

Darwin Initiative Main and Post Project Annual Report

Project reference	24-020
Project title	Realising the values and benefits for communities of Nicaragua's Turtles
Host country/ies	Nicaragua
Lead organisation	Fauna & Flora International (FFI)
Partner institution(s)	Fundación LIDER National Sea Turtle Conservation Network (NTCN) Nicaraguan Tourism Chamber (CANATUR) Dr Carolin Lusby, Florida International University (FIU) Jose Urteaga, Stanford University
Darwin grant value	£385,617
Start/end dates of project	1 June 2017 – 31 March 2021
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	1 April 2018 – 31 March 2019 Annual Report 2
Project Leader name	Alison Gunn
Project website/blog/Twitter	The project does not have a dedicated webpage. However the FFI website hosts a page on our broader marine turtle conservation programme in Nicaragua: www.fauna-flora.org/projects/conserving-marine-turtles-eastern-pacific-nicaragua
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1. Project rationale

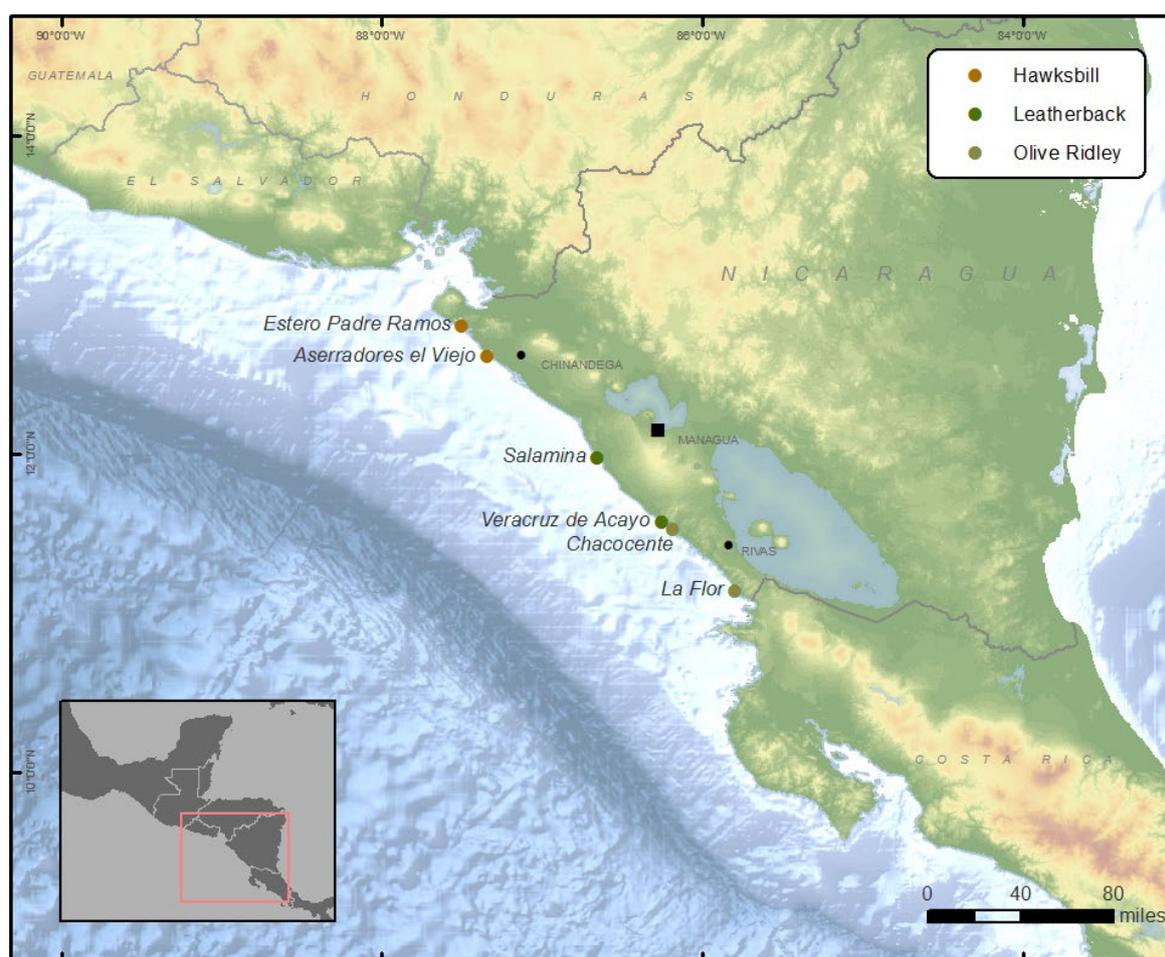
Nicaragua has globally important Pacific turtle populations, including 52% of nesting Eastern Pacific Hawksbill (CR), plus Eastern Pacific Leatherback (CR), Green turtle (EN), and Olive Ridley (VU) (two of eleven mass nesting beaches). Many coastal people, who depend on agriculture and fishing, are poor and are vulnerable to disasters (FAO, 2015), perceive turtles as a source of supplementary income through poaching eggs or killing hawksbills for “tortoiseshell” rather than as a valuable living asset of which they are beneficiaries and custodians. Furthermore, some fishers use methods, especially “blast fishing” with explosives, which kill turtles and damage ecosystems on which turtles and fisheries depend. Turtle nests are being protected through enforcement and incentive payments, but this addresses only one problem and is unsustainable.

Nicaragua has experienced significant and rapid growth in tourism over the past decade, although the industry contracted sharply in 2018 (over the six years to 2015, tourism income increased by 58%, reaching 1.46 million visitors and \$528m; however an 80% year-on-year reduction in tourism levels was reported in January 2019). The tourism sector in Nicaragua has the potential to exacerbate or improve the situation with respect to marine turtles, depending on policies and practices adopted (both previously and as tourism recovers). At project start, hotel construction threatened coastal habitat, businesses marginalised adjacent communities and

some privately owned, tourist-oriented turtle hatcheries used inappropriate methods. Nevertheless, there is time and opportunity for reorientation towards best practice. One constraint is Nicaragua's small pool of relevant scientists and technical experts, who have few opportunities for exchange with peers, notably in Costa Rica where turtle-related tourism delivers substantial economic benefits.

Thus, turtle conservation is partial and dependent on external assistance, while livelihoods are inadequate and unsustainable. Dialogue with coastal communities, scientists and technical experts, and work on participatory marine governance have identified solutions involving improved marine resource-based livelihoods and access to tourism-related opportunities. Engagement of tourism entities has revealed strong interest in strategic positioning of Nicaragua as an ecotourism destination, with communities as partners and turtles as flagship species. The investigation, awareness raised and relationships developed inform this project's strategy and provide the platform for implementation.

The project focusses on the Pacific coast of Nicaragua, with a focus on coastal communities across four administrative coastal departments of Nicaragua (Chinandega, León, Managua, Carazo) near key marine turtle nesting sites, as shown on the map below.



2. Project partnerships

Working in partnership is central to how FFI operates. Through this Darwin Initiative project, we are working collaboratively with a range of people and groups in Nicaragua and internationally – with beneficiary communities, national NGOs, universities and local enterprises, as well as collaborating with international experts. FFI's formal partnerships for the delivery of this project include:

Fundación LIDER: LIDER's role in the project is to support community groups in the north of Nicaragua in developing sustainable coastal livelihoods, including establishing concessions for custodianship of mangroves, sustainable mangrove cockle harvesting and an environmentally

licensed snapper rearing facility. These activities build upon Fundación LIDER's experience in establishing collective enterprises to improve community livelihoods based on sustainable management of natural resources in the department of Chinandega. In August 2018, FFI and LIDER renewed our agreement governing LIDER's role in the project, with a focus on the activities under Year 2 of the project (see Annex 4J); this agreement will be updated and renewed for Year 3. LIDER staff work closely with the FFI project team to plan activities and approaches, monitor progress and adaptively manage the project's approach with target communities in this site. FFI's Specialist in Community Livelihoods works with LIDER to provide continuous technical support to field activities, with FFI's Marine Turtle Programme Manager as our lead liaison with LIDER's Coordinator. Project activities and outputs delivered through our partnership with LIDER have largely progressed well during Y2, expanding the project's support to six community cooperatives linked to artisanal fishing, sustainable mangrove cockle collection and snapper cultivation in the EPR estuary.

National Nicaraguan Tourism Chamber: CANATUR promotes sustainable tourism development in Nicaragua and represents the professional interests of the national tourism enterprises. Under this project, CANATUR is working with FFI to enhance recognition of the value of marine turtles within Nicaragua's tourism industry, national policies and tourism promotion strategies. FFI and CANATUR formalised our collaboration through an agreement signed in February 2018, and in Y2 this agreement was extended to December 2019. During Y2 our collaboration has included work to evaluate hatchery management practices amongst CANATUR members, promote the importance of marine turtles for tourism, and on the economic valuation of marine turtles as a tourism asset in Nicaragua.

Dr. Carolin Lusby, Florida International University: Through the project, Carolin has collaborated with FFI on the design of sustainable tourism training and marketing, and will play a key role in providing advice to tourism industry actors in developing linkages to community-based ecotourism providers and improving the community based products for national and international operators. Carolin is working through a consultancy contract with FFI; however the collapse in tourism in Nicaragua in April 2018 and suspension of all international travel to the country by project staff and consultants until February 2019, meant that this aspect of the project has been largely on hold throughout Y2.

Jose Urteaga, Stanford University: FFI's pre-existing Memorandum of Understanding with Jose Urteaga recognised our mutual desire to collaborate to advance scientific knowledge and practice relating to marine turtle conservation in Nicaragua. Jose is providing technical inputs to guide the design, methods and sustainability of project monitoring, particularly in relation to the investigation of turtle-related knowledge, attitudes and motivations amongst coastal communities in Nicaragua. Jose also has an advisory role on the project steering committee, is supporting the development of national guidelines for the management of hatcheries, and has a key role in facilitating a strategic planning process for the National Sea Turtle Conservation Network. Jose's technical inputs have been formalised through a consultancy contract with FFI for the project duration. A Nicaraguan national, Jose was able to visit the country during Y2 to support project activities as planned and his active role in the project is advancing well, despite the challenging national context.

3. Project progress

The national context in Nicaragua has been highly challenging throughout Year 2 (Y2) of the project, as result of the civil unrest which broke out in April 2018 and the resulting political instability. A detailed summary of the situation, its implications in terms of the project context and impacts on project delivery are provided in Annex 5.

In agreement with the Darwin Secretariat, a process to review and refine the project's logical framework, indicators and assumptions was conducted in June 2018, drawing upon FFI expertise in project design, monitoring and evaluation. FFI's proposed revisions to the logframe did not imply any substantive changes to the project outcome, outputs, or activities, but rather simplified the means by which the project's progress is measured. The revised logframe, as approved by the project Steering Committee, was shared with the Darwin Secretariat in August 2018.

In September 2018, the project team conducted further review of the project's design to ensure that the outputs, indications, assumptions and activities remained appropriate in light of the

political turmoil across Nicaragua and the specific impacts of this changing operating environment on the project (as described in Annex 5). This process concluded that the main impact was to the implementation timetable (i.e. delays to project activities) and did not require a substantive change to the focus or scope of the project.

The combined changes to the project's logical framework were submitted via a Change Request in January 2019 and approved by the Darwin Secretariat in March 2019. We therefore report progress here against the revised logframe.

Whilst the national situation has had multiple significant impacts on project implementation throughout Year 2 of the project, FFI's long term presence, dedicated and qualified project team, and strong local partnerships in Nicaragua have meant that we have been positioned well to adapt and continue to deliver multiple project outputs, as described below.

3.1 Progress in carrying out project Activities

Project Management

The **Project Steering Committee** has met regularly throughout Year 2 to agree workplans, discuss and refine project design, and adaptively manage project activities in the light of project successes, lessons learned and challenges faced. The Steering Committee has five members – FFI Project Lead, FFI Nicaragua Director, FFI Marine Turtle Programme Manager, FFI Specialist in Community Livelihoods and the project's consultant Technical Adviser / Socioeconomic M&E Specialist. The Steering Committee met via conference call (9 meetings via Skype) and in person, in Cambridge (in September 2018) and Managua (March 2019), in addition to multiple meetings of the project team throughout the year.

During Year 2 the Steering Committee led the process of **revising the project's logical framework** (as described above) and updating the project's Monitoring & Evaluation (M&E) framework to align with the logframe revisions (see Annex 4B).

In line with the M&E framework, **baseline socio-economic and perceptions surveys** were conducted by a survey team of 6 researchers and completed in September 2018. Household-level socio-economic data was collected from 260 households (with 800 inhabitants, 47% female), across 21 Pacific coastal communities in three municipalities along the Pacific Coast of Nicaragua. Baseline attitudes and perceptions towards marine turtle conservation and use were collected from 460 people (50% women), across 21 communities. The survey and sampling methods employed have been designed to measure change and therefore project impact, through repeat surveying of individuals - both of project beneficiaries and non-beneficiaries (project beneficiaries: 218 individuals, 127 male and 91 female, across 18 communities, including those identified as potential/expected beneficiaries of the project). Results have been compiled into a detailed 167 page socio-economic baseline report; a 2-page summary in English is provided in Annex 4A.

Output 1. Tourism and development informed by economic valuation of turtles

Activity 1.1 In collaboration with partners from tourism sector (tourism agencies, industry bodies and operators - including CANATUR - governmental authorities, and FIU) and turtle conservation groups, design methodology and implement valuation study into the economic and social-cultural values of Nicaragua's Pacific coast turtles. Share preliminary results with partners for feedback.

In Y1, following discussions with CANATUR and other stakeholders to agree the scope and methods for the valuation study, FFI and partners agreed the need to draw upon external specialist expertise to lead the valuation study in Y2. However, in May 2018, this process and related work with tourism partners was put on hold due to the civil unrest and associated collapse in tourism, which led to many tourism operations temporarily closing down their operations – the Steering Committee decided that it was not the moment to be conducting the interviews, workshops, and financial analysis which underpin this study. In October 2018 the project team reviewed options for taking forward or redesigning this aspect of the project and agreed it remained an essential and pivotal piece of work, and should be undertaken as soon as the operating environment allowed. In February 2019 the project team agreed that the process could be reinitiated, and resumed dialogue with CANATUR to agree next steps. The terms of reference for the work were updated in March (see Annex 4C). FFI, CANATUR and the Research

Department of its Centre for Tourism Business Development (CDETuR) reached out to a range of specialists for this study and have built a project team including a Specialist in Environmental Economics, a Specialist in Rural Ecotourism and Biodiversity and the Founder/Director of CDETuR and Adviser to the Nicaraguan Senior Council of Private Enterprise. The contractual processes is underway - using cofinance secured by FFI - with work due to start in Q1 of Y3.

Activity 1.2 In collaboration with tourism and turtle conservation partners, develop communications plan for the dissemination of key information from the study to target audiences (decision makers, tourism sector, coastal communities). Contract the design and production of appropriate and agreed communications materials.

Originally scheduled for Y2, this activity is now scheduled for Y3 due to the delay described under Activity 1.1.

Activity 1.3 Share finalised report and disseminate communications materials amongst tourism and turtle conservation partners, other stakeholders and target audiences (including coastal municipal authorities, MARENA, leaders from target coastal communities, media agencies) and monitor impact.

