

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

Important note *To be completed with reference to the Reporting Guidance Notes for Project Leaders:
it is expected that this report will be about 10 pages in length, excluding annexes*

Submission Deadline: 30th April 2019

Darwin Plus Project Information

Project reference	DPLUS067
Project title	Regional collaboration to achieve sustainable Caribbean fisheries management
Territory(ies)	Anguilla, British Virgin Islands (BVI), Turks and Caicos (TCI)
Lead organisation	Cefas
Partner institutions	Department of Fisheries and Marine Resources (DFMR, in Anguilla), Conservation and Fisheries Department (CFD, in BVI), and Department of Environment and Coastal Resources (DECR, in TCI)
Grant value	£228,584
Start/end date of project	01/04/2017-30/11/2020
Reporting period (e.g., Apr 2018-Mar 2019) and number (e.g., AR 1,2)	Apr 2018- Mar 2019, AR2
Project leader name	Rosana Ourens
Project website/blog/Twitter	
Report author(s) and date	Rosana Ourens, 18/04/2019

1. Project overview

Caribbean UKOTs possess rich marine environments with significant resources. Fisheries comprise a significant component of the resources and often local economies, and consequently recent Joint Ministerial Council (JMC) communiqués recognised the need for policies to support sustainable fisheries, and the UKOT Biodiversity Strategy identified “*Conservation and Sustainable Use of the Marine Environment*” as a priority.

In British Virgin Islands (BVI), Turks and Caicos (TCI) and Anguilla (Fig. 1) conch and spiny lobster are commercially the most important fishing resources and they support the livelihood of many families. The lack of fisheries data and science capacity, and effective legislation and enforcement, have been identified as barriers to achieve sustainable exploitation. While in all three UKOTs there is Government support for sustainable exploitation, the lack of capacity and evidence to inform decision making, and each UKOT addressing the challenge in isolation, has hampered progress to date.

This project will provide the three UKOTs with the skills, knowledge, data and tools to conduct reliable stock assessments and use scientific evidences to support fisheries management decisions. The project has four main outputs: 1) improve the fishing data collection, 2) data analysis and assessment, 3) fisheries management, and 4) capacity building and collaboration.

Each of the first three outputs will focus on one UKOT but involve all three territories to share knowledge and experience. Based on the priorities identified by the UKOTs, the first output will be focused on Anguilla, the second in BVI and the third output in TCI.



Figure 1. Map of the Caribbean. The three host countries are highlighted in red

2. Project stakeholders/partners

Cefas regularly communicates with the three partner institutions to discuss the progress of the project, request data, clarify information, etc. The communication channels are WhatsApp, phone calls, or emails, depending on the subject and the individual being communicated with.

The main tasks of the partners in the project are: 1) participate in the design of activities providing ideas and local knowledge; 2) collect fishing data and share it electronically with Cefas; 3) actively participate in the workshops programmed; 4) assist Cefas with the organisation of the workshop when it is hosted in their country; 5) collaborate with Cefas during the visits in-country; 6) discuss with Cefas the progress of the project and communicate any issue or potential obstacle to achieve the goals; 7) participate in the decision-making of the project.

Communication with the partners has been crucial to adapt the activities to the local needs to achieve sustainable fisheries. Last financial year we submitted a change request to replace a habitat survey in Anguilla with the use of new technologies in data-collection in the three UKOTs. Cefas and the three partners strongly believe that this change will help to achieve the main outcome of the project, as a common issue in the three UKOTs is the limited staff and economic resources to collect and analyse fishing data (see section 7 for more details about the change request).

The three partner institutions have greatly assisted Cefas staff during their visits to the UKOTs. In addition to provide advice on the logistics for the trips (i.e. best dates, accommodation, rental cars, etc.), they arranged interviews, meetings and informal chats with the fishing industry. A fisheries officer accompanied Cefas staff during these meetings with the fishermen in the three UKOTs. Moreover, CFD and DFMR conducted a catch sampling with Cefas to test the new data-collection programme (see activities in section 3.1).

The three partner institutions actively participated in a workshop on data-collection run by Cefas in Anguilla. They also sent their fishing data to Cefas at the beginning of the project, and BVI and TCI send regularly updates with the new data. Unfortunately, Anguilla is not collecting as much data as expected. Cefas has designed a fisheries' monitoring programme for Anguilla, which includes observer trips and data collection in the harbours when the fishermen land. This project would pay the fishermen and the observer US\$50 per trip, but they only did 1 out of 10 observer trips expected last year. They are not collecting much fishing data in the landing areas either. DFMR also agreed to interview fishermen to locate the fishing grounds for lobster, but

the interviews were done when staff from Cefas visited the country in May 2018. A combination of factors led to this situation. First, the fishing industry in Anguilla is not engaged on data-collection, and it believes DFMR does not care about the needs of the fishermen and their livelihoods. These feelings have increased after Hurricane Irma, and consequently fishermen do not want to cooperate. In addition, DFMR does not have its own vehicle or boat to visit the harbours, and the frequency of the sampling has therefore decreased over the years. It is also possible that datasheets may have been misplaced before being entered into the spreadsheet, a problem that would be accentuated by chaotic vehicle arrangements. The other activities programmed in Anguilla have been carried out with success (see activities in section 3.1).

Unlike Anguilla, the fishing industry in BVI assists the meetings organised by CFD and they have provided ideas to implement a co-management in Anegada Island (see activity 3.6). The involvement of the fishing industry of TCI on the project has not been required yet.

3. Project Progress

3.1 Progress in carrying out project Activities

Only the activities that have been conducted last year are included in this section. All activities expected during the project are listed in the framework (Annex 1 and 2) and the timetable of the project (Annex 3).

OUTPUT 1. DATA COLLECTION

Activity 1.1. Cefas visits Anguilla, BVI and TCI to gather existing fisheries data, identify fisheries management policies and practices, etc. Rosana Ourens (project leader), Koen Vanstaen (project advisor) and Ewen Bell (senior fisheries advisor) visited Anguilla and BVI in June 2017 and had a videoconference with TCI to start up the project. The data requirement and data sources were identified, as well as the main obstacles to achieve a successful fisheries management. Unfortunately, the project was postponed for 6 months after the Hurricane Irma, and the needs and priorities of the partners changed (see section 7). Consequently, Rosana Ourens visited the three UKOTs again in May 2018 in order to review and adapt the work plan with the partners and start the activities 1.3 and 1.15. The existing fisheries data and policy documents were shared with Cefas. Annex 4 includes supporting evidence of the trip in May 2018.

Activity 1.2. Existing data are collated and assessed for their sustainability to assess conch and spiny lobster stocks. Anguilla shared with Cefas a spreadsheet that contains information on the fishing activity (fishing effort, landings, fishing ground, etc.). The data are very scarce, and some improvements are needed in order to conduct reliable stock assessments (see activity 1.13). BVI provided a database with the logbook data, but the information for the last 8 years was only on paper and they were lost during the Hurricane Irma (see Annex 6). For the stock assessments, Cefas will use the data being collected with the new data collection programme (see activity 1.7) and explore the sale notes from the market to estimate total landings. The stock assessments in TCI will be conducted using the landings provided by the processing plants and the size composition of the landings.

Activity 1.3. Develop and issue Maturity Model questionnaire. A fisheries officer from each UKOT was interviewed by the project leader in May 2018 to assess the following components of their fisheries: data collection, stock assessments, fisheries management, and the regional collaboration in management. The questionnaire and the results of the interviews are in Annex 5. The same questionnaires will be filled out again at the end of the year 3 in order to assess the impact of the project on those components of the fisheries from the partners' perspective.

Activity 1.4. Review extensive logbook holdings in BVI. The logbook data was analysed, and the results are described in Annex 6. The database contains only 126 observations on spiny lobster and 3 observations on conch, from April 2005 to May 2010. Data 2011-2017 was lost during the Hurricane Irma. It was only possible to analyse the temporal trends of the lobster fishery.

Activity 1.5. Report analysis of the logbooks to fishers to demonstrate the value of the data collected. CFD had a meeting with the fishermen in April 2019 to explain the outcomes of the workshop on data-collection (activity 4.1). They talked about the current issues with the logbooks (i.e. limited staff to digitalise the information, relevant information is not being recorded) and the phone app that will be used in the future to report landings (activity 1.11). The list of participants is in Annex 7.

Activity 1.6. Develop sustainability indicators based on logbook data in BVI. The current logbook data are scarce and fragmented. Sustainable indicators were explored, but it was possible to create only one reliable indicator for spiny lobster (Annex 6). Some improvements have been suggested to the current logbook form in order to collect the information necessary to develop indicators (e.g. number of hauled traps need to be reported). The future phone app to report landings will include relevant data for the creation of indicators.

Activity 1.7. Revise existing protocols for data collected through logbooks. Collaborate with stakeholders to develop an effective data collection programme. Cefas assisted CFD with the design of a landing monitoring programme. A fisheries officer is sampling the landings from vessels targeting lobster once a week. The number of traps, fishing area, and total landings are recorded, as well as the sex, size and maturity stage of female lobsters from a representative sample of the landings. Conch fishery is more difficult to sample because fishers only bring the clean meat of the animal to the port, leaving the shells in the water. Paradoxically, the minimum landing size established for conch is based on the width of the lip of the shell, and therefore this management regulation cannot be enforced. Fishers have been asked to bring a sample of whole animals to the landing area in order to estimate the maturity state of the animals, dimensions of the operculum, length of the shell and width of the lip of the shell. The relationship of these measurements will be estimated, and the implementation of a new minimum landing size will be explored. Cefas has created form sheets to collect the data (Annex 8) and a database in Office Access to store the information.

