

**Biodiversity Challenge Funds Projects
Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus
Half Year Report**

Note: If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.

Submission Deadline: 31st October 2022

Project reference	DPLUS152
Project title	Coastal Resource Atlas 2021 and temporal analysis for the BVI
Country(ies)/territory(ies)	BVI
Lead partner	National Oceanography Centre UK
Partner(s)	Joint Nature Conservation Committee Coastal Management Consulting BVI National Parks Trust of the Virgin Islands Ministry of Natural Resources, Labour and Immigration (BVI Gov)
Project leader	James Strong
Report date and number (e.g. HYR1)	HYR2
Project website/blog/social media	

1. Outline progress over the last 6 months (April – Sept) against the agreed project implementation timetable (if your project has started less than 6 months ago, please report on the period since start up to end September).

There have been three major milestones delivered in the last six months, namely: (i) all of the fieldwork that constitutes WP3; (ii) all of the fieldwork for WP5; and (iii) 80% of the data processing to support WPs 3 and 5.

With regard to WP3, the objectives of the fieldwork were:

- Collect new ground-truthing in deeper water habitats to extend existing habitat maps
- Collect new ground-truthing in existing habitat polygons to improve thematic resolution of high-value habitat classes
- Repeat existing ground-truthing stations to provide temporal information on coral and seagrass condition
- Provide training on survey methods and design (secondary objective)

Survey Report

Dates: 18th April onwards. Three weeks of survey time (two for mapping and one for the temporal analysis (WP5))

Vessel: Boat provided by National Parks; potential to charter additional vessels on distant islands. Rhone Ranger.

Survey equipment (from UK): Deeptrekker x 2 (or hired drop down), Van Veen grab, survey laptop with GPS, GoPro cameras.

Survey Team from NOC:

- Dr James Strong (lead)
- Dr Tim Le Bas
- Ms Catherine Wardell

Narrative:

- 19th April: Arrival and climatisation
- 18th April: Weather down day / Bank holiday; meeting with Shannon Gore
- 19th April: Weather down day. Meeting with the National Parks Trust of the Virgin Islands and the Ministry of Natural Resources (meeting with Joseph Smith Abbott), Labour and Immigration; collection of equipment; trip to Center for Applied Marine Studies (H. Lavity Stoutt Community College)
- 20th April: Ground truthing sites south of Tortola (37 sites)
- 21st April: Ground truthing sites south of Beef Island and the Dogs; Trust replaces mooring at Mountain Point (25 sites)
- 22nd April: Ground truthing sites S of Jost Van Dyke and N of Beef Island; Nancy Woodfield Pascoe joins the survey (35 sites)
- 25th April: Ground truthing sites N, W and S of Tortola (29 site)
- 26th April: Ground truthing sites NE and S of VG (32 sites)
- Total stations as of 26th April: 159 (Figure 1)

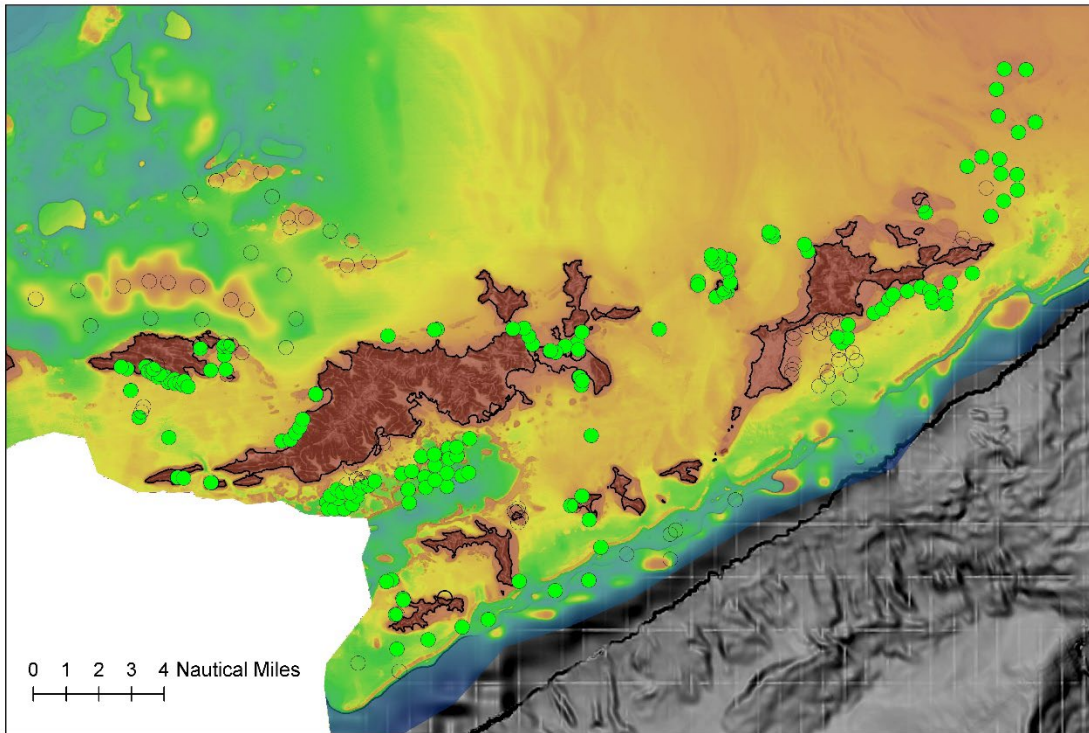


Figure 1. Map showing the completed (green filled circles) and remaining ground truthing stations (unfilled circles). Camera and dive stations surrounding Anegada are not show.

