



Darwin Initiative: Final Report

Darwin Project Information

Project reference	24-020
Project title	Realising the values and benefits for communities of Nicaragua's Turtles
Country(ies)	Nicaragua
Lead organisation	Fauna & Flora International (FFI)
Partner institution(s)	Fundación LIDER National Sea Turtle Conservation Network (NTCN) Nicaraguan Tourism Chamber (CANATUR) Dr Carolin Lusby, Florida International University (FIU) José Urteaga, Stanford University
Darwin grant value	£385,617
Start/end dates of project	1 June 2017 – 31 March 2021
Project leader's name	Alison Gunn
Project website/blog/social media	The project does not have a dedicated webpage. However the FFI website hosts a page on our broader marine turtle conservation programme in Nicaragua: www.fauna-flora.org/projects/conserving-marine-turtles-eastern-pacific-nicaragua
Report author(s) and date	Alison Gunn, supported by Eduardo Gomez, Angelica Valdivia, José Urteaga Velkiss Gadea & Eduin Paniagua. June 2021

1 Project Summary

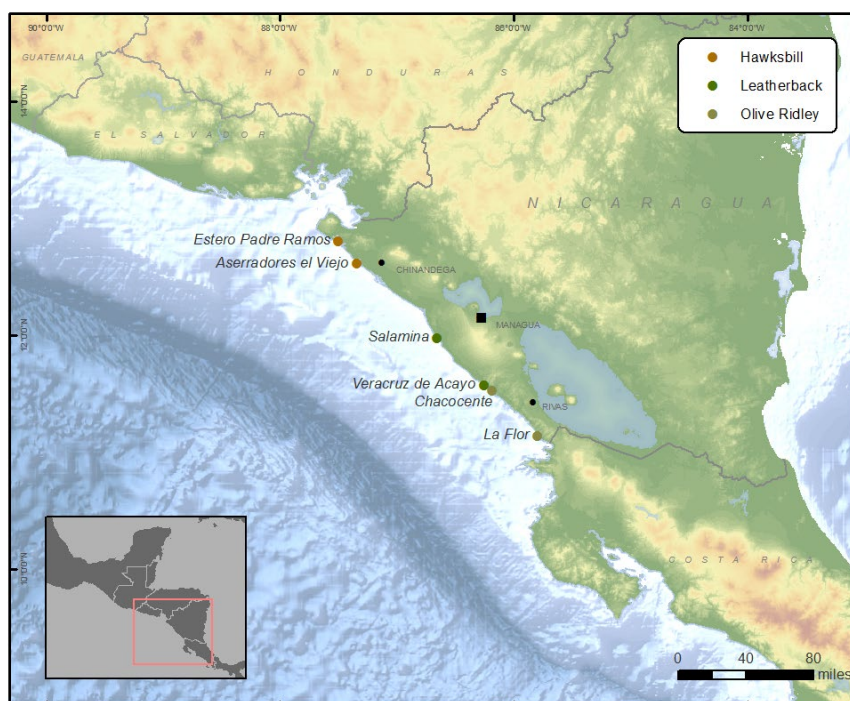
Nicaragua has globally important Pacific turtle populations, including 52% of nesting Eastern Pacific Hawksbill (CR), plus Eastern Pacific Leatherback (CR), Green turtle (EN), and Olive Ridley (VU) (two of eleven mass nesting beaches). Many coastal people, who depend on agriculture and fishing, are poor 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.

In the decade to 2018, Nicaragua experienced significant and rapid growth in tourism – for example, over the six years to 2015, tourism income increased by 58%, reaching 1.46 million visitors and \$528m. At project start, hotel construction threatened coastal habitat, businesses marginalised adjacent communities and some privately owned, tourist-oriented turtle hatcheries used inappropriate methods. However since 2018, when Nicaragua experienced significant and widespread socio-political unrest, the tourism industry has contracted sharply - an 80% year-on-year reduction in tourism levels was reported in January 2019, with this reducing further (to near zero) in March 2020 as the COVID-19 pandemic ensued. Nevertheless, in the medium- to long-

term, the tourism sector in Nicaragua has the potential to exacerbate or improve the situation with respect to marine turtles, depending on policies and practices adopted as tourism recovers, with the current collapse in tourism representing an opportunity for reorientation towards best practice. One constraint for this 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.

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

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



2 Project Partnerships

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

Fundación LIDER: LIDER's role in the project focused on supporting community groups in the north of Nicaragua in developing sustainable coastal livelihoods, including establishing concessions for custodianship of mangroves, sustainable mangrove cockle harvesting and environmentally-licensed snapper rearing facilities. These activities built upon Fundación LIDER's prior experience in establishing collective enterprises to improve community livelihoods based on sustainable management of natural resources in the department of Chinandega. Throughout the project, LIDER staff worked closely with the FFI project team to plan activities and approaches, monitor progress and adaptively manage the project's approach with target communities and stakeholders at this site. LIDER's role in the project was formalised through annual sub-grant agreements signed by both parties, detailing activities and budget for each year

of the project (see Annex 8H for example sub-grant agreement from Y4 of the project). FFI's Specialist in Community Livelihoods worked with LIDER to provide continuous technical support to field activities, with FFI's Marine Turtle Programme Manager as our lead liaison with LIDER's Coordinator. Fundacion LIDER has submitted detailed reports twice a year (in Spanish – e.g. see Annex 7E), which have fed into the project's annual and final reports. This partnership has proved highly effective, and project activities and outputs delivered in partnership with LIDER progressed well, expanding the project's support to nine community cooperatives linked to artisanal fishing, sustainable mangrove cockle collection and snapper cultivation in the Padre Ramos estuary (EPR). FFI's partnership with Fundacion LIDER is continuing post-project, with a focus on continued livelihoods support linked to sustainable fisheries, nature-based tourism and agroecological production in target communities.

National Nicaraguan Tourism Chamber: CANATUR promotes sustainable tourism development in Nicaragua and represents the professional interests of national tourism enterprises. Under a project-specific agreement initiated in Y1, CANATUR began working with FFI to enhance recognition of the value of marine turtles within Nicaragua's tourism industry; however this work was put on hold in Y2 due to national instability and the associated collapse in the tourism sector. In Y3, a selected team of experts in environmental economics, value chains and sustainable tourism from the Research Department of CANATUR's Centre for Tourism Business Development led the economic valuation study of Nicaragua's Pacific coast turtles. In Y4, further collaboration with CANATUR to promote the values of marine turtles as a tourism asset in Nicaragua amongst CANATUR's members was not possible due to the combined impacts of the national political unrest and Covid-19 pandemic on the tourism sector

Dr. Carolin Lusby, Florida International University: Dr Lusby collaborated with FFI on the design of community-based ecotourism tourism training modules and materials (formalised through a consultancy contract with FFI), and recommendations for improving the community-based ecotourism products for national and international operators. However, her support to delivery of the training modules was put on hold in Y2 (and associated budget re-deployed) in response to the national security situation, associated collapse in tourism and suspension of international travel. In Y3, Dr Lusby supported the adaptation and refinement of the training materials for their local delivery as (i) a stand-alone course for key Nicaraguan professionals in tourism, coastal development, municipal planning, and natural and social sciences; (ii) to local coastal ecotourism stakeholders, including community members and small enterprises.

José Urteaga, Stanford University: Concurrent to the project, Mr Urteaga has undertaken a Doctorate in the Emmett Interdisciplinary Program in Environment and Resources at Stanford University. FFI's pre-existing Memorandum of Understanding with Mr Urteaga recognised our mutual desire to collaborate to advance scientific knowledge and practice relating to marine turtle conservation in Nicaragua – with this collaboration expected to continue to evolve post-project. Throughout the project, Mr Urteaga has an advisory role on the project steering committee, attending regular committee meetings, and has proved to be a significant asset to the team. Mr Urteaga has guided the design, methods and sustainability of project monitoring, particularly in relation to socioeconomic impacts, as well as the investigation of turtle-related knowledge, attitudes and motivations amongst coastal communities in Nicaragua. He has also played a lead role in the development of national guidelines for the management of hatcheries. He has also supported the project team in evaluating and drawing learning from project experiences to inform future approaches. Mr Urteaga's technical inputs have been formalised through a consultancy contract with FFI for the project duration (not provided as an Annex, but available on request).

Informal collaborations: The project has also collaborated and engaged with the following government departments and organisations, not listed as formal project partners:

Nicaraguan government departments: The project aligns with national government strategies to promote sustainable livelihoods (including those linked to tourism and aquaculture) and conservation of natural resources. In Y2 and Y3, the national context in the wake of the 2018 socio-political unrest made close collaboration with the authorities difficult. In Y4, however, FFI was able to develop shared annual workplans with six key Nicaraguan government departments (as signed off in March 2020 and again in March 2021) which included activities under this project – in particular relating to joint activities with **MARENA** (Ministry of Environment and Natural Resources) and **MEFCCA** (Ministry of Family, Community, Cooperatives & Associative Economy).

National Universities: During the project, FFI has strengthened and extended our collaborations with national academic institutions to support student placements and research projects, through collaboration with three universities. These were: the *National Agrarian University (UNA)*, through their Faculties of Animal Sciences and Natural Resources & Environment; the *National Autonomous University of León (UNAN-León)* with whom we signed a tripartite agreement in Y2 alongside Fundación LIDER; and the *National Autonomous University of Managua (UNAN-Managua)* with respect to their Sustainable Tourism degree course, through an agreement with their Faculty of Education and Languages.

NB. There is no resident British diplomatic mission in Managua. However, in March 2019, FFI's Country Director in Nicaragua met with the UK Ambassador to Costa Rica and Nicaragua, Ross Denny, alongside other British NGO's working in Nicaragua to share information about our wider programme of work.

3 Project Achievements

3.1 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.

- *Baseline condition:* Fast growing tourism sector in Nicaragua, with hotel construction threatening coastal habitat and value of marine turtles as a tourism asset in Nicaragua not widely recognised.
- *End-of-project condition and sources of evidence for change:* Report on economic values of Nicaragua's Pacific coast turtles completed (see Annex 7A) and shared with key stakeholders, including CANATUR. However tourism industry in Nicaragua has contracted significantly following the 2018 political crisis followed by the global Covid-19 pandemic and is therefore focused on promoting '[Resilient Tourism](#)' and strengthening its ability to adapt to current context for tourism in Nicaragua, climate change and other risks.
- *Problems encountered:* The project has operated in an unprecedented and unforeseeable context for tourism in Nicaragua. In Y2, the sector contracted sharply in 2018 in response to the socio-political unrest across the country, with an 80% year-on-year reduction in tourism levels reported in January 2019. In Y3, tourism levels remained low, with thousands of small, medium and large tourism enterprises remaining closed and an estimated >50% reduction in tourism revenue compared to 2017 levels ([CANATUR, December 2019](#)). When the global COVID-19 pandemic hit in March 2020 it reduced tourism activity in Nicaragua to near zero. In the medium- to long-term, the tourism sector in Nicaragua has the potential to exacerbate or improve the situation with respect to marine turtles, depending on policies and practices adopted as tourism recovers. The project's ability to influence policies, plans, marketing and practice of tourism and associated coastal development has therefore been compromised. This risk was identified through the project's logframe assumption "that the local and national tourism sector will remain open to integrating marine turtles into their activities and marketing" – whilst the sector remains open to this in future, its current priority is to increase its resilience and adapt to the current context.

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

- Report on economic values of Nicaragua's Pacific coast turtles completed (Annex 7A) and shared with key tourism stakeholders. Sharp contraction in Nicaragua's tourism industry in means that it is currently a difficult context in which to influence the sector's codes of practice, marketing strategies, recovery plans and strategic decisions – these are currently focused on increasing resilience of tourism enterprises. Project therefore unable to meet target (as communicated to Darwin in December 2020).

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

- Of the >100 members of CANATUR (82 direct tourism business partners, 12 tourism associations and 17 territorial chapters that promote the small and medium-sized entrepreneurs that make up their large social enterprise base), 3% were marketing turtle tourism products at project baseline. Survey of CANATUR members to evaluate current and potential turtle-related tourism marketing was not possible in Y3 or Y4 – the sector is focused on adapting to current context for tourism in Nicaragua. Due to impact of external context (political instability and Covid-19) on tourism sector, project is unable to demonstrate impact towards this target (as communicated to Darwin in December 2020).

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

- At baseline, one community-based turtle tourism initiative in Nicaragua was being marketed at a national and international level. As above, due to impact of external context on tourism sector, survey of CANATUR members to assess change in this measure was not possible in Y3 or Y4 and the project is unable to demonstrate impact towards this target (as communicated to Darwin in December 2020).

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.

