Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

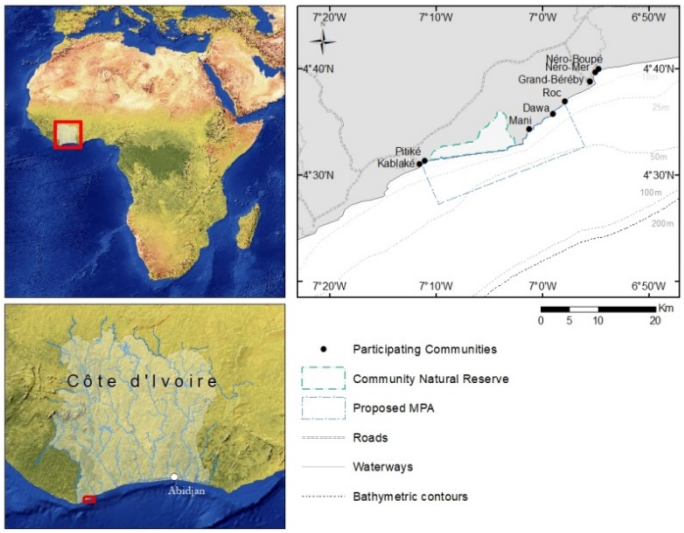
Submission Deadline: 30th April 2020

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 1 (June 2019 – March 2020)
Project Leader name	Dr Kristian Metcalfe / Prof Brendan Godley (Principal Investigators)
Project website/blog/social media	@associationcem | @_KMETCALFE
Report author(s) and date	

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 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**). This 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 10 months, the lead partner University of Exeter (**UoE**) has engaged regularly with the in-country partner **CEM**. This has involved: developing a detailed annual work plan with project partners' engaging with all key stakeholders, local communities and government partners; and providing support for delivery of project activities. To this end, four researchers from **UoE** - comprised of principal investigator Dr Kristian Metcalfe and fisheries and marine biodiversity specialists Dr Phil Doherty and Dr Dominic Tilley, and social scientist Dr Ana Nuno have spent a total of 16 person-weeks in-country, providing bespoke training and project support. During periods where **UoE** researchers have not been present in-country, the relationship with project partners has been maintained through regular skype meetings, email exchanges, and a WhatsApp group.

CEM (Mr. José Gomez Peñate, Mr. Alexandre Dah and Dr Catherine McClellan) have provided 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 lead and in-country partner is demonstrably strong with significant progress having been made towards the project goals. Recruitment of local Darwin Research Assistants (Mr. Abel Gba and Mr. Jean-Kevin Moegnan Tiehi) has also been successful providing key support for delivery of activities and reporting. **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 research is being fed directly to decision makers within the Government and the Abidjan Convention, leading to announcements in the national press (section 3.3).

Engagement with local institutions and government agencies (**Fig 2**) is also demonstrably strong, with Ministère de la Production Animale et des Ressources Halieutiques (**MIPARH**) and Police Maritime (**PM**) being responsible for the collection of data on fisheries landings and fleet movements (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 (**Fig 2**) – consequently, the project has been able to recruit a total of 7 individuals from local communities to support delivery of socioeconomic surveys (section 3) and 6 individuals from local communities to support delivery of biodiversity surveys and dissemination of project findings (section 3). Dr Angela Formia of Wildlife Conservation Society (**WCS**) has also provided additional training support with regards to community-based sea turtle conservation and technical assistance in-country.

Fig 2 Project meetings with government stakeholders and Kola ceremonies undertaken in 7 local communities in September 2019 to signify the launch of the project.

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 June 2019 – 31st March 2020:

3.1 Progress in carrying out project Activities

Output 1 – Diversified and improved coastal livelihoods: Activities completed to date include the design of a bespoke socioeconomic survey protocol (**Activity 1.1**) led by Dr Ana Nuno (**UoE**) and recruitment of a socioeconomic survey field coordinator (Darwin Research Assistant) and local field team to support delivery of this activity.

Fig 3 *The socioeconomic survey team during training and pilot surveys led by Dr Ana Nuno and Dr Dominic Tilley (UoE), October 2019.*

The former involved interviews with 5 potential candidates who met the job specification (3 male and 2 female) from Grand-Béréby and the surrounding communities, with Mr. Abel Gba successfully being appointed in September 2019. The latter team was comprised of 7 individuals (5 male and 2 female; Fig 3), one from each of the coastal communities involved in the project (i.e. Nero-Mer, Nero-Boupé, Roc, Mani, Dawa, Pitiké, and Kablaké). These candidates were nominated by the village dignitaries (comprised of the village chief, territorial chief, youth and women's representatives and other community spokespersons) - with the minimum requirement for candidates requested being the ability to read and write, and availability for 5 weeks in October and November 2019. It was agreed by all partners that adopting such an approach would ensure communities are actively involved in all aspects of data collection, as well as providing individuals from local communities with specialised training that might enhance future employment opportunities.

All socioeconomic surveys (**Activity 1.2**) were delivered using open source software (ODK) and tablets following a 2-week training period (12th – 25th October 2019; Fig 3) led by Dr Ana Nuno and Dr Dominic Tilley (**UoE**). The team of interviewers received theoretical and practical

training for administering questionnaires in the study communities, including topics such as: good practices for conducting social studies, sampling protocols, and digital data collection using tablets. Data collection was completed in November 2019 with a total of 383 respondents (42% women) completing the survey and an average of 69% of households surveyed per rural community (range 40% - 87%). Analyses of these data were completed by Dr Ana Nuno in January 2020, the results of which are summarised in a detailed report that has been appended as evidence with our submission (Annex 4); this report also includes template questionnaires in French and English. Data collection took place in seven project target villages surrounding Grand-Béréby (Dawa, Kablaké, Mani-Béréby, Néro-Boupé, Néro-Mer, Pitiké and Roc). In addition, we also surveyed general town residents in Quartier Équatoriale - Grand-Béréby and town fishing neighbourhoods in Belle Ville, Gbowe and Wele extension (all in Grand-Béréby).

In terms of supporting livelihood activities, **CEM** delivered a community-business partnership workshop on 7th February 2020 (**Activity 1.4**) that was attended by 38 people, comprising key representatives from the mayor's office, artisanal market, Grand-Béréby tourism, hoteliers, local guides, police maritime, and representatives from local communities engaged in tourism (Annex 4 Fig S1.4). One of the key outcomes was agreement by all parties on the need for a '*code of conduct*', however, at request of participants this is to be rebranded as a '*charter'* to which participating local businesses and communities will sign up to in year 2. Engagement with local communities and involvement in income generating tourist activities is also being supported by **CEMs** ongoing work to establish community management associations (**Activity 1.5**). With respect to fisheries livelihoods – the fisheries purchasing cooperative (**Activity 1.7**) will be included within an existing fuel cooperative that has been successfully integrated by **MIPARH**. However, this activity has been delayed by the recent coronavirus (COVID-19) outbreak which has impacted the availability of spare parts in Abidjan (section 11 and Annex 5).

Key findings: Analyses of socioeconomic data (**Activity 1.2**) of individual and household characteristics revealed generally-lower socioeconomic levels in rural communities, although these seem to be wealthier in terms of farming assets (Annex 4 Table S1.1). We found that fishers had higher monthly incomes (fishers: 301 000 CFA VS others: 100 000 CFA) and more material assets than other survey respondents (Annex 4 Table S1.1 – Table S1.2). Self-perceived writing and reading abilities were notably low among survey respondents, with 51% of them having no or little confidence in reading or writing a letter to a friend or relative (Annex 4 Fig S1.2). Survey respondents were more confident in their abilities to manage money or calculate monthly expenditures, although up to 16% of people reported low confidence in these skills. Our findings suggest women in the project area seem to have less confidence in their ability to read, write, and fill in forms, but were more confident than men regarding their ability to manage money and calculate monthly expenses.

Please note: The findings from the socioeconomic surveys have also been used to update the project logframe (as requested by the Darwin Expert Committee – section 10 and Annex 2) and are being used to identify and inform the delivery of skills training and capacity building activities planned for year 2 (**Activity 1.3 and 1.6**).