Originally scheduled for Y2, this activity is now scheduled for Y3 due to the delay described under Activity 1.1.

Activity 1.4 Engage with government authorities to inform relevant development policy formulation and planning processes in order to promote the integration of the conservation of turtles and their coastal/marine habitats into these national instruments.

Throughout Y2, authorities have been focused upon issues of national and domestic security. Since September 2018, FFI's new Country Director for Nicaragua has strengthened efforts to share project information and seek meetings with officials from the Ministry of Environment (MARENA) and other government departments. However, FFI has not been able to secure the anticipated level of engagement with government institutions over the last year (see Annex 5 for more detail). A new Minister is expected in MARENA in May 2019 and, led by our Country Director, FFI will continue to seek collaboration with decision makers through all available channels.

Activity 1.5 Collaborate with FIU, tourism chambers/associations, municipal authorities and communities to assess existing turtle/marine tourism near project locations and identify i) potential improvements to existing initiatives, ii) potential new community-based initiatives and iii) potential links between local product providers, national operators and international supply chains.

In collaboration with CANATUR, FFI has identified 30 coastal sites with turtle conservation activities and/or hatcheries linked to tourism along the Pacific coast of Nicaragua. These include 26 coastal hotels or resorts (15 members of CANATUR), three of which already have strong links with community-based tourism; plus four sites where community-based tourism initiatives are being supported by NGOs (including FFI) or authorities. Each site is being surveyed to evaluate current conservation activities, existing tourism services or 'packages', existing and potential coordination with local community members, market niches and opportunities. However, at the start of Y2 the surveys were disrupted by the collapse in tourism and the temporary closure of some tourism enterprises; they will now continue into Y3. Findings from these primary surveys will be triangulated with existing knowledge or analyses of the demand for community-based tourism (e.g. a 2016 study in the Chacocente area into the demand for local tourism products amongst tour operators, led by GTZ) and industry projections for recovery in this sector.

Activity 1.6 In collaboration with FIU, facilitate a workshop to assist CANATUR and governmental authorities to develop a strategy to package and promote community-based turtle/marine tourism initiatives in specific markets. Support delivery of strategy where appropriate, for example in developing links between local product providers and national / international operators and in guiding tourism product plans so that they follow technical, environmental and social good practice and strengthen links between livelihoods and custodianship of turtles and their habitat.

Originally scheduled for Y2, this strategy development workshop with CANATUR and related follow up was postponed, due to the collapse in tourism across Nicaragua in 2018, which

impacted the ability of (both local and international) stakeholders to attend and the activity's relevance at that time. Nevertheless, as tourism visitation recovers, work to promote community-based turtle/marine tourism initiatives is highly relevant and the project team began discussions with stakeholders regarding the scope and scheduling of this in Y3.

Activity 1.7 Share lessons learned from the project through two publications; one technical report in English and a more popular publication in Spanish.

FFI produced a learning document reflecting on the successes, challenges and learning from the *Weaving for Nature* initiative (see Activity 3.2). This publication (see <https://api.fauna-flora.org/wp-content/uploads/2019/05/FFI2019Weaving-for-Nature.pdf>) shares our experience with other initiatives that aim to tackle marine plastic pollution through developing sustainable livelihoods based on the use of plastic waste (see Annex 4M).

Further learning documents arising from the project are scheduled to be compiled in Y4, as per Project Implementation Timetable.

Output 2. Nicaragua's technical capacity relevant to turtles increased.

Activity 2.1 Through links with universities in Nicaragua, support undergraduate and graduate students to undertake research projects or internships on turtles, marine/coastal conservation, community-based ecotourism, sustainable livelihoods and socio-economic issues, either as part of their studies or to gain experience after graduating. Track their post-internship professional development.

FFI has deepened our collaboration with the National Autonomous University of León (UNAN-León) and Fundación LIDER in the supervision of undergraduate and post-graduate theses on marine turtles, marine natural resource management and conservation livelihoods. In August 2018 our collaboration was formalised through a tripartite agreement (Annex 4D), focused on supporting research projects which will inform good management of natural resources in the Estero Padre Ramos Natural Reserve (EPR) for the benefit of communities and the marine environment. The agreement included a commitment to ensure that at least 50% of the students offered and undertaking these research projects would be female and to prioritise the involvement of students from the Department of Chinandega.

During Year 2, four thesis projects were supported; two undergraduate projects (undertaken by one female and one male student) and two Masters projects (undertaken by one female and one male student). Their research focussed on topics relating to monitoring biodiversity and water quality in eight sites across the Padre Ramos Estuary, studying the relationships between physio-chemical parameters (temperature, turbidity, levels of dissolved oxygen, salts and metabolites, including ammonia, nitrates and phosphates), fish distribution/abundance/ seasonality and phytoplanktonic dynamics (such as algal blooms). Data collection began in October 2018. For undergraduate projects, data was collected for 6 months; for Masters projects, 12 months of data is required; the students will be ready to defend their undergraduate theses in May 2019 and Masters theses in August 2019. This body of work is contributing to our biological monitoring of the estuary, with emphasis on the locations and ecological impacts of the snapper rearing facilities supported under Activity 3.4.

FFI is tracking post-internship professional development of previous alumni; of the six graduates who undertook research placements undertaken in Y1, three are employed full-time on marine turtle conservation projects and one has created a new community group focused on environmental education in Nicaragua.

Activity 2.2 Through partnership with FIU, develop and deliver a module on coastal community-based ecotourism, including a field trip to observe turtle tourism and low-impact coastal development - to inform and influence current and future professionals in tourism, coastal development, municipal planning, and natural and social sciences. Deliver the module at least three times; incorporate into at least one university course covering sustainable tourism (UAM) and adapt for delivery as a stand-alone course for key professionals. Monitor subsequent use of knowledge and skills.

As previously reported, the first cohort of students from the Universidad Americana in Managua (UAM) undertook the module on community-based ecotourism in Y1, however their subsequent field visit to EPR, scheduled for May 2018, was cancelled due to acute security concerns. FFI and FIU had to postpone the replication of this training planned for Y2 - for both students and professionals in tourism and related sectors - due to the impact of the national context on tourism across Nicaragua, the closure of Nicaraguan universities, and FCO advisories against all but essential travel to Nicaragua which remained in place until February 2019. Nevertheless, based upon course feedback from Y1, FIU has worked to refine and format the training materials and translate them into Spanish, for use in future iterations of the training. In January 2019, FFI and FIU agreed that the next iteration of this training would be scheduled in Year 3 and, with the lifting of the travel advisories in February 2019, plans for this are underway, with course dates and participant lists under discussion.

In line with the Change Request approved in March 2019, Y2 budget for this activity was reallocated to the promotion of community ecotourism through the Nicaragua Azul marine museum initiative. Nicaragua Azul (or "Blue Nicaragua") is an itinerant museum of marine biodiversity in Nicaragua, which aims to educate and inform all Nicaraguans about the country's marine wealth, its threats and its conservation - in line with the philosophy that "...we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught" (Baba Dioum, 1968). The exhibition has a modular structure, with detachable information panels containing high quality images and interpretation, as well as hand-on exhibits. The museum was initially designed and launched in 2017, with support from international partners (including FFI) and private enterprise; however the exhibition was not showcased in 2018 due to the outbreak of civil unrest in April 2018 and the end of its initial funding.

Recognising the value of this high quality resource in building knowledge and understanding amongst multiple sectors across Nicaragua, FFI proposed that the project supported its installation at a semi-permanent site in Managua, combined with a launch event for the tourism sector and coastal community stakeholders. Two alternative venues were considered for the installation of the Museum; a site on the Universal School Pierre & Marie Curie and a site owned by the Universidad Centro Americana (UCA). The site at the Universal School - a trilingual school in Managua which focuses on the Sciences - was agreed to be most appropriate in terms of its accessibility to the general public and the security of the site. Following due checks on the panels, electrical system and logistics, installation began immediately on approval of this change in March 2019. A launch event for the museum in its new location has been planned for Saturday 8 June 2019 to coincide with World Oceans Day. Students, members of CANATUR, decision makers and other stakeholders are being invited to the event, and a press conference will be held. The museum will be opened to the public on 11 June; the project team has already begun work to arrange visits to the museum, reaching out to schools across the Pacific of Nicaragua, as well as to universities, NGOs, CANATUR and tourism stakeholders, decision makers, amongst others (see www.nicaraguazul.com and www.facebook.com/nicaraguazul/).

Activity 2.3 In consultation with NTCN members, authorities and tourism stakeholders, develop best practice guidelines (including technical, environmental and social responsibility considerations) for the management of turtle hatcheries linked to coastal tourism enterprises. Disseminate the guidelines and provide training to managers and staff of turtle hatchery/tourism initiatives in their implementation.

Interlinking with Activity 1.5, FFI has identified 30 coastal sites with turtle conservation activities and/or hatcheries linked to tourism along the Pacific coast of Nicaragua. Each hatchery initiative is being characterised through a detailed survey (Annex 4F) to establish nesting levels/species, current hatchery management techniques, beach monitoring effort, and coordination with local communities. Where needed, surveys have been used as an opportunity to get stakeholders 'on board' regarding the process of developing and rolling out the best practice guidelines.

The best practice guidelines for the management of turtle hatcheries linked to coastal tourism enterprises are being informed by a scientific evaluation of different incubation techniques. This study began in Y1 and was needed to ascertain whether incubation in sacks of sand, which the project team had observed being used by some touristic enterprises along the Pacific coast, could generate comparable hatching success rates to standard incubation methods, where nests are protected *in situ* or re-buried at a set depth in a controlled hatchery site on the beach - to

ensure that the guidelines are locally appropriate and scientifically valid. This has not previously been studied empirically. The design of the research methods and statistical analysis to compare eight variables relating to hatching success (including rate of abnormalities observed), hatchling weight and fitness, temperature fluctuations within the nests and incubation period, has been supported by Stamford's Jose Urteaga. In Y2 the study team collected a second season of olive ridley hatching data from two study sites (Veracruz de Acayo beach in the Chacocente Wildlife Refuge and Isla Juan Venado Natural Reserve) across the different study conditions – i.e. incubation in 100 litre sacks, 200 litre sacks, versus hatchery incubation. The results of this study indicated that nest temperatures in both sack conditions showed greater variability than nests incubated in the 'floor' of the beach, which is known to increase stress on the embryo during development and affect sex ratios (higher nest temperatures lead to higher proportions of female hatchlings, a trend which is already being observed in turtle populations at multiple sites around the globe due to climate effects). Whilst variations in hatching success were recorded, these were not statistically significant; however the analysis showed a significant reduction in activity level (crawling speed) on emergence from the sacks, which may be associated with decreased 'fitness' and therefore ultimate survival rates of these hatchlings. Accordingly the research supports the use of 'traditional' hatchery incubation techniques as best practice, with incubation in the larger 200 litre sacks preferable to smaller 100 litre sacks. Research findings were shared through a poster presentation at the International Sea Turtle Symposium in Charleston, USA, in February 2019.

FFI, in collaboration with Jose Urteaga, has progressed in drafting best practice guidelines on two topics; i) national guidelines for the management of turtle hatcheries, and ii) national guidelines for tourist visitation to turtle nesting beaches. The draft guidelines have drawn upon the literature review of existing manuals and guidance (undertaken in Y1), relevant research (including the study described above) and consultation meetings with turtle conservation actors (1 meeting) and national tourism stakeholders (1 meeting) initiated in Q4. Two training / consultation workshops have been scheduled for June 2019, when each set of draft guidelines will be presented and discussed in detail with stakeholders, including members of NTCN and CANATUR, with feedback invited to inform their finalisation. After this, further dissemination and training for the managers and staff of coastal hatchery/tourism initiatives will be supported.

Activity 2.4 Facilitate and support strategic development of the NTCN. Provide ongoing support to NTCN members, helping them to organise collective statements and action on issues affecting turtles, facilitate data sharing, provide expert services to communities, authorities and the private sector, connect with regional peers and raise funds.

Key members of the current NTCN Board of Directors left Nicaragua in 2018 and are residing overseas, making it unfeasible to convene the strategic planning workshops and meetings to select a new Board planned for Y2 (as agreed amongst NTCN members in Y1). Nevertheless, FFI's efforts to facilitate communications between all stakeholders engaged in turtle conservation initiatives in Nicaragua (including NTCN members), via the 'Tortugeros Nicaragua' WhatsApp group, and to encourage new members to become more active in national level collaboration and discussion, has proved highly successful. 'Tortugeros Nicaragua' currently has 31 active members, regularly sharing information on nesting and hatching during the season, scientific reports and meetings, and wide ranging discussion of issues occurring on nesting beaches nationally and from Mexico, Costa Rica and El Salvador (2,660 messages since the group's creation in 2017). This group is promoting a sense of community between beach patrollers, field biologists and academics working on turtle conservation issues, and we see this collaboration and motivation as vital to securing the next phase of the NTCN's development and to facilitating collective action on issues affecting turtles. With the security situation now calmer and international travel resuming, the project team put forward a proposal to the NTCN to convene a strategic planning meeting in July 2019, facilitated by Jose Urteaga and FFI turtle programme staff.

Activity 2.5 Organise a study visit to Costa Rica for tourism and conservation professionals, representatives of CANATUR and community members to learn from examples of sustainable turtle tourism and community-based ecotourism from peers and stakeholders in that country.

Scheduled to take place in Y4, as per Project Implementation Timetable.

Output 3. Coastal community members have skills and opportunities to engage in sustainable livelihoods.

Activity 3.1 Conduct a capacity and training needs assessment for women and men from target coastal communities (including for seasonally-employed turtle beach patrollers, to identify opportunities to improve their off-season livelihoods and therefore the value and security of being a turtle patrol professional). Based upon this assessment, develop tailored training plans for target groups across a variety of sectors (including nature-based tourism service providers and sustainable fisheries).

Building on the capacity and training needs assessments conducted in Y1, the focus in Y2 has been to develop or refine training plans for key groups of target beneficiaries. For example:

Women weavers from the *Weaving for Nature* cooperatives at Astillero, near Chacocente (25 women from 2 communities), and El Tintal, near Estero Padre Ramos (22 women from 3 communities). The two groups have very different training and support needs, as the group at El Tintal have recently re-established and require significant technical and organisational support - for the majority of these women, both the weaving skills and being part of an organised group are new.

Chacocente Community Tourism/Honey Cooperative (33 members); this cooperative was formed in 2008 through a merger of two smaller cooperatives and is currently active and strong, with new younger members of the community recently elected to the Board. However, the cooperative suffered a difficult year in 2018 both in terms of the provision of tourism services linked to the Chacocente Visitor Centre (due to the collapse in tourism visitation to the area) and honey production (attributed to low rainfall, leading to forest trees and plants producing fewer flowers, and the flowers containing less nectar). In response, the project team met with 18 members of the Cooperative in March 2019 to initiate a new SWOT analysis and update their capacity building / training plan (e.g. for honey, this will encompass actions to enable the group to analyse national demand for their organic forest-friendly premium and develop market linkages) - this process is ongoing.

Local tourism service providers in Estero Padre Ramos; the group of Community Tourism Guides in EPR have not been active since April 2018; however in Y2 FFI has worked with a small group of fishers providing boat transportation services to identify their training and resource needs (ranging from more life-jackets to improving their skills in communicating with and attending to tourists) and to support them in developing a plan to address these needs.

