



Darwin Initiative Main Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance:
(<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>).

Submission Deadline: 30th April 2018

Darwin Project Information

Project reference	24-020
Project title	Realising the values and benefits for communities of Nicaragua’s Turtles
Host country/ies	Nicaragua
Contract holder institution	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 2016 – Mar 2017) and number (e.g., Annual Report 1, 2, 3)	1 June 2017 – 31 March 2018 Annual Report 1
Project Leader name	Edgard Herrera Scott
Project website/blog/Twitter	www.fauna-flora.org/explore/nicaragua/ (NB. FFI website is under reconstruction) NTCN Facebook page - tortugas.nicas.7
Report author(s) and date	Edgard Herrera Scott (FFI), Alison Gunn (FFI), Eduin Caballero (LIDER), Helen Schneider (FFI). 9 May 2018

1. Project rationale

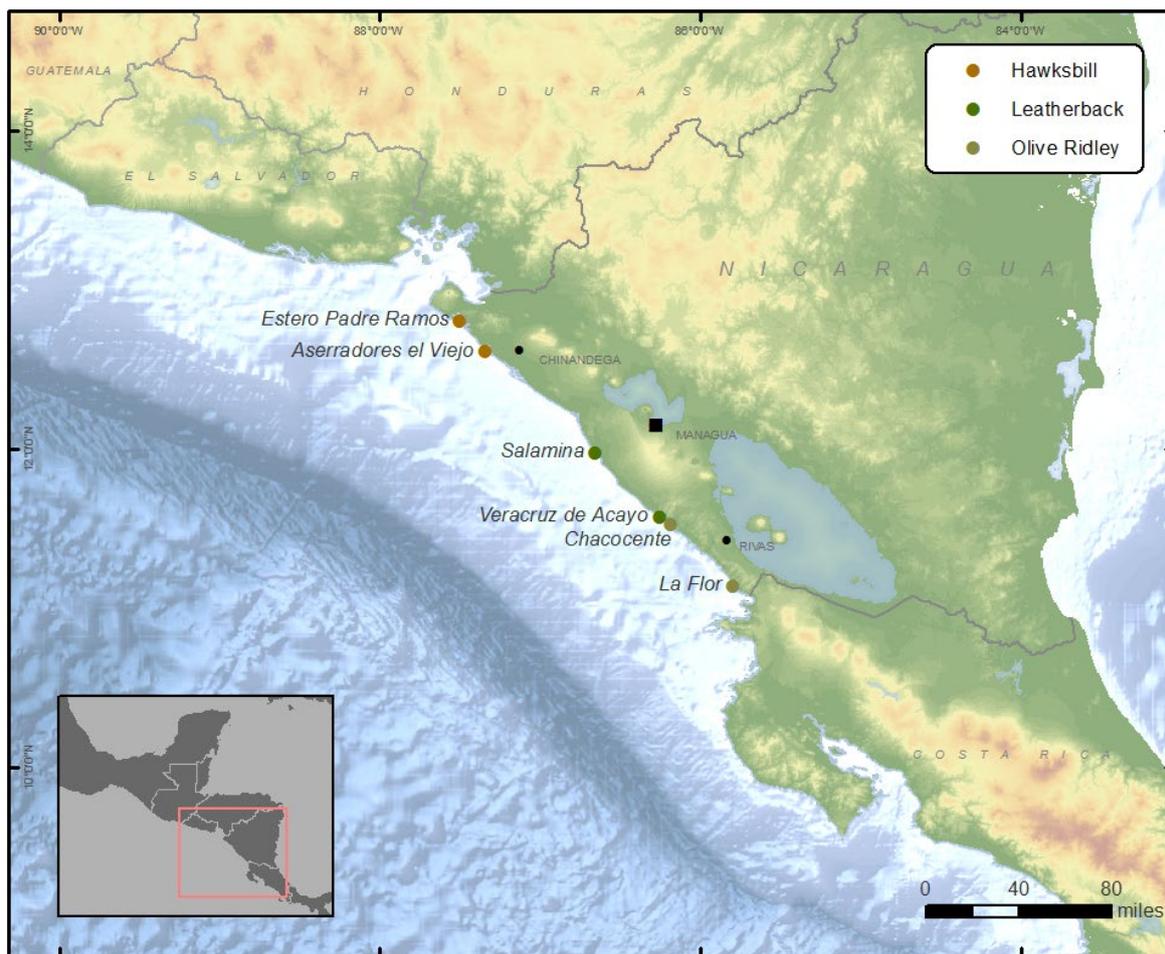
Nicaragua has globally important Pacific turtle populations, including 52% of nesting Eastern Pacific Hawksbill (CR), plus Eastern Pacific Leatherback (CR), Green turtle (EN), and Olive Ridley (VU) (two of eleven mass nesting beaches). Many coastal people, who depend on agriculture and fishing, are poor 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’s fast-growing tourism (income increased 58% over six years, reaching 1.46 million visitors and \$528m in 2015) could exacerbate or improve the situation, depending on policies and practices adopted. Already, some hotel construction threatens coastal habitat, some businesses marginalise adjacent communities and some privately owned, tourist-oriented turtle

hatcheries use inappropriate methods. Nevertheless, there is time 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 ten 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, the Nicaraguan government (central and municipal), 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 October 2017, FFI and LIDER entered into an agreement governing LIDER's role in the project, with a focus on the activities under Year 1 of the project (this agreement is being renewed for Year 2). Project activities and outputs delivered through our partnership with LIDER have largely progressed well; the main challenges relate to delays in government approval of mangrove concessions and permits.

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 this through an agreement signed in February 2018 regarding our collaboration to disseminate information on marine turtles and encourage the uptake of best practices for turtle hatchery management amongst CANATUR members, and on the economic valuation of marine turtles as a tourism asset in Nicaragua.

Dr. Carolin Lusby, Florida International University: Carolin is collaborating with FFI on the design and delivery of sustainable tourism training and marketing, 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 a specialist in tourism and the environment and her inputs under Years 1 and 2 of the project have been formalised through a consultancy contract with FFI.

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.

3. Project progress

3.1 Progress in carrying out project Activities

Start-up

0.1 Project start-up: At project inception, the project was set up within FFI's institutional project management systems. FFI's project team developed a detailed project workplan for Year 1, set up the project steering committee, and held planning meetings with key partners. Sub-agreements and contracts were signed with the project partners and collaborators, relating to their roles and responsibilities in the project.

0.2 Finalise indicator measurement methods. Complete baselines. Plan research: During Year 1, the project team has designed and revised a Monitoring and Evaluation (M&E) framework tailored to this project. Measurable indicators have been defined and refined (in line with the project's logframe) in order to measure the impact of the multiple and heterogeneous interventions under this project – in terms of sustainable use of natural resources, socio-economics, wellbeing, capacity building, enterprise development, as well as measures of attitudes and behaviours. The project's M&E framework incorporates Darwin Initiative Standard Measures and draws upon standard approaches, including the Sustainable Livelihoods Framework and the use of control samples where the project is not operating to allow comparison between project beneficiaries and non-beneficiaries over the project lifetime. Indicator measurement methods and responsibilities have been defined and designed, and align with the social research being led by project partner Jose Urteaga. Pre-existing baseline information has been collated.

The baseline socio-economic survey, across 30% of focal community members in three municipalities, and semi-structured interviews - including open questions to investigate turtle-related knowledge, attitudes and motivations amongst coastal communities - with target beneficiaries and key stakeholders, was designed and began during Year 1. The compilation

and evaluation of project baseline was delayed due to the delay in recruiting the project's Specialist in Community Livelihoods, but is on course for completion before the end of Q1 Y2.

Review of the project's logical framework, indicators and assumptions during Year 1 has highlighted elements of the project which need to be refined and/or updated (see 3.2 - 3.4 for more detail). The project team therefore propose to undertake a full review of the project logical framework, indicators and assumptions during Y2 Q1, drawing upon expertise within FFI (specialists in project design and M&E from our Science and Capacity teams) to support this process.

0.3 Implement M&E: Project M&E builds upon baseline information collated under 0.2 and will be implemented throughout the project.

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

1.1 Discuss intended valuation study with tourism partners: Initial dialogue with key stakeholders from the Nicaraguan Tourism Chamber (CANATUR) and tourism specialists confirmed significant buy-in to the valuation study. The scope, basis and process for the valuation study were discussed through a series of meetings with the President of CANATUR and members of their Executive, representatives from the Nicaraguan Institute of Tourism (INTUR), Dr Carolin Lusby of FIU, and technical specialists. Stakeholders agreed on the multiple uses of the results generated and the most appropriate format for the publication of the study.

1.2 Define detailed methodology: FFI's project team undertook a literature review into comparable valuation studies, appropriate methods and available toolkits, to inform the detailed methods to be applied in Nicaragua. The project team discussed appropriate methods and the assessment process with CANATUR and FIU. FFI and partners agreed the need to draw upon external specialist expertise to advise upon and finalise the methodology and lead the valuation study. As a result, this process will continue into Y2.

1.3 Implement valuation study: Existing and potential sources of information were identified and the process of compiling data initiated by FFI, with support from CANATUR. As per 1.2, the valuation study will be led by an external specialist, with relevant experience. Terms of reference for this work have been developed and a Change Request will be submitted to Darwin once the budget for this consultancy has been defined. It is anticipated that this process will be completed in Q1 and the report finalised in Y2.

1.4 – 1.6: Scheduled to start in Y2, as per Project Implementation Timetable.

1.7 Engage government to integrate turtles and their habitat into development policy and planning: FFI's Country Director (and Project Lead) is responsible for FFI's engagement with government agencies to promote our work and the integration or alignment of conservation goals into national policy and planning. Through two meetings with government institutions during Year 1, FFI raised the profile of the project amongst key actors within INTUR and the Ministry of Environment and Natural Resource (MARENA), highlighting the importance of the integrating the conservation of turtles and their coastal and marine habitat into national policy instruments. This will continue dialogue into Y2, drawing on the results of the valuation study which will be presented to the authorities under activity 1.4. Through our collaboration with CANATUR, FFI is also working to increase the visibility of marine turtle values at industry events such as the Güegüense Award for Excellence held in March 2018 in Managua.

1.8 Assist linkages between national tourism operators, community enterprises and international supply chains: FIU is providing advice to the project team and assistance to tourism industry actors to help identify potential links between local product providers and national operators and international supply chains (with a focus on UK and US tour operators who could market coastal community-based ecotourism packages to their clients). This work draws upon (i) the training in coastal community-based tourism developed and delivered in collaboration with FIU under activity 2.2, (ii) support to SME development under activity 3.1, (iii) FFI's support to the volunteer tourism enterprise in EPR under activity 3.3, and (iv) the Participatory Market Systems Development (PMSD) approach being promoted and facilitated by the project amongst coastal community stakeholders (under activities 3.2 and 3.9) - including those with economic activities related to coastal tourism, especially those benefitting women and vulnerable groups.

1.9 Assess existing turtle/marine tourism, plan improvements and expansion, and link community product providers to operators: FIU and FFI have discussed and agreed the scope and design of the processes required to assess existing turtle and marine tourism initiatives on the Pacific coast, prioritising those near turtle nesting areas. FIU's focus is on helping to identify potential improvements, as well as potential new community-based products, with FFI providing guidance to ensure that tourism product plans incorporate environmental and social good practice and strengthen linkages between livelihoods and custodianship of turtles and their habitat. CANATUR members, municipal authorities and community members will continue feeding into this process, which began in Y1 and will contribute in Y2 to the development of a strategy (in collaboration with national tourism associations and INTUR) to package and promote community-based turtle/marine tourism products in specific markets under Activity 1.10.

1.10 This activity follows logically from 1.9 and will therefore take place in Y2.

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

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

2.1 Organise student projects/internships on relevant topics: Student volunteer placements, designed to help students gain experience after graduating - on turtle conservation, marine resources, ecotourism and coastal livelihoods - took place at the hawksbill nesting sites at Estero Padre Ramos Nature Reserve (EPR) and the Aserradores estuary (ASE) from June 2017 and at the leatherback/olive ridley mass nesting sites at Veracruz de Acayo-Chacocente (VA) from November 2017. A total of six graduates from three Nicaraguan universities were selected (three Biologists, two Vets and one Environmental Engineer; four female and two male) to undertake these placements. Students received training and experience in marine turtle conservation, monitoring of nesting females (collection of morphometric data, ID and satellite tagging) and nests (including hatchery management), scientific data collection and database management, and environmental education and outreach. Students were asked to identify their key skills, research preferences and future plans, so that the development of their specific interests and expertise could be incorporated into their internships. They undertook research into species richness and monitoring of birds in EPR and ASE, an ethnobotanical study of medicinal plants in EPR and Environmental Impact Assessment studies to inform the development of tourism infrastructure compatible with hawksbill nesting in ASE. Two of these students have since secured full time jobs in related fields.

2.2 Develop and deliver a module on community-based ecotourism: The project team have worked with Dr Carolin Lusby (FIU) and the Universidad Americana in Managua (UAM), to design a modular training course in community-based ecotourism, which includes site visits observe and study turtle tourism initiatives and low-impact coastal development. The first module has been released and incorporated into UAM's Sustainable Tourism course. This was delivered to a cohort of 8 students (5 female, 3 male) from UAM in March-April 2018, through both online content and face-to-face lectures delivered by Carolin Lusby and FFI staff at the University. The course encompasses eight topics: *Introduction to community-based tourism (CBT); Sustainability and CBT; Tourism distribution channels, links, products and CBT; Marine resource management and marine tourism; Ecotourism; Marine turtle conservation and values; Carrying capacity, limits of acceptable change, and associated management tools; Service Training for CBT providers.* Logistics have been put in place for a field visit for the students during May 2018, where they will learn about ecotourism development related to marine turtle conservation in EPR and will critically evaluate existing and potential community-based tourism enterprise opportunities in the area. Training materials have been developed in English and are being translated into a comprehensive Spanish training manual for stand-alone delivery to a wider cohort of community-based ecotourism stakeholders and professionals during Y2. FIU are leading monitoring of the impact of the module in terms of subsequent use of skills amongst participants.

