Darwin Initiative Main Annual Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note: (https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2021

Darwin Project Information

Project reference	26-014
Project title	Empowering Ivorian coastal communities to conserve biodiversity and secure livelihoods
Country/ies	Côte d'Ivoire
Lead organisation	University of Exeter (**UoE**)
Partner institution(s)	Conservation des Espèces Marines (**CEM**)
	Ministère de la Production Animale et des Ressources Halieutiques (**MIPARH**)
	Police Maritime (**PM**)
	Wildlife Conservation Society, Gabon (**WCS-GAB**)
	Zoological Society of London (**ZSL**)
Darwin grant value	£346,585
Start/end dates of project	1st June 2019 – 30th November 2021
Reporting period (e.g. Apr 2019 – Mar 2020) and number (e.g. Annual Report 1, 2, 3)	Annual Report 2 (1st April 2020 – 31st March 2021)
Project Leader name	Dr Kristian Metcalfe / Prof Brendan Godley (Principal Investigators)
Project website/blog/social media	@associationcem ▮▮▮▮▮▮ | ▮▮▮▮▮▮
Report author(s) and date	**UoE** - Dr Kristian Metcalfe / Prof Brendan Godley / Dr Ana Nuno / Dr Phil Doherty; **CEM** - Dr Catherine McClellan / Mr. José Gomez Peñate / Mr. Alexandre Dah; **WCS** – Dr Angela Formia (29th April 2021)

1.   Project summary

Côte d'Ivoire is rapidly developing with increasing foreign investment and overseas aid allocated to the expansion of fishing fleets, port infrastructure and tourism facilities. This is placing increasing pressure on marine biodiversity and resources, as well as expanding coastal communities that rely on the marine environment. To minimise adverse effects on species, ecosystems or biological processes, and fulfil regional (Abidjan Convention) and international (CBD) commitments to sustainable development, the government has pledged to implement a network of marine protected areas (MPAs). One area of interest is near Grand-Béréby in the region of San Pédro (Bas-Sassandra district), where the government adopted a proposal to implement a MPA adjacent to a terrestrial Community Natural Reserve established through funding by Conservation des Espèces Marines (**CEM**) in 2017 (**Fig 1**). The current project stems from a scoping trip in July 2018 (DARSC190) and aims to: (1) support the implementation of this new MPA and serve as a national model for MPA designation, promoting stakeholder engagement and inclusion of local communities in decision making and research;
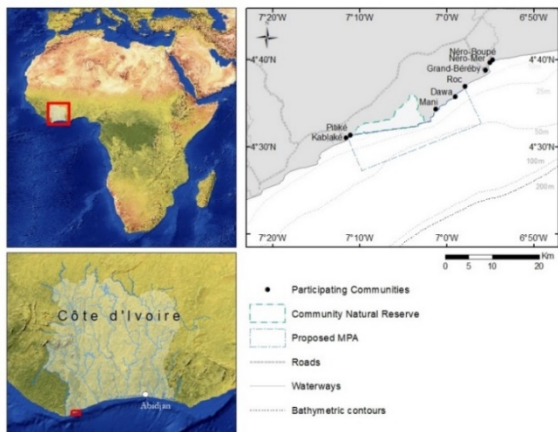
(2) support the diversification of local livelihoods through capacity-building and partnerships; and (3) facilitate income-generating activities that are linked to a healthy natural environment.

Fig 1 Location of project area within Côte d'Ivoire, and the 7 participating coastal villages (Néro-Mer, Néro-Boupé, Roc, Dawa, Mani, Pitiké, and Kablaké) and town of Grand-Béréby surrounding the recently created terrestrial Community Natural Reserve, and the proposed boundary (area of interest) for the creation of a new marine protected area (MPA).

2.   Project partnerships

Over the last 12 months, the lead partner University of Exeter (**UoE**) has engaged regularly with the lead in-country partner **CEM**. However, due to the recent COVID-19 pandemic and restrictions on national and international travel (in/from the UK, USA, Europe and Côte d'Ivoire) this has necessitated regular communication through WhatsApp, Skype, Microsoft Teams, and/or Zoom to provide support for delivery of project activities.

CEM (Mr. José Gomez Peñate, Mr. Alexandre Dah and Dr Catherine McClellan) continue to provide substantial logistical and field support for in-country activities at the study site in Grand-Béréby, as well as facilitating key meetings with governmental stakeholders and implementing agencies in Abidjan. As a result, the partnership between the lead and in-country partner is demonstrably strong with significant progress having been made towards the project goals. **CEM's** approach to ensuring that local and national government agencies are continually appraised of project activities and outputs (the latter through short reports) has also ensured that project outputs are being provided directly to decision makers within Government agencies (Ministère de l'Environnement et du Développement Durable - **MINEDD**; Ministère de la Production Animale et des Ressources Halieutiques - **MIPARH**; Office Ivoirien des Parcs et Réserves – **OIPR**; and Direction de l'Ecologie et de la Protection de la Nature - **DEPN**) and the Abidjan Convention (**AC**). Consequently, the relationship between the national stakeholders, **UoE** and **CEM** is demonstrably strong as evidenced by several joint announcements in national and international press (Section 3.3; Annex 4).

Engagement with local institutions and government agencies is also strong, with **MIPARH** and Police Maritime (**PM**) being responsible for the collection of data on fisheries landings, fleet movements, and infractions with additional field support and monitoring provided by the Darwin Research Assistants. **CEM's** relationship with local communities is already well-established with a sensitive understanding of cultural values and protocols – with local communities continuing to engage in data collection to support delivery of biodiversity and fisheries surveys and dissemination of project findings (Section 3). Dr Angela Formia of Wildlife Conservation Society (**WCS**) has continued to provide additional support with regards to community-based sea turtle conservation and MPA planning.

3.   Project progress

The following section provides a summary of the key activities completed under each project output to date during the reporting period 1st April 2020 – 31st March 2021:

3.1   Progress in carrying out project Activities

Output 1 – Diversified and improved coastal livelihoods: Activities under this output have primarily focused on delivering skills and livelihood training. Whilst delivery was delayed due to national restrictions associated with COVID-19 (see annual report and change request from FY1), a skills training program focused on enhancing literacy and numeracy skills was established within local communities (**Activity 1.3**); as socioeconomic surveys implemented during FY1 (**Activities 1.1 and 1.2**) revealed that self-perceived reading and writing abilities

were notably low among survey respondents (see Annual report 1). A total of 71 sessions (totalling 142 hours) were delivered between 10th August 2020 and 11th October 2020, and attended by a total of 149 persons (mean attendance per community: 25 persons), comprised of 36 (24%) males and 113 (76%) females (**Fig 2**; Annex 3). The proportion of females at workshops ranged from 61% to 93% (mean proportion: 75%) – addressing findings from socioeconomic survey in FY1 that showed women had less confidence in their ability to read and write compared to men. This activity was extended through a reallocation of funding (see Section 14) and re-commenced on the 29th March 2021.

Fig 2 Photographs from skills workshops (numeracy and literacy training) – images from sessions delivered in the village of Roc.

A revised model of the 'community-business charter' (**Activity 1.4**), recast as a 'ecotourism charter', was delivered by **CEM** at the collective request of stakeholder participants during a second workshop attended by 45 representatives from local communities, businesses, and government delivered on the 29th January 2021 (Annex 4 Fig S1.1), incorporating reactions from the first event that intend to govern the organization of all tourist activities in the district of Grand-Béréby by all the actors involved directly or indirectly in tourism (i.e., business associations; NGOs; artisans; hoteliers; state structures; tourist guides; village communities; fishers; fishmongers; and private communities). A sub-committee of 10 representatives from the group was formed to facilitate and complete the final stages of drafting the charter, which entailed: (1) identification of potential tourist sites and activities, (2) standardization of prices for visits to all tourist sites, (3) identification of the different parties that can benefit from tourism activities, (4) the responsibility and role of each beneficiary party in terms of tourism activities, (5) the proposal for a distribution key outlining the benefits of tourism activities, and (6) the designation of competent authorities for the monitoring and evaluation of the monitoring committee. This sub-committee re-convened on 6th and 23rd March 2021 to complete the document. The final draft was delivered to all participants on 7th April 2021 and its adoption ceremony is planned for FY3 Q1. Engagement with local communities and involvement in income generating activities is also being supported by **CEMs** ongoing work to establish community associations (**Activity 1.5**), with workshops held in 6 local communities between the 26th and 31st July 2020 to identify eligible activities (Annex 4; Fig S1.2). These workshops were attended by a total of 235 persons (mean attendance per community: 39 persons) comprised of 167 (71%) males and 68 (29%) females (mean proportion of females per workshop: 32%). A follow up meeting (attended by 26 persons) was held in August in which 8 community associations were nominated for further support by local communities, including an all-female salt cooperative (Annex 4 Fig S1.3). In terms of livelihood diversification activities, **CEM** has worked closely with the Ministry of Tourism (in San-Pédro) and Mr. Essé Savorgnan Assa from the University of Abidjan to implement an Ecoguide training program (**Activity 1.6**) comprised of 4 modules (which covered (1) identification, biology and ecology of animals, (2) practical knowledge of and behaviour around wildlife, (3) role and responsibilities of Ecoguides, and (4) legal aspects and safety measures related to ecotourism). This program was delivered to 24 persons (from 9 villages in the project area) between 24th – 27th November 2020 (96%

male; 4% female) and was featured in local media (Annex 4 Fig S1.4; Table S5.1). In addition, the project provided additional financial support to create an 'Ecoguide association', as well as funding the official accreditation of attendees to operate legally as Ecoguides. This also complements efforts to create an association for local free-divers who support guided tours. With respect to fisheries livelihoods – the fisheries purchasing cooperative (**Activity 1.7**) has been successfully integrated into the existing fuel cooperative - Société Coopérative Simplifiée des Pêcheurs Artisans de Grand-Béréby de la Région du Bas Sassandra - **SCOOPS GB BAS-SAS** - following a revision of regulations (April 2020); thereby taking the total number of associations supported to 11. The members of the association, which make up 56% of the local fishing community, subsequently established and renovated an existing store (July 2020) that was stocked in January 2021, and has been operational since February 2021 (Annex 4; Fig S1.5).The local availability of authentic outboard motor parts has been apparently met with enthusiasm as 24 articles of the stock (16.6% of the initial investment) has already been sold by the end of March 2021, and the management committee has plans to outline their re-stocking plans later in May 2021.

Output 2 – Improved knowledge of marine biodiversity: The extensive global travel restrictions related to COVID-19 did not permit international scientists from **UoE, WCS,** or **CEM** to join the local field teams in-country, however, technical and logistical support was provided remotely. Building on surveys conducted in 2018 and 2020 (see Annual Report 1 and Annex 4 Fig S2.1), free divers from Roc and boat crew (n = 6 individuals; Mr. Leonard Gnepa Gbesso, Mr. Antoine Tagnon Kouaye, Mr. Picard Amiral Hie, Mr. Hugues Tougbate Hie; Mr. Ado Adakah; and Mr. Jean-Kevin Moegnan Tiehi who were trained in December 2018 and January 2020; Annex 3) conducted a further underwater survey of the project area in February 2021 (**Activity 2.2**) using **CEMs** new research pirogue (**Fig 3**).

Fig 3 Darwin marine research team launching CEMs research pirogue and heading out to conduct a research survey.

A standardized line-transect survey design was developed to sub-sample 46.7 km^2 of the study area, from Grand-Béréby to Taki, and from the littoral zone out to the 20 m depth contour (Annex 4 Fig S2.1). A total of 8 transects across 8 zones were surveyed, with the team sampling 40 locations (collecting data on water temperature, salinity, depth, habitat type, and observed species) along 27km of transects across the study area (Annex 4 Fig S2.2). The findings documented a diversity of demersal habitats and species (Annex 4 Fig S2.3) and have been combined with those of the previous surveys conducted in 2018 and 2020, and summarised in a detailed report (**Activity 2.3**) with spatial data incorporated into the most recent version of the marine atlas (**Activity 2.4**), both of which have been appended as evidence with our submission (Annex 4 Fig S2.4).

Key findings: Analyses of data collected across all marine biodiversity surveys to date (**Activity 2.3**) has identified a total of 143 species - from a mixture of sandy, muddy, shell, and rocky biogenic benthic habitats, including coral reef like biomes (Annex 4). As with previous surveys, hard and soft corals, sponges, and a variety of marine macro-algae were found at all depths sampled providing both structure and food for a diversity of tropical marine fishes and

invertebrates (Annex 4). The prevalence of grazing and filtering species indicate that they play an important top-down role in regulating the structure of marine communities in this environment. The apparent high level of rugosity in these coastal waters (i.e., large rock features) provides substrate and shelter for a wide diversity tropical marine vertebrates and invertebrates that were particularly associated with hardbottom habitat (Annex 4 Fig S2.5). Most of these features lay within 1 km from the coastline, a distance that has been suggested by the MPA working group as one option to zone as open to all tourism activities. There has been an enormous public response to marine biodiversity findings with an influx of interest in development of scuba-diving and other at-sea wildlife related tourist activities (Annex 4 Fig S2.6).

Output 3 – Enhanced fisheries governance: Given the number of communities, agencies, and staff involved in this aspect of the project, fisheries data collection activities (i.e., landing surveys and GPS vessel tracking) are supported by two local field coordinators (Darwin Research Assistants - Mr. Jean-Kevin Moegnan Tiehi and Mr. Abel Gba who were appointed in September 2019). Their roles involve liaising closely with the teams from the Ministère de la Production Animale et des Ressources Halieutiques (**MIPARH**) and Police Maritime (**PM**) – led by Mr. Adama Dosso and Lt. Maxime Guivet, respectively, to support, check and enter data (**Activity 3.2**). A total of 491 landing surveys were conducted and 87 GPS trackers deployed during FY2, with the former representing a 3-fold increase in landing surveys compared to FY1 (Annex 4 Table S3.1). To ensure the correct nomenclature within databases (Annex 3), the team continued collecting photographs of the various species landed (led by Mr. Abel Gba, **CEM**) so that scientists from **UoE**, **WCS** and **CEM** could help make clarifications among fisheries records, local names of catches, and scientific species distinction. The findings from this latest campaign have been combined with those of the previous year, analysed, mapped, and summarised in a detailed report (**Activity 3.3**) with spatial data incorporated into the most recent version of the marine atlas (**Activity 3.4**), both of which have been appended as evidence with our submission (Annex 4 Fig S2.4).