Activity 1.8. Assist the implementation of the new data collection programme in BVI. Cefas and CFD conducted a landing sampling together in May and November 2018 (Annex 9). Some modifications in the design of the data collection programme were made after this experience, and the database and form sheets were modified accordingly. Since the implementation of the catch sampling, 41 landing trips have been sampled, and biological information of 1679 lobsters and 30 conchs have been recorded. In addition, see activities 1.10 and 1.11.

Activity 1.9. Trial community led rapid species status survey in the Horseshoe Reef FPA, BVI. CFD is implementing 5 fisheries protected areas in the country. The Horseshoe Reef FPA in Anegada is located in the most important fishing area for conch. Lobsters can also be harvested by small vessels in the FPA, but it is not the most important fishing ground for this species. CFD will implement a co-management system in Horseshoe reef FPA, where fishers from Anegada and CFD will collaborate in the management of the fishing resources. The current no-take zone in the south of the FPA will be kept. As included in the proposal, Cefas designed a survey to quantify the impact of the FPA on the lobster and conch populations (Annex 10). However, after discussing the survey with CFD it was decided that the new data-collection programme could provide the data necessary for the analysis. Indicators of fisheries performance will be developed (e.g. mean size of the landings, mean landings per unit effort) and compared over time to estimate the impact of the FPA on the fishing resources.

Activity 1.11. Design and test a phone app for the fishermen to provide fishing data. A common challenge in the three UKOTs is the limited staff and resources invested on data-collection and the consequent limited number of landing samples. Activities 1.11 and 1.12 were designed to streamline and make the data collection in the three UKOTs more effective.

The app development company Quytech is developing a mobile app for the fishermen to report information about their daily fishing activity. The app will replace the current logbooks in BVI in the future. Fishermen will be asked to report fishing effort, fishing area, weight landed by species, and the main market (local restaurants, processing plants, exports, etc.). The information will be stored in a database hosted by the partners on their server for further analyses. The fishermen can also see and download summary reports of their fishing activity. Annex 11 contains a video to show the information collected by the app.

The app has been tested during the workshop held in March 2019 in Anguilla (activity 4.1), and feedback has been provided to Quaytech. The app will be finished in the first quarter of the financial year 2019/2020.

Activity 1.12 Design and test the use of Bluetooth callipers for data collection. Each UKOT was provided with a Dell Latitude 7212 tablet, an electronic calliper and a Bluetooth adapter to streamline the landing sampling (Annex 12). The tablet is rugged, designed to be used in extreme weather conditions and sealed to protect it from water (Fig. 2). The Bluetooth adapters allow the user to directly enter the size of animals into the tablet via Bluetooth. Cefas is adapting the database originally designed for the catch sampling in BVI for general use in the three UKOTs. Using the three buttons of the adapters, users can enter not only the size, but also the sex, maturity and moulting stage of the animals. The database was discussed with the partners during the workshop in Anguilla in March 2019 and it will be finished in the first quarter of the financial year 2019/2020.

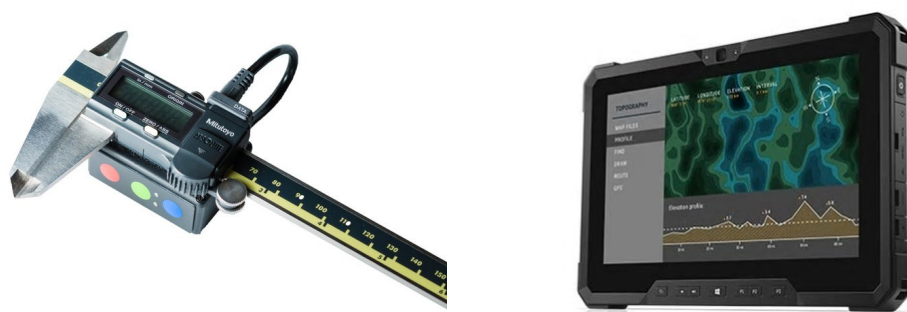


Figure 2. Equipment provided to the three UKOTs. Pictures taken from supplier's website

Activity 1.13 Design and implement an effective fishing data collection programme in Anguilla. The fishing data collected by DFMR has been revised, and Cefas and DFMR had several discussions by phone and in person to design a new data collection programme. The final recommendations provided by Cefas are in Annex 13. Cefas and DFMR conducted a landing sampling in May 2018 to test and implement the data collection programme. The main risk for the success of the programme is the low cooperation of the fishermen. Currently, there is no legislation in Anguilla to authorize DFMR to weigh or measure the landings, and therefore fishing data only can be collected if fishermen are willing to collaborate.

DFMR is in the process of implementing legislation to support this. In the meantime, Cefas and DFMR discussed and agreed a set of measurements to engage fishermen in data-collection (see Annex 13). We also organised 1-day workshop with the fishermen to enhance the relationship between DFMR and the fishing industry (see Annex 14).

Activity 1.14. Set up interview surveys in Anguilla to reconstruct fishery history.

Cefas interviewed 16 out of 40 lobster fishermen in Anguilla in May and November 2018 to reconstruct an overview of the fishery history. 6 additional fishermen were approached but they refused to collaborate. A fisheries officer of DFMR arranged the interviews with the fishermen and accompanied Cefas staff during the interviews. The interviews were individual and conducted in a relaxed environment for the fishermen, mainly in their own houses after work.

The questionnaire was designed by Cefas and revised by DFMR. It includes a section to characterise the profile of the respondent (e.g. years being a fisherman, number of people living in the household, etc.); a section to describe the temporal trends of the lobster fishery; questions to understand their perceptions about the fisheries management in Anguilla; and a final section to quantify the impact of the Hurricane Irma on their livelihoods. The questionnaire is in Annex 15 and the data will be analysed at the beginning of 2019/2020.

Activity 1.15. Interviews in Anguilla to identify the fishing grounds of spiny lobster.

Cefas bought a nautical chart of the Anguillan waters to create maps in A3 and A4. Fishermen were asked to locate the fishing grounds of lobster in the maps and identify the most productive

ones. Cefas and DFMR staff often had to assist the fishermen to locate the areas in the map asking questions about how far they go from the coast, which direction, or how deep they normally fish. The interviews were individual and conducted in a relaxed environment for the fishermen, mainly in their own houses after work.

11 out of 40 lobster fishermen were interviewed. The information was digitalised and analysed in GIS. Annex 16 includes a map with the fishing grounds located by a fisherman, pictures during the interviews, and the final maps with the fishing grounds.

Activity 1.16. Collate and rationalise fish processor datasets from TCI. DECR shared with Cefas 30 spreadsheets for lobster and 65 for conch that contained the daily landings per fisherman recorded by the processing plants between 2003 and 2018. Each sheet in the spreadsheets for lobster contained the fishing data for a specific month. The spreadsheets for conch were organised by week, and each sheet contained the information of a specific week.

Cefas combined all data in a single spreadsheet for lobster and another for conch to analyse the evolution of the fisheries. The code created in R software and used to combine the data was shared with DECR. The same code can be used again in the future to add new data. Annex 17 contains a screenshot of a spreadsheet for conch shared with Cefas, and a screenshot of the combined spreadsheet.

Activity 1.17. Improve the data collection programme in TCI if needed. The design of the data collection programme in TCI is appropriate and more effective than in BVI and Anguilla. However, the number of catch samples is scarce due to the limited personal and economic resources. The new Bluetooth callipers and tablets will streamline the data-collection and data entry, making feasible to increase the number of samples (activity 1.12).

In addition, the landings reported in the future by fishermen with the new phone app will be useful to estimate the total landings in TCI (activity 1.11). A small proportion of the landings is sold directly in the local restaurants, and therefore is not recorded by the processing plants. With the phone app it will be possible to estimate this figure.

Activity 1.18. Improve the data management in TCI if needed. See activity 1.16.

OUTPUT 2. DATA ANALYSIS

Activity 2.1. Apply data analysis routines to existing datasets to describe historic trends in conch and spiny lobster stocks over time. The datasets provided by BVI were analysed (Annex 6). The data provided by TCI and Anguilla were rationalised and they will be analysed at the beginning of 2019/2020.

OUTPUT 3. SUSTAINABLE MANAGEMENT

Activity 3.1. Assess the strengths and weakness of existing fisheries management approaches in each UKOT. The management regulations in each UKOT were communicated to Cefas during the first meeting of the project. The existing documentation on fisheries policy was also shared with Cefas, and some of the strengths and weakness have been already identified. However, the effectiveness of the management will be not formally assessed until the status of the stocks are identified.

Activity 3.5. Encourage fishers to adopt responsible fishing practices. In May 2018 Cefas visited the three UKOTs and had the opportunity to interview and have informal conversations with the fishermen (Fig. 3). The importance of responsible fishing practices was discussed during these meetings. However, this subject will be tackled during the workshop on fisheries management planned in 2019/2020.



Figure 3. Informal conversation between a fisherman in TCI and the project leader.

Activity 3.6. Assist BVI with the implementation of a Fisheries Management Council. BVI is implementing a co-management system between Government and the fishing industry in Anegada to manage the future Fisheries Protected Area in the Horseshoe Reef. Cefas and CFD held a meeting with the fishermen in Anegada in May 2018 to discuss the implementation of the co-management and how it could impact on the fishermen's livelihoods (Fig 4). 9 fishermen attended. From the fishermen's perceptions, the main risk for the success of the co-management is the compliance with the rules by fishermen from other islands.