2.3 Develop guidelines for turtle hatcheries and associated tourism operations: The project team have drawn together existing manuals and guidance (from Nicaragua and internationally) on hatchery management protocols, visitation to nesting beaches, and tourism

development on nesting beaches. FFI is leading the process of integrating this information into a first draft of the guidelines to share with project partners and specialists for review.

During Y1, FFI have been conducting an evaluation into the effect that hatchery incubation techniques have on hatching success rates and hatchlings' health. This research was designed in response to the observation that hatcheries exist on the Pacific coast which are incubating clutches of eggs in sacks filled with sand, rather than following international 'best practice' procedures of relocating clutches of eggs to hatcheries, where they are incubated at standard depths dug down into the sand of the hatchery floor. Those employing the sack incubation method report that hatching success is high, but no previous empirical studies have been conducted to support this claim. Our research is therefore studying the difference between the sack incubation method and standard techniques; the results of this study will inform the refinement of the national guidelines for hatchery management. This has slightly delayed the next steps outlined below, however we see this additional study as important in informing nationally (and therefore locally) appropriate guidelines.

Next steps include the facilitation of a broad consultation process - amongst Nicaraguan authorities, tourism enterprises and National Sea Turtle Conservation Network (NCTN) members - in order to inform and develop national guidelines for the management of hatcheries and associated tourism operations, which incorporate both technical and social responsibility considerations. This process will continue to inform revisions to the guidelines over the next 4 months, with the sharing of a full draft of the guidelines with the NCTN members, MARENA and other hatchery management / turtle conservation stakeholders scheduled for Q2 Y2.

2.4 Provide training to hatchery operators on techniques and practices in the guidelines:

FFI is collecting baseline data to characterize all turtle conservation and hatchery operations in the Pacific of Nicaragua, with survey data being collated in Excel (see Activity 1.9), to inform the process of dissemination and training once the guidelines are complete and to guide project M&E.

2.5 Facilitate NCTN strategic planning: Although planned to begin in Q4 Y1, this activity will now take place in Y2, in line with the availability of the multiple actors involved in this process.

2.6 Support NCTN to become effective: At the start of the project, two meetings of the NCTN were held - on 3 July (15 participants; 10 female, 5 male) and 4 August (10 participants; 6 female, 4 male) - with the aim of reactivating the Network. Key next steps were agreed; to select a new Board of Directors for the NCTN, encourage the inclusion of new members (including students) involved in marine turtle conservation, and prepare an activities plan for 2018. FFI is inspiring increased communications within the NCTN (taking advantage of increased access to cell phones and internet amongst field practitioners) through the creation of a WhatsApp group called '*Grupo Tortuguero NICA*'. The ~30 active members of the group are sharing information on nesting and hatching, new scientific reports, discussion of issues occurring on nesting beaches, emergency/Tsunami warnings.

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

Output 3: Coastal community members benefit from improved economic opportunities

3.1 Provide skills training and SME development support for enterprise, employment and service provision opportunities: In the first year of the project the focus has been to refine the training needs assessment of women and of men in each of the target groups. This has enabled identification of key people who would benefit from capacity-building in basic generic enterprise development skills including business plan development, marketing, financial management and administration, and organisational governance. In addition the enterprise-specific skill and knowledge gaps for each individual group have been clarified and, based on this assessment, work has begun on developing tailored training plans for each group.

For example, Community Tourist Guides from EPR and patrol teams at EPR and ASE lack some key bird and plant identification skills, as well as knowledge of some aspects of bird behaviour - and traditional medicinal uses of plants - that typically are of interest to visitors. Information from the ornithological and ethnobotanical studies undertaken through activity 2.1 is now being used to design appropriate training curricula and materials to address these knowledge gaps and improve guides' environmental interpretation skills.

In addition, the project is providing skills training to women involved in the successful and proven initiative called "*Tejiendo por la Naturaleza*" ("Weaving for Nature"). With the support of a Nicaraguan specialist in this plastic bag recycling initiative linked to the conservation of turtles, FFI is working with three groups of women weavers - the group from the communities of Astillero and Piñuela has 29 members and is the most well-established; the group from the communities of Padre Ramos and Venecia has 10 members; the group from the community of Salamina also has 10 members. FFI's Conservation Finance & Enterprise team began facilitating the potential development of international market linkages for the recycled plastic bags in the UK. During Year 1 the project has focused upon strengthen the capacity of the women's group of weavers from Padre Ramos and Venecia. There are now 10 women in his group, compared to 2 at project inception. A participatory capacity and training needs assessment has been undertaken, which identified the need to improve weaving techniques and product designs, as well as to diversify the number of women involved in the group, their organisation and market links. Work to consolidate the group's organisation includes the ongoing development of a marketing and sales plan, improved administration and compliance with a voluntary code of conduct for responsible artisans.

A further example relates to support provided by FFI and Fundación LIDER to the Chacocente Community Tourism Cooperative (Chacocente is the protected area hosting a mass nesting beach for olive ridleys and a leatherback nesting beach). The project team facilitated a workshop in August to enable the cooperative evaluate and improve their governance mechanisms, receive training on their legal obligations, and identify and address key administrative and organisational issues to aid their future development as a profitable enterprise. 32 people from their Board of Directors and cooperative members participated (16 female, 16 male). Agreements were reached regarding roles and responsibilities in managing tourists and the distribution of benefits amongst co-operative members.

3.2 Foster equitable relationships between businesses and local groups: FFI is working to facilitate dialogue and identify opportunities to strengthen cooperation between businesses and community groups. For example, in October FFI provided support to the Chacocente Community Tourism Cooperative in response to their request for help in reaching a fair and lasting agreement with a private tourism operator for the provision of local services, such as meals, horse riding, boat transportation, so as to improve and stabilise income to the community.

In EPR, FFI is working with *SOS Nicaragua* (a recently established volunteer-tourism social and environmental enterprise) to identify and collaborate with community groups or individuals that can provide different tourism-related services or activities to complement visitor experiences (such as fishing tours, kayak trips, Weaving for Nature, local history and storytelling, local folk music and dance, and the sharing of other cultural experiences) – see also activity 3.3. FFI is also helping *SOS Nicaragua* to support sustainable local economic development, through the procurement of products and services local to EPR wherever possible, and is providing training and mentoring to build local capacity in relation to the provision of these services.

The participatory and system-level approach to market development (PMSD) being promoted by FFI under this project, aims to support community service/product providers and small enterprises to better understand and strengthen their linkages with market actors, thereby also contributing to the development of equitable relationships between local community stakeholders and enterprises. Participatory Market Systems Development work initiated in Y1 (see 3.9) will continue in Y2, with the support of an international specialist in this approach, based in Nicaragua.

3.3 Develop voluntourism enterprise with EPR community: A new social and environmental enterprise, "*SOS Nicaragua*", was established in 2017 by an entrepreneur who has been involved in the voluntourism project at EPR since 2012. Through an agreement with FFI, *SOS Nicaragua* took over the running of the voluntourism enterprise at EPR in July 2017, in accordance with a fully-costed business plan developed (prior to this project) with technical support from FFI and the participation of local stakeholders. Throughout Y1, FFI provided technical, practical and financial support to *SOS Nicaragua*, to help the organisation develop in line with its goals as a social and environmental enterprise; for example, in strengthening community participation - as service providers and in the enterprise's development - and benefit

sharing. During Q4, FFI began working with SOS Nicaragua to update their financial model and financial projections, based upon their income and expenditure during the 2017 tourist season.

3.4 Assist community groups to improve or expand economic activities related to coastal tourism: Building on FFI's existing knowledge and relationships and drawing upon the training needs assessment under 3.1, the project team initiated a first iteration of preliminary market mapping for the coastal ecotourism market system facilitated by the PMSD specialist. This process has enabled FFI to start to identify which actors, challenges and relationships need to engage with the process, as well as determining remaining knowledge gaps that we need to address. Examples of targeted support to community groups engaged in economic activities related to coastal tourism are described in 3.1 and 3.2.

3.5 Enable turtle beach patrollers to gain additional skills useful for improving off-season livelihoods: As mentioned in 3.1, the project team have gathered information from patrol team members on their training needs and aspirations, and started to develop curricula and materials to address these. Improved environmental interpretation skills will enable the patrollers to gain more income by acting as guides for tourists outside of the turtle egg-laying season. Specialist bird-watchers are a particularly lucrative market segment that this training will enable patrollers to tap into and benefit from.

In addition, Fundación LIDER have developed a training curriculum to enable patrollers and other coastal community members to manage a nascent snapper rearing enterprise (see following sections for more detail). To date 2 out of 3 training modules - on snapper rearing and artisanal production of high protein food (from trash fish) - have been delivered to 83 men, 62 women. A further course on monitoring of water quality and induced reproduction of the red snapper will be delivered in collaboration with UNAN-Leon during Y2.

3.6 Establish concessions for custodianship of mangroves and sustainable use of cockles: Work under this activity falls under three main areas – cooperative development, identification of concession sites and capacity-building for community concession management.

Co-operative development: Project partner Fundación LIDER has led work to develop five community cooperatives linked to artisanal fishing and sustainable mangrove cockle collection and cultivation. This work has taken place in four communities in and around EPR; Venecia, El Tintal, Poza de la Vaca and Padre Ramos.

Two workshops were held in November '17 (participants; 56 men, 18 women) and February '18 (participants; 10 men, 10 women), bringing together coastal community members who have both traditionally engaged in turtle egg collection and those (n=15) that have worked in support of marine turtle conservation in this area. These workshops led to the organisation of two new cooperatives: *Cooperativa Pesquera Agradecidos con Dios R.L.* (COOPADI) in the community of Padre Ramos (for production of mangrove cockles and snapper; 11 men, 4 women); and *Cooperativa Pesquera Abraham Moreno R.L.* (COOPAM) in the community of Venecia (for production of snapper; 9 men, 6 women).

The governance structures for these cooperatives have been established, including the election of boards of directors with representative participation of women. Three community-based assemblies were held in February 2018 (participants: 40 men, 20 women) to support the processes of community organization, with a focus on the integration of women in management positions. Economic feasibility studies for each of these co-operatives have also been undertaken.

Two existing cooperatives, *Cooperativa Luz del Mar del Tintal R L* (COOPALMAR), and *Cooperativa Poza de la Vaca R. L* (COOPEVA) have been supported to comply with the requirements of the authorities through the preparation and approval of 2017 financial statements (COOPALMAR and COOPEVA) and restructuring of the Board of Directors of COOPEVA. Administrative support has been provided to ensure due administrative processes and paperwork are in place (including tax returns, compliance records, invoices and receipts for income and expenditure) for the 2 new cooperatives as well as the existing ones mentioned above and 1 further established co-operative - *Cooperativa Brisas del Mar de Venecia R.L.* (COBRIMAR),

Fundación LIDER has supported the cooperatives to file the necessary papers with the Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA) in order to secure legal registration, in compliance with new Nicaraguan legislation. FFI and LIDER has helped the two new cooperatives to prepare the documents necessary to obtain the mangrove concessions and permits from the relevant authorities (MARENA and INPESCA) for the collection, cultivation, processing and marketing of mangrove cockles and breeding of snapper - including their Environmental Management Plans, Community Guarantees, economic and technical feasibility studies, contingency plans, micro location maps, and environmental forms. We are awaiting issue of the certification documents for both cooperatives by MEFCCA; with these, the concession requests can then be officially submitted.

Site identification: The mangrove forest co-management concessions are sites that serve as juvenile recruiters for mangrove cockles (*Anadara similis*), with Fundación LIDER's experience confirming that the mangrove forest concessions can also be managed for the production of snapper. In order to identify sites with potential for the cultivation of both snapper and mangrove cockles, water monitoring was undertaken in EPR, in areas adjacent to Venecia and Padre Ramos communities. Factors assessed also included: stream depth and speed, conservation status of mangrove, and availability of juvenile cockles. As a result, two new sites were identified with high potential for cockle cultivation, under the management of COBRIMAR and COOPADI. Further sites were identified for snapper and cockle cultivation (with co-management of mangrove forests) by COOPALMAR and COOPEVA.

Water monitoring at the sites is being undertaken through an agreement between LIDER and the National Autonomous University of Nicaragua in León (UNAN-León, the co-managers of EPR) that allows evaluation of phytoplankton dynamics, coliform bacteria concentrations, phosphate, nitrate, sulfate and ammonium concentrations, alongside fluctuation of oxygen levels, temperature, pH, salinity and turbidity. This will enable ongoing monitoring of the impact of the proposed livelihood activities on water quality. Results will inform the adaptive management of the concessions and will be shared with the relevant authorities.

Capacity-building for community concession management: Three of the five cooperatives currently have agreements with MARENA for community co-management of mangrove forest (a total of 25 hectares of concession). These three cooperatives have valid permits and commercial licenses for cultivation of mangrove cockles (each concession is for 12,000 individuals per year for each of two species of cockles). Six fiberglass canoes were procured for the licensed cooperatives to enable them to patrol their concessions and extract cockles. In coordination with MARENA, five signs have been installed marking the limits of the existing COOPALMAR mangrove forest concession and cockle nursery in El Tintal.