Activity 3.2 Provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and service provision opportunities related to coastal tourism, especially those benefitting women and vulnerable groups. Target groups include; women weavers using waste plastic bags as raw material, tourism guides, honey producers who also receive tourists, a cooperative operating a turtle hatchery. Areas of training and support include; hospitality and visitor services, catering, guiding, product innovation/improvement (including development of trails and circuits, handicrafts) use of the Chacocente Visitor Centre, cooperative establishment, business plan development, financial management, marketing.

In the light of the collapse in tourism visitation across Nicaragua during 2018, we are working with target beneficiary groups linked to coastal tourism to evaluate current and future market potential and opportunities, and to identify and focus on actions to facilitate readiness for when coastal tourism recovers.

During Y2 the project has continued its focus on providing skills training and SME development support for the *Weaving for Nature* group in El Tintal, near Estero Padre Ramos. Building on progress in Y1, FFI has supported the group to develop their own Code of Conduct (to outline the group's values, requirements regarding use of plastic waste and quality standards) (Annex 4M) and internal regulations (including criteria for membership, which include the commitment to be an active member, to comply with the rules, and to engage in additional activities in support of conservation). FFI has facilitated a series of training workshops for this group (7 workshops, with an average of 20 female participants per workshop) on entrepreneurship, organisational

processes, group identity, basic administration skills, price calculations (cost of production, profit margins), technical skills, and links to conservation.

The project also facilitated a learning exchange visit for the El Tintal group of weavers to visit the more established *Weaving for Nature* group in Astillero in January 2019 (44 participants). The women shared their stories of how they have to juggle household chores and childcare with their weaving, and how they have benefitted from getting to know each other better – previously young women in particular often felt a bit isolated at home, rarely meeting with other women in the community or neighbouring communities. The women from El Tintal received technical training on weaving processes and designs from the Astillero group, and the two groups agreed to undertake joint marketing of their products once the El Tintal group's standard is high enough. This exchange trip has proved instrumental in motivating the Weaving for Nature members from El Tintal, as well as helping them improve their skills.

In addition to support provided through Activities 3.3 - 3.5, FFI has provided targeted support to a small group of fishers (3 men) providing boat transportation services in EPR, for tourists, conservation/research teams and local people. So far the project has helped them to develop a plan for the provision of different services and trips, a rota to coordinate and schedule their fishing activities around the daily provision of transport services, training in attending to tourists, and an agreement to work together in the maintenance of their boats.

Activity 3.3 Support development of a volunteer-tourism enterprise at EPR, in line with a business plan which ensure a strong community role in decision-making, service provision and economic benefits.

The volunteer tourism initiative at EPR was established pre-project as a platform for long-term financial sustainability of hawksbill conservation programs at this site. Since 2017 FFI has worked in collaboration with nascent social enterprise, SOS Nicaragua, to develop and manage this voluntourism initiative. A fully costed business plan, previously developed with support from FFI's Conservation Finance & Enterprise team, has provided a roadmap for the initiative's development into a viable enterprise generating community and conservation benefits.

Throughout Y1 and Y2, FFI has supported SOS Nicaragua to strengthen community engagement in the initiative as local service providers, and in the enterprise's activities and management. Examples include; employing local people as cooks for the 'volunteer house' (3 women), for boat transportation in the estuary (3 men) and as community tour guides (7 men). In addition, the women weavers from El Tintal provide weaving workshops at the 'volunteer house', demonstrating their weaving methods and products, and giving visitors the opportunity to have a go at weaving themselves.

Whilst this initiative has the potential to generate significant community and conservation benefits, including funds to support local incentives for turtle conservation at EPR, significant challenges remain in realising this funding flow, not least those posed by the recent political instability and collapse in tourism. In Y2, there was a 80% reduction in the number of visitors received by SOS Nicaragua (236 visitors in 2017, comprising of 22 long-stay volunteers, 145 members of short-stay groups and 69 visitors on organized tours. 61 visitors in 2018, comprising of 12 long-stay volunteers, 16 members of short-stay groups and 33 visitors on organized tours) resulting in a 40% reduction in total revenue generated. Accordingly, in June and July 2018, FFI helped update the initiative's financial projections and business plan in the light of the significantly decreased tourism numbers and provided logistical support throughout the year (see Annex 4L).

Activity 3.4 Through partnership with Fundación LIDER, provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and livelihood opportunities related to sustainable fisheries, especially those benefitting women and vulnerable groups.

The project is working to transform livelihood dependencies in EPR away from the illegal harvesting of marine turtle eggs and the use of destructive fishing practices (including illegal blast fishing), toward economic opportunities compatible with conservation. FFI's broader research programme confirms that the estuary and its tributaries provide an important year-round nursery ground for juvenile hawksbill turtles. By facilitating cockle collectors and fishers to form co-operatives and secure concession licences to sustainably cultivate mangrove cockles and red snapper, these groups are motivated to protect the surrounding mangrove and estuarine habitats.

Cooperative development and capacity building

Through FFI's partnership with Fundación LIDER, the project is working to support six community cooperatives linked to artisanal fishing, sustainable mangrove cockle collection and snapper cultivation in the EPR estuary - involving a total of 38 women and 49 men. The six cooperatives are: *Cooperativa Pesquera Abraham Moreno R.L.* (COOPAM) has 15 members (4 women) from the community of Venecia, who are all engaged in artisanal fishing and/or supporting the conservation of marine turtles through FFI's EPR hawksbill conservation project. *Cooperativa Pesquera Agradecidos con Dios R.L.* (COOPADI) has 15 members (6 women) from the community of Padre Ramos, who are mainly engaged in artisanal fishing and/or supporting the conservation of marine turtles through FFI's EPR hawksbill conservation project. *Cooperativa de Pescadores y Concheros Artesanales Luz del Mar del Tintal R.L.* (COOPALMAR), has 12 members (5 women) from the community of El Tintal. *Cooperativa Amigos de Pescadores y Concheros Poza de la Vaca R.L.* (CCOPEVA) has 15 members (5 women) from the community of Poza de la Vaca, who are mainly engaged in harvesting mangrove cockles. In Y2 the project also began supporting the *Cooperativa de Pescadores y Concheros Artesanales Marcelino Méndez R.L.* (COMENDEZ) and *Cooperativa de Pescadores y Concheros Artesanales Gregorio López R.L.* (COLOPEZ) in securing and managing mangrove cockle concessions.

In Y2, certification documents for COOPAM and COOPADI - the two cooperatives which were established in Y1 - were granted by the relevant government Ministry (the 'Ministry of Family, Community, Cooperatives & Associative Economy' - MEFFCA). This certifies the composition of the Board, the members of the cooperative and its opening financial accounts. The two cooperatives' Boards held Extraordinary Meetings to approve the granting of powers to their Board of Directors, as necessary to comply with the law. Co-finance secured by LIDER has enabled them to support similar Extraordinary Meetings for two further fishing/cockle cooperatives in EPR - COMENDEZ and COLOPEZ. MEFFCA, in line with its national remit, will play an ongoing role in supporting the cooperatives, ensuring their Boards comply with annual requirements.

During Y2, Fundación LIDER facilitated a series of capacity building workshops for members of the six cooperatives, focused on organisational development, compliance and management. The following workshops have been delivered: project planning and coordination (2 workshops in September 2018, 32/40 participants, 12/19 female, 20/21 male); organisational governance and management, including processes for documenting official minutes of Board meetings and for benefit sharing (by law, any profit has to be shared equally amongst members, not according to effort/inputs by each member) (1 workshop in October 2018, 26 participants, 13 female, 13 male); environmental permits and concessions (1 workshop in October 2018, 39 participants, 17 female, 22 male); development of gender policies and strategies to promote greater participation of women in cooperative management and activities (2 workshops in November 2018, 29 participants, 7 female, 21 male).

Progress in carrying out livelihood activities with the target community groups follows:

Activity 3.4a Assist at least four community groups in EPR to establish concessions for custodianship of mangroves and sustainable collection and cultivation of mangrove cockle (*Anadara similis*), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawksbill habitat and providing income. Support the cooperatives to set up a plant for processing and purifying cockles, which adds substantial value.

With support from Fundación LIDER, five cooperatives have been awarded concession licences by the relevant authorities (MARENA and INPESCA) for the co-management of mangrove areas in EPR and the cultivation and sustainable harvesting of mangrove cockles in these sites (three concessions were granted to COOPALMAR, CCOPEVA and COOPAM in Y1 and two more were granted to COMENDEZ and COLOPEZ in Y2). In total, the concessions cover 43.2 hectares of mangroves within the Padre Ramos estuary. The corresponding permits and commercial licences allow for the production of up to 12,000 cockles per year, for each cooperative. Collection of mangrove cockles in EPR is a family activity involving both women and men, year-

round. In Y2, LIDER has continued to support the cooperatives to mark the limits of their concession areas through the installation of a total of 42 signs (designed in line with MARENA regulations for signage within protected areas). MARENA also approved the construction of a floating platform to aid the management and monitoring of the concession sites; this is being constructed by members of COOPAM and will be ready for use in the 2019 production cycle.

LIDER is collaborating with UNAN-León on a study of mangrove cockles in cultivated and non-cultivated sites, to inform sustainable harvesting levels. Three protocols have been agreed with UNAN-León, with respect to mangrove cockle population densities and composition (i.e. percentages of pre-juveniles, juveniles and adults), and to compare the concession sites to other areas in the Reserve.

Fundación LIDER has supported the cooperatives in mangrove reforestation efforts. In coordination with MARENA, red mangrove seeds for propagation were collected from large mangrove areas of the nearby Reserva Delta Estero Real. In March 2019, 72 members of the six cooperatives (including 30 women) took part, planting a total of 32,500 seedlings across 6 hectares in three mangrove areas identified as priorities for reforestation – in line with MARENA’s vulnerability map and confirmed as UNAN-León as having favourable water conditions.

Activity 3.4b Assist at least one community group in EPR to establish a snapper rearing facility, with attention to both ecological and social costs and benefits, and conduct monitoring as per environmental permits. This follows a model already proven in the EPR and will provide income to individuals who have changed from destructive practices (former egg poachers and blast fishers).

The project is now working with four cooperatives in the rearing of snapper; COOPAM, COOPADI, COOPALMAR and COPEVA (three of these cooperatives are also engaged in cultivation and harvesting of cockles). Fundación LIDER is supporting the cooperatives throughout the productive cycle - in the production of fingerlings, the management of floating cages for rearing the snapper to commercial size, the artisanal production of high protein fish-food, monitoring of water quality, and marketing of their product. Drawing on LIDER’s expertise, each stage in the process is being evaluated and refined, in order to ensure the ecological and financial sustainability of the initiative. UNAN-León are collaborating with the project, providing technical advice and research on issues such as cage capacity, growth rates and optimal environmental conditions.

The training modules developed by Fundación LIDER in Y1 in snapper fisheries management and artisanal production of high protein fish-food by were delivered, between April and August 2018, to 53 cooperative members (23 women) from 4 communities. During Y2, LIDER also worked with UNAN-León to develop a third training module in water quality monitoring for cooperative members. The training incorporated both theory and practical sessions, which can be shared fisher-to fisher, and LIDER have supported the creation of a network of ‘promoters’ from the cooperatives with the capacity to share their knowledge.

Production of fingerlings: The Marine Studies Laboratory in UNAN-León has facilities to rear snapper fingerlings, and in Y1 the cooperatives procured fingerlings to stock their cages from this facility. However, production was halted when the University closed during the political crisis. During the 2018 productive cycle, the cooperatives therefore resorted to sourcing (under-sized) snapper to grow on in the floating cages (at an average cost of C\$4 or U\$0.12 per fingerling/juvenile). This was costly for the cooperatives, made it difficult to fill the cages to capacity, imposes stress on the fish during transportation, and raises questions of ecological sustainability. FFI and LIDER are closely monitoring this situation, which is likely to continue into the 2019 production cycle, as there are obvious concerns about the impact on wild populations of snapper. We are therefore supporting the cooperatives to trial approaches to increase wild snapper populations in the estuary and coastal areas, such as the release of 5% of 7cm fingerlings into the estuary and by improving spawning by holding schools of captive breeding males (20-50 males at 7 sites). In January 2019, COOPAM passed 17 breeding males to UNAN-León’s Marine Studies Laboratory and we anticipate the supply of fingerlings to resume next year.

Snapper rearing: For the 2018 season (May 2018 to February 2019), two snapper rearing cages (5m x 5m x 4.5m or 112.5m³), with capacity to rear 5,000 fish, were constructed with each

cooperative (eight in total) and put into operation. Cooperative members take it in turn to look after the cages 24 hours/day throughout the productive cycle to feed the fish, ensure the cages are clean and to prevent theft. Both men and women guard the cages, although women tend to guard in pairs whereas men do it individually, with women reporting childcare as an issue for them as children are not permitted on the floating cages due to the danger of strong currents. The fish are fattened until they pass the minimum legal weight and reach commercial size (1lb 2oz).

The four cooperatives produced between 5,260 and 9,218 snapper during the 2018 productive cycle (31,142 snapper in total). However, as a result of the intense rains experienced in tropical storms in September/October 2018, the juvenile snapper from four cages in sites most vulnerable to water turbidity and desalination died (estimated value of this loss ~\$10,000 USD). LIDER has worked with the two affected cooperatives (COOPALMAR and COOPADI) to relocate the facilities for the 2019 season to less vulnerable sites.

Production of fish-food: Fundación LIDER are supporting the cooperatives in the production of high protein fish-food, using waste from nearby commercial shrimp farms (shrimp-heads) located on the edge of the EPR protected area. LIDER has worked with the cooperatives to secure the necessary permits from MARENA; the vision being that one of the cooperatives will become the leader in transforming the raw material, which is ground into 'flour' then made into pellets, for sale to the other cooperatives.

Monitoring of water quality: Initial results from the monitoring of water quality (supported through Activity 2.1) indicate that the estuarine water quality conditions at the monitored sites throughout EPR are within optimal ranges for aquaculture and biodiversity. Furthermore, the monitoring of water quality at the floating cages indicates that, at current levels, the concentration of snapper has no significant impact on water quality measures. All results of this ongoing research will be shared with the relevant authorities, including MARENA and INPESCA.

Marketing: Market demand for snapper is high. Buyers purchase directly from the cooperatives, mainly for the local and national market. LIDER is providing support to the cooperatives in negotiating a fair price.

Activity 3.4c Support fishers from four communities who have committed to responsible fishing practices and are championing locally the elimination of blast fishing and other illegal practices harmful to turtles. Areas of training and support include; improved fish handling and storage, negotiation skills, access to higher value markets, promotion to hotels based on commitment to conservation, business plan development. This extends an FFI initiative on Nicaragua's southern Pacific coast, where blast fishing is less prevalent, which generated increased income while tackling threats to both turtles and fisheries.

FFI is supporting work to inform and engage artisanal fishers, from fleets at Astillero (near Chacocente) and those near the Padre Ramos and Aserradores estuaries, to strengthen their understanding of fisheries legislation - specifically the content of Chapter 5 of Fisheries and Aquaculture Law 498, which deals exclusively with artisanal fisheries, and the 12 articles of the Code of Conduct for Responsible Fishing - and improve fisheries management. In Y2, FFI secured cofinance for work to reduce turtle bycatch by reducing destructive fishing and promoting responsible fishing practices in Chinandega department. In August and September 2018, FFI delivered four co-financed workshops for artisanal fishers from Aserradores (25 participants) and Padre Ramos (46 participants) to improve knowledge of national fishing regulations and the co-benefits (for people, fish stocks and other wildlife) of responsible fishing practices.