- *Baseline condition:* Nicaragua had small pool of relevant scientists, technicians and professionals, with limited opportunities to exchange information/experiences with their peers.
- *End-of-project condition and sources of evidence for change:* 45 students (69% female) from four national universities have increased knowledge and skills in relevant topics, with 25 of these students having completed fieldwork projects (as evidenced by fieldwork reports and participation records, e.g. Annex 8B). 1,200 people are better informed about Nicaragua's marine biodiversity, having visited the Nicaragua Azul museum (as evidenced by visitation records). Seven organisations have participated in the design of best practice guideline for management of turtle hatcheries in Nicaragua and guidance document produced (as evidenced by guidance document and workshop minutes, Annex 7D and Annex 8C). 32 turtle conservation actors in Nicaragua in regular communication and sharing information via the active 'Tortugeros Nicaragua' Whatsapp group (as evidenced by meta-data from group chat).
- *Problems encountered:* As described above, the project has operated in an unprecedented and unforeseeable national context, which has compromised the project's ability to deliver the training module in community-based ecotourism as planned. It has also hindered the proposed strengthening of the National Turtle Conservation Network (NTCN), as key members of the Board left Nicaragua following the 2018 socio-political crisis, leaving the project with no mechanism to facilitate the updating of the Network's strategy. Major disruption due to national economic/social instability of natural disasters was identified in the logframe as an Outcome level assumption, alongside Output level assumptions linked to the willingness/ability of tourism professionals to attend training and of NTCN members to engage in the Network's strategic development process.

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

- 25 students (64% female) completed placements and/or fieldwork projects in relevant topics (e.g. Annex 8B): 14 students in Y1 (6 graduates, 67% female; 8 undergraduates, 63% female); 4 students in Y2, (two graduates, two undergraduates; 50% female) 5 students in Y3 (all undergraduates; 60% female); 2 students in Y4 (both undergraduates, 100% female).

Indicator 2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete

coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).

- Eight students completed first iteration of community-based coastal tourism module in Y1 (62.5% female). 1,200 people are better informed about Nicaragua's marine biodiversity having visited to Nicaragua Azul museum (Annex 8D). Resource workbook, compiling relevant theory, case studies and linked to further reading completed in Y3 and converted into PowerPoint training module in Y4 (see Annex 7C) and shared with UNAN-Managua's Sustainable Tourism degree course leads. Impact of external context on achievement of targets under this indicator was high; planned roll out of training programme has not been possible within the project timeframe (as communicated to Darwin in December 2020).

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

- National best-practice hatchery management guidelines published (Y4; Annex 7D) following scientific research study into alternative incubation techniques (Y1&2) and participatory process involving seven stakeholder organisations (Y3, Annex 8C). Coastal sites (n=29) for uptake of best practice guidelines have been identified and characterised, and guidance disseminated with corresponding virtual training workshops planned. Monitoring of uptake of guidance not completed within project period, due to delays in roll out due to external context.

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

- 'Tortugeros Nicaragua' WhatsApp group operating as an effective national platform for promoting information sharing and collective action amongst NTCN members and other stakeholders engaged in turtle conservation in Nicaragua (see Annex 8E). Impact of external context on NTCN Board structure and function means that project will not achieve target to update NTCN strategy.

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

- Tracking of post-internship professional development has provided evidence that these placements are increasing national capacity for turtle conservation (50% of 14 students are employed or continuing their studies in a related field), alongside related qualitative evidence of the value of students' experiences (quotes include: "My internship with FFI was the launch-point for my career" A.S., "My placement was deeply motivating" C.G.). It has not been possible to monitor implementation of best practice guidance on hatchery management within the project period, as the participatory process and research underpinning the development of the guidance - combined with the external context - meant the final manual was not published until Y4.

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

- *Baseline condition:* Livelihood strategies amongst poor coastal communities were inadequate, unsustainable and vulnerable to disasters. Household-level socio-economic baseline data from 260 households across 21 Pacific coastal communities (800 inhabitants, 47% female) confirmed poverty indicators, such as household food shortages are highly prevalent in up to 44% of households. Few coastal people perceived turtles as a valuable living asset of which they are beneficiaries and custodians. Coastal tourism development often marginalised adjacent communities. Female and male community members adjacent to turtle nesting beaches lack the skills and opportunities to engage in sustainable livelihoods.
- *End-of-project condition and sources of evidence for change:* 283 community members (118 women and 165 men) across 18 coastal communities have strengthened knowledge or skills for resilient livelihood strategies compatible with conservation having received technical training or support in SME development or employment (as evidenced by records of community meetings and training events, e.g. see Annexes 7E, 8F, 8G, 8K). As a result, four community groups providing touristic services and nine community cooperatives linked to

responsible fishing have improved organisational capacities and strengthened business models (e.g. as evidenced by action plan and market mapping in Annex 7F, 8H & 8J).

- *Problems encountered:* The collapse in tourism sector across Nicaragua (as described in above) severely affected coastal tourism and coastal communities, who faced considerable vulnerabilities and uncertainty even before 2018. Through this project we worked with target community groups to support them to build resilient livelihoods and increase their wellbeing. A focus of our approach has been to build their social capital, for example in terms of good governance and strengthened networks of support, to improve their ability to adapt to the current context and respond to future opportunities.

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

- A total of 283 community members (118 women and 165 men) have received technical training or support in SME development or employment: Women weavers (47 women); Turtle beach patrollers (46 men); Chacocente Tourism/Honey Cooperative (16 women, 17 men); EPR tourism services providers (3 male boatmen, 3 female cooks, 7 male guides); Members of EPR community cooperatives engaged in cockle/snapper cultivation (52 women, 67 men); Fishers from Aserradores (25 men).

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

The following 13 community cooperatives and groups have robust business models;

- *Chacocente Tourism/Honey Cooperative:* This cooperative has stronger governance mechanisms, including strengthened Board of Directors with clearer division of roles and responsibilities. It has reviewed and updated its strategy to develop business relationships, with a focus on an action plan for improving honey production, market linkages and agreements for a fairer distribution of enterprise income amongst cooperative members.
- *Weaving for Nature enterprises:* Astillero group's business model now includes a strategy for improvements in product quality and innovation and a marketing and sales plan. El Tintal group's business model is less developed, but draws upon that of the more experienced group and includes compliance with the Code of Conduct for Responsible Artisans, as well as marketing and skills development.
- *Tourism service providers in EPR:* Small group of fishers providing boat transportation services in EPR has improved plans for provision of services, including service rotas and coordination for maintenance of equipment.
- *EPR Fisher cooperatives:* Governance structures and business models for nine cooperatives engaged in cockle cultivation, snapper rearing and production of high-protein fish-food have built upon economic feasibility studies (Y1), policies for equitable benefit sharing and promoting greater engagement of women (Y2) and marketing plans (Y3/4).

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

- *Baseline condition:* Site under private ownership.
- *End-of-project condition and sources of evidence for change:* Bilateral usufruct contract signed between FFI and landowner, ensuring the long-term security of this critically important site (see Annex 7G). Municipal authorities recognise FFI's responsibility for the site.
- *Problems encountered:* Whilst dialogue with the landowner and municipal authorities was positive throughout, the process to draft and sign the agreement took longer than envisaged.

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

- Analysis of alternative legal instruments for securing the property for conservation under Nicaraguan law completed in Y1. Bilateral usufruct contract signed between FFI and landowner in Y4, restricts use of 38.75ha site to conservation and research (see Annex 7G).

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

- Municipal authorities recognise FFI's responsibility, with FFI paying land taxes for the property from December 2020. FFI has secured additional funding for management costs for 2021-22, with further pipeline funding identified.

3.2 Outcome

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

Measuring intended Outcome: Whilst we consider the indicators below to be adequate and appropriate for measuring the intended Outcome, and project has made significant advances toward achieving the overall Outcome by the end of the project, we have highlighted to Darwin in our previous annual reports and communications the expected challenges in isolating measurement of the impacts of project interventions from those of project externalities linked to both the national socio-economic crisis and COVID-19 pandemic. The external context has had a particular impact on Indicator 0.5, and have flagged to Darwin that this would not be achievable within the project timeframe.

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

- *Baseline condition:* FFI shares annual technical reports (including data from turtle nesting beaches) with government authorities, including MARENA and municipal authorities. But decision makers are without access to information relating to values of marine turtles and their habitats in Nicaragua.
- *End-of-project condition and sources of evidence for change:* Information relating to values of marine turtles compiled and published in report entitled "*Valoración Económica de las Tortugas Marinas del Pacífico de Nicaragua*" (as evidenced by valuation report, Annex 7A). FFI has sought to engage decision makers in project activities and share project outputs and learning wherever possible and appropriate. Strengthened communications and relations with government authorities (as evidenced by mutually-agreed annual workplans between FFI and six government departments) opens up new opportunities for dissemination of key messages regarding the value of living turtles amongst decision makers - this process is ongoing at project end. Official government publications on the environment include mention of marine biodiversity and marine turtles (e.g. see MARENA's 2019 Bulletin on Community and the Environment, p32-33), but the early release of Nicaragua's new National Human Development Plan to Combat Poverty 2022-26 does not expand upon on the economic and conservation values of marine turtles.

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

- *Baseline condition:* At project baseline, 89% of 260 households surveyed across 18 coastal communities (representing 800 householders, 47% female), report income below the cost of the '*canasta básica*' - an official national indicator that computes the minimum income to buy enough food and cover minimum household expenses for a family of four (see Annex 8M).
- *End-of-project condition and sources of evidence for change:* End-of-project socio-economic surveying of both beneficiary and non-beneficiary households (see Annex 7H for an English translation of the Socioeconomic impact assessment report) confirmed that it was not possible to isolate measurement of the impact of project interventions on household economies from the impact of project externalities. This overall finding was anticipated, as

per notes under Assumption O.2. 262 households across 18 communities (10.4% of all households, 49% female) were surveyed, of which 93 households were project beneficiaries (88.5% were households who also participated in the 2018 baseline surveys). Overall a general worsening of the economic situation of communities was documented (due to the national socio-economic crisis, hurricanes Eta and Iota and the COVID-19 pandemic – with significant declines in animal/boat ownership and permanent employment, and a significant increase in number of hungry days per month), with no statistically significant differences observable between beneficiaries and non-beneficiaries. Nevertheless, project beneficiaries perceived a positive impact of the project with greater optimism for their future livelihood prospects.

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

- **Baseline condition:** At project baseline, the majority of 460 coastal community members (from 267 households; 55% female) surveyed across 18 communities, reported that whilst they understand the economic potential of non-extractive use of turtles, they feel unable to benefit from such non-extractive values of turtles. For example, 85% of people from these coastal communities derive no significant income from tourism. Of those who do not engage in the illegal extraction of turtle eggs, only 2% do not because tourism linked to turtles is a better livelihood, 14% expressed conservation or moral concerns, whilst 56% do not engage in illegal extraction because it is hard work, with antisocial hours, and/or they do not see it as profitable.
- **End-of-project condition and sources of evidence for change:** Project impact was measured through post-project perceptions surveying of both beneficiary and non-beneficiary households across 18 communities (446 coastal community members surveyed from 260 households; 56% female) (see Annex 7i). Statistically significant decreases were recorded in household dependence (-44%), collection (-38%) and intention (-18%) to harvest turtle eggs from 2018 to end-of-project. This suggests that, socially, turtle egg collection has lost acceptability as a subsistence activity, and supports the hypothesis that turtle egg collection tends to become an activity of last resort. Although these decreases were not significantly greater amongst beneficiary households compared with non-beneficiary households, poorer households reported higher dependence and intention to harvest turtle eggs.

Regression analysis indicated that, between 2018 and 2021, the project significantly improved knowledge (amongst beneficiaries compared to non-beneficiaries) about the legal ban on harvesting sea turtle eggs / products and significantly increased (by 13%) the proportion of people reporting that they would not collect turtle eggs in order to comply with the law or social norms. No other perception and knowledge variables were found to be statistically different between beneficiaries and non-beneficiaries.

At end of the project, the reasons cited for not engaging in illegal extraction of turtle eggs were: 46% economic reasons (e.g. they had other work, or egg collection is not sufficiently profitable); 31% because it is hard work; 22% because it is illegal; 17% expressed conservation or moral concerns (including live turtles being worth more for tourism); 8% mentioned nesting abundance was too low. Between 2018 and 2021, there was an overall significant increase in respondents' perceptions that a loss of turtles would be detrimental to artisanal fisheries, but again this was not significantly different between beneficiaries and non-beneficiaries.

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

- **Baseline condition:** At project baseline 32.5km of nesting beach for hawksbill, leatherback and green turtles were protected along the Pacific coast of Nicaragua.
- **End-of-project condition and sources of evidence for change:** At end-of-project, over 43km of priority marine turtle nesting beach are protected (as evidenced by annual nesting beach reports and government permits – available on request):
 - 12km of priority hawksbill nesting beach at Estero Padre Ramos
 - 4.5km of priority hawksbill nesting beach at Aserradores

- 12km of priority leatherback nesting beach at Isla Juan Venado (due to enhanced protection of the community-run ecotourism and conservation project at this site)
- 9.5km of priority leatherback nesting beach at Salamina Costa Grande
- 5.5km of priority leatherback nesting beach at Veracruz de Acayo, Chacocente

Post-project length of beach with enhanced protection is expected to rise further, as additional beachfront hotels with small-scale turtle hatcheries adopt enhanced turtle protection strategies in line with the project's hatchery manual. Whilst the manual has been shared with 29 turtle stakeholders, adoption of improved practices at additional sites was not measurable by end-of-project.