A total of 12,900 red mangrove trees have so far been planted, with the collaboration of 51 people (incl. 22 women) from the communities of Padre Ramos and El Tintal. In collaboration with the 5 cooperatives, the project team aims to plant a further 27,000 seedlings, from October 2018, when there is again availability of mangrove seed.

3.7 Support cooperatives to set up a plant for processing and purifying cockles.

According to a 2013 survey across 7 coastal communities of EPR, 864 families were engaged in the extraction of cockles. To date, more than 100 families have been organized into cooperatives to hold 20 year community mangrove concessions for the conservation and sustainable production of cockles. However, the prices these cooperatives are able to secure for their unprocessed produce are low. Processing (purification) of cockles would enable them to negotiate considerably higher prices.

In co-ordination with the UNAN-León, technical specifications for a purification plant have been drawn up and the necessary infrastructure has been procured (including ultraviolet purification equipment, oxygenation pump, and alternative energy generation equipment - a 550W generator to power the seawater suction pump, 2 solar panels, batteries and associated accessories).

3.8 Assist establishment and monitoring of a snapper rearing facility, with attention to both ecological and social costs and benefits.

This initiative is as part of the process of transforming livelihood dependencies in EPR away from egg poaching toward economic opportunities compatible with conservation. From the design stage of the project, it was proposed to equip one cooperative with materials and equipment for the breeding of snapper in floating cages. To date the project has already started working with three (not one as originally

envisaged) cooperatives to rear snapper. Three cages have been built so far and materials purchased to construct 11 more once permits have been issued by MARENA. 5,000 juvenile fish have been procured. Once up and running, they are projected to have a total annual production capacity of 75,000 fish. As mentioned in 3.5, LIDER has delivered training to cooperative members in the operation and management of the snapper rearing facility, covering the following topics: handling of floating cages, food processing, technological management of snapper farms, food monitoring and fish growth. LIDER is working with each cooperative to keep a production and marketing record to enable them to track the investments and income generated throughout the 2018 productive cycle.

3.9 Support fishers committed to responsible fishing practices. In line with the PMSD approach, the FFI team have initiated a first iteration of preliminary market mapping for the artisanal capture fisheries market system, for those committed to responsible fishing practices. This has involved identification of the main market actors (primary producers/fishers, intermediaries, processors, wholesalers, retailers, end-consumers) and the relationships between them, as well as input suppliers (goods and services) and important issues in the business enabling environment. This process has enabled us to start to identify which actors, challenges and relationships we need to engage with in each sub-sector, as well as determining remaining knowledge gaps that we need to address. The next steps include: initiating engagement with the key market actors; identifying 'hooks' to motivate them to work together to improve the sustainability of the market system; improving market literacy, organisational and negotiation skills of fishers; and facilitating fishers, other private sector actors and supporting agencies such as INPESCA, to develop and implement joint action plans.

3.10 Through outreach reinforce linkages between livelihood support and biodiversity conservation. In all workshops, meetings and training mentioned above, the project team emphasise the links between maintenance of healthy marine and coastal ecosystems and the sustainability of the natural resource based livelihoods on which local communities depend.

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

4.1 Analyse options then organise negotiation and signing of a multi-party agreement with landowner, municipality and local leaders. FFI carried out initial research into the legal options and requirements for securing the long-term protection for the property at Punta Venecia, EPR and, through preliminary negotiations, discussed options with the 'landowner' for dedicating the property to conservation. In Q3, FFI hired an experienced Nicaraguan attorney - a former Public Ministry attorney with expertise in environmental law - who produced a report into the viability of alternative legal instruments for securing this property for conservation. Based upon this analysis, three options are now on the table and the lawyer has produced draft contracts for each of these; 1) a 'comodato' contract, which is effectively an 25 to 90 year extension of the existing rent-free loan arrangement (this is the least strong option in legal terms); 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 from the landowner to FFI or other environmental institution (this being the strongest tools for securing the land, as it includes provision that the land cannot be sold on and must be dedicated to conservation, and is an option that the landowner has previously expressed interest in). These alternative proposals have been shared with the landowner and reviewed internally by FFI's senior management and legal counsel in the UK. A meeting between FFI, the landowner and the lawyer is scheduled for Y2 Q1 to discuss the legal options and agree next steps.

4.2 Support capacity building, legal services and enterprise development as necessary to implement the agreement. This will take place in Y2.

3.2 Progress towards project Outputs

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: Report on current and potential economic valuation of turtles nationally and specifically for Pacific coast, by January 2018.

- Report methodology and format defined. Valuation study now to be completed in Y2.

Indicator: 1.2 By Dec 2019, at least 5 tourism and coastal development policies, plans and strategic decisions refer to the economic value of living turtles and demonstrate knowledge of best practice for conservation and community benefit.

- Engagement with policy makers initiated (see Activity 1.7). Potential policies identified where project can generate and promote policy recommendations. Integration of economic values of living turtles anticipated from Y2 onwards, following completion of the valuation study (above).

Indicator: 1.3 By March 2019, 60 members of the “Young Communicators Network” and the “Coastguard Group” are using new knowledge about coastal/marine conservation, including turtles, in their activities in coastal municipalities.

- Measurement of this indicator implies a survey in Y2 for this target group, to understand how useful they found the training and how they are using the knowledge gained. Survey to be designed in Y2.

Indicator: 1.4 By EOP, public awareness of Nicaragua’s global importance for turtles reaches 80% amongst Pacific coast communities and tourism businesses near nesting beaches.

- Social baseline methodology and research underway, results not yet finalised (see activity 0.2 for more detail)

Indicator: 1.5 Percentage of CANATUR members who have expanded coverage of turtle-related tourism products in their international marketing of Nicaragua. *and Indicator: 1.6* Increase in # of community-based turtle tourism products being marketed nationally or internationally by CANATUR or ANTUR members. 20% by March 2019; 40% by EOP.

- Engagement with CANATUR and CANATUR members is underway (see activities 1.1 and 1.9): no measured increase in turtle-related tourism marketing to date.

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 complete field projects in coastal areas. 6 per year x four years. At least 40% women.

- Six graduates undertook placements in Y1, 60% were female. Two graduates have since secured work in related fields.

Indicator 2.2: No. of people (tourism professionals, coastal municipal staff, undergraduates in sustainable tourism and relevant natural or social sciences) complete module incorporating themes of turtle conservation and community-based tourism and low impact coastal development. 15 per year x three years. At least 40% women.

- 2 Eight students (5 female, 3 male) completed first iteration of a module on coastal community-based tourism (CBT) in Y1 (CBT course outline provided in Annex 4E) Field visits and delivery of module in Spanish to wider cohort of stakeholders scheduled for Y2. Training will be followed up by online survey to assess impact.

Indicator 2.3: No. of turtle hatchery/tourism initiatives with managers and staff trained on technical and social responsibility guidelines. 8 by March 2018.

- Training to be conducted once ‘best practice’ guidelines have been established - now scheduled for Y2.

Indicators 2.4 and 2.5: Relevant activities scheduled for Y2 and beyond.

Indicator 2.6: # of issues on which members of the National Turtle Conservation Network have taken a collective action, advocacy position and/or made recommendations. 3 issues by June 2019; 6 by EOP.

- Two meetings of the NTCN have been held in order to start process of reactivating the Network. No specific collaborative action yet taken.

Output 3. Female and male community members adjacent to turtle nesting beaches benefit from improved economic opportunities related to sustainable coastal and marine resource management (320 individuals and their households)

Indicator 3.1: No. of women and men who have received training to improve the knowledge and skills they need to develop their enterprises (target: 180 by March 2019 of whom 60% women)

- Chacocente Community Tourism Cooperative: 16 men, 16 women (organisational governance, legal literacy for small enterprises, administrative skills)
- Fisheries cooperatives, EPR: 66 men, 28 women (introduction to cooperative establishment; links between sustainable livelihoods and healthy marine environment); 40 men, 20 women (cooperative governance); 29 men, 22 women (mangrove re-planting); 83 men, 62 women (snapper rearing and artisanal production of high protein food from trash fish).
- Weaving for Nature Cooperative, EPR: 10 women (cooperative organisation, marketing, product design, weaving techniques).

To date training sessions have involved a total of 234 men and 158 women. Note that some of the participants attended more than one training event. See section 7 below for comments on gender balance.

Indicator 3.2: No. of sustainable fisheries and community-based tourism enterprises with robust business models (target: 6 by September 2018)

- Chacocente Community Tourism Cooperative: pre-existing business model has been strengthened with stronger governance mechanisms, clearer, more efficient division of roles and responsibilities for visitor management, and a fairer distribution of enterprise income amongst cooperative members, resulting in increased levels of motivation and commitment to the business. In addition, the cooperative now has a strategy to develop business relationships with other larger tourism operator to provide services to their clients
- Community Tourist Guides, Padre Ramos: the business model now includes a strategy to target a particularly lucrative market segment (specialist bird watching) in addition to generic tourism and plans are in place to develop members' capacity to attract and service this target group.
- Weaving for Nature enterprise: pre-existing business model is being strengthened through the development of a marketing and sales plan, a strategy for improvements in product quality and diversification, continuous innovation of designs, and compliance with the Code of Conduct for Responsible Artisans.
- Voluntourism enterprise: steps have been taken to implement the fully costed business plan developed prior to this project, with a focus on increasing community participation and benefit-sharing.
- Mangrove fishers cooperatives, EPR: economic feasibility studies have been compiled for 2 new cooperatives. The business models and administrative systems for these – and 3 pre-existing cooperatives – have been further developed to comply with recent changes in cooperative legislation. The existing models have been strengthened through development of a strategy to establish a cockle purification plant in order to add value to the product and access new and more lucrative markets. In addition, the model has been made more robust by diversification into snapper rearing as well as cockle collection.

Indicator 3.3: No. of female and male community members who are benefitting directly from improvement in their employment or SME as a result of the project (target: 80 by March 2019)

While it is too early to evidence concrete measureable improvements in livelihoods as a result of the project, the foundations have been put in place to strengthen and diversify

people's livelihood strategies, access more lucrative markets, and increase beneficiaries' sense of agency, self-esteem and confidence in their future.

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

Indicator 4.1: 0.9 km of high priority nesting beach at Punta Venecia in Estero Padre Ramos Natural Reserve, together with 28 ha of coastal and riparian dry forest, gains enhanced protection through binding long-term agreement with the private landowner.

- Attorney hired and report produced in a report into the viability of alternative legal instruments for securing this property for conservation. Three options have been identified and 3 draft contracts produced, reviewed and shared with the landowner.

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

- This will take place in Y2.

3.3 Progress towards the project Outcome

Outcome: The economic and conservation values of Nicaragua's globally important sea turtles are recognised locally and nationally and drive livelihood improvements, reducing poverty and threats to endangered species and their habitats.

Indicator 0.1: At EOP, drafts of Nicaragua's National Plan for Human Development 2022-26 refer specifically to the economic and other values of turtles and their habitat, and to strategies to maintain those values. The National Plan for Human Development for 2018-21, was released by the government of Nicaragua in December 2017; it is worth noting that its relevant section on 'Environmental Policies for the Protection of Natural Resources' does not reference biodiversity or species conservation (although the fully text of the plan is not yet publically available). Whilst the project can **inform** government thinking and policy, this indicator is outside the project's control – we therefore question the appropriateness of this indicator and believe that subsequent indicators are sufficient in measuring project success. This will be reviewed and adjustments proposed during the full project logframe review in Q1 Y2.

Indicator 0.2: # of households attaining an increase of at least 15% relative to start of project in their income from activities related to ecotourism, conservation or other sustainable use of coastal/marine resources (directly supported by the project or as an indirect effect). Benefits equitably distributed between genders and across wealth categories. Anticipated increases in income from project-supported enterprises are not expected to be witnessed in the first year of the project. However, the collection of baseline information has begun (including collation of pre-existing data) and foundations have been laid for livelihoods improvements through: capacity needs assessments; development and delivery of training and other capacity-building activities; and strengthening of the business models, organisational structure and governance of existing enterprises, as well as establishment of new enterprises. Indicator may be more appropriate if expanded to additional wealth measures, rather than solely measuring income.

Indicator 0.3: # of communities adjacent to turtle beaches where a clear majority of female and male community members (i) consider turtles to be a valuable asset for local development, and (ii) consider that local threats to turtles at nesting beaches or in coastal waters have been reduced in the course of the project. Target: 3 by March 2019, 6 by March 2020 and all 10 by EOP. For example, the snapper rearing facility, mangrove concessions and Weaving for Nature initiatives are part of the process of transforming livelihood dependencies away from egg poaching toward economic opportunities compatible with conservation. Survey into attitudes, perceptions and behaviours relating to marine turtles and survey methods designed. Collection of baseline information initiated.

Indicator 0.4: By EOP length of nesting beaches with effective protection (defined as protection of >90% of Hawksbill and Leatherback nests and >60% of Olive Ridley and Green nests) increases from 30 km to 40 km. FFI's broader Marine Turtle Conservation Programme protects and monitors 5 key nesting sites, collaborates with partners (including MARENA) working at other nesting sites and collates incidental nesting information throughout the Pacific.