Fig 4 First record of the smoothback angelshark (*Squatina oculata*) in Côte d'Ivoire (left), the 3-man MIPARH team (standing) who are responsible for undertaking landing site surveys (middle), and fish processor and Atlantic sailfish (*Istiophorus albicans*) landed in Dawa (right).

Key findings: Since the project provided **MIPARH** with several species identification guides, we have seen a 32% increase in the number of fish and shellfish species documented (photographed and validated) in fisheries landing surveys in FY2 (n = 45) compared to FY1 (n = 34) and a better understanding of how species are being grouped and classified in the **MIPARH** records. Similar trends were evident regarding efforts to photograph fisheries catches at landing sites, which has resulted in a 126% increase in the number of species recorded in FY2 (n = 93) compared to FY1 (n = 41). These data have been shared with international scientific experts, and supported the creation of species landings photographic record guide (Annex 4), which highlighted a much greater diversity in catch than was initially apparent and revealed several species of conservation concern (e.g. shortfin mako shark, *Isurus oxyrinchus*; blackchin

guitarfish, *Glaucostegus cemiculus;* spinetail devil ray, *Mobula mobular;* Annex 4), as well as new species records for the region (e.g. smoothback angelshark, *Squatina oculata;* **Fig 4**; Annex 4). Vessel tracking data from FY2 continues to indicate that the majority of artisanal fishing effort, which is dominated by seines, surface and bottom gillnets in this region occurred within shallow waters (<50 m depth), within 13 km from shore, with the majority of effort concentrated in the vicinity of Grand-Béréby (Annex 4 Fig S3.1 – S3.2). There appears to be consistency between years in the spatial distribution of fishing effort, suggesting either the limit of the fishers' dispersal capacity or preference for the observed fishing grounds.

Output 4 – Environmental education campaigns underpinning local awareness and a community-based marine protected area planning process: Activities under this output have focused primarily on the implementation of environmental education seminars (dissemination of results), and environmental campaign materials. To address current social norms around marine biodiversity use identified from socioeconomic surveys implemented in FY1 (**Activity 4.1**), the project has developed 2 environmental education campaigns (**Activity 4.2**) focusing on perceived differences between protected and unprotected areas and ecosystem service benefits of nature (both in a marine and terrestrial context: **Fig 5**). In addition, we have developed a further campaign for fishers and fishing communities that focus on current fisheries regulations as prescribed in law (**Fig 5**).
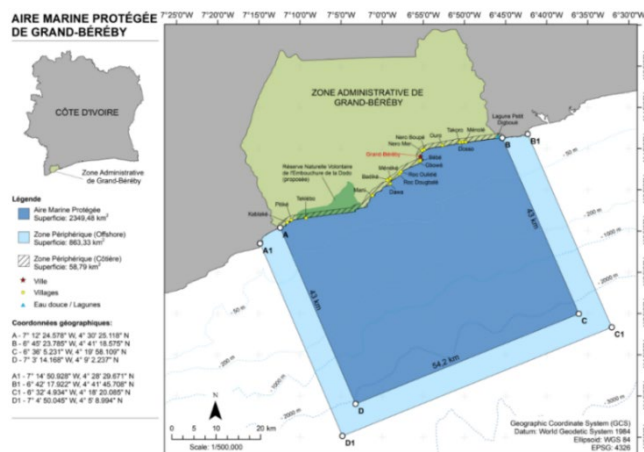

Fig 5 Environmental education campaign material (2 m x 2 m) – from left to right differences between protected and unprotected areas, ecosystem service benefits of nature, and fisheries rules and regulations (see www.ong-cem.org/our-actions for higher resolution files).

Whilst the environmental education seminars for local villagers (**Activity 4.3**) were initially delayed in FY1 due to national restrictions associated with COVID-19 (see Annual Report 1), these were delivered to individuals from 9 coastal communities (at 7 locations) between 10th June and 18th June 2020 – reaching a total audience of 612 individuals (average attendance per community: 102, range 34 – 155 persons), with 39% of attendees being female (Adults: 228 male, 155 female; Children: 144 male, 85 female).

In terms of MPA creation (**Activity 4.4, 4.5 and 4.6**) a pre-validation workshop was held in San-Pédro between 24th-25th September 2020 to outline the timeline and requirements (i.e., legal documentation and cartography) for the creation of the MPA in Grand-Béréby. Following this, a draft of the legal text required to designate the MPA was produced by **CEM** in November 2020 and circulated with national partners. Several virtual meetings were then held between project partners and the Abidjan Convention (**AC**) culminating in two MPA classification meetings in Grand-Béréby attended by regional and local community representatives (4th and 10th December 2020), and an official announcement and ceremony on 21st December 2020 that was delivered by **AC** and **MINEDD** with financial and local logistical contributions from **CEM** (Annex 4 Fig S4.2 and Table S5.1). Further virtual meetings (24th February 2021, 17th March 2021) have been held with the **AC** and the **DEPN** to finalise maps (**Fig 6**) and support the development of an MPA zoning and management plan.

Fig 6 Extent and limits of the Grand-Béréby marine protected area formally created on the 21st December 2020. The joint press release for the creation of the country's first MPA in Grand-Béréby can be accessed here: https://www.exeter.ac.uk/news/homepage/title_831800_en.html

Complementary activities implemented by **CEM** to enhance environmental awareness, have included: (1) engaging with national media (Annex 4; Table S5.1); (2) hosting Mr. Nader Fakhry, recently named Ambassador of Water and Forests by **MINEDD**, who produced a short video to highlight the ecological value of, and presence of key habitats and species of conservation concern within the limits of the new MPA that was subsequently shared on social media (https://youtu.be/IWD6Z-wJdBs); (3) funding the fabrication and installation of bins in communities (Annex 4 Fig S4.3); and (4) implementing a release program for bycaught sea turtles with local fishers; all activities which have been supported by local hoteliers, **MIPARH** and **PM** (Annex 4 Fig S4.4).

3.2   Progress towards project Outputs

Green shading represents evidence of completion, **orange** shading represents indicator still valid, with ongoing activities being implemented in FY3 to support delivery and/or evaluate impact of activities s (see Annex 1 for more detailed information).

Output 1:	Diversified and improved coastal livelihoods:			Comments
	Baseline	*Change recorded*	*Evidence*	
Indicator 1.1 – Number of beneficiaries (> 15yrs of age) in 7 coastal communities with reading, writing, and arithmetic skills (equivalent to local primary education standards) increased by a minimum of 10% by project end, from baseline established in YR1.	Baseline = 51% of survey respondents having no or little confidence in reading or writing a letter.	Baseline established with detailed understanding of existing (self-perceived) skill levels within 7 coastal communities established through socioeconomic surveys in FY1. Skills training implemented in FY2 and attended by 149 persons (76% female).	See Section 3.1 Output 1 Activity 1.3 for a description of activities delivered and Annex 4 for training photographs.	Indicator still valid with baseline data available to assess changes in YR3.
Indicator 1.2 – At least 10% of households (surveys implemented in YR1) in 7 participating coastal communities see a minimum of 20% improvement in locally-defined wellbeing indicators (domains to be measured include but not limited to: material style of life, food security, income, and subjective wellbeing) by end of YR3, from baseline established by end of YR1 (minimum target 5% of local population; n = 6,000 individuals).	Baselines: median income =100,000 CFA food security = 3 (number of protein sources)	Baseline established with detailed understanding of sociodemographic characteristics of participants and households established through socioeconomic surveys in FY1. Training/livelihood opportunities implemented in FY2 with numeracy/literacy training attended by 149 persons (76% female), Ecoguide training attended by 24 persons (4% female), 235 persons (29% female) attending association workshops – with 10 associations nominated for support.	See Section 3.1 Output 1 Activities 1.3, 1.4, 1.5, 1.6 and 1.7 for a description of activities delivered and Annex 4 for training photographs.	Indicator still valid with baseline data available to assess changes in YR3. Assessment target achieved in YR1 = 100% (6.5% of local population assessed, and 42% of respondents female).

Indicator 1.3 – By end of YR2, at least 4 (50%) of the 7 coastal communities have established community-business partnerships with local tourism operators from current zero baseline.	Baseline = 0	A total of 11 associations/cooperatives have been established and/or supported – 1 in each of the 7 coastal communities, as well as an Ecoguide association, and a fisheries purchasing cooperative. Target achieved = 150%.	See Section 3.1 Output 1 Activities 1.3, 1.4, 1.5, 1.6 and 1.7 for activities associated with the creation/support for associations, and Annex 4 for photographs.	Indicator valid.
Indicator 1.4 – Number of coastal communities with established environmental codes-of conduct increased from zero baseline to 8 (100%) by end of YR2.	Baseline = 0	Community-business-partnership code of conduct - recast as a 'ecotourism charter' established – with formal adoption ceremony for all participating communities planned for FY3 Q1. Target achieved = 100%.	See Section 3.1 Output 1 Activity 1.4 and 1.5 for details of the creation process, and Annex 4 for associated photographs of workshops.	Indicator valid. Please note: the adoption ceremony has been shifted to FY3 Q1.
Indicator 1.5 – Community management associations/committees (responsible for management of centralised community funds) established in at least 50% (n = 4) of coastal communities from current zero baseline by end of YR1.	Baseline = 0	A total of 11 associations/cooperatives have been established and/or supported – 1 in each of the 7 coastal communities, as well as an Ecoguide association, and a fisheries purchasing cooperative. Target achieved = 150%.	See Section 3.1 Output 1 Activities 1.5, 1.6 and 1.7 for activities associated with the creation/support for associations, and Annex 4 for photographs	Indicator valid.
Indicator 1.6 – By end of project, at least 5 local business operators are providing individuals (> 15yrs of age) within coastal communities with 1 month internship opportunities (included but not limited to: hotels, travel companies, engineers/mechanics, solar technician/plumber), with a minimum target of 12 internships positions per year).	Baseline = 0	Community-business-partnership code of conduct - recast as a 'ecotourism charter' established – with formal adoption ceremony for all participating communities planned for FY3 Q1.	See Section 3.1 Output 1 Activities 1.4, 1.5, 1.6 and 1.7 for details of the creation process, and Annex 4 for associated photographs of workshops.	Indicator still valid, on target for delivery in FY3.
Indicator 1.7 – Number of local individuals provided with formal training to be professional EcoGuides (to support: reef tours, recreational fishing, snorkelling, boat excursions, nature/bird walks) within local communities increased from current zero baseline to a minimum of 24 individuals (target n = 3 per community) by end of YR2.	Baseline = 0	A total of 24 persons (from 9 villages in the project area) attended a 3-day accredited training program between 24th – 27th November 2020 (96% male; 4% female). Target achieve = 100%.	See Section 3.1 Output 1 Activity 1.6 for detailed information on the Ecoguide training program and accreditation, and Annex 4 for photographs of training and media coverage of the award ceremony.	Indicator still valid.
Indicator 1.8 – Grand-Béréby purchasing (mechanics) cooperative established by fishers association by end of YR1, with a minimum of 50% of registered boat owners in Grand-Béréby (n = 196) subscribed by project end.	Baseline =	Fisheries purchasing cooperative integrated into an existing fuel cooperative that supports 336 (56%) of the 600 registered fishers in Grand-Béréby, and a new store established by fishers to host materials. Target achieve = 100%.	See Section 3.1 Output 1 Activity 1.7, Section 6, and Annex 4 for photographs.	Indicator still valid.

Output 2:	Improved knowledge of marine biodiversity:			Comments
	Baseline	*Change recorded*	*Evidence*	
***Indicator 2.1* –** Number of free-divers provided with formal training in sea-based underwater surveys and engaged in participatory research increased from current zero baseline to 100% (n = 6 individuals, 4 fishers + 2 boat crew) by end of YR1.	Baseline = 0 (no local free divers with formal training in field techniques or identification skills).	Six individuals provided with formal training, comprised of 4 free-divers and 2 boat crew (section 3.1 and Annex 4). Online training and support provided in FY2 to support additional surveys. Target achieved = 100%.	See Section 3.1 Output 2 Activities 2.2 and 3.2, and Annex 4 – for photographs, field survey data and reports.	Indicator valid.
***Indicator 2.2* –** Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-Béréby provided with training in biodiversity data collection and monitoring increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1.	Baseline = 0	Six individuals, 4 from MIPARH and 2 from CEM provided with training in biodiversity and fisheries data collection. Online training and support provided in FY2 to support additional surveys conducted in FY2.Target achieved = 150%.	See Section 3.1 Outputs 2 and 3 Activity 2.2 and Annex 4 – for photographs, field survey data and reports.	Indicator valid.
***Indicator 2.3* –** Number of biodiversity monitoring survey protocols, datasheets and databases developed and disseminated to local authorities and national implementing agencies increased from current zero baseline to 4 by end of YR2.	Baseline = 0	Four protocols established, 1 for underwater biodiversity monitoring for free-divers, 2 datasheets (habitat and species) 1 database for recording biodiversity data, and 3 equipment manuals created. Target achieved = 100% (4 protocols).	See Section 3.1 Outputs 2 Activity 2.2 and Annex 4 for field survey data, analyses and reports. Document folder containing training materials, protocols and templates available upon request.	Indicator valid.
***Indicator 2.4* –** Creation of marine atlas (to support decision making) comprised of a minimum of 60 data layers on marine biodiversity (species and habitats) and natural resource users (e.g. fisheries) completed and disseminated to 4 government agencies (MIPARH, OIPR, MINEDD, and PM) and local stakeholders by start of YR3.	Baseline = 0	> 60 spatial data layers developed through biodiversity and fisheries surveys which are presented in reports associated with each activity (Annex 4). These have been shared with a total of 4 governmental agencies, the Abidjan Convention working group and local partners. Target achieved = 100%.	See Section 3.1 Outputs 2 and 3 Activities 2.3, 2.4, 3.3 and 3.4 and Annex 4 for field survey data, analyses and spatial data layers that have been incorporated into the marine atlas. Extracts from atlas are also provided in Annex 4.	Indicator still valid. Please note the atlas is being continually updated with new data being incorporated each year, and will be finalised at the end of the project.
***Indicator 2.5* –** By end of YR2, species status assessments have been produced for at least 3 groups (from marine fish, sea turtles, seabirds, marine mammals and elasmobranchs) from current zero baseline and disseminated to 4 government agencies and local stakeholders.	Baseline = 0	Baseline data collected on marine biodiversity and spatiotemporal patterns of resource use for fisheries informed species status assessments for sea turtles, elasmobranchs and marine mammals that have been incorporated into the marine atlas. Target achieved = 100%.	See Section 3.1 Outputs 2 and 3 Activities 2.3, 2.4, 3.3 and 3.4 and Annex 4 for field survey data, analyses and spatial data layers that have been incorporated into the marine atlas.	Indicator still valid.
Output 3:	Enhanced fisheries governance:			Comments
	Baseline	*Change recorded*	*Evidence*	
***Indicator 3.1* –** By end of YR1, 100% of fisheries-dependent communities (n = 4) are involved in participatory research and	Baseline = 0	Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) engaged in participatory data collection on fisheries	See Section 3.1 Outputs 2 and 3 Activities 2.2 and 3.2, and Annex 4 for field survey	Indicator valid, with activities continuing in FY3 to