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

- **Baseline condition:** At project baseline, marine turtles were not being promoted by the national tourism sector as a flagship for tourism in Nicaragua (in 2017/18, one community-based turtle tourism initiative in Nicaragua was being marketed at a national and international level).
- **End-of-project condition and sources of evidence for change:** The external project context has had a particular impact on this indicator. Although a formal Change Request was not submitted as the project was in its final year, we have flagged to Darwin in our previous annual report and communications that this indicator would no longer be achievable within the project timeframe.

Following the collapse in tourism in Nicaragua in 2018, compounded by the effects of the Covid pandemic in 2020, the sector has been focused on adapting to current context and increasing its resilience to such external shocks. This has compromised the project's ability to engage tourism stakeholders as planned. It has not been possible to conduct surveys to provide the sector with improved information on current demand for turtle related tourism and identify potential improvements, alongside insights into the number of CANATUR members using turtles as a flagship species for tourism and/or marketing community-based turtle tourism initiatives.

As described in Section 3.3 below, this risk was identified in the project logframe, through the Outcome level assumption "That Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability".

Nevertheless, FFI continues to believe that the collapse in tourism, and its future recovery, represents a valuable opportunity (post-project) for reorientation towards best practice and the development of sustainable community-based ecotourism products and services. The project has generated valuable resources (e.g. the valuation report and community-based ecotourism training materials) to contribute to this post-project.

3.3 Monitoring of assumptions

Significant national and global events - i.e. the national socio-economic crisis since in 2018 and COVID-19 pandemic in 2020 - have created critical conditions which challenge a number of the assumptions upon which the project was based, as described below. All assumptions were reviewed during the logframe revision process which took place during Y2, with changes made (approved by the Darwin Secretariat) to reflect project scope and the external context at that time. The Project Steering Committee further reviewed the project logframe and underlying assumptions in Y4, in the light of the Covid-19 pandemic in 2020 – however the Darwin Secretariat confirmed that a formal logframe Change Request was not necessary and detailing challenges and constraints through final reporting would be sufficient, as the project was nearing its end date.

Impact Level Assumptions

Assumption 1: *That the security situation in Nicaragua is sufficiently stable for FFI to maintain operations.*

Comments: Assumption was monitored closely throughout project period. A detailed update on the security situation and potential impacts on the project was provided to the Darwin Secretariat as an Annex to our Y2 Annual Report. The national context became more stable in Y3, although the resulting socioeconomic impacts (and impact on the tourism sector in particular) significantly impacted project delivery, as described throughout this report. In Y4, security risks relating to the Covid-19 pandemic (i.e. for the project team, partners and beneficiaries) were managed and monitored through FFI's internally-agreed protocols for project operations in Nicaragua (see Section 8).

Assumption 2: *That proposed development of the Inter-Oceanic Canal will not adversely affect the receptivity of government and tourism sector leaders to information and recommendations emerging from the project.*

Comments: Assumption held true. There were no significant developments in the Nicaragua canal project during the project, and no public announcements made as to its future development. The canal project looks highly unlikely to proceed in the short to medium term.

Assumption 3: *That adult populations of marine turtles in the Eastern Pacific region remain stable.*

Comments: Assumption still holds true. FFI's broader marine turtle conservation programme on the Pacific coast of Nicaragua is working to stabilise threatened turtle populations, in collaboration with national and regional partners. We work with a range of stakeholders to protect and monitor nesting beaches, reduce demand for turtle products, reduce fisheries bycatch of marine turtles, and build the long-term sustainability of turtle conservation actions.

Outcome Level Assumptions

Assumption O.1: *That decision makers, including those who lead the National Development Plan process, are willing to engage with us and that the Plan goes ahead.*

Comments: Assumption held true. The main themes of Nicaragua's National Human Development Plan were published by the government in December 2017 (Y1). The proposed themes of Nicaragua's new National Human Development Plan to Combat Poverty 2022-26 were announced by the government post-project (July 2021) and includes focus on poverty, health, education and climate adaptation, but the information released so far does not expand upon on the economic and conservation values of marine turtles or biodiversity more broadly. Nevertheless, the government is open to engagement with FFI and we will continue to use the platform of our joint workplans with government agencies to advance project outcomes and outputs.

Assumption O.2: *That there will be no major disruption to livelihoods in the project localities - through natural disasters, large-scale pollution, or national economic/social instability - and people are willing to report changes in their household income/status.*

Comments: Assumption did not hold true. The significant economic and social instability felt across Nicaragua since April 2018 significantly affected project delivery, the tourism sector and the economic/social context for target communities. The global COVID-19 pandemic and two severe hurricanes in 2020 further exacerbated the situation for already vulnerable coastal communities and their livelihoods. Accordingly, it was not possible to isolate measurement of the impact of project interventions on household economies from the impact of these project externalities.

Assumption O.3: *That no events take place to affect the current market system for turtle products that would cause an increase in demand.*

Comments: Assumption held true. FFI and partners monitored surges in the illegal extraction of turtle eggs and corresponding spikes in demand, in response to decreased beach protection and/or increased reliance of rural communities on natural resource extraction due to economic downturns linked to national instability and COVID-19. Through a parallel project, funded by DEFRA's IWTCF, FFI is scaling up efforts to reduce demand for marine turtle products in Nicaragua through an innovative behaviour change campaign.

Assumption O.4: *That the majority of turtle hatchery/tourism initiatives adopt the guidelines developed by the project and share their data.*

Comments: Assumption remained relevant, although delays in the process to define the new guidance, and roll out the hatchery manual and associated training, meant that many hatchery/tourism initiatives have not had time to adopt them and share relevant data demonstrating enhanced protection. Nevertheless, FFI's existing relationships with many of the hatchery/tourism initiatives identified, the engagement of some of these stakeholders in the participatory process to develop the guidelines, and their expressed interest in receiving training, will help to maximise uptake post-project.

Assumption O.5: *That Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability.*

Comments: Assumption no longer holds true. The tourism industry in Nicaragua collapsed by ~80% in the year following the outbreak of unrest across Nicaragua in April 2018, with tourism revenue more than 50% below 2017 levels. Nicaragua had begun a period of economic recovery towards the end of 2019, but that was reversed by the COVID-19 pandemic. As a result, in 2020, Nicaragua faced a reduction in income from tourism for the third year in a row, with tourism revenue 61.5% lower than 2019 level (Banco Central de Nicaragua, Annual Report 2020). This collapse in the tourism sector has affected the project's engagement with industry stakeholders throughout the project and exposed the dependency of multiple activities and indicators on engagement with this sector.

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

Comments: Assumption partially held true. In the medium- to long-term, the tourism sector in Nicaragua has the potential to exacerbate or improve the situation with respect to marine turtles, depending on policies and practices adopted as tourism recovers.

Output Level Assumptions

Assumption 1.1: *That the local and national tourism sector will remain open to integrating marine turtles into their activities and marketing.* *Comments:* Assumption partially held true. The closure of many tourism enterprises hampered efforts to engage with the sector, and the project was not able to generate the influence originally envisaged during the project timeframe. However, the collapse in tourism in Nicaragua and the impact of COVID-19 represents an opportunity for reorientation towards a sustainable recovery of the sector compatible with conservation (post-project).

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

Assumption 1.3: *That public awareness and support for marine turtle conservation is influenced by parallel initiatives (including awareness raising campaigns) led by FFI through our broader marine turtle conservation programme.* *Comments:* Assumption held true. Through a parallel project funded by DEFRA's IWTCF, FFI is scaling up efforts to reduce demand for marine turtle products in Nicaragua through an innovative behaviour change media campaigns and associated actions.

Assumption 2.1: *That tourism professionals see the potential benefits of community based ecotourism and attend training.* *Comments:* Assumption partially held true. The project successfully engaged academics, students and community tourism service providers, however the external context has diverted existing industry professionals from engaging more strongly with the project.

Assumption 2.2: *That the majority of the hatchery/tourism initiatives will be open to receiving technical support and the adoption of best practice guidelines, and will share the data they collect.* *Comments:* As per Assumption O5 above.

Assumption 2.3: *That wider activity and collaboration within the NTCN will be facilitated and supported by Network members.* *Comments:* Assumption held true. The 'Tortugueros Nicaragua'

WhatsApp group is operating as an effective national platform for promoting information sharing and collective action, superseding role/function of NCTN.

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

Assumption 3.1: *That the current positive attitude, locally and nationally, to developing sustainable livelihoods and new enterprise partnerships is maintained.* Comments: Assumption held true. Despite challenging context, project strategy had strong support from coastal communities and aligns with government's priorities for community-led development.

Assumption 4.1: *That the landowner will maintain his interest in reaching an agreement to ensure long-term conservation.* Comments: Assumption held true. Despite delays due to the external context, all parties remained interested in securing the conservation agreement, which was achieved in Y4.

Assumption 4.2: *That additional funding needs, related to the establishment of formally protection of the land, can be raised well before the current agreement expires in 2022.* Comments: Assumption held true. FFI has secured additional funding for management costs for 2021-22, with further pipeline funding identified.

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

The project's impact statement is as follows: ***Nicaragua's development planning for coastal and marine areas incorporates strategies to conserve natural capital and enable coastal communities to benefit from it sustainably.***

Contribution to higher-level impact on human development and wellbeing:

The project aimed to address multiple dimensions of poverty experience by female and male members of ten coastal communities, seven of which are classified as in severe poverty. We worked with target groups who are poor, marginalised and largely reliant upon marine/coastal resources, to build resilient livelihoods and increase their wellbeing. Although end-of-project monitoring was not able to isolate the contribution of the project to defined socio-economic indicators, from the impact of project externalities, the project made valuable contributions to reducing poverty and enhancing wellbeing as follows.

Livelihood diversification has helped to reduce community members' external dependencies and therefore vulnerabilities to socio-economic and environmental changes (including those linked to climate change, the economic impacts of the Nicaragua's socio-political unrest and now to COVID-19). A focus of our approach has been to build social capital, for example in terms of good governance and strengthened networks of support, to improve their ability to adapt to the current context and respond to future challenges and opportunities. Building on FFI's and international partners' previous experience, we were confident that the process by which the project facilitated enterprise and market system development would result in improvements in subjective and relational, as well as material, aspects of wellbeing. For example, fishers in EPR engaged in snapper cultivation are both well organised and committed to responsible fishing; they are therefore able to get a better price for their fish and are starting to have the confidence and contacts to negotiate with buyers higher up the value chain.

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

Contribution to higher-level impact on biodiversity conservation:

Positive impact on biodiversity as a result of project interventions is likely to be measurable in the medium to long term, especially with respect to marine turtle populations which are expected to take decades to recover.

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

Beneficiaries' motivations to conserve were captured through systematic and ad-hoc monitoring of perceptions and actions. One positive example of this is through Weaving for Nature "*Many of the women and many of their relatives who are now part of this initiative, used to go to the beach to poach turtle eggs. Now they visit the same beach, but to clean it.*" As described in Section 3.2 above (under Indicator O.3), end-of-project monitoring indicates that, socially, turtle egg collection has lost acceptability as a subsistence activity during the project period, and confirmed an increase in participation in turtle conservation activities and collective actions amongst coastal communities as a result of the project.

FFI's wider marine turtle conservation programme collates data on marine turtle populations in the Eastern Pacific, monitoring number of females, number of nests/eggs laid, % protected and number of hatchlings released at priority nesting beaches along the Pacific coast of Nicaragua. This data, in conjunction with socio-economic data and data on attitudes towards turtles and marine conservation, provides a longitudinal perspective of project contributions and impact on target populations.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Contribution to 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 - ecotourism linked to turtles, when the sector recovers. 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 4.4, 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 increase national capacity and collaboration for conservation management and protection 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.

4.2 Project support to the Conventions or Treaties (e.g. CBD, Nagoya Protocol, ITPGRFA, CITES, Ramsar, CMS, UNFCCC)

Convention on Biological Diversity (CBD): The project supported 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 contributed to **Aichi Biodiversity Targets** (1, 7, 12, 18, 19 – see Annex 4) 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).

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 strengthened the national platform for work under **CITES Article II** (Fundamental Principles) and encouraged better practices amongst tourism operators.

FFI's database of information that our field teams collect and collate on marine turtle nesting and hatching success on the Pacific coast of Nicaragua was fed into the process of updating the *Red List of Threatened Species for Nicaragua* (published in May 2018) and a *regional update of IUCN Red List data* – which plays a key role in tracking progress towards the Aichi targets. In Y2, FFI fed data on the impacts of trade on marine turtle populations in Nicaragua and on good management examples, into documents on hawksbill and other marine turtles compiled by the CITES Secretariat in preparation for the 18th CITES CoP in Sri Lanka (CoP18 Doc. 70).