Indicator 0.5: *By EOP # of hatchlings of endangered turtle species, released from all sources including independent operations, increases to 35,000 Hawksbill, 500 Leatherback, 2,500 Green (baseline = 20,000; 300; 1,000). FFI's broader Marine Turtle Conservation Programme collects and collates monitoring data on turtle hatchlings. 2017/18 hatchling data across 5 sites (i.e. not including independent operations): 15,296 Hawksbill; 471 Leatherback; Green t.b.c. Survey of independent operations underway.*

Indicator 0.6: *Percentage of CANATUR members implementing a code of practice dissuading tourists from purchasing hawksbill "tortoiseshell" products. 70% by March 2019, 100% by EOP. To be measured in Y2 through online survey.*

Indicator 0.7: *# of shops selling hawksbill "tortoiseshell" products in Managua Airport reduced to zero by March 2019. Baseline tbd. This indicator is difficult to measure as the majority of retail outlets in Managua airport are in the departure area and can only be accessed by people intending to fly. To date, we have collated ad hoc and anecdotal evidence.*

Indicator 0.8: *INTUR uses sea turtles as flagship for tourism in promotion and provides government-funded training to marine/turtle tourism entrepreneurs. By Sept 2019. To be measured in Y2.*

Indicator 0.9: *By EOP, two project-based publications are produced: (i) a technical analysis of publications demonstrates the advantages and challenges of integrating social, economic and biodiversity-related factors to guide development of the northern Pacific coast of Nicaragua. To be measured at EOP.*

3.4 Monitoring of assumptions

Outcome Level Assumptions

Assumption O.1: At the level of the National Plan for Human Development, there will be a need for increased cooperation between Pacific and Caribbean coasts, and within the region. Turtle conservation on the Caribbean coast differs in terms of threats, social and cultural context, and hence solutions, but project activities will address integration of knowledge about turtles and their economic value into national and regional policies and plans. *Comments: Assumption still holds true.*

Assumption O.2: Regarding indicator 0.2, we assume that economic benefits from project-supported enterprises extend into the wider community due to stimulation of local economy, replication of the models and attraction of additional investment. *Comments: Assumption still holds true.*

Assumption O.3: Assumptions about growth in tourism-related livelihoods are uncertain but conservative in view of the potential (see assumptions under Output 1). Tourism growth stimulated by this project is expected to continue beyond EOP, due to time lag between promotion and vacation and widening awareness. We assume that there is no international event that effectively shuts down tourism to Central America. *Comments: Assumption still holds true. Indeed recent unrest in Nicaragua has already affected tourism visitation on the Pacific coast and the project team are monitoring the impact of this on the project.*

Assumption O.4: We assume that complementary efforts by FFI and others to reduce turtle mortality at sea due to by-catch and harmful practices will continue. *Comments: Assumption still holds true.*

Assumption O.5: Inter-oceanic Canal: Although there is much doubt over whether it will go ahead, the proposed inter-oceanic canal, which lies outside the project area (20 km south of Chacocente) influences government thinking in many areas. FFI is tracking this situation in-country. We assume it will not affect negatively the receptivity of government or tourism sector leaders to the information and recommendations emerging from this project. Rather, the case can be made that, were the canal to be constructed, it would increase the national need for the products of this project i.e. knowledge, technical capacity, sustainable livelihoods and measures to protect critical habitat and resources in the central and northern Pacific coast. *Comments: Assumption still holds true. There have been no major developments in the*

Nicaragua Canal project during Y1 and no public announcements made as to its future development.

Output Level Assumptions

Assumption 1.1: We assume that the tourism sector locally and nationally will remain open to integrating turtles into their activities and marketing. FFI's participation in high-level INTUR committee sessions and dialogue with business leaders give cause for confidence on this. *Comments: Assumption still holds true.*

Assumption 1.2: We assume that the study will confirm scope for increasing community-based, turtle-related tourism. Evidence for this comes from Nicaragua's overall tourism growth (see Section 11), existing Pacific coast enterprises in Costa Rica and nascent in Nicaragua, the confidence of project partners CANATUR and Dr Lundin (see letter), and published studies of nature / turtle / volunteer ecotourism. The studies show that the value and upward trend of turtle-related tourism (Troeng S. and Drews C. 2004 WWF turtle economics; Campbell, L.M. & Smith, C.2006 Campbell) proved resilient during the economic crisis (Balmford et al. 2009 Balmford). Volunteer travel is particularly robust. The number of volunteer vacationers doubled between 2002 and 2008, and the number of travellers who had volunteered at least once in their life tripled during that time (Conde Nast Traveler/MSNBC poll cited by the NGO the Center for Responsible Travel - Crest). The Director of Crest reported 'phenomenal growth' in this sector. A 2012 survey of adventure travel tour operators by the Adventure Travel Trade Association (ATTA) found that 55% of those surveyed "currently run volunteer trips"; of the remaining 45%, over 41% of them are "considering [volunteer trips] for the future". *Comments: Assumption still holds true.*

Assumption 2.1: We assume that the majority of the hatchery/tourism initiatives will be open to technical support and the adoption of guidelines generated in consultation with them and the relevant authorities. *Comments: Assumption still holds true.*

Assumption 2.2: We anticipate that a form of certification of good practice will be developed through this process and that the scope of guidelines will be broadened to cover best practice on additional aspects of coastal development. However, these are ongoing processes which may extend beyond EOP, so are not listed as indicators. *Comments: Assumption still holds true.*

Assumption 3.1: We assume that in the project localities there will be no major disruption to livelihoods, such as natural disasters or large-scale pollution. *Comments: Assumption still holds true.*

Assumption 3.2: We assume that the current positive attitude locally and nationally to developing such livelihoods is maintained, and that there will be no major internal conflicts or disturbances, which might especially impede new livelihoods and new business partnerships. *Comments: Assumption still holds true.*

Assumption 4.1: We assume that the landowner will maintain his interest in reaching an agreement to ensure long-term conservation. Ongoing conversations give us confidence that this will be the case. *Comments: Assumption still holds true.*

Assumption 4.2: Re additional funding needs related to the establishment of the formally protected land (e.g. commitment to invest in social enterprise there), FFI assumes that these funds can be raised in good time, well before the current use agreement expires in 2022. *Comments: Assumption still holds true.*

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

It is too early to be able to evidence concrete changes in livelihoods in the form of increases in income. However, 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.

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 - *"My son often comes and sees that I am weaving my bags. He comes next to me and say 'I am proud of being your son'."* and *"I am a grandmother. I am a wife. I am a housewife. And I am a weaver. I am super-woman!"*.

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.

These concessions enable diversification of livelihoods strategies, with the project supporting the establishment of new – and the strengthening of existing - co-operatives to sustainably manage and sell cockles and captive reared snapper both of which are in high demand in local and national markets. Further diversification of products and services for the burgeoning tourism market has also begun. Such diversification helps reduce vulnerability to socio-economic and environmental changes (including climate change impacts).

Increased knowledge, and the ability to communicate this knowledge to others, has also been shown to increase feelings of pride about the richness of the natural environment and motivation to protect it. For example, in the words of one project beneficiary *"I feel that I can teach my children to care for the natural world."*

It is also too early to be able to evidence positive impact on biodiversity as a result of project interventions. Nevertheless, through FFI's marine turtle conservation programme we are protecting and monitoring priority nesting beaches along the Pacific coast, and therefore collect and analyse longitudinal data on number of females, number of nests/eggs laid, % protected and number of hatchlings released. 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).

During Year 1, FFI shared the database of information that our field teams collect and collate on marine turtle nesting and hatching success on the Pacific coast of Nicaragua, to feed this data into the process of updating the Red List of Threatened Species for Nicaragua (to be 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. No direct contact has been made with the CBD focal point during Y1 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.

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

While year 1 needs assessments have involved both women and men, most training to date has been concentrated on fishers groups which are inevitably dominated by men as most fishers and beach patrollers are male. Despite this inherent bias, 40% of the 392 participants in project-led training have been female (compared with a target of 60% by end of project). In addition, active measures have been taken to involve women in the governance structures of new and existing enterprises (see below), as well as in training wherever relevant, taking into account gender differentiated roles in household livelihood strategies. More work has been scheduled in Y2 to strengthen those sectors of the economy dominated by women (e.g. cockle collection, value addition and marketing; tourism goods and service provision).

Fundación LIDER is working to support establishment of appropriate governance structures for the cooperatives, including the election of boards of directors with representative participation of women. Three community-based assemblies were held in February 2018 (participants; 40 men, 20 women) to support the processes of community organization, with a focus on the integration of women in management positions. Across the 5 cooperatives, there is currently a total of 16 men and 9 women within their Boards of Directors, and the gender balance across

all the cooperatives' membership ranges from 23 – 59% women. Two cooperatives have women in the president position and in 3 cooperatives women are currently occupying the position of vice president.

Gender disaggregated data are collected in order to ensure the project can measure progress towards gender equality. 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.

As described in section 3.4 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 (56% 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](#).

Over the course of Y1, development of the Monitoring and Evaluation framework for this Darwin project - as described in Section 3.1 (under Start up: 0.2) above - has been considered within the context of our broader programme of work to conserve turtles in Nicaragua for which a full Theory of Change (TOC) and associated monitoring indicators have been developed. Through this approach, we are confident that we are doing the best we can to understand how the Outputs and Activities under this Darwin Initiative project contribute to the project Outcome. Project monitoring is helping the project team understand if the project's underlying assumptions are correct and whether we need to adjust monitoring, and indeed project activities, as we implement work on the ground. For more information on measurement of the specific indicators of the project see sections 3.2 and 3.3 above.

In August 2017, a workshop was held to review our programme-level TOC and ensure the logical framework of this Darwin Initiative project was both captured within and informed by this TOC framework. During Y1, the project team have interrogated the logical framework of this Darwin project and propose to conduct a full review of the logframe, indicators and assumptions during Y2 Q1. The project team will draw upon expertise within FFI - specialists in project design and M&E from our Science and Capacity teams - to support this process. We have informed the Darwin Secretariat that we intend to undertake this review and will liaise with them, as appropriate, throughout the process.

9. Lessons learnt

What worked well, and what didn't work well, this past year?

- (i) The project assumed that the best practices regarding turtle hatchery management were already known; however we learnt that an alternative method was in practice with claimed good results. In order to ensure the guidance and training delivered under the project considers all successful management options, we are now undertaking research into the success of the 'sack incubation' method. This has slightly delayed the project activities in this area, however this study – if it confirms the viability and effectiveness of alternative, low-effort locally-appropriate hatchery management practices – has the potential to generate greater conservation impact.
- (ii) Regarding business and enterprise development, the project has invested time and effort into identify the actual learning needs of potential participants, in order to develop highly focused training modules. The lesson is that doing this level of detailed research, amongst individuals, takes time; however, we anticipate that it will generate better outcomes for participants due to the increased relevance of training to their specific situation.
- (iii) Developing a modular teaching programme is a particular success and provides a sustainable mechanism for educating students – and, in due course, other stakeholders - on turtle conservation and tourism. The success of this can be attributed to the project responding to a known opportunity in the project design: our partner (FIU) already having strong links to the Universidad Americana in Managua, and an existing interest in developing this aspect of the training so they were motivated to collaborate.
- (iv) From a management perspective, the project is being implemented entirely in Spanish, and translating information for management purposes (outside of the project team who are Spanish speakers) and reporting takes significant time.

If you had to do it again, what would you do differently?

- (i) Best practice guidelines: A rapid assessment of the practices available during project planning, so that the range of approaches was known and an assessment of these could be factored into project design.
- (ii) Business and enterprise development: we would repeat this process (final results dependant) but would plan more time in the project schedule
- (iii) Teaching module development: nothing differently as this has worked well so far.
- (iv) Translation: include budget for Spanish-English translation, and ensure reporting processes are started far enough before the deadline to allow for translation of final information.

Recommendations for others doing similar projects:

- (i) Best practice guidelines: to either consult a specialist or undertake a rapid review to identify different good practices in existence, and account for these when developing training resources or guidance documents.
- (ii) Business and enterprise development, we would encourage others to allow time for detailed needs analysis to inform any training schedules.
- (iii) Teaching module development: we would recommend others do a SWOC analysis during project planning to ensure that they make use of existing opportunities available and improve the likelihood of successful implementation.

- (iv) Translation: include budget for Spanish-English translation, and ensure reporting processes are started far enough before the deadline to allow for translation of final information.

How to build this learning into the project and future plans?

- (i) Best practice guidelines: ensure that the most up to date information is included in training materials, and recommend these are reviewed and revised regularly after project end to ensure they remain based on the latest evidence.
- (iv) Translation: we plan to begin reporting processes ahead of normal schedule to allow for translation time, and ensure that budget's reflect the additional time needed to manage a project bilingually.

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

Not applicable. Year 1 report.

11. Other comments on progress not covered elsewhere

Unexpected events: In October 2017, Tropical Storm Nate hit Nicaragua, causing flooding in many communities on the Pacific coast of Nicaragua. Local government offices focused significant energies on addressing the consequences of the storm (loss of crops, damaged infrastructure, delays in school programs, loss of fishing gear and boats, etc.). This resulted in delays in the implementation of activities during Q3 and into Q4, in particular those relating to the cultivation and processing of cockles and the establishment of the snapper rearing facility in EPR (activities 3.6, 3.7 and 3.8) being led by Fundación LIDER (4 week delay). This had a knock on effect on the processes of obtaining the relevant authorities approval of the legal registration of the cooperatives and therefore the mangrove concessions, which then coincided with municipal elections which took place in November.

Municipal elections: Election campaigns running up to the municipal elections in November 2017 began in August, and reduced the capacity of municipal and central authorities to attend to their normal functions, affecting coordination with these institutions and slowing approval processes.

Civil unrest: In April 2018, widespread civil unrest broke out across Nicaragua in response to unpopular social security reforms, and opposition to the government remains vocal and volatile. This led to the closure of FFI's office in Managua for two days, the cancellation of project activities scheduled during April (Q1 Y2) - including participatory market mapping workshops and a review visit of FFI's Senior Technical Specialist, Conservation Livelihoods & Governance to the project – and delays in the flow of information to compile this report. FFI's team in Nicaragua are monitoring the situation, as there is uncertainty as to whether the situation will calm or escalate.