CDF had a second meeting with the fishermen in early April 2019 to introduce them the new data-collection programme and the phone app designed by Cefas (activity 1.5). They also talked about the design of the co-management. A Fisheries Management Council will be established, with representatives of the Government and a representative of each fishery in Anegada. Fishermen will communicate their representatives to CFD in May 2019.



Figure 4. Meeting with fishermen in Anegada in May 2018

OUTPUT 4. CAPACITY BUILDING AND COLLABORATION

Activity 4.1. Deliver three 3-day training workshops, one in each UKOT. Cefas has run the first workshop on fisheries data-collection in Anguilla between the 5th and 7th of March 2019. Two fisheries officers and a fisherman from each country were invited, although the fisherman from British Virgin Islands had to cancel the trip for family reasons (List of participants in Annex

15). The goals of the workshop were the following: a) identify a vision and objectives of the fisheries data-collection programmes; b) enhance knowledge to design effective data-collection programmes; c) test the use of new technologies in catch-sampling programmes; d) learn about software available for data management (i.e. Microsoft Access); e) exchange of experiences and practices used by the three UKOTs on fisheries data-collection.

The workshop was delivered by three fisheries scientists from Cefas: Rosana Ourens, project leader; Chris Firmin, who has extensive expertise in creating and handling databases; and Gwladys Lambert, senior scientist with experience in the design of catch sampling programmes. The report of the workshop is in Annex 14.

Activity 4.2. Gather feedback after each workshop to inform the organisation of the next workshop. Cefas created a survey online using the software Qualtrics to evaluate the quality of the training. The survey was sent to the attendees after the workshop, and on average they scored the workshop 4 in a scale from 1 to 5 (Annex 18).

Activity 4.4. Develop regional network of fisheries managers. The fisheries managers from the three UKOTs exchanged knowledge and experiences during the workshop in Anguilla, and they rated this experience as 5 in a scale 1 to 5 (Annex 18). Cefas will encourage them to keep the communication when the project is finished.

3.2 Progress towards project Outputs

Output 1. Implement new or improve existing conch and spiny lobster fisheries data collection approaches in the three UKOTs. The first output of the project has been fully tackled during the first year and half of the project. When the project started in April 2017 the data collection programme in Anguilla consisted of visits to the landing areas to record information about the fishing effort (e.g. number of traps, fishing time) and landings. The number of observations was very poor, especially in the most recent years (32 observations in 2016 and 28 in 2017, only 4 and 3 for lobster, respectively). No information has been recorded regarding the populations (e.g. size composition, sex ratio). Annex 13 contains the Cefas recommendations to improve the data collection and incorporate information about the lobster populations (sex, size and maturity state). The suggestions were previously discussed with DFMR, and form sheets were also created to record the information. Although not included in the objectives of the project, Cefas ran a workshop with Anguillan fishermen and DFMR to improve their relationship and engage fishermen in data collection (Annex 11). Additionally, fishermen were interviewed to reconstruct the history of the fishery (evolution of the landings, fishing effort, economic value, etc), describe their social profile, quantify the impact of the hurricane Irma on their livelihoods (Annex 15), and identify the fishing grounds for lobster (Annex 16).

The fishing data regularly collected in BVI when the project started were the logbooks provided by the fishermen and the sale notes from the fish market. Some landing samplings were also conducted to record the sex, size and maturity of the female lobsters, although Cefas has no access to these data. One of the main problems of the data collection in BVI is that a significant proportion of the data are stored only on paper and therefore are not available for analysis. In addition, part of this information was lost during the Hurricane Irma in September 2017. To improve the data collection programme in BVI, Cefas has assisted CFD with the design and implementation of a catch sampling for conch and lobster (form sheets in Annex 8). Cefas also designed a database for data entry, and since November 2018, 41 fishing trips have been entered. Information about the fishing activity and the status of the populations in the future Horseshoe Reef FPA is being collected with the new catch sampling regime. This information will be used in future to estimate the impact of the FPA on the status of the resources.

The logbooks were analysed, and indicators of sustainability were identified (Annex 6). However, the information recorded in the logbooks is scarce because part of the information was not entered into the database. The new phone app will replace the paper logbooks and will improve the quality of the data. In addition, the app will automatically create reports to show fishermen indicators of their performance (e.g. total landings by species, number of fishing days, etc.). The phone app will be available in the three UKOTs (see annex 11 for a description of the app).

The fishing data regularly collected by DECR in TCI is: 1) the daily landings reported by the fishing processors, 2) landing sampling in the fishing processors to record the size composition, sex and maturity state of the female lobsters; 3) research programme to quantify the lobster recruitment. Additionally, DECR also conducts visual surveys to estimate the abundance of conch in TCI waters. However, these surveys are sporadic, and the last one took place in 2013. The design of the data-collection programme in TCI is appropriate although the number of samples is limited. In order to streamline the data-collection programmes in the three UKOTs and make them more effective, the three partners of the project were provided with a tablet and a Bluetooth calliper (see activity 1.12). In addition, Cefas assisted DECR with the data management by creating a code in R software to combine the conch and lobster landings in a single spreadsheet (see activity 1.16).

Output 1 will be completed at the beginning of 2019/2020, when the phone app and the fisheries database are finished.

Output 2 and output 3 will be approached during 2019/2020 and 2020/2021. See timetable of activities in Annex 3.

Output 4. Training and knowledge exchange initiatives and collaborative working opportunities for UKOT fisheries scientists, managers and fishers. A workshop on data-collection was run by Cefas in Anguilla in March 2019. Fisheries scientists from Cefas, fisheries managers and fishers from the three UKOTs participated in the event. See activity 4.1 in the section above, and annex 14.

3.3 Progress towards the project Outcome

The outcome of the project is 'Fisheries managers and fishers in the three UKOTs have the skills, knowledge, data and tools to inform sustainable management and exploitation of their commercially important fisheries'. The first year and a half of the project was focused on improving the data-collection programmes and provide managers with the skills to design effective data-collection schemes (output 1). The indicators and means of verification used to assess the output 1 were described in the previous section.

The project is on track and the outcome will be achieved by the end of the project (see calendar of activities in Annex 3).

3.4 Monitoring of assumptions

Some of the assumptions have changed since the proposal of this project:

- 1) Fishers in Anguilla do not support the data collection programme. The data collection programme in Anguilla has been designed and implemented already. However, only a few fishermen are collaborating, and the number of observations is scarce. To improve the situation, Cefas and DFMR agreed a set of actions to engage fishermen in data-collection. DFMR also is trying to implement a legislation that authorise DFMR to measure and weigh the landings.
- 2) The camera survey in Anguilla could not be conducted because of difficulties in finding a suitable vessel and the limited staff availability from DFMR. The activity was formally replaced with the introduction of new technologies in data collection (see section 7).
- 3) The logbook database in BVI does not contain sufficient data to develop meaningful indicators and only one indicator for lobster could be developed. Cefas will explore additional data sources to develop new indicators (e.g. new data collection programme).
- 4) Available data are not robust enough for assessment purposes in Anguilla. Cefas will identify which approach is most appropriate to assess the stocks in Anguilla taking into account the data that will be available in the future with the new data collection programme. Data from another fishery will be used as an example to train DFMR with the stock assessments. A similar approach might be implemented in BVI if necessary. Because the logbook data are not reliable, the only information available to assess the stocks are the data collected with the new data-collection programme. Some data-limited approaches can be already used to identify the status of the stocks. However, more sophisticated models can be used in the future when the data-collection programme is run over the years and total landings are recorded with the phone app.

3.5 Project support to environmental and/or climate outcomes in the UKOTs

By the end of the project the fisheries managers of BVI, TCI and Anguilla will have the skills, tools and knowledge to design and implement a fisheries policy that preserve the marine ecosystems and enhance the socio-economic development of the fishing communities.

The design of an effective fisheries monitoring programme is the first step towards promoting responsible use of marine resources, as data is needed to identify the status of the stocks and provide scientific advice on management. During this financial year the project has improved the data-collection programmes in the three UKOTs.

4. Monitoring and evaluation

The project manager is operating in accordance with Cefas' ISO 9001 certified quality management system. The Project Manager (PM) and Project Leader (PL) meet at least once a month to track progress against milestone delivery and quality using the logical framework of the project and the timetable of the activities. Finances are also revised monthly and the expected expenses for the following months are forecast. The PM also maintains a risk register which is reviewed monthly. When a new risk has been identified (e.g. Hurricane Irma, the difficulty to find a vessel in Anguilla to conduct the camera survey), the PM and PL explored options to revise the project plan to achieve the best outcome. The changes of the project were discussed with the partners in the UKOTs as well as being discussed and internally approved by the project sponsor (senior fisheries scientist at Cefas) before submitting the formal request to Darwin. The reports submitted to the Darwin Administrators are being also reviewed and approved previously by the project senior fisheries advisor.

The maturity model questionnaire completed by the three UKOTs at the beginning of the project, will be completed again at the end of the project to monitor achievements from the partners' perspective. The quality of the training is also assessed by the attendees by completing an evaluation form.

5. Lessons learnt

1) The partners' engagement is essential for the success of the project and it is necessary to ensure they can do the work assigned to them. A good strategy for engagement is to design a project adapted to their needs, so the effort and time invested on the project is worthwhile for them. In this case, DFMR did not have enough staff to work on the camera survey planned in Anguilla and they were not very engaged in the pre-survey work. For this and other reasons (see section 7), the camera survey was replaced with the use of new technologies in fisheries data-collection. The new activities much better meet the partners' needs and contribute to achieve the outcome of the project. The three UKOTs have provided all information that has been requested to develop the phone app so far.