data collection from current zero baseline.		and biodiversity. Target achieved = 100%	reports with photographs and spatial data layers.	increase evidence base.
Indicator 3.2 – Number of fishing vessels (n = 327 total) engaged in participatory data collection (GPS tracking) increased from current zero baseline to at least 10% in each fisheries-dependent community (n = 4) by end of YR2.	Baseline = 0	Proportion of fishing vessels engaged in participatory data collection in each community currently <10% due to failure of some GPS tracking units reducing data collection capacity. This is being addressed, by continuing data collection in FY3.	See Section 3.1 Output 3 and Annex 4 for field survey reports and spatial data layers from tracking data.	Indicator still valid, with activities continuing in FY3 to increase sampling effort.
Indicator 3.3 – Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-Béréby provided with training in conducting fisheries landing surveys increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1.	Baseline = 0	Seven individuals, 4 from MIPARH and 3 from CEM provided with training in biodiversity and fisheries data collection. Online training and support provided in FY2 to support additional surveys. Target achieved = 175%.	See Section 3.1 Output 3 and Activity 3.2, and Annex 4 for field survey data, photographs and reports detailing data collection.	Indicator valid.
Indicator 3.4 – Number of fisheries monitoring/landing survey protocols, datasheets and databases developed and disseminated to local authorities and national implementing agencies increased from current zero baseline to 6 by end of YR2.	Baseline = 0	For both landing and GPS tracking surveys, survey protocols, datasheets for field data collection and recording, and databases have been established. Target achieved = 100% (6 protocols).	See Section 3.1 Activity 3.2 and Annex 4: training photographs, field survey data and report. Document folder containing training materials, protocols and templates available upon request.	Indicator valid.
Indicator 3.5 – By end of YR1, 100% of fisheries dependent communities (n =4) have been provided with training and materials to support recording and reporting of incidences of illegal, unreported and unregulated (IUU) fishing to 2 government agencies (PM and MIPARH).	Baseline = 0	Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) and staff from MIPARH provided with training in participatory data collection. With reporting materials provided to support data collection. Target achieved = 100%	See Section 3.1 Activity 3.2 and Annex for fisheries reporting data. Document folder containing training materials, protocols and templates available upon request.	Indicator valid.
Output 4:		**Environmental education campaigns underpinning local awareness and a community-based marine protected area planning process:**		**Comments**
	Baseline	*Change recorded*	*Evidence*	
Indicator 4.1 – Understanding of current social norms around marine biodiversity use and management obtained by end of YR1, based on pre-intervention social information collected through socio-economic questionnaires (minimum target 5% of local population; n = 6,000 individuals, at least 30% of which are female).	Baseline = 6.5% of local population assessed	Baseline understanding of natural resource use, perceptions about state of marine environment, and management preferences established through socioeconomic surveys with a total of 383 respondents taking part. Assessment target achieved in YR1 = 100% (6.5% of local population assessed, and 42% of respondents female).	See Annual Report 1.	Indicator valid.
Indicator 4.2 – Based on	Baseline =	Detailed results from	See Section 3.1	Indicator still

findings from indicator 4.1, campaigns to build awareness and support for marine protection and sustainable use developed for each community and implemented in community focal points in 100% of coastal villages (n = 8) by beginning of YR2. Effectiveness of campaigns evaluated using follow up social data collection during YR3 (minimum target 5% of local population; n = 6,000 individuals, at least 30% of which are female).	0	socioeconomic surveys were submitted with Annual Report 1, underpinning the creation of three environmental education campaigns.	Output 4 Activity 4.2 for images of campaign materials	valid, with baseline data from indicator 4.1 available to assess changes in year 3.
Indicator 4.3 – Number of individuals within coastal communities (n = 8) and Grand-Béréby attending annual environmental education seminars (i.e. dissemination events), increases by 50% for both male and females each year, from established baselines by project end.	Baseline = 0	Events were conducted with 9 coastal communities (at 7 locations) between 10th June and 18th June 2020 – reaching 612 individuals, 39% of which were female.	See Section 3.1 Output 4 Activity 4.3 and Annex 4 for description of dissemination events, number of participants and photographs.	Indicator still valid, with further events planned for FY3 that will be used to assess changes in outreach.
Indicator 4.4 – By end of YR2, MPA planning workshop held with representatives from 4 government agencies and from all 100% of coastal communities (n = 8) to develop and agree on a set of goals and objectives (SMART) for the proposed MPA, and define management model (i.e., roles and responsibilities of different stakeholders)	Baseline = 0	Two further workshops held with individuals from local communities to determine classification of proposed MPA and engage stakeholders in the planning process, culminating in official MPA creation ceremony. Target achieved = 100%.	See Section 3.1, Output 4 Activities 4.4, 4.5 and 4.6, and Annex 4 for details of workshops, MPA creation ceremony, government announcement and associated press releases and news coverage.	Indicator still valid, further workshops are planned in FY3 to support the creation and adoption of a zoning and management plan.
Indicator 4.5 – By end of YR3, MPA participatory planning and evaluation workshop held with individuals from 4 government agencies and 100% of coastal communities (n = 8) to evaluate alternative MPA scenarios (that meet goals and objectives identified from 4.4) and develop a consensus spatial management plan.	Baseline = 0	Two further workshops held with individuals from local communities to determine classification of proposed MPA and engage stakeholders in the planning process, culminating in official MPA creation ceremony.	See Section 3.1, Output 4 Activities 4.4, 4.5 and 4.6, and Annex 4 for details of workshops, MPA creation ceremony, government announcement and associated press releases and news coverage.	Indicator still valid, further workshops are planned in FY3 to support the creation and adoption of a zoning and management plan.

3.3   Progress towards the project Outcome

The following section provides a summary of progress towards the project Outcome.

Indicator 0.1 – By end of project, marine biodiversity and ocean user-groups (i.e., fishers) are better integrated into decision making processes (baseline established by end of YR1) as a result of increased knowledge and capacity to collect data with key government agencies involved in natural resource management (n = 4) and local coastal communities (n = 8). **Progress:** To date the project has provided extensive training to 24 individuals from across local partners (**CEM**: n = 4), local implementing and management

agencies (**MIPARH**: n = 4 inclusive of the 3 technicians; **PM**: n = 3) and local communities (n = 13, comprised of 4 free-divers, 2 boat crew and 7 socioeconomic surveyors) that has increased institutional and local capacity to collect scientific data that can be used to inform decision making processes. **Evidence:** Increased capacity, knowledge, and awareness on the distribution of key species, habitats, and spatial patterns of resource use (See Annex 4), which has underpinned the creation of the country's first MPA (Section 3.1, 11 and Annex 4). **Comments:** Indicator still remains valid; further training needs will be evaluated in FY3.

Indicator 0.2 – By end of project, local stakeholders and government agencies agree on a marine protected area boundary, spatial management plan and management model for the proposed MPA in Grand-Béréby that significantly increases the at-sea area under formal protection from current baseline of 0.07%, and contributes towards CBD commitments to protect at least 10% of ocean area. Progress: Côte d'Ivoire's first MPA officially established in Grand-Béréby covering ~2,600 km^2, increasing the amount of Côte d'Ivoire's marine environment under formal protection from 0.07% (source: https://www.protectedplanet.net/country/CIV) to 1.5% (Section 3.1 and 5, and Annex 4). **Evidence:** Official ceremony in Grand-Béréby (21st December 2020), map of MPA extent (**Fig 6**), national and international press coverage (Annex 4 Table S5.1). **Comments:** Indicator still remains valid; data gathered through project will inform the development of a management and zoning plan in FY3. **Indicator 0.3 – By end of project, a management committee for the proposed MPA in Grand-Béréby is established, with inclusive and equitable representation from 100% of local communities, authorities, government agencies and natural resource users. Progress:** MPA has been formally established with local communities engaged throughout the creation process. **Evidence:** Local communities involved in two workshops agreed on the classification (i.e., type) of MPA to be designated (Section 3.1 Output 4; Annex 4 Fig S4.2). **Comments:** Indicator still remains valid; communities will be engaged in the development of a management and zoning plan in FY3 that is expected to include a range of zones (e.g., integrally protected, community fisheries, and tourism zones). **Indicator 0.4 – By end of project, at least 50% of individuals that have attended skills workshop / training programs, internships or specialised training, see at least a 10% increase in household income (assessed through socioeconomic surveys), and at least 25% of households in communities engaged in tourism-based income-generating activities, see an increase in context specific measures of well-being using locally defined indicators established in YR1. Number of beneficiaries (i.e., individuals and households) within each community established throughout project and to be re-assessed in YR3.**
Progress: Collection of baseline socioeconomic data from a total of 383 respondents across 7 rural communities and 1 urban community in FY1 (see Annual Report 1), with skills/livelihood training opportunities and support provided in FY2. **Evidence:** Numeracy/literacy training attended by 149 persons, Ecoguide training attended by 24 persons, and 11 associations established and/or supported (Section 3.1 Output 1; Annex 4). **Comments:** Indicator still remains valid; socioeconomic surveys are planned for FY3 to evaluate changes relative to baselines established in FY1. **Indicator 0.5 – By end of project, 100% of villages (n = 8) have established community-business partnerships and see a 50% increase in centralised community managed funds (from tourism-based income-generating activities), with at least 10% of households within each community seeing a corresponding increase in access to number of basic services that improve, health, education and well-being from baselines established in YR1. Number of beneficiaries (i.e., individuals and households) accessing services within each community established in YR1 and to be re-assessed in YR3. Progress:** Collection of baseline socioeconomic data from a total of 383 respondents across 7 rural communities and 1 urban community in FY1 (see Annual Report 1) and establishment of ecotourism charter (community-business partnership agreement) and support provided to establish and or enhance

associations in FY2. **Evidence:** Final draft of ecotourism charter was delivered to all participants on 7th April 2021 with adoption ceremony planned for FY3 Q1, and 11 new and existing associations identified for further support (Section 3.1 Output 1; Section 6; Annex 4). **Comments:** Indicator still remains valid; socioeconomic surveys are planned for FY3 to evaluate changes relative to baselines established in FY1.

3.4   Monitoring of assumptions

All outcome risks and output assumptions for FY2 have been reviewed and remain valid:

Assumption – Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements; and Local implementing agencies are receptive to training and willing to implement lessons learned. **Comments:** As of 31st March 2021 all trained individuals n = 11 trained and/or appointed in 2019 (**CEM** n = 4; **MIPARH** n = 4 inclusive of the 3 technicians; and **PM** n = 3) remain in employment with partner organisations. Individuals from partner organisations are also ably supported by two local Darwin Research Assistants who check and validate data, report to project leads and help support and implement changes where required (e.g. adapting fisheries data collection protocols, leading to an increase in the volume of data collected; Section 3.1 Output 3). To further assist with capacity building and ensure that there are contingencies in place, employment opportunities continue to be extended to trained individuals from local communities with ~6 individuals (comprised of 4 free-divers and 2 boat crew) engaged in marine biodiversity and fisheries research, and environmental education activities (Section 3.1; Annex 4); thereby ensuring that the legacy of the project will not depend disproportionately on any one individual or organisation. **Assumption – National implementing agencies remain committed to establishing an MPA in Grand-Béréby and to engaging with local communities to deliver more effective conservation outcomes; and data is used to support decision-making and improve governance.** **Comments:** The strength of the government's commitment to inclusive representation and dialog is evidenced by several recent workshops involving representatives from local communities, as well as regional and national governmental agencies incorporating empirical data gathered through this project to support the creation of Côte d'Ivoire's first MPA in Grand-Béréby, which was formally announced at a ceremony on 21st December 2021 (Section 3.1 Output 4; Annex 4 Fig S4.2 and Table S5.1). **Assumption – Fishing communities and government retain commitment to sustainable use of marine resources.** **Comments:** All partners remain committed. Fishing communities continue to engage with fisheries landing surveys and support participatory data collection on spatiotemporal patterns of resource use through the deployment of GPS trackers (Section 3.1; Annex 4). Following the official creation of the country's first MPA in Grand-Béréby on 21st December 2021 (Section 3.1 Output 4; Annex 4), the Government has committed to developing a management plan that accounts for local activities and ensures sustainable use of resources through the implementation of a range of management zones – an activity which the project is contributing to. **Assumption – There are no major economic shocks, anthropogenic or natural disasters affecting local and/or national capacity; and Host country remains politically stable.** **Comments:** As detailed on the WHO website (https://covid19.who.int/region/afro/country/ci) from 3rd January 2020 to 29th March 2021 there have been 45,519 confirmed cases of COVID-19 and 274 deaths. However, it has been suggested that the low numbers of confirmed COVID-19 cases could be due to limited testing capacity, poor health systems and experience in handling infectious diseases, and/or the country's policy of restricting travel in and out of the country and the capital, Abidjan; the latter strategy of which may have helped reduced transmission to remote areas. Project partners have nevertheless adopted a precautionary approach with all activities carefully reviewed and discussed amongst project partners and local stakeholders prior to delivery to ensure that communities are safeguarded. This has led to a redistribution of funds (agreed with Darwin Initiative) and had a minor impact on delivery timeline of project activities outlined in FY2 (see

Section 14 for more detail). In terms of political stability there were clashes between political supporters and security forces following the presidential election (1st November 2020) in which President Alassane Ouattra secured a third term. The current political climate, however, is stable with the recent legislative elections (6th March 2021), which was seen as a test of stability four months after the presidential election taking place without incident. **CEM** continues to monitor and inform project partners of the situation. **Assumption – Target communities remain willing to explore and engage in livelihood diversification and enhancement activities; Community members are able to access skills and livelihood training opportunities; Project partners keep accurate records of participant numbers.**

Comments: Local communities have actively engaged in livelihood diversification and enhancement activities in significant numbers (e.g. numeracy and literacy skills training, Ecoguide training, ecotourism charter development, and associations), with detailed information on participant numbers disaggregated by gender recorded by **CEM** (see Section 3.1 Output 1 and Section 6 for further details).