12. Sustainability and legacy

Through Y1, FFI and partners have been working to raise awareness of the project. Meetings with government, NGOs, businesses and local stakeholders have provided information on the project, and we have used branded materials throughout 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](#)) focused on 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 2.7) 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 key project reports can be housed, as part of FFI’s broader strategy to promote and comply with open access requirements.

To date, the project has achieved the following planned steps to sustainability:

- *Increase the profile and economic relevance of turtles and their habitat, thereby motivating government to fulfil its role in protecting these valuable assets.* Meetings have been held with government and more are planned. The framework for the 2018 Human Development Plan for Nicaragua has just been released; biodiversity is not mentioned and we see this project as important in helping us address this gap so that biodiversity and turtles specifically are included in the 2022 Plan. We will advocate with government for this over the coming three years, using the economic valuation as a basis for our efforts.
- *Support sustainable marine biodiversity-related livelihoods.* In Y1, the project has supported livelihoods development linked to sustainable fisheries and cockle harvesting and in the provision of goods and services to the nature-based tourism industry and has begun work to develop business codes of practice favourable to such livelihoods.
- *Achieve legally binding protection of essential nesting beach habitat.* Legal consultation is complete and negotiations with the landowner are underway.
- *Spread training across government entities, NGO’s and business people, avoiding over-dependence on individuals.* In Y1, the project has engaged with each of these sectors to further their interests - be that policy, operations, income or sustainability. We will continue this approach in years 2-4.

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

Meetings and workshops with government, NGOs, businesses and other stakeholders have provided information on the project and have explicitly referred to the support of the Darwin Initiative to this specific project, within FFI’s broader programme of work in Nicaragua. The project team have used Darwin Initiative branded materials wherever 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. Darwin Initiative and UK Government logos have been used on meeting/workshop invites, circulated agendas, participant lists, and will be prominently displayed upon all electronic and printed forms of the documents, reports and publications resulting from the project. The “closer look” webpage on the project to be published on FFI’s website will link back to the Darwin Initiative and its social media channels.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2017 – 31 March 2018)

Project spend (indicative) since last annual report	2017/18 Grant (£)	2017/18 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			-2%	
Consultancy costs			64%	As per change requests
Overhead Costs			-2%	
Travel and subsistence			-7%	
Operating Costs			-17%	As per change

				requests
Capital items (see below)			0%	
Monitoring & Evaluation (M&E)			0%	
Others (see below)			-9%	
TOTAL				

The project team are pleased to be able to report full expenditure in Y1. The main areas of variance in expenditure against budget categories relate to the changes approved by Darwin via two change requests which were submitted during Y1 (in January and March 2018). Changes to Budget Category allocations were requested and approved, such that the inputs being led by Carolin Lusby (FUI) and Jose Urteaga have been classed as Consultancy costs in the expenditures above, in place of these costs being classed as “Operational Costs” or “Other Costs”.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2017-2018

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	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>(Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits)</p>	
<p>Outcome The economic and conservation values of Nicaragua's globally important sea turtles are recognised locally and nationally and drive livelihood improvements, reducing poverty and threats to endangered species and their habitats.</p>	<p>0.1 At EOP, drafts of Nicaragua's National Plan for Human Development 2022-26 refer specifically to the economic and other values of turtles and their habitat, and to strategies to maintain those values.</p> <p>0.2 # of households attaining an increase of at least 15% relative to start of project in their income from activities related to ecotourism, conservation or other sustainable use of coastal/marine resources (directly supported by the project or as an indirect effect). Benefits equitably distributed between genders and across wealth categories. Targets 100 by March 2019, 250 by March 2020, 400 by EOP.</p> <p>0.3 # of communities adjacent to turtle beaches where a clear majority of female and male community members (i) consider turtles to be a valuable asset for</p>	<p>0.1 EOP measure. However, the project team question appropriateness of this indicator as a measure of project success and will propose a revision/elimination of this indicator during the logframe review in Q1 Y2.</p> <p>0.2 Anticipated increases in income from project-supported enterprises are not expected to be witnessed in the first year of the project. However, the collection of baseline information has begun (including collation of pre-existing data) and foundations have been laid for livelihoods improvements through: capacity needs assessments; development and delivery of training and other capacity-building activities; and strengthening of the business models, organisational structure and governance of existing enterprises, as well as establishment of new enterprises. Indicator may be more appropriate if expanded to additional wealth</p>	<p>0.1 Review appropriateness of indicator. Meet with government to better understand the National Plan development process, highlight the gaps in the 2018 Plan, and identify opportunities to influence development of the 2022 Plan.</p> <p>0.2 Completion of baseline surveys. Delivery of multiple project interventions - training and capacity-building for sustainable livelihood activities; support for improvement of business models; organisational development support (e.g. governance, internal policies).</p> <p>0.3 Completion of survey and analysis of baseline information on attitudes, perceptions and behaviours relating to marine turtles amongst coastal communities.</p>

	<p>local development, and (ii) consider that local threats to turtles at nesting beaches or in coastal waters have been reduced in the course of the project. Target: 3 by March 2019, 6 by March 2020 and all 10 by EOP.</p> <p>0.4 By EOP length of nesting beaches with effective protection (defined as protection of >90% of Hawksbill and Leatherback nests and >60% of Olive Ridley and Green nests) increases from 30 km to 40 km.</p> <p>0.5 By EOP # of hatchlings of endangered turtle species, released from all sources including independent operations, increases to 35,000 Hawksbill, 500 Leatherback, 2,500 Green (baseline = 20,000; 300; 1,000).</p> <p>0.6 Percentage of CANATUR members implementing a code of practice dissuading tourists from purchasing hawksbill “tortoiseshell” products. 70% by March 2019, 100% by EOP.</p> <p>0.7 # of shops selling hawksbill “tortoiseshell” products in Managua Airport reduced to zero by March 2019. Baseline tbd.</p> <p>0.8 INTUR uses sea turtles as flagship for tourism in promotion and provides government-funded training to marine/turtle tourism entrepreneurs. By Sept 2019.</p> <p>0.9 By EOP, two project-based</p>	<p>measures, rather than solely measuring income.</p> <p>0.3 Survey into attitudes, perceptions and behaviours relating to marine turtles and survey methods designed. Collection of baseline information initiated.</p> <p>0.4 FFI’s broader Marine Turtle Conservation Programme protects and monitors 5 key nesting sites, collaborates with partners (including MARENA) working at other nesting sites and collates incidental nesting information throughout the Pacific.</p> <p>0.5 FFI’s broader Marine Turtle Conservation Programme collects and collates monitoring data on turtle hatchlings. 2017/18 hatchling data across 5 sites (i.e. not including independent operations): 15,296 Hawksbill; 471 Leatherback; Green t.b.c. Survey of independent operations underway.</p> <p>0.6 To be measured in Y2 through online survey.</p> <p>0.7 This indicator is difficult to measure as the majority of retail outlets in Managua airport are in the departure area and can only be accessed by people intending to fly. To date, we have collated ad hoc and anecdotal evidence.</p>	<p>Then it may be more appropriate to measure indicator at EOP, not annually.</p> <p>0.4 FFI to continue to collect and collate data on nesting beach protection throughout 2018/19 nesting season.</p> <p>0.5 Ongoing monitoring of nesting sites throughout 2018/19 nesting season and further survey of independent operations.</p> <p>0.6 Design and release of online survey of CANATUR members.</p> <p>0.7 Review appropriateness of indicator. Continue to monitor retail outlets as possible during travel and record results (including photographic evidence where possible).</p> <p>0.8 Review appropriateness of indicator. Meetings with INTUR.</p> <p>0.9 Indicator appropriate but requires re-wording.</p>
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	<p>publications are produced: (i) a technical analysis of publications demonstrates the advantages and challenges of integrating social, economic and biodiversity-related factors to guide development of the northern Pacific coast of Nicaragua.</p>	<p>0.8 To be measured in Y2. 0.9 To be measured at EOP.</p>	
<p>Output 1. 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 Report on current and potential economic valuation of turtles nationally and specifically for Pacific coast, by January 2018.</p> <p>1.2 By Dec 2019, at least 5 tourism and coastal development policies, plans and strategic decisions refer to the economic value of living turtles and demonstrate knowledge of best practice for conservation and community benefit.</p> <p>1.3 By March 2019, 60 members of the “Young Communicators Network” and the “Coastguard Group” are using new knowledge about coastal/marine conservation, including turtles, in their activities in coastal municipalities.</p> <p>1.4 By EOP, public awareness of Nicaragua’s global importance for turtles reaches 80% amongst Pacific coast communities and tourism businesses near nesting beaches. Baseline tbd.</p> <p>1.5 Percentage of CANATUR members who have expanded coverage of turtle-related tourism products in their international marketing of Nicaragua. 20% by March 2019; 40% by EOP.</p>	<p>1.1 Report methodology and format defined. Valuation study now to be completed in Y2.</p> <p>1.2 Engagement with policy makers initiated (see Activity 1.7). Potential policies identified where project can generate and promote policy recommendations. Integration of economic values of living turtles anticipated from Y2 onwards, following completion of the valuation study (above).</p> <p>1.3 Measurement of this indicator implies a survey in Y2 for this target group, to understand how useful they found the training and how they are using the knowledge gained. Survey to be designed in Y2.</p> <p>1.4 Social baseline methodology and research underway, results not yet finalised (see activity 0.2 for more detail)</p> <p>1.5 and 1.6 Engagement with CANATUR and CANATUR members is underway (see activities 1.1 and 1.9): no measured increase in turtle-related tourism marketing to date.</p>	

	<p>1.6 Increase in # of community-based turtle tourism products being marketed nationally or internationally by CANATUR or ANTUR members. 5 by March 2019, 12 by EOP.</p>	
<p>Activities under Output 1:</p> <p>1.1 FFI holds meetings and conference calls with tourism-related partners (CANATUR, CANTUR, INTUR, FIU) and turtle conservation organisations to talk about the intended valuation study and obtain inputs about methods, sources, products and uses, and hence build buy-in to the study and enthusiasm to use the results.</p> <p>1.2 FFI defines the detailed methodology, adapting the Toolkit for Ecosystem Service Site-based Assessment (TESSA), adding certain cultural and other values (using Guidance for the Rapid Assessment of Cultural Ecosystem Services, GRACE) and incorporating suggestions from the meetings in Activity 1.1</p> <p>1.3 FFI implements the valuation study as planned and shares preliminary results with partners for feedback. FFI also shares preliminary results with Wildlife Conservation Society and others working on turtles on the Caribbean coast of Nicaragua, in order to obtain feedback and to ensure coordination on issues of policy and public communications.</p> <p>1.4 FFI finalises the report and presents it to partners and other interested parties (coastal municipalities, leaders from target coastal communities, NYCCG, Coastguard Group, MARENA, turtle conservation organisations etc).</p> <p>1.5 FFI convenes meeting of all project partners to make decisions about specific communications materials based on the report and complementary knowledge, their distribution and use, and simple ways to monitor their impact. FFI then contracts the production.</p> <p>1.6 Project partners and associates (NYCCG, Coastguard Group) disseminate and use the communications materials as planned, nationally and in coastal communities, and monitor impact (including indicators 1.2-1.4 of logframe; also see M&E section). FFI will produce and make available on-line a technical publication in English.</p> <p>1.7 FFI and project partners engage with government on relevant</p>	<p>1.1 Initial dialogue with key stakeholders from CANATUR and tourism specialists confirmed buy-in to valuation study. The scope, basis and process for the valuation study discussed; stakeholders agreed on the multiple uses of the results generated and the most appropriate format for the publication of the study.</p> <p>1.2 Literature review of comparable valuation studies, appropriate methods and available toolkits conducted. FFI and partners agreed the need to draw upon external specialist expertise to advise upon and finalise the methodology and lead the valuation study. As a result, this process will continue into Y2.</p> <p>1.3 Existing and potential sources of information identified and the process of compiling data initiated. As per 1.2, the valuation study will be led by an external specialist. It is anticipated that this process will be completed and the report finalised in Y2.</p> <p>1.4 - 1.6: Scheduled to start in Y2, as per Project Implementation Timetable.</p> <p>1.7 FFI's Country Director met with government institutions twice in Y1. FFI raised the profile of the project amongst key actors within INTUR and</p>	