2) Political, social and cultural circumstances might affect the outcomes of the project. The data-collection in Anguilla is challenging due to two external factors to the project: 1) the fishing industry is not cooperative. During interviews and informal chats many fishermen complained about the poor state of the landing areas, the lack of a maritime rescue, or the lack of economic help by the government to overcome the impacts of the Hurricane Irma on fishermen's livelihoods. Although they realise DFMR is not responsible of all these limited services, they do not want to cooperate with DFMR as they are part of the government. A set of actions were discussed in this project to engage the fishing industry, and DFMR is exploring methods to implement them. 2) DFMR submitted a request to the government more than 4 years ago to create a legislation that authorises DFMR to measure and weigh the landings. The request is still being processed, and in the meantime the data-collection depends on the fishermen's collaboration.

Because these issues cannot be solved by the project, our strategy was to advise DFMR to improve the relationship with the fishing industry and design a data-collection programme appropriate for the future, when DFMR is able to collect data.

3) The study area is situated in a potential hurricane region, and the activities must be scheduled taking the hurricane season into account. The partners can provide good advice in

this regard. In addition, a risk assessment and a safety plan have been developed to mitigate the impacts of future hurricanes on the outputs of the project (section 6).

4) Phone calls and texts via *whatsapp* are the best methods to communicate with the partners in the host countries. Their replies to the emails are sometimes very late.

5) The duration of administrative processes need to be taken into account when a change request is submitted. Overseas projects need to be very adaptive to the fluctuating circumstances. During the first eighteen months of the project we have submitted two change requests. The first change was to delay the project for 6 months after Hurricane Irma. The request included a movement of funds between financial years, and it took almost three months to be approved. The second change request was sent in the 24th October 2018 to replace the camera survey in Anguilla with new technologies in data-collection. It was not necessary to move funds in this case because the new activities would be carried out in the same financial year, 2018-2019. However, the request was approved on the 11th December 2018 and therefore the new activities had to be carried out in the next three months. The phone app was planned to be developed by the IT Department of Cefas, but when the change was approved, they did not have enough time to do it in the time frame scheduled. The project leader had to put it out to tender before Christmas to find an external company to develop the phone app on time and budget.

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

The project was only active for 6 months when the previous annual report was submitted and consequently it could not be scored.

Here the answers to the reviewer's comments:

1. *Fisheries data in BVI was lost to the Hurricane. It is understood that BVI is trying to recover as much data as possible for analysis. If data cannot be recovered, how will this affect assessment of stock status and development of sustainable fisheries management?*

Cefas will explore alternative data sources to conduct the stock assessments in BVI, such as the sale notes from the market or the data collected with the new monitoring programme. However, many stock assessment models require long time series of data and therefore the range of possibilities will be reduced with the new monitoring programme.

If the stock assessment conducted in BVI with the available data is considered not reliable, Cefas will train CDF staff on stock assessment using data from another fishery. They can use the same approach in the future, when they have time series of data with the new monitoring programme.

2. *The report states that Anguilla wishes to focus only on spiny lobster fishery because of a shortage of human capacity, and that indicators will change accordingly. Why was this constraint not identified during project design and reflected in the application? A change request must be formally submitted to approve changes at the outcome and output level.*

DFMR is a small department with very limited economic and human resources. When the proposal was written DFMR had 5 fisheries officers who collected and analysed the fishing data. Last year the department lost three fisheries officers, including the person in charge of this project in the host country. Only one officer was replaced. Darwin has approved the change request to focus the project on spiny lobster in Anguilla.

3. *Since hurricane risk has increased in 2018, the reviewer recommends the project develops a risk assessment, detailing how the impact of hurricane activity on the project's outcome and outputs will be effectively mitigated.*

A risk assessment for the project has been developed to evaluate the potential impact of the hurricane on the outcome and outputs of the project. The hurricane risk has increased in 2018, but the potential impact has decreased because the three UKOTs have already shared with Cefas their current fishing data. If another hurricane impacts again the UKOTs, the information shared with Cefas would not be lost and Cefas could keep working with the current data. The control measures suggested to mitigate the impact of future hurricanes on the project are the following: 1) When possible, schedule the activities programmed in the UKOTs out of the

Hurricane season (September-December); 2) partner institutions should enter fishing data on the databases or spreadsheets on a regular basis and share the information with Cefas through the Dropbox folder created for the project. This practice would avoid the loss of information if another hurricane impacts the UKOTs; 3) a travel safety plan has been created for Cefas staff travelling to the Caribbean. The plan includes from actions prior to travel (e.g. keep up to speed with any tropical storm developments in case the trip needs to be cancelled) to an emergency hurricane procedure.

4. How will the Maturity Model Questionnaire be implemented-circulated to project partners or a structured interview? How will you ensure the questionnaire is used effectively?

See activity 1.3. in section 3.1.

5. The report states the Darwin logo has been included in all presentations given in the three countries. However, the reviewer is unaware what presentations are referred to. Please substantiate reference to presentations in future reports.

Cefas shared a short presentation to introduce Cefas' expertise and the objectives of the project during the kick-off meetings with the three partners. The attendees to the meetings were staff from the fisheries departments, not all of them familiar with Darwin and the project. In the last year the Darwin logo was also included in the presentation shared with the fishermen in Anegada in May 2018 (see section 9). The Darwin Logo will also be included on the Fisher's App "CariCatch"

6. The project states a project flyer has been distributed to fishing communities to support their buy-in. However, no details on this distribution have been provided (how many, when, where?). Please clarify.

See section 9

7. The project states several meetings are planned with fisher communities to ensure their collaboration. However, no such meetings are identified in the activities. It is unclear if these meetings have been budgeted, when they are planned and how they will be managed. Since the sustainability of the project is dependent on fisher participation, clarification is required. Please demonstrate how collaboration with fishers will be secured.

It needs to be clarified the sustainability of the project only depends on fisher participation in Anguilla. BVI and TCI have legislation in place that legally supports the fisheries department to check the landings and record fishing data.

Fishers participation is also crucial for the success of the co-management in Anegada (BVI). However, this does not directly affect the sustainability of the project, as the management regulations and management plan could be kept by the central government if needed.

A good communication between government and fishing industry is essential for a successful fisheries governance. Meetings with the fishing industry have not been budgeted in the project or included in the activities because they are part of the routine work of the project partners and they will be scheduled as required. Cefas staff will provide advice before the meetings if needed, but it will not be present in all cases. The meetings undertaken with the fishing industry in the last year are the following:

-First meeting with the fishing industry in Anegada to discuss the co-management system. The meeting took place during the Cefas trip in May 2018 to re-start the project after the Hurricane Irma (see activity 1.1. in section 3.1).

-1-day workshop in Anguilla to enhance the collaboration between fishers and DFMR. It took place in March 2019, when Cefas was running the workshop on data-collection (see annex 11).

-Meeting between CFD and fishermen in Anegada to discuss the outcomes of the workshop on data-collection (see activity 1.5 in section 3.1)

At least one more meeting is planned with the fishing industry in Anegada next financial year to agree restrictions to minimise fishing impacts within the community (activity 3.7 in Annex 1). The meeting will most likely take place when Cefas is in BVI to run the workshop on stock assessment.

In addition to the interviews with the fishermen planned in Anguilla, Cefas has met individually and informally fishermen in TCI and BVI to introduce them the project and understand their concerns about the future of the fisheries. Cefas used this informal approach to talk with 9 fishers in BVI and 8 fishers in TCI.

7. Other comments on progress not covered elsewhere

Two relevant change requests have been submitted and approved by Darwin. The first one was submitted after Hurricane Irma devastated the study area in September 2017. Government officials reported extensive damage to airports, houses, hospitals, shelters, schools and ports, and most of the roads were impassable. In order to give enough time to the partner institutions to focus on work again, the project was postponed for 6 months. Part of the funds approved for the first year of the project were allocated in different financial years, and the project ends now on the 30th November 2020, instead of on the 31st March 2020.

The second change request was submitted last financial year to replace the programmed camera survey in Anguilla to characterise the preferent habitats of spiny lobster with the use of new technologies in data-collection in the three UKOTs. In addition, the project in Anguilla is now only focused on the spiny lobster fishery. There were three drivers for this change request: 1) DFMR is a small department with very limited economic and human resources. Last year the department lost three out of 5 fisheries officers, including the person in charge of the project in the host country. Therefore, DFMR did not have enough staff to analyse the videos of the habitat survey and collect fishing data for the stock assessments. 2) Another obstacle to conduct the camera survey was the difficulty to find an appropriate vessel for the survey. Cefas staff are not allowed to go on board vessels without a safety card issued by MMO. Fishing vessels rarely meet the requirements in the UKOTs, and charter vessels are used instead. There are only three charter companies in Anguilla and none of them were suitable for our survey (one of them was very expensive, other did not want to apply for a free safety card, and DFMR did not want to cooperate with the third company). 3) A common issue in the three UKOTs is the limited staff and resources invested on data-collection. The use of new technologies (activities 1.11 and 1.12) will streamline the process making possible to collect more data in an efficient way. We are confident that the new technologies will contribute more than the habitat survey to achieve the outcome of the project.

8. Sustainability and legacy

The three partner institutions of the project are the fisheries departments of the governments in the three UKOTs, and their mission is to promote a responsible use of the marine resources. This project has been specifically designed to assist them to fulfil their goal. During this 3-year project, the data collection programmes will be revised and updated (output 1), an appropriate stock assessment model for each UKOT and species will be selected and conducted (output 2); and scientific advice on fisheries management will be provided (output 3). In addition to these three scientific outputs, a technical output has been incorporated to ensure a sustained legacy of the project outcome: build local capacity on fisheries science (output 4). To achieve this latter output, fisheries officers from the three UKOTs will attend three workshops on data collection, stock assessment and fisheries management, and they will visit Cefas for 2 working weeks for knowledge exchange. In addition, Cefas will visit the three UKOTs at the end of the project to support outcomes implementation and legacy (activity 3.10 in Annex 1).