4.3 Project support to poverty alleviation

Overall, during the project period (2017/18 – 2021), a general worsening of the economic situation of target coastal communities was observed, due to the national socio-economic crisis, hurricanes Eta and Iota and the COVID-19 pandemic (see Annex 7H for an English translation of the Socioeconomic impact assessment report). Significant declines were recorded in animal/boat ownership and permanent employment, alongside a significant increase in number of hungry days per month. Although end-of-project socio-economic surveying of both beneficiary and non-beneficiary households confirmed that it was not possible to isolate measurement of the impact of project interventions on household economies from the impact of project externalities, this overall finding was expected (as per notes under Assumption O.2).

Nevertheless, by the end of the project, 283 community members (118 women and 165 men) across 18 coastal communities had strengthened knowledge or skills for resilient livelihood strategies compatible with conservation, having received technical training or support in SME development or employment (as evidenced by records of community meetings and training events, see Annex 7E, 8F, 8G, 8K). Direct beneficiaries were engaged in snapper aquaculture, cockle harvesting, weaving of waste plastic bags, hatchery management, honey production and the provision of tourism services. As a result, 10.4% of all households in the target coastal communities (totalling an estimated ~1,400 women, men, girls and boys) had benefitted from livelihood improvements and associated well-being benefits. Furthermore, four community groups providing touristic services and nine community cooperatives linked to responsible fishing have improved organisational capacities and strengthened business models (e.g. as evidenced by action plan and market mapping in Annex 7F, 8H, 8J). Project beneficiaries perceived a positive impact of the project with greater optimism for their future livelihood prospects.

Evidence of concrete changes in livelihoods in the form of increases in income generation was collated. For example, analysis of data from the Weaving for Nature initiative at Astillero in 2019 indicated that each weaver earned an average of U\$ extra income each month. For those involved in snapper cultivation in Estero Padre Ramos, data indicated that each cooperative member has earned an average of U\$ for each productive cycle completed to date, with a 6% increase in production in 2019 compared to 2018.

Indirect beneficiaries include additional members of the target coastal communities whose livelihoods are dependent on the healthy marine environment this project ultimately aims to ensure. In addition, economic benefits from project-supported enterprises are likely to have indirectly benefitted other people in these coastal communities through wider stimulation of the local economy, offsetting some of the external economic shocks suffered during the project period (although this was not measureable). 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. Both direct and indirect beneficiaries are likely to experience non-monetary benefits to their wellbeing.

4.4 Gender equality

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

Active measures have been taken to involve women in the governance structures of new and existing cooperatives and enterprises (see below), as well as in training wherever relevant, taking into account gender differentiated roles in household livelihood strategies. Whilst there is an inherent male bias in some of the key beneficiary groups (e.g. most fishers and beach patrollers are male), 42% of the 283 participants in project-led training have been female (Indicator 3.1).

Fundación LIDER has supported establishment of appropriate governance structures for the cooperatives, including the election of boards of directors with representative participation of women and encouraging all the cooperatives to develop strategies for promoting the engagement of women in the cooperatives' management and activities. To support processes of community organization, with a focus on the integration of women in management positions, three community-based assemblies were held Y1 (60 participants; 33% women), four assemblies and seven workshops in Y2 (22-40 participants per event, 48% women) and one assembly in Y3 (10 participants, 20% women). Across the nine fisher cooperatives, the gender balance across all the cooperatives' membership is 44% women and 56% men (ranging from 20% to 77% women) with comparable gender balances within the cooperatives' Boards of Directors. Anecdotal reports from partner Fundación LIDER indicate that that cooperatives with a higher proportion of women are 'better organised'.

As described in section 4.3. 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 (64% compared with target of 40% over project period - Indicator 2.1) – as are the key members of the Nicaraguan project team, including FFI's National Director and 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.

4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**

The project outputs focused on informing policies and practice, building technical capacity, sustainable livelihoods and securing a critical area of land, and – as such - did not have a focus on natural resource governance and increasing representation of local poor people in management decisions. However, the community cooperatives supported by the project, provide local women and men from disadvantaged communities with a stronger platform from which their voice can be heard.

- **Were any management plans for biodiversity developed and were these formally accepted?**

No biodiversity management plans were developed, however the project produced two tools with which to inform management decisions and practice – the turtle hatchery manual (published in Y4, but still awaiting formal approval from the Ministry of Environment & Natural Resources at the end of the project) and the economic valuation of turtles study (Annex 7A).

- **Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?**

N/A

- **How did the project positively influence household (HH) income and how many HHs saw an increase?**

As described in Section 3.1, 4.3 and Annex 2, 283 households across 18 coastal communities directly benefitted from sustainable livelihood support.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?**

As reported in Sections 3.2 and 4.3, and described in detail in Annex 7H, it was not possible to isolate the project’s expected positive influence on HH income from the impact of project externalities.

4.6 Transfer of knowledge

New knowledge generated by this Darwin project includes the following (however, it should be noted that knowledge transfer through trainings and workshops were some of the key activities disrupted by the national context and Covid-19):

- *Economic Valuation of Nicaragua’s Pacific coast turtles* (Annex 7A): Whilst the project’s technical team highlighted some shortfalls in this study, it represents an important body of work from which important findings can be extrapolated, shared and built upon. Report document has been shared with key stakeholders in pdf form. Further dissemination of key messages arising from the study aligns with the inter-institutional workplan for 2021 agreed between FFI and six central government departments, and will continue post-project.
- *Turtle Hatchery Manual* (Annex 7D): National best-practice hatchery management guidelines were developed through a participatory process (involving seven stakeholder organisations), were published and shared with MARENA for approval. The resulting manual (in .pdf form and in print) was shared with 29 identified stakeholders, with three virtual training workshops planned post-project.
- *Coastal community-based ecotourism (CBT) module* (Annex 7C): Training resources were designed and first iteration of the course delivered to 8 students in Y1. Training resources were refined and translated (available in Powerpoint format in both English and Spanish). Two course lectures were delivered to 32 Sustainable Tourism students at in Y3, and UNAN-Managua have expressed interest in how the CBT workbook resources / training module can be incorporated into their Sustainable Tourism degree course.
- *Studies completed by Nicaraguan university student interns and placement projects*: 45 Nicaraguan students (69% female) from four national universities (National Agrarian University; National Autonomous University of León; National Autonomous University of Managua; American University) have increased knowledge and skills in relevant topics. 25 of these students (64% female) have completed placements and/or fieldwork projects in relevant topics (as evidenced by fieldwork reports and participation records, e.g. Annex 8B) - 8 were graduate students, 17 were undergraduates. One graduate student from the UNA successfully defended his final year thesis with distinction (97%) in Y4 - a Rapid Ecological Assessment of two key sites for hawksbills within Estero Padre Ramos. This student has been invited to share his experience of volunteering and conducting his thesis

with FFI, through this project, with other students taking undergraduate classes in the Faculty of Natural Resources & Environment.

- *Sustainability of aquaculture*: Lessons from the project's experience in supporting aquaculture as a sustainable livelihood has been shared across FFI (Annex 7B) and has fed into the development of FFI's position statement on aquaculture, which is due for publication later in 2021.

4.7 Capacity building

Increase in status of in-country staff/partners: Angelica Valdivia (Nicaraguan, female) was promoted to FFI Country Director, Nicaragua in January 2020.

5 Sustainability and Legacy

The following project achievements will endure post project:

- Knowledge generated of turtles and their habitat as valuable assets for Nicaragua.
- Enhanced technical capacity of graduates/undergraduates (through technical training) and community members (through technical training and organisational strengthening) and coastal tourism enterprises (through adoption of hatchery guideline) for turtle conservation and hatchery management.
- Through the '*Tortugueros Nicaragua*' social network field practitioners have access to the latest information and peer-peer support. We anticipate that this will grow and sustain beyond the project life.
- Established sustainable livelihoods compatible with conservation, alongside lasting social capital of community cooperatives (including capacity to engage equitably with market actors).
- Legally binding protection of essential nesting beach habitat at Punta Venecia in Estero Padre Ramos.
- Institutional capacity of in-country partners, notably Fundacion LIDER.

The project's planned exit strategy is still valid. FFI will maintain its presence in Nicaragua and continue collaborating with government and partners on a broad, long-term programme to restore turtle populations and the biodiversity, productivity and resilience of Nicaragua's coastal and marine ecosystems. Within this, FFI will continue to provide technical and institutional support to Fundacion LIDER and other emerging local organisations and will actively engage in regional collaboration with Eastern Pacific countries frequented by the same turtle populations.

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

6 Lessons learned

Project Steering Committee: The creation of a Project Steering Committee facilitated project communications, streamlined decision making and permitted effective adaptive project management throughout implementation. Bringing the range of expertise and knowledge of the Steering Committee members together on a regular basis has proved highly beneficial, ensuring that all decisions are well informed, priorities are identified and all team members' responsibilities are clear. The Steering Committee structure also helped to reduce the impact of changes in the project team, especially in the role of FFI's Country Director in Nicaragua (the original project lead).

Adaptive project management: The process of reviewing and updating the project's logical framework in Y2 was an essential and highly beneficial process for all those involved. This is especially relevant for such an ambitious project, which involves a broad range of stakeholders,

activities and external dependencies. The support of the Darwin Secretariat through these review processes was welcomed and much appreciated by the project team.

External dependencies: This project operated in a highly challenging and unpredictable external context, which generated significant and wide ranging impacts across Nicaragua. The external dependencies of the project, in particular in relation to the coastal and nature-based tourism sector, were inherent to its design as it aimed to improve national capacity and best practices. Up until Y3, our analysis was that FFI and the project were well positioned to influence the tourism sector as it is re-established and to build national capacity for sustainable community-based coastal tourism; however in the context of the ongoing Covid-19 pandemic, this unfortunately became unrealistic within the project timeframe.

Bilingual project implementation and management: The project was managed and implemented entirely in Spanish, including at Steering Committee level. Relevant project documentation therefore had to be translated into Spanish in order to share with partners and key stakeholders (including Fundacion LIDER). Whilst we are able to synthesise annual/half-year Darwin reports, case studies and lessons learned from the project in English, all other project documentation generated in-country is in Spanish. With the advent of new online translation tools (such as DeepL) FFI was better able to meet the expectation of Darwin reviewers to receive key project documents in English. Nevertheless the translation of information and documentation implies significant additional time for project team (especially the Project Lead). Increased time and resources need to be allocated and budgeted for this in future projects.

Project scope and ambition: The project's aspirations for livelihood interventions covered a wide geographic area (10 coastal communities adjacent to four sites of importance for turtles) and encompassed a wide range of livelihood options related to coastal tourism (women weavers, tourism guides and other tourism service providers, honey producers, turtle hatchery operations) and sustainable fisheries (snapper rearing, cockle cultivation). This led to a dilution of project resources across sites and interventions - raising the question as to whether the impact of the livelihood interventions could have been improved if concentrated on fewer communities / households / themes.

Resources for project monitoring and evaluation: Insufficient activities, time and resources were included in the project's design for monitoring the wide range of indicators necessary to demonstrate impact across this ambitious project.

After Action Review: In the final months of the project, a project-level After Action Learning Review (AAR) process was supported by FFI's Capacity team. This process engaged all key members of the project team, through written feedback and verbal interviews. All feedback was compiled into an anonymised but confidential AAR matrix, with valuable recommendations generated for internal learning regarding project ambition, design, management, monitoring and evaluation. Key reflections from the AAR have fed into an FFI-wide project to strengthen capacity and sustainability for monitoring, evaluation and learning across FFI's global programmes, with our programme in Nicaragua a focal site for this work.

6.1 Monitoring and evaluation

FFI's approach to Monitoring, Evaluation and Learning (MEL) has been developed over many years of engagement in sector-wide discussions and to align with our practical approach to conservation, partnership model, and focus on community conservation. As such, FFI believes that project MEL is most effective when it applies locally appropriate monitoring approaches that our partners and community stakeholders can sustain, while ensuring we can capture impact and learning as an organisation across these very disparate and locally-owned projects. The foundation for developing such project level MEL systems lies in robust project design that lays out the pathway to impact.

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.

In 2020, FFI began working on a new project which aims to bring about a step change in MEL across the organisation for greater, demonstrable and lasting impact – with our programme in Nicaragua being one of ten focal sites for this work. For more information on how FFI works to understand conservation success please follow [this link](#).

Our approach to developing monitoring and evaluation for this project has therefore been guided by the overarching principles that FFI uses to understand the impact of all our work. We use Theories of Change (TOC) 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 TOC 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.

Accordingly the project's logframe and M&E framework align with FFI's Theory of Change (TOC) for our broader programme of work to conserve turtles in Nicaragua and associated monitoring indicators. FFI, Fundación LIDER and José Urteaga of Stanford University all had a role in project M&E, with information collated and shared through annual or biannual monitoring reports, project meetings and at Steering Committee level. All data on project beneficiaries and participants (anonymised in line with GDPR), was collated and gender disaggregated. Detailed baseline and end-of-project monitoring of socioeconomic indicators and perceptions surveys across 18 Pacific coast communities were conducted and employed survey and sampling methods designed to measure change and therefore project impact.