<p>development policy formulation and planning processes, including the National Plan for Human Development, in order to promote the integration conservation of turtles and their coastal and marine habitat into these national instruments.</p> <p>1.8 FIU provides advice and assistance to tourism industry actors about linkages between national operators and coastal community-based ecotourism providers, and about links with specific outbound UK and US tour operators who could market the tourism packages to their clients.</p> <p>1.9 FFI and FIU collaborate with the tourism associations, municipal authorities and communities to assess existing turtle/marine tourism near project locations, identify potential improvements, as well as potential new community-based products, and develop links between the local product providers and national and international operators. FFI's role includes guiding the tourism product plans so that they follow technical, environmental and social good practice and strengthen linkages between livelihoods and custodianship of turtles and their habitat.</p> <p>1.10 FIU and FFI assist the tourism associations and INTUR to develop a strategy to package and promote community-based turtle/marine tourism products in specific markets.</p> <p>1.11 FFI leads the preparation and dissemination of two publications. One is a technical report analysing the connections between livelihood support, national awareness/policy influence work and the attitudes and behaviour of coastal people and institutions in relation to turtles and marine biodiversity. The other is a more popular publication about the advantages and challenges of integrating social, economic and biodiversity-related factors to guide development of the northern Pacific coast of Nicaragua</p>	<p>MARENA. Dialogue will continue into Y2, drawing on the results of the valuation study which will be presented to the authorities under activity 1.4.</p> <p>1.8 FIU is providing advice to the project team and assistance to tourism industry actors to help identify potential links between local product providers and national operators and international supply chains (with a focus on UK and US tour operators who could market coastal community-based ecotourism packages to their clients).</p> <p>1.9 Assessment of existing turtle and marine tourism initiatives on the Pacific coast, prioritising those near turtle nesting areas, initiated. Protocol for hatchery survey is provided in Annex 4C. CANATUR members, municipal authorities and community members will continue feeding into this process, which will contribute in Y2 to activity 1.10.</p> <p>1.10 and 1.11 scheduled for years 2-4.</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</p>	<p>2.1 24 graduates/undergraduates complete field projects in coastal areas. 6 per year x four years. At least 40% women.</p> <p>2.2 45 people (tourism professionals, coastal municipal staff, undergraduates in sustainable tourism and relevant natural or</p>	<p>2.1 Six graduates undertook placements in Y1, 60% were female. Two graduates have since secured work in related fields.</p> <p>2.2 Eight students (5 female, 3 male) completed first iteration of a module on coastal community-based tourism (CBT) in Y1 (CBT course outline provided in Annex 4E). Field visits and delivery of module in Spanish to</p>

<p>regional networks.</p>	<p>social sciences) complete module incorporating themes of turtle conservation and community-based tourism and low impact coastal development. 15 per year x three years. At least 40% women.</p> <p>2.3 # of turtle hatchery/tourism initiatives with managers and staff trained on technical and social responsibility guidelines. 8 by March 2018, 15 by Sept 2018.</p> <p>2.4 # of turtle hatchery/tourism initiatives implementing the guidelines. 12 by Sept 2019.</p> <p>2.5 Study visit by professionals and community members to learn from experiences in the region, by Sept 2018.</p> <p>2.6 # of issues on which members of the National Turtle Conservation Network have taken a collective action, advocacy position and/or made recommendations. 3 issues by June 2019; 6 by EOP.</p> <p>2.7 By EOP NTCN members have increased access to information on turtle conservation protocols, monitoring data and/or low impact coastal development, and are in regular communication with peers in the region.</p>	<p>wider cohort of stakeholders scheduled for Y2. Training will be followed up by online survey to assess impact.</p> <p>2.3 Training to be conducted once 'best practice' guidelines have been established - now scheduled for Y2.</p> <p>2.4 Scheduled for Y2 and beyond.</p> <p>2.5 Scheduled for Y2.</p> <p>2.6 Two meetings of the NTCN have been held in order to start process of reactivating the Network. No specific collaborative action yet taken.</p> <p>2.7 One new network (WhatsApp) group established: '<i>Grupo Tortuguero NICA</i>' with ~30 active members. Active information sharing underway.</p>
<p>Activities under Output 2:</p> <p>2.1 Through links with universities in Nicaragua, FFI selects undergraduate and graduate students to undertake small projects or internships on turtles, marine resources, community-based ecotourism and other livelihoods and socio-economic issues, either as part of their</p>		<p>2.1 Six graduates from three Nicaraguan universities undertook student volunteer placements at EPR, ASE and VA (four female and two male). Students received training, practical experience and undertook primary research (e.g. into species richness, bird monitoring, medicinal plants and Environmental Impact Assessment studies). Students were asked to identify their key skills, research preferences and future plans, so that the</p>

studies or to gain experience after graduating. Provide each with board and lodging and contribution to project costs. Ensure there are opportunities for female students and disadvantaged students and track their post-internship professional development.

2.2 FIU, in consultation with FFI and the tourism associations, leads development and delivery of a module on community-based ecotourism, with a focus on coastal locations, including a field trip to a project turtle tourism site and observation of low-impact coastal development. The module will be incorporated into at least one university course covering sustainable tourism (UAM) and also adapted for delivery as a stand-alone course for key professionals in the project area. The aim is to inform and influence current and future professionals (female and male) in tourism, coastal development, municipal planning, and natural and social sciences. The project will deliver the module at least three times (monitoring quality and subsequent use of skills) and will seek to respond to demand for further repetition.

2.3 FFI, in consultation with MARENA, existing turtle hatcheries and the NTCN, develops guidelines for management of hatcheries and associated tourism operations, including technical and social responsibility considerations.

2.4 FFI and NTCN colleagues disseminate the guidelines and provide training to hatchery operators on techniques and practices in the guidelines.

2.5 FFI facilitates NTCN process of strategic planning.

2.6 FFI provides ongoing support to NTCN, helping it 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.

2.7 FFI organises a study visit to Costa Rica by professionals, representatives of CANATUR and CANTUR and community members to learn about turtle tourism and community-based ecotourism from peers and stakeholders in that country.

development of their specific interests and expertise could be incorporated into their internships. Two students have since secured full time jobs in related fields.

2.2 A modular training course in community-based ecotourism, which includes site visits observe and study turtle tourism initiatives and low-impact coastal development, has been developed. The first module has been released and incorporated into UAM's Sustainable Tourism course. This was delivered to a cohort of 8 students (5 female, 3 male) from UAM in March-April 2018. A field visit is scheduled during May 2018, where they will learn about ecotourism development related to marine turtle conservation in EPR and will critically evaluate existing and potential community-based tourism enterprise opportunities in the area. Training materials have been developed in English and are being translated into a comprehensive Spanish training manual for stand-alone delivery to a wider cohort of community-based ecotourism stakeholders and professionals during Y2. FIU are leading monitoring of the impact of the module in terms of subsequent use of skills amongst participants.

2.3 Existing manuals and guidance has been compiled. Supplementary research is into previously un-studied approaches (i.e. sack incubation) is underway. Next steps include the facilitation of a broad consultation process - amongst Nicaraguan authorities, tourism enterprises and National Sea Turtle Conservation Network (NTCN) members - in order to inform and develop national guidelines for the management of hatcheries and associated tourism operations.

2.4 Training associated with best practice guidelines now scheduled for Y2.

2.5 Now scheduled for Y2 in line with the availability of the multiple actors involved in this process.

2.6 Two meetings of the NTCN were held - on 3 July (15 participants; 10 female, 5 male) and 4 August (10 participants; 6 female, 4 male) in order to start the process of reactivating the Network. FFI is inspiring increased communications within the NCTN (taking advantage of increased access to cell phones and internet amongst field practitioners) through the creation of a WhatsApp group called '*Grupo Tortuguero NICA*'. The ~30 active members of the group are sharing information on nesting and hatching, new scientific reports, discussion of issues occurring on nesting beaches, emergency/Tsunami warnings.

		2.7 Scheduled to take place in Y4, as per Project Implementation Timetable
<p>3. Female and male community members adjacent to turtle nesting beaches benefit from improved economic opportunities related to sustainable coastal and marine resource management</p> <p>(320 individuals and their households)</p>	<p>3.1 # of community members trained in relevant technical skills and provided with support for SME development or employment. Targets: 180 by March 2019; 360 at EOP. 60% women.</p> <p>Target groups/enterprises include:</p> <ul style="list-style-type: none"> • Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group • 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) <p>3.2 # of sustainable fisheries and community-based tourism enterprises with robust business models. Targets: 6 by Sept 2018; 12 by EOP</p> <p>3.3 # of female and male community members who are benefitting directly from improvements in their employment or their SME as a result of the project. Targets 80 by March 2019, 160 by March 2020, 320 by EOP.</p>	<p>3.1 By March 2018, training sessions have involved a total of 234 men and 158 women (see section 3.2 Output 3 for more detail). Note that some of the participants attended more than one training event.</p> <p>3.2 Six community-based enterprises linked to nature-based tourism or sustainable fisheries have strengthened business models as a result of Y! activities (see section 3.2 Output 3 for more detail)</p> <p>3.3 While it is too early to evidence concrete measureable improvements in livelihoods as a result of the project, the foundations have been put in place to strengthen and diversify people's livelihood strategies, access more lucrative markets, and increase beneficiaries' sense of agency, self-esteem and confidence in their future.</p>

Activities under Output 3:

3.1 FFI staff and consultants provide tailored technical skills training and SME development support for enterprise, employment and service provision opportunities, especially those benefitting women and vulnerable groups. The economic activities span diverse sectors, as spelled out in Activities 3.3-3.10 below). Some training needs are common across several kinds of business whereas others are sector-specific. The training will be coordinated and organised to make efficient use of both project resources and the time of the trainees.

3.2 FFI facilitates dialogue between businesses and community groups, to identify opportunities and barriers to cooperation, leading ultimately to equitable relationships that deliver livelihood benefits (economic and other). In the case of tourism, by involving community leaders in the activities of Output 1, the project will already have made connections between operators and current and potential local providers.

3.3 FFI develops the “voluntourism” enterprise at EPR in line with a business plan and policies which ensure a strong community role in decision-making as well as full involvement and economic benefit that is inclusive of vulnerable members of the EPR community.

3.4 FFI assists community groups to improve or establish economic activities related to coastal tourism. Prior work has identified several groups to receive support, including women weavers using waste plastic bags as raw material (58 people in 3 communities), people receiving/guiding visitors (51 in 4 communities), people producing honey and receiving tourists (28 in 3 communities), a cooperative already operating a turtle hatchery (20 people in 1 community), amongst others. Areas of training and development support include financial management, hospitality and visitor services, catering, handicrafts, guiding, marketing, cooperative establishment, business plan development, and product innovation and improvements such as development of trails and circuits, use of the Chacocente Visitor Centre and community-based sport-fishing. Most new tourism sites and activities will be determined with stakeholder in Years 1 and 2 the specific sites and groups of beneficiaries.

3.5 For regular, seasonally employed turtle beach patrollers, who do not have satisfactory livelihoods during the off-season, FFI identifies needs and aspirations for development of additional skills and experience to enable them to improve off-season livelihoods. Provide affordable training

3.1 In Y1 the focus has been to refine the training needs assessment of women and of men in each of the target groups. This has enabled identification of key people who would benefit from capacity-building in basic generic enterprise development skills, including business plan development, marketing, financial management and administration, and organisational governance. Enterprise-specific skill and knowledge gaps for each group have been clarified and, based on this assessment, work has begun on developing tailored training plans for each group.

3.2 FFI is working to facilitate dialogue and identify opportunities to strengthen cooperation between businesses and community groups, eg:

- Support to the Chacocente Community Tourism to help them reach an agreement with a private tourism operator for the provision of services (meals, horse riding, boat transport).
- Support to recently established volunteer-tourism enterprise *SOS Nicaragua* to collaborate with community groups or individuals in EPR that can provide tourism-related services (see also 3.3).
- Through a participatory and system-level approach to market development (PMSD) for community service/product providers.

3.3 FFI has provided technical, practical and financial support to *SOS Nicaragua* to help it develop in line with its goals as a social and environmental enterprise (see also activity 3.2). During Q4, FFI began working with *SOS Nicaragua* to update their financial model and projections, based upon 2017 income and expenditure.

3.4 Preliminary market mapping for the coastal ecotourism was initiated and facilitated by a PMSD specialist. This process enabled FFI to start to identify which actors, challenges and relationships need to engage with the process, as well as identifying knowledge gaps.

3.5 As per 3.1, information on patrol team members’ training needs and aspirations has been gathered, and the project has started to develop curricula and materials to address these. Specialist bird-watchers are a particularly lucrative market segment that this training will enable patrollers to tap into and benefit from.

LIDER have developed a training curriculum to enable patrollers and other coastal community members to manage a nascent snapper rearing enterprise (see 3.6-3.8 for more detail). 2 out of 3 training modules - on snapper rearing and artisanal production of high protein food - have been delivered to 83 men, 62 women. A further course on monitoring of water

to develop essential skills, thereby enhancing both individual livelihoods and the value and security of being a turtle patrol professional.

3.6 Líder and FFI assist four community groups in EPR (40 women, 20 men) to establish concessions for custodianship of mangroves and sustainable collection and cultivation of *Anadara similis* (mangrove cockle), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawkbill habitat and providing income.

3.7 Líder supports 5 cooperatives (65 people) to set up a plant for processing and purifying the cockles, which adds substantial value.

3.8 Líder and FFI assist one community group of at least 15 members, comprising former egg poachers and blast fishers, to establish and monitor a snapper rearing facility, with attention to both ecological and social costs and benefits, including monitoring stipulated in the environmental licence (already obtained). It follows a model already proven in the EPR estuary, uses shrimp processing waste as feed, and will provide income to individuals who have changed from destructive practices. Blast-fishing harms the juvenile snapper so the community will ensure it is driven out of this sensitive, turtle-frequented estuarine site.

3.9 FFI provides support to fishers (approx 80 people, almost all men, in 4 communities), who have committed to responsible fishing practices and are championing locally the elimination of blast fishing and other illegal practices harmful to turtles. This extends an initiative started by FFI in Nicaragua's southern Pacific coast, where blast fishing is less prevalent, and can increase income while tackling threats to both turtles and fisheries. Areas of training and development support include improvements in handling and storage, negotiation skills, access to higher value markets, promotion to certain hotels based on commitment to conservation, business plan development. The project will identify areas of support for the additional, northern fishers through participatory analysis of market systems.

3.10 Through ongoing dialogue and public communications FFI and Líder reinforce the inherent linkages between all the above livelihood support and the conservation of turtles and marine biodiversity, thereby driving the transition from impotent tolerance of short-term destructive practices to empowered community commitment to sustainable livelihoods.

quality and induced reproduction of the red snapper will be delivered in collaboration with UNAN-Leon during Y2.