Output 2 – Improved knowledge of marine biodiversity: Activities completed to date include the recruitment and training of a local survey team, as well as design of survey and data collection protocols (**Activity 2.1**) led by Dr Catherine McClellan (**CEM**). Certain aspects of the field data collection (**Activity 2.2**) commenced ahead of schedule following a Darwin scoping trip in July 2018 (DARSC190) with boat pilot, assistant, and free divers from Roc (n = 6 individuals; Mr. Leonard Gnepa Gbesso, Mr. Antoine Tagnon Kouaye, Mr. Picard Amiral Hie, Mr. Hugues Tougbate Hie; Mr. Ado Adakah; and Mr. Gianni Daghero **Fig 4**) receiving training and conducting underwater survey transects to characterise near shore habitats, and physical oceanography (e.g. temperature and salinity) in December 2018 led by Dr Catherine McClellan (**CEM**). These same individuals were recruited for this project and provided with further training on species identification and habitat characterisation during September 2019 led by Dr Phil

Doherty (**UoE**) and Dr Catherine McClellan (**CEM**); with open invitations to attend extended to members of the communities involved in the project. Additional training and four weeks of data collection was carried out in January 2020 (**Fig 4**) led by Dr Catherine McClellan **(CEM)** whereby the team sampled 124 locations along 177 km of transects across the study area (Annex 4 Fig S2.1).

Fig 4 *Darwin marine research team during training with Dr Catherine McClellan (CEM) and survey delivery, January 2020.*

The findings from this latest campaign have been combined with those of the previous survey conducted in 2018, analysed, mapped, and summarised in a detailed report (**Activity 2.3**) that has been appended as evidence with our submission (Annex 4). This survey will be repeated again in year 2 (between December 2020 and February 2021, this being the period when water clarity is best for dive surveys). In year 2, biodiversity surveys will be supplemented by deployment of low cost BRUVs (Baited Remote Underwater Video) in waters > 15 m – beyond the limit which the free divers are able to operate safely.

Key findings: Analyses of data collected (**Activity 2.3**) has identified 133 species, from a mixture of sandy, muddy, shell, and rocky biogenic benthic habitats (Annex 4 Fig S2.2). Hard and soft corals, sponges, and a variety of marine macro-algae were found at all depths sampled (to 50 m using free divers and a ROV) providing both structure and food for a diversity of tropical marine fishes and invertebrates (Annex 4 Fig S2.3). Diversity was highest around rocky features that aggregate species and provide substrate for growth in wave exposed environments. The influence of large rivers was evident in the oceanographic records, lowering salinity and turbidity, while raising water temperatures. The synergy between the spatiotemporal oceanographic conditions and the demersal habitat features is an important driver in the distribution and composition of biodiversity found in the region. Effects of several ecosystem stressors were observed: minor coral bleaching, substantive dead and empty barnacle shells, sedimentation, illegal trawlers operating near shore, mortality from fisheries bycatch, and ghost nets and other marine debris.

Please note: These data will be incorporated into a marine atlas and species status assessments during years 2 and 3 (**Activity 2.4**).

Output 3 – Enhanced fisheries governance: Activities completed to date include the design of survey and data collection protocols (**Activity 3.1**) led Dr Catherine McClellan (**CEM**), Dr Phil Doherty and Dr Kristian Metcalfe (**UoE**). 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 tracking) are supported by a local field coordinator (Darwin Research Assistant), Mr. Jean-Kevin Moegnan Tiehi who was appointed in September 2019 (as outlined under output 1). As part of his role, he is responsible for checking and entering data and so liaises 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. As per biodiversity surveys, fisheries data collection (**Activity 3.2**) began ahead of schedule following a Darwin scoping trip in July 2018 (DARSC190), with further training and

evaluation of staff undertaken in September 2019 (Fig 5), when data collection recommenced at weekly intervals at the Grand-Béréby landing site, resulting in 163 landings surveys and 39 GPS tracks. Data through February 2020 has been analysed, mapped and summarised in a detailed report (**Activity 3.3**) that has been appended as evidence with our submission (Annex 4).

Fig 5 *Training of local research staff at MIPARH in fisheries landing surveys and species ID led by Dr Catherine McClellan (CEM) and Dr Phil Doherty (UoE), September 2019.*

Key findings: Analyses of these data (**Activity 3.3**) have revealed 34 fish and one shellfish species documented in the Grand-Béréby landings records, 16 fish species bycaught in trips sampled with GPS trackers from this site, and 41 fish and two shellfish species documented in photographs taken at the landing site. Species included bony fishes (made up primarily of barracuda, halfbeak, jack, herring, croaker, seabream, false albacore, Spanish mackerel, dolphinfish, tonguefish, threadfin, flying fish, brotula, grouper, and moray eel), elasmobranchs (mako and hound sharks, bull and devil rays), and lobster (spiny and slipper). The fleet was comprised of large Ghanaian wooden pirogues outfitted with 15 or 25 HP motors and small Liberian wooden pirogues paddled by hand. The number of boats at the landing site varied from 6 to 138 during this period. Anchored bottom and surface gillnets were the most prevalent gear type conducting trips lasting 1 – 7 days, followed by longlines and seines with trips lasting 1 to 3 days, respectively (Annex 4 Table S3.2). Tracking data indicated that most fishing effort occurred within 13 km from shore within 50 m depth, although some trips ventured out 22 km from shore to 100 m depth (Annex 4 Table S3.1 – Fig S3.1). This contrasts with the previous year's data where fishing occurred farther offshore - more than 70 km from shore in waters up to 2,500 m depth (although most effort was within the continental shelf; < 200 m depth and within 25 km from shore; Annex 4).

Please note: Spatial data on fisheries will be incorporated into a marine atlas and species status assessments during years 2 and 3 (**Activity 2.4**). **UoE** have also been working with the *Arribada Initiative* (https://arribada.org/) through our project partner Dr Alasdair Davies (**ZSL**) to implement novel low-cost and open source vessel tracking technologies that will be rolled out in year 2 that will enhance fisheries data collection – leading to increased sampling of the fleet, finer-scale sampling resolution and reduced financial and logistical costs associated with retrieval of existing GPS tracking units. We would also like to note that socioeconomic data collection also includes detailed information on fisheries – gears, practices, costs related to fishing and trading, and perceptions about prevalence of illegal, unreported and unregulated (IUU) fishing (Annex 4).

Output 4 – Environmental education campaigns underpinning local awareness and a community-based marine protected area planning process: Activities completed to date include the design of a bespoke socioeconomic survey protocol (**Activity 4.1**) led by Dr Ana Nuno (**UoE**). To minimise survey fatigue in local communities protocols from output 1 and 4 were combined and delivered using open source software (ODK) and tablets, with data collection completed in November 2019 (as outlined under output 1). As part of dissemination

of knowledge (**Activity 4.3**) all project partners have contributed to the preparation of a video presentation of our preliminary results that was originally planned to be delivered to local communities in March 2020. To ensure sustained local support this activity was to be delivered by the in-country partner **CEM**, led by Mr. Alexandre Dah, Mr. Abel Gba and four local free-divers who have been actively involved in participatory data collection (as outlined under output 2). However, given the recent coronavirus (COVID-19) outbreak and recent announcements by National Government regarding gatherings of more than 50 people this activity has been postponed (section 11 and Annex 5) and has been scheduled to take place twice in year 2.

Key findings: Analyses of socioeconomic data (**Activity 4.1;** Annex 4) have assessed understanding of current social norms around biodiversity use and management:

- When asking about consumption of taxa of conservation concern during the last 12 months prior to our study, we found that rays were widely consumed (79% of respondents), followed by sharks (40%). Although with lower prevalence, consumption of other taxa also raises potential concerns. This highlights that wildmeat provides a substantial proportion of protein for local communities (Annex 4 Table S4.1 – Fig S4.1).
- Most respondents (81%) stated that the amount of fish caught has been decreasing over time and that the amount of fish in the sea has also decreased (78%) as well as the size of fish (72%), suggesting widespread negative perceptions about the state of the marine environment. When asked to score agreement with a few specific measures, people were generally supportive of potential interventions regarding the creation of MPAs, avoiding small-mesh nets and avoiding catching small fish. Rural project communities were more supportive of MPA creation; this support for MPA creation was particularly high in Kablaké and Roc, where perceptions of potential personal benefits from MPA were also higher (Annex 4 Table S4.2).
- Marine fishers were also asked a number of questions about illegal fishing. Thirty-four(48%) reported having seen illegal fishing in the artisanal fishing area during 2019. When asked to identify which behaviours were illegal from a list of locally-relevant items, landing protected species was the most frequently chosen (59%). This was followed by: discarding gear at sea (41%), paired trawling (38%), night fishing (34%), undeclared catch (29%), catching lobsters with eggs (28%), and foreign trawlers fishing in Ivorian waters (22%); only one fisher replied none of these behaviours were illegal.