Towards the end of Y2, the project team began working with fishers from Chinandega on a study to evaluate both national and international markets for sustainably caught fish (including snapper reared in captivity). The initial feasibility analysis indicates that there may be potential for the cooperatives from EPR to feed into the snapper export market to El Salvador, with higher prices paid for high quality product at an increased size (1lb 11oz or above) - Fundación LIDER and INPESCA are interested in supporting the cooperatives to explore this possibility.

Activity 3.5 Support the development of linkages and equitable relationships that deliver livelihood benefits for coastal communities, through the facilitation of dialogue between target community groups and businesses to identify opportunities and barriers to

cooperation. Support participatory development of market systems to strengthen market linkages for groups from two sectors; nature-based coastal tourism service providers and fishers who have committed to responsible fishing practices from the northern Pacific of Nicaragua.

In Y1, the project began working with a specialist in Participatory Market Systems Development (PMSD). Due to the national insecurity, PMSD training and workshops with market actors scheduled for June 2018 were postponed until September 2018, when refresher training was provided for the FFI team. In September, the PMSD Specialist facilitated a market systems selection process across both nature-based tourism and sustainable fisheries sectors, identifying the areas where this approach would strengthen market linkages and economic benefits for target groups. In the light of the downturn in the tourism sector, the project is currently focusing on using a PMSD approach to improve fisheries-related livelihoods strategies, strengthening the incentives for coastal communities to manage their fisheries sustainably and commit to wider marine conservation. The team have begun working on the market for snapper in Chinandega, with continued support from the PMSD specialist in guiding the roles of NGOs (i.e. Fundación LIDER and FFI) versus market actors. In Y3 the team will continue the process, with participatory market mapping and action planning workshops scheduled for May and June with Lider, cooperative members and other market actors for snapper, and will broaden this work to include wild caught fisheries in multiple fisher communities we are working with along other areas of the Pacific coast. Through these processes we are strengthening the links between our support to cooperatives engaged in project-promoted mariculture and their commitments to sustainable fisheries and biodiversity conservation, supporting targeted interventions for coastal community stakeholders that can generate systemic change.

Output 4. Protection status of one critical area of turtle habitat enhanced

Activity 4.1 Seek legal counsel to analyse the viability of alternative legal instruments for securing the property at Punta Venecia for conservation. Convene meetings with the private 'landowner' (legally it is a lease from the municipality, as this is coastal property) to discuss the options and review alternative contractual arrangements, together with the municipal authorities and the local Hawksbill Committee as appropriate. Negotiate a multi-party agreement to ensure long-term security of this critically important habitat, while providing satisfactory outcomes for the landowner, the neighbouring EPR communities and the municipality.

In April 2018, the three alternative legal options for securing the long-term protection of the property at Punta Venecia proposals were shared with the landowner and reviewed internally by FFI's senior management and legal counsel in the UK. As previously reported, the alternatives are; 1) a 'comodato' contract, which is effectively an 25 to 90 year extension of the existing rent-free loan arrangement; 2) a multiparty covenant over the land which includes the municipal government, thereby making explicit the authorities' commitment to securing the site for turtle conservation; and 3) a legal document passing the rights over, and fiscal obligations for, the land to FFI or other environmental institution (this being the strongest legal tool, as it includes provision that the land must be dedicated to conservation and cannot be sold on).

However, the proposed meeting between FFI, the landowner and the lawyer to discuss these options and agree next steps, coincided with the start of the civil unrest and was put on hold. Soon after, the landowner left Nicaragua and did not return until March 2019. On his return, FFI successfully and rapidly reopened our dialogue and a meeting took place on 28 March 2019 between FFI, the landowner and his son, and our Nicaraguan attorney with expertise in environmental law (who has been on a written retainer agreement regarding the finalisation of these contracts once agreement is reached). The meeting went well and the follow up meeting with the municipal authorities of El Viejo was scheduled for 29 April 2019.

Activity 4.2 Invest in those elements of the agreement package which align with the central themes of this project, including building local capacity for the management of an upgraded centre for conservation and volunteer tourism, hiring legal services for drafting agreements, and providing support for enterprise development necessary to implement the agreement.

This activity will follow the agreement reached in Activity 4.1

3.2 Progress towards project Outputs

All project indicators were reviewed during the logframe revision process which took place during Y2 and are therefore considered appropriate to measure project progress.

Output 1. Policies, plans, marketing and practice of tourism and associated coastal development are informed by an economic valuation of turtles as a tourism asset and increased knowledge about their conservation.

Indicator 1.1 No. of tourism and coastal development policies, plans and strategic decisions which refer to the economic value of living turtles and demonstrate knowledge of best practices for conservation and community benefit (target: at least 5 by End of Project 'EOP').

- Potential policies identified where project can generate and promote policy recommendations. Integration of economic values of living turtles anticipated from Y3 onwards, following completion of the valuation study.

Indicator 1.2 % of CANATUR members who have expanded coverage of community-based turtle tourism initiatives in their national and international marketing of Nicaragua (target: 5% by March 2020; 10% by EOP).

- Of the >100 members of CANATUR (82 direct tourism business partners, 12 tourism associations and 17 territorial chapters that promote the small and medium-sized entrepreneurs that make up their large social enterprise base), 3% were marketing turtle tourism products at project baseline. Survey of CANATUR members to evaluate current and potential turtle-related tourism marketing is scheduled for Y3 and will be repeated at EOP.

Indicator 1.3 No. of community-based turtle tourism initiatives being marketed nationally or internationally by CANATUR members (target: 5 by March 2020, 12 by EOP).

- At project baseline, one community-based turtle tourism initiative in Nicaragua was being marketed at a national and international level. Survey of CANATUR members to assess change in this measure is scheduled for Y3 and will be repeated at EOP.

Output 2. Nicaragua's technical capacity relevant to turtles, hatchery management, coastal/marine ecosystems and low impact coastal development practices is increased, through training in these disciplines and strengthening of national and regional networks.

Indicator 2.1 No. of graduates/undergraduates who complete fieldwork research projects in coastal areas (target 24 students; 6 per year x four years, at least 40% women).

- In Y1, six students (all graduates) undertook placements (67% female). In Y2, four student (two graduates, two undergraduates) undertook placements (50% female).

Indicator 2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).

- First iteration of community-based coastal tourism module completed by 8 students (62.5% female) in Y1. Delivery of module postponed in Y2 due to national unrest and instability, and impacts of this on coastal tourism. FFI and FIU aim to meet targets during Y3 and Y4 for the number of people completing this training module and applying skills.

Indicator 2.3 No. of turtle hatchery/tourism initiatives implementing best practice guidelines (target 12 by Sept 2019)

- Coastal sites (n=30) for uptake of best practice guidelines have been identified and characterised. Hatchery management guidelines are being informed by scientific study into alternative incubation techniques (two seasons of data collection completed, results analysed and presented at 2019 International Sea Turtle Symposium). National best-practice guidelines being produced on two topics: management of turtle hatcheries and

tourist visitation to turtle nesting beaches. Dissemination of guidelines, associated training and evaluation of uptake scheduled for Y3.

Indicator 2.4 NTCN has a clear strategy, its members have increased access to relevant guidance and information, are in regular communication with peers regionally and nationally, and collaborate on issues as relevant (by EOP).

- 'Tortugeros Nicaragua' WhatsApp group operating as an effective national platform for promoting information sharing and collective action amongst NTCN members and other stakeholders engaged in turtle conservation in Nicaragua. NTCN strategic planning meeting scheduled for July 2019 (Y3).

Indicator 2.5 No. of people (professionals, service providers, authorities, students) integrating learning from national and regional experience and using knowledge gained into Nicaraguan initiatives (target 32 by EOP)

- To be measured at EOP.

Output 3. Female and male community members adjacent to turtle nesting beaches have the skills and opportunities to engage in sustainable livelihoods.

Indicator 3.1 No. of community members trained in relevant technical skills and provided with support for SME development or employment (target: 180 by March 2019; 360 at EOP; 60% women). Target groups/enterprises include: Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey. Seasonally employed turtle beach patrollers seeking skills for their off-season livelihoods (mostly male). Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group.

- A total of 251 community members (104 women and 147 men) have received technical training or support in SME development or employment: Women weavers (47 women); Turtle beach patrollers (46 men); Chacocente Tourism/Honey Cooperative (16 women, 17 men); EPR tourism services providers (3 male boatmen, 3 female cooks, 7 male guides); Members of EPR community cooperatives engaged in cockle/snapper cultivation (38 women, 49 men); Fishers from Aserradores (25 men).

Indicator 3.2 No. of sustainable fisheries and community based tourism enterprises with robust business models (target: 6 by Sept 2019; 12 by EOP).

The following groups have robust business models;

- Chacocente Tourism/Honey Cooperative: business model has stronger governance mechanisms, clearer division of roles and responsibilities for visitor management, a revised strategy to develop business relationships with national tour operators, an action plan for improving honey production, and agreements for a fairer distribution of enterprise income amongst cooperative members.
- Weaving for Nature enterprises: Astillero group's business model now includes a strategy for improvements in product quality and innovation and a marketing and sales plan. El Tintal group's business model is less developed, but draws upon that of the more experienced group and includes compliance with the Code of Conduct for Responsible Artisans.
- Voluntourism enterprise: fully costed business plan has been updated to reflect changes in tourism demand in 2018.
- EPR Fisher cooperatives: governance structures and business models for four cooperatives engaged in cockle cultivation and snapper rearing have built upon economic feasibility studies (conducted in Y1) and policies for equitable benefit sharing and promoting greater engagement of women (developed in Y2).

Output 4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.

Indicator 4.1 Area of priority habitat at Punta Venecia in Estero Padre Ramos Natural Reserve (EPR), with enhanced protection. (0.9km of hawksbill nesting beach; 28 hectares of coastal and riparian dry forest)

- Viability analysis of alternative legal instruments for securing the property for conservation under Nicaraguan law completed in Y1. Negotiations with landowner on hold during Y2, although next steps agreed with landowner in March 2019 meeting.

Indicator 4.2 Plan for implementation of the agreement endorsed by the Municipality, with fund-raising under way if needed.

- Plans being presented to municipal authorities in Q1 of Y3.

3.3 Progress towards the project Outcome

All project indicators were reviewed during the logframe revision process which took place during Y2 and are therefore now considered appropriate to measure project progress.

Outcome: The economic and conservation values of Nicaragua's globally important marine turtles are recognised locally and nationally, providing benefits to coastal communities and decreasing threats to these species and priority habitats.

Indicator 0.1: No. of decision makers, including those who lead the National Development Plan process, who have access to information relating to values of marine turtles and their habitats (target: 20 by End of Project).

- FFI is working to facilitate decision makers' access to information on marine turtles. Engagement with decision makers has been compromised by the national context throughout the course of Y2 (see Annex 5 for more detail). Nevertheless FFI continues to share annual technical reports and project information with government authorities, through meetings with the Minister for the Environment and Natural Resources, regional delegations of MARENA and municipal authorities (3 meetings, 5 decision makers in Y2) and we seek to engage decision makers in project activities and events wherever possible and appropriate. Official government publications on the environment include mention of marine biodiversity and marine turtles (see MARENA's [2018 Bulletin on Environment Management Statistics and Indicators](#) p15-18) and marine biodiversity-friendly livelihoods (see MARENA's new quarterly [Bulletin on Community and the Environment](#), p22-23), but do not yet expand upon on the economic and conservation values of marine turtles.

Indicator 0.2: % of women and men from 10 target coastal communities who report an improved ability to meet essential household needs year round (target dependent upon community: 10-20% by EOP).

- At project baseline, 89% of 260 households surveyed across 21 coastal communities (representing 800 householders, 47% female), report income below the cost of the 'canasta basica' - an official national indicator that computes the minimum income to buy enough food and cover minimum household expenses for a family of four. Project impact will be measured at EOP through post-project socio-economic surveying of both beneficiary and non-beneficiary households.

Indicator 0.3: % increase in number of women and men from 10 target coastal communities who consider live turtles to be a valuable asset compared to baseline (target: 15% by EOP).

- At project baseline, the majority of 460 coastal community members surveyed across 21 communities, reported that whilst they understand the economic potential of non-extractive use of turtles, they feel unable to benefit from such non-extractive values of turtles. For example, 85% of people from these coastal communities derive no significant income from tourism. Of those who do not engage in the illegal extraction of turtle eggs, only 2% do not because tourism linked to turtles is a better livelihood, 14% expressed conservation or moral concerns, whilst 56% do not engage in illegal extraction because it is hard work, with antisocial hours, and/or they do not see it as profitable. Project impact will be measured at EOP through post-project perceptions surveying of both beneficiary and non-beneficiary households.

Indicator 0.4: Km. of nesting beaches with enhanced protection of marine turtle nests (baseline: 30km; target: 40km by EOP).

- At project baseline 32.5km of nesting beach for hawksbill, leatherback and green turtles were protected along the Pacific coast of Nicaragua. By end of Y2, 43km of nesting beach were protected, due to enhanced protection of the community-run ecotourism and conservation project at Isla Juan Venado. We expect to exceed this target at EOP, as additional tourism hatcheries come under enhanced protection.

Indicator 0.5: National tourism sector (tourism agencies, industry bodies and operators - including INTUR and CANATUR) are using marine turtles as a flagship species for tourism in Nicaragua by EOP.

- At project baseline, marine turtles were not being promoted by the national tourism sector as a flagship for tourism in Nicaragua. Tourism surveys planned for Y3 will provide the sector with improved information on current demand for turtle related tourism and identify potential improvements, as well as insights (in Y3 and EOP) into the number of CANATUR members using turtles as a flagship species for tourism and/or marketing community-based turtle tourism initiatives.

3.4 Monitoring of assumptions

All assumptions were reviewed during the logframe revision process which took place during Y2 and changes were made to reflect current context and project scope.

Impact Level Assumptions

Assumption 1: That the security situation in Nicaragua is sufficiently stable for FFI to maintain operations. *Comments: Assumption still holds true. More detail on the recent and current security situation in Nicaragua is provided in Annex 5.*

Assumption 2: That proposed development of the Inter-Oceanic Canal will not adversely affect the receptivity of government and tourism sector leaders to information and recommendations emerging from the project. *Comments: Assumption still holds true. There have been no significant developments in the Nicaragua canal project during Y1 or Y2 of the project, and no public announcements made as to its future development. The project therefore looks highly unlikely to proceed in the short to medium term.*

Assumption 3: That adult populations of marine turtles in the Eastern Pacific region remain stable. *Comments: Assumption still holds true. FFI's broader marine turtle conservation programme on the Pacific coast of Nicaragua is working to stabilise threatened turtle populations; we work with a range of stakeholders to protect and monitor nesting beaches, reduce demand for turtle products, reduce fisheries bycatch of marine turtles, and build the long-term sustainability of turtle conservation actions.*

Outcome Level Assumptions

Assumption O.1: That decision makers, including those who lead the National Development Plan process, are willing to engage with us and that the Plan goes ahead. *Comments: Assumption still holds true. More detail on government engagement with NGOs is provided in Annex 5.*

Assumption O.2: That there will be no major disruption to livelihoods in the project localities - through natural disasters, large-scale pollution, or national economic/social instability - and people are willing to report changes in their household income/status. *Comments: Assumption still holds true. Indeed the significant economic and social instability felt across Nicaragua during Y2 has significantly affected project delivery, the tourism sector and the economic/social context for target communities. More detail on the impact of the recent instability on the project is provided in Annex 5.*

Assumption O.3: That no events take place to affect the current market system for turtle products that would cause an increase in demand. *Comments: Assumption still holds true. FFI and partners have collated information on surges in the illegal extraction of turtle eggs during the 2018 olive ridley nesting season, due to decreased beach protection at La Flor, and corresponding spikes in demand. FFI has recently been awarded funding from DEFRA's IWTCF*

for a project focused on reducing demand for marine turtle products in Nicaragua, so will be increasing our focus on this.