In Y2, the project team undertook a process to thoroughly review and refine the project's logical framework, indicators and underlying assumptions, both to simplify the project's logic and to reflect the national context within which the project was operating at that time. In Y4, in the light of further significant changes to the national and global context for this project, and associated uncertainties linked to Covid-19, the Project Steering Committee conducted a further detailed review of the project logframe. However, in agreement with the Darwin Secretariat, a formal logframe Change Request was not submitted, as the project was nearing its end date.

At the end of Y2, the project lead conducted an informal, rapid "mid-term evaluation" to reflect on successes and challenges to date and inform priorities for Yrs 3 and 4. This was shared with the project steering committee and implementation team. At the end of the project, a project-level After Action Learning Review (AAR) process was conducted, generating valuable recommendations for internal learning regarding project ambition, design, management, monitoring and evaluation.

6.2 Actions taken in response to annual report reviews

Annual Report Reviews were shared each year with the Project Steering Committee and discussed in the light of the project's workplan and priorities for the following period. This was cascaded to our in-country partner Fundación LIDER by the implementation team as appropriate.

No issues were raised in our AR3R for response through our final report.

7 Darwin identity

This project forms part of FFI's broader turtle and marine conservation programme in Nicaragua.

Prior understanding of the Darwin Initiative within Nicaragua was limited to international NGOs and members of the Ministry of Environment. For the majority of the project, FFI and partners have kept external communications, social media activity and other activities to promote awareness of the project within Nicaragua to a minimum, as appropriate in the national context and sensitivities. Where appropriate and possible, the project team do explicitly refer to the

support of the Darwin Initiative to this project, with Darwin Initiative and UK Government logos used on meeting/workshop invites, participant lists, and publications resulting from the project. Nevertheless, external identity and profile of the project is relatively low.

In the final year of the project, building on our improved relations and shared workplans with the Nicaraguan government, we have been able to build the profile and recognition of the project. In meetings with government departments, including the Ministry of Environment & Natural Resource and the Ministry of International Relations, the support of the Darwin Initiative and the UK government to shared priority activities have been highlighted and understood. Through these links we continue to build understanding of the aims and approach of the Darwin Initiative amongst project stakeholders in Nicaragua.

Neither the project nor FFI Nicaragua has a dedicated Facebook page. However, FFI does post project updates via the *TortugasNicas* Facebook page, although historic posts have not always been correctly tagged #[DarwinInitiative](#). 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](#). The website includes a '[documents and reports](#)' section where project outputs can be housed (for example <https://api.fauna-flora.org/wp-content/uploads/2019/05/FFI2019Weaving-for-Nature.pdf>), as part of FFI's broader strategy to promote and comply with open access requirements.

8 Impact of COVID-19 on project delivery

The multiple impacts of the COVID-19 pandemic compounded the effects of the highly challenging external context already being experienced by the project.

The trajectory of official and unofficial cases of COVID-19 in Nicaragua lagged behind other countries, but cases were circulating throughout 2020 and were increasing in 2021. Meanwhile the national vaccination programme is limited. FFI has done everything we can to minimise the risk to staff, partners and communities. Since March 2020, FFI's in-country team have been working in line with an internally agreed Covid-19 protocols: staff worked from home where appropriate, minimising visits to rural communities, whilst continuing essential field activities where possible in line with risk assessments, use of PPE and social distancing protocols. Greater use of remote communications (Zoom, Teams and WhatsApp) was adopted by the project team, and we anticipate this will continue post-pandemic.

The Covid-19 pandemic catalysed the total collapse of Nicaragua's already weakened tourism sector and compounded existing socio-economic vulnerabilities amongst rural communities across the country. Accordingly the pandemic has undermined key Outcome level assumptions of this project, i.e. that *there will be no major disruption to livelihoods in the project localities - through natural disasters, large-scale pollution, or national economic/social instability*; and that *Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability*.

Within this context and associated increased dependencies on natural resource extraction across Nicaragua, project strategies to support sustainable livelihoods amongst coastal communities and increase resilience are highly relevant and necessary. However, certain activities linked to collaboration with the tourism sector and the promotion of community-based tourism initiatives, some of which have been on hold since the outbreak of socio-political instability at the start of Y2, were no longer feasible within the project period.

In Y4, the Steering Committee and wider project team reviewed the project logframe, activities and budget in the light of the implications of Covid-19. Whilst activities 1.5, 1.6, 2.2, 2.5 and 3.3 were affected, project targets under Outcome 1 were most affected, in addition to one Outcome level indicator. Recognising that the project is in its final year, it was agreed with the Darwin Secretariat, that a formal a Change Request detailing the impact on the logframe was not necessary.

9 Finance and administration

9.1 Project expenditure

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

Staff employed (Name and position)	Cost (£)
Angelica Valdivia, Country Director, Nicaragua	
Oscar Solis, Finance and Administration Manager, Nicaragua	
Velkiss Gadea, Programme Manager, Marine Turtles, Nicaragua	
Eduardo Gomez, Specialist, Community Livelihoods, Nicaragua	
Robert Bensted-Smith, Regional Director, Americas & Caribbean	
Alison Gunn, Programme Manager, Americas & Caribbean	
Nicola Sorsby, Programme Finance Officer, Americas & Caribbean	
Helen Schneider, Specialist, Livelihoods & Governance	
Eduin Caballero Paniagua, Project Coordinator LIDER	
Edelmery del Carmen Vargas Rodriguez, Accountant LIDER	
TOTAL	

Capital items – description	Capital items – cost (£)
None	
TOTAL	Nil

Other items – description	Other items – cost (£)
M&E data collection and analysis	
Communications & materials production (Printing costs, t-shirts)	
Bank charges	
TOTAL	

9.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
Species Fund	
National Fish & Wildlife Foundation	
The Ocean Foundation	
Oceans 5	
U.S. Fish & Wildlife Service	
Halcyon Land & Sea	
Taurus Foundation	
TOTAL	

Source of funding for additional work after project lifetime	Total (£)
Species Fund	to be confirmed
U.S. Fish & Wildlife Service	to be confirmed
Arcadia Marine	to be confirmed
TOTAL	

9.3 Value for Money

The project built upon FFI's established programme of work, organisational infrastructure and partnerships in Nicaragua. FFI has an exceptional track record in Nicaragua in mobilising people and institutions to affect change and this project, and its relatively modest budget, has been designed to maximise this potential.

The project team was relatively small, given the range of themes the project addressed and drew upon FFI's in-house staff expertise - in biodiversity conservation, livelihoods and governance, monitoring and evaluation, finance - ensuring high quality and continuous support throughout the project. Whilst the Project Lead was based in the UK, the rest of the project team were based in Nicaragua. The majority of the budget was spent in Nicaragua (only some staff, travel and overhead costs were spent in the UK).

The project benefitted from extensive local knowledge and experience of lead local partner, Fundacion LIDER, who provided robust and cost-effective on-site capacity for community engagement and sustainable livelihoods work in northern Nicaragua. Additional strategic partnerships with international specialists (Jose Urteaga and Dr Carolin Lusby), as well as national universities and industry bodies (CANATUR), enabled the project to deliver substantial, practical impact within a modest budget.

Throughout the project, projected costs were reviewed to ensure that project funds were used in the most cost-effective manner possible, and this was monitored throughout implementation. All procurement complied with FFI's procurement policy or donor regulations, whichever is more stringent, to avoid conflict of interest and ensure value for money (with any purchases upwards of £3,000 requiring quotations to be documented). Procurement decisions were made according to quality and safety as well as cost. When project activities were adapted in response to the external context, project budget was redeployed as efficiently as possible (including to support under-funded project M&E in Y4).

10 OPTIONAL: Outstanding achievements of your project during the (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

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

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

	<p>coastal communities who consider live turtles to be a valuable asset compared to baseline (target: 15% by EOP).</p> <p>0.4: Km. of nesting beaches with enhanced protection of marine turtle nests (baseline: 30km; target: 40km by EOP).</p> <p>0.5: National tourism sector (tourism agencies, industry bodies and operators - including INTUR and CANATUR) are using marine turtles as a flagship species for tourism in Nicaragua by EOP.</p>	<p>0.3 Focus group discussions and surveys of community perceptions and behaviours (baseline at project start and at EOP), with data disaggregated by gender.</p> <p>0.4 Collation of data from turtle hatchery/tourism initiatives along Pacific coast.</p> <p>0.5 Promotional materials, events and public statements from tourism agencies, industry bodies and operators; online survey of CANATUR members.</p>	<p>products that would cause an increase in demand.</p> <p>That the majority of turtle hatchery/tourism initiatives adopt the guidelines developed by the project and share their data.</p> <p>That Nicaragua's tourism industry will not be affected by extreme natural disaster or widespread economic/social instability.</p> <p>That the positive relationships and attitudes of tourism agencies, industry bodies and operators towards turtle conservation will continue.</p>
<p>Outputs:</p> <p>1. Policies, plans, marketing and practice of tourism and associated coastal development are informed by an economic valuation of turtles as a tourism asset and increased knowledge about their conservation.</p>	<p>1.1 No. of tourism and coastal development policies, plans and strategic decisions which refer to the economic value of living turtles and demonstrate knowledge of best practices for conservation and community benefit (target: at least 5 by EOP).</p> <p>1.2 % of CANATUR members who have expanded coverage of community-based turtle tourism initiatives in their national and international marketing of Nicaragua (target: 5% by March 2020; 10% by EOP).</p> <p>1.3 No. of community-based turtle tourism initiatives being marketed nationally or internationally by</p>	<p>1.1a Published report on economic and social-cultural values of Nicaragua's Pacific coast turtles and associated communications materials.</p> <p>1.1b Tourism sector codes of practice, public statements and marketing strategies.</p> <p>1.2 CANATUR survey of its members.</p> <p>1.3 Records of FFI discussions with community groups; CANATUR surveys of their members.</p>	<p>That the local and national tourism sector will remain open to integrating marine turtles into their activities and marketing.</p> <p>That the valuation study will confirm scope for increased community-based turtle-related tourism.</p> <p>That public awareness and support for marine turtle conservation is influenced by parallel initiatives (including awareness raising campaigns) led by FFI through our broader marine turtle conservation programme.</p>

	CANATUR members (target: 5 by March 2020, 12 by EOP).		
<p>2. Nicaragua's technical capacity relevant to turtles, hatchery management, coastal/marine ecosystems and low impact coastal development practices is increased, through training in these disciplines and strengthening of national and regional networks.</p>	<p>2.1 No. of graduates/undergraduates who complete fieldwork research projects in coastal areas (target 24 students; 6 per year x four years, at least 40% women).</p> <p>2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).</p> <p>2.3 No. of turtle hatchery/tourism initiatives implementing best practice guidelines (target 12 by Sept 2019)</p> <p>2.4 NTCN has a clear strategy, its members have increased access to relevant guidance and information, are in regular communication with peers regionally and nationally, and collaborate on issues as relevant (by EOP).</p> <p>2.5 No. of people (professionals, service providers, authorities, students) integrating learning from national and regional experience and using knowledge gained into</p>	<p>2.1 Fieldwork research project reports. Participant data disaggregated by gender.</p> <p>2.2 Course materials; participation records (participant data disaggregated by gender).</p> <p>2.3 Best practice guidelines for turtle hatchery/tourism initiatives; participation records for training in best practice guidelines; verification by project staff of implementation of guidelines.</p> <p>2.4 NTCN strategic plan; NTCN meeting minutes and public statements; analysis of traffic on national/regional turtle network listservs and social media groups (WhatsApp and Facebook).</p> <p>2.5 Survey and focus group discussions at EOP to assess use and application of knowledge gained (data disaggregated by gender).</p>	<p>That tourism professionals see the potential benefits of community based ecotourism and attend training.</p> <p>That the majority of the hatchery/tourism initiatives will be open to receiving technical support and the adoption of best practice guidelines, and will share the data they collect.</p> <p>That wider activity and collaboration within the NTCN will be facilitated and supported by Network members.</p> <p>That the current/future employment or roles of training attendees enable them to apply the learning they have gained.</p>

	Nicaraguan initiatives (target 32 by EOP)		
3. Female and male community members adjacent to turtle nesting beaches have the skills and opportunities to engage in sustainable livelihoods.	<p>3.1 No. of community members trained in relevant technical skills and provided with support for SME development or employment (target: 180 by March 2019; 360 at EOP; 60% women).</p> <p>Target groups/enterprises include:</p> <ul style="list-style-type: none"> • Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey. • Seasonally employed turtle beach patrollers seeking skills for their off-season livelihoods (mostly male). • Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group. <p>3.2 No. of sustainable fisheries and community based tourism enterprises with robust business models (target: 6 by Sept 2019; 12 by EOP).</p>	<p>3.1 Records of community meetings, workshops and other training events (participant data disaggregated by gender, locality and type of livelihood); Records of follow-up meetings with beneficiaries.</p> <p>3.2 Business plans and financial records of enterprises; fair contracts between community enterprises and other market actors (input suppliers, traders, hotels, travel agencies). Supplemented by photos of the enterprises and interviews with tourists and other service users.</p>	<p>That the current positive attitude, locally and nationally, to developing sustainable livelihoods and new enterprise partnerships is maintained.</p>
4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.	<p>4.1 Area of priority habitat at Punta Venecia in Estero Padre Ramos Natural Reserve (EPR), with enhanced protection. (0.9km of hawksbill nesting beach; 28 hectares of coastal and riparian dry forest)</p>	<p>4.1 Binding long-term agreement in place with private landowner.</p> <p>4.2 Plan, with letter of support from Municipality. Funding proposals, if relevant.</p>	<p>That the landowner will maintain his interest in reaching an agreement to ensure long-term conservation.</p> <p>That additional funding needs, related to the establishment of formally protection of the land, can be raised well before the current agreement expires in 2022.</p>

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

Activities

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

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

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

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

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

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

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

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

2.2 Through partnership with FIU, develop and deliver a module on coastal community-based ecotourism, including a field trip to observe turtle tourism and low-impact coastal development - to inform and influence current and future professionals in tourism, coastal development, municipal planning, and

natural and social sciences. Deliver the module at least three times; incorporate into at least one university course covering sustainable tourism (UAM) and adapt for delivery as a stand-alone course for key professionals. Monitoring subsequent use of knowledge and skills.