Please note: Based on the findings of the survey, project partners have developed 3 draft concepts for the environmental education campaign material (**Activity 4.2**) that will transcend the marine and terrestrial environment given the proposed link to the community natural reserve and evidence of consumption of terrestrial and marine species of conservation concern. The environmental education campaign material will be delivered in the form of infographics given the low literacy rate (see output 1 above) and will focus on: (1) benefits of protected areas; (2) species and ecosystem services; and (3) national and local rules and regulations – and will be implemented across all surveyed communities in year 2 (Annex 4 Fig S4.5). Complementary activities implemented by **CEM** to enhance environmental awareness, and protection for threatened species have also included community clean-up projects in Grand-Béréby, as well as the implementation of a catch and release program for bycaught sea turtles with local fishers; activities which are supported by local hoteliers and **MIPARH** (Annex 4 Fig S4.6).

3.2 Progress towards project Outputs

Green shading represents evidence of completion, **blue** represents indicator still valid with evidence of substantial progress, and **orange** represents indicator still valid, but too early to assess with ongoing activities being implemented (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.	Section 3.1 and Annex 4 - training photographs, field survey data and report.	Indicator still valid with baseline data available to assess changes in year 3.
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.	Section 3.1 and Annex 4 - training photographs, field survey data and report.	Indicator still valid with baseline data available to assess changes in year 3.
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 1 day community-business partnership workshop was hosted by CEM in February 2020 that was attended by 38 persons. Two communities have established activities with hotels – sea turtle tours (Mani) and guided tours to see monkeys (Néro). Target achieved = 50%.	Section 3.1 and Annex 4 and associated photographs.	Indicator still valid and on target for delivery in year 2.
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	A 1 day community-business partnership workshop was hosted by CEM in February 2020 that was attended by 38 persons. Draft code of conduct being developed.	Section 3.1 and Annex 4 and associated photographs.	Indicator still valid and on target for delivery in year 2.
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	Community management associations agreed in 4 coastal communities. Target achieved = 100%. The final step involves lodging required paperwork with local authorities to formalise the creation of each association – ongoing support is being provided to help facilitate these steps.	Section 3.1 and Annex 4.	Indicator still valid and on target for delivery in year 2.
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	Baseline = 0	A 1 day community-business partnership workshop was hosted by CEM in February 2020 that was attended by 38 persons at which 2 hoteliers and 1 local guide offered to provide internship/mentorship opportunities.	Section 3.1 and Annex 4 and associated photographs.	Indicator still valid on target for delivery (activity currently paused due to coronavirus outbreak)

technician/plumber), with a minimum target of 12 internships positions per year).				
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	Three income generating activities linked to tourism and a healthy natural environment have been identified– these include guided reef tours (Roc), guided nature walks (Nero-Mer, Nero-Boupé); and night time sea turtle nesting tours (Roc, Mani, Dawa, Pitiké, and Kablaké).	Section 3.1 and Annex 4.	Indicator still valid with training activities and creation of supporting materials to be implemented in year 2.
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 =	A total of 3 x 1 day meetings with association of fishers, CEM and MIPARH have been undertaken. Land has been identified for creation of cooperative and storage of equipment. Support is being provided by CEM to finalise structure of association, recording and monitoring protocols.	Section 3.1, 3.4, 11, Annex 1 and Annex 5.	Indicator still valid. Purchase of equipment was delayed due to coronavirus outbreak
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 pilots) by end of YR1.	Baseline = 0 (no local free divers with formal training in field techniques or identificati on skills).	Six individuals provided with formal training, comprised of 4 free divers and 2 boat pilots (section 3.1 and Annex 4). Target achieved = 100%.	Section 3.1 and Annex 4 – training photographs, field survey data and report.	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. Target achieved = 150%.	Section 3.1 and Annex 4 -– training photographs, field survey data and report.	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) and 1 database for recording biodiversity data. Target achieved = 100% (4 protocols).	Section 3.1 and Annex 4: training photographs, field survey data and report. Document folder containing protocols and templates of datasheets (available upon request).	Indicator valid.
Indicator 2.4 – Creation of marine atlas (to support decision making) comprised	Baseline = 0	A total of 13 new spatial data layers developed through biodiversity and	Section 3.1 and Annex 4 field survey reports with	Indicator still valid and on target for

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.		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 = 20%.	maps and spatial data layers	delivery end of year 2.
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 that will inform species status assessments in year 2.	Section 3.1 and Annex 4 field survey reports with maps and spatial data layers.	Indicator still valid and on target for delivery end of year 2.
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 data collection from current zero baseline.	Baseline = 0	Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) engaged in participatory data collection on fisheries and biodiversity. Target achieved = 100%	Section 3.1 and Annex 4 field survey reports with maps and spatial data layers	Indicator valid.
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%. Deployment of novel low-cost and open source vessel tracking technologies planned for year 2 will enhance fisheries data collection (see section 3).	Section 3.1 and Annex 4 field survey reports with maps and spatial data layers from tracking data.	Indicator still valid and on target for delivery end of year 2.
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	Six individuals, 4 from MIPARH and 2 from CEM provided with training in biodiversity and fisheries data collection. Target achieved = 150%.	Section 3.1 and Annex 4 –– training photographs, field survey data and report.	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).	Section 3.1 and Annex 4: training photographs, field survey data and report. Document folder containing protocols and templates of datasheets (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) provided with training in reporting IUU to MIPARH and PM. With reporting materials provided to support data collection. Target achieved = 100%	Section 3.1. Document folder containing protocols and templates of datasheets (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).	Section 3.1 and Annex 4 socioeconomic survey report and associated analyses.	Indicator valid.
Indicator 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).	Baseline = 0	Findings from socioeconomic surveys have been analysed, and are supported by a report detailing findings from outputs 1 and 4. From these three concepts for environmental education campaigns have been identified, and concept note, sketches and ideas board have been developed.	Section 3.1 and Annex 4 socioeconomic survey report and associated analyses.	Indicator still valid and on target for delivery by Q1 (April – June) year 2.
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	The creation of annual environmental education seminar material and the appointment of an outreach team completed. Delivery of activity delayed due to coronavirus outbreak.	Section 3.1, 3.4, 11, Annex 1 and Annex 5.	Indicator still valid and on target for delivery in year 2.
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	Baseline = 0	One workshop completed earlier than scheduled – with a 3-day marine protected area workshop was delivered in Grand-Béréby in partnership with government (12-15th December 2019). A further workshop will be held in	Section 3.1, 3.3 and Annex 4 – government announcement and associated press releases and news coverage.	Indicator still valid and on target for delivery in year 2.

(SMART) for the proposed MPA, and define management model (i.e. roles and responsibilities of different stakeholders)		year 2 as planned. Target achieved = 100%.		
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	A total of 4 national, 3 local Government agencies and 8 communities are already involved in delivery of project activities, MPA creation, and dissemination of knowledge	Section 3.1, 3.3, 3.4 and Annex 4 – government announcement and associated press releases and news coverage.	Indicator still valid, activities being implemented - on target for delivery in year 3.

3.3 Progress towards the project Outcome

The following section provides a summary of progress towards the project Outcome as described in the Logical Framework (Annex 1). In summary, 3 (60%) of the 5 indicators are on target to be delivered by the end of the project, and 2 (40%) are linked to activities planned for years 2 and 3.

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 within 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 (16 person-weeks) in country to 23 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 (section 3). **Evidence:** Increased knowledge and awareness on the distribution of key species and habitats, as well as spatiotemporal patterns of fisheries resource use and target species (section 3 and Annex 4). **Comments:** Indicator still remains valid.

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:** A 3-day marine protected area workshop in Grand-Béréby (12-15th December 2019; Annex 4) that brought together ~20 national and local stakeholders and the Secretariat of the Abidjan Convention with a focus on: (1) existing knowledge to date; (2) raising awareness of the government initiative; (3) strengthening capacity; and (4) establishing roles and a timeframe for delivery (Annex 4 Fig S4.4). **Evidence:** A Government ceremony in Abidjan (17th February 2020) and press announcement (20th February 2020) confirmed the government's commitment to implement the countries first marine protected area (MPA) in Grand-Béréby (**Fig 6**). Data from our biodiversity surveys have already been used to increase the proposed area of interest (originally proposed by the Abidjan Convention working group) within which this MPA will be designated. This will now extend further offshore to include the continental shelf break, a key feature associated with nutrient upwelling that drives the movement of pelagic species (**Fig 7**). **Comments:** Indicator still remains valid.