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

Impact statement: Food security, poverty reduction and biodiversity conservation in coastal communities are enhanced through effective decision making, fostering environmentally-sustainable practices, community-business partnerships and initiatives that benefit biodiversity, fisheries resources and livelihoods.

In terms of contribution to biodiversity conservation, the data generated through this project has led to increased capacity, knowledge, and awareness within national implementing agencies across a range of stakeholder groups that has facilitated the protection of key biodiversity areas and critical habitats for target (commercially-valuable) and non-target species of conservation concern (listed by CITES and CMS such as sea turtles, sharks, and rays) through the implementation of Côte d'Ivoire's first MPA (Sections 3, 4, 5, 6, 7). In terms of contribution to poverty alleviation, the project has provided targeted training to enhance literacy and numeracy skills in communities, as well as provide training for alternative livelihood opportunities supported by community-business partnerships and linked to the natural environment (e.g. Ecoguide training), as well as supporting community associations that will diversify income and alternative livelihood opportunities for local communities (Sections 3, 4, 5, 6, 7).

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

This project aims to contribute increase food security (Goal 2); enhance skills and education (Goal 4); ensure equal opportunities (Goal 5); provide employment opportunities (Goal 8); and increase the protection of, and sustainable use of marine biodiversity and resources (Goal 14). Contributions to each of these goals during FY2 are briefly detailed below:

Goal 2 – increased knowledge on spatiotemporal patterns of fisheries resource use, and marine biodiversity that has been used to underpin marine protected area (MPA) design, and will be used to determine the management and zoning plan in FY3 (Section 3.1 Outputs 2 and 3; Annex 4). **Goal 4 –** enhanced access to skills and education opportunities through the implementation of literacy and numeracy training workshops and EcoGuide training courses (Section 3.1 Output 1). **Goal 5 –** commitment to ensuring equal access, participation and opportunities for both women and men throughout the project cycle, with inclusion of women across several project activities including the development and/or support of community associations, skills training and participatory data collection (Section 3.1 Output 1, Section 7). **Goal 8 –** creation of a community ecotourism charter that aims to promote fair, transparent and equitable sharing of benefits arising from natural capital in the developing tourism sector and facilitate income-generating activities that are linked to a healthy natural environment (Section 3.1 Output 1). **Goal 14 -** increased understanding of the distribution of species and habitats, and increased capacity and awareness of biodiversity monitoring techniques at local

institutional level (Section 3.1 Output 4), which have underpinned the creation of the country's first MPA in Grand-Béréby that will increase protection of marine vertebrates covered by **CMS** and **CITES** for which this region is globally-important.

5. Project support to the Conventions, Treaties or Agreements

This project contributes to two of the main objectives of the Convention on Biological Diversity (CBD; ratified by Côte d'Ivoire in 1995) – '*conservation of biodiversity*' and '*sustainable use of its components*', and is strongly aligned with the CBD's core principles for the '*programme of Work on Marine and Coastal Biodiversity'*. As outlined in Section 3, contributions to these objectives in FY2 include addressing current challenges (i.e. limited expertise and empirical data) by broadening the knowledge base on marine biodiversity, fisheries and natural resource use (*Article 6*); and actively engaging a diverse group of stakeholders and promoting community participation in research and decision making - corresponding to decision VII/28 on protected areas (*Article 17*), thereby enhancing local and institutional capacity and ensuring scientific evidence (Section 3.1 Outputs 2 and 3; Annex 4) that underpins decision making processes (*Articles 7, 12*). This in combination with the implementation of community focused and targeted environmental education campaigns and dissemination events (Section 3.1 Output 4) is increasing awareness and understanding of the importance of, and the measures required for, the conservation and sustainable use of biological diversity across a range of demographic groups (*Article 13*). In addition, by ensuring national biodiversity strategies and management plans are underpinned by scientific evidence and stakeholder involvement (Section 3.1 Outputs 2 and 3; Annex 4), the project is contributing to commitments under the '*Strategic Plan for Biodiversity 2011-2020'* to mainstream biodiversity across government and civil society (*Aichi Biodiversity Targets 1, 2, 4*).

Data and environmental education materials have subsequently been used by the Government (through the Abidjan Convention and Ministry of Environment) to inform the designation of Côte d'Ivoire's first MPA, formally created by the government on 21st December 2020 (Section 3.1 Output 4; **Fig 6**) that was established to ensure the conservation and sustainable use of marine biodiversity (*Articles 8, 10, 11*). This MPA, which covers ~2,600 km^2, also increases the amount of Côte d'Ivoire's marine environment under formal protection from 0.07% (source: https://www.protectedplanet.net/country/CIV) to 1.5%. This newly established MPA thereby contributes to practicable actions to rebuild fish populations and protect key habitats (e.g. rocky/macroalgal dominated reefs, mangroves; Annex 4) through the implementation of area based conservation measures. These measures contribute to efforts to protect 10% of coastal and marine areas (*Target 11*), which will help reduce direct pressure on biodiversity and fisheries resources (*Target 6*), ensuring that marine ecosystems are able to continue to provide essential ecosystem services that are documented to contribute to health, livelihoods and well-being of coastal and fisheries-dependent communities across the project area (*Target 14*). This new MPA also hosts key habitats for several species of regional and global importance, with 3 species of sea turtle, 7 species of shark and 7 species of ray documented within the project area to date (Annex 4) including guitarfish which are amongst the most imperilled families, globally, therefore contributing to commitments under CMS and CITES. Fisheries data gathered through this project have also contributed to the most recent IUCN regional red list status assessment for sharks and rays in West & Central Africa – with **UoE** staff (Dr Kristian Metcalfe and Dr Phil Doherty) attending a 3-week virtual workshop held between 7th and 21st July 2020.

6. Project support to poverty alleviation

A key component of this project involves supporting 7 rural communities to improve and diversify local livelihoods by providing them with access to skills training and facilitating opportunities for alternative income generating activities linked to tourism and a healthy natural environment. In terms of direct benefits – skills training will enhance self-reported levels of

confidence to undertake specific tasks as identified in FY1 (Section 3), thereby enhancing employment opportunities, household income, and wellbeing for participants. Funds generated through the establishment of community-business partnerships (linked to tourist and non-tourist based income generating activities) will also enhance self-reported levels of access to basic community services (Section 3; Annex 4). In terms of indirect benefits - building and fostering an environmental ethic through the delivery of environmental education campaigns, participatory research, and a marine protected area planning process will promote sustainable use of natural resources, resilient and healthy ecosystems, and a local vision for environmentally-friendly development and income generating activities that are linked to a healthy natural environment. In terms of notable achievements in FY2: 149 individuals have engaged in literacy and numeracy training; 24 individuals have engaged in an Ecoguide training program; 612 individuals have attended environmental education events that have increased awareness of the value and presence of biodiversity and resource use in the project area; an ecotourism charter has been created in partnership with local communities and businesses; and 11 associations have been established and/or supported covering a range of activities from an all-female salt cooperative to an Ecoguide association and fisheries purchasing cooperative (Section 3.1 Output 1; Annex 4 Fig S1.3 & S1.5). Further socioeconomic surveys are planned in FY3 to evaluate and quantify the impact of these activities on household income and well-being, as well as ascertain changes in environmental knowledge and social norms around marine biodiversity use and management (Activities 1.2 and 4.1).

7.   Consideration of gender equality issues

The **UoE** has a strong commitment to ensuring equal opportunities, and so this project aims to deliver a gender-integrated approach, ensuring equal access, participation and opportunities for both women and men throughout the project cycle. Evidence of our efforts during FY2 for each output is detailed below:

Output 1 – Diversified and improved coastal livelihoods: As noted in the Annual Report 1 (AR1 Section 9 Lessons learnt) it was evident that extended periods away from home were not possible for women due to family and childcare commitments. Therefore, to ensure equal access to opportunities across the project area a skills training program focused on enhancing literacy and numeracy was implemented across 6 focal communities (i.e. Néro-Mer/Néro-Boupé, Roc, Mani, Dawa, Pitiké, and Kablaké) between 10th August 2020 and 11th October 2020, rather than across a few centralised locations. A total of 71 sessions were delivered (equivalent to 142 hours), and were attended by 149 persons, with females accounting for between 61% and 93% (mean 75%) of the attendees across communities (Section 3.1) – thereby highlighting the effectiveness of this strategy. Despite similar attempts to engage and enrol women in the 3-day Ecoguide training program (Section 3.1), of a total of 24 individuals who attended, 96% were male (n = 23) only 4% (n = 1) were female. Therefore, to promote further 'local' opportunities for women's funding, project partners submitted a change request (on 29th December 2020 that was approved 17th February 2021), which included the reallocation of funding to support a number of female only cooperatives whose products are currently sold in communities, the local market and within hotels and restaurants (i.e., salt and jewellery cooperatives; Annex 4; Fig S1.3). These women's associations have been active participants in developing the 'community-business charter' and have remarked that this is the first time that their opinions have been sought in such matters (Section 3.1). **Output 2 – Improved knowledge of marine biodiversity:** this activity required individuals from local communities with a specific skill set, namely previous experience of free-diving, a role that is typically performed by males in coastal villages. As a result, the project engaged 4 free divers from the village Roc who were trained in FY1 to assist with participatory data collection in FY2 (Section 3.1) – all (100%) of whom were male. However, the Darwin Field Assistants continue to engage fish traders (a role dominated by women) at the landing site in Grand-Béréby in participatory data collection to develop a more comprehensive list of fisheries species landed

(**Fig 4**). **Output 3 – Enhanced fisheries governance:** project partners acknowledge that gender roles vary in fisheries – with men typically being responsible for fishing and women for processing. In this context, the project has aimed to better understand spatiotemporal patterns of resource use through GPS tracking of fishing vessels. However, as outlined above female fish traders and processors are also being engaged in participatory data collection to build a more comprehensive picture of species landed in fisheries. **Output 4 – Environmental education, awareness raising and community-based planning process:** under-represented and vulnerable groups, such as women and individuals with disabilities are actively encouraged to attend community-meetings and workshops (Section 3.1).

8. Monitoring and evaluation

All activities have associated reports that are shared amongst partners to assist with progress reviews and project reporting (see Annex 4). In addition, regular communication between partners means that progress associated with each activity is carefully monitored and logged. **CEM** have also implemented standardised datasheets to record the number of participants at workshops, stakeholder meetings and training events. These data are specifically used to assess impact of activities and wider participation that can be disaggregated by gender thereby ensuring that approaches can be adapted to ensure that the project is providing equal opportunities for and participation by under-represented and vulnerable groups (see Section 3.1 for evidence and 7 for more information on consideration of gender equality).

9. Lessons learnt

Please see section 14 for details on the impact of COVID-19 on project delivery.

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

The Annual Report Review for FY1 raised 6 comments, 4 of which requested response in the next annual report, these were:

Comment/Query: Grantee has updated many measurable indicators as a response to the Darwin Expert Committee and also from some baselining work. Some of these changes (in yellow) were already approved by the Darwin team (26-014 App rev Apr19). I suggest these changes are accepted by Project Leader so that it is clear what has already been approved and what is new. **Response:** All amendments to the logframe were highlighted in the previous annual report to help identify agreed changes. As requested by the reviewer all track changes have now been accepted.

Comment/Query: Annex 3 – seems to stand alone without explanation/reference so it is difficult to put this in context. E.g. I noted the Rainforest Trust support on one of the supplementary papers from the survey and see they are referenced in this annex but can't find any other reference to their work (or the purpose of this Annex) – are they cofounders and their money has all been released? **Response:** In this annual report we have referred more clearly to Annex 3 throughout the text. In terms of the additional funding raised by **CEM** through the Rainforest Trust (see https://www.rainforesttrust.org/projects/creating-cote-divoires-first-marine-protected-area/), this complements efforts through the Darwin Initiative to establish Côte d'Ivoire's first marine protected area (MPA), however, a significant component of their funding (released on an annual basis with Annex 3 amended to reflect annual distribution of funds) is directed towards building MPA management and enforcement capacity, the latter of which is not currently supported by Darwin Initiative funding. They do not generally support empirical data collection, international travel, or salary for international expertise.

Comment/Query: Output level assumptions – it would be useful to hear if these have been reviewed and remain valid or if any new assumptions need to be recorded? Outcome level assumptions are reviewed and welcomed. **Response:** We have expanded Section 3.4 to include output level assumptions relevant to FY2 – these have been grouped with outcome assumptions where possible to reduce repetition.

Comment/Query: COVID-19 – impact on year one is noted. It would be useful to see an update on what this means for year 2. **Response:** Please see section 14 for further details.

11.   Other comments on progress not covered elsewhere

This project has been enhanced by strengthening of, and more regular communication between project partners (**CEM** and **UoE**) and the Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of West, Central and Southern African Region (Abidjan Convention, **AC**), led by Executive Secretary Mr Abou Bamba. The **AC** been responsible for translating the scientific evidence gathered through this project into policy, and supporting the Government's efforts to formally create the country's first MPA in Grand-Béréby, which has led to greater awareness of the project and the role **UoE** and **CEM** can, together, play in supporting the **AC** and Governmental agencies (see Section 12)

12.   Sustainability and legacy

Being Côte d'Ivoire's only NGO with a specific focus on the marine environment, this project is part of a long-term commitment by **CEM** to increase protection of coastal and marine biodiversity. The legacy of this project has therefore been fostered through an integrated and collaborative program of training, research, stakeholder engagement, and awareness raising (Section 3.1) that has enhanced local and institutional capacity, and equipped local communities and national agencies with the required knowledge and skills to elicit policy and behaviour change, improve governance and stewardship of marine biodiversity and fisheries resources, and support local livelihoods.

