

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

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

Submission Deadline: 30th April 2020

Darwin 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	Centre for Environment, Fisheries and Aquaculture Science (Cefas, in UK)
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 dates of project	01/04/2017-30/11/2020
Reporting period (e.g. Apr 2019-Mar 2020) and number (e.g. Annual Report 1, 2)	Apr 2019- Mar 2020, AR3
Project Leader name	Gwladys Lambert, standing in for Rosana Ourens
Project website/blog/social media	
Report author(s) and date	Gwladys Lambert and Rosana Ourens, 30/04/2020

1. Project summary

Caribbean UKOTs possess rich marine environments with significant resources. Fisheries comprise a significant component of the resources and often local economies. Consequently recent Joint Ministerial Council (JMC) communiqués have 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 evaluations of the status of their stocks in the medium to long run and to use scientific evidence to support fisheries management decisions. The project has four main outputs: 1) 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.

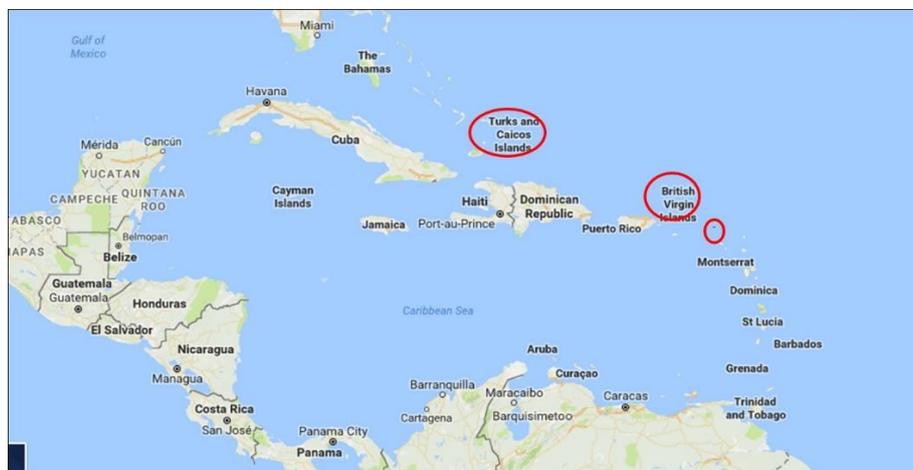


Figure 1. Map of the Caribbean. The three host countries are highlighted in red

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. In the previous first financial year, we had 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 believed that this change would 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.

No such major change occurred this past financial year but the three partner institutions have greatly assisted Cefas staff during their visits to the UKOTs each year. 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. They also sent their fishing data to Cefas at the beginning of the project, and BVI and TCI have sent regular updates with the new data.

The three partner institutions actively participated in a workshop on fisheries management run by Cefas in the BVI.

Unlike Anguilla where engagement with the industry remains a challenge (see last year's annual report), the fishing industry in the BVI attends the meetings organised by CFD and they have provided ideas to implement a co-management scheme in Anegada Island (see activity 3.6 in Annex 1). There was a well-attended meeting on Anegada during Cefas visit in September (Annex 4). The involvement of the fishing industry of TCI on the project has not been required yet.

There remains a couple of challenges to do with the CariCatch app official release (see activity 1.11 in section 3.1 below) and its migration on the servers of Anguilla and the BVI. Progress on this has been hampered by the requirements of involvement of and communication between numerous parties (app developers, Cefas, UKOT government project leads, their legal and IT teams).

3. Project progress

3.1 Progress in carrying out project Activities

Only the activities that have been conducted fully or partly in 2019/2020 are included in this section. Activities are numbered as in the Annexes with reference to the activity numbers in the mid-year report. All activities expected during the project are listed in the framework (Annexes 1 and 2) and the timetable of the project (Annex 3).

OUTPUT 1. DATA COLLECTION

Activity 1.8 (#1.1 in mid-year report). Assess the effectiveness of the new BVI data collection programme

The new data collection programme was developed with assistance from Cefas and Cefas staff went to BVI for the implementation. It has been implemented since 2018/19. Its effectiveness was analysed by mean of summarising the data collected and using them to assess the feasibility of evaluating the status of the spiny lobster and conch stocks. Data are presented in the report on the stock status (see activity 2.6 below). Cefas has received data of 1,676 and 734 lobsters that were measured from 41 trips (4 vessels) and 12 trips (2 vessels) in 2018 and 2019 respectively. In the same period, 30 conchs were measured from one fishing trip only. The data were used to produce the first spiny lobster stock status evaluation. Data were too scarce to evaluate the conch population. A report was produced and is currently in internal QA at Cefas.

This activity related to measurable indicator (c) of main outcome in Annex 1.

Activity 1.9 (#1.2 in mid-year report). Analyse Horseshoe Reef data trends

Cefas has analysed the historic data and presented this in a report (see last year's annual report Annex 6) - the database contained only 126 observations on spiny lobster and 3 observations on conch, from April 2005 to May 2010. Data 2011-2017 was lost during Hurricane Irma. It was only possible to analyse the temporal trends of the lobster fishery. BVI will be able to conduct assessments in the future once the Horseshoe Reef FPA is implemented together with the sampling programme, building on data collected since 2018.