Jeudi 20 février 2020 Fraternité Matin **Économie** 13

Protection des zones marines et côtières

L'État s'engage à conserver 10% de ses ressources en 2020

Le ministre en charge de l'Environnement a fait ce pari le 17 février, à l'occasion de la cérémonie de restitution de la création de la première aire marine protégée du pays.

Photo de famille du Pr Joseph Séka Séka (au centre) des participants à l'issue de la rencontre. (PHOTOS:DR)

EMELINE P AMANGOUA

Fig 6 *National press release in Côte d'Ivoire with the article stating that on the 17th February the Minister of the Environment (Mr. Joseph Séka Séka) announced the country's first marine protected area will be created in Grand-Béréby. This ceremony was attended by the director of CEM Mr. José Gomez Peñate (as indicated by red circle). Press coverage – Abidjan news; Ivorian news; and Birdlife.*

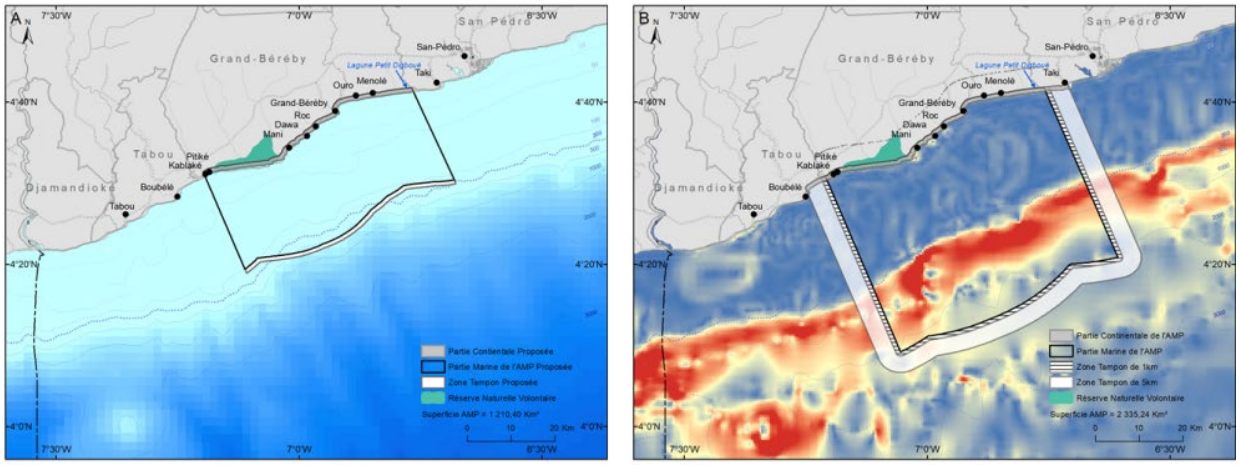


Fig 7 *Proposed area of interest for the creation of Côte d'Ivoire's first marine protected area in Grand-Béréby as: (A) originally identified by the Abidjan Convention working group; and (B) following revisions based on biodiversity surveys from Darwin project partners.*

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: As outlined above for Indicator 0.2 above a 3-day marine protected area workshop was held in Grand-Béréby (12-15th December 2019), a portion of which was designated to meeting with local communities, field visits and defining potential roles and responsibilities with regard to management. **Evidence:** Representatives of local communities are already involved in the management of the terrestrial community natural reserve (Fig 1). It is envisaged that they will play a similar role to ensure that individuals within communities understand rules and regulations, as well as to ensure that there is a platform for communities to voice their concerns. **Comments:** Indicator still remains valid.

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 (section 3 and Annex 4). **Evidence:** Increased knowledge and awareness on community level measures such as household income, well-being, occupation, social norms, skill levels and access to services that will provide a baseline to evaluate impact of project activities (section 3 and Annex 4 Fig S1.2 – Fig S1.3). **Comments:** Too early to assess as skills training and livelihood diversification activities are to be implemented in year 2, however, indicator still remains valid.

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 (section 3 and Annex 4). **Evidence:** Increased knowledge and awareness on community level measures such as household income, occupation, social norms, skill levels and access to services that will provide a baseline to evaluate impact of project activities (section 3 and Annex 4 Fig S1.2 – Fig S1.3). **Comments:** Too early to assess as livelihood diversification activities are to be implemented in year 2, however, indicator still remains valid.

3.4 Monitoring of assumptions

All outcome risks and assumptions remain valid:

Assumption 1 – Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements. **Comments:** As of 31st March 2020 all trained individuals from **CEM**, **MIPARH** and **PM** remain in employment with partner organisations and two additional staff (Darwin Field Assistants) have been recruited by **CEM** to support coordination and delivery of project activities (section 2). To further assist with capacity building and ensure there are contingencies in place, employment opportunities were also extended to individuals from local communities (section 3) with a total of 13 individuals (section 3.1) receiving specialised training; thereby ensuring that the legacy of the project will not depend disproportionately on any one individual or organisation.

Assumption 2 – National implementing agencies remain committed to establishing an MPA in Grand-Béréby. **Comments:** The strength of the government's commitment is evidenced by recent workshops and national announcements that the government will implement the country's first marine protected area (MPA) in Grand-Béréby, the location of this project (see indicator 0.2, section 3.3 above). Press coverage – *Abidjan news*; *Ivorian news*; and *Birdlife*.

Assumption 3 – Fishing communities and government retain commitment to sustainable use of marine resources. **Comments:** All partners remain committed. Fishing communities have engaged with socioeconomic survey teams (20.4% of the 383 respondents specified their main occupation as fishing) and continue to support participatory data collection on spatiotemporal patterns of resource use through the deployment of GPS trackers. Government partners and national implementing agencies have announced that the creation of the country's first MPA is to be in Grand-Béréby the location of this project.

Assumption 4 – There are no major economic shocks, anthropogenic or natural disasters affecting local and/or national capacity. **Comments:** On 30 January 2020, the WHO Director-General declared the COVID-19 outbreak a public health emergency of international concern**.** On 16th March 2020 at an extraordinary meeting of the National Security Council (Conseil National de Sécurité - CNS) the government of Côte d'Ivoire introduced a number of measures to address the outbreak – which included closures of hotels/restaurants,

suspension of visas for non-Ivoirians from countries with > 100 cases and restriction of gatherings of > 50 persons that will be reviewed every two weeks. To date this has had a minor impact on delivery of project activities outlined in year 1 (section 3, 11 and Annex 5).

Assumption 5 – Host country remains politically stable. Comments: The current political climate is stable as of 31st March 2020. Presidential elections are due to be held in Côte d'Ivoire on 31st October 2020 (subject to COVID-19) with the current incumbent Mr. Alassane Ouattara recently announcing that he will not stand for a third term, which has been applauded by opposition figures (https://www.bbc.co.uk/news/world-africa-51911380).

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 knowledge and awareness within national implementing agencies and is facilitating 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) through the strengthening of regulatory and policy frameworks and the implementation of Côte d'Ivoire's first MPA – a process that is already underway (sections 3, 4 and 5). In terms of contribution to poverty alleviation, the data generated through this project has led to increased knowledge and awareness within national implementing agencies on community level measures such as income, occupation, social norms, skill levels and access to services (sections 3, 4, 6 and 7). In the long-term, we expect that these data will support targeted activities that will enhance vocational skills and successful community-business partnerships that will lead to increased income for individuals (and community development funds) and the well-being of households; as well as empowerment of women and youth who are actively being engaged throughout the project.

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 year 1 are briefly detailed below:

Goal 2 – increased knowledge on spatiotemporal patterns of fisheries resource use, and marine biodiversity, as well as understanding of local perceptions and measures required to ensure sustainable use of fisheries resources through implementation of socioeconomic surveys (section 3.1). **Goal 4 –** increased knowledge on existing skills levels within communities through self-reported levels of confidence in undertaking specific tasks that will ensure project activities are tailored to needs of communities (Annex 4 Fig S1.1 – S1.2). **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 training and participatory data collection (section 7). **Goal 8 –** increased knowledge of existing skills levels, and creation of community-business partnerships that will support fair 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. **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); and national announcements that the government will implement the country's first marine protected area (MPA) in Grand-Béréby that will increase protection of marine vertebrates covered by **CMS** and **CITES** for which this region is globally-important (section 3.3).