Marine biodiversity, fisheries, social, and economic data that were not previously available for this region, have been shared with the Abidjan Convention (**AC**) and government agencies helping to highlight the ecological value of the waters surrounding Grand-Béréby, underpinning the creation of the country's first marine protected area in Grand-Béréby (Section 3.1). This project and the **UoE** and **CEMs** contributions have been widely recognised and promoted at national and international levels as evidenced by joint press releases, and social media campaigns with the **AC** (Annex 4 Fig S2.6 & Table S5.1), which were picked up by several international news outlets, leading to a BBC Radio Interview on the World Service, and video and photographic footage gathered through the project being shown on France 24 (https://youtu.be/Nq7WaSrfYME), as well as a feature on BBC World News Focus on Africa.

In terms of legacy, **CEM** have also established a new office in Grand-Béréby (**Fig 7**) that will provide a focal point for local communities, as well as future monitoring and enforcement efforts that are being supported by funding through the Rainforest Trust (Section 10), which

demonstrates awareness of further capacity building efforts that are required to ensure that the MPA is effectively managed.

Fig 7 CEM's new office established in Grand-Béréby.

13.   Darwin identity

All project presentations, reports, maps, training materials, and survey instruments include the Darwin Initiative logo and acknowledge financial support provided by the Darwin Initiative through **DEFRA** (Annex 4). The Darwin Initiative is currently recognised at a ministerial level as the biodiversity, social and economic data collected to date (Section 3.1; Annex 4) has been shared with the relevant government agencies and the **AC**, helping to underpin the Government of Côte d'Ivoire's decision to implement the country's first marine protected area in Grand-Béréby, which was formally created in December 2020 (Section 3.1). Environmental education campaign materials and the Darwin Initiative logo were also included on promotional material and banners at the official announcement ceremony (Annex 4 Fig S4.2; **Fig 8**). Research and awareness raising

activities undertaken by all partners are also publicised through a variety of social media, and are documented on **CEM's** website (www.ong-cem.org). **UoE** staff comprised of Professor Brendan Godley ████████████ Dr Phil Doherty ███████████ Dr Kristian Metcalfe ████████████ and Dr Ana Nuno ███████████ also periodically promote project activities and outputs using twitter.

Fig 8 Minister for the Environment and Sustainable Development, Professor Joseph Séka Séka giving the opening speech at the ceremony for the creation of Côte d'Ivoire's first marine protected area in Grand-Béréby (21st December 2020). Banner image is environmental education campaign material created as part of the Darwin Initiative project (see Fig 5), with Darwin logo included in the footer.

14.   Impact of COVID-19 on project delivery

As a result of travel restrictions and limits on the size of gatherings in Côte d'Ivoire (initially restricted to 50 persons), COVID-19 has led to the cancellation of international visits planned by staff from the UK, Europe, and USA, as well as changes in the delivery timeline of a number of activities. In response, project partners submitted a financial change request on the 29th December 2020 (approved 17th February 2021) to reallocate remaining funds associated with travel and subsistence (for **CEM** and **UoE**) to: (1) extend local skills training, and enhance existing activities focused on diversifying and improving coastal livelihoods, including supporting female-only associations/cooperatives; (2) fund 16 ecoguards and 6 free-divers involved in nest beach monitoring and marine biodiversity surveys, respectively; (3) develop an MPA logo, awareness and tourism materials with local stakeholders for the newly announced MPA; (4) cover increased communication costs associated with a shift to remote support both nationally and internationally as a result of efforts to minimise travel; and (5) ensure funding was available to support the purchase of PPE (e.g. masks and hand sanitiser) for staff, and made available to local communities where required. Due to the challenges and uncertainties brought by COVID-19, activities involving training of local communities and/or stakeholder meetings were initially delayed – many of which were subsequently rescheduled and delivered in the latter part of the year – Q3 & Q4 – to abide by national restrictions (Section 3.1 Outputs 1 and 4). All project partners see the benefits of increased remote support and will make greater use of virtual meetings, however, the value and benefits of observing training, workshops and evaluating project activities in-country is critical as it is difficult to capture the nuances of nonverbal communication that are present in face-to-face conversations on a computer screen.

15.   Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year.   ☐

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

The **UoE** has robust management systems and protocols in place to address financial risk, including an Anti-Fraud and Bribery policy, with a code of conduct set out for all staff with a zero tolerance policy on bullying, harassment and sexual exploitation and abuse (see http://www.exeter.ac.uk/staff/employment/codesofconduct/staff/). Please note that this project was one of seven Darwin funded projects subject to an Audit Spot Check in October 2020, with no issues raised following submission. **UoE** financial policies and procedures are also subject to regular review, ensuring they remain appropriate for the projects we implement, as well as internal and external compliance requirements. For instance, a new process was implemented to approve fieldwork and safeguard individuals due to COVID-19 in 2020 that continues to be applied. The **UoE** health and safety procedures also require risk assessments and emergency

procedures to be completed prior to initiating any activities delivered by **UoE** staff – with no unnecessary international travel permitted during 2020 due to COVID-19 (Section 14). **CEM** has well-established connections within local communities, and so possesses a sensitive understanding of the local social, political, economic and ecological issues, in addition to their extensive knowledge of successful delivery strategies in-country. All activities are thus carefully reviewed and discussed amongst partners and local stakeholders prior to delivery. Further safeguarding measures implemented for staff and local communities are briefly detailed for each output below:

Output 1 – Diversified and improved coastal livelihoods and Output 4 – Environmental education, awareness raising and community-based planning process: during 2020 **CEM** abided by national guidance that detail limits on the number of people at gatherings, and has made face masks, and hand sanitiser available for attendees of meetings, training and skills workshops. **Output 2 – Improved knowledge of marine biodiversity:** as this activity involves extended periods at sea (6 – 12 hours) researchers are provided with standard safety equipment (i.e. lifejackets, whistles, torch and first aid kit) and supplies (i.e. bottled water and food), and are required to follow additional reporting protocols that involve calling in prior to commencing field work, at scheduled intervals during fieldwork, and again when returning safely to shore. **Output 3 – Enhanced fisheries governance:** as per other activities, data are anonymised so that it is impossible to directly link sensitive data to individuals, with findings disaggregated by landing site or gear type.

16. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2020 – 31 March 2021)

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

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
Impact Food security, poverty reduction and biodiversity conservation in coastal communities are enhanced through effective decision making, fostering environmentally-sustainable practices, community-business partnerships and initiatives that benefit biodiversity, fisheries resources and livelihoods.		Notable achievements – Enhanced knowledge of marine biodiversity and fisheries underpinning the creation of Côte d'Ivoire's first MPA, and the implementation of skills training and associations to enhance local capacity and support alternative livelihood opportunities.	▮▮▮▮▮▮▮▮▮▮▮▮
Outcome Implementation of livelihood initiatives and an MPA in the region of San-Pédro (Bas-Sassandra district) delivered in partnership with local communities, fishers, and businesses to enhance biodiversity conservation and livelihoods.	**0.1** By end of project, marine biodiversity and ocean user-groups (i.e. fishers) are better integrated into decision making processes (baseline established by end of YR1) as a result of increased knowledge and capacity to collect data within key government agencies involved in natural resource management (n = 4) and local coastal communities (n = 8). **0.2** By end of project, local stakeholders and government agencies agree on a marine protected area boundary, spatial management plan and management model for the proposed MPA in Grand-Béréby, that significantly increases the at-sea area under formal protection from current baseline of 0.07%, and contributes towards CBD commitments to protect at least 10% of ocean area. **0.3.** By end of project, a management committee for the proposed MPA in Grand-Béréby is established, with inclusive and equitable representation from 100% of local communities, authorities, government agencies and	0.1 In FY2 the project has provided remote support and training for 17 individuals from across local partners (CEM: n = 4), local implementing and management agencies (MIPARH: n = 4 inclusive of the 3 technicians; PM: n = 3) and local communities (n = 6, comprised of 4 free divers, 2 boat crew) that has increased institutional and local capacity to collect scientific data that can be used to inform decision making processes (Section 3 and Annex 4). 0.2 In FY2, national and local stakeholders have officially established Côte d'Ivoire's first MPA in Grand-Béréby covering ~2,600 km^2, increasing the amount of Côte d'Ivoire's marine environment under formal protection from 0.07% to 1.5% (Section 3.3 and Annex 4). 0.3 In FY2 1, representatives of all local communities (n = 8) have been actively engaged in all aspects of the project related to the creation of a new MPA in Grand-Béréby; including participatory data collection and two workshops on the classification (i.e., type) of MPA to	• Continue to provide skills training and support associations. • Host charter (code of conduct) ceremony and support community-business partnerships. • Continuation of marine biodiversity and fisheries data collection with local communities and implementing agencies (PM and MIPARH) to further build local capacity and provide a robust evidence base for the development of an MPA management and zoning plan. • Produce final version of marine atlas, that incorporates data collected in FY3. • Support development of MPA management and zoning plan through virtual meetings and stakeholder workshops with local communities and government agencies. • Implement follow up socioeconomic surveys to evaluate and quantify the impact of project activities on

			household income and well-being, as well as ascertain changes in environmental knowledge and social norms around marine biodiversity use and management.
	natural resource users.	be designated, as well as involved in the official ceremony (Section 3.1, 3.3 and Annex 4).	
	0.4 By end of project, at least 50% of individuals that have attended skills workshop / training programs, internships or specialised training see at least a 10% increase in household income (assessed through socioeconomic surveys), and at least 25% of households in communities engaged in tourism-based income-generating activities see an increase in context specific measures of well-being using locally defined indicators established in YR1. Number of beneficiaries (i.e. individuals and households) within each community established throughout project and re-assessed in YR3.	0.4 In FY2, the project has implemented a suite of training opportunities for individuals in 8 coastal communities; with numeracy/literacy training attended by 149 persons, Ecoguide training attended by 24 persons, and 235 persons from 100% of coastal communities (n = 8) engaged in dialogue regarding development and support for local associations/cooperatives, resulting in 11 associations established and/or supported the project(Section 3.1, 6 and Annex 4).	
	0.5 By end of project, 100% of coastal communities (n = 8) have established community-business partnerships and see a 50% increase in centralised community managed funds (from tourism-based income-generating activities), with at least 10% of households within each community seeing a corresponding increase in access to number of basic services that improve, health, education and well-being) from baselines established in YR1. Number of beneficiaries (i.e. individuals and households) accessing services within each community established in YR1 and re-assessed in YR3.	0.5 In FY2, the project has developed an ecotourism charter that sets out code of conduct for community-business-partnerships, with 11 associations identified for further support (Section 3.1, 3.3, 6 and Annex 4).	
Output 1. Diversified and improved coastal livelihoods: increased education levels through access to essential skills (reading, writing and arithmetic), that promote entrepreneurship and provide key skills	**1.1** Number of beneficiaries (> 15yrs of age) in 7 coastal communities with reading, writing, and arithmetic skills (equivalent to local primary education standards) increased by a minimum of 10% by project end, from baseline	**1.1** Baseline understanding of existing skill levels within 8 coastal communities (inc. Grand-Béréby) established through socioeconomic surveys with a total of 383 respondents completing the survey with an average of 69% (range 40% - 87%) of households surveyed per rural community in FY1. These data revealed that 51% of survey respondents have no or little confidence in reading or writing. Data gathered through this survey therefore informed the development of skills	

required to underpin and help individuals transition to alternative livelihoods through formal training opportunities, community-business partnerships and creation of cooperatives.	established in YR1. **1.2** At least 10% of households (surveys implemented in YR1) in 7 participating coastal communities see a minimum of 20% improvement in locally-defined wellbeing indicators (domains to be measured include but not limited to: material style of life, food security, income, and subjective wellbeing) by end of YR3, from baseline established by end of YR1 (minimum target 5% of local population; n = 6,000 individuals). **1.3** By end of YR2, at least 4 (50%) of the 7 coastal communities have established community-business partnerships with local tourism operators from current zero baseline. **1.4** Number of coastal communities with established environmental codes-of conduct increased from zero baseline to 8 (100%) by end of YR2. **1.5** Community management associations/committees (responsible for management of centralised community funds) established in at least 50% (n = 4) of coastal communities from current zero baseline by end of YR1. **1.6** By end of project, at least 5 local business operators are providing individuals (> 15yrs of age) within coastal communities with 1 month internship opportunities (included but not limited to: hotels, travel companies, engineers/mechanics, solar technician/plumber), with a minimum target of 12 internships positions (with a 50/50 gender ratio) per year.	(numeracy and literacy) training sessions implemented in FY2. To ascertain changes in perceived skill level, follow up socioeconomic surveys will be implemented in focal communities in FY3. On target for delivery in FY3. **1.2** Baseline understanding of sociodemographic characteristics of participants and households within 8 coastal communities (inc. Grand-Béréby) established through socioeconomic surveys, with a total of 383 respondents completing the survey with an average of 69% (range 40% - 87%) of households surveyed per rural community in FY1. To evaluate changes in locally defined well-being indicators (including income and food security), follow up socioeconomic surveys will be implemented in focal communities in FY3. On target for delivery in FY3. **1.3** A total of 11 associations/cooperatives have been established and/or supported – 1 in each of the 7 coastal communities, as well as two activity specific associations comprising an Ecoguide association, and fisheries purchasing cooperative. Target achieved = 150%, with further efforts being made to establish a female fish traders association. **1.4** Community-business-partnership code of conduct - recast as a 'ecotourism charter' established – with formal adoption ceremony for all participating communities planned for FY3 Q1. Target achieved = 100%. **1.5** A total of 11 associations/cooperatives have been established and/or supported – 1 in each of the 7 coastal communities, as well as two activity specific associations comprising an Ecoguide association, and fisheries purchasing cooperative. Target achieved = 150%. **1.6** Community-business-partnership code of conduct - recast as a 'ecotourism charter' established – with formal adoption ceremony for all participating communities planned for FY3 Q1. Once adopted this will provide framework to support internship opportunities. On target for delivery in FY3. **1.7** A total of 24 persons (from 9 villages in the project area) attended a 3-day accredited Ecoguide training program between 24th – 27th November 2020 (96% male; 4% female). Target achieved = 100%. **1.8** Fisheries purchasing cooperative integrated into an existing fuel cooperative that supports 336 (56%) of the 600 registered fishers in Grand-Béréby, and a new store established by fishers to host materials. Target achieved = 100%.