This activity related to measurable indicator (d) of output 1 in Annex 1.

Activity 1.11 (#1.3 in mid-year report). Design and test a phone application for the fishermen

A common challenge in the three UKOTs is the limited staff and resources invested in data-collection and the consequent limited number of landing samples.

The app development company Quytech has developed a mobile app for the fishermen to report information about their daily fishing activity. The app aims to replace the current logbooks in all three UKOTs. Fishermen will be asked to report fishing effort, fishing area, weight landed by species, and the main market (local restaurants, processing plants, exports, etc.), which will help with the development of indicators of sustainability and stock assessments

in the future. 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 in last year's annual report contains a video to show the information that will be collected by the app.

The phone app has been successfully tested in 2019/20 and has been migrated to the TCI government server. It is in the process of being migrated to the servers of the BVI and Anguilla. A single policy privacy document is required before the app can be downloaded by fishers and this document is currently in discussion between Cefas, the software developers and the UKOT partners and their legal teams.

This activity related to measurable indicators (b), (c) and (g) of output 1 in Annex 1.

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 in last year's report). Cefas is finalising the database originally designed for the catch sampling in BVI for general use in the three UKOTs.

This activity related to measurable indicators (b), (c) and (g) of output 1 in Annex 1.

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

Cefas scientists interviewed 16 out of 40 lobster fishermen in Anguilla in May and November 2018 to reconstruct an overview of the fishery history. Six 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 of last year's annual report. The data have been analysed during 2019/20 and the report is currently going through internal QA at Cefas.

This activity related to measurable indicator (f) of output 1 in Annex 1.

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 of last year's report). The data provided by TCI and Anguilla were analysed and reported on, as part of a single report per UKOT on data and stock statuses. These reports are currently going through internal QA at Cefas.

This activity related to measurable indicator (a) of output 2 in Annex 1.

Activity 2.4 (#2.1 in mid-year report). Assess the sustainability of TCI conch and spiny lobster exploitation levels

The status of the conchs and spiny lobster stocks in TCI has been analysed and a report written. It is currently going through the internal QA process at Cefas as mentioned under activity 2.1. Once it has been internally reviewed it will be sent to the partners at TCI and comments and feedback will be requested to finalise the report. The results show that the stock of spiny lobster is exploited beyond sustainable levels. Conch data proved too limited, with some time series presenting contradicting trends, and so, although a number of models were explored, no assessment was considered reliable. The report concludes with advice for biological data collection for both species, for specific, spatially explicit research for conch and for implementation of appropriate fisheries management measures for lobster.

This activity related to measurable indicators (a) of output 2 in Annex 1.

Activity 2.5 (#2.2 in mid-year report). Produce stock assessment toolkits for both species in all 3 UKOTs

The workshop on stock assessment will be conducted in 2020/2021. Material is being prepared at Cefas with focus on data exploration and assessment methods for data limited stocks. Books have been ordered to be distributed to the partners at the workshop. These have been chosen to support essential aspects of the toolkit – using R, fish biology and fisheries statistics and stock assessment methods.

This activity related to measurable indicators (b) of output 2 in Annex 1.

Activity 2.6 (#2.3 in mid-year report). Produce stock status reports for both species in all 3 UKOTs

Due to lack of data, no assessment could be conducted for Anguilla or for conch in the BVI. One data limited approach could be tested for spiny lobster in the BVI with a more comprehensive set of methods applied to the conch and spiny lobsters in TCI (see activity 2.4). A report on Anguilla's available information for assessments, another on BVI stock assessments and a last one for TCI are currently in the QA process at Cefas. As specified in activity 2.4, once they have been internally reviewed, they will be sent to the partners of BVI and TCI respectively and comments and feedback will be requested to finalise the report.

This activity related to measurable indicators (a) of output 2 in Annex 1.

OUTPUT 3. SUSTAINABLE MANAGEMENT

Activity 3.1 Assess the strengths and weaknesses of existing fisheries management approaches in each UKOT

See activity 4.1.

This activity related to measurable indicator (a) of output 3 in Annex 1.

Activity 3.5 Encourage fishers to adopt responsible fishing practices

See activity 4.1.

This activity related to measurable indicator (a) of output 3 in Annex 1.

Activity 3.7 (#3.1 in mid-year report). Community workshop in BVI to agree restrictions to minimise fishing impacts within the FPA

The community workshop was successfully completed and well attended, with discussions led by the BVI government partners and fishers actively engaging in discussions. The half day meeting covered a wide variety of current general issues regarding the Anegada fishing industry with focus on the co-management framework the government is looking to put in place and the fishery management plan for the Horseshoe area. With regards to the co-management plan, fishers debated how enforcement may be possible considering the limited government resources, how data may be collected (with focus on catches rather than biological data – using the CariCatch app being the recommended approach for now), how to deal with tourism, charters of sport and recreational fishers as well as illegal activities such as spear fishing, conflict between fishers' activities and yachters or shipping lanes and need for mapping of fishing activities, as well as systems in place regarding market regulations locally and internationally. More specific to the Horseshoe protected area, fishers discussed options to preserve the resilience and sustainability of the system, it being the main objective unofficially agreed between the BVI government representatives and the fishers present at the workshop. Topics covered a wide range of aspects again, from the effect of sunscreen on reefs to the needs for implementing a specific licensing system for the area. Challenges were identified such as reaching an agreement on the type of gears allowed in the area and where (e.g. some pointed out that traps close to reefs may cause damage in bad weather), what sectors should be represented in a group of stakeholders and what roles they may have, and again how rules may be enforced and how and where to market the products. Brief minutes are provided in Annex 5.