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 year 1 include: (1) 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*); (2) 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*). In doing so the project is increasing 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**); and (3) providing training to enhance local and institutional capacity to ensure science underpins decision making processes (*Articles 7, 12*). Much of the data gathered are already being used to inform the designation of Côte d'Ivoire's first MPA (*Articles 8, 10, 11*), that was formally announced by the government on 17th February 2020 (section 3.3; **Fig 6 and Fig 7**). This will increase the amount of the marine environment under formal protection from a baseline of ~0.07% (source: https://www.protectedplanet.net/country/CIV). Furthermore, in developing national biodiversity strategies that are underpinned by scientific evidence and taking practicable actions to protect key habitats and species (including marine vertebrates covered by CMS and CITES for which this region is globally-important) through the implementation of an MPA the project is contributing to several commitments under the *Strategic Plan for Biodiversity 2011-2020*. These include: (1) mainstreaming of biodiversity across government and civil society (*Targets 1, 2, 4*) through the active involvement of a diverse group of stakeholders (*Targets 18, 19*); and (2) implementation of area based conservation measures (*Target 11*) that aim to reduce direct pressure on biodiversity and fisheries resources (*Target 6*) and ensure marine ecosystems are able to contribute to health, livelihoods and well-being of coastal and fisheries-dependent communities (*Target 14*).

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 (section 3; Annex 4 Fig S1.2); 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 Fig S1.3). In terms of indirect benefits - building and fostering an environmental ethic through the participatory research and 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. Such a shift is already evident with members of local communities participating in a community clean up, monitoring and protection of sea turtles has been implemented in all coastal communities, and fishers are engaging in a bycatch release program for sea turtles (section 3 and Annex 4 Fig S4.6). In terms of notable achievements – socioeconomic surveys and stakeholder workshops have revealed there appears to be strong support for MPA establishment and in building environmentally-related community-business partnerships that will promote ecotourism (section 3 and Annex 4 Fig S1.4 – Fig S4.3 - S4.4).

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 year 1 for each output is detailed below:

Output 1 – Diversified and improved coastal livelihoods: collection of baseline data for monitoring socio-economic impacts (e.g. income, resource use, skills and empowerment) and perceptions of status of marine environment was administered by a team comprised of 7 individuals - 5 (71%) male and 2 (29%) female (**Fig 2**). Whilst we aimed for a more balanced sex ratio, it was challenging for communities to find women who were willing to take part for extended periods (section 9). To ensure equal opportunities across communities we requested each community (i.e. Néro-Mer, Néro-Boupé, Roc, Mani, Dawa, Pitiké, and Kablaké) identify an individual who would receive training. These candidates were nominated by the village dignitaries, comprised of the village chief, territorial chief, youth and women's representatives and other community spokespersons (section 3). During training surveyors were informed of the need to ensure equal opportunity for women, the result being that 160 (41.8%) of 383 respondents were women, allowing the project to disaggregate findings by gender where required (see section 3 and socioeconomic report appended as evidence with our submission). This information is now being used to ensure effective participation of women in skills training and livelihood diversification activities that are planned for year 2. With respect to development of community-business partnerships (**Activity 1.4** – section 3) there were a total of 38 attendees of which 4 (11%) were women (Annex 4 Fig S1.4).

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 recruited 4 free divers from the village Roc to assist with participatory data collection (section 3) – all (100%) of whom were male. However, to engage women in participatory data collection Darwin Field Assistants have been randomly sampling fish traders at the landing site in Grand-Béréby (a role dominated by women) to develop a more comprehensive list of fisheries species landed.

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. In addition, socioeconomic surveys have also provided information on processing and marketing of fish with 7 (2%) of the 383 respondents reporting their occupation to be fish traders, 100% of whom were female. 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: as detailed above socioeconomic surveys have been administered by a diverse team targeting both men and women. Consequently, baseline levels of awareness of and threats to marine biodiversity has been assessed for all genders, thereby ensuring that education and environmental campaigns account for differences between gender groups (section 3). In addition, under-represented and vulnerable groups, such as women and individuals with disabilities are actively encouraged to attend community-meetings and workshops.

8. Monitoring and evaluation

All activities have associated reports that are shared amongst partners to assist with progress reviews and project reporting. In addition, regular communication between partners means that progress associated with each activity is recorded in a reporting database managed by the lead organisation (**UoE**), which details timeframe of delivery and any associated changes for each

activity. **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 outreach and ensure that the project is providing equal opportunities for and participation by under-represented and vulnerable groups (section 7). For more detailed information about monitoring and evaluation of project outputs, indicators and assumptions see section 3.1 - 3.4.

9. Lessons learnt

Recruitment of Darwin Field Assistants (as outlined in Darwin Half Year Report) involved interviews with 5 potential candidates in September 2019; comprised of 3 (60%) males and 2 (40%) females from Grand-Béréby and surrounding communities (section 3). Whilst the project actively tried to recruit female field and socioeconomic survey assistants, it became clear during interviews that extended periods in the field away from home were not possible due to family and childcare commitments. We have incorporated these lessons into future plans, and are actively looking at ways to promote more flexible employment opportunities for women as well as incorporating these lessons into planning for future skills training and livelihood diversification activities scheduled for year 2. As many of the activities in this project are new, it has taken time for staff to adapt – most notably troubleshooting skills. As such the creation of a WhatsApp group helped build confidence of staff to seek input from project leads where they had concerns or questions.

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

In response to a request from the Darwin Committee at award stage several changes were made to the logframe (Annex 2 – see agreed changes highlighted in yellow) with additional edits requested following baseline data collection in year 1 to include incorporating some of our baselines and disaggregating some of our targets by gender (Annex 2 – see track changes highlighted in blue for these additional revisions).

11. Other comments on progress not covered elsewhere

The COVID-19 outbreak has had a minor impact on two in-country activities planned in year 1 (see section 3.1, 3.4, 14 and Annex 5). This includes:

- **Activity 1.7** – a delay in purchasing of equipment linked to the fisheries purchasing cooperative. This is the result of a shortage in the availability of parts being manufactured and shipped to Côte d'Ivoire from Asia as a result of COVID-19. This has resulted in an underspend of £6,056.88 in 'other costs' for in-country partner **CEM** detailed in section 15.
- **Activity 4.3** – cancellation of the annual environmental education seminars to disseminate project findings from outputs 2 and 3 (section 3) to the local communities involved in the project (Néro-Mer, Néro-Boupé, Roc, Mani, Dawa, Pitiké, Kablaké and Grand-Béréby). This activity was postponed to safeguard local communities and meet government measures to restrict gatherings of > 50 persons that were introduced to control the outbreak (Annex 5). This has resulted in an underspend of £3,714.86 in 'travel and subsistence and operating costs' for the in-country partner **CEM** detailed in section 15.

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 terrestrial and marine biodiversity. The legacy of this project is therefore being fostered through an integrated program of capacity building, training, research, stakeholder engagement, and awareness raising. This capacity building will equip local communities, businesses, and national agencies with the required knowledge and voice to elicit policy and behaviour change, and improve governance and stewardship of marine biodiversity and fisheries resources, that will contribute to sustainable local livelihoods. To date, this project has resulted in increased knowledge on

marine biodiversity and spatiotemporal patterns of fisheries resource use, as well as generating a detailed social and economic profile of local communities (section 3). Data that were not previously available for this region, which is already being used to support decision making processes. All data from marine biodiversity, fisheries, social and economic surveys are being made accessible (outputs 1 - 3) and have been shared with key government agencies and the Abidjan Convention working group to support the creation of the country's first marine protected area in Grand-Béréby (section 3.3). This is currently achieved via two approaches: (1) direct meetings with government agencies facilitated and led by the in-country partner **CEM**; and (2) through an email group established by **CEM** that is comprised of ~ 20 persons from across government, national research agencies, and the Abidjan Convention MPA working group. Additionally, by targeting training of individuals across local and national organisations and within communities we are ensuring increased institutional capacity and memory across a range of stakeholders, as well as dissemination of knowledge across all levels of government and the wider population. This approach will be complemented by the creation of a marine atlas (**Activity 2.4 and 3.4**) that will compile all available data into a single document. This document will be handed over to the government and key stakeholders at the end of year 2, ensuring that all spatial, social and economic data are available to support decision making processes long-after the project ceases. It is also hoped that this document will serve as a model for future MPAs that will follow as the government works towards meeting its commitment to protect 10% of its waters.