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

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

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

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

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

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

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

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

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

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

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

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

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

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
<p>Impact:</p> <p>Nicaragua’s development planning for coastal and marine areas incorporates strategies to conserve natural capital and enable coastal communities to benefit from it sustainably.</p>		<p>The project made valuable contributions to reducing poverty and enhancing wellbeing. Livelihood diversification has helped to reduce community members’ external dependencies and therefore vulnerabilities to socio-economic and environmental changes. The project has built social capital, for example in terms of good governance and strengthened networks, improving their ability to adapt to the current context and respond to future challenges and opportunities. Participation in economic activities has already been shown to improve the confidence, self-esteem and social status of community members, particularly women.</p> <p>Positive impact on biodiversity as a result of project interventions is likely to be measurable in the medium to long term, especially with respect to marine turtle populations which are expected to take decades to recover. Beneficiaries’ motivations to conserve were captured through systematic and ad-hoc monitoring of perceptions and actions, and indicates that, socially, turtle egg collection has lost acceptability as a subsistence activity during the project period, alongside increased in participation in turtle conservation activities and collective actions amongst coastal communities.</p>
<p>Outcome</p> <p>The economic and conservation values of Nicaragua’s globally important marine turtles are recognised locally and nationally, providing benefits to coastal communities and decreasing threats to these species and priority habitats.</p>	<p>0.1: No. of decision makers, including those who lead the National Development Plan process, who have access to information relating to values of marine turtles and their habitats (target: 20 by End of Project).</p> <p>0.2: % of women and men from 10 target coastal communities who report an improved ability to meet essential household needs year round (target dependent upon community: 10-20% by EOP).</p> <p>0.3: % increase in number of women and men from 10 target coastal communities who consider live turtles to be a valuable asset</p>	<p>0.1: Information relating to values of marine turtles compiled and published in report entitled “<i>Valoración Económica de las Tortugas Marinas del Pacífico de Nicaragua</i>” (see Annex 7A). FFI has sought to engage decision makers in project activities and share outputs and learning. Strengthened communications and relations with government authorities opens up new opportunities for dissemination of key messages regarding the value of living turtles - this process is ongoing at project end.</p> <p>0.2: End-of-project socio-economic surveying of both beneficiary and non-beneficiary households (see Annex 7H) confirmed that it was not possible to isolate measurement of the impact of project interventions on household economies from the impact of project externalities (262 households surveyed across 18 communities). Overall a general worsening of the economic situation of communities was documented from project baseline to end-of-project - due to the national socio-economic crisis, hurricanes Eta and Iota and the COVID-19 pandemic. Nevertheless, project beneficiaries perceived a positive impact of the project with greater optimism for their future livelihood prospects.</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>compared to baseline (target: 15% by EOP).</p> <p>0.4: Km. of nesting beaches with enhanced protection of marine turtle nests (baseline: 30km; target: 40km by EOP).</p> <p>0.5: National tourism sector (tourism agencies, industry bodies and operators - including INTUR and CANATUR) are using marine turtles as a flagship species for tourism in Nicaragua by EOP.</p>	<p>0.3: End-of-project perceptions surveys of 260 households across 18 communities (see Annex 7i) recorded significant decreases in household dependence (-44%), collection (-38%) and intention (-18%) to harvest turtle eggs from 2018 to end-of-project, with poorer households reporting higher dependence and intention to harvest turtle eggs. Data confirmed that the project significantly improved knowledge about the legal ban on harvesting turtle eggs / products and significantly increased (by 13%) the proportion of people reporting that they would not collect turtle eggs in order to comply with the law or social norms. There was also a significant increase in respondents' perceptions that a loss of turtles would be detrimental to artisanal fisheries.</p> <p>0.4: At end-of-project, over 43km of priority marine turtle nesting beach are protected (as evidenced by annual nesting beach reports and government permits – available upon request). Whilst adoption of improved practices / protection at additional beachfront hotels with small-scale turtle hatcheries was not measurable by end-of-project, the overall length of beach with enhanced protection is expected to rise further post-project, as hatchery manual guidelines are adopted.</p> <p>0.5: The external context has had a particular impact on this indicator. The tourism sector has been focused on adapting to and increasing its resilience to external shocks – this has compromised the project's ability to engage tourism stakeholders as planned. Nevertheless, the collapse in tourism and its future recovery represents a valuable opportunity (post-project) for reorientation towards best practice and the development of sustainable community-based ecotourism products and services. Project has generated valuable resources and capacity to contribute to this.</p>
<p>Output 1. Policies, plans, marketing and practice of tourism and associated coastal development are informed by an economic valuation of turtles as a tourism asset and increased knowledge about their conservation.</p>	<p>1.1 No. of tourism and coastal development policies, plans and strategic decisions which refer to the economic value of living turtles and demonstrate knowledge of best practices for conservation and community benefit (target: at least 5 by EOP).</p> <p>1.2 % of CANATUR members who have expanded coverage of</p>	<p>1.1 Report on economic values of Nicaragua's Pacific coast turtles completed (Annex 7A) and shared with key tourism stakeholders. Sharp contraction in Nicaragua's tourism industry in means that it is a difficult context in which to influence the sector's codes of practice, marketing strategies, recovery plans and strategic decisions - these are currently focused on increasing resilience of tourism enterprises. Project therefore unable to meet target (as communicated to Darwin in December 2020).</p> <p>1.2 Of the >100 members of CANATUR (82 direct tourism business partners, 12 tourism associations and 17 territorial chapters that promote the small and medium-sized entrepreneurs that make up their large social</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>community-based turtle tourism initiatives in their national and international marketing of Nicaragua (target: 5% by March 2020; 10% by EOP).</p> <p>1.3 No. of community-based turtle tourism initiatives being marketed nationally or internationally by CANATUR members (target: 5 by March 2020, 12 by EOP).</p>	<p>enterprise base), 3% were marketing turtle tourism products at project baseline. Survey of CANATUR members to evaluate current or potential turtle-related tourism marketing was not possible in Y3 or Y4 – the sector is focused on adapting to current context for tourism in Nicaragua. Due to impact of external context (political instability and Covid-19) on tourism sector, project is unable to demonstrate impact towards this target (as communicated to Darwin in December 2020).</p> <p>1.3 At project baseline, one community-based turtle tourism initiative in Nicaragua was being marketed at a national and international level. As above, due to impact of external context on tourism sector, survey of CANATUR members to assess change in this measure was not possible in Y3 or Y4 and the project is unable to demonstrate impact towards this target (as communicated to Darwin in December 2020).</p>
<p>Activity 1.1 In collaboration with partners from tourism sector (tourism agencies, industry bodies and operators - including CANATUR - governmental authorities, and FIU) and turtle conservation groups, design methodology and implement valuation study into the economic and social-cultural values of Nicaragua’s Pacific coast turtles. Share preliminary results with partners for feedback.</p>		<p>In Y3, a selected team of experts in environmental economics, value chains, and sustainable tourism from CANATUR and CDETur (the Research Department of CANATUR’s Centre for Tourism Business Development) led this study. Final document “<i>Valoración Económica de las Tortugas Marinas del Pacífico de Nicaragua</i>” completed (Annex 7A) and shared with key stakeholders - including CANATUR.</p>
<p>Activity 1.2 In collaboration with tourism and turtle conservation partners, develop communications plan for the dissemination of key information from the study to target audiences (decision makers, tourism sector, coastal communities). Contract the design and production of appropriate and agreed communications materials.</p>		<p>Report represents an important body of work from which important findings can be extrapolated, shared and built upon. Project team have worked with FFI’s Communications Specialist in Nicaragua to develop a communications plan for the dissemination of key information from the valuation study. Dissemination of key messages aligns with the inter-institutional workplan for 2021 agreed between FFI and six central government departments, including the Ministry of Environment and Natural Resources (MARENA) and National Tourism Institute (INTUR), and will continue post-project.</p>
<p>Activity 1.3 Share finalised report and disseminate communications materials amongst tourism and turtle conservation partners, other stakeholders and target audiences (including coastal municipal authorities, MARENA, leaders from target coastal communities, media agencies) and monitor impact.</p>		<p>Valuation report shared with key stakeholders - including CANATUR. Broader dissemination of key messages aligns with the inter-institutional workplan for 2021 agreed between FFI and six central government departments, including the Ministry of Environment and Natural Resources (MARENA) and National Tourism Institute (INTUR), and will continue post-project.</p>
<p>Activity 1.4 Engage with government authorities to inform relevant development policy formulation and planning processes in order to promote</p>		<p>Throughout 2020/21, FFI has successfully secured improved communications and relations with the Nicaraguan government. We have developed mutually-agreed annual workplans with six government</p>

Project summary	Measurable Indicators	Progress and Achievements
the integration of the conservation of turtles and their coastal/marine habitats into these national instruments.		ministries: the Ministry of Environment and Natural Resources (MARENA); the Ministry for Family, Community, Cooperative and Associative Economy (MEFCCA); the Nicaraguan Institute for Tourism (INTUR); the Nicaraguan Institute for Municipal Development (INIFOM); the Nicaraguan Fisheries Institute (INPESCA); and the Nicaraguan Institute for Agricultural and Livestock Technology (INTA) (<i>all but the last of these having direct relevance to this project</i>). This strengthened coordination and collaboration opens up new opportunities for promoting the future integration of conservation values into government led initiatives, although policy-level influence has not been possible during the project period.
Activity 1.5 Collaborate with FIU, tourism chambers/associations, municipal authorities and communities to assess existing turtle/marine tourism near project locations and identify i) potential improvements to existing initiatives, ii) potential new community-based initiatives and iii) potential links between local product providers, national operators and international supply chains.		30 sites on Pacific coast of Nicaragua (26 hotels, 4 community-based tourism initiatives) with turtle conservation/hatcheries identified and characterised. However, the collapse in tourism has meant that further work to engage stakeholders in the processes under this activity has not been possible within the project period. Nevertheless, the project has continued to support site specific activities to strengthen community capacity for ecotourism products and services, including through collaboration with the Faculty of Education and Languages at the National Autonomous University of Managua (UNAN-Managua), through their Sustainable Tourism degree course – also dovetailing with work under Activities 3.2 and 3.3 (see Annex 8B).
Activity 1.6 In collaboration with FIU, facilitate a workshop to assist CANATUR and governmental authorities to develop a strategy to package and promote community-based turtle/marine tourism initiatives in specific markets. Support delivery of strategy where appropriate, for example in developing links between local product providers and national / international operators and in guiding tourism product plans so that they follow technical, environmental and social good practice and strengthen links between livelihoods and custodianship of turtles and their habitat.		Initial discussions were held at the Assembly of CANATUR members in August 2019. However the workshop under this activity to develop a strategy to promote community-based ecotourism initiatives in specific markets has not gone ahead, as it has not been a priority for the relevant stakeholders in this period of uncertainty since early 2018. Whilst FFI continues to believe that the current collapse in tourism represents a valuable opportunity for reorientation towards best practice and the development of sustainable community-based ecotourism products and services, due to national and global factors outside the project's control, the development and delivery of such a strategy was not achievable in the project timeframe. It is not the moment to develop new initiatives and nor expose community-based ventures to the risks of an unpredictable market. Nevertheless, the project has continued grassroots efforts to inform the development of community-based tourism products and services in line with environmental and social good practice (for example as described under

