (Eight): 2 MoSI stations established for monitoring migratory birds; 6 permanent ½ hectare vegetation monitoring plots established.
23	Value of additional resources raised for project	~£xxxx over course of project (\$xxxx from US government sources, \$xxxx private sector funding, \$xxxx from UK Foundations, over \$xxxx in kind contributions from local partners)
Other Measures used by the project and not currently including in DI standard measures		
	Specific local management strategies, plans and materials for use by local stakeholders	4 (four): Tourism diagnosis, ecotourism plan, awareness and interpretation plan, land-use/habitat and zonification maps (series of 8).

Annex 5 Publications

Please note:

- Printed copies of publications marked * were sent with Yr1 Annual Report
- Printed and/or digital copies of publications marked ** were sent with Yr3 Half Year Report
- Copies of publications marked ## are enclosed with this report.

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
* Management Plan (& Maps)	Plan de Manejo del Volcan Maderas. Rodriguez G et al (2007)	Draft available from Amigos de la Tierra (España). Approved version: MARENA (in press).		N/A
## Poster: Project banner	Manejo participativo de la Reserva Natural Volcan Maderas (2007)	FFI, Managua, Nicaragua		N/A
** Report: Analysis of Environmental Legislation	Análisis de la Legislación Ambiental Aplicable al Manejo de la Isla de Ometepe. Rocha M. (2008)	FFI (Ometepe series 1-08), Managua, Nicaragua		N/A
** Strategic Plan: Sustainable Finance Mechanisms	Mecanismos de Sostenibilidad Financiera: Reserva Natural Isla de Ometepe. Galindo J. <i>et al.</i> (2008)	FFI (Ometepe series 2-08), Managua, Nicaragua		N/A
** Report: Analysis of Land Rights	Análisis de la Tenencia de la Tierra Reserva Natural Volcán Maderas. Rocha M. (2008)	FFI (Ometepe series 3-08), Managua, Nicaragua		N/A
** Report: MARENA Management Report	Gestión Administrativa y Operativa de la Reserva Natural Volcán Maderas y la Isla de Ometepe. Cruz B. (2008)	FFI (Ometepe series 4-08), Managua, Nicaragua		N/A
** Manual: Ranger Training	Memoria de Capacitación y Certificación de Guías Turísticos Locales y Guardaparques (2008)	FFI(Ometepe series 5-08), Managua, Nicaragua		N/A
** Strategic plan: Environmental Education & Interpretation	Plan de Interpretación Ambiental Reserva Natural Volcán Maderas. Galeano M. (2008)	FFI (Ometepe series 6-08), Managua, Nicaragua		N/A
## Strategic plan: MVNR Tourism Trails	Plan de Sitio Sendero Magdalena. Zolotoff <i>et al</i> (2008)	FFI (Ometepe series 7-08), Managua, Nicaragua		N/A
Strategic plan Tourism on Ometepe	Diagnostico Turístico de la Isla de Ometepe: Enmarcado en la Identificación y caracterización de los recursos y/o atractivos turísticos. Zamora A. (2009).	FFI (Ometepe series 04-09), Managua, Nicaragua		N/A
Biological Database	Base de datos de la Biodiversidad de Ometepe.	FFI (Ometepe Series 08-09),		N/A