13. Darwin identity

All project presentations, reports, maps, training materials and survey instruments include the Darwin Initiative logo and acknowledge financial support provided through **DEFRA** (Annex 4). The Darwin Initiative is currently recognised at a ministerial level as the biodiversity, social and economic data collected to date has been shared with the relevant government agencies and the Abidjan Convention working group to support decisions with regard to potential location of the proposed marine protected area in Grand-Béréby (section 3.3). The UK and US Ambassadors also informed Mr. José Gomez Peñate (**CEM**) during a meeting in Abidjan on 3rd March 2020 that they are aware of the Darwin Project and further efforts are being made to keep them updated with progress. Research and awareness raising activities undertaken by all partners are publicised through a variety of social media, particularly twitter (using @Darwin_Defra). **CEM** have launched a twitter account (@associationcem) and are revising their website to promote their NGO and in-country activities and funded projects. **UoE** staff comprised of Professor Brendan Godley (@BrendanGodley - 11.5K followers), Dr Phil Doherty (@Phil_D_Doherty – 1,646 followers), Dr Kristian Metcalfe (@_KMETCALFE – 1,109 followers), Dr Ana Nuno (@Ana_Nuno - 1,642 followers) and Dr Dominic Tilley (@_TurtleDom – 109 followers) also periodically promote project activities and outputs in-country using twitter.

14. Safeguarding

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/). **UoE** financial policies and procedures are also subject to regular review and updating, ensuring they remain appropriate for the projects we implement, as well as internal and external compliance requirements. **UoE** health and safety procedures also require risk assessments and emergency procedures to be completed prior to initiating any activities delivered by **UoE** staff. **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 – with some activities

being postponed in year 1 to meet safeguarding commitments (section 11). 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: the socioeconomic survey team was provided training that included information on the rights, privacy and safety of communities. This survey also followed established guidelines stipulating that researchers must secure free, prior informed consent from participants (Code of Ethics, American Anthropological Association 2009). All data are also anonymised so that it was impossible to directly link sensitive data to individuals, with findings disaggregated by community, gender or sector. In addition, individuals within the survey team did not administer questionnaires in their own communities so as to avoid potential conflicts of interest and ensure the anonymity and privacy of respondents within their respective communities.

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.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				Small overspend
Consultancy costs				n/a
Overhead Costs				Savings made through support of local hoteliers providing access to services for free.
Travel and subsistence				One activity postponed due to COVID-19 (see section 11)
Operating Costs				One activity postponed due to COVID-19 (see section 11)
Capital items (see below)				Capital item expenditure was lower as boat came in slightly cheaper than originally costed.
Others – including Monitoring and Evaluation (see below)				Delay in purchasing of livelihood materials due to COVID-19 (see section 11)
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Please note: track changes highlighted in yellow are the revisions requested following award letter. Further changes as requested by Darwin Committee following collection of baseline data in year 1 are highlighted in blue (section 10).

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	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 – socioeconomic surveys, stakeholder workshops and government announcements have revealed that there is strong support for MPA establishment and in building environmentally-related community-business partnerships that will promote ecotourism opportunities in local communities.	
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	**0.1** In year 1, the project has provided extensive training (16 person-weeks) in country to 23 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 (section 3 and Annex 4). **0.2** In year 1, **n**ational and local stakeholders have demonstrated a clear commitment to creating an MPA in Grand-Béréby as evidenced by a 3-day marine protected area workshop in Grand-Béréby that was followed by a ceremony and press announcement confirming that this will be the country's first MPA (section 3.3 and Annex 4);	• Implementation of skills and alternative livelihoods training activities in local communities. • Finalise charter (code of conduct) and promote community-business partnerships. • Continuation of marine biodiversity and fisheries data collection with local communities and implementing agencies (PM and MIPARH). • Production and dissemination of marine atlas. • Implementation of environmental education campaigns and delivery of environmental education seminars in local communities. • Delivery of MPA planning workshop.

	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 households in communities engaged in tourism-based income-generating activities see an increase in context specific measures of well-being using locally defined indicators~~, from baselines~~ 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 ~~villages~~ coastal communites (n = 8) ~~with~~ have established community-business partnerships ~~(n = 8)~~and see a~~n~~ 50% increase in centralised community managed funds (from tourism-based income-generating activities) ~~by 50%~~, with ~~and~~ at least 10% of households within each community seeing a corresponding increase in ~~improvements in local infrastructure (i.e.~~ access to number of basic services that improve, health, education and well-being ~~of communities~~) 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.	that when implemented will increase the at-sea area under formal protection from current baseline of 0.07%. **0.3** In year 1, local communities have been actively engaged in all aspects of the project related to the creation of a new MPA in Grand-Béréby; from involvement in participatory data collection to attendance at the first MPA workshop hosted by government and Abidjan Convention working group (section 3.1, 3.3 and Annex 4). **0.4** In year 1, the project has undertaken the first in depth assessment of sociodemographic and household measures such as income, well-being, occupation as well as existing skill levels in 8 coastal communities through socioeconomic surveys in which a total of 6.5% of local population participated (n = 383 respondents). These surveys have provided the baseline data required to assess changes at a household level in year 3 associated with the implementation of alternative livelihood and skills training implemented in year 2 (see section 3.1 and Annex 4). **0.5** In year 1, the project has undertaken the first in depth assessment of sociodemographic and community measures such as access to services in 8 coastal communities through socioeconomic surveys in which a total of 6.5% of the local population participated (n = 383 respondents). These surveys have provided the baseline data required to assess changes at a community level in year 3 associated with the implementation of community-business partnerships linked to tourist based	

		income generating activities implemented in year 2 (see section 3.1 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 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 ~~8~~ 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 ~~an established~~ baseline established in YR1 ~~by project end~~. **1.2** At least 10% of households (surveys implemented in YR1) in ~~Eight~~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 87 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.	**1.1** Understanding of existing skill levels within 8 coastal communities (inc. Grand-Béréby) established through socioeconomic surveys implemented in year - with a total of 383 respondents taking part (section 3.1 and Annex 4). Baseline data available to assess changes in year 3 resulting from skills activities implemented in year 2. **1.2** Understanding of sociodemographic characteristics of participants and household characteristics within 8 coastal communities established through socioeconomic surveys implemented in year 1 - with a total of 383 respondents taking part (section 3.1 and Annex 4). Target achieved in year 1= 100% (6.5% of local population assessed). Baseline data available to assess changes for households in year 3 resulting from livelihood and skills activities implemented in year 2. **1.3** A 1 day community-business partnership workshop was hosted by **CEM** in February 2020 that was attended by 38 persons; comprising key representatives from the mayor's office, artisanal market, Grand-Béréby tourism, hoteliers, local guides, police maritime, and representatives from local communities engaged in tourism. Representatives from each community in attendance with clear evidence of interest in establishing links with tourist operators as demonstrated by agreement in creation of a 'code of conduct' or 'charter' (Section 3.1 and Annex 4). Two communities have established activities with hotels – sea turtle tours (Mani) and guided tours to see monkeys (Néro). Target achieved = 50% and on target for delivery by end of year 2. **1.4** Draft code of conduct in development with communities and local business operators that is to be shared with partners in year 2 (Section 3.1 and Annex 4). On target for delivery by end of year 2. **1.5** Community management associations agreed in 4 coastal communities. Target achieved = 100%. The final step involves lodging required paperwork with local authorities to formalise the creation of each association – ongoing support is being provided to help facilitate this activity and is on target for completion by end of year 2. **1.6** A 1 day community-business partnership workshop was hosted by **CEM** in February 2020 that was attended by 38 persons; comprising key representatives from the mayor's office, artisanal market, Grand-Béréby tourism, hoteliers, local guides, police maritime, and representatives from local communities engaged in tourism. At this workshop 3 local business operators (2 hoteliers and 1 local guide) agreed in principle to provide internship opportunities. Further discussions	