	1.7 Number of local individuals provided with formal training to be professional EcoGuides (to support: reef tours, recreational fishing, snorkelling, boat excursions, nature/bird walks) within local communities increased from current zero baseline to a minimum of 24 individuals (target n = 3 per community, including at least 1 female) by end of YR2. **1.8** Grand-Béréby purchasing (mechanics) cooperative established by fishers association by end of YR1, with a minimum of 50% of registered boat owners in Grand- Béréby (n = 196) subscribed by project end.	
Activity 1.1 Develop and deliver training programmes: in socioeconomic data collection using mixed method approaches to current and new local staff.		• Identify and appoint 7 individuals from local communities to undertake follow up socioeconomic surveys, and provide1 week of training to current and new staff covering topics such as: good practices for conducting social studies; sampling protocols; and digital data collection using tablets.
Activity 1.2 Socioeconomic data collection: pre, and post-intervention survey assessments using mixed methods (target 5% of coastal population n = 300, at least 30% of which are female) community focus groups, and data analyses.	• Socioeconomic report disseminated to local partners, government agencies and Abidjan Convention to support MPA planning process.	• Implement follow up socioeconomic surveys in focal communities (n = 8), complementing surveys conducted in FY1 - 383 respondents (42% women) completing the survey with an average of 69% of households surveyed per rural community (range 40% - 87%). • Analyse socioeconomic survey data and evaluate and quantify the impact of project activities on household income and well-being, as well as ascertain changes in

	environmental knowledge and social norms around marine biodiversity use and management.
Activity 1.3 Skills training: educational material development (tailored from 1.2) skills workshops implemented in each community (n = 2 days per month per community for 2 years). YR2 Q1 – YR3 Q1.	• Literacy and numeracy skills training provided to all 7 coastal communities (delivered at 6 locations as Néro-Mer and Néro-Boupé were combined given their close proximity < 1 km); with a total of 71 sessions (totalling 142 hours) delivered between 10th August 2020 and 11th October 2020, and attended by a total of 149 persons (mean attendance per community: 25 persons), comprised of 36 (24%) males and 113 (76%). The proportion of females at workshops ranged from 61% to 93% (mean proportion: 75%).	• Activity has re-commenced on the 29th March 2021, and so further support will be provided to ensure this is delivered successfully through FY3.
Activity 1.4 Establish community-business partnerships: 1 x 2-day workshop with business operators and communities (Inc. age/gender representatives) to identify partnerships, internships, and develop code of conduct.	• A 1-day community-business partnership workshop was hosted by CEM in January 2021 and attended by 45 persons including representatives from business associations; NGOs; artisans; hoteliers; state structures; tourist guides; village communities; fishers; and fishmongers. • A sub-committee of 10 representatives was formed to facilitate and complete the final stages of drafting the charter, which re-convened on the 6th and 23rd March 2021 with the final document being shared with all participants on 7th April 2021.	• Host adoption ceremony – scheduled for FY3 Q1.
Activity 1.5 Establish community-management associations: consultations, community support workshops, including confirmation ceremonies (8 x 1-day).	• 6 x 1-day workshops provided to all 7 coastal communities (delivered at 6 locations as Néro-Mer and Néro-Boupé were combined given their close proximity <1 km) between the 26th and 31st July 2020 to identify	• Finalise paperwork to formalise creation of each association and lodge with authorities. Please note a 12th association focusing on women is under development as of April 2021 – specifically a fish

	eligible associations.	traders association.
	• These workshops were attended by a total of 235 persons (mean attendance per community: 39 persons) comprised of 167 (71%) males and 68 (29%) females (mean proportion of females per workshop: 32%).	• Evaluate the number of formal statutes registered with appropriate authorities.
		• Monitor & evaluate associations – (e.g. number of members, operating costs and income generated).
	• 11 associations/cooperatives identified for support across all 8 coastal communities, of which 2 (18%) are all-female.	
Activity 1.6 Implement community EcoGuide training programme: training programme delivery (focusing on guiding, marine, birds, nature/cultural walks with trainers) and materials development.	• A 3-day accredited Ecoguide training program implemented between 24th – 27th November 2020 by CEM in partnership with the Ministry of Tourism (in San-Pédro) and Mr. Essé Savorgnan Assa from the University of Abidjan.	
	• Ecoguide training program was comprised of 4 modules: (1) the identification, biology and ecology of animals, (2) the practical knowledge of and behaviour around wildlife, (3) the role and responsibilities of Ecoguides, and (4) the legal aspects and safety measures related to ecotourism.	
	• This program was delivered to 24 persons (from 9 villages in the project area) between 24th – 27th November 2020 (96% male; 4% female).	
	• Award ceremony covered by local media; and an Ecoguide association established following delivery of training program (see activity 1.5 above).	
Activity 1.7 Establish community fisheries purchasing cooperative: identify	• Fisheries purchasing cooperative has	• Continue to monitor & evaluate

management committee (structure/role 1 x 2 day workshop), implement cooperative, and monitoring protocols.		been successfully integrated into the existing fuel cooperative - Société Coopérative Simplifiée des Pêcheurs Artisans de Grand-Béréby de la Région du Bas Sassandra - SCOOPS GB BAS-SAS - following a revision of regulations (April 2020). • The members of the association, which make up 56% of the local fishing community, subsequently established and renovated an existing store (July 2020) that was stocked in January 2021, and has been operational since February 2021. • 24 articles of the stock (16.6% of the initial investment) has already been sold by the end of March 2021, and the management committee has plans to outline their re-stocking plans later in May 2021.	effectiveness and success of the cooperative (e.g. number of members, operating costs and income generated).
Output 2. Improved knowledge of marine biodiversity: Empirical data gathered using participatory methods (e.g. sea-based ecological surveys) in combination with autonomous technologies (e.g. BRUVs and animal tracking) leading to increased number of survey protocols and datasets on marine biodiversity (species composition, size, abundance and diversity) movement of threatened species (e.g. sea turtles) and natural resource-users; thereby contributing to CMS, CITES and CBD commitments.	**2.1** Number of free-divers provided with formal training in sea-based underwater surveys and engaged in participatory research increased from current zero baseline to 100% (n = 6 individuals, 4 fishers + 2 boat pilots) by end of YR1. **2.2** Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-Béréby provided with training in biodiversity data collection and monitoring increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1. **2.3** Number of biodiversity monitoring survey protocols, datasheets and databases developed and disseminated to local authorities and	**2.1** Six individuals from local communities provided with formal training, comprised of 4 free-divers and 2 boat pilots. Training also provided to 2 individuals from CEM, taking the total number of individuals trained in undertaking biodiversity surveys to 8. Target achieved = 100%. **2.2** Six individuals, 4 from MIPARH and 2 from CEM provided with training in biodiversity and fisheries data collection. Target achieved = 150%. **2.3** Four protocols established, 1 for underwater biodiversity monitoring for free-divers, 2 datasheets (habitat and species), 1 database for recording biodiversity data established. These are supported by 3 equipment manuals to support configuration, maintenance, and storage of survey materials, and CEMS research pirogue. Target achieved = 100% (4 protocols). **2.4** > 60 spatial data layers developed through biodiversity and fisheries surveys which are presented in reports associated with each activity. These have been shared with a total of 4 governmental agencies, including MIPARH, PM, AC, MINEDD, and DEPN as well as regional government, local partners and communities – the latter through environmental education events. Target achieved = 100%. **2.5** Baseline data collected on marine biodiversity and spatiotemporal patterns of resource use for fisheries informed species status assessments for sea turtles,	

	national implementing agencies increased from current zero baseline to 4 by end of YR2. **2.4** Creation of marine atlas (to support decision making) comprised of a minimum of 60 data layers on marine biodiversity (species and habitats) and natural resource users (e.g. fisheries) completed and disseminated to 4 government agencies (MIPARH, OIPR, MINEDD, and PM) and local stakeholders by start of YR3. **2.5** By end of YR2, species status assessments have been produced for at least 3 groups (from marine fish, sea turtles, seabirds, marine mammals and elasmobranchs) from current zero baseline and disseminated to 4 government agencies and local stakeholders.	elasmobranchs and marine mammals that have been incorporated into the marine atlas. Target achieved = 100%.	
Activity 2.1 Develop and deliver training programmes and data collection protocols: to local communities to support participatory research and monitoring, mapping and identification of species and habitats.		• Training materials, protocols and equipment manuals/guides enhanced (*.pdf / *.ppt documents). • Remote support provided to the local research team comprised of 4 free-divers from Roc and 2 boat crew (n = 6 individuals; Mr. Leonard Gnepa Gbesso, Mr. Antoine Tagnon Kouaye, Mr. Picard Amiral Hie, Mr. Hugues Tougbate Hie; Mr. Ado Adakah; and Mr. Jean-Kevin Moegnan Tiehi) regarding survey protocols and equipment configuration - comprising 5 calls totalling 1h 5m over 5 days, and communication via WhatsApp throughout the year to support trouble shooting during fieldwork.	• Continue to assess and update protocols and manuals, where necessary.
Activity 2.2 Field data collection: sea-based underwater surveys, deployment of BRUVs and low-cost technologies to collect data on marine biodiversity		• 2 weeks data collection (February 2021) with a total of 8 transects	• Continuation of marine biodiversity data collection to further build local

(species/habitats) in partnership with local stakeholders.		across 8 zones surveyed, with the team sampling 40 locations (i.e., water temperature, salinity, and depth, habitat type and observed species) along 27km of transects across the study area. • 273 underwater photographs evaluated. • Survey database populated.	capacity and provide a robust evidence base for the development of an MPA management and zoning plan.
Activity 2.3 Data analysis: spatial analyses and species distribution (ecological niche) modelling, habitat and threat mapping, abundance, size, diversity of individuals in study area.		• Interim report for biodiversity survey completed March 2021. • Habitats and oceanographic characteristics mapped, species list updated.	• Analyse and map data collected in FY3.
Activity 2.4 Dissemination of knowledge: produce marine atlas and species status assessments for study area to underpin potential legislative changes, CMS commitments and support MPA planning process.		• Interim report for biodiversity survey disseminate to local partners. • Data shared with government partners and Abidjan Convention to support MPA planning process. • Findings incorporated into annual environmental education seminars (see Output 4 below).	• Produce final version of marine atlas, that incorporates data collected in FY3, to support the development of an MPA management and zoning plan.
Output 3. Enhanced fisheries governance: Improved knowledge on the spatiotemporal distribution of fisheries effort (including illegal fishing), bycatch and fisheries landings as a result of participatory research with fisheries dependent communities, leading to more effective decision making and fisheries governance that accounts for the behaviour of natural resource users.	**3.1** By end of YR1, 100% of fisheries-dependent communities (n = 4) are involved in participatory research and data collection from current zero baseline. **3.2** Number of fishing vessels (n = 327 total; see Fig. 1) engaged in participatory data collection (GPS tracking) increased from current zero baseline to at least 10% in each fisheries-dependent community (n = 4) by end of YR2. **3.3** Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-	**3.1** Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) engaged in participatory data collection on fisheries and biodiversity. Target achieved = 100%. **3.2** Proportion of fishing vessels engaged in participatory data collection in each community currently <10% due to failure of some GPS tracking units reducing data collection capacity. This is being addressed, by continuing data collection in FY3 to increase sampling effort. On target for delivery in FY3. **3.3** Seven individuals, 4 from MIPARH and 3 from CEM provided with training in biodiversity and fisheries data collection. Online training and support provided in FY2 to support additional surveys. Target achieved = 175%. **3.4** For both landing and GPS tracking surveys, survey protocols, datasheets for field data collection and recording, and databases have been established (Annex 4). Target achieved = 100% (6 protocols). **3.5** Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) and staff from MIPARH provided with training in participatory data collection. With	

	Béréby provided with training in conducting fisheries landing surveys increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1. **3.4** Number of fisheries monitoring/landing survey protocols, datasheets and databases developed and disseminated to local authorities and national implementing agencies increased from current zero baseline to 6 by end of YR2. **3.5** By end of YR1, 100% of fisheries dependent communities (n =4) have been provided with training and materials to support recording and reporting of incidences of illegal, unreported and unregulated (IUU) fishing to 2 government agencies (PM and MIPARH).	reporting materials provided to support data collection. Target achieved = 100%.	
Activity 3.1 Deliver training programmes and data collection protocols: to local staff to support participatory research with fisheries communities (landing-surveys / vessel tracking studies / IUU reporting).		• Training materials, protocols and equipment manuals/guides enhanced (*.pdf / *.ppt documents). • Remote support provided to the local research team and MIPARH (inclusive of the 3 technicians) and 3 persons from CEM in September 2020 and January 2021 covering landing and GPS tracking survey protocols, species ID, survey equipment and data recording - comprising 3 calls totalling 3h 30m over 3 days, and communication via WhatsApp throughout the year to support trouble shooting during fieldwork.	• Continue to assess and update protocols and manuals, where necessary.
Activity 3.2 Field data collection: deployment of low-cost technologies to map spatial distribution of legal/illegal fisheries, and commencement of landing surveys (fishing effort, seasonality of catches, production).		• Monitoring and evaluation of data collection - 491 landing surveys were conducted and 87 GPS trackers deployed during, with the former	• Continuation of landing and GPS tracking surveys by MIPARH with support from CEM to further build local capacity and provide a robust

	representing a 3-fold increase in landing surveys compared to FY1.	evidence base for the development of an MPA management and zoning plan.
	• Landing survey database and species list updated – with a 32% increase in the number of fish and shellfish species documented (photographed and validated) in fisheries landing surveys in FY2 (n = 45) compared to FY1 (n = 34).	
	• Photographic surveys with fish traders (women) has resulted in a 126% increase in the number of species recorded in FY2 (n = 93) compared to FY1 (n = 41). GPS tracking survey database updated.	
Activity 3.3 Data analysis: spatial analyses and distribution maps of legal/illegal fisheries, landings statistics, including effort, bycatch, seasonality of captures, and size of species.	• Interim report for fisheries landing and GPS tracking surveys completed March 2021. • Maps on spatial patterns of fisheries resource use from GPS trackers (accounting for differences in gear and boat type). • Descriptive statistics of landings by gear/boat type, size and seasonality of species landed. • Photographic guide of species landed by scientific classification and local and English and French common names, and current global conservation status.	• Analyse and map data collected in FY3.
Activity 3.4 Dissemination of knowledge: fisheries data contributing to marine atlas and species status assessments under activity 2.4.	• Interim report for fisheries survey. • Mapped data shared with government partners and Abidjan Convention to support MPA planning process. • Findings incorporated into annual environmental education seminars (see Output 4 below).	• Produce final version of marine atlas, that incorporates data collected in FY3, to support the development of an MPA management and zoning plan