	Listado con información de los grupos Biológicos. FFI (2009)	Managua, Nicaragua		
Report: Biological Monitoring - Birds	Monitoreo de Aves de la Reserva Natural Volcán Maderas e Istián. Morales S. & Hernández S. (2009)	FFI (Ometepe series 1-09), Managua, Nicaragua		N/A
## Report: Biological Monitoring - Habitats	Formaciones Vegetales de la Isla de Ometepe: Primera aproximación. Díaz F. & Díaz F. (2009)	FFI (Ometepe series 02-09), Managua, Nicaragua		N/A
** Field Guide: Birds of Ometepe	Bird Checklist Ometepe Island. Morales S. <i>et al</i> (2008)	ISBN 978-99924-868-4-92008. Managua, Nicaragua	Available at outlets on Ometepe Island or via CANATUR	\$2 where sold
Field Manual: Amphibians & Reptiles	Anfibios y Reptiles de la Isla de Ometepe. Robleto S. (2009)	FFI (Ometepe series 03-09), Managua, Nicaragua		N/A
** Magazine Article: Ometepe Tourist Guide & Map	<i>Maderas Volcano: A Haven for Biodiversity</i> (Morales S & Gunn A) In: "Map & Visitor's Guide Ometepe 2007-2008", Octavio Guerro M. (Ed.) 2007	SIMEDA, Managua		N/A
## Magazine Article:	"Protection mounts for volcanic island" FFI Update No.5 (Summer 2006)	Fauna & Flora International, Cambridge UK		N/A
## Magazine Article:	"Conservation efforts hotting up on volcanic island" Fauna & Flora, Issue 11 (Oct 2008)	Fauna & Flora International, Cambridge UK		N/A
National Press Articles: Protecting the MVNR	"Volcán Maderas ya tiene guardaparques" M H Brenes (14/6/07) "Protegeran naturaleza del Maderas" N S Ricarte (14/6/07)	El Nuevo Diario, Managua La Prensa, Managua	impreso.elnuevodiario.com.ni/2007/07/14/nacionales/53799 www.laprensa.com.ni/archivo/2007/julio/14/noticias/revista/203151.shtml	N/A
Internet news article: Protecting the MVNR	"Inauguran primer puesto Guardabosque en Volcan Maderas" (13/7/07)	elinformativonica.com, Nicaragua	elinformativonica.com/index.php?option=com_content&task=view&id=252&Itemid=42	N/A
National Press Articles: Claro Hike 2007	"Primer Claro Hike en pro del medio ambiente" J Poveda (03/12/07)	El Nuevo Diario, Managua	impreso.elnuevodiario.com.ni/2007/12/03/variedades/65238	N/A
National Press Articles: New Ecotourism Trail	"Nuevo sendero en Ometepe" R Bello (07/2/08) "Un nuevo producto turístico en la Isla de Ometepe en el Sendero de Peña Incultá" M H Brenes (10/02/08)	La Prensa, Managua El Nuevo Diario, Managua	archivo.laprensa.com.ni/archivo/2008/febrero/07/noticias/regionales/241771.shtml impreso.elnuevodiario.com.ni/2008/02/10/turismo/69814	N/A
National Press Article: Discovery of endemic Salamander	"En el Maderas, isla de Ometepe, Descubren una nueva salamandra" E Sánchez (26/5/08)	El Nuevo Diario, Managua	www.elnuevodiario.com.ni/nacionales/16709 impreso.elnuevodiario.com.ni/2008/05/26/nacionales/77165	N/A
National Press Articles: Nomination of	"Está nominada en el concurso de las siete maravillas naturales del	El Nuevo Diario, Managua	www.elnuevodiario.com.ni/especiales/18200	N/A

Ometepe in new7wonders.com	<i>mundo: Ometepe, una joya natural de Nicaragua</i> N Chavarría (11/6/08) <i>"Campana nacional para promover voto Unidos por Ometepe"</i> J Poveda 17/8/08	El Nuevo Diario, Managua	www.elnuevodiario.com.ni/variedades/24377	
National Press Article: Ometepe as a Biosphere Reserve	<i>"Anuncio del viceministro del Marena en la Isla Ometepe podría ser reserva de biosfera a inicios de 2009"</i> (01/10/08)	El Nuevo Diario, Managua	www.elnuevodiario.com.ni/departamentales/28472	N/A
National Press Articles: Claro Hike 2009	<i>"Descubriendo los tesoros de Ometepe"</i> (03/2/09) <i>"Descubre tesoros en Ometepe"</i> J Poveda (15/01/09) <i>"Escalando El Madera"</i> S Baca 28/1/09	La Prensa, Managua El Nuevo Diario, Managua El Nuevo Diario, Managua	www.laprensa.com.ni/archivo/2009/febrero/03/noticias/ventosempresariales/308406.shtml impreso.elnuevodiario.com.ni/2009/01/15/variedades/93415 impreso.elnuevodiario.com.ni/2009/01/28/suplemento/buenaonda/10045	N/A
Online project database	<i>"Building Protected Area Management Capacity on the Island of Ometepe, Nicaragua"</i> (June 08)	Rainforest Alliance	www.eco-index.org/search/results.cfm?ProjectID=1330	N/A
Online Newsletter article	<i>"Conservation Takes Flight on Ometepe Island; Migratory and Resident Birds Inspire Lofty Goals"</i> . Y Soto (July 2009)	Rainforest Alliance	www.rainforest-alliance.org/neotropics/ecos-exchange/2009/july_09_02.html	N/A

Additional enclosures:

1. **Project banner** "Manejo participativo de la Reserva Natural Volcan Maderas" (2007)
2. **Plan for MVNR Tourism Trails** "Plan de Sitio Sendero Magdalena" Zolotoff et al (2008)
3. **Biological Monitoring Report (Habitats)** "Formaciones Vegetales de la Isla de Ometepe: Primera aproximación". Díaz F. & Díaz F. (2009)
4. **Magazine Article** "Protection mounts for volcanic island" FFI Update No.5 (Summer 2006)
5. **Magazine Article** "Conservation efforts hotting up on volcanic island" Fauna & Flora, Issue 11 (Oct 2008)
6. **Ratification of MVNR management plan** (June 2009)

Annex 6 Darwin Contacts

Ref No	15-039
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