Like in BVI and TCI, fisheries officers in Anguilla will be provided with the skills and knowledge to conduct stock assessments and use scientific evidences to support fisheries management decisions. However, their capacity to manage the fisheries successfully in the future could be limited if the data to assess the stocks do not increase.

9. Darwin identity

The project is being publicised in Cefas website:

<https://www.cefas.co.uk/case-studies/regional-collaboration-to-achieve-sustainable-fisheries-in-the-caribbean/>

The project has also been featured by Defra on twitter and so far it has received 14 likes and 12 retweets:

<https://twitter.com/DefraGovUK/status/1105033370210205697>

The Darwin Initiative funding is recognised in all means of communication used to publicise the project, as well as in the meetings and informal chats hold with the fishing industry in the UKOTs. In this latter case it is also provided a short explanation about who Darwin Initiative is.

The Darwin logo has been included in all presentations of the project, including presentations for the workshop on data-collection, kick-off meetings of the project with the partners, and the meeting hold in Anegada with the fishing industry (see activity 3.6). The Darwin logo has been also included in the splash screen of the phone app (Annex 11) and the flyers created to promote the project within the fishing communities (Annex 19). The flyers describe the goal of the project and activities programmed in each country. They were distributed during the meeting with the fishing industry in Anegada, and during the interviews and informal chats with fishermen in the three UKOTs. 30 additional flyers were left with each partner institution to be distributed among the stakeholders.

10. Project Expenditure

N.B. These costs are from the latest version of the Darwin Budget which includes the two changes to the project – the first post hurricane change request and the second change request to replace Habitat Mapping in Anguilla with the provision of equipment and an App for all three UKOTs

Current Year's Costs	2018/19 Grant (£)	2018/19 Total actual Darwin Costs (£)	Variance %	Comments (please explain any variance)
Staff costs (from Section 5)				
Consultancy Costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (from Section 7)				
Others (from Section 8)				
Audit costs				

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

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
<p>Impact</p> <p>Conch and spiny lobster fisheries in Anguilla, BVI and TCI are well-managed and exploited sustainably, supporting a healthy marine environment, food security, national economies and livelihoods for coastal communities.</p>		<p>Fishing data are needed to conduct reliable stock assessments and provide scientific advice on fisheries management. Consequently, the design of an effective data collection programme is the first step to conduct fisheries towards sustainability. The data collection programmes in BVI and Anguilla were bettered, and some additional improvements are expected next financial year. A set of measurements has been agreed to strengthen the relationship between DFMR and the fishing industry in Anguilla. This is essential to improve the fisheries data collection and management. CFD and the fishing industry had the first discussions to discuss the design of a co-management system in BVI. The fishing industry is also actively collaborating with CFD in the data-collection.</p>	
<p>Outcome</p> <p>Fisheries managers and fishers in three Caribbean UKOTs have the skills, knowledge, data and tools to inform sustainable management and exploitation of their commercially important fisheries.</p>	<p>a) Fisheries managers and fishers' representatives from each of the three Caribbean UKOTs have significantly enhanced their skills and knowledge by participating in four training and knowledge exchange workshops. From a position of limited fisheries stock assessment capacity within governments, a minimum of one fisheries department staff member from each UKOT will be able to</p>	<p>a) Fisheries officers were provided with scientific knowledge to design successful fisheries data collection programmes (Annex 14). New tools were also provided to make most effective the data collection. Evidence in Annex 12</p> <p>b) The existing information in the three UKOTs has been collated</p>	<p>a) 1. A common database for the three UKOTs is being developed.</p> <p>2. A phone app for the fishermen to report landing data will be released in 2019/20</p> <p>3. Two workshops on stock assessment and fisheries management will be conducted in 2019/20</p>

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
	<p>independently perform stock assessment by the end of the project.</p> <p>b) A baseline assessment (currently not existing) of the status of the two key commercial species (conch and spiny lobster) are produced to inform management plans in TCI and BVI. In Anguilla only the spiny lobster stocks will be assessed.</p> <p>c) Data collection and reporting procedures will be improved, drawing on best practice from existing programmes, ICES and Northwest Atlantic Fisheries Organization (NAFO) processes, to develop and inform future management. Improvements in fisheries data collection, analysis and management will be evident for all UKOTs.</p>	<p>and rationalised. The data from BVI was analysed</p> <p>c) 1. A new data collection programme was designed in BVI and Anguilla, and a database to enter the data is being created (Annex 8 and 13).</p> <p>2. TCI was assisted with data management (activity 1.18).</p> <p>3. A maturity questionnaire was conducted in the three UKOTs at the beginning of the project to score their data collection, data analyses and fisheries management procedures (Annex 5). By the end of the project each area will show an increased score.</p>	<p>b) Conch and lobster stocks will be assessed in the three UKOTs using both the existing information and the data being collected in Anguilla and BVI with the new data collection programme.</p> <p>c) Same maturity questionnaire will be completed at the end of the project by each UKOT to assess the success of the project.</p>
<p>Output 1. Data Collection</p> <p>Implement new or improve existing conch and spiny lobster fisheries data collection approaches in all three UKOTs</p>	<p>BVI</p> <p>a) Two fisheries stock status indicators (one for conch, one for spiny lobster) are developed using existing logbook records (completed Year 1).</p> <p>b) Revisions to existing logbook reporting systems following the outputs of a)</p> <p>c) Logbook data are currently submitted by fishers, but they do not receive feedback. A feedback mechanism will be developed to enable fishers to be kept informed about status and trends in commercial fish stocks.</p>	<p>a) A report with the analysis of the logbook data is provided in Annex 6. The report contains the indicators created to assess fisheries performance.</p> <p>b) Some additional information should be collected to create reliable indicators of fisheries performance. This information was communicated to CFD. In addition, a phone app is being developed to replace the current logbooks (Annex 11). The app will record relevant information for the creation of indicators.</p> <p>c) The phone app will generate individual reports showing the fishing performance of fishermen. They can also see and download a summary of their daily records. In addition, annual reports will be created with the information collected with the app and published in the government website.</p> <p>d) Annex 10 contains the methodology of the survey designed by Cefas</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
	<p>d) Horseshoe Reef Fisheries Protected Areas collaborative species monitoring survey will be designed and undertaken at least twice.</p> <p>Anguilla</p> <p>e) Identification of the fishing grounds in Anguilla</p> <p>f) Interviews with fishermen to collect historical fishing data</p> <p>g) Design and implementation of a fishing data collection programme using new technologies</p> <p>TCI</p> <p>h) Collate fish processor statistics</p>	<p>e) Annex 16 contains a map with the fishing grounds</p> <p>f) The interviews were conducted, and the answers entered in a database. The questionnaire is included in Annex 5, and the database is available upon request. The data will be analysed at the beginning of 2019/2020.</p> <p>g) The data collection programme designed for Anguilla is detailed in Annex 13</p> <p>h) Diverse datasets from the fish processors were combined in a single spreadsheet. Annex 17 contains a screenshot of a regular dataset for conch from the processing plants, as well as a screenshot of the master spreadsheet created by Cefas. The R code used to create the spreadsheet is available upon request.</p>	
<p>Activity 1.1. Cefas visits to Anguilla, BVI and TCI (one working week per UKOT) at project commencement to gather existing fisheries data, identify fisheries management policies and practices, meet with fisheries managers and fishers to thoroughly communicate expected project outcome, outputs, activities and monitoring & evaluation plan.</p>		<p>Cefas visited Anguilla and BVI in June 2017 to start up the project. Cefas and TCI had a videoconference to start up the project because of difficulties to find a suitable date for the visit.</p> <p>Additionally, Cefas visited the three UKOTs in May 2018 to adapt the project to their needs after the Hurricane Irma. Evidence in Annex 4</p>	
<p>Activity 1.2. Existing data (logbook, landings, observer, scientific, etc.) in all three UKOTs are collated and assessed for their suitability to assess conch or spiny lobster stock status.</p>		<p>Existing data in the three UKOTs were shared with Cefas. The current fishing data in Anguilla are very scarce. Suggestions to improve the data collection have been provided. The logbooks in BVI could be biased and Cefas recommends not to use them in stock assessments. The data from the new catch sampling will be used instead. Information from the market</p>	<p>BVI will send the fishing data from the market complex to assess their suitability to assess conch and spiny lobster stocks. This information has been recently recovered after the Hurricane Irma</p>

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		complex will be assessed as well. The fisheries data provided by the processors in TCI will be used for the stock assessments in this UKOT.	
Activity 1.3. Develop and issue Maturity Model questionnaire to fisheries departments (topics covered will include status of fisheries data collection, assessment and management along with capacity within government fisheries departments). Monitor project progress against questionnaire at end of year 2 and 3.		The questionnaire was completed for the three UKOTs after the Hurricane Irma, and the information was analysed. See annex 5	The questionnaire will be filled out again at the end of the project
Activity 1.4. Review extensive logbook holdings in the BVI and where possible develop analysis routines to inform fisheries management.		Data from the logbooks were analysed, and the code created in R for the analyses was sent to BVI in case they need to duplicate the analyses in the future (Annex 6).	
Activity 1.5. Report basic trends derived from BVI logbook reporting with fishers to demonstrate the value of the data collected.		BVI had a meeting with fishermen to show them the temporal trends derived from logbooks and introduce them the phone app designed by Cefas (see activity 1.11) Evidence in Annex 7	
Activity 1.6. Develop sustainability indicators based on logbook data to inform BVI fisheries management.		Logbooks were analysed and indicators developed. However, the information could be biased, and only a reliable indicator was found in the database for spiny lobster (Annex 6)	Other data sources will be considered to develop indicators of sustainability (e.g. the new landing sampling programme, or the future landing data recorded with the phone app)
Activity 1.7. Revise existing protocols for data collected through logbooks and landings reporting. Collaborate with fisheries managers, fishers and BVI Fishery Advisory Committee to develop an effective data collection programme.		Cefas assisted BVI with the design of a landing monitoring programme. Form sheets were provided (annex 8), as well as a database in Office Access to enter the data (available upon request). In addition, see activity 1.11 and 1.12	