3.6 Work under this activity falls under three main areas – cooperative development, identification of concession sites and capacity-building for community concession management. LIDER has led work to develop 5 community cooperatives linked to artisanal fishing and sustainable mangrove cockle collection and cultivation in EPR. Two new cooperatives have been established, governance structures set up, and economic feasibility studies completed. LIDER have supported five cooperatives to comply with new Nicaraguan legislation relating to cooperatives and to prepare the documents necessary to obtain the mangrove concessions and permits from the relevant authorities (MARENA and INPESCA). Water monitoring was undertaken in areas adjacent to Venecia and Padre Ramos communities to identify sites with potential for the cultivation of both snapper and mangrove cockles and two new sites identified. Six fibreglass canoes were procured for the licensed cooperatives to enable them to patrol their concessions and extract cockles. 12,900 red mangrove trees have been planted, with the collaboration of 51 people (incl. 22 women) from the communities of Padre Ramos and El Tintal.

3.7 More than 100 families have been organized into cooperatives to hold 20 year community mangrove concessions for the conservation and sustainable production of cockles. In co-ordination with the UNAN-León, technical specifications for a cockle purification plant have been drawn up and the necessary infrastructure has been procured (including ultraviolet purification equipment, oxygenation pump, and alternative energy generation equipment - a 550W generator to power the seawater suction pump, 2 solar panels, batteries and associated accessories).

3.8 The project is working to equip 3 cooperatives with materials and equipment for the breeding of snapper in floating cages. 3 cages have been built so far and materials purchased to construct 11 more once permits have been issued by MARENA. 5,000 juvenile fish have been procured. LIDER is working with each cooperative to keep a production and marketing record to enable them to track the investments and income generated throughout the 2018 productive cycle.

3.9 Preliminary market mapping for the artisanal capture fisheries market system was initiated and facilitated by a PMSD specialist. This involved identification of the main market actors (fishers, intermediaries, processors, wholesalers, retailers, end-consumers) and the relationships

		<p>between them. Next steps include: initiating engagement with the key market actors; identifying ‘hooks’ to motivate them to work together to improve the sustainability of the market system; improving market literacy, organisational and negotiation skills of fishers; and facilitating fishers, other private sector actors and supporting agencies such as INPESCA, to develop and implement joint action plans.</p> <p>3.10 In all workshops, meetings and training, the project team emphasise the links between maintenance of healthy marine and coastal ecosystems and the sustainability of the natural resource based livelihoods on which local communities depend.</p>
<p>4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.</p>	<p>4.1 0.9 km of high priority nesting beach at Punta Venecia in Estero Padre Ramos Natural Reserve, together with 28 ha of coastal and riparian dry forest, gains enhanced protection through binding long-term agreement with the private landowner.</p> <p>4.2 Plan for implementation of the agreement endorsed by the Municipality, with fund-raising under way if needed.</p>	<p>4.1 Alternative legal instruments identified, draft contracts prepared. Negotiations underway with private landowner.</p> <p>4.2 This will take place in Y2.</p>
<p>Activities under Output 4:</p> <p>4.1 FFI organises discussions with the “landowner” (legally it is a lease from the municipality, as this is coastal property), the municipality and the local “Hawksbill Committee” to analyse options for the future legal status and management of the property, then negotiate a multi-party agreement. The aim is to ensure long-term security of this critically important habitat, while providing satisfactory outcomes for the landowner, the neighbouring EPR communities and the municipality.</p> <p>4.2 FFI invests 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 “voluntourism”, hiring legal services for drafting agreements, and providing support for enterprise development as necessary.</p>		<p>4.1 Attorney hired and report produced in a report into the viability of alternative legal instruments for securing this property for conservation. Three options have been identified and 3 draft contracts produced, reviewed and shared with the landowner.</p> <p>4.2 This will take place in Y2.</p>

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: (Max 30 words)</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>Outcome: (Max 30 words)</p> <p>The economic and conservation values of Nicaragua’s globally important sea turtles are recognised locally and nationally and drive livelihood improvements, reducing poverty and threats to endangered species and their habitats.</p>	<p>0.1 At EOP, drafts of Nicaragua’s National Plan for Human Development 2022-26 refer specifically to the economic and other values of turtles and their habitat, and to strategies to maintain those values.</p> <p>0.2 # of households attaining an increase of at least 15% relative to start of project in their income from activities related to ecotourism, conservation or other sustainable use of coastal/marine resources (directly supported by the project or as an indirect effect). Benefits equitably distributed between genders and across wealth categories. Targets: 100 by March 2019, 250 by March 2020, 400 by EOP.</p> <p>0.3 # of communities adjacent to turtle beaches where a clear majority of female and male community members (i) consider turtles to be a valuable asset for local development, and (ii) consider that local threats to turtles at nesting beaches or in coastal waters have been reduced in the course of the project. Target: 3 by March 2019, 6 by March 2020 and all 10 by EOP.</p> <p>0.4 By EOP length of nesting beaches with effective protection (defined as protection of >90% of Hawksbill and Leatherback nests and >60% of Olive Ridley and Green nests) increases from</p>	<p>0.1 Government consultative documents for the national planning process.</p> <p>0.2 At EOP there will be a gendered EOP Participatory Impact Assessment triangulated with enterprises’ financial records and detailed surveys, designed not only to measure this indicator but to elucidate the extent of income increase and other livelihood benefits and the influence on conservation of turtles and their habitat (see M&E section). The intermediate milestones will be estimated through sample surveys, disaggregated by gender and wealth category.</p> <p>0.3 Reports of focus group discussions (male, female and mixed), supplemented by recorded interviews. Disaggregated by gender and, where possible, supported by direct observation or other concrete evidence to substantiate the focus group conclusion. Group opinions on the two issues will be assessed on a simple scale from “not-at-all” to “very”.</p> <p>0.4 Collection of monitoring data from all known initiatives on Pacific coast.</p>	<p>At the level of the National Plan for Human Development, there will be a need for increased cooperation between Pacific and Caribbean coasts, and within the region. Turtle conservation on the Caribbean coast differs in terms of threats, social and cultural context, and hence solutions, but project activities will address integration of knowledge about turtles and their economic value into national and regional policies and plans.</p> <p>Regarding indicator 0.2, we assume that economic benefits from project-supported enterprises extend into the wider community due to stimulation of local economy, replication of the models and attraction of additional investment.</p> <p>Assumptions about growth in tourism-related livelihoods are uncertain but conservative in view of the potential (see assumptions under Output 1). Tourism growth stimulated by this project is expected to continue beyond EOP, due to time lag between promotion and vacation and widening awareness. We assume that there is no international event that effectively shuts down tourism to Central America.</p>

	<p>30 km to 40 km.</p> <p>0.5 By EOP # of hatchlings of endangered turtle species, released from all sources including independent operations, increases to 35,000 Hawksbill, 500 Leatherback, 2,500 Green (baseline = 20,000; 300; 1,000).</p> <p>0.6 Percentage of CANATUR members implementing a code of practice dissuading tourists from purchasing hawksbill “tortoiseshell” products. 70% by March 2019, 100% by EOP.</p> <p>0.7 # of shops selling hawksbill “tortoiseshell” products in Managua Airport reduced to zero by March 2019. Baseline tbd.</p> <p>0.8 INTUR uses sea turtles as flagship for tourism in promotion and provides government-funded training to marine/turtle tourism entrepreneurs. By Sept 2019.</p> <p>0.9 By EOP, two project-based publications are produced: (i) a technical analysis of publications demonstrates the advantages and challenges of integrating social, economic and biodiversity-related factors to guide development of the northern Pacific coast of Nicaragua.</p>	<p>0.5 Collection of monitoring data from all known initiatives on Pacific coast.</p> <p>0.6 Chambers of tourism resolutions, public statements and materials (printed and internet) used to reduce demand and promote alternatives.</p> <p>0.7 Direct observation in Managua airport, supported by photographic evidence.</p> <p>0.8 INTUR promotional material. Reports of training courses</p> <p>0.9 Publication on line and in print.</p>	<p>We assume that complementary efforts by FFI and others to reduce turtle mortality at sea due to by-catch and harmful practices will continue.</p> <p>Inter-oceanic Canal: Although there is much doubt over whether it will go ahead, the proposed inter-oceanic canal, which lies outside the project area (20 km south of Chacocente) influences government thinking in many areas. FFI is tracking this situation in-country. We assume it will not affect negatively the receptivity of government or tourism sector leaders to the information and recommendations emerging from this project. Rather, the case can be made that, were the canal to be constructed, it would increase the national need for the products of this project i.e. knowledge, technical capacity, sustainable livelihoods and measures to protect critical habitat and resources in the central and northern Pacific coast.</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 Report on current and potential economic valuation of turtles nationally and specifically for Pacific coast, by January 2018.</p> <p>1.2 By Dec 2019, at least 5 tourism and coastal development policies, plans and strategic decisions refer to the economic value of living turtles and demonstrate knowledge of best practice for conservation and community benefit.</p>	<p>1.1 Published report.</p> <p>1.2 Codes of practice and public statements by tourism chambers and tour operator associations i.e. CANATUR (large companies), CANTUR (small enterprises), ANTUR (operators); INTUR website and marketing strategy; Municipal land use and development</p>	<p>We assume that the tourism sector locally and nationally will remain open to integrating turtles into their activities and marketing. FFI’s participation in high-level INTUR committee sessions and dialogue with business leaders give cause for confidence on this.</p> <p>We assume that the study will confirm scope for increasing community-based,</p>

	<p>1.3 By March 2019, 60 members of the “Young Communicators Network” and the “Coastguard Group” are using new knowledge about coastal/marine conservation, including turtles, in their activities in coastal municipalities.</p> <p>1.4 By EOP, public awareness of Nicaragua’s global importance for turtles reaches 80% amongst Pacific coast communities and tourism businesses near nesting beaches. Baseline tbd.</p> <p>1.5 Percentage of CANATUR members who have expanded coverage of turtle-related tourism products in their international marketing of Nicaragua. 20% by March 2019; 40% by EOP.</p> <p>1.6 Increase in # of community-based turtle tourism products being marketed nationally or internationally by CANATUR or ANTUR members. 5 by March 2019, 12 by EOP.</p>	<p>plans.</p> <p>1.3 Training workshop records and sample follow-up survey six months after training. Data gender disaggregated.</p> <p>1.4 Surveys triangulated with review of public statements by municipal authorities and community leaders. Indicator methodology will be refined in consultation with Stanford researcher at start of project.</p> <p>1.5 CANATUR survey of its members.</p> <p>1.6 Records of FFI discussions with community groups, crossed with CANATUR and ANTUR surveys of their members.</p>	<p>turtle-related tourism. Evidence for this comes from Nicaragua’s overall tourism growth (see Section 11), existing Pacific coast enterprises in Costa Rica and nascent in Nicaragua, the confidence of project partners CANATUR and Dr Lundin (see letter), and published studies of nature / turtle / volunteer ecotourism. The studies show that the value and upward trend of turtle-related tourism (Troeng S. and Drews C. 2004 WWF turtle economics; Campbell, L.M. & Smith, C.2006 Campbell) proved resilient during the economic crisis (Balmford et al. 2009 Balmford). Volunteer travel is particularly robust. The number of volunteer vacationers doubled between 2002 and 2008, and the number of travellers who had volunteered at least once in their life tripled during that time ((Conde Nast Traveler/MSNBC poll cited by the NGO the Center for Responsible Travel - Crest). The Director of Crest reported ‘phenomenal growth’ in this sector. A 2012 survey of adventure travel tour operators by the Adventure Travel Trade Association (ATTA) found that 55% of those surveyed “currently run volunteer trips”; of the remaining 45%, over 41% of them are “considering [volunteer trips] for the future”.</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 24 graduates/undergraduates complete field projects in coastal areas. 6 per year x four years. At least 40% women.</p> <p>2.2 45 people (tourism professionals, coastal municipal staff, undergraduates in sustainable tourism and relevant natural or social sciences) complete module incorporating themes of turtle conservation and community-based tourism and low impact coastal</p>	<p>2.1 Research project reports. Participant data disaggregated by gender.</p> <p>2.2 Course participation records, plus course materials. Sample follow-up survey after training to assess use of knowledge gained. Participant data disaggregated by gender.</p>	