Assumption O.4: That the majority of turtle hatchery/tourism initiatives adopt the guidelines developed by the project and share their data. *Comments: Assumption still holds true. FFI and CANATUR have existing relationships with many of the hatchery/tourism initiatives identified and will work together to disseminate the guidelines and provide training and support to maximise their uptake.*

Assumption O.5: That Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability. *Comments: Assumption still holds true. The tourism industry in Nicaragua has collapsed by up to 80% since the outbreak of unrest across Nicaragua in April 2018, affecting the project's engagement with industry stakeholders throughout Y2. More information is provided in Annex 5.*

Assumption O.6: That the positive relationships and attitudes of tourism agencies, industry bodies and operators towards turtle conservation will continue. *Comments: Assumption still holds true.*

Output Level Assumptions

Assumption 1.1: That the local and national tourism sector will remain open to integrating marine turtles into their activities and marketing. *Comments: Assumption still holds true.*

Assumption 1.2: That the valuation study will confirm scope for increased community-based turtle-related tourism. *Comments: Assumption still holds true.*

Assumption 1.3: That public awareness and support for marine turtle conservation is influenced by parallel initiatives (including awareness raising campaigns) led by FFI through our broader marine turtle conservation programme. *Comments: Assumption still holds true. FFI has recently been awarded funding from DEFRA's IWTCF for a 3 year project focused on reducing demand for marine turtle products in Nicaragua, through media campaigns and associated actions.*

Assumption 2.1: That tourism professionals see the potential benefits of community based ecotourism and attend training. *Comments: Assumption still holds true.*

Assumption 2.2: That the majority of the hatchery/tourism initiatives will be open to receiving technical support and the adoption of best practice guidelines, and will share the data they collect. *Comments: Assumption still holds true. FFI and CANATUR have existing relationships with many of the hatchery/tourism initiatives identified and will work together to disseminate the guidelines and provide training and support to maximise their uptake.*

Assumption 2.3: That wider activity and collaboration within the NTCN will be facilitated and supported by Network members. *Comments: Assumption still holds true.*

Assumption 2.4: That the current/future employment or roles of training attendees enable them to apply the learning they have gained. *Comments: Assumption still holds true.*

Assumption 3.1: That the current positive attitude, locally and nationally, to developing sustainable livelihoods and new enterprise partnerships is maintained. *Comments: Assumption still holds true.*

Assumption 4.1: That the landowner will maintain his interest in reaching an agreement to ensure long-term conservation. *Comments: Assumption still holds true. Indications at end of Y2 are that the landowner is still interested in securing the conservation agreement.*

Assumption 4.2: That additional funding needs, related to the establishment of formally protection of the land, can be raised well before the current agreement expires in 2022. *Comments: Assumption still holds true.*

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

The project has a robust socio-economic baseline against which evidence of impact on poverty alleviation can be measured. From experience to date we are confident that the process by which the project is facilitating enterprise and market system development will result in improvements in subjective and relational, as well as material, aspects of wellbeing.

Evidence of concrete changes in livelihoods in the form of increases in income generation is being collated. For example, analysis of data from the Weaving for Nature initiative at Astillero indicates that each weaver is earning an average of U\$125 extra income each month. However, for those involved in cockle and snapper cultivation in Estero Padre Ramos, only one productive cycle has been completed, with varying success, so average figures are not yet meaningful.

Participation in economic activities has already been shown to improve the confidence, self-esteem and social status of community members, particularly women. For example, through the Weaving for Nature enterprise, the work of the women weavers is now valued and rewarded, and the weavers' families acknowledge that they are working women who provide income to their households. In addition, securing clear and officially recognised rights to sustainably manage mangrove concessions increases community members' sense of control over their lives, and confidence in the future, as well as promoting social capital and reducing conflict over natural resources. This is particularly relevant in the light of the level of education and opportunities available to these cooperatives' members, 17% of whom are illiterate and only 32% of whom have completed primary education. Livelihood diversification has also helped reduce community members' vulnerability to socio-economic and environmental changes (including the economic impacts of the unrest throughout 2018).

Positive impact on biodiversity as a result of project interventions is likely to be measurable in the medium to long term, especially with respect to marine turtle populations which are expected to take decades to recover. Beneficiaries' motivations to conserve are being captured through monitoring of perceptions and actions; one positive example of this is through Weaving for Nature *"Many of the women and many of their relatives who are now part of this initiative, used to go to the beach to poach turtle eggs. Now they visit the same beach, but to clean it."* FFI's wider marine turtle conservation programme collates longitudinal data on marine turtle populations in the Eastern Pacific, monitoring number of females, number of nests/eggs laid, % protected and number of hatchlings released at priority nesting beaches along the Pacific coast of Nicaragua. This data will be used in conjunction with socio-economic data and data on attitudes towards turtles and marine conservation, to evaluate project impact on target populations.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

- **SDG 1:** through support to the establishment and sustainable management of 5 mangrove concessions, the project is promoting equitable rights to economic and natural resources (1.4). It is building resilience amongst poor coastal communities through diversification of livelihood strategies into cockle and snapper production, processing and sale (1.5). In addition, capacity-building activities are equipping women and men from these communities to participate in - and benefit from - the growing ecotourism economy. This is being achieved through the technical and organisational strengthening of small local enterprises, enabling them to efficiently provide a more diverse suite of high quality goods and services to a wider variety of tourism market segments.
- As described in section 7, the project is working to ensure gender equity, as a contribution to **SDG 5**.
- **SDG 8:** the project is contributing to indicators 8.3 and 8.9 by supporting entrepreneurship and social enterprise development, including support to sustainable ecotourism, that incorporates community-based tourism products and services, provides employment and respects local culture.
- **SDG 14:** Work to develop the national guidelines on hatchery management and build the effectiveness of the NTCN are contributing to indicator 14.2, whilst progress in establishing responsible artisanal fisheries and sustainable management of estuarine mangrove areas contribute to both indicators 14.2 and 14.4.

5. Project support to the Conventions, Treaties or Agreements

Convention on Biological Diversity (CBD): The project supports implementation of **CBD Articles** 7 (Identification and Monitoring), 11 (Incentive Measures), 12 (Research and training), 13 (Public Education and Awareness) and 17 (Exchange of Information). It contributes to **Aichi Biodiversity Targets** (1, 2, 6, 12, 18, 19) and the delivery of associated **National Targets** (1. Increase conservation knowledge; 5. Improve wellbeing through sustainable livelihoods; 7. Promote sustainable fishing methods that comply with regulations; 8. Advance sustainable and environmentally responsible tourism; 11. Strengthen local community participation in natural resource management decision making; 13. Integrate into sectoral policies, nationally and locally, the conservation and restoration of biodiversity; 14. Conserve threatened species and genetic diversity). No direct contact has been made with the CBD focal point during Y2 of the project.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): All five marine turtle species which inhabit Nicaragua's coastal and marine ecosystems are listed as **CITES Appendix I**. Whilst tackling trade is not a focus of the project, work undertaken will strengthen the national platform for work under **CITES Article II** (Fundamental Principles) and will encourage better practices amongst tourism operators.

FFI's database of information that our field teams collect and collate on marine turtle nesting and hatching success on the Pacific coast of Nicaragua was fed into the process of updating the *Red List of Threatened Species for Nicaragua* (published in May 2018) and a *regional update of IUCN Red List data* – which plays a key role in tracking progress towards the Aichi targets. FFI has also fed data on the impacts of trade on marine turtle populations in Nicaragua and on good management examples, into documents on hawksbill and other marine turtles compiled by the CITES Secretariat in preparation for the 18th CITES CoP in Sri Lanka (CoP18 Doc. 70).

6. Project support to poverty alleviation

By the end of the project, 400 households (approximately 2,000 women, men, girls and boys) in poor coastal communities are expected to directly experience livelihoods and well-being benefits from project activities. These comprise households engaged in fisheries and cockle harvesting (including those previously involved in collecting turtle eggs) and in the provision of goods and services to the tourism industry. In addition, economic benefits from project-supported enterprises will potentially indirectly benefit a much greater number of people through resulting wider stimulation of the local economy. For example, direct beneficiaries benefitting from increased household income are likely to spend most of this locally. In our experience using a participatory market system approach has resulted in 'crowding in' and replication of successful business models developed through project support, hence multiplying the economic benefits significantly and attracting increased inward private sector investment into the local economy.

Other indirect beneficiaries are additional members of the coastal communities who may not be directly involved in project-supported enterprises but whose livelihoods are dependent on the healthy marine environment this project ultimately aims to ensure.

In addition both direct and indirect beneficiaries are likely to experience non-monetary benefits to their wellbeing as described in section 3.4.

7. Project support to gender equality issues

The project is designed to generate benefits for both women and men from coastal communities. Gender disaggregated data are collected in order to ensure the project can measure progress towards gender equality. FFI and Fundación LIDER are working to promote women's leadership in conservation and enterprise activities. In all activities, consideration is given to addressing the barriers that frequently inhibit female participation – for example, ensuring that the location, timing and format of meetings and training events are equally accessible to women and men.

Active measures have been taken to involve women in the governance structures of new and existing cooperatives and enterprises (see below), as well as in training wherever relevant, taking into account gender differentiated roles in household livelihood strategies. Whilst there is an inherent male bias in some of the key beneficiary groups (e.g. most fishers and beach patrollers are male), 41% of the 251 participants in project-led training have been female (compared with a target of 60% by end of project).

Fundación LIDER has supported establishment of appropriate governance structures for the cooperatives, including the election of boards of directors with representative participation of women and encouraging all the cooperatives to develop strategies for promoting the engagement of women in the cooperatives' management and activities. To support processes of community organization, with a focus on the integration of women in management positions, three community-based assemblies were held Y1 (60 participants; 33% women) and four assemblies and seven workshops in Y2 (22-40 participants per event, 48% women). Across the six fisher cooperatives, there is currently a total of 19 men and 11 women within their Boards of Directors, and the gender balance across all the cooperatives' membership ranges from 23 – 59% women. One cooperative has a woman in the position of President and in three cooperatives women are currently occupying the position of Vice-President. Anecdotal reports from partner Fundación LIDER indicate that that cooperatives with a higher proportion of women are 'better organised'.

As described in section 3.5 above, active participation in economic activities has been shown to be particularly beneficial to women, not only through increases in - and control over - household income but also in terms of self-confidence, social capital and status within the household and the community.

In addition, the majority of university students involved in training and fieldwork in the communities are female (61% to date compared with target of 40% over project period) – as are several Nicaraguan members of the project team, including the in-country turtle programme leader. In our experience, the high profile of educated, dynamic women challenges gender stereotypes and provides role models for women and girls within the community. This is particularly the case in these poor coastal communities where mothers aspire to provide their female children with a wider range of opportunities than they themselves may have had. The project team have actively worked to ensure that the female students are treated with the same respect by male members of the communities as their male colleagues.

8. Monitoring and evaluation

Our approach to developing monitoring and evaluation for this project has been guided by the overarching principles that FFI uses to understand the impact of all our work. We use Theories of Change to design our projects and programmes, and to develop appropriate monitoring strategies tied to understanding the ultimate impact of our work. By linking project monitoring to Theories of Change we aim to ensure monitoring effort is focused on indicators of long-term and intermediate impacts, as well as collecting basic information on outputs and activities. Wherever possible we work to use the most context-appropriate and sustainable monitoring tools in order that project level monitoring can be continued beyond the scope of specific grants.

FFI has actively engaged in the wider debate around assessing impact in conservation since 2002. For example, we strongly engaged with the 'Measures of Conservation Success' initiative (www.cambridgeconservationforum.org.uk/initiative/harmonising-measures-conservation-success) which developed a conceptual model for how change is achieved through different conservation interventions and demonstrated that intermediate outcomes were good predictors of long-term impact. This means that, whilst monitoring long-term impact is often difficult (especially for species like turtles that we will not see returning to beaches to nest for a number of decades), tracking changes in intermediate outcomes (such as improved conservation management or reduced threats to biodiversity) is a good surrogate from which likely impact can be predicted (Kapos et al., 2008, 2009). We continue to apply what we learnt from this initiative and believe this approach has great relevance in understanding the impact and success of our work, since it is well grounded in the reality of conservation and is a practical tool that can be easily applied to different project contexts. For more information on how FFI works to understand conservation success please follow [this link](#).

As described in Section 3 above, the project team undertook a process to thoroughly review and refine the project's logical framework, indicators and underlying assumptions in Y2, both to simplify the project's logic and in the light of changes to the national context within which the project is operating. The project's Monitoring & Evaluation (M&E) framework was also updated to align with the logframe revisions (see Annex 4B). The project's logical and M&E frameworks align with FFI's Theory of Change (TOC) for our broader programme of work to conserve turtles in Nicaragua and associated monitoring indicators. These processes have improved our confidence that, despite implementation challenges in Y2, the Outputs and Activities under this Darwin Initiative project contribute to the project overall Outcome.

In Y2, detailed monitoring of socioeconomic indicators and perceptions surveys across 21 Pacific coast communities was completed. Survey and sampling methods employed have been designed to measure change and therefore project impact. A 2-page summary of the results is provided in Annex 4A. For more information on measurement of the specific indicators of the project see sections 3.2 and 3.3 above.

9. Lessons learnt

Project Steering Committee: The creation of a Project Steering Committee has facilitated project communications, streamlined decision making and permitted effective adaptive project management throughout implementation. Bringing the range of expertise and knowledge of the Steering Committee members together on a regular basis has proved highly beneficial, ensuring that all decisions are well informed, priorities are identified and all team members' responsibilities are clear.

Adaptive project management: The process of reviewing and updating the project's logical framework has been a highly beneficial process for all those involved. This is especially relevant for such an ambitious project, which involves a broad range of stakeholders, activities and external dependencies. The Darwin Secretariat provided detailed feedback on our logframe revisions which have been welcomed by the project Steering Committee and incorporated into our forward planning. We view this as an ongoing process.

External dependencies: As described in Annex 5, the project has operated in a highly challenging national context, which has had significant and wide ranging impacts across Nicaragua. The external dependencies of the project, for example in relation to the coastal and nature-based tourism sector, are inherent to its design as it aims to improve national capacity and best practices. The unrest across Nicaragua was unforeseen and, whilst the situation remains volatile, FFI and the project are well positioned to influence the tourism sector as it re-establishes and to build national capacity for sustainable community-based coastal tourism.