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Activity 1.8. Assist the implementation of the new data collection programme in BVI and data reporting to fishers via Government website. Assess the effectiveness of the new data collection programme and reporting system		Cefas and BVI conducted a landing sampling for conch and spiny lobster together in November 2018. Feedback from BVI was provided, and the database and form sheets modified accordingly.	The quality of the database will be assessed in 2019/2020
Activity 1.9. Trial community led rapid species status survey in the Horseshoe Reef FPA, BVI. Use of new technologies		Cefas sent the recommendations for the survey to CFD (evidence in Annex 10). However, it was decided that the stocks in the Horseshoe Reef FPA could be assessed using the new landing sampling implemented in BVI.	Data from the new landing sampling will be used to compare sustainability indicators inside the Horseshoe Reef FPA over time
Activity 1.10. Analyse trends in BVI species status based on the rapid assessment methodology		See comment in 1.9	
Activity 1.11. Design and test a phone application for the fishermen to provide fishing data.		The first version of the app was tested during the workshop in Anguilla in March 2019. Feedback was provided to Quaytech, the app development company	The app is being modified according to the feedback received in the workshop. It will be completed at the beginning of 2019/20 When the app is ready, the UKOTs will organise a meeting with the fishermen to explain how to use it
Activity 1.12. Design and test the use of Bluetooth callipers for data collection		A tablet and Bluetooth calliper were handed over to the UKOTs during the workshop in March 2019. A common database for the three UKOTs has been created to enter the fishing data. The database was discussed during the workshop in March, and feedback provided. Partner institutions were trained to use the tablet and Bluetooth calliper during the workshop	The database is being modified according to the feedback received in the workshop. It will be shared with the three UKOTs at the beginning of 2019/20
Activity 1.13. Design and implement an effective fishing data collection programme in Anguilla using new technologies.		A fisheries data collection programme was jointly designed by Cefas and DFMR (Annex 13). For the	

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		<p>implementation, Cefas and DFMR conducted together a landing sampling in May 2018. However, the fishing industry is not cooperative, and they do not want to provide data. Cefas and DFMR agreed a set of measurements to engage fishermen in data collection. They also organised 1-day workshop with the fishermen to explain them the importance of their collaboration (Annex 14).</p>	
<p>Activity 1.14. Set up interview surveys in Anguilla to reconstruct fishery history.</p>		<p>Cefas interviewed 16 out of 40 fishermen in Anguilla to reconstruct the lobster fishery history. 6 additional fishermen were approached but they did not want to collaborate.</p> <p>A fisheries officer of DFMR was present during the interviews and assisted Cefas to find the fishermen and encourage them to participate.</p>	
<p>Activity 1.15. Interviews in Anguilla to identify the fishing grounds for spiny lobster</p>		<p>Cefas interviewed 11 out of 40 lobster fishermen in Anguilla to locate the fishing grounds for lobster. A fisheries officer of DFMR was present during the interviews and assisted Cefas to find the fishermen and encourage them to participate. Maps with the location of the fishing grounds were created (Annex 16)</p>	
<p>Activity 1.16. Collate and rationalise fish processor datasets from TCI</p>		<p>DECR shared with Cefas 30 spreadsheets for lobster and 65 for conch that contained fishing data from 2003 to 2018. The data were rationalised and combined in a single</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		spreadsheet for lobster and another one for conch for further analyses.	
Activity 1.17. Improve the data collection programme in TCI if needed		See activity 1.11 and 1.12	
Activity 1.18. Improve the data management in TCI if needed		Cefas shared with DECR the R code used to combine information from diverse spreadsheets in one (code available upon request). The generated dataset will be useful to estimate temporal trends of the fisheries using raw data.	
Output 2. Data Assessment The stock status of conch and spiny lobster fisheries in each UKOT are assessed to inform the potential nature of sustainable management measures.	All UKOTs a) Conch and spiny lobster species stock status reports are produced for each UKOT using existing or new data gathered under Output 1. In Anguilla only spiny lobster stocks will be assessed b) Produce stock assessment toolkit for these fisheries based on ICES “data limited” approaches. Realising that it will not always be possible to collect extensive new datasets, different approaches will be supported based on: collection of new field survey data by fisheries departments or fishers; logbook data; landings data.	This output will be fully approached in 2019/20	
Activity 2.1. Apply data analysis routines to existing datasets to describe historic trends in conch and spiny lobster stocks over time.		Logbooks from BVI were analysed. Evidence in Annex 6	Anguilla and TCI datasets will be analysed at the beginning of 2019/20
Activity 2.2. Analyse recently collected survey data from Anguilla and BVI to inform current fishery status			The fishery history in Anguilla will be analysed at the beginning of 2019/2020. The data quality of the new data collection programme in

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
			BVI will be also assessed at the beginning of 2019/20
Activity 2.3. Assess sustainability of existing conch and spiny lobster exploitation levels. Implement analysis and assessment routines to inform local decision making.			To be done in 2019/20
Activity 2.4. Produce stock assessment toolkits for both species in all three UKOTs. This will draw on the ICES approach for Data Limited Stocks, tailored to the data streams available in the UKOTs and will comprise a report and some software examples.			To be done in 2019/20
Activity 2.5. Produce stock status reports for both species in all three UKOTs.			To be done in 2019/20
<p>Output 3. Sustainable Management</p> <p>A generic conch and spiny lobster management plan relevant to all three UKOTs is developed and customised, using best available evidence, for one UKOT. Increased desire from fishermen to adhere to the management plans and stronger regional collaboration in fisheries management between the three UKOTs is evident.</p>	<p>All UKOTs</p> <ul style="list-style-type: none"> a) Fisheries management policies and practices reviewed to inform best practice management plan (>10) b) Ten relevant fisheries datasets have been sourced or reviewed c) Best practice recommendations for the management of conch and spiny lobster fisheries in each UKOT are made, two for each UKOT <p>TCI</p> <ul style="list-style-type: none"> d) Regionally adaptable management plans for both species. Using data collected and analysed, develop detailed draft species management plans for TCI <p>BVI</p> <ul style="list-style-type: none"> e) Fisheries Management Council (FMC) established for the Horseshoe Reef FPA with 		This output will be fully approached towards the end of 2019/20 and 2020/21.

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
	members from Government and fisheries sector. Management plan developed and agreed with stakeholders for implementation.		
Activity 3.1. Assess the strengths and weaknesses of existing fisheries management approaches in each UKOT.		Existing documentation on fisheries policy was shared with Cefas. The management regulations in each UKOT were also communicated to Cefas in previous meetings	The effectiveness of the management regulations will be identified when the lobster and conch stocks are assessed.
Activity 3.2. Using a collaborative approach, involving fisheries managers and fishers, recommended management options based on best practice identified in other UKOTs (or beyond).			To be done in 2019/20.
Activity 3.3. Using the outcomes of the wider project, the relevant government fisheries departments will collaborate to develop a generic conch and spiny lobster fishery management plan, which can be built upon and refined to meet local management needs. A locally specific management plan will be developed for TCI.			To be done in 2019/20 and 2020/21
Activity 3.4. Draft TCI species management plans and recommendations presented to Government.			To be done in 2019/20 and 2020/21
Activity 3.5. Encourage fishers to adopt responsible fishing practices– meet with fisheries representatives through the workshops – include responsible fishing practices on the agenda, advise of responsible fishing schemes and benefits to encourage uptake.		The importance of responsible fishing practices was discussed with fishermen in the three UKOTs through individual interviews and informal conversations. This topic was also mentioned during the workshop in Anguilla	This subject will be tackled during the workshop on fisheries management, planned in 2019/20 in TCI.
Activity 3.6. Assist BVI with the implementation of a Fisheries Management Council to oversee co-management of an established Fisheries Protected Area.		First meeting with fishermen to discuss the possibility of a co-management system in BVI took place in May 2018. CFD had a second meeting with the fishing industry in April 2019 to discuss the implementation of a Fisheries	Cefas will provide CFD with the guidelines to implement a successful co-management. Cefas will assist CFD in this regard as required.