This activity related to measurable indicators (c), (e) and (f) of output 3.

Activity 3.8 (3.2 in mid-year report). Assess the effectiveness of the management measures implemented by the Fisheries Management Council In BVI

BVI has not yet officially implemented the Horseshoe Reef FPA or the Fisheries Management Council and therefore there are no regulations to assess. See activity 3.7 above for discussions at the community workshop on Anegada on these topics and Annex 5. Note also that the partners still actively pursue these objectives outside of Cefas visits with significant interest of the industry, for example a meeting had been held regarding the project and other aspects of the conch fishery in August 2019 (attendance also reported in Annex 4).

This activity related to measurable indicators (e) of output 3 in Annex 1.

Activity 3.9 Share co-management experiences with other UKOTs through workshops

See activity 4.1.

This activity related to measurable indicator (a) of output 3 in Annex 1.

OUTPUT 4. CAPACITY BUILDING AND COLLABORATION

Activity 4.1. Deliver three 3-day training workshops, one hosted in each UKOT

Cefas has run the second 3-day workshop on fisheries management on Tortola, in the BVI, between the 1st and 3rd of October 2019. Feedback was requested and received following the workshop. The data collection workshop took place on Anguilla the previous year and the stock assessment workshop has been moved to 2020/2021.

There were no fishermen at the workshop as it was mainly directed at fisheries management representatives (but see activity 3.7 on community workshop on Anegada that followed this workshop). There were two participants from the Anguilla government, one from TCI and two from the BVI (list of participants is provided in Annex 6). The workshop was delivered by Gwladys Lambert and Ewen Bell, Cefas senior fisheries scientists and advisors. The workshop agenda was structured on three key components of fisheries management planning: "Where are we? Where do we want to be? How do we get there?". A thorough SWOT (strengths, weaknesses, opportunities, threats) analysis was conducted for all 3 UKOTs, encouraging exchange between and comparison of the respective systems in place. This was followed by discussions on the specific goals of each UKOT, covering aspects such as sustainable fishing practices, and on their respective options for the development and implementation of management plans. Detailed minutes of the workshop are given in Annex 7.

This activity related to measurable indicators (a) of output 4 in Annex 1.

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. The feedback was overall positive, with comments on the differences between the three UKOTs that made the workshop both informative and challenging in terms of usefulness of activities and discussions across the board (Annex 8).

This activity related to measurable indicators (a) of output 4 in Annex 1.

Activity 4.4 (#4.3 in mid-year report). Regional network of fisheries managers

The workshop in the BVI focused predominantly on encouraging the fisheries management representatives from the three UKOTs to exchange on the logistical and legal frameworks they respectively work in. They were also asked to make their objectives explicit and debate the commonalities and differences and think of how these may be harmonised if at all possible. In the feedback they provided after the workshop, it came out that exchanging on their respective systems enlightened some aspects of what needed to be worked on and where. Through this meeting and the past ones, they have not only had the chance to get a deep knowledge of the details of each other's system, but also got to know each other better on a personal level. Cefas will encourage them to maintain this communication when the project is finished.

This activity related to measurable indicators (a) of output 4 in Annex 1.

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 partly covered during the first year and half of the project. All details are provided in last year's annual report.

In brief, Anguilla has been provided with a set of recommendations to significantly increase their sampling activity as there were no data of sufficient quantity or quality to monitor the stocks. Cefas assisted BVI in the development of a catch sampling sheet to ensure comprehensive data relevant to stock assessments were consistently collected, building up on their previous sampling protocol. A database was also developed for BVI to encourage and facilitate data entry as collected information was not systematically digitised and years of data were lost as a result in the 2017 hurricane. To date, 53 sampled trips are in the database provided to Cefas by the BVI. These include biological information on 2,415 spiny lobsters and 30 conchs (all 30 conchs from a single trip). Conchs were not sampled due to fishers reporting very low to no catches in the Horseshoe reef FPA area (usually their main fishing ground for the species). TCI collects daily landings and regular biological sampling data from the fishing processors. They are also the only one of the 3 UKOTs to have conducted fisheries-independent surveys of conch, although these are sporadic with the last one taking place in 2013. The design of the data-collection programme in TCI is appropriate although the number of samples is limited.

To standardise landings data collection and move from paper to digital recording, the CariCatch app (presented and documented in last year's annual report) was further developed and tested this year. It was made available to all 3 UKOTs and they are still working on getting it migrated to their respective servers (completed for TCI) and getting agreement and consensus from the legal teams for the URL privacy policy that must accompany the app when it is downloaded online by the fishers. At this time last year, the plan was for the phone app to be in place during FY19/20. However, there remains some delays with BVI and Anguilla and work is in progress to get their respective IT teams to liaise with the developers. The legal team of TCI has reviewed the privacy policy statement but BVI and Anguilla still have to review it and some aspects on data confidentiality may still have been overlooked and need to be addressed in the first part of FY20/21.

In order to streamline the biological 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 (last year's annual report) and some R script to help with data management. A more comprehensive database, that will link with the callipers to efficiently store the information collected, is still in development. Although this was expected to be completed last year, the level of complexity could not be accurately foreseen at the onset of the project and further testing need to occur for it to be reliably released to the UKOTs. This is now a priority for the beginning of FY20/21.

Output 2. Data assessment

Data quality and availability dictate what type of stock status evaluation can be conducted. Data from all 3 UKOTs have now been analysed and reported on. Only data from TCI and BVI allowed some level of stock assessment with TCI having the most comprehensive datasets of the two, albeit still limiting in terms of how much can be drawn from it. Spiny lobster was assessed for TCI and BVI but challenges remain for conch in both territories due to data limitations of different sources. In TCI, trends in indices were contradicting each other at two separate locations. More work, possibly including fisheries-independent data collection would be required to understand this, although it is out of scope for the present project. In BVI, a combination of landings data not being consistently recorded historically, with loss of data from hurricane Irma, and conch landings having recently been very sparse, pre-empted an assessment to be conducted. The three reports are going through internal QA at Cefas and will be sent to the respective UKOT for feedback early May 2020. Once feedback has been received the reports will be finalised.

Material is being put together for the toolkit for the workshop. Books on software, fisheries statistics and assessment methods have already been purchased ahead of the workshop to be distributed to each UKOT at the time.

Output 3. Sustainable management

A half day community workshop was successfully held at Anageda in the BVI to discuss the management plan of the protected area where the main conch fishery occurs. The meeting was well attended with active participation and positive engagement of the fishers (see activity 3.7). Since the implementation of the Fisheries Management Council and the FPA had not taken place yet, no further assessment could be done at this stage. However, previous to the community workshop, a 3-day fisheries management workshop run by Cefas took place in Tortola where the focus of the BVI participants was on the management of this particular area and Cefas worked together with the BVI partners on an overview of the plan during that workshop. Cefas will continue providing support through 2020/21 as part of the expected delivery of an overview of a common fisheries management framework.

Output 4. Training and knowledge exchange initiatives and collaborative working opportunities for UKOT fisheries scientists, managers and fishers.

In October 2019, the second workshop of the project was run by Cefas for three days in the BVI, as mentioned under Output 2 above. Fisheries scientists from Cefas and fisheries managers from the three UKOTs participated in the event which focused extensively on sharing experiences between the 3 UKOT governments. Detailed information was discussed and compared across UKOTs to support the development of individual fisheries management plans in a common framework (see details in activity 4.1). The feedback on the quality of the workshop was positive and the project partners gained a deeper understanding of the workings and means of the management systems of each other.

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 providing 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 and in last year's annual report.

With regards to output 2, it was not possible to assess all the stocks to the extent aimed for. Data sources made available from the partners at the government of each UKOT were explored and where possible assessments were conducted, using previously collected data and data collected from the onset of the project. Since conch data could not be collected in BVI and there was a high uncertainty and contradicting trends in the TCI data, no conch assessment could be conducted or lead to reliable outcomes. Anguilla did not have enough data for spiny lobster or conch, nor did they have the capacity or logistical/legal framework to collect more during the project. With the workshop on stock assessments still to be conducted and the toolkit to be provided to each UKOT then, together with the tools that will be in place for data collection (catch app for landings and callipers with database for biological sampling), the project will deliver on the objective of supporting each UKOT in building up the capacity to assess the status of their stocks.

The latest workshop on fisheries management in BVI and community meeting on Anegada aimed at output 3. Reports will be written for this during the final year of the project, with focus on developing a generic overview of a fisheries management plan framework for all 3 UKOTs, highlighting specific aspects relevant to each UKOT and to Anegada co-management and FPA plans specifically.

Training and knowledge exchange have been on-going and there will be one more workshop next year on stock assessment (output 4). The project is therefore 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 limited. To improve the situation, Cefas and DFMR have agreed a set of actions to engage fishermen in data-collection. DFMR has also been trying to implement legislation that authorises DFMR to measure and weigh the landings.
- 2) Available data were mostly not robust enough for assessment purposes. Only the status of the spiny lobster stocks of TCI and BVI could be assessed, but still with high uncertainties in the outcomes. With the exception of some conch landings data from a number of sales notes of the fishing complex (main market in BVI) in 2014-2017, all data available were analysed and reported on, for example as temporal trends indicators or through size structure analysis. The conch landings that have not been reported on will be further investigated but initial exploration suggest that they will likely contain limited information. The stock assessment workshop will aim to provide each UKOT with the tools to assess the status of their stocks as more data become available, following on from the work done during this project to support best data collection practices.
- 3) Developing a detailed fisheries management plan for Anguilla would not be feasible. Anguilla lacks the legal framework to implement a data collection programme, evaluate the current situation and progress or guarantee enforcement. A generic framework can be drawn with specific aspects of it relevant to Anguilla but details cannot be expected as an outcome of this project.
- 4) Some of the activities of the project relied on the Fisheries Management Council of BVI to be put in place earlier in the process. Since this is still in development in BVI, it will not be possible to provide support and analyses during the lifespan of the current project. Additionally the work on data collection relies on the fishers catching conch but this has become a problem recently with an increasingly scarce resource.

4. 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 to 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. So far, the project has improved the data-collection programmes in the three UKOTs, assessed the stocks where possible and highlighted where data were lacking and issues in the quality of existing information. It has also promoted the need for the development of fisheries management plans for sustainable practices.

5. OPTIONAL: Consideration of gender equality issues

This year there were 7 women and 6 men involved in the project (excluding third parties), an improvement on last year's 4 women and 8 men. The Project manager (PM) and Project Leader (PL) are both women as are the directors of the three fisheries departments.

6. 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 have

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 also reviewed and approved by the project senior fisheries advisor prior to submission.

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.

7. 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. For this and other reasons, 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 provided the information that was required to develop the phone app but the next step, which involves migrating the app to the government servers, testing and making sure the legal documentation is in place, requires encouraging third party organisations (app developers) and IT and legal departments of the UKOTs to communicate effectively and solve issues in a timely and efficient manner and this has proven difficult for Cefas to monitor and help with.
- 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 5 years ago to create legislation that authorises DFMR to measure and weigh the landings. On latest update to Cefas, the request was 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. Another note here is how the current pandemic crisis has been hampering work progress everywhere around the globe and challenged each partner of this project.
- 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. Slow e-mail communication has been shown to hamper progress and risk mis-understandings and frustration. However, it is still preferable to follow up a conversation with an email to have a record of what has been discussed and agreed for future reference and handover. However, some communication requires multiple parties involved at once, on different time zones, and email is the only way to communicate, which does not facilitate solving complex issues.
- 5) The duration of administrative processes needs to be taken into account when a change request is submitted. Overseas projects need to be very adaptive to the fluctuating

circumstances. Experience with approval of change requests in the 1st year and a half of the project were that this process may cause delays, however the most recent change request was dealt with in a timely manner.

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

Here the answers to the reviewer's comments:

1. *How will ongoing costs of maintenance/repair of the equipment provided through the project be covered?*

The app development company will provide assistance for a month once the app is migrated. It is expected that the equipment will be owned by the partners at the end of the project and they will be in charge of maintenance and repair costs. Cefas will remain available to assist with providing contacts, as necessary.

2. *It would be recommended, if they aren't already, that project partners are involved in reporting (at the very least, reviewing drafts) to ensure they have the opportunity to feed in their perspective.*

Partners were sent a number questions to inform the report in the lead up to the submission deadline. A final draft was shared, albeit with a very short turnover time for feedback. The current pandemic situation also meant that all partners did not have regular work hours or could access their emails and work as usual in the past few weeks. They therefore did not have the chance to feed in their perspective to the final draft prior to submission by Cefas.

3. *Although the report outlines the expected use of the app in BVI and TCI, it doesn't clearly outline its expected use in Anguilla – what is the expected use of the Bluetooth callipers in Anguilla?*

The Bluetooth calliper is expected to be used to collect biological data on spiny lobster in Anguilla to start building up information on the landings' characteristics. DFMR is working on improving the communication with stakeholders and aims for a significant number of fishers would use the landing reporting app in the future. In the short-term cooperation from two or three already willing fishers would allow to start building up a time series of a catch index.

4. *Ensure indicators are presented and reported against consistently (i.e. are reported against in the narrative report and include timebound elements in the report annex).*

We have ensured that measurable indicators were explicitly referred to against each activity in the narrative of the report.

9. Other comments on progress not covered elsewhere

Three 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. With regards to the end date of the project, note that a further change request is about to be submitted to push back the project end to the 31st of March 2021. This is mainly to accommodate with delays due to the COVID-19 pandemic crisis.

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.

The third change request was to push back the dates of the stock assessment workshop. Instead of taking place this past year it will be run in the last year of the project in 20/21. The fisheries management workshop was run this year instead.

10. 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 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 are being revised and updated (output 1), data available to stock assessments are being analysed to identify potential indicators of fishery performance or the status of the stocks where possible (output 2); and scientific advice on fisheries management is being 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 are attending 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).

As 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 availability of data to assess the stocks does not improve.

11. Darwin identity

The project is being publicised on the Cefas website:

<https://www.cefas.co.uk/impact/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 15 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 held with the fishing industry in the UKOTs. In this latter case a short explanation about the Darwin Initiative is also provided.

The Darwin logo has been included in all presentations of the project, including presentations at workshops. The Darwin logo has been also included in the splash screen of the phone app and the flyers created to promote the project within the fishing communities last year (see last year's annual report for details).

12. Safeguarding

Cefas has in place, and maintains, all of the following:

- a safeguarding policy, which includes a statement of our commitment to safeguarding and a zero-tolerance statement on bullying, harassment and sexual exploitation and abuse
- a detailed register of safeguarding issues raised and how they were dealt with
- clear investigation and disciplinary procedures to use when allegations and complaints are made, and have clear processes in place for when a disclosure is made
- a whistle-blowing policy which protects whistle blowers from reprisals and includes clear processes for dealing with concerns raised
- a Code of Conduct for staff and volunteers that sets out clear expectations of behaviours - inside and outside the work place - and make clear what will happen in the event of non-compliance or breach of these standards

Cefas also shares its safeguarding policy with downstream partners.

13. Project expenditure

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

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total actual IWT Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (Cefas)				
Overhead Costs (Cefas)				
Travel and subsistence (Cefas)				
sTravel and subsistence (UKOT Partners)				
Operating Costs (BVI)				

Capital items	
Others (Cefas)	
TOTAL	

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

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	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 improved, and some additional improvements are expected next financial year. A set of measures 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</p>	<p>a) 1. Progress has been made on the development of a database for biological samples that can be used by each UKOT</p> <p>2. The phone app for the fishers to report landing data has been tested. It was migrated to the TCI server. The privacy policy was drafted and revised in TCI.</p>	<p>a) 1. Finalise database and get UKOTs to test and feedback</p> <p>2. Get app to be migrated to BVI and Anguilla servers and app to be made available online with privacy policy completed</p> <p>3. Run the stock assessment workshop</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	<p>from each UKOT will be able to 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>3. The workshop on fisheries management was conducted in BVI</p> <p>b) Data available for conch and lobster stock assessments were analysed and assessment conducted where possible, trends or descriptive analyses produced elsewhere. Reports are in internal quality check at Cefas</p>	<p>b) Address Cefas internal QA of stock assessment reports and send reports to each UKOT for feedback, then finalise for final version</p> <p>c) Same maturity questionnaire as in beginning of project will be completed at the end of the project by each UKOT to assess the success of the project.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<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><u>BVI</u></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>d) Horseshoe Reef Fisheries Protected Areas collaborative species monitoring survey be designed and undertaken at least twice.</p> <p><u>Anguilla</u></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><u>TCI</u></p> <p>h) Collate fish processor statistics</p>		<p>a) A report with the analysis of the logbook data, containing indicators to assess fisheries performance, was finalised during the 18/19 period.</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 has been developed and is in the process of being transferred to BVI. 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) A survey was designed (Annex 10 in last year report) but it was decided in agreement with the partners that the stocks in the Horseshoe Reef area could be assessed using the new BVI landing sampling scheme, that would provide equivalent, or better, data.</p> <p>e) Map with the fishing grounds completed during 18/19 period</p> <p>f) Interviews completed during the 18/19 period. Data were analysed and a report is being reviewed through internal QA at Cefas.</p> <p>g) The data collection programme designed for Anguilla was completed in the 18/19 period.</p> <p>h) Fish processors datasets were collated during the 18/19 period</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
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.		Cefas visited BVI (Tortola and Anegada) once more in the 19/20 period, having previously visited Anguilla, BVI and TCI in previous years.	
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.		Data were collated in 17/19, with additional data collated in 19/20 from sales notes from the market complex in BVI. Previous data were analysed and used as possible to conduct stock status assessments.	The sales notes market complex conch data for 2014-2017 provided by BVI will be explored in link with the stock assessment workshop.
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 first questionnaire was completed at the onset of the project.	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.		Completed during the 18/19 period.	
Activity 1.5. Report basic trends derived from BVI logbook reporting with fishers to demonstrate the value of the data collected.		Completed during the 18/19 period.	
Activity 1.6. Develop sustainability indicators based on logbook data to inform BVI fisheries management.		Completed during the 18/19 period.	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)

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
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.		Completed during the 18/19 period In addition, see activity 1.11 and 1.12	
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		Data were analysed, reported on and used to assess the stocks status.	
Activity 1.9. Trial community led rapid species status survey in the Horseshoe Reef FPA, BVI. Use of new technologies		During the 18/19 period it was decided that the stocks in the Horseshoe Reef FPA could be assessed using the new landing sampling implemented in BVI instead of conducting a survey. Only limited data have obtained from the Horseshoe reef area so far.	
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 app has been developed. It has been migrated to TCI server. The privacy policy url has been drafted and revised by TCI	The app will be migrated to BVI and Anguilla servers. The privacy url will be finalised with all 3 UKOTs agreement for it to be made available to download online by the fishers. When this has all been completed, 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		Bluetooth callipers were provided to UKOTs and tested in 18/19. The associated database has been further developed from feedback provided in 18/19.	The database will be completed and handed over, feedback for potential bugs will be encouraged and the database will be improved accordingly.
Activity 1.13. Design and implement an effective fishing data collection programme in Anguilla using new technologies.		Completed during the 18/19 period.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 1.14. Set up interview surveys in Anguilla to reconstruct fishery history.		Completed during the 18/19 period.	
Activity 1.15. Interviews in Anguilla to identify the fishing grounds for spiny lobster		Completed during the 18/19 period.	
Activity 1.16. Collate and rationalise fish processor datasets from TCI		Completed during the 18/19 period.	
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		Completed during the 18/19 period.	
<p>Output 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>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</p> <p>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.</p>		<p>a) Assessments reports were produced for TCI and BVI stocks. Data permitted an evaluation of spiny lobster stocks but conch data were too limited. No assessment was possible for Anguilla due to lack of data, but a report presenting the available information was produced</p> <p>b) Cefas is currently working on gathering material for the stock assessment workshop that will be held in period 20/21. The workshop will cover aspects of data exploration, fisheries statistics and assessment methodology for data-limited situations.</p>
Activity 2.1. Apply data analysis routines to existing datasets to describe historic trends in conch and spiny lobster stocks over time.		BVI, TCI and Anguilla datasets were analysed and reported on as part of the assessment process	
Activity 2.2. Analyse recently collected survey data from Anguilla and BVI to inform current fishery status		Anguilla and BVI datasets were analysed and reported on as part of the assessment process	The fishery history in Anguilla report will be shared with Anguilla after currently occurring QA.
Activity 2.3. Assess sustainability of existing conch and spiny lobster exploitation levels. Implement analysis and assessment routines to inform local decision making.		Assessments were conducted with available data. Conch stocks statuses could not be assessed but a number of	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
		methodologies were applied to the BVI and TCI lobster data and stock statuses were derived.	
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.		The toolkits are being prepared for the stock assessment workshop to be delivered in 20/21 as per accepted change request.	Run stock assessment workshop during which UKOTs partners will be presented with a toolkit.
Activity 2.5. Produce stock status reports for both species in all three UKOTs.		Stock status reports were produced for BVI and TCI but data were too sparse for Anguilla.	Stock status reports will be shared with UKOT and Cefas will address feedback to finalise reports
<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 members from Government and fisheries sector. 	This output will be fully achieved in 2020/21.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	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.		A detailed SWOT analysis was conducted during the first day of the BVI fisheries management workshop run on Tortola beginning of October 2019.	A report will be written up in 20/21
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).		The fisheries management workshop run on Tortola in BVI early October 2019 permitted the 3 UKOTs to exchange on their respective systems and practices. Fishers were not involved in the main workshop. However, a one-day community workshop on Anegada followed where fishers and managers actively debated best practices.	This will be reported on as part of the report mentioned under activity 3.1.
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.		The generic framework for fisheries management plans was discussed at the workshop in BVI in October 2019. However the differences in legal frameworks and objectives between the three UKOTs make it challenging to develop an overarching plan that suits all. The plan developed will have to be very high level, leaving room for specifics at the local level.	This will be reported on as part of the report mentioned under activity 3.1.
Activity 3.4. Draft TCI species management plans and recommendations presented to Government.		The TCI management plan is under way in TCI and aspects of it were discussed at the workshop in BVI in October 2019.	This will be reported on as part of the report mentioned under activity 3.1 or as a separate document.
Activity 3.5. Encourage fishers to adopt responsible fishing practices– meet with fisheries representatives through the workshops – include responsible fishing		Responsible fishing practices were discussed at the workshop in BVI in October 2019 and further debated at	This will be reported on as part of the report mentioned under activity 3.1.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
practices on the agenda, advise of responsible fishing schemes and benefits to encourage uptake.		the one-day community workshop on Anegada the following day. As an example, fishers did not all agree on the use of traps in the protected area as they were perceived as potentially having a negative impact on reefs, especially in adverse weather conditions.	
Activity 3.6. Assist BVI with the implementation of a Fisheries Management Council to oversee co-management of an established Fisheries Protected Area.		A one-day community workshop was held in Anegada following the fisheries management workshop on Tortola in October 2019. The workshop was well attended and challenges to set up a co-management structure for Anegada discussed.	This will be reported on in a separate report to BVI related to the co-management and the FPA.
Activity 3.7. Community workshop to agree spatial, temporal, gear or species restrictions to minimise fishing impacts within the Fisheries Protected Area		See activity 3.6. Fishers shared their opinions on the need for restrictions in the FPA during the second part of the one-day community workshop on Anegada. BVI government will have to come up with a plan to accommodate the various concerns regarding all metiers and activities in the data with support of Cefas	This will be reported on as part of the report mentioned under activity 3.6.
Activity 3.8. Using data collected assess the effectiveness of the management measures implemented by the Fisheries Management Council		The Fisheries Management Council was not implemented in the early phases of the project as expected so no data could be collected.	
Activity 3.9. Share co-management experiences with other UKOTs through workshops (see Output 4).		The fisheries management workshop was held in BVI with all 3 UKOTs in October 2019 where exchange on experience was the cornerstone.	This will be reported on as part of the report mentioned under activity 3.1.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
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 management planning was held in BVI in October 2019. One or two fisheries officers from each UKOT participated in the workshop. The UKOTs identified most legal and logistical challenges associated with managing their respective fisheries and discussed objectives and best practices to reach their goals. The workshop was also a good opportunity to exchange experiences and knowledge with fisheries officers in another countries.</p> <p>b) The visit of the UKOTs to Cefas will be organised in 2020/21.</p>	
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.		The second workshop on using the available evidence to inform fisheries management plans and policy was held in BVI.	The stock assessment workshop will be held in 2020/21 as agreed in change request.
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	Same survey will be completed after the next workshop.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
		training, with an overall positive return (Annex5)	
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 BVI.	Fisheries managers will exchange knowledge and experience during the next workshop 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 applicable