	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** 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.	are ongoing to agree on roles. On target for delivery by end of year 3. **1.7** Three income generating activities linked to tourism and a healthy natural environment have been identified– these include guided reef tours (Roc), guided nature walks (Néro-Mer, Néro-Boupé); and night time sea turtle nesting tours (Roc, Mani, Dawa, Pitiké, and Kablaké). Training activities in each respective community and creation of supporting materials will be implemented in year 2. On target for delivery by end of year 2. **1.8** A total of 3 x 1 day meetings with association of fishers of Grand-Béréby, **CEM** and **MIPARH** have been undertaken. Land has been identified for creation of cooperative and storage of equipment and support is being provided by CEM to finalise structure of association, recording and monitoring protocols. Purchase of equipment for cooperative in year 1 was delayed due to coronavirus outbreak (Section 3.1, 11 and Annex 4). Delayed but on target for delivery by end of year 2.	
Activity 1.1 Develop and deliver training programmes: in socioeconomic data collection using mixed method approaches to current and new local staff.		• Training materials and protocols developed for digital data collection (*.pdf / *.ppt documents). • 1 week training for 7 persons from local communities and 2 persons from **CEM** (October 2019) covering topics such as: good practices for conducting social studies; sampling protocols; and digital data collection using tablets. • Pilot surveys implemented to refine/update survey protocols (October 2019) in 2 non project	• Incorporate findings into skills and livelihood activities and training to account for differences in local context between rural (n = 7) and non-rural (n = 1) communities involved in the project.

	focused communities.	
Activity 1.2 Socioeconomic data collection: pre, and post-intervention survey assessments using mixed methods (target ~~10~~5% of coastal population n = ~~600~~300, at least 30% of which are female) community focus groups, and data analyses.	• 4 weeks digital data collection (October 2019 – November 2019) with a total of 383 respondents (42% women) completing the survey with an average of 69% of households surveyed per rural community (range 40% - 87%). • Survey database populated. • Socioeconomic survey data analysed (December 2019) with final report produced (January 2020).	
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~~1~~ years). YR2 Q1 – YR3 Q1.	• Stakeholder meeting with partners (March 2020) to identify and update costs for activities to be implemented in year 2.	• Incorporate findings into skills and livelihood activities and training to account for differences in local context between rural (n = 7) and non-rural (n = 1) communities involved in the project.
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.	• 1 x 1 day workshop delivered (February 2020), attended by 38 persons; comprising key representatives from the mayor's office, artisanal market, Grand-Béréby tourism, hoteliers, local guides, police maritime, and representatives from local communities engaged in tourism.	• Finalise 'code of conduct' (hereafter referred to as a charter) and host ceremony in year 2.
Activity 1.5 Establish community-management associations: consultations, community support workshops, -including confirmation ceremonies (8 x 1 day).	• 8 x 1 day community management meetings hosted within local communities (September - February 2020).	• Finalise paper-work to formalise creation of each association and lodge with authorities.

Activity 1.6 Implement community EcoGuide training programme: training programme delivery (focusing on guiding, marine, birds, nature/cultural walks with trainers) and materials development.		• Stakeholder meeting with partners (March 2020) to cost and organise training activities to be implemented in year 2.	
Activity 1.7 Establish community fisheries purchasing cooperative: identify management committee (structure/role 1 x 2 day workshop), implement cooperative, and monitoring protocols.		• 3 x 1 day meetings with association of fishers of Grand-Béréby (September 2019, December 2019, February 2020) attended by **MIPARH** and **CEM**. • Short report from CEM on outcome of these meetings. • Land identified for creation of cooperative by association of fishers.	• Support association of fishers to finalise building structure. • Purchase equipment for cooperative (delayed due to coronavirus outbreak). • Implement monitoring protocols.
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, ~~(n = 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 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	**2.1** Six individuals provided with formal training, comprised of 4 free divers and 2 boat pilots (section 3.1 and Annex 4). Target achieved = 100%. **2.2** Four individuals from **MIPARH** and two individuals from **CEM** provided with training in biodiversity and fisheries data collection (section 3.1 and Annex 4). Target achieved = 150%. **2.3** One biodiversity monitoring protocol for free divers established. Two datasheets (habitat and species) and one database established for recording biodiversity data. Target achieved = 100% (4 protocols). **2.4** A total of 13 new 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 (section 3.1 and 3.3). Target achieved = 20%. **2.5** Baseline data collected on marine biodiversity and spatiotemporal patterns of resource use for fisheries (output 2 – section 3.1 and Annex 4) that will inform species status assessments in year 2. On target for delivery by end of year 2.	

	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 ~~end~~ start of ~~YR2~~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.		
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 and protocols developed (*.pdf / *.ppt documents). • 2 x training sessions for 6 persons (September 2019 and January 2020) covering habitat and species groups, survey protocol, survey equipment, data recording, and safety protocol. • 2 x open seminars on shark, marine habitat ID (September 2019). • 2 day annual sea turtle training workshop for nest beach monitoring and recording. • Creation of data recording sheets and database for biodiversity survey (*.xls / *.doc documents). • Purchase of species and taxonomic guides (French and English) to resource partners and support future surveys. • Pilot surveys implemented to refine/update survey protocols (January 2020).	• Refresher training for 6 persons (likely between December 2020 and February 2021 – exact dates tbc.).

Activity 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 weeks data collection (January – February 2020) sampling 124 locations along 177 km of transects across the study area. • Survey database populated. • Purchase of boat and engine to resource partners and support future at sea fieldwork and MPA monitoring.	• Repeat survey (dates tbc. but likely between December 2020 and February 2021). • Biodiversity surveys supplemented by deployment of low cost BRUVS (Baited Remote Underwater Video Systems) in waters > 15 m – beyond the limit which the free divers are able to operate safely.
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 February 2020. • Habitats and oceanographic characteristics mapped, species list created.	• Analyses of additional biodiversity survey data collected during year 2, including species threat mapping.
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. • Data shared with government partners and Abidjan Convention working group to support MPA planning process. • Findings incorporated into annual environmental education seminars.	• Develop and incorporate survey findings into marine atlas. • Deliver annual environmental education seminars (postponed in year 1 due to coronavirus outbreak). • Analyse and provide additional survey data gathered during year 2 with government partners and Abidjan Convention working group to support MPA planning process.
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	**3.1** Four fisheries dependent communities (Roc, Dawa, Mani, Grand-Béréby) engaged in participatory data collection by end of year 1(section 3.1 and Annex 4). Target achieved = 100%. **3.2** Proportion of fishing vessels engaged in participatory data collection in each community currently <10%. Deployment of novel low-cost and open source vessel tracking technologies planned for year 2 will enhance fisheries data collection – leading to increase sampling of the fleet, finer-scale sampling resolution and reduced financial and logistical costs associated with deployment and retrieval of GPS trackers (section 3.1 and Annex 4). On target for delivery by end of year 2. **3.3** Four individuals from **MIPARH** and two individuals from **CEM** provided with training in biodiversity and fisheries data collection (section 3.1 and Annex 4). Target achieved = 150%. **3.4** For both landing and GPS tracking surveys, survey protocols, datasheets for	

	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).	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) provided with training in reporting IUU to **MIPARH** and **PM**, however, current reporting rate is low and so meetings will be held with fisheries association to understand whether this is a reflection of scale of IUU or interest in reporting. 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 and protocols developed (*.pdf / *.ppt documents). • 1 x training sessions for 4 persons from **MIPARH** (inclusive of the 3 technicians) and 3 persons from **CEM** in September 2019 covering landing and GPS tracking survey protocols, species ID, survey equipment and data recording. • Monitoring and evaluation of data collection (October 2019 and January 2020). • 1 x open seminar on shark ID (September 2019). • Creation of data recording sheets and database for landing and GPS survey data (*.xls / *.doc documents).	• Refresher training for 4 persons from **MIPARH** (inclusive of the 3 technicians) and 3 persons from **CEM** (likely between December 2020 and February 2021 – exact dates tbc.).

	• Purchase of species and taxonomic guides (French and English) to resource partners and support future surveys. • Pilot surveys implemented to refine/update survey protocols (September 2019).	
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).	• Data collection commenced at weekly intervals resulting in 163 landings surveys and 39 GPS deployments. • Landing survey database created and populated. • GPS tracking survey database created and populated. • Implementation of supplemental photographic surveys with fish traders (women) to characterise species landed (January 2020).	• Continuation of landing and GPS tracking surveys by **MIPARH** with support from **CEM**. • Deployment of novel low-cost and open source vessel tracking technologies that will be rolled out in year 2 that will enhance fisheries data collection – leading to increased sampling of the fleet, finer-scale sampling resolution and reduced financial and logistical costs associated with retrieval of existing GPS tracking units.
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 2020. • 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.	• Analyses of additional fisheries survey data collected during year 2.
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. • Data shared with government partners and Abidjan Convention working group to support MPA planning process. • Findings incorporated into annual environmental education seminars.	• Develop and incorporate survey findings into marine atlas. • Analyse and provide additional survey data gathered during year 2 with government partners and Abidjan Convention working group to support MPA planning process.