Output 4. Environmental education campaigns underpinning local awareness and a community-based marine protected area planning process: Environmental education campaigns implemented in local communities to increase awareness/knowledge of marine biodiversity, leading to a scientifically-rigorous, community-based planning process and management plan for the proposed MPA in the region of San-Pédro (Bas-Sassandra district) that accounts for local resource users and threats to sustainable use.	**4.1** Understanding of current social norms around marine biodiversity use and management obtained by end of YR1, based on pre-intervention social information collected through socio-economic questionnaires (minimum target 5% of local population; n = 6,000 individuals at least 30% of which are female). **4.2** Based on findings from indicator 4.1, campaigns to build awareness and support for marine protection and sustainable use developed for each community and implemented in community focal points in 100% of coastal villages (n = 8) by beginning of YR2. Effectiveness of campaigns evaluated using follow up social data collection during YR3 (minimum target 5% of local population; n = 6,000 individuals, at least 30% of which are female). **4.3** Number of individuals within coastal communities (n = 8) and Grand-Béréby attending annual environmental education seminars (i.e. dissemination events), increases by 50% each year for both male and females, from established baselines by project end. **4.4** By end of YR2, MPA planning workshop held with representatives from 4 government agencies and from 100% of coastal communities (n = 8) to develop and agree on a set of goals and objectives (SMART) for the proposed MPA, and define management model (i.e. roles and responsibilities of different stakeholders). **4.5** By end of YR3, MPA participatory	**4.1** Baseline understanding of natural resource use, perceptions about state of marine environment, and management preferences established through socioeconomic surveys with a total of 383 respondents completing the survey with an average of 69% (range 40% - 87%) of households surveyed per rural community in FY1. Data gathered through this survey has informed the development of environmental campaign and education materials in FY2. Target achieved = 100% (6.5% of local population assessed, and 42% of respondents female). **4.2** Findings from socioeconomic surveys underpinned the development of three environmental education campaigns. Two campaigns were focused on highlighting differences between protected and unprotected areas and ecosystem service benefits of nature in a marine and terrestrial context. One campaign focused on increasing awareness within local fishing communities of the rules and regulations that pertain to fisheries (e.g. protected species, licencing/permitting, and fishing practices). To ascertain changes in environmental knowledge and social norms around marine biodiversity use and management follow up socioeconomic surveys will be implemented in focal communities in FY3 (n = 8). On target for delivery in FY3. **4.3** Due to COVID-19 this activity was postponed in FY1 (see annual report and change request for FY1). This activity was subsequently delivered in FY2 with environmental education seminars attended by a total audience of 612 individuals (39% female) from 9 coastal communities. Further seminars are planned in FY3 that will be used to assess changes in outreach that can be disaggregated by age and gender across communities. On target for delivery in FY3. **4.4** 1 x 2-day pre-validation workshop with government agencies including key partners (MIPARH, PM, MINEDD, and AC) was held in San-Pédro between 24th-25th September 2020 to outline the timeline and requirements (i.e., legal documentation and cartography) for the creation of the MPA in Grand-Béréby. Following this 2 x 1-day MPA classification meetings were held with representatives from 8 coastal communities in Grand-Béréby (4th and 10th December 2020) to determine the type of MPA to be established. Target achieved = 100% as noted below further workshops are planned for FY3 to develop a management and zoning plan in partnership with local communities. **4.5** MPA established on 21st December 2020 with official ceremony held in Grand-Béréby. Further workshops planned in FY3 to support the creation and adoption of a zoning and management plan. On target for delivery in FY3.

	planning and evaluation workshop held with individuals from 4 government agencies and 100% of coastal communities (n = 8) to evaluate alternative MPA scenarios (that meet goals and objectives identified from 4.4) and develop a consensus spatial management plan.	
Activity 4.1 Socioeconomic data collection and analysis: using mixed methods to understand social norms around marine biodiversity use and management (target 5% coastal population n = 300, at least 30% of which are female).	• Socioeconomic report disseminated to local partners, government agencies and Abidjan Convention to support MPA planning process.	• Implement follow up socioeconomic surveys in focal communities (n = 8), complementing surveys conducted in FY1 - 383 respondents (42% women) completing the survey with an average of 69% of households surveyed per rural community (range 40% - 87%). • Analyse socioeconomic survey data and evaluate and quantify the impact of project activities on household income and well-being, as well as ascertain changes in environmental knowledge and social norms around marine biodiversity use and management.
Activity 4.2 Implement environmental education campaigns: in each coastal community (n = 8) using educational material tailored to address current social norms from activity 4.1	• To address current social norms around marine biodiversity use identified from socioeconomic surveys implemented in FY1 (Activity 4.1), the project has developed 2 environmental education campaigns focusing on perceived differences between protected and unprotected areas and ecosystem service benefits of nature in a marine and terrestrial context). • A further campaign for fishers and fishing communities has been developed that focuses on current fisheries regulations as prescribed in law.	• Implement follow up socioeconomic surveys in focal communities (n = 8), complementing surveys conducted in FY1 - 383 respondents (42% women) completing the survey with an average of 69% of households surveyed per rural community (range 40% - 87%). • Analyse socioeconomic survey data and evaluate and quantify the impact of project activities on household income and well-being, as well as ascertain changes in environmental knowledge and social norms around marine

	• To complement local environmental education campaign material CEM have engaged widely with the media and produced several videos to promote national awareness (see Table S5.1).	biodiversity use and management.
Activity 4.3 Dissemination of knowledge: annual environmental education seminars (8 x 1-day) in each community each year to disseminate findings from outputs 2 and 3.	• Environmental education seminars were delivered to 9 coastal communities (at 7 locations) between 10th June and 18th June 2020. • These events were attended by a total audience of 612 individuals (average attendance per community: 102, range 34 – 155 persons), with 39% of attendees being female (Adults: 228 male, 155 female; Children: 144 male, 85 female). • The outreach team was comprised of 6 individuals - 2 from CEM and 4 free divers from local communities already engaged in participatory research. • Education seminar material created – comprised of PowerPoint presentation that covered aims of project, key findings from fisheries, biodiversity and socioeconomic surveys to date, including maps, images and videos from underwater surveys (available on request).	• Deliver additional environmental education seminars in each community in FY3.
Activity 4.4 MPA stakeholder workshop: 1 x 2 day workshop to develop goals and objectives and define management model (i.e. roles and responsibilities) with local stakeholders.	• A pre-validation workshop attended by 37 persons was held in San-Pédro between 24th-25th September 2020 to outline the timeline and requirements (i.e., legal documentation and cartography) for the creation of the MPA in Grand-Béréby. • 2 x 1-day MPA classification meetings in Grand-Béréby attended	• Further workshops planned to support the development of an MPA management and zoning plan.

	by regional and local community representatives (4th and 10th December 2020) to determine the type of MPA to be established. • MPA established on 21st December 2020 with official ceremony held in Grand-Béréby, that was covered by local, national and international media, and attended by government ministers, ambassadors, local and regional government and representatives from local communities.	
Activity 4.5 Spatial prioritisation analyses: application of Marxan decision support tool (incorporating data from outputs 1-3) to develop a range of scenarios that meet stakeholder goals/objectives.		• Produce final version of marine atlas, that incorporates data collected in FY3, to support analyses that will underpin the development of an MPA management and zoning plan in FY3.
Activity 4.6 MPA planning workshops: 1 x 2-day participatory planning and evaluation stakeholder workshop to evaluate scenarios from activity 4.5 and develop a consensus spatial plan.		• Produce final version of marine atlas, that incorporates data collected in FY3, to support the development of an MPA management and zoning plan • Compile invite list, produce invitation letters, identify venue and produce agenda and associated materials for participatory planning workshop to develop a consensus spatial plan.

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

Project summary	Measurable Indicators	Means of Verification	Important Assumptions
Impact: (Max 30 words) Food security, poverty reduction and biodiversity conservation in coastal communities are enhanced through effective decision making, fostering environmentally-sustainable practices, community-business partnerships and initiatives that benefit biodiversity, fisheries resources and livelihoods.			
Outcome: (Max 30 words) Implementation of livelihood initiatives and an MPA in the region of San-Pédro (Bas-Sassandra district) delivered in partnership with local communities, fishers, and businesses to enhance biodiversity conservation and livelihoods.	**0.1** By end of project, marine biodiversity and ocean user-groups (i.e., fishers) are better integrated into decision making processes (baseline established by end of YR1) as a result of increased knowledge and capacity to collect data within key government agencies involved in natural resource management (n = 4) and local coastal communities (n = 8). **0.2** By end of project, local stakeholders and government agencies agree on a marine protected area boundary, spatial management plan and management model for the proposed MPA in Grand-Béréby that significantly increases the at-sea area under formal protection from current baseline of 0.07%, and contributes towards CBD commitments to protect at least 10% of ocean area. **0.3.** By end of project, a management committee for the proposed MPA in Grand-Béréby is established, with inclusive and equitable representation from 100% of local communities, authorities, government agencies and natural resource users. **0.4** By end of project, at least 50% of individuals that have attended skills workshop / training programs, internships or specialised training see at least a 10% increase in household income (assessed through socioeconomic surveys), and at least 25% of	**0.1** Participation rates and perceived levels of involvement in decision-making obtained from socio-economic surveys and meeting attendance sheets. Data on marine biodiversity (e.g. species status assessments and spatial maps), fisheries (e.g. catch statistics, seasonality of catches, size, diversity and abundance) and ocean user-groups (e.g. fisheries mapping). Peer reviewed papers, government announcements, policy changes (e.g. decrees, arrêtés), and press releases. Data will be gathered on gender of engaged persons for each stakeholder group. **0.2** Marine atlas comprising empirical data layers used to support planning process. Protected area planning materials (comprising spatial prioritisation analyses and results, stakeholder evaluation and feedback). Boundary maps and management plan. Government announcements (e.g. decrees or arrêtés) and new legislation relating to designation of an MPA in the region of San-Pédro (Bas-Sassandra district). **0.3** MPA committee documents (i.e. structure, role of coastal communities in management, reporting requirements), and operational plans.	Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements. National implementing agencies remain committed to establishing an MPA in Grand-Béréby. Fishing communities and government retain commitment to sustainable use of marine resources. There are no major economic shocks, anthropogenic or natural disasters affecting local and/or national capacity. Host country remains politically stable.

	households in communities engaged in tourism-based income-generating activities see an increase in context specific measures of well-being using locally defined indicators established in YR1. Number of beneficiaries (i.e., individuals and households) within each community established throughout project and re-assessed in YR3. **0.5** By end of project, 100% of coastal communities (n = 8) have established community-business partnerships and see a 50% increase in centralised community managed funds (from tourism-based income-generating activities), with at least 10% of households within each community seeing a corresponding increase in access to number of basic services that improve, health, education and well-being) from baselines established in YR1. Number of beneficiaries (i.e., individuals and households) accessing services within each community established in YR1 and re-assessed in YR3.	**0.4** Socioeconomic data compiled from community/household/individual surveys (disaggregated by gender). **0.5** Socioeconomic data compiled from community/household/individual surveys (including prior and post establishment of community-business partnerships and skills training), disaggregated by gender. Change in number of services evaluated each year with number of beneficiaries (i.e., individuals and households) accessing services within each community reported as percentage of local population each year. Annual reports of community-based funds. **NB.** For all outputs data (e.g. income, participation, training, locally defined indicators of well-being, social norms and attitudes, awareness, perceived benefits and beneficiaries) will be disaggregated by gender, when appropriate and relevant.	
Output 1. Diversified and improved coastal livelihoods: increased education levels through access to essential skills (reading, writing and arithmetic), that promote entrepreneurship and provide key skills required to underpin and help individuals transition to alternative livelihoods through formal training opportunities, community-business partnerships and creation of cooperatives.	**1.1** Number of beneficiaries (> 15yrs of age) in 7 coastal communities with reading, writing, and arithmetic skills (equivalent to local primary education standards) increased by a minimum of 10% by project end, from baseline established in YR1. **1.2** At least 10% of households (surveys implemented in YR1) in 7 participating coastal communities see a minimum of 20% improvement in locally-defined wellbeing indicators (domains to be measured include but not limited to: material style of life, food security, income, and subjective wellbeing) by end of YR3, from baseline established by end of YR1 (minimum target 5% of local	**1.1** Socioeconomic data compiled from surveys. Training event attendance certificates, including community feedback received during regular community meetings (disaggregated by gender). **1.2** Socioeconomic data compiled from surveys (disaggregated by gender). **1.3** Workshop attendance, including participant demography (disaggregated by gender), and partnership agreements.	Target communities remain willing to explore and engage in livelihood diversification and enhancement activities. Participants respond truthfully during discussions / questionnaires / survey feedback. Project partners keep accurate records of participants, and anonymise participant feedback. Community members are able to access EcoGuide training courses, skills