Project summary	Measurable Indicators	Progress and Achievements
		<p>Activities 1.5 and 2.3) and initiatives to strengthen links between livelihoods and custodianship of turtles and their habitat (as per Activities 3.1 to 3.5).</p> <p>In Y4, lessons learned from the project were compiled and shared through the following:</p> <p>Lessons Learned presentation on “Aquaculture in Estero Padre Ramos” – presented to FFI’s global Marine Working Group in February 2021 (see Annex 7B). Learning from the project has fed into the development of FFI’s position statement on aquaculture, which is due for publication in Q3 2021.</p> <p>Learning document regarding the Weaving for Nature initiative – compiled with the support of FFI’s Science team (see Annex 8A). This case study is also publicly available via FFI’s website: https://cms.fauna-flora.org/wp-content/uploads/2019/04/FFI_2019_Weaving-for-Nature-1.pdf</p> <p>After Action Review (AAR) – this process was supported by FFI’s Capacity team and engaged all key members of the project team, through written feedback and verbal interviews. All feedback was compiled into an anonymised but confidential AAR matrix, with valuable recommendations generated for internal learning regarding project ambition, design, management, monitoring and evaluation.</p>
<p>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.</p>	<p>2.1 No. of graduates/undergraduates who complete fieldwork research projects in coastal areas (target 24 students; 6 per year x four years, at least 40% women).</p> <p>2.2 No. of people (tourism professionals, community based tourism service providers, coastal municipal staff, sustainable tourism students, conservation professionals) complete coastal community-based ecotourism module (target 45 people; 15 per year x three years, at least 40% women).</p>	<p>2.1 25 students (64% female) have completed placements and/or fieldwork projects in relevant topics (as evidenced by fieldwork reports and participation records, e.g. Annex 8B): 14 students in Y1, 4 students in Y2, 5 students in Y3, 2 students in Y4.</p> <p>2.2 Eight students completed first iteration of community-based coastal tourism module in Y1 (62.5% female). 1,200 people are better informed about Nicaragua’s marine biodiversity having visited to Nicaragua Azul museum (see Annex 8D). Resource workbook / training module completed in Y3/4 (see Annex 7C) and shared with UNAN-Managua’s Sustainable Tourism degree course leads. Impact of external context on achievement of targets under this indicator was high; planned roll out of training programme has not been possible within the project timeframe (as communicated to Darwin in December 2020).</p> <p>2.3 National best-practice hatchery management guidelines published (Y4; Annex 7D) following scientific research study into alternative incubation techniques (Y1&2) and participatory process involving seven stakeholder organisations (Y3, Annex 8C). Coastal sites (n=29) for uptake of best</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>2.3 No. of turtle hatchery/tourism initiatives implementing best practice guidelines (target 12 by Sept 2019)</p> <p>2.4 NTCN has a clear strategy, its members have increased access to relevant guidance and information, are in regular communication with peers regionally and nationally, and collaborate on issues as relevant (by EOP).</p> <p>2.5 No. of people (professionals, service providers, authorities, students) integrating learning from national and regional experience and using knowledge gained into Nicaraguan initiatives (target 32 by EOP)</p>	<p>practice guidelines have been identified and characterised, and guidance disseminated with three virtual training workshops planned. Monitoring of uptake of guidance not completed within project period, due to delays in roll out due to external context.</p> <p>2.4 <i>'Tortugueros Nicaragua'</i> WhatsApp group operating as an effective national platform for promoting information sharing and collective action amongst NTCN members (n=29) and other stakeholders engaged in turtle conservation in Nicaragua (see Annex 8E). Impact of external context on NCTN Board structure and function means that project will not achieve target to update NTCN strategy.</p> <p>2.5 Tracking of post-internship professional development has provided evidence that these placements are increasing national capacity for turtle conservation (50% of 14 students are employed or continuing their studies in a related field), alongside related qualitative evidence of the value of students' experiences (quotes include: <i>"My internship with FFI was the launch-point for my career"</i> A.S., <i>"My placement was deeply motivating"</i> C.G.). It has not been possible to monitor implementation of best practice guidance on hatchery management within the project period, as the participatory process and research underpinning the development of the guidance – combined with the external context - meant the final manual was not published until Y4.</p>
<p>Activity 2.1 Through links with universities in Nicaragua, support undergraduate and graduate students to undertake research projects or internships on turtles, marine/coastal conservation, community-based ecotourism, sustainable livelihoods and socio-economic issues, either as part of their studies or to gain experience after graduating. Track their post-internship professional development.</p>		<p>FFI collaborated with three national universities to support student placements and research projects - National Agrarian University (UNA), National Autonomous University of León (UNAN-León) and National Autonomous University of Managua (UNAN-Managua).</p> <p>6 students supervised in Y1; 4 students supervised in Y2; 26 students supervised in Y3 (through 5 thesis projects, 2 internships, 20 short field projects). Post-internship professional development tracked of alumni (as per Indicator 2.5).</p>
<p>Activity 2.2 Through partnership with FIU, develop and deliver a module on coastal community-based ecotourism, including a field trip to observe turtle tourism and low-impact coastal development - to inform and influence current and future professionals in tourism, coastal development, municipal planning, and natural and social sciences. Deliver the module at least three times; incorporate into at least one university course covering sustainable</p>		<p>First iteration of training in coastal community-based ecotourism delivered in Y1. Training resource workbook revised and updated in Y3 and converted into PowerPoint training module in Y4 (see Annex 7C).</p> <p>Due to external context for tourism in Nicaragua, it has not been possible to roll out further delivery of this training as envisaged at project conception in Yrs 2-4. Nevertheless, through our collaboration with UNAN-Managua's</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>tourism (UAM) and adapt for delivery as a stand-alone course for key professionals. Monitoring subsequent use of knowledge and skills.</p>		<p>Faculty of Education and Languages, in Y3 we delivered two course lectures to 32 Sustainable Tourism students and have discussed with them as to how the workbook resources / training module can be incorporated into their Sustainable Tourism degree course.</p> <p>The project has therefore also been increasing knowledge amongst professionals and stakeholders in tourism, coastal development, municipal planning and natural and social sciences of the value of and current threats to Nicaragua's oceans and biodiversity, through the Nicaragua Azul (or "Blue Nicaragua") itinerant marine museum initiative. Nicaragua Azul marine museum was launched as a platform for promoting knowledge and community-based tourism linked to the marine environment and biodiversity in Y2, with significant press coverage (see Annex 8D). > 1,200 visitors in 2019. In January 2020, the Museum moved to the Reserva Natura, a private protected area in the municipality of Villa El Carmen (visitation data not collected for 2020).</p>
<p>Activity 2.3 In consultation with NTCN members, authorities and tourism stakeholders, develop best practice guidelines (including technical, environmental and social responsibility considerations) for the management of turtle hatcheries linked to coastal tourism enterprises. Disseminate the guidelines and provide training to managers and staff of turtle hatchery/tourism initiatives in their implementation.</p>		<p>National best-practice hatchery management guidelines published (Y4; see Annex 7D) following scientific research study into alternative incubation techniques (Y1&2, see Annex 8C) and participatory process involving seven stakeholder organisations (Y3, Annex 8C).</p> <p>Coastal sites (n=29) for uptake of best practice guidelines have been identified and characterised, and guidance disseminated with three virtual training workshops planned.</p>
<p>Activity 2.4 Facilitate and support strategic development of the NTCN. Provide ongoing support to NTCN members, helping them to organise collective statements and action on issues affecting turtles, facilitate data sharing, provide expert services to communities, authorities and the private sector, connect with regional peers and raise funds.</p>		<p>Communication and coordination amongst NTCN members and others involved in turtle conservation (beach patrollers, field biologists, academics) promoted through active Whatsapp group (e.g. 3,520 messages shared since the group's creation in 2017 to March 2020 – see Annex 8E). This forum has encouraged a wide variety of new members to become more active in national level collaboration and discussion, and has proved highly successful. This group is promoting a sense of community between beach patrollers, field biologists and academics (n=29 at end of project) working on turtle conservation issues, and we see this collaboration and motivation as vital to facilitating collective national action on issues affecting turtles.</p> <p>At the start of the project NTCN members agreed on a process to refresh and strengthen the Network through the selection of a new Board of Directors and development of strategic plans. However this process stalled in Y2, as key members of the Board left Nicaragua. In Y3, FFI put forward a</p>

Project summary	Measurable Indicators	Progress and Achievements
		proposal to the NTCN to convene a strategic planning meeting, but this offer was not taken up by NCTN Board.
Activity 2.5 Organise a study visit to Costa Rica for tourism and conservation professionals, representatives of CANATUR and community members to learn from examples of sustainable turtle tourism and community-based ecotourism from peers and stakeholders in that country.		This activity was scheduled to take place in the final year of the project. As communicated to the Darwin Secretariat alongside our Y4 Half-Year report, it was not possible to conduct this activity due to restrictions on international travel due to the Covid-19 pandemic. The associated budget was redeployed, via a Change Request, to cover national travel linked to end-of-project monitoring.
<p>Output 3. Female and male community members adjacent to turtle nesting beaches have the skills and opportunities to engage in sustainable livelihoods.</p>	<p>3.1 No. of community members trained in relevant technical skills and provided with support for SME development or employment (target: 180 by March 2019; 360 at EOP; 60% women).</p> <p>Target groups/enterprises include:</p> <p>Tourism service providers (mostly female) - guiding, hatchery visits, catering, accommodation, weaving/handicrafts, honey.</p> <p>Seasonally employed turtle beach patrollers seeking skills for their off-season livelihoods (mostly male).</p> <p>Fishers (mostly male), cockle harvesters and processors (mostly female), snapper rearing group.</p> <p>3.2 No. of sustainable fisheries and community based tourism enterprises with robust business models (target: 6 by Sept 2019; 12 by EOP).</p>	<p>3.1 A total of 283 community members (118 women and 165 men) across 18 coastal communities have received technical training or support in SME development or employment (as evidenced by records of community meetings and training events, see Annex 7E, 8F, 8G, 8K): Women weavers (47 women); Turtle beach patrollers (46 men); Chacocente Tourism/Honey Cooperative (16 women, 17 men - evidence provided in Annex 8F); EPR tourism services providers (3 male boatmen, 3 female cooks, 7 male guides); Members of EPR community cooperatives engaged in cockle/snapper cultivation (52 women, 67 men - evidence provided in Annex 7E & 8H); Fishers from Aserradores (25 men).</p> <p>3.2 Four community groups providing touristic services and nine community cooperatives linked to responsible fishing have improved organisational capacities and strengthened business models (as evidenced by action plan and market mapping in Annex 8H):</p> <ul style="list-style-type: none"> • Chacocente Tourism/Honey Cooperative. • Weaving for Nature women’s groups at Astillero and El Tintal. • Tourism service providers in EPR (fishers providing boat transportation services). • EPR Fisher cooperatives (nine cooperatives engaged in cockle cultivation, snapper rearing and production of high-protein fish-food).
Activity 3.1 Conduct a capacity and training needs assessment for women and men from target coastal communities (including for seasonally-employed turtle beach patrollers, to identify opportunities to improve their off-season livelihoods and therefore the value and security of being a turtle		Capacity and training needs assessments conducted in Y1/Y2 and training plans developed/refined for five groups of target beneficiaries:- Weaving for Nature women’s groups (two groups); Chacocente Tourism/ Honey