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
		Management Council (see activity 3.6 in section 3.1)	
Activity 3.7. Community workshop to agree spatial, temporal, gear or species restrictions to minimise fishing impacts within the Fisheries Protected Area			To be done in 2019/2020
Activity 3.8. Using data collected assess the effectiveness of the management measures implemented by the Fisheries Management Council			To be done in 2019/20 and 2020/21
Activity 3.9. Share co-management experiences with other UKOTs through workshops (see Output 4).			To be done in 2019/20
Activity 3.10. Cefas visits to Anguilla, BVI and TCI (one working week per UKOT) towards end of project to support project outcomes implementation and legacy.			To be done in 2020/21
<p>Output 4. Capacity Building & Collaboration</p> <p>Training and knowledge exchange initiatives and collaborative working opportunities for UKOT fisheries scientists, managers and fishers.</p>	<p>All UKOTs</p> <p>a) Three, 3-day knowledge exchange and sharing workshops. Two fisheries scientists or managers plus one fishing industry representative from each UKOT will participate in each workshop. Each workshop will stimulate regional cooperation, knowledge exchange and fisher/government collaboration.</p> <p>b) One government staff member from each UKOT visits Cefas, UK, to undertake knowledge exchange activities for a minimum of 2 working weeks, working alongside Cefas fisheries managers and participating in statutory fisheries surveys.</p>		<p>a) A workshop on fisheries data-collection was celebrated in Anguilla in March 2019. Two fisheries officers from each UKOT participated in the workshop, as well as a fisherman from TCI and a fisherman from Anguilla (only one day). BVI organised a meeting with the fishermen to communicate them the outcomes of the workshop (list of participants in annex 7). The UKOTs identified data gaps and main challenges associated with their fisheries data collection, then discussed tools and approaches that would help them to meet data needs. The tablets and Bluetooth callipers were tested, and the phone app was discussed. The workshop was also a good opportunity to exchange experiences and knowledge with fisheries officers in another countries. Evidence provided in Annex 14</p>

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Activity 4.1. Deliver three 3-day training workshops, one hosted in each UKOT, involving at least two fisheries managers and one fisher representative from each UKOT. Workshop content will be developed and delivered as follows: (1) training on data collection methods (fieldwork and logbook/landings) (hosted in Anguilla), (2) training on the analysis of any available data to assess stock status (hosted in BVI), and (3) training on using the available evidence base to inform fisheries management plans and policy (hosted in TCI). Results from Activities under Outputs 1 to 3 above will be communicated at the relevant workshop.		First workshop on data collection methods was successfully delivered in Anguilla (annex 14).	The workshops in BVI and TCI will be done in 2019/20
Activity 4.2. Gather feedback after each workshop to inform the organisation of the next workshop to maximise effectiveness of the training.		The attendees completed an anonymous survey at the end of the workshop to evaluate the quality of the training. On average, they rated the workshop as 4 in a scale from 1 to 5 (annex 18)	Same survey will be completed after the next two workshops
Activity 4.3. Plan UK-based knowledge exchange activities, involving one government staff member from each UKOT visiting Cefas, UK, to undertake knowledge exchange for a minimum of 2 working weeks, including participation in vessel based fisheries stock assessment surveys and subsequent data analysis. It is anticipated that the annual <i>Nephrops</i> survey will be most appropriate for this purpose, as the approach will be most similar to those applied for conch and spiny lobster. Identify with senior fisheries managers in each UKOT the most appropriate person to participate in UK-based knowledge exchange activities.			To be done in 2020/21
Activity 4.4. Develop regional network of fisheries managers.		Fisheries managers from the three UKOTs exchanged knowledge and experiences during the workshop in Anguilla. They rated this experience as 5 in a scale from 1 to 5 (annex 18)	Fisheries managers will exchange knowledge and experience during the next workshops and the visit to UK. Cefas will encourage them to keep the communication when the project is over

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

N.B. if your application’s logframe is presented in a different format in your application, please transpose into the below template. Please feel free to contact Darwin-Projects@ltsi.co.uk if you have any questions regarding this.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: Conch and spiny lobster fisheries in Anguilla, BVI and TCI are well-managed and exploited sustainably, supporting a healthy marine environment, food security, national economies and livelihoods for coastal communities.</p> <p>(Max 30 words)</p>			
<p>Outcome:</p> <p>(Max 30 words)</p> <p>Fisheries managers and fishers in three Caribbean UKOTs have the skills, knowledge, data and tools to inform sustainable management and exploitation of their commercially important fisheries.</p>	<p>c) Fisheries managers and fishers’ representatives from each of the three Caribbean UKOTs have significantly enhanced their skills and knowledge by participating in four training and knowledge exchange workshops. From a position of limited fisheries stock assessment capacity within governments, a minimum of one fisheries department staff member from each UKOT will be able to independently perform stock assessment by the end of the project.</p> <p>d) A baseline assessment (currently not existing) of the status of the two key commercial species (conch and spiny lobster) are produced to inform management plans in TCI and BVI. In Anguilla only the spiny lobster stocks will be assessed.</p> <p>e) Data collection and reporting procedures will be improved, drawing on best practice from existing programmes, ICES and</p>	<p>a) Signed training attendance records for all workshops recording participants. Cefas will provide a fisheries dataset, a member of fisheries department staff from each UKOT will perform stock assessment; Cefas will certify successful completion.</p> <p>b) Reports available for each species in each UKOT. ICES methods will be referenced within each report.</p> <p>c) Maturity Questionnaire for each UKOT scoring data collection, analysis and management status will be developed and completed by UKOTs. By the end of the project each area will show an increased score.</p>	<p>Fisheries remain viable and have not been impacted by external factors.</p> <p>Governments remain committed to securing sustainable fisheries and healthy ecosystems.</p>

	Northwest Atlantic Fisheries Organization (NAFO) processes, to develop and inform future management. Improvements in fisheries data collection, analysis and management will be evident for all UKOTs.		
<p>Outputs:</p> <p>1. Data Collection</p> <p>Implement new or improve existing conch and spiny lobster fisheries data collection approaches in all three UKOTs</p>	<p>BVI</p> <p>i) Two fisheries stock status indicators (one for conch, one for spiny lobster) are developed using existing logbook records (completed Year 1).</p> <p>j) Revisions to existing logbook reporting systems following the outputs of a) (completed Year 1).</p> <p>k) Logbook data are currently submitted by fishers but they do not receive feedback. A feedback mechanism will be developed to enable fishers to be kept informed about status and trends in commercial fish stocks (completed Year 1).</p> <p>l) Horseshoe Reef Fisheries Protected Areas collaborative species monitoring survey will be designed (completed Year 2) and undertaken at least twice.</p> <p>Anguilla</p> <p>m) Identification of the fishing grounds in Anguilla</p> <p>n) Interviews with fishermen to collect historical fishing data</p>	<p>a) Documentation showing developed indicators is available.</p> <p>b) New logbook reporting protocol is available.</p> <p>c) Annual fisheries statistics reported at Fisheries Advisory Council</p> <p>d) Methodology document available. Survey reports available</p> <p>e) Map of the fishing grounds</p>	<p>Fishers will support data collection programmes.</p> <p>Field surveys can be undertaken and are not hampered by equipment failure or natural disasters.</p> <p>Permission is obtained from Government to share fisheries statistics data freely.</p> <p>Fisheries Advisory Council set up completed.</p> <p>Logbook database contains sufficient data to develop meaningful indicators.</p>

	<p>o) Design and implementation of a fishing data collection programme using new technologies</p> <p>TCI</p> <p>p) Collate fish processor statistics (completed Year 1).</p>	<p>f) Report with the results of the interviews</p> <p>g) Dataset available.</p> <p>h) Report with the result of the analyses</p>	
<p>2. Data Assessment</p> <p>The stock status of conch and spiny lobster fisheries in each UKOT are assessed to inform the potential nature of sustainable management measures.</p>	<p>All UKOTs</p> <p>c) Conch and spiny lobster species stock status reports are produced for each UKOT using existing or new data gathered under Output 1 (completed Year 2). In Anguilla only spiny lobster stocks will be assessed</p> <p>d) Produce stock assessment toolkit for these fisheries based on ICES “data limited” approaches (completed Year 2). Realising that it will not always be possible to collect extensive new datasets, different approaches will be supported based on: collection of new field survey data by fisheries departments or fishers; logbook data; landings data.</p>	<p>a) Reports submitted to the Governments. Evidence of data collected under Output 1 is used in stock status assessments.</p> <p>b) Methodology reports produced.</p>	<p>Available data support assessment of stock status.</p> <p>Available data are robust enough for assessment purposes.</p> <p>IT equipment and facilities are available in OTs to perform assessments.</p>
<p>3. Sustainable Management</p> <p>A generic conch and spiny lobster management plan relevant to all three UKOTs is developed and customised, using best available evidence, for one UKOT. Increased desire from fishermen to adhere to the management plans and stronger regional collaboration in fisheries management between the three UKOTs is evident.</p>	<p>All UKOTs</p> <p>f) Fisheries management policies and practices reviewed to inform best practice management plan (>10) (completed Year 3)</p> <p>g) Ten relevant fisheries datasets have been sourced or reviewed (completed Year 1)</p> <p>h) Best practice recommendations for the management of conch</p>	<p>a) “UKOT Fisheries Management Review” report produced.</p> <p>b) See a).</p> <p>c) See a).</p>	<p>Existing documentation and data can be shared with the Cefas project team.</p> <p>Gaps in current fisheries management policies exist allowing recommendations to be made.</p> <p>UKOT fisheries departments have the resource and maintain government support to develop fisheries management plans.</p>