	population; n = 6,000 individuals).	workshops and internships.
	1.3 By end of YR2, at least 4 (50%) of the 8 coastal communities have established community-business partnerships with local tourism operators from current zero baseline.	**1.4** Formal code of conduct among business owners and representatives of local communities.	Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements.
	1.4 Number of coastal communities with established environmental codes-of conduct increased from zero baseline to 8 (100%) by end of YR2.	**1.5** Workshop reports, interim field reports, ledger. Community management association/committee documents (i.e., structure and roles; disaggregated by gender).	Cost of subscribing to fisheries cooperative remains achievable for all fishers.
	1.5 Community management associations/committees (responsible for management of centralised community funds) established in at least 50% (n = 4) of coastal communities from current zero baseline by end of YR1.	**1.6** Business-owner mentorships, placements and feedback to project partners and interns (disaggregated by gender). Community feedback received during regular community meetings.	The success of the fisher cooperative will be sufficient enough to encourage more fishers to subscribe.
	1.6 By end of project, at least 5 local business operators are providing individuals (> 15yrs of age) within coastal communities with 1 month internship opportunities (included but not limited to: hotels, travel companies, engineers/mechanics, solar technician/plumber), with a minimum target of 12 internships positions (with a 50/50 gender ratio) per year.	**1.7** Training workshop attendance certificates (including community demography); training materials, species lists, community guides developed with experts/trainers (disaggregated by gender).	
	1.7 Number of local individuals provided with formal training to be professional EcoGuides (to support: reef tours, recreational fishing, snorkelling, boat excursions, nature/bird walks) within local communities increased from current zero baseline to a minimum of 24 individuals (target n = 3 per community, including at least 1 female) by end of YR2.	**1.8** Community building designated for outboard engine spares; inventory (supported by Fishermen's Association). Annual membership (i.e., number of beneficiaries, fishers) subscribed into the engine spares cooperative; annual accounting of parts and income (supported by the Service des Ressources Animales et Halieutique).	
	1.8 Grand-Béréby purchasing (mechanics) cooperative established by fishers association		

	by end of YR1, with a minimum of 50% of registered boat owners in Grand- Béréby (n = 196) subscribed by project end.		
Output 2. Improved knowledge of marine biodiversity: Empirical data gathered using participatory methods (e.g. sea-based ecological surveys) in combination with autonomous technologies (e.g. BRUVs and animal tracking) leading to increased number of survey protocols and datasets on marine biodiversity (species composition, size, abundance and diversity) movement of threatened species (e.g. sea turtles) and natural resource-users; thereby contributing to CMS, CITES and CBD commitments.	**2.1** Number of free-divers provided with formal training in sea-based underwater surveys and engaged in participatory research increased from current zero baseline to 100% (n = 6 individuals, 4 fishers + 2 boat crew) by end of YR1. **2.2** Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-Béréby provided with training in biodiversity data collection and monitoring increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1. **2.3** Number of biodiversity monitoring survey protocols, datasheets and databases developed and disseminated to local authorities and national implementing agencies increased from current zero baseline to 4 by end of YR2. **2.4** Creation of marine atlas (to support decision making) comprised of a minimum of 60 data layers on marine biodiversity (species and habitats) and natural resource users (e.g. fisheries) completed and disseminated to 4 government agencies (MIPARH, OIPR, MINEDD, and PM) and local stakeholders by start of YR3. **2.5** By end of YR2, species status assessments have been produced for at least 3 groups (from marine fish, sea turtles, seabirds, marine mammals and elasmobranchs) from current zero baseline and disseminated to 4 government agencies	**2.1** Training workshop and materials, attendance certificates. Reported survey effort, biodiversity data, maps, spatial data layers and reports. **2.2** Training workshop and materials, attendance certificates. Reported survey effort, biodiversity data, maps, spatial data layers and reports (disaggregated by gender). **2.3** Number of marine biodiversity/fisheries landing protocols, datasheets and databases. **2.4** Draft and final versions of marine atlas. Spatial data layers and maps. **2.5** Species status assessment reports. Species distribution models (spatial data layers) and threat maps.	Target communities remain willing to engage in participatory research and data collection. 100% of free-divers are able to attend training courses. Project partners keep accurate records of participant numbers. Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements. Local implementing agencies are receptive to training and willing to implement lessons learned. Biodiversity data is used to support decision-making.

	and local stakeholders.		
Output 3. Enhanced fisheries governance: Improved knowledge on the spatiotemporal distribution of fisheries effort (including illegal fishing), bycatch and fisheries landings as a result of participatory research with fisheries dependent communities, leading to more effective decision making and fisheries governance that accounts for the behaviour of natural resource users.	**3.1** By end of YR1, 100% of fisheries-dependent communities (n = 4) are involved in participatory research and data collection from current zero baseline. **3.2** Number of fishing vessels (n = 327 total; see Fig 1) engaged in participatory data collection (GPS tracking) increased from current zero baseline to at least 10% in each fisheries-dependent community (n = 4) by end of YR2. **3.3** Number of individuals within Service des Ressources Animales et Halieutiques (MIPARH) in Grand-Béréby provided with training in conducting fisheries landing surveys increased from current zero baseline to 4 individuals (50% of local staff) by end of YR1. **3.4** Number of fisheries monitoring/landing survey protocols, datasheets and databases developed and disseminated to local authorities and national implementing agencies increased from current zero baseline to 6 by end of YR2. **3.5** By end of YR1, 100% of fisheries dependent communities (n = 4) have been provided with training and materials to support recording and reporting of incidences of illegal, unreported and unregulated (IUU) fishing to 2 government agencies (PM and MIPARH).	**3.1** Training workshop attendance certificates (disaggregated by gender). Number of fishers engaged in participatory data collection each year. **3.2** Vessel tracking reports, descriptive statistics, maps, and spatial data layers. **3.3** Training workshop attendance certificates (disaggregated by gender). Fishing effort, seasonality of catches and statistics. **3.4** Number of sampling protocols datasheets and databases. **3.5** Fisheries training workshop attendance (disaggregated by gender). IUU fishing effort data, prevalence, spatial data layers, database and reports.	Target communities remain willing to engage in participatory research and data collection. Project partners keep accurate records of participant numbers. Trained individuals remain in employment with partner organisations and/or organisations have the ability to appoint suitable replacements. Local implementing agencies are receptive to training and willing to implement lessons learned. Data is used to improve fisheries governance.
Output 4. Environmental education campaigns	**4.1** Understanding of current social norms around marine biodiversity use and	**4.1** Annual marine biodiversity awareness and perception survey	Local communities remain willing to attend dissemination events and engage

underpinning local awareness and a community-based marine protected area planning process: Environmental education campaigns implemented in local communities to increase awareness/knowledge of marine biodiversity, leading to a scientifically-rigorous, community-based planning process and management plan for the proposed MPA in the region of San-Pédro (Bas-Sassandra district) that accounts for local resource users and threats to sustainable use.	management obtained by end of YR1, based on pre-intervention social information collected through socio-economic questionnaires (minimum target 5% of local population; n = 6,000 individuals at least 30% of which are female). **4.2** Based on findings from indicator 4.1, campaigns to build awareness and support for marine protection and sustainable use developed for each community and implemented in community focal points in 100% of coastal villages (n = 8) by beginning of YR2. Effectiveness of campaigns evaluated using follow up social data collection during YR3 (minimum target 5% of local population; n = 6,000 individuals, at least 30% of which are female). **4.3** Number of individuals within coastal communities (n = 8) and Grand-Béréby attending annual environmental education seminars (i.e., dissemination events), increases by 50% each year for both male and females, from established baselines by project end. **4.4** By end of YR2, MPA planning workshop held with representatives from 4 government agencies and from 100% of coastal communities (n = 8) to develop and agree on a set of goals and objectives (SMART) for the proposed MPA, and define management model (i.e., roles and responsibilities of different stakeholders). **4.5** By end of YR3, MPA participatory planning and evaluation workshop held with individuals from 4 government agencies and 100% of coastal communities (n = 8) to evaluate alternative MPA scenarios (that meet goals and objectives identified from 4.4) and develop a consensus spatial	findings and reports (disaggregated by gender). **4.2** Evidence of campaign material (in English, French and Kroumen). Community ceremonies. Biodiversity displays and visitor, tour guide log-books (with demographic questions to ascertain audience reach and disaggregated by gender). **4.3** Community seminar attendance, photographs and community feedback (disaggregated by gender). **4.4** Stakeholder workshop attendance, including demography (disaggregated by gender). List of SMART MPA goals and objectives. Workshop report. **4.5** Visualized MPA design and management scenarios (spatial data layers, maps and dissemination material). MPA consultation and participatory evaluation workshop attendance and feedback. Summary report of consensus actions comprising spatial data layers, maps, dissemination material and final agreed plan.	in participatory planning workshops. Project partners keep accurate records of participant numbers, and anonymise participant feedback. Participants respond truthfully during discussions / questionnaires. Survey participants respond truthfully during discussions and do not perceive/encounter insurmountable resistance from local government. National implementing agencies remain committed to establishing an MPA in the region of San-Pédro (Bas-Sassandra district) and to engaging with local communities to deliver more effective conservation outcomes.

	management plan.		

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1, flexi-grant requires state each activity needs to be detailed in < 25 words).

Output 1 Diversified and improved coastal livelihoods:

1.1 Develop and deliver training programmes: in socioeconomic data collection using mixed method approaches to current and new local staff.

1.2 Socioeconomic data collection: pre, and post-intervention survey assessments using mixed methods (target 5% of coastal population n = 300, at least 30% of which are female) community focus groups, and data analyses

1.3 Skills training: educational material development (tailored from 1.2) skills workshops implemented in each community (n = 2 days per month per community for 2 year).

1.4 Establish community-business partnerships: 1 x 2-day workshop with business operators and communities (Inc. age/gender representatives) to identify partnerships, internships, and develop code of conduct.

1.5 Establish community-management associations: consultations, community support workshops, including confirmation ceremonies (8 x 1-day)

1.6 Implement community EcoGuide training programme: training programme delivery (focusing on guiding, marine, birds, nature/cultural walks with trainers) and materials development.

1.7 Establish community fisheries purchasing cooperative: identify management committee (structure/role 1 x 2-day workshop), implement cooperative, and monitoring protocols.

Output 2 Improved knowledge of marine biodiversity:

2.1 Develop and deliver training programmes and data collection protocols: to local communities to support participatory research and monitoring, mapping and identification of species and habitats.

2.2 Field data collection: sea-based underwater surveys, deployment of BRUVs and low-cost technologies to collect data on marine biodiversity (species/habitats) in partnership with local stakeholders.

2.3 Data analysis: spatial analyses and species distribution (ecological niche) modelling, habitat and threat mapping, abundance, size, diversity of individuals in study area.

2.4 Dissemination of knowledge: produce marine atlas and species status assessments for study area to underpin potential legislative changes, CMS commitments and support MPA planning process.

Output 3 Enhanced fisheries governance:

3.1 Deliver training programmes and data collection protocols: to local staff to support participatory research with fisheries communities (landing-surveys / vessel tracking studies / IUU reporting).

3.2 Field data collection: deployment of low-cost technologies to map spatial distribution of legal/illegal fisheries, and commencement of landing surveys (fishing effort, seasonality of catches, production).

3.3 Data analysis: spatial analyses and distribution maps of legal/illegal fisheries, landings statistics, including effort, bycatch, seasonality of captures, and size of species.

3.4 Dissemination of knowledge: fisheries data contributing to marine atlas and species status assessments under activity 2.4.

Output 4 Environmental education campaigns underpinning local awareness and a community-based marine protected area planning process:

4.1 Socioeconomic data collection and analysis: using mixed methods to understand social norms around marine biodiversity use and management (target 5% of coastal population n = 300, at least 30% of which are female).

4.2 Implement environmental education campaigns: in each coastal community (n = 8) using educational material tailored to address current social norms from activity 4.1

4.3 Dissemination of knowledge: annual environmental education seminars (8 x 1-day) in each community each year to disseminate findings from outputs 2 and 3.

4.4 MPA stakeholder workshop: 1 x 2-day workshop to develop goals and objectives and define management model (i.e., roles and responsibilities) with local stakeholders.

4.5 Spatial prioritisation analyses: application of Marxan decision support tool (incorporating data from outputs 1-3) to develop a range of scenarios that meet stakeholder goals/objectives.

4.6 MPA planning workshops: 1 x 2-day participatory planning and evaluation stakeholder workshop to evaluate scenarios from activity 4.5 and develop a consensus spatial plan.

Annex 3: Standard Measures

Table 1   Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
1A	Alexandre Dah – PhD on sea turtles	1 x male	Ivorian	0	0		0	1
3	Ecoguide training program and accreditation	23 x male 1 x female	Ivorian	0	24		24	24
6A	Biodiversity, fisheries, socioeconomic survey training and skills (numeracy and literacy) training	21 x male 2 x female	Ivorian	23	149		169	20
6B	Biodiversity, fisheries, socioeconomic survey training and skills (numeracy and literacy) training	N/A	N/A	16	12		28	30
7	Biodiversity, fisheries and socioeconomic survey protocols; environmental education/awareness material; livelihood training materials	N/A	N/A	3	10		13	10
9	Species status assessments for 3 species groups, marine atlas, marine protected are management/zoning plan	N/A	Language (French/English)	0	3		3	5
10	Local species ID guide (using data gathered from surveys)	N/A	Language (French/English)	0	1		0	1
11B	Biodiversity and fisheries research findings	N/A	Language (English/French - abstract)	0	0		0	2
12A	Marine atlas	N/A	Language (French/English)	0	1		1	1
14b	Environmental dissemination seminars in local communities; MPA planning workshop	N/A	Language (French/English)	0	10		10	26
20	Research boat (inc. engine and essential safety equipment), marine biodiversity survey equipment, fisheries survey equipment and	N/A	N/A	■	■		■	■

	reference material (i.e., species ID guides)								
21	CEM Office Grand-Béréby	NA	Ivorian	0	1		1	0
22	Research sites: Dawa, Kablaké, Mani-Béréby, Néro-Boupé, Néro-Mer, Pitiké and Roc and-Grand-Béréby.	N/A	Ivorian / Ghanaian / Liberian	8	0		8	8
23	Rainforest Trust project on MPA management and enforcement (4 year $509k project)	N/A	N/A	■	■		■	■

Table 2 **Publications**

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

** Please note whilst research gathered through the project is being prepared for publication a detailed list of press coverage and interviews is available in Annex 4 Table S5.1.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	✗
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you 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.	✗
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	