	<p>development. 15 per year x three years. At least 40% women.</p> <p>2.3 # of turtle hatchery/tourism initiatives with managers and staff trained on technical and social responsibility guidelines. 8 by March 2018, 15 by Sept 2018.</p> <p>2.4 # of turtle hatchery/tourism initiatives implementing the guidelines. 12 by Sept 2019.</p> <p>2.5 Study visit by professionals and community members to learn from experiences in the region, by Sept 2018.</p> <p>2.6 # of issues on which members of the National Turtle Conservation Network have taken a collective action, advocacy position and/or made recommendations. 3 issues by June 2019; 6 by EOP.</p> <p>2.7 By EOP, NTCN members have increased access to information on turtle conservation protocols, monitoring data and/or low impact coastal development, and are in regular communication with peers in the region.</p>	<p>2.3 Records of meetings with each initiative and attendance at training events. We know of 17 such initiatives, involving a variety of entities: hotels, private individuals, government agencies etc.</p> <p>2.4 Field verification by project staff of implementation of guidelines.</p> <p>2.5 Report of regional visit, participants and follow-up. Participant data disaggregated by gender.</p> <p>2.6 Network records. Copies of public statements and publications.</p> <p>2.7 Review of traffic on list-servers: 'tortugasmarinasnicaragua'; regional LaudOPO; ICAPO; 'tortugasnicas'. Complemented by information from field team discussions with community enterprise leaders. Disaggregated by gender and into groups (members may be technical experts, individuals from relevant communities, tourism enterprises etc.)</p>	<p>We assume that the majority of the hatchery/tourism initiatives will be open to technical support and the adoption of guidelines generated in consultation with them and the relevant authorities.</p> <p>We anticipate that a form of certification of good practice will be developed through this process and that the scope of guidelines will be broadened to cover best practice on additional aspects of coastal development. However, these are ongoing processes which may extend beyond EOP, so are not listed as indicators.</p>
<p>3. Female and male community members adjacent to turtle nesting beaches benefit from improved economic opportunities related to sustainable coastal and marine resource management</p> <p>(320 individuals and their households)</p>	<p>3.1 # of community members trained in relevant technical skills and provided with support for SME development or employment. Targets: 180 by March 2019; 360 at EOP. 60% women.</p> <p>Target groups/enterprises include:</p> <ul style="list-style-type: none"> • Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group • Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey • Seasonally employed turtle beach 	<p>3.1 Records of community meetings, workshops and other training events. Participant data disaggregated by gender.</p> <p>Supplemented by records of follow-up meetings between project and each enterprise.</p> <p><i>All the Output 3 indicators will be supplemented by photos of the enterprises, interviews with tourists and others who have used services, and other concrete evidence.</i></p>	<p>We assume that in the project localities there will be no major disruption to livelihoods, such as natural disasters or large-scale pollution.</p> <p>We assume that the current positive attitude locally and nationally to developing such livelihoods is maintained, and that there will be no major internal conflicts or disturbances, which might especially impede new livelihoods and new business partnerships.</p>

	<p>patrollers seeking skills for their off-season livelihoods (mostly male)</p> <p>3.2 # of sustainable fisheries and community-based tourism enterprises with robust business models. Targets: 6 by Sept 2018; 12 by EOP</p> <p>3.3 # of female and male community members who are benefitting directly from improvements in their employment or their SME as a result of the project. Targets 80 by March 2019, 160 by March 2020, 320 by EOP.</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)</p> <p>3.3 Interviews with SMEs and individuals who have been supported by the project, recording concrete evidence of the improvements in each case (e.g. income, secure agreements with clients, business management capacity, quality and remuneration of employment etc.). Data disaggregated by gender, locality and type of livelihood.</p>	
<p>4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.</p>	<p>4.1 0.9 km of high priority nesting beach at Punta Venecia in Estero Padre Ramos Natural Reserve, together with 28 ha of coastal and riparian dry forest, gains enhanced protection through binding long-term agreement with the private landowner.</p> <p>4.2 Plan for implementation of the agreement endorsed by the Municipality, with fund-raising under way if needed.</p>	<p>4.1 Signed permanent or long-term agreement.</p> <p>4.2 Plan, with letter of support from Municipality. Funding proposals, if relevant.</p>	<p>We assume that the landowner will maintain his interest in reaching an agreement to ensure long-term conservation. Ongoing conversations give us confidence that this will be the case.</p> <p>Re additional funding needs related to the establishment of the formally protected land (e.g. commitment to invest in social enterprise there), FFI assumes that these funds can be raised in good time, well before the current use agreement expires in 2022.</p>
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <p>1.1 FFI holds meetings and conference calls with tourism-related partners (CANATUR, CANTUR, INTUR, FIU) and turtle conservation organisations to talk about the intended valuation study and obtain inputs about methods, sources, products and uses, and hence build buy-in to the study and enthusiasm to use the results.</p> <p>1.2 FFI defines the detailed methodology, adapting the Toolkit for Ecosystem Service Site-based Assessment (TESSA), adding certain cultural and other values (using Guidance for the Rapid Assessment of Cultural Ecosystem Services, GRACE) and incorporating suggestions from the meetings in Activity 1.1.</p> <p>1.3 FFI implements the valuation study as planned and shares preliminary results with partners for feedback. FFI also shares preliminary results with Wildlife Conservation Society and others working on turtles on the Caribbean coast of Nicaragua, in order to obtain feedback and to ensure coordination on issues of policy and public communications.</p> <p>1.4 FFI finalises the report and presents it to partners and other interested parties (coastal municipalities, leaders from target coastal communities, NYCCG, Coastguard Group, MARENA, turtle conservation organisations etc).</p> <p>1.5 FFI convenes meeting of all project partners to make decisions about specific communications materials based on the report and complementary knowledge, their distribution and use, and simple ways to monitor their impact. FFI then contracts the production.</p> <p>1.6 Project partners and associates (NYCCG, Coastguard Group) disseminate and use the communications materials as planned, nationally and in coastal communities,</p>			

and monitor impact (including indicators 1.2-1.4 of logframe; also see M&E section). FFI will produce and make available on-line a technical publication in English.

1.7 FFI and project partners engage with government on relevant development policy formulation and planning processes, including the National Plan for Human Development, in order to promote the integration conservation of turtles and their coastal and marine habitat into these national instruments.

1.8 FIU provides advice and assistance to tourism industry actors about linkages between national operators and coastal community-based ecotourism providers, and about links with specific outbound UK and US tour operators who could market the tourism packages to their clients.

1.9 FFI and FIU collaborate with the tourism associations, municipal authorities and communities to assess existing turtle/marine tourism near project locations, identify potential improvements, as well as potential new community-based products, and develop links between the local product providers and national and international operators. FFI's role includes guiding the tourism product plans so that they follow technical, environmental and social good practice and strengthen linkages between livelihoods and custodianship of turtles and their habitat.

1.10 FIU and FFI assist the tourism associations and INTUR to develop a strategy to package and promote community-based turtle/marine tourism products in specific markets.

1.11 FFI leads the preparation and dissemination of two publications. One is a technical report analysing the connections between livelihood support, national awareness/policy influence work and the attitudes and behaviour of coastal people and institutions in relation to turtles and marine biodiversity. The other is a more popular publication about the advantages and challenges of integrating social, economic and biodiversity-related factors to guide development of the northern Pacific coast of Nicaragua.

2.1 Through links with universities in Nicaragua, FFI selects undergraduate and graduate students to undertake small projects or internships on turtles, marine resources, community-based ecotourism and other livelihoods and socio-economic issues, either as part of their studies or to gain experience after graduating. Provide each with board and lodging and contribution to project costs. Ensure there are opportunities for female students and disadvantaged students and track their post-internship professional development.

2.2 FIU, in consultation with FFI and the tourism associations, leads development and delivery of a module on community-based ecotourism, with a focus on coastal locations, including a field trip to a project turtle tourism site and observation of low-impact coastal development. The module will be incorporated into at least one university course covering sustainable tourism (UAM) and also adapted for delivery as a stand-alone course for key professionals in the project area. The aim is to inform and influence current and future professionals (female and male) in tourism, coastal development, municipal planning, and natural and social sciences. The project will deliver the module at least three times (monitoring quality and subsequent use of skills) and will seek to respond to demand for further repetition.

2.3 FFI, in consultation with MARENA, existing turtle hatcheries and the NTCN, develops guidelines for management of hatcheries and associated tourism operations, including technical and social responsibility considerations.

2.4 FFI and NTCN colleagues disseminate the guidelines and provide training to hatchery operators on techniques and practices in the guidelines.

2.5 FFI facilitates NTCN process of strategic planning.

2.6 FFI provides ongoing support to NTCN, helping it 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.

2.7 FFI organises a study visit to Costa Rica by professionals, representatives of CANATUR and CANTUR and community members to learn about turtle tourism and community-based ecotourism from peers and stakeholders in that country.

3.1 FFI staff and consultants provide tailored technical skills training and SME development support for enterprise, employment and service provision opportunities, especially those benefitting women and vulnerable groups. The economic activities span diverse sectors, as spelled out in Activities 3.3-3.10 below). Some training needs are common across several kinds of business whereas others are sector-specific. The training will be coordinated and organised to make efficient use of both project resources and the time of the trainees.

3.2 FFI facilitates dialogue between businesses and community groups, to identify opportunities and barriers to cooperation, leading ultimately to equitable relationships that deliver livelihood benefits (economic and other). In the case of tourism, by involving community leaders in the activities of Output 1, the project will already have made

connections between operators and current and potential local providers.

3.3 FFI develops the “voluntourism” enterprise at EPR in line with a business plan and policies which ensure a strong community role in decision-making as well as full involvement and economic benefit, that is inclusive of vulnerable members of the EPR community.

3.4 FFI assists community groups to improve or establish economic activities related to coastal tourism. Prior work has identified several groups to receive support, including women weavers using waste plastic bags as raw material (58 people in 3 communities), people receiving/guiding visitors (51 in 4 communities), people producing honey and receiving tourists (28 in 3 communities), a cooperative already operating a turtle hatchery (20 people in 1 community), amongst others. Areas of training and development support include financial management, hospitality and visitor services, catering, handicrafts, guiding, marketing, cooperative establishment, business plan development, and product innovation and improvements such as development of trails and circuits, use of the Chacocente Visitor Centre and community-based sport-fishing. Most new tourism sites and activities will be determined with stakeholder in Years 1 and 2 the specific sites and groups of beneficiaries.

3.5 For regular, seasonally employed turtle beach patrollers, who do not have satisfactory livelihoods during the off-season, FFI identifies needs and aspirations for development of additional skills and experience to enable them to improve off-season livelihoods. Provide affordable training to develop essential skills, thereby enhancing both individual livelihoods and the value and security of being a turtle patrol professional.

3.6 Líder and FFI assist four community groups in EPR (40 women, 20 men) to establish concessions for custodianship of mangroves and sustainable collection and cultivation of *Anadara similis* (mangrove cockle), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawksbill habitat and providing income.

3.7 Líder supports 5 cooperatives (65 people) to set up a plant for processing and purifying the cockles, which adds substantial value.

3.8 Líder and FFI assist one community group of at least 15 members, comprising former egg poachers and blast fishers, to establish and monitor a snapper rearing facility, with attention to both ecological and social costs and benefits, including monitoring stipulated in the environmental licence (already obtained). It follows a model already proven in the EPR estuary, uses shrimp processing waste as feed, and will provide income to individuals who have changed from destructive practices. Blast-fishing harms the juvenile snapper so the community will ensure it is driven out of this sensitive, turtle-frequented estuarine site.

3.9 FFI provides support to fishers (approx 80 people, almost all men, in 4 communities), who have committed to responsible fishing practices and are championing locally the elimination of blast fishing and other illegal practices harmful to turtles. This extends an initiative started by FFI in Nicaragua’s southern Pacific coast, where blast fishing is less prevalent, and can increase income while tackling threats to both turtles and fisheries. Areas of training and development support include improvements in handling and storage, negotiation skills, access to higher value markets, promotion to certain hotels based on commitment to conservation, business plan development. The project will identify areas of support for the additional, northern fishers through participatory analysis of market systems.

3.10 Through ongoing dialogue and public communications FFI and Líder reinforce the inherent linkages between all the above livelihood support and the conservation of turtles and marine biodiversity, thereby driving the transition from impotent tolerance of short-term destructive practices to empowered community commitment to sustainable livelihoods.

4.1 FFI organises discussions with the “landowner” (legally it is a lease from the municipality, as this is coastal property), the municipality and the local “Hawksbill Committee” to analyse options for the future legal status and management of the property, then negotiate a multi-party agreement. The aim is 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 FFI invests 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 “voluntourism”, 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

Cod e No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
4A	Number of undergraduate students to receive training *	9 female; 5 male	Nicaraguan	14 (6 + 8)				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)				t.b.c.
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above) *	158 female; 234 male.	Nicaraguan	392 (NB some attended more than one training)				400 (25 + 15 + 360)
6B	Number of training weeks to be provided.	N/A	N/A	3 weeks				t.b.c.
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)				3 (tourism course materials in English and Spanish; hatchery management guidelines)
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country.	N/A	N/A	0				1
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 – in draft (EPR Bird ID Guide and EPR Ethnobotanical Guide)				4
14A	Number of conferences/seminars/workshops to be organised to	N/A	N/A	0				1

	present/disseminate findings.						
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.	N/A	N/A	1			4
20	Estimated value (£'s) of physical assets to be handed over to host country.	N/A	N/A	£15,666			£15,666
23	Value of resources raised from other sources (e.g., in addition to Darwin funding) for project work.	N/A	N/A	£101,274			£237,016

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)

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

- Annex 4A Presentation from Project Steering Committee Meeting during development of project M&E framework and detailed indicators (Activity 0.2)
- Annex 4B Transcript of CANATUR President's speech at the Güegüense Award for Excellence held in March 2018 (Activity 1.7)
- Annex 4C Protocol for assessment of all turtle conservation and hatchery operations on the Pacific coast of Nicaragua (Activity 1.9 / 2.4)
- Annex 4D Photo of students on their volunteer placements in EPR (Activity 2.1)
- Annex 4E First draft of training materials for module in coastal community-based ecotourism as delivered to UAM students (Activity 2.2)
- Annex 4F Minutes of National Sea Turtle Conservation Network (NTCN) meeting in July 2017 (Activity 2.6).
- Annex 4G Photo from meeting of NTCN (Activity 2.6)
- Annex 4H Minutes of meeting with Chacocente Tourism Cooperative (Activity 3.1)
- Annex 4I Year 1 Report from project partner Fundacion Lider (Activities 3.5 – 3.9)
- Annex 4J National newspaper article mentioning project's work on snapper rearing.
- Annex 4K Analysis of legal instruments for securing the long term protection of the property at Punta Venecia (Activity 4.1)

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.	✓
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.	✗
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.	✓
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.	✗
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	