Bilingual project implementation and management: The project is being managed and implemented entirely in Spanish, including at Steering Committee level. This has implied a need to translate all key project documents and update versions of key documents in both languages as they are revised, as English language documents are needed to share with the Darwin Secretariat. The translation of information and documentation implies significant additional time, especially when reporting; increased time and resources need to be allocated and budgeted for this in future.

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

Abstracts in English of key documents have been provided as annexes to this report, where possible and most relevant.

The project logframe has been reviewed and refined.

11. Other comments on progress not covered elsewhere

The main difficulties and risk to the project have arisen from the highly challenging national context, resulting from the civil unrest and political instability which broke out across Nicaragua

in April 2018. A detailed description of the situation, its implications in terms of the project context and impacts on project delivery are provided in Annex 5 and summarised throughout Section 3.1 above. FFI is continuing to monitor the situation and will liaise with the Darwin Secretariat should further changes to the project or its exit strategy become necessary.

12. Sustainability and legacy

FFI and partners have promoted awareness of the project within Nicaragua, as appropriate in the national context, using branded materials where possible to help build identity and profile.

The project is addressing issues of national interest. For example, the national newspaper *El Nuevo Diario* published an article in early 2018 ([available here](#)) and MARENA's recent [Bulletin on Community and the Environment](#) (p22-23), which highlight the synergies of the project with other initiatives for the reproduction of snapper.

The project is also increasing capacity and support for project aims. For example, through the '*Grupo Tortuguero NICA*' social network (indicator 2.4) field practitioners have access to the latest information and peer-peer support. We anticipate that this will grow and sustain beyond the project life. Information on the project is also being shared with members of the Eastern Pacific Hawksbill Initiative, ICAPO (www.hawksbill.org).

In 2017, FFI launched a new website (fauna-flora.org) that has a page dedicated to each of FFI's projects (a body of work with a biodiversity outcome). The broader programme of work which this project contributes to is featured [here](#). Plans are underway for a dedicated "closer look" webpage focused on the project that will be published on FFI's website. The new website also includes a '[documents and reports](#)' section where project outputs can be housed (for example <https://api.fauna-flora.org/wp-content/uploads/2019/05/FFI2019Weaving-for-Nature.pdf>), as part of FFI's broader strategy to promote and comply with open access requirements.

Despite significant challenges in Y2, the project is making progress towards planned steps to sustainability. Nevertheless the project's sustainability and exit strategy will be reviewed during Y3, recognising the importance of the next 12 months in making significant progress towards sustainability of our project Outcome.

FFI will maintain its presence in Nicaragua beyond the lifetime of the project and will continue to collaborate with authorities and partners on a long-term programme to restore turtle populations and the biodiversity, productivity and resilience of Nicaragua's coastal and marine ecosystems.

13. Darwin identity

Prior understanding of the Darwin Initiative within Nicaragua is limited to international NGOs and members of the Ministry of Environment. Where appropriate and possible, the project team explicitly refer to the support of the Darwin Initiative to this specific project, within FFI's broader programme of work in Nicaragua, at all meetings and workshops with project stakeholders. The project team have used Darwin Initiative branded materials where possible, to help build identity and profile of the project, to publicise the Darwin Initiative and build understanding of the aims and approach of the Darwin Initiative amongst project stakeholders in Nicaragua. Where appropriate and possible, Darwin Initiative and UK Government have been named or logos used on meeting/workshop invites, participant lists, and publications resulting from the project. We anticipate greater recognition in Y3, through high profile events such as the upcoming launch of the *Nicaragua Azul* marine museum and publicity around the turtle valuation study. FFI's social media activity linked to the project has been kept low, in deference to national sensitivities in Y2 and neither the project nor FFI Nicaragua has a dedicated Facebook page.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
<p>Impact</p> <p>Nicaragua's development planning for coastal and marine areas incorporates strategies to conserve natural capital and enable coastal communities to benefit from it sustainably.</p>		<p>The project has a robust socio-economic baseline against which evidence of impact on poverty alleviation can be measured.</p> <p>Participation in economic activities has already been shown to improve the confidence, self-esteem and social status of community members, particularly women.</p> <p>FFI's long-term monitoring data on marine turtle nesting and hatchlings on the Pacific coast of Nicaragua will be used in conjunction with socio-economic data and data on attitudes towards turtles and marine conservation, to evaluate impact on target populations.</p>	
<p>Outcome</p> <p>The economic and conservation values of Nicaragua's globally important marine turtles are recognised locally and nationally, providing benefits to coastal communities and decreasing threats to these species and priority habitats.</p>	<p>0.1: No. of decision makers, including those who lead the National Development Plan process, who have access to information relating to values of marine turtles and their habitats (target: 20 by End of Project).</p> <p>0.2: % of women and men from 10 target coastal communities who report an improved ability to meet essential household needs year round (target dependent upon community: 10-20% by EOP).</p> <p>0.3: % increase in number of women and men from 10 target coastal communities who consider live turtles to be a valuable asset compared to baseline (target: 15% by EOP).</p>	<p>0.1: FFI shares annual technical reports and project information with decision makers, through meetings with MARENA and municipal authorities and invites to engage in project activities and events. Whilst government publications on the environment mention marine biodiversity and turtles and biodiversity-friendly livelihoods, they do not yet expand upon on the economic and conservation values of marine turtles.</p> <p>0.2L At project baseline, 89% of 260 households surveyed across 21 coastal communities (representing 800 householders, 47% female), report income below the official national 'canasta basica' indicator (= minimum</p>	<p>0.1: Continue to seek to engage decision makers, share project information and to positively influence policies and plans.</p> <p>0.2: Project impact will be measured at EOP through post-project socio-economic surveying of both beneficiary and non-beneficiary households.</p> <p>0.3: Project impact will be measured at EOP through post-project perceptions surveying of both beneficiary and non-beneficiary households.</p> <p>0.4: FFI will continue to collate annual data on turtle nesting beach protection and monitoring at priority beaches and small tourism hatchery initiatives. We expect to exceed the target for this indicator at EOP, as additional tourism</p>

	<p>0.4: Km. of nesting beaches with enhanced protection of marine turtle nests (baseline: 30km; target: 40km by EOP).</p> <p>0.5: National tourism sector (tourism agencies, industry bodies and operators - including INTUR and CANATUR) are using marine turtles as a flagship species for tourism in Nicaragua by EOP.</p>	<p>needed to buy food and essential household expenses for a family of four).</p> <p>0.3: At project baseline, the majority of 460 coastal community members surveyed across 21 communities, reported that whilst they understand the economic potential of non-extractive use of turtles, they feel unable to benefit from such non-extractive values of turtles.</p> <p>0.4: At project baseline 32.5km of turtle nesting beach were protected. By end of Y2, 43km of nesting beach were protected, due to enhanced protection at Isla Juan Venado.</p> <p>0.5: At project baseline, marine turtles were not being promoted by the national tourism sector as a flagship for tourism in Nicaragua.</p>	<p>hatcheries come under enhanced protection.</p> <p>0.5: Tourism surveys planned for Y3 will provide the sector with improved information on current demand for turtle related tourism and identify potential improvements, as well as insights (in Y3 and EOP) into the number of CANATUR members using turtles as a flagship species for tourism and/or marketing community-based turtle tourism initiatives.</p>
<p>Output 1. Policies, plans, marketing and practice of tourism and associated coastal development are informed by an economic valuation of turtles as a tourism asset and increased knowledge about their conservation.</p>	<p>1.1 No. of tourism and coastal development policies, plans and strategic decisions which refer to the economic value of living turtles and demonstrate knowledge of best practices for conservation and community benefit (target: at least 5 by EOP).</p> <p>1.2 % of CANATUR members who have expanded coverage of community-based turtle tourism initiatives in their national and international marketing of Nicaragua (target: 5% by March 2020; 10% by EOP).</p> <p>1.3 No. of community-based turtle tourism initiatives being marketed nationally or internationally by CANATUR members (target: 5 by March 2020, 12 by EOP).</p>	<p>1.1 Potential policies identified where project can generate and promote policy recommendations. Integration of economic values of living turtles anticipated from Y3 onwards, following completion of the valuation study.</p> <p>1.2 Of the >100 members of CANATUR (82 direct tourism business partners, 12 tourism associations and 17 territorial chapters that promote the small and medium-sized entrepreneurs that make up their large social enterprise base), 3% were marketing turtle tourism products at project baseline. Survey of CANATUR members to evaluate current and potential turtle-related tourism marketing is scheduled for Y3 and will be repeated at EOP.</p> <p>1.3 At project baseline, one community-based turtle tourism initiative in Nicaragua was being marketed at a national and international level. Survey of CANATUR members to assess change in this measure is scheduled for Y3 and will be repeated at EOP.</p>	

<p>Activity 1.1 In collaboration with partners from tourism sector (tourism agencies, industry bodies and operators - including CANATUR - governmental authorities, and FIU) and turtle conservation groups, <u>design methodology and implement valuation study</u> into the economic and social-cultural values of Nicaragua's Pacific coast turtles. Share preliminary results with partners for feedback.</p>	<p>Study put on hold from May 2018 to Feb 2019, due to collapse within tourism industry. ToR updated in March 2019. Process underway to contract specialist team to take forward the study.</p>	<p>Valuation study to begin Y3 Q1, in collaboration with CANATUR. Process to be completed by end of Q2.</p>
<p>Activity 1.2 In collaboration with tourism and turtle conservation partners, <u>develop communications plan</u> for the dissemination of key information from the study to target audiences (decision makers, tourism sector, coastal communities). <u>Contract the design and production of appropriate and agreed communications materials.</u></p>	<p>To follow completion of Activity 1.1</p>	<p>Communications plan to be developed in Y3 Q3, and communications materials produced thereafter.</p>
<p>Activity 1.3 <u>Share finalised report and disseminate communications materials</u> amongst tourism and turtle conservation partners, other stakeholders and target audiences (including coastal municipal authorities, MARENA, leaders from target coastal communities, media agencies) and monitor impact.</p>	<p>To follow completion of Activity 1.2</p>	<p>Scheduled for Y3 Q3-4.</p>
<p>Activity 1.4 Engage with government authorities to <u>inform relevant development policy formulation and planning processes</u> in order to promote the integration of the conservation of turtles and their coastal/marine habitats into these national instruments.</p>	<p>Project team has not secured anticipated levels of engagement with government institutions in Y2 due to national context.</p>	<p>Meeting with new Minister of Environment scheduled in May 2019.</p>
<p>Activity 1.5 Collaborate with FIU, tourism chambers/associations, municipal authorities and communities to <u>assess existing turtle/marine tourism near project locations</u> and identify i) potential improvements to existing initiatives, ii) potential new community-based initiatives and iii) potential links between local product providers, national operators and international supply chains.</p>	<p>30 sites (26 hotels, 4 community-based tourism initiatives) with turtle conservation/hatcheries identified and characterised.</p>	<p>Evaluation of existing / potential market niches and opportunities and potential for coordination with local communities at all sites to be completed.</p>
<p>Activity 1.6 In collaboration with FIU, <u>facilitate a workshop</u> to assist CANATUR and governmental authorities to <u>develop a strategy to package and promote community-based turtle/marine tourism initiatives</u> in specific markets. Support delivery of strategy where appropriate, for example in developing links between local product providers and national / international operators and in guiding tourism product plans so that they follow technical, environmental and social good practice and strengthen links between livelihoods and custodianship of turtles and their habitat.</p>	<p>Workshop not yet held.</p>	<p>Coordinate with FIU and CANATUR to schedule, plan and deliver workshop.</p>
<p>Activity 1.7 <u>Share lessons learned</u> from the project through two publications; one technical report in English and a more popular publication in Spanish.</p>	<p>Learning document on Weaving for Nature Initiative published.</p>	<p>Further learning documents scheduled for Y4.</p>
<p>Output 2. Nicaragua's technical capacity relevant to turtles, hatchery management, coastal/marine ecosystems and low impact coastal development practices is increased,</p>	<p>2.1 No. of graduates/undergraduates who complete fieldwork research projects in coastal areas (target 24</p>	<p>2.1 In Y1, six students (all graduates) undertook placements (67% female). In Y2, four student (two graduates, two undergraduates) undertook placements (50% female). <i>(Evidence provided in Annex 4D)</i></p>

<p>through training in these disciplines and strengthening of national and regional networks.</p>	<p>students; 6 per year x four years, at least 40% women).</p> <p>2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).</p> <p>2.3 No. of turtle hatchery/tourism initiatives implementing best practice guidelines (target 12 by Sept 2019)</p> <p>2.4 NTCN has a clear strategy, its members have increased access to relevant guidance and information, are in regular communication with peers regionally and nationally, and collaborate on issues as relevant (by EOP).</p> <p>2.5 No. of people (professionals, service providers, authorities, students) integrating learning from national and regional experience and using knowledge gained into Nicaraguan initiatives (target 32 by EOP)</p>	<p>2.2 First iteration of community-based coastal tourism module completed by 8 students (62.5% female) in Y1. Delivery of module postponed in Y2 due to national unrest and instability, and impacts of this on coastal tourism. FFI and FIU aim to meet targets during Y3 and Y4 for the number of people completing this training module and applying skills.</p> <p>2.3 Coastal sites (n=30) for uptake of best practice guidelines have been identified and characterised (<i>Evidence provided in Annex 4F</i>). Hatchery management guidelines are being informed by scientific study into alternative incubation techniques (two seasons of data collection completed, results analysed and presented at 2019 International Sea Turtle Symposium - <i>Evidence provided in Annex 4G</i>). National best-practice guidelines being produced on two topics: management of turtle hatcheries and tourist visitation to turtle nesting beaches. Dissemination of guidelines, associated training and evaluation of uptake scheduled for Y3.</p> <p>2.4 'Tortugueros Nicaragua' WhatsApp group operating as an effective national platform for promoting information sharing and collective action amongst NTCN members and other stakeholders engaged in turtle conservation in Nicaragua (<i>Evidence provided in Annex 4H</i>). NCTN strategic planning meeting scheduled for July 2019 (Y3).</p> <p>2.5 To be measured at EOP.</p>	
<p>Activity 2.1 Through links with universities in Nicaragua, <u>support undergraduate and graduate students to undertake research projects or internships</u> on turtles, marine/coastal conservation, community-based ecotourism, sustainable livelihoods and socio-economic issues, either as part of their studies or to gain experience after graduating. Track their post-internship professional development.</p>		<p>Tripartite agreement between FFI, National University and Fundación LIDER regarding supervision of under/post-graduate research projects in EPR, with commitment to promote female students to undertake these projects. 6 students supervised in Y1; 4 students supervised in Y2. Post-internship professional development tracked.</p>	<p>Support remaining 2 Masters' thesis students to continue their research through until August 2019. Renew tripartite agreement for next academic year and agree priority research topics. Recruit and supervise next cohort of students.</p>
<p>Activity 2.2 Through partnership with FIU, develop and <u>deliver a module on coastal community-based ecotourism</u>, including a field trip to observe turtle tourism and low-impact coastal development - to inform and influence current and</p>		<p>Replication of training in community-based coastal tourism postponed in Y2</p>	<p>Hold Nicaragua Azul launch event on 8 June. Promote visits to the museum for</p>