	<p>and spiny lobster fisheries in each UKOT are made, two for each UKOT (completed Year 3)</p> <p><u>TCI</u></p> <p>i) Regionally adaptable management plans for both species. Using data collected and analysed, develop detailed draft species management plans for TCI (completed Year 3).</p> <p><u>BVI</u></p> <p>j) Fisheries Management Council (FMC) established for the Horseshoe Reef FPA with members from Government and fisheries sector (completed Year 1).</p> <p>k) Management plan developed and agreed with stakeholders for implementation (completed Year 3).</p>	<p>d) Draft conch and spiny lobster management plans developed for TCI in collaboration with the fisheries department.</p> <p>e) Terms of reference of the FMC.</p> <p>f) Management plan produced and agreed by FMC.</p>	<p>BVI Government is able to facilitate setting up a Fisheries Management Council for one of the FPAs.</p> <p>UKOT Governments remain committed to the sustainable exploitation of marine resources.</p> <p>Fishers buy-in to the sustainable management plans.</p>
<p>4. Capacity Building & Collaboration</p> <p>Training and knowledge exchange initiatives and collaborative working opportunities for UKOT fisheries scientists, managers and fishers.</p>	<p><u>All UKOTs</u></p> <p>c) Three, 3-day knowledge exchange and sharing workshops (two in Year 2, one in Year 3). Two fisheries scientists or managers plus one fishing industry representative from each UKOT will participate in each workshop. Each workshop will stimulate regional cooperation, knowledge exchange and fisher/government collaboration (completion Year 3).</p> <p>d) One government staff member from each UKOT visits Cefas, UK, to undertake knowledge</p>	<p>a) Workshop agendas, attendance records and minutes.</p> <p>b) Boarding passes and visit reports.</p>	<p>Suitable dates can be found for all UKOT staff to attend workshops.</p> <p>Fishery officers and fishers actively participate in training courses.</p>

	<p>exchange activities for a minimum of 2 working weeks, working alongside Cefas fisheries managers and participating in statutory fisheries surveys (completion Year 3).</p>		
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <p>1. Data Collection</p> <p>1.1. Cefas visits to Anguilla, BVI and TCI (one working week per UKOT) at project commencement to gather existing fisheries data, identify fisheries management policies and practices, meet with fisheries managers and fishers to thoroughly communicate expected project outcome, outputs, activities and monitoring & evaluation plan.</p> <p>1.2. Existing data (logbook, landings, observer, scientific, etc.) in all three UKOTs are collated and assessed for their suitability to assess conch or spiny lobster stock status.</p> <p>1.3. Develop and issue Maturity Model questionnaire to fisheries departments (topics covered will include status of fisheries data collection, assessment and management along with capacity within government fisheries departments). Monitor project progress against questionnaire at end of year 2 and 3.</p> <p>1.4. Review extensive logbook holdings in the BVI and where possible develop analysis routines to inform fisheries management.</p> <p>1.5. Report basic trends derived from BVI logbook reporting with fishers to demonstrate the value of the data collected.</p> <p>1.6. Develop sustainability indicators based on logbook data to inform BVI fisheries management.</p> <p>1.7. Revise existing protocols for data collected through logbooks and landings reporting. Collaborate with fisheries managers, fishers and BVI Fishery Advisory Committee to develop an effective data collection programme.</p> <p>1.8. Assist the implementation of the new data collection programme in BVI and data reporting to fishers via Government website. Assess the effectiveness of the new data collection programme and reporting system.</p> <p>1.9. Trial community led rapid species status survey in the Horseshoe Reef FPA, BVI. Use of new technologies</p> <p>1.10. Analyse trends in BVI species status based on the rapid assessment methodology.</p> <p>1.11. Design and test a phone application for the fishermen to provide fishing data.</p> <p>1.12. Design and test the use of Bluetooth callipers for data collection</p> <p>1.13. Design and implement an effective fishing data collection programme in Anguilla using new technologies.</p> <p>1.14. Set up interview surveys in Anguilla to reconstruct fishery history.</p> <p>1.15. Collate and rationalise fish processor datasets from TCI.</p> <p>1.16. Improve the data collection programme in TCI if needed</p> <p>1.17. Improve the data management in TCI if needed</p> <p>2. Data Assessment</p> <p>2.1. Apply data analysis routines to existing datasets to describe historic trends in conch and spiny lobster stocks over time.</p>			

- 2.2. Analyse recently collected conch survey data from Anguilla and TCI to inform current fishery status.
- 2.3. Analyse video data collected from the Anguilla Banks areas and develop analysis routines for local officers, which can be shared with other UKOTs.
- 2.4. Assess sustainability of existing conch and spiny lobster exploitation levels. Implement analysis and assessment routines to inform local decision making.
- 2.5. Produce stock assessment toolkits for both species in all three UKOTs. This will draw on the ICES approach for Data Limited Stocks, tailored to the data streams available in the UKOTs and will comprise a report and some software examples.
- 2.6. Produce stock status reports for both species in all three UKOTs.

3. Sustainable Management

- 3.1. Assess the strengths and weaknesses of existing fisheries management approaches in each UKOT.
- 3.2. Using a collaborative approach, involving fisheries managers and fishers, recommended management options based on best practice identified in other UKOTs (or beyond).
- 3.3. Using the outcomes of the wider project, the relevant government fisheries departments will collaborate to develop a generic conch and spiny lobster fishery management plan, which can be built upon and refined to meet local management needs. A locally specific management plan will be developed for TCI.
- 3.4. Draft TCI species management plans and recommendations presented to Government.
- 3.5. Encourage fishers to adopt responsible fishing practices (Year 3) – meet with fisheries representatives through the workshops – include responsible fishing practices on the agenda, advise of responsible fishing schemes and benefits to encourage uptake.
- 3.6. Assist BVI with the implementation of a Fisheries Management Council to oversee co-management of an established Fisheries Protected Area.
- 3.7. Community workshop to agree spatial, temporal, gear or species restrictions to minimise fishing impacts within the Fisheries Protected Area.
- 3.8. Using data collected assess the effectiveness of the management measures implemented by the Fisheries Management Council
- 3.9. Share co-management experiences with other UKOTs through workshops (see Output 4).
- 3.10. Cefas visits to Anguilla, BVI and TCI (one working week per UKOT) towards end of project to support project outcomes implementation and legacy.

4. Capacity Building & Collaboration

- 4.1. Deliver three 3-day training workshops, one hosted in each UKOT, involving at least two fisheries managers and one fisher representative from each UKOT. Workshop content will be developed and delivered as follows: (1) training on data collection methods (fieldwork and logbook/landings) (hosted in Anguilla), (2) training on the analysis of any available data to assess stock status (hosted in BVI), and (3) training on using the available evidence base to inform fisheries management plans and policy (hosted in TCI). Results from Activities under Outputs 1 to 3 above will be communicated at the relevant workshop.
- 4.2. Gather feedback after each workshop to inform the organisation of the next workshop to maximise effectiveness of the training.
- 4.3. Plan UK-based knowledge exchange activities, involving one government staff member from each UKOT visiting Cefas, UK, to undertake knowledge exchange for a minimum of 2 working weeks, including participation in vessel-based fisheries stock assessment surveys and subsequent data analysis. It is anticipated that the annual *Nephrops* survey will be most appropriate for this purpose, as the approach will be most similar to those applied for conch and spiny lobster. Identify with senior fisheries managers in each UKOT the most appropriate person to participate in UK-based knowledge exchange activities.
- 4.4. Develop regional network of fisheries managers.

Annex 3: Workplan of the project

Activity	Months	2017-18		2018-19				2019-20				2020-21		
		Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
OUTPUT 1: Data collection														
Existing fisheries data and policies gathering in all UKOTs	6													
Data rationalisation for all UKOTs	6													
Develop maturity model for all UKOTs	1													
Review BVI logbook holdings, develop analysis routines	2													
BVI logbook trends reporting	1													
BVI logbook derived fisheries status indicators	1													
Revise BVI logbook data collection programme	1													
Implementation of the BVI data collection programme	1													
Assess the effectiveness of the new BVI data collection programme	1													
Trial community led rapid species status survey in the Horseshoe Reef FPA	1													
Analyse Horseshoe Reef data trends	2													
Design and test of a phone application for the fishermen	2													
Design and test of Bluetooth callipers for data collection	2													
Implementation of the Anguilla data collection programme using new technologies	2													
Interview surveys in Anguilla to reconstruct the history of the lobster fishery	2													
Collate and rationalise fish processor datasets from TCI	2													
OUTPUT 2: Data assessment														
Apply data analysis routines to describe historic stock trends	2													
Analyse data from existing Anguilla and TCI surveys	4													
Assess sustainability of TCI conch and spiny lobster exploitation levels	4													

Activity	Months	2017-18		2018-19				2019-20				2020-21		
		Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Produce stock assessment toolkits for both species in all three UKOTs	4							■	■					
Produce stock status reports for both species in all three UKOTs	3							■	■					
OUTPUT 3: Sustainable management														
Assess the strengths and weaknesses of existing fisheries management approaches in each UKOT	2			■										
Recommended management options based on best practice identified in other UKOTs or relevant countries	2			■					■					
Develop generic conch and spiny lobster fishery management plans, and customised in depth plans for TCI using best available evidence	6										■	■		
Fisheries management plans and recommendations presented to Government of each UKOT	1													■
Encourage fishers in all UKOTs to develop responsible fishing practices	2											■		
Assist BVI with the implementation of a Fisheries Management Council	2						■							
Community workshop in BVI to agree restrictions to minimise fishing impacts within the FPA	1							■						
Assess the effectiveness of the management measures implemented by the Fisheries Management Council in BVI	2							■					■	
Share co-management experiences with other UKOTs	1										■			
Cefas visits to Anguilla, BVI and TCI (1 working day per UKOT) towards end of project to discuss plans for ongoing implementation and legacy	1													■
OUTPUT 4: Capacity building and collaboration														
Deliver three 3-day training workshops, one hosted in each UKOT	3						■	■	■					
Gather feedback after each workshop to inform the organisation of the next workshop	3						■	■	■					

Activity	Months	2017-18		2018-19				2019-20				2020-21		
		Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
UK-based knowledge exchange activities, involving one government staff member from each UKOT visiting Cefas, UK	2													
Regional network of fisheries managers	4													

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.	