Project summary	Measurable Indicators	Progress and Achievements
patrol professional). Based upon this assessment, develop tailored training plans for target groups across a variety of sectors (including nature-based tourism service providers and sustainable fisheries).		<p>Cooperative; EPR tourism guides; EPR Boatmen; artisanal fishing cooperatives (six coops).</p> <p>In Y3, further training plans developed for the less experienced <i>Weaving for Nature</i> women's cooperative at El Tintal to strengthen the group's leadership and conflict resolution abilities, marketing and skills. Workshops facilitated in Y3/4 for Chacocente Community Tourism/Honey Cooperative to develop their plans to build their honey production capacity, through analysis of national demand for their organic forest-friendly premium honey and development of market linkages.</p>
Activity 3.2 Provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and service provision opportunities related to coastal tourism, especially those benefitting women and vulnerable groups.		<p>Target groups supported to diversify livelihoods and facilitate readiness for when coastal tourism recovers:</p> <p><i>Weaving for Nature women's groups</i>: training in new weaving techniques; design of a realistic and robust product pricing structure; leadership, conflict resolution skills and accounting processes; market surveys. Supported to attend trade fair (<i>Feria de Salud del Ambiente</i>) and to better connect (via email, mobile phone, social media and video calls) with other groups, clients and market actors.</p> <p><i>Chacocente Community Tourism/Honey Cooperative</i>: (33 members). FFI has supported the Cooperative to strengthen their capacity to produce and market organic forest-friendly honey. The project supported the cooperative to analyse and invest in its priorities for production, including investment in 16 additional beehives.</p> <p><i>Tourism service providers in EPR</i>: FFI began working in Y2 with the small group of fishers providing boat transportation services in EPR, to help them develop their plans for the provision of different services and trips (for tourists, conservation/research teams and local people) and to work together to maintain their boats.</p> <p><i>Salamina Conservation Tourism Cooperative (COTUEPAM)</i>: In Y3/4 the project supported this group of turtle beach patrollers at Salamina to establish themselves as a community cooperative dedicated to the conservation of marine turtles and touristic services at this site. This initiative improves both the value and security of being a turtle patrol professional and serves to strengthen the long-term sustainability of turtle conservation at this site.</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>Activity 3.3 Support development of a volunteer-tourism enterprise at EPR, in line with a business plan which ensure a strong community role in decision-making, service provision and economic benefits.</p>		<p>Support provided to nascent social enterprise SOS Nicaragua to manage voluntourism initiative and promote community engagement in the initiative. Worked with enterprise to update business plans and financial projections in response to collapse in tourism visitation. However, the external context made the initiative unviable and it was suspended in Y3. Nevertheless, FFI believes that voluntourism at this site still has the potential to generate significant community and conservation benefits in the future.</p>
<p>Activity 3.4 Through partnership with Fundación LIDER, provide tailored technical skills training and SME development support to assist community groups to establish or improve enterprise, employment and livelihood opportunities related to sustainable fisheries, especially those benefitting women and vulnerable groups. Target groups and areas of support include:</p> <p>3.4a Assist at least four community groups in EPR to establish concessions for custodianship of mangroves and sustainable collection and cultivation of mangrove cockle (<i>Anadara similis</i>), following a model already proven in Chinandega District, thereby protecting juvenile and adult hawksbill habitat and providing income. Support the cooperatives to set up a plant for processing and purifying cockles, which adds substantial value.</p> <p>3.4b Assist at least one community group in EPR to establish a snapper rearing facility, with attention to both ecological and social costs and benefits, and conduct monitoring as per environmental permits. This follows a model already proven in the EPR and will provide income to individuals who have changed from destructive practices (former egg poachers and blast fishers).</p> <p>3.4c Support fishers from four communities who have committed to responsible fishing practices and are championing locally the elimination of blast fishing and other illegal practices harmful to turtles. Areas of training and support include; improved fish handling and storage, negotiation skills, access to higher value markets, promotion to hotels based on commitment to conservation, business plan development. This extends an FFI initiative on Nicaragua's southern Pacific coast, where blast fishing is less prevalent, which generated increased income while tackling threats to both turtles and fisheries.</p>		<p>Project has supported nine community fisher cooperatives linked to artisanal fishing, sustainable mangrove cockle collection and snapper cultivation in the EPR estuary (119 beneficiaries, 52 women and 67 men). Through collaboration with Fundación LIDER, project is strengthening organisational capacities, equitable governance and empowerment of female leadership.</p> <p>a) Five cooperatives awarded mangrove concessions and licences for cockle cultivation (COOPALMAR, COOPEVA, COOPAM, COMENDEZ and COLOPEZ). In total, the concessions cover 43.2 hectares of mangroves within the Padre Ramos estuary and the corresponding permits and commercial licences allow for the production of up to 12,000 cockles per year, for each cooperative. Signage installed to demarcate concession sites (23 signed installed). Collaboration with University to study sustainable harvesting levels. Mangroves reforested in 12 priority areas identified by MARENA (12,900 seeds planted in Y1; 32,500 in Y2; 55,000 in Y3) – 35 community members participated.</p> <p>b) LIDER supporting seven cooperatives in rearing snapper, throughout productive cycle (COOPAM, COOPADI, COOPALMAR, COMENDEZ, COLOPEZ, COEsforzados and CORoca - four of these cooperatives are also engaged in cultivation and harvesting of cockles). FFI and LIDER have been working to address identified challenges linked to the production cycle for snapper, specifically with regards to procurement of fingerlings, production of high-protein fish-food pellets (using waste from nearby shrimp farms and renewable energy), water quality monitoring, and marketing. LIDER has developed a series of theoretical and practical training modules covering the key steps in snapper fisheries management and processes to enable the cooperative production units to function effectively - training delivered in snapper fisheries management, production of high protein fish-</p>

Project summary	Measurable Indicators	Progress and Achievements
		<p>food and water quality monitoring, marketing. Project has co-financed construction of fish-food processing plant.</p> <p>c) Strengthened understanding of fisheries legislation and responsible practices amongst artisanal fishers from fleets near three priority turtle nesting beaches. Multidisciplinary team of consultants completed study into national and international markets for sustainably caught fish (including farmed snapper from Chinandega, plus octopus and lobster) completed. Results fed into Activity 3.5.</p>
<p>Activity 3.5 Support the development of linkages and equitable relationships that deliver livelihood benefits for coastal communities, through the facilitation of dialogue between target community groups and businesses to identify opportunities and barriers to cooperation. Support participatory development of market systems to strengthen market linkages for groups from two sectors; nature-based coastal tourism service providers and fishers who have committed to responsible fishing practices from the northern Pacific of Nicaragua.</p>		<p>In Y2, PMSD specialist led training for project team in PMSD approaches. He then facilitated a market systems selection process across both nature-based tourism and sustainable fisheries sectors, identifying the areas where this approach would strengthen market linkages and economic benefits for target groups. In the light of the downturn in the tourism sector, the project has focused on PMSD to improve fisheries-related livelihoods strategies.</p> <p>In Y3, the project's PMSD specialist facilitated a participatory market mapping and action planning workshop, focussed on the market for snapper in Chinandega (1 day workshop, July 2019, 23 participants; 9 women, 14 men- i.e. market actors, fishers, authorities (INPESCA & MEFCCA), and specialists from Fundacion LIDER, UNAN Leon and FFI). The participants mapped out the current and ideal market system for snapper, clarified roles of each actor, and identified targeted interventions to generate desired systemic changes (see Annex 7F & 8J). Representatives from the fisher cooperatives have since come together to further develop their business plans, using the Business Model Canvas framework, evaluate their training needs and define training plans.</p>
<p>Output 4. One critical area of turtle habitat obtains enhanced protection status, through appropriate legally binding agreements.</p>	<p>4.1 Area of priority habitat at Punta Venecia in Estero Padre Ramos Natural Reserve (EPR), with enhanced protection. (0.9km of hawksbill nesting beach; 28 hectares of coastal and riparian dry forest)</p> <p>4.2 Plan for implementation of the agreement endorsed by the</p>	<p>4.1 Analysis of alternative legal instruments for securing the property for conservation under Nicaraguan law completed in Y1. Bilateral usufruct contract signed between FFI and landowner in Y4, restricts use of 38.75ha site to conservation and research</p> <p>4.2 Municipal authorities recognise FFI's responsibility, with FFI paying land taxes for the property from December 2020. FFI has secured additional funding for management costs for 2021-22, with further pipeline funding identified.</p>

Project summary	Measurable Indicators	Progress and Achievements
	Municipality, with fund-raising under way if needed.	
<p>Activity 4.1 Seek legal counsel to analyse the viability of alternative legal instruments for securing the property at Punta Venecia for conservation. Convene meetings with the private 'landowner' (legally it is a lease from the municipality, as this is coastal property) to discuss the options and review alternative contractual arrangements, together with the municipal authorities and the local Hawksbill Committee as appropriate. Negotiate a multi-party agreement to ensure long-term security of this critically important habitat, while providing satisfactory outcomes for the landowner, the neighbouring EPR communities and the municipality.</p>		<p>In Y1, research undertaken into legal options for securing long-term protection (see legal analysis in Annex 8L). Three alternative legal instruments were identified and verified (by FFI's legal counsel both in Nicaragua and the UK) and shared with the landowner.</p> <p>In Y2, negotiations were put on hold (the landowner left Nicaragua for some months following the national unrest), but resumed in March 2019.</p> <p>In Y3, a bilateral usufruct contract, restricting use of the site to conservation and research, was drafted and agreed between the parties.</p> <p>In Y4, usufruct contract signed by FFI and the landowner (see Annex 7G). FFI started paying land taxes for the property to the municipal authorities in December 2020.</p>
<p>Activity 4.2 Invest in those elements of the agreement package which align with the central themes of this project, including building local capacity for the management of an upgraded centre for conservation and volunteer tourism, hiring legal services for drafting agreements, and providing support for enterprise development necessary to implement the agreement.</p>		<p>Evidence of progress relevant to this indicator is described under Activities 1.5, 3.2 and 3.3</p>

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis						
1b	Number of PhD qualifications obtained						
2	Number of Masters qualifications obtained						
3	Number of other qualifications obtained						
4a	Number of undergraduate students receiving training	37	Nicaraguan	24 female; 13 male	Student placement projects, course lectures	Spanish	
4b	Number of training weeks provided to undergraduate students	6 weeks			On-site training, lectures, mentoring	Spanish	
4c	Number of postgraduate students receiving training (not 1-3 above)	8	Nicaraguan	6 female; 2 male	Student placement projects	Spanish	
4d	Number of training weeks for postgraduate students	1 week			On-site training, lectures, mentoring	Spanish	
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above)						
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	283	Nicaraguan	118 women; 165 men	Livelihoods training and support	Spanish	
6b	Number of training weeks not leading to formal qualification	15 weeks			Livelihoods training and support	Spanish	
7	Number of types of training materials produced for use by host country(s) (describe training materials)	2			Tourism course training materials; hatchery guidelines	English & Spanish; Spanish	Participatory process to develop hatchery guidelines

Research Measures		Total	Nationality	Gender	Title	Language	Comments/ Weblink if available
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)						
10	Number of formal documents produced to assist work related to species identification, classification and recording.	2 field guides			EPR Bird Guide; Ethnobotanical Guide	Spanish	
11a	Number of papers published or accepted for publication in peer reviewed journals						
11b	Number of papers published or accepted for publication elsewhere	1			Poster presentation	English	2019 International Sea Turtle Symposium
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country						
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country						
13a	Number of species reference collections established and handed over to host country(s)						
13b	Number of species reference collections enhanced and handed over to host country(s)						

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	2			Hatchery Guidelines workshop; FFI Marine working group on aquaculture	Spanish; English	
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	2					International Sea Turtle Symposium

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)		
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established		Please describe

Financial Measures		Total	Nationality	Gender	Theme	Language	Comments
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work <i>(please note that the figure provided here should align with financial information provided in section 9.2)</i>						

Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	✓
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	✓
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	✓
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	

14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	✓
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	✓
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Poster Presentation International Sea Turtle Symposium Session: Nesting Biology	Evaluation of the effectiveness of sandbags for the incubation of clutches of olive ridley, <i>Lepidochelys olivacea</i> , in the Pacific coast of Nicaragua *	Nicaraguan	British	Female	International Sea Turtle Society.	https://internationalseaturtlesociety.org/wp-content/uploads/2020/03/2020-ISTS-Program_FINAL_forPrint_updated_DA_2.pdf
Oral Presentation International Sea Turtle Symposium Session: Social, Economic & Cultural Studies	Are our livelihood project a whack-a-mole game? Evidence from the demographic and socio-economic characterisation of households that engage in sea turtle egg collection near hawksbill nesting areas in the Pacific of Nicaragua and El Salvador.	Nicaraguan	USA	Male	International Sea Turtle Society.	https://internationalseaturtlesociety.org/wp-content/uploads/2020/03/2020-ISTS-Program_FINAL_forPrint_updated_DA_2.pdf
Case Study	Weaving for Nature: Developing successful plastic waste-based enterprises: lessons learned from Nicaragua	British	British	Female	Fauna & Flora International, Cambridge	https://api.fauna-flora.org/wp-content/uploads/2019/05/FFI2019Weaving-for-Nature.pdf

Manual	Viveros de Tortugas Marinas: Manual para su construcción, operación y evaluación en Nicaragua *	Nicaraguan	USA	Male	Fauna & Flora International, Managua	Fauna & Flora International, Reparto San Juan, Calle La Esperanza, casa 578, Managua, Nicaragua.
Report	Valoración Económica de las Tortugas Marinas del Pacífico de Nicaragua *	Nicaraguan	Nicaraguan	Male	Fauna & Flora International, Managua / CDETur - Research Department of CANATUR's Centre for Tourism Business Development	Fauna & Flora International, Reparto San Juan, Calle La Esperanza, casa 578, Managua, Nicaragua.
Training materials	Sustainable community-based ecotourism in Nicaragua *	USA	USA	Female	Fauna & Flora International, Managua	Fauna & Flora International, Reparto San Juan, Calle La Esperanza, casa 578, Managua, Nicaragua.
Field Guide	Birds of the Estero Padre Ramos Natural Reserve and the Aserradores Estuary, Nicaragua	Nicaraguan	Nicaraguan	Female	Fauna & Flora International, Managua	Fauna & Flora International, Reparto San Juan, Calle La Esperanza, casa 578, Managua, Nicaragua.
Report	Ethnobotany Catalogue of the Estero Padre Ramos Natural Reserve	Nicaraguan	Nicaraguan	Female	Fauna & Flora International, Managua	Fauna & Flora International, Reparto San Juan, Calle La Esperanza, casa 578, Managua, Nicaragua.

Annex 6 Darwin Contacts

Ref No	24-020
Project Title	Realising the values and benefits for communities of Nicaragua's Turtles
Project Leader Details	
Name	Alison Gunn
Role within Darwin Project	Project Lead
Address	
Phone	
Fax/Skype	
Email	
Partner 1	
Name	Angelica Valdivia
Organisation	Fauna & Flora International
Role within Darwin Project	Country Director, Nicaragua / In-country lead.
Address	
Email	
Partner 2	
Name	Eduin Paniagua
Organisation	Fundacion Lider
Role within Darwin Project	Project Partner (Sustainable Livelihoods)
Address	
Email	
Partner 3	
Name	Jose Urteaga
Organisation	Stanford University
Role within Darwin Project	Technical Advisor (Monitoring & Evaluation)
Address	
Email	

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.	N
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.	Y
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 10)?	N/A
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Y
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	