<p>future professionals in tourism, coastal development, municipal planning, and natural and social sciences. Deliver the module at least three times; incorporate into at least one university course covering sustainable tourism (UAM) and adapt for delivery as a stand-alone course for key professionals. Monitoring subsequent use of knowledge and skills.</p>	<p>due to impacts of national instability on coastal tourism stakeholders. Nicaragua Azul itinerant marine museum installed in Universal School in Managua, as a platform for promoting knowledge and community-based tourism linked to the marine environment and biodiversity.</p>	<p>students, tourism stakeholders and decision makers. Plan and deliver next iteration of module on coastal community-based ecotourism in coordination. Follow up first cohort of students who undertook the first iteration of the course.</p>
<p>Activity 2.3 In consultation with NTCN members, authorities and tourism stakeholders, <u>develop best practice guidelines</u> (including technical, environmental and social responsibility considerations) for the management of turtle hatcheries linked to coastal tourism enterprises. Disseminate the guidelines and provide training to managers and staff of turtle hatchery/tourism initiatives in their implementation.</p>	<p>30 sites with turtle conservation and/or hatcheries linked to tourism identified and characterised (26 hotels, 4 community-based tourism initiatives). Second year of field data into alternative incubation technique collected to inform guidelines on hatchery management. Results analysed and published. National guidelines for management of turtle hatcheries and tourism visitation to turtle nesting beaches being drafted.</p>	<p>Finalise first drafts of the two sets of guidelines. Convene consultation workshops in June 2019 to share drafts and invite feedback with members of NCTN and CANATUR. Finalise guidelines and disseminate. Provide guidance and training in their adoption as needed.</p>
<p>Activity 2.4 Facilitate and support <u>strategic development of the NTCN</u>. Provide ongoing support to NTCN members, helping them to organise collective statements and action on issues affecting turtles, facilitate data sharing, provide expert services to communities, authorities and the private sector, connect with regional peers and raise funds.</p>	<p>Communication and coordination amongst NTCN members and others involved in turtle conservation (beach patrollers, field biologists, academics) promoted through active Whatsapp group. NTCN strategic planning meeting proposed for July 2019.</p>	<p>Push to convene NTCN strategic planning meeting in July 2019 (to be facilitated by project partner Jose Urteaga) and follow up as appropriate to support the Network's strengthening and strategic development.</p>
<p>Activity 2.5 Organise a <u>study visit to Costa Rica</u> for tourism and conservation professionals, representatives of CANATUR and community members to learn from examples of sustainable turtle tourism and community-based ecotourism from peers and stakeholders in that country.</p>	<p>Scheduled to take place in Y4 of the project.</p>	<p>Scheduled to take place in Y4 of the project.</p>
<p>Output 3. Female and male community members adjacent to turtle nesting beaches have the skills and opportunities to engage in sustainable livelihoods.</p>	<p>3.1 No. of community members trained in relevant technical skills and provided with support for SME development or employment (target: 180 by March 2019; 360 at EOP; 60% women). Target groups/enterprises include:</p>	<p>3.1 A total of 251 community members (104 women and 147 men) have received technical training or support in SME development or employment: Women weavers (47 women - <i>Evidence provided in Annex 4M</i>); Turtle beach patrollers (46 men); Chacocente Tourism/Honey Cooperative (16 women, 17 men); EPR tourism services providers (3 male boatmen, 3 female cooks, 7 male guides); Members of EPR community cooperatives engaged in cockle/snapper cultivation</p>

	<ul style="list-style-type: none"> • Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey. • Seasonally employed turtle beach patrollers seeking skills for their off-season livelihoods (mostly male). • Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group. <p>3.2 No. of sustainable fisheries and community based tourism enterprises with robust business models (target: 6 by Sept 2019; 12 by EOP).</p>	<p>(38 women, 49 men - <i>Evidence provided in Annex 4K</i>); Fishers from Aserradores (25 men).</p> <p>3.2 The following groups have robust business models;</p> <ul style="list-style-type: none"> • Chacocente Tourism/Honey Cooperative: business model has stronger governance mechanisms, clearer division of roles and responsibilities for visitor management, a revised strategy to develop business relationships with national tour operators, an action plan for improving honey production, and agreements for a fairer distribution of enterprise income amongst cooperative members. • <i>Weaving for Nature enterprises</i>: Astillero group's business model now includes a strategy for improvements in product quality and innovation and a marketing and sales plan. El Tintal group's business model is less developed, but draws upon that of the more experienced group and includes compliance with the Code of Conduct for Responsible Artisans (<i>Evidence provided in Annex 4M</i>). • Voluntourism enterprise: fully costed business plan has been updated to reflect changes in tourism demand in 2018 (<i>Evidence provided in Annex 4L</i>). • EPR Fisher cooperatives: governance structures and business models for four cooperatives engaged in cockle cultivation and snapper rearing have built upon economic feasibility studies (conducted in Y1) and policies for equitable benefit sharing and promoting greater engagement of women (developed in Y2) (<i>Evidence provided in Annex 4K</i>).
<p>Activity 3.1 Conduct a <u>capacity and training needs assessment</u> for women and men from target coastal communities (including for seasonally-employed turtle beach patrollers, to identify opportunities to improve their off-season livelihoods and therefore the value and security of being a turtle patrol professional). Based upon this assessment, <u>develop tailored training plans for target groups</u> across a variety of sectors (including nature-based tourism service providers and sustainable fisheries).</p>		<p>Training plans developed/revised for key beneficiary groups:</p> <p>Women Weavers from Astillero (re. design innovation and marketing) and El Tintal (in weaving skills and in forming an organised group).</p> <p>Chacocente Community Tourism/ Honey Cooperative – process initiated to update SWOT analysis and capacity building / training plan for community-based tourism and honey production.</p> <p>EPR Boatmen – training and resource needs identified.</p> <p>Review capacity and training needs of beach patrollers in terms of off season livelihoods (some are already engaged in initiatives supported by the project, e.g. under activity 3.4) and update plans to address these needs.</p>
<p>Activity 3.2 Provide <u>tailored technical skills training and SME development support</u> to assist community groups to establish or improve enterprise, employment and service provision opportunities related to <u>coastal tourism</u>, especially those benefitting women and vulnerable groups. Target groups include; women weavers using waste plastic bags as raw material (25 people in 2 communities), tourism guides (51 in 4 communities), honey producers who also</p>		<p>Target groups supported to facilitate readiness for when coastal tourism recovers.</p> <p>Women Weavers from El Tintal supported to develop Code of Conduct and internal regulations. Training</p> <p>Re-establish work with tourism guides as/when tourism recovers and they resume services.</p> <p>Facilitate skills training and/or SME development and marketing for Chacocente Community Tourism/</p>

<p>receive tourists (28 in 3 communities), a cooperative operating a turtle hatchery (20 people in 1 community). Areas of training and support include; hospitality and visitor services, catering, guiding, product innovation/improvement (including development of trails and circuits, handicrafts) use of the Chacocente Visitor Centre, cooperative establishment, business plan development, financial management, marketing.</p>	<p>provided in organisational management, administration, pricing, weaving and conservation. Learning exchange facilitated to visit Astillero weavers.</p> <p>Supported EPR boatmen to develop plan to cooperate in provision of services/trips, boat maintenance, rota to coordinate with fishing activities. Training in attending to tourists provided.</p>	<p>Honey Cooperative in line with capacity building / training plan developed under Activity 3.1.</p>
<p>Activity 3.3 Support development of a <u>volunteer-tourism enterprise at EPR</u>, in line with a business plan which ensure a strong community role in decision-making, service provision and economic benefits.</p>	<p>Support provided to nascent social enterprise SOS Nicaragua to manage voluntourism initiative and promote community engagement in the initiative. Worked with enterprise to update business plans and financial projections in response to collapse in tourism visitation. Logistical support provided throughout Y2.</p>	<p>Review options and financial projections for 2019 season, based upon projected recovery of volunteer tourism and short stay groups.</p> <p>Continue to encourage greater role for community stakeholders in service provision and decision-making relating to the enterprise, and sharing of economic benefits.</p>
<p>Activity 3.4 Through partnership with Fundación LIDER, provide <u>tailored technical skills training and SME development support</u> to assist community groups to establish or improve enterprise, employment and livelihood opportunities related to <u>sustainable fisheries</u>, especially those benefitting women and vulnerable groups. Target groups and areas of support include:</p> <p>3.4a Assist at least four community groups in EPR to <u>establish concessions for custodianship of mangroves and sustainable collection and cultivation</u> of mangrove cockle (<i>Anadara similis</i>), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawksbill habitat and providing income. Support the cooperatives to set up a plant for processing and purifying cockles, which adds substantial value.</p> <p>3.4b Assist at least one community group in EPR to <u>establish a snapper rearing facility</u>, with attention to both ecological and social costs and benefits, and <u>conduct monitoring as per environmental permits</u>. This follows a model already proven in the EPR and will provide income to individuals who have changed from destructive practices (former egg poachers and blast fishers).</p>	<p>Project is supporting 6 community cooperatives in EPR. The 2 new cooperatives established in Y1 secured their legal certification documents from MEFCCA in Y2 and held Extraordinary Meetings to grant powers to their Board members. Project partner Fundación LIDER facilitated 6 capacity building workshops on organisational development, compliance and management.</p> <p>Five cooperatives awarded mangrove concessions and licences for cockle cultivation. Signage installed to demarcate concession sites. Collaboration with University to study sustainable harvesting levels. 6 hectares of mangrove reforested (32,500 seeds planted).</p> <p>LIDER supporting four cooperatives in rearing snapper, throughout productive</p>	<p>Through partnership with Fundación LIDER, continue support to the six cooperatives and strengthen their organisational development and focus on gender.</p> <p>Continue collaboration with UNAN-León to study cultivated vs non-cultivated sites for mangrove cockles to inform sustainable harvesting levels and management approaches within community concession sites. Continue to support cooperative members to conduct communal biannual mangrove reforestation days.</p> <p>Work closely with Fundación LIDER to evaluate options and address challenges linked to production cycle for snapper, specifically with regards to procurement of fingerlings, production</p>

<p>3.4c Support fishers from four communities who have committed to <u>responsible fishing practices</u> and are <u>championing locally the elimination of blast fishing</u> and other illegal practices harmful to turtles. Areas of training and support include; improved fish handling and storage, negotiation skills, access to higher value markets, promotion to hotels based on commitment to conservation, business plan development. This extends an FFI initiative on Nicaragua's southern Pacific coast, where blast fishing is less prevalent, which generated increased income while tackling threats to both turtles and fisheries.</p>	<p>cycle. Training delivered in snapper fisheries management, production of high protein fish-food and water quality monitoring. Successes and challenges from 2018 productive cycle being used to inform and adapt activities for 2019. Strengthened understanding of fisheries legislation and responsible practices amongst artisanal fishers from fleets near three priority turtle nesting beaches. Study into national and international markets for sustainably caught fish (including farmed snapper from Chinandega) initiated.</p>	<p>of high-protein fish-food, water quality monitoring, and marketing. Continue to reinforce links between project support to mariculture initiatives and commitments to sustainable fisheries and biodiversity conservation. Expand support to fishers committed to responsible practices and those championing the elimination of blast fishing, beyond those already engaged in the six cooperatives working with the project in EPR.</p>
<p>Activity 3.5 Support the development of linkages and equitable relationships that deliver livelihood benefits for coastal communities, through the facilitation of dialogue between target community groups and businesses to identify opportunities and barriers to cooperation. Support <u>participatory development of market systems</u> to strengthen market linkages for groups from two sectors; nature-based coastal tourism service providers and fishers who have committed to responsible fishing practices from the northern Pacific of Nicaragua.</p>	<p>Training in PMSD approaches delivered to project team. Market systems selection process undertaken, facilitated by PMSD specialist. Priority being given to improving fisheries-related livelihood strategies, until tourism sector recovers.</p>	<p>Participatory market mapping and action planning workshops scheduled for Y3 Q1, with initial focus on markets for snapper.</p>
<p>Output 4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.</p>	<p>4.1 Area of priority habitat at Punta Venecia in Estero Padre Ramos Natural Reserve (EPR), with enhanced protection. (0.9km of hawksbill nesting beach; 28 hectares of coastal and riparian dry forest) 4.2 Plan for implementation of the agreement endorsed by the Municipality, with fund-raising under way if needed.</p>	<p>4.1 Viability analysis of alternative legal instruments for securing the property for conservation under Nicaraguan law completed in Y1. Negotiations with landowner on hold during Y2, although next steps agreed with landowner in March 2019 meeting. 4.2 Plans being presented to municipal authorities in Q1 of Y3.</p>
<p>4.1 Seek legal counsel to <u>analyse the viability of alternative legal instruments for securing the property at Punta Venecia for conservation</u>. Convene meetings with the private 'landowner' (legally it is a lease from the municipality, as this is coastal property) to discuss the options and review alternative contractual arrangements, together with the municipal authorities and the local Hawksbill Committee as appropriate. <u>Negotiate a multi-party agreement</u> to ensure long-term security of</p>		<p>Three alternative legal instruments identified, verified and shared with the landowner in Y1. Follow up meetings put on hold throughout Y2, until March 2019 when landowner returned to Nicaragua. Agreements on next steps agreed and follow up meeting with Work with FFI's legal counsel in Nicaragua to facilitate meeting with municipal authorities scheduled for April 2019. Convene further meetings as necessary to negotiate and reach agreement between FFI, the landowner and the municipal authorities.</p>

<p>this critically important habitat, while providing satisfactory outcomes for the landowner, the neighbouring EPR communities and the municipality.</p>	<p>municipal authorities scheduled for April 2019.</p>	
<p>4.2 <u>Invest</u> in those elements of the agreement package which align with the central themes of this project, including building local capacity for the management of an upgraded centre for conservation and volunteer tourism, hiring legal services for drafting agreements, and providing support for enterprise development necessary to implement the agreement.</p>	<p>This activity will follow the agreement reached in Activity 4.1.</p>	<p>Needs and next steps will be defined once agreement is reached.</p>

Annex 2: Project’s full current logframe as presented in the application form (unless changes have been agreed)

The project logframe was revised in Y2 and the following is the agreed version:

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: (Max 30 words) Nicaragua’s development planning for coastal and marine areas incorporates strategies to conserve natural capital and enable coastal communities to benefit from it sustainably.</p>			<p>That the security situation in Nicaragua is sufficiently stable for FFI to maintain operations.</p> <p>That proposed development of the Inter-Oceanic Canal will not adversely affect the receptivity of government and tourism sector leaders to information and recommendations emerging from the project.</p> <p>That adult populations of marine turtles in the Eastern Pacific region remain stable.</p>
<p>Outcome: (Max 30 words)</p> <p>The economic and conservation values of Nicaragua’s globally important marine turtles are recognised locally and nationally, providing benefits to coastal communities and decreasing threats to these species and priority habitats.</p>	<p>0.1: No. of decision makers, including those who lead the National Development Plan process, who have access to information relating to values of marine turtles and their habitats (target: 20 by End of Project).</p> <p>0.2: % of women and men from 10 target coastal communities who report an improved ability to meet essential household needs year round (target dependent upon community: 10-20% by EOP).</p> <p>0.3: % increase in number of women and men from 10 target coastal communities who consider live turtles to be a valuable asset</p>	<p>0.1 Minutes of meetings and email communications with decision makers; participant list at public seminar; public availability of information online.</p> <p>0.2 Socioeconomic surveys of coastal communities and key informant interviews (baseline at project start and at EOP), with data disaggregated by gender.</p> <p>0.3 Focus group discussions and surveys of community perceptions and behaviours (baseline at project start and at EOP)</p>	<p>That decision makers, including those who lead the National Development Plan process, are willing to engage with us and that the Plan goes ahead.</p> <p>That there will be no major disruption to livelihoods in the project localities - through natural disasters, large-scale pollution, or national economic/social instability - and people are willing to report changes in their household income/status.</p> <p>That no events take place to affect the current market system for turtle products that would cause an increase in demand.</p>