- 27th April: 34 ground-truthing stations (south of Virgin Gorda)
- 28th April: 26 stations visited (North of Josh Van Dyke)
- 29th April: 29 stations visited with the ROV (round Tortola)
- 30th April/1st May: Visit to local college to teach staff how to build, deploy and download water quality data using the YSI Exo2 sonde. Four-hour session. Rest of the time spent catching up with data management.
- 2nd May: travel to Anegada; two ROV stations and two dives on historical data sites. Evening survey from shore to confirm seagrass distribution South of Anegada.
- 3rd May: nine ROV stations and six dives on historical stations. Very successful day.
- 4th May: four dives on historical sites round Anegada.
- 5th May: capacity building event with Trust and Ministry staff. The day was spend doing sidescan sonar and drop down video observations
- 6th May: meetings with the Ministry and the Trust to update key stakeholders on progress to date. Third capacity building event demonstrating the downloading of in situ instrumentation for water quality at the Centre for Applied Marine Studies.
- 7th May: extensive seagrass survey in Brandywine Bay. 60 stations completed.

Final dataset: NOC's video and dive stations are shown in red (a total of 270 stations). The total available ground-truthing dataset available for the updated Coastal Resource Atlas now sits at around 500 stations (i.e. NOC, CEFAS and University of Newcastle stations – see figure 2). Our dives fully documented nine patch reefs (Anegada) that were first described in two historical studies (Dunne and Brown ~1977; Anderson et al., ~1985).

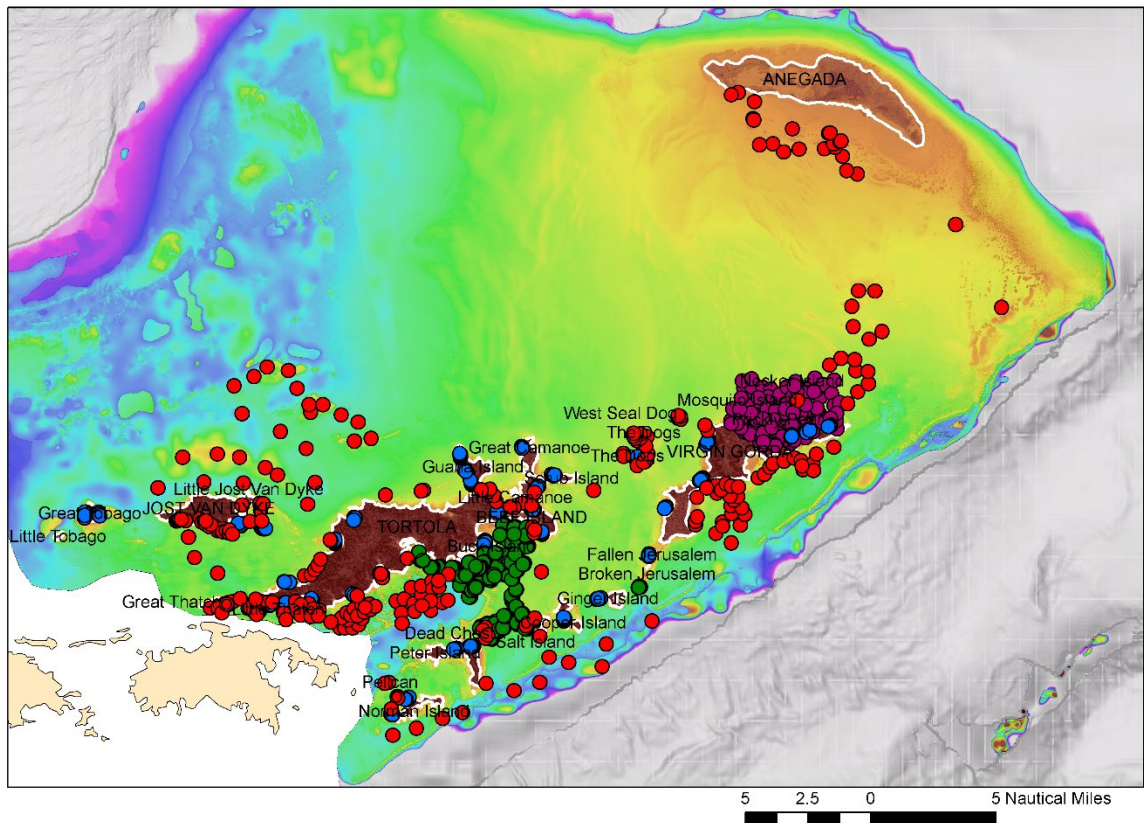


Figure 2. NOC's video and dive stations are shown in red (a total of 270 stations). The total available ground-truthing dataset available for the updated Coastal Resource Atlas now sits at around 500 stations (i.e. NOC, CEFAS and University of Newcastle stations).