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 ~~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). **4.5** By end of YR3, MPA participatory planning and evaluation workshop held with individuals from 4 government	**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 taking part (section 3.1 and Annex 4). Target achieved = 100% (6.5% of local population assessed, and 42% of respondents female). **4.2** Findings from socioeconomic surveys have been analysed, and are supported by a report detailing findings from outputs 1 and 4. From these three concepts for environmental education campaigns have been identified, and concept note, sketches and ideas board have been developed and shared with the appointed graphic designer. Drafts of these materials are expected April 2020 which will be shared with project partners and local stakeholders. Following revisions the campaign material is expected to be finalised in May 2020 (section 3.1 and Annex 4). On target for delivery by Q1 (April – June) year 2. **4.3** The creation of annual environmental education seminar material to present project findings to date, and the appointment of an outreach team was finalised in February 2020 (section 3.1). This activity was scheduled to take place in each community (n = 8) in March 2020. However, due to the recent coronavirus outbreak this activity has been postponed. Delayed - no baseline established in year 1 – two education seminars are planned in each community in year 2 from which the project will be able to assess changes in engagement and impact of outreach activities. **4.4** A 3-day marine protected area workshop was delivered in Grand-Béréby in partnership with government (12-15th December 2019; Annex 4). This workshop brought together ~20 national and local stakeholders and the Secretariat of the Abidjan Convention working group with a focus on: (1) existing knowledge to date; (2) raising awareness of the government initiative; (3) strengthening capacity; and (4) establishing roles and a timeframe for delivery (Section 3.1, 3.3, 3.4 and Annex 4). Target achieved = 100% (1 x 3 day preliminary workshop hosted in December 2019 of year 1 – a further workshop will be held in Q4 of year 2 as originally planned). **4.5** A total of 4 national, 3 local Government agencies 8 communities are already involved in delivery of project activities, MPA creation, and dissemination of knowledge. Planned participatory MPA planning and evaluation workshops are on target for delivery in year 3.

	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 = ~~600~~300, at least 30% of which are female).		• Training materials and protocols developed for digital data collection (*.pdf / *.ppt documents). • 1 week training for 7 persons from local communities and 2 persons from **CEM** (October 2019) covering topics such as: good practices for conducting social studies; sampling protocols; and digital data collection using tablets. • Pilot surveys implemented to refine/update survey protocols (October 2019) in 2 non project focused communities. • 4 weeks digital data collection (October 2019 – November 2019) with a total of 383 respondents (42% women) completing the survey with an average of 69% of households surveyed per rural community (range 40% - 87%). • Survey database populated. • Socioeconomic survey data analysed (December 2019) with final report produced (January 2020).	• Incorporate findings into skills and livelihood activities and training to account for differences in local context between rural (n = 7) and non-rural (n = 1) communities involved in the project. • Identify new individuals from local communities and/or provide refresher training to individuals from initial survey to undertake follow-up surveys in year 3.
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		• Findings from socioeconomic survey data analysed (December 2019) with final report produced (January 2020). • Concepts for environmental education campaign material identified (February 2020). • Concept note, sketches and ideas	• Review draft materials produced by designer with stakeholders (April 2020). • Implement environmental education campaign material in each community in year 2.

	board developed (March 2020). • Designer to develop material appointed (March 2020)	
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.	• Outreach team identified (n = 6 individuals) – comprised of 2 persons from **CEM** and 4 free divers from local communities already engaged in participatory research. • Education seminar material created – comprised of PowerPoint presentation that covers aims of project, key findings from fisheries, biodiversity and socioeconomic surveys to date, including maps, images and videos from underwater surveys.	• Deliver annual environmental education seminars (postponed in year 1 due to coronavirus outbreak).
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.	• 1 x 3 day MPA workshop in Grand-Béréby with 20 stakeholders from the Abidjan Convention, national and local government and communities (December 2019). • Government announcement committing to creating the country's first MPA in Grand-Béréby.	• Prepare for 1 x 2 day MPA workshop planned at end of year 2 – compile invite list, produce invitation letters, identify venue and produce agenda and associated materials.
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.		• Finalise marine atlas by end of year 2 (activity 2.4) to support spatial analyses in year 3.
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.		• Prepare for 1 x 2 day MPA participatory planning workshop in year 3 – compile invite list, produce invitation letters, identify venue and produce agenda and associated materials.

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

Please note: track changes highlighted in yellow are the revisions requested following award letter. Further changes as requested by Darwin Committee following collection of baseline data in year 1 are highlighted in blue (section 10).

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	**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	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.

	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~~, from baselines~~ 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 ~~villages~~coastal communities (n = 8) ~~with~~ have established community-business partnerships ~~(n = 8)~~and see a~~n~~ 50% increase in centralised community managed funds (from tourism-based income-generating activities) ~~by 50%~~, with ~~and~~ at least 10% of households within each community seeing a corresponding increase in ~~improvements in local infrastructure (i.e.~~ access to number of basic services that improve, health, education and well-being ~~of communities~~) 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.	management, reporting requirements), and operational plans. **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 ~~8~~ 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 ~~an established~~ baseline established in YR1 ~~by project end~~. **1.2** At least 10% of households (surveys implemented in YR1) in ~~Eight~~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	**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 workshops and internships.

	of YR1 (minimum target 5% of local population; n = 6,000 individuals). **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** 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. **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.	**1.4** Formal code of conduct among business owners and representatives of local communities. **1.5** Workshop reports, interim field reports, ledger. Community management association/committee documents (i.e. structure and roles; disaggregated by gender). **1.6** Business-owner mentorships, placements and feedback to project partners and interns (disaggregated by gender). Community feedback received during regular community meetings. **1.7** Training workshop attendance certificates (including community demography); training materials, species lists, community guides developed with experts/trainers (disaggregated by gender). **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).	Trained individuals remain in employment with partner organisations and/or have the ability to appoint replacements. Cost of subscribing to fisheries cooperative remains achievable for all fishers. The success of the fisher cooperative will be sufficient enough to encourage more fishers to subscribe.

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, ~~(n = 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 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 ~~end~~ start of ~~YR2~~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.	**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.
Output 3. **Enhanced fisheries governance:** Improved knowledge	**3.1** By end of YR1, 100% of fisheries-dependent communities (n = 4) are involved	**3.1** Training workshop attendance certificates (disaggregated by gender).	Target communities remain willing to engage in participatory research and

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.	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).	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.	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 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-	**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	**4.1** Annual marine biodiversity awareness and perception survey findings and reports (disaggregated by gender). **4.2** Evidence of campaign material (in English, French and Krou). Community ceremonies. Biodiversity displays and visitor, tour guide log-books (with demographic questions to ascertain audience reach and disaggregated by	Local communities remain willing to attend dissemination events and engage in participatory planning workshops. Project partners keep accurate records of participant numbers, and anonymise participant feedback. Participants respond truthfully during discussions / questionnaires.

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.	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 ~~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). **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.	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.	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.

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 ~~10~~5% of coastal population n = ~~600~~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 ~~1~~ 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 ~~10~~5% of coastal population n = ~~600~~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	1
6A	Biodiversity, fisheries and socioeconomic survey training	21 x male 2 x female	Ivorian	23			23	20
6B	Biodiversity, fisheries and socioeconomic survey training	N/A	N/A	16			16	30
7	Biodiversity, fisheries and socioeconomic survey protocols; environmental education/awareness material; livelihood training materials	N/A	N/A	3			3	10
9	Species status assessments for 3 species groups, marine atlas, marine protected are management/zoning plan	N/A	Language (French/English)	0			0	5
10	Local species ID guide (using data gathered from surveys)	N/A	Language (French/English)	0			0	1
11B	Biodiversity and fisheries research findings	N/A	Language (English/French - abstract)	0			0	2
12A	Marine atlas	N/A	Language (French/English)	0			0	1
14b	Environmental dissemination seminars in local communities; MPA planning workshop	N/A	Language (French/English)	0			0	26
20	Research boat (inc. engine and essential safety equipment), marine biodiversity survey equipment, fisheries survey equipment and reference material (i.e. species ID guides)	N/A	N/A	£28k			£28k	£35k
22	Research sites: Dawa, Kablaké, Mani-Béréby, Néro-Boupé, Néro-Mer,	N/A	Ivorian / Ghanian	8	8		0	8

	Pitiké and Roc and-Grand-Béréby.							
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)

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

The following reports and training materials have been appended with the submission of this

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	×
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. 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.	