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. (Max 30 words)</p>			
<p>Outcome: (Max 30 words) 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 independently perform stock assessment by the end of the project. 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. 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>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. b) Reports available for each species in each UKOT. ICES methods will be referenced within each report. 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. Governments remain committed to securing sustainable fisheries and healthy ecosystems.</p>

<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><u>BVI</u></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) (completed Year 1).</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 (completed Year 1).</p> <p>d) Horseshoe Reef Fisheries Protected Areas collaborative species monitoring survey will be designed (completed Year 2) and undertaken at least twice.</p> <p><u>Anguilla</u></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><u>TCI</u></p> <p>h) Collate fish processor statistics (completed Year 1).</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>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>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>2. Data Assessment</p> <p>The stock status of conch and spiny lobster fisheries in each UKOT are</p>	<p><u>All UKOTs</u></p> <p>a) Conch and spiny lobster species stock status reports are produced for each UKOT using existing or new data gathered under Output 1</p>	<p>a) Reports submitted to the Governments. Evidence of data collected under Output 1 is</p>	<p>Available data support assessment of stock status.</p> <p>Available data are robust enough for assessment purposes.</p>

<p>assessed to inform the potential nature of sustainable management measures.</p>	<p>(completed Year 2). In Anguilla only spiny lobster stocks will be assessed b) 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>used in stock status assessments. b) Methodology reports produced.</p>	<p>IT equipment and facilities are available in OTs to perform assessments.</p>
<p>3. Sustainable Management 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 a) Fisheries management policies and practices reviewed to inform best practice management plan (>10) (completed Year 3) b) Ten relevant fisheries datasets have been sourced or reviewed (completed Year 1) c) Best practice recommendations for the management of conch and spiny lobster fisheries in each UKOT are made, two for each UKOT (completed Year 3) TCI d) Regionally adaptable management plans for both species. Using data collected and analysed, develop detailed draft species management plans for TCI (completed Year 3). BVI e) Fisheries Management Council (FMC) established for the Horseshoe Reef FPA with members from Government and fisheries sector (completed Year 1).</p>	<p>a) “UKOT Fisheries Management Review” report produced. b) See a). c) See a). d) Draft conch and spiny lobster management plans developed for TCI in collaboration with the fisheries department. e) Terms of reference of the FMC.</p>	<p>Existing documentation and data can be shared with the Cefas project team. Gaps in current fisheries management policies exist allowing recommendations to be made. UKOT fisheries departments have the resource and maintain government support to develop fisheries management plans. BVI Government is able to facilitate setting up a Fisheries Management Council for one of the FPAs. UKOT Governments remain committed to the sustainable exploitation of marine resources. Fishers buy-in to the sustainable management plans.</p>

	f) Management plan developed and agreed with stakeholders for implementation (completed Year 3).	f) Management plan produced and agreed by FMC.	
4. Capacity Building & Collaboration Training and knowledge exchange initiatives and collaborative working opportunities for UKOT fisheries scientists, managers and fishers.	All UKOTs a) 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). 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 (completion Year 3).	a) Workshop agendas, attendance records and minutes. b) Boarding passes and visit reports.	Suitable dates can be found for all UKOT staff to attend workshops. Fishery officers and fishers actively participate in training courses.

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)

1. Data Collection

- 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.
- 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.
- 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.
- 1.4. Review extensive logbook holdings in the BVI and where possible develop analysis routines to inform fisheries management.
- 1.5. Report basic trends derived from BVI logbook reporting with fishers to demonstrate the value of the data collected.
- 1.6. Develop sustainability indicators based on logbook data to inform BVI fisheries management.
- 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.

- 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.
- 1.9. Trial community led rapid species status survey in the Horseshoe Reef FPA, BVI. Use of new technologies
- 1.10. Analyse trends in BVI species status based on the rapid assessment methodology.
- 1.11. Design and test a phone application for the fishermen to provide fishing data.
- 1.12. Design and test the use of Bluetooth callipers for data collection
- 1.13. Design and implement an effective fishing data collection programme in Anguilla using new technologies.
- 1.14. Set up interview surveys in Anguilla to reconstruct fishery history.
- 1.15. Collate and rationalise fish processor datasets from TCI.
- 1.16. Improve the data collection programme in TCI if needed
- 1.17. Improve the data management in TCI if needed

2. Data Assessment

- 2.1. Apply data analysis routines to existing datasets to describe historic trends in conch and spiny lobster stocks over time.
- 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.

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.	No
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.	Yes
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.	Yes
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.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	