	<p>compared to baseline (target: 15% by EOP).</p> <p>0.4: Km. of nesting beaches with enhanced protection of marine turtle nests (baseline: 30km; target: 40km by EOP).</p> <p>0.5: National tourism sector (tourism agencies, industry bodies and operators - including INTUR and CANATUR) are using marine turtles as a flagship species for tourism in Nicaragua by EOP.</p>	<p>start and at EOP), with data disaggregated by gender.</p> <p>0.4 Collation of data from turtle hatchery/tourism initiatives along Pacific coast.</p> <p>0.5 Promotional materials, events and public statements from tourism agencies, industry bodies and operators; online survey of CANATUR members.</p>	<p>That the majority of turtle hatchery/tourism initiatives adopt the guidelines developed by the project and share their data.</p> <p>That Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability.</p> <p>That the positive relationships and attitudes of tourism agencies, industry bodies and operators towards turtle conservation will continue.</p>
<p>Outputs:</p> <p>1. Policies, plans, marketing and practice of tourism and associated coastal development are informed by an economic valuation of turtles as a tourism asset and increased knowledge about their conservation.</p>	<p>1.1 No. of tourism and coastal development policies, plans and strategic decisions which refer to the economic value of living turtles and demonstrate knowledge of best practices for conservation and community benefit (target: at least 5 by EOP).</p> <p>1.2 % of CANATUR members who have expanded coverage of community-based turtle tourism initiatives in their national and international marketing of Nicaragua (target: 5% by March 2020; 10% by EOP).</p> <p>1.3 No. of community-based turtle tourism initiatives being marketed nationally or internationally by CANATUR members (target: 5 by March 2020, 12 by EOP).</p>	<p>1.1a Published report on economic and social-cultural values of Nicaragua's Pacific coast turtles and associated communications materials.</p> <p>1.1b Tourism sector codes of practice, public statements and marketing strategies.</p> <p>1.2 CANATUR survey of its members.</p> <p>1.3 Records of FFI discussions with community groups; CANATUR surveys of their members.</p>	<p>That the local and national tourism sector will remain open to integrating marine turtles into their activities and marketing.</p> <p>That the valuation study will confirm scope for increased community-based turtle-related tourism.</p> <p>That public awareness and support for marine turtle conservation is influenced by parallel initiatives (including awareness raising campaigns) led by FFI through our broader marine turtle conservation programme.</p>

<p>2. Nicaragua’s technical capacity relevant to turtles, hatchery management, coastal/marine ecosystems and low impact coastal development practices is increased, through training in these disciplines and strengthening of national and regional networks.</p>	<p>2.1 No. of graduates/undergraduates who complete fieldwork research projects in coastal areas (target 24 students; 6 per year x four years, at least 40% women).</p> <p>2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).</p> <p>2.3 No. of turtle hatchery/tourism initiatives implementing best practice guidelines (target 12 by Sept 2019)</p> <p>2.4 NTCN has a clear strategy, its members have increased access to relevant guidance and information, are in regular communication with peers regionally and nationally, and collaborate on issues as relevant (by EOP).</p> <p>2.5 No. of people (professionals, service providers, authorities, students) integrating learning from national and regional experience and using knowledge gained into Nicaraguan initiatives (target 32 by EOP)</p>	<p>2.1 Fieldwork research project reports. Participant data disaggregated by gender.</p> <p>2.2 Course materials; participation records (participant data disaggregated by gender).</p> <p>2.3 Best practice guidelines for turtle hatchery/tourism initiatives; participation records for training in best practice guidelines; verification by project staff of implementation of guidelines.</p> <p>2.4 NTCN strategic plan; NTCN meeting minutes and public statements; analysis of traffic on national/regional turtle network listservs and social media groups (WhatsApp and Facebook).</p> <p>2.5 Survey and focus group discussions at EOP to assess use and application of knowledge gained (data disaggregated by gender).</p>	<p>That tourism professionals see the potential benefits of community based ecotourism and attend training.</p> <p>That the majority of the hatchery/tourism initiatives will be open to receiving technical support and the adoption of best practice guidelines, and will share the data they collect.</p> <p>That wider activity and collaboration within the NTCN will be facilitated and supported by Network members.</p> <p>That the current/future employment or roles of training attendees enable them to apply the learning they have gained.</p>
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<p>3. Female and male community members adjacent to turtle nesting beaches have the skills and opportunities to engage in sustainable livelihoods.</p>	<p>3.1 No. of community members trained in relevant technical skills and provided with support for SME development or employment (target: 180 by March 2019; 360 at EOP; 60% women).</p> <p>Target groups/enterprises include:</p> <ul style="list-style-type: none"> • Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey. • Seasonally employed turtle beach patrollers seeking skills for their off-season livelihoods (mostly male). • Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group. <p>3.2 No. of sustainable fisheries and community based tourism enterprises with robust business models (target: 6 by Sept 2019; 12 by EOP).</p>	<p>3.1 Records of community meetings, workshops and other training events (participant data disaggregated by gender, locality and type of livelihood); Records of follow-up meetings with beneficiaries.</p> <p>3.2 Business plans and financial records of enterprises; fair contracts between community enterprises and other market actors (input suppliers, traders, hotels, travel agencies). Supplemented by photos of the enterprises and interviews with tourists and other service users.</p>	<p>That the current positive attitude, locally and nationally, to developing sustainable livelihoods and new enterprise partnerships is maintained.</p>
<p>4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.</p>	<p>4.1 Area of priority habitat at Punta Venecia in Estero Padre Ramos Natural Reserve (EPR), with enhanced protection. (0.9km of hawksbill nesting beach; 28 hectares of coastal and riparian dry forest)</p> <p>4.2 Plan for implementation of the agreement endorsed by the</p>	<p>4.1 Binding long-term agreement in place with private landowner.</p> <p>4.2 Plan, with letter of support from Municipality. Funding proposals, if relevant.</p>	<p>That the landowner will maintain his interest in reaching an agreement to ensure long-term conservation.</p> <p>That additional funding needs, related to the establishment of formally protection of the land, can be raised well before the current agreement expires in 2022.</p>

	Municipality, with fund-raising under way if needed.		
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Activities

1.1 In collaboration with partners from tourism sector (tourism agencies, industry bodies and operators - including CANATUR - governmental authorities, and FIU) and turtle conservation groups, design methodology and implement valuation study into the economic and social-cultural values of Nicaragua's Pacific coast turtles. Share preliminary results with partners for feedback.

1.2 In collaboration with tourism and turtle conservation partners, develop communications plan for the dissemination of key information from the study to target audiences (decision makers, tourism sector, coastal communities). Contract the design and production of appropriate and agreed communications materials.

1.3 Share finalised report and disseminate communications materials amongst tourism and turtle conservation partners, other stakeholders and target audiences (including coastal municipal authorities, MARENA, leaders from target coastal communities, media agencies) and monitor impact.

1.4 Engage with government authorities to inform relevant development policy formulation and planning processes in order to promote the integration of the conservation of turtles and their coastal/marine habitats into these national instruments.

1.5 Collaborate with FIU, tourism chambers/associations, municipal authorities and communities to assess existing turtle/marine tourism near project locations and identify i) potential improvements to existing initiatives, ii) potential new community-based initiatives and iii) potential links between local product providers, national operators and international supply chains.

1.6 In collaboration with FIU, facilitate a workshop to assist CANATUR and governmental authorities to develop a strategy to package and promote community-based turtle/marine tourism initiatives in specific markets. Support delivery of strategy where appropriate, for example in developing links between local product providers and national / international operators and in guiding tourism product plans so that they follow technical, environmental and social good practice and strengthen links between livelihoods and custodianship of turtles and their habitat.

1.7 Share lessons learned from the project through two publications; one technical report in English and a more popular publication in Spanish.

2.1 Through links with universities in Nicaragua, support undergraduate and graduate students to undertake research projects or internships on turtles, marine/coastal conservation, community-based ecotourism, sustainable livelihoods and socio-economic issues, either as part of their studies or to gain experience after graduating. Track their post-internship professional development.

2.2 Through partnership with FIU, develop and deliver a module on coastal community-based ecotourism, including a field trip to observe turtle tourism and low-impact coastal development - to inform and influence current and future professionals in tourism, coastal development, municipal planning, and natural and social sciences. Deliver the module at least three times; incorporate into at least one university course covering sustainable tourism (UAM) and adapt for delivery as a stand-alone course for key professionals. Monitoring subsequent use of knowledge and skills.

2.3 In consultation with NTCN members, authorities and tourism stakeholders, develop best practice guidelines (including technical, environmental and social responsibility considerations) for the management of turtle hatcheries linked to coastal tourism enterprises. Disseminate the guidelines and provide training to managers and staff of turtle hatchery/tourism initiatives in their implementation.

2.4 Facilitate and support strategic development of the NTCN. Provide ongoing support to NTCN members, helping them to organise collective statements and action on issues affecting turtles, facilitate data sharing, provide expert services to communities, authorities and the private sector, connect with regional peers and raise funds.

2.5 Organise a study visit to Costa Rica for tourism and conservation professionals, representatives of CANATUR and community members to learn from examples of sustainable turtle tourism and community-based ecotourism from peers and stakeholders in that country.

3.1 Conduct a capacity and training needs assessment for women and men from target coastal communities (including for seasonally-employed turtle beach patrollers, to identify opportunities to improve their off-season livelihoods and therefore the value and security of being a turtle patrol professional). Based upon this assessment, develop tailored training plans for target groups across a variety of sectors (including nature-based tourism service providers and sustainable fisheries).

3.2 Provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and service provision opportunities related to coastal tourism, especially those benefitting women and vulnerable groups. Target groups include; women weavers using waste plastic bags as raw material (25 people in 2 communities), tourism guides (51 in 4 communities), honey producers who also receive tourists (28 in 3 communities), a cooperative operating a turtle hatchery (20 people in 1 community). Areas of training and support include; hospitality and visitor services, catering, guiding, product innovation/improvement (including development of trails and circuits, handicrafts) use of the Chacocente Visitor Centre, cooperative establishment, business plan development, financial management, marketing.

3.3 Support development of a volunteer-tourism enterprise at EPR, in line with a business plan which ensure a strong community role in decision-making, service provision and economic benefits.

3.4 Through partnership with Fundación Líder, provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and livelihood opportunities related to sustainable fisheries, especially those benefitting women and vulnerable groups. Target groups and areas of support include:

3.4a Assist at least four community groups in EPR to establish concessions for custodianship of mangroves and sustainable collection and cultivation of mangrove cockle (*Anadara similis*), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawksbill habitat and providing income. Support the cooperatives to set up a plant for processing and purifying cockles, which adds substantial value.

3.4b Assist at least one community group in EPR to establish a snapper rearing facility, with attention to both ecological and social costs and benefits, and conduct monitoring as per environmental permits. This follows a model already proven in the EPR and will provide income to individuals who have changed from destructive practices (former egg poachers and blast fishers).

3.4c Support fishers from four communities who have committed to responsible fishing practices and are championing locally the elimination of blast fishing and other illegal practices harmful to turtles. Areas of training and support include; improved fish handling and storage, negotiation skills, access to higher value markets, promotion to hotels based on commitment to conservation, business plan development. This extends an FFI initiative on Nicaragua's southern Pacific coast, where blast fishing is less prevalent, which generated increased income while tackling threats to both turtles and fisheries.

3.5 Support the development of linkages and equitable relationships that deliver livelihood benefits for coastal communities, through the facilitation of dialogue between target community groups and businesses to identify opportunities and barriers to cooperation. Support participatory development of market systems to strengthen market linkages for groups from two sectors; nature-based coastal tourism service providers and fishers who have committed to responsible fishing practices from the northern Pacific of Nicaragua.

4.1 Seek legal counsel to analyse the viability of alternative legal instruments for securing the property at Punta Venecia for conservation. Convene meetings with the private 'landowner' (legally it is a lease from the municipality, as this is coastal property) to discuss the options and review alternative contractual arrangements, together with the municipal authorities and the local Hawksbill Committee as appropriate. Negotiate a multi-party agreement to ensure long-term security of this critically important habitat, while providing satisfactory outcomes for the landowner, the neighbouring EPR communities and the municipality.

4.2 Invest in those elements of the agreement package which align with the central themes of this project, including building local capacity for the management of an upgraded centre for conservation and volunteer tourism, hiring legal services for drafting agreements, and providing support for enterprise development necessary to implement the agreement.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Total planned during the project
4A	Number of undergraduate students to receive training *	Y1: 9 female, 5 male. Y2: 2 female, 2 male.	Nicaraguan	14 (6 + 8)	4			18	44 (24 + 20)
4B	Number of training weeks to be provided.	N/A	N/A	2 weeks (one training of 4 days, three trainings of 2 days)	2 weeks			4 weeks	8 weeks
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above) *	Y1: 158 female, 234 male. Y2: 104 female, 147 male.	Nicaraguan	392 (NB some attended more than one training)	251			251 (avoiding double counting)	400 (25 + 15 + 360)
6B	Number of training weeks to be provided.	N/A	N/A	3 weeks	4 weeks			7 weeks	8 weeks
7	Number of (e.g., different types - not volume - of material produced) training materials to be produced for use by host country.	N/A	N/A	1 (draft tourism course training materials in English)	0			1	3 (tourism course materials; hatchery management guidelines x2)
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other	N/A	N/A	0	0			0	1

	implementing agencies in the host country.								
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording.	N/A	N/A	2 field guides (EPR Bird Guide and Ethnobotanical Guide)	0			2	4
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings.	N/A	N/A	0	0			0	1
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	N/A	N/A	1	1			2	4
20	Estimated value (£'s) of physical assets to be handed over to host country.	N/A	N/A						
23	Value of resources raised from other sources (e.g., in addition to Darwin funding) for project work.	N/A	N/A						

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Weaving for Nature: Developing successful plastic waste-based enterprises: lessons learned from Nicaragua.	Learning Document	Fauna & Flora International, 2019	Female	British	Flora & Fauna International, Cambridge, UK.	https://api.fauna-flora.org/wp-content/uploads/2019/05/FFI2019Weaving-for-Nature.pdf

Evaluation of three incubation methods regularly adopted by sea turtle hatcheries in the Pacific coast of Nicaragua	Scientific poster presented at 2019 International Sea Turtle Symposium	H. Salazar, D. Padilla, J. Urteaga, V. Gadea & J. Berroteran, 2019	Female	Nicaraguan	International Sea Turtle Society.	International Sea Turtle Symposium proceedings, 2019 (proceedings are not yet available on the ISTS website internationalseaturtlesociety.org/proceedings)
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Annex 4 Supplementary material

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Y
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	Annex 4A highlighted blue is 15MB and is withheld pending instruction from Darwin.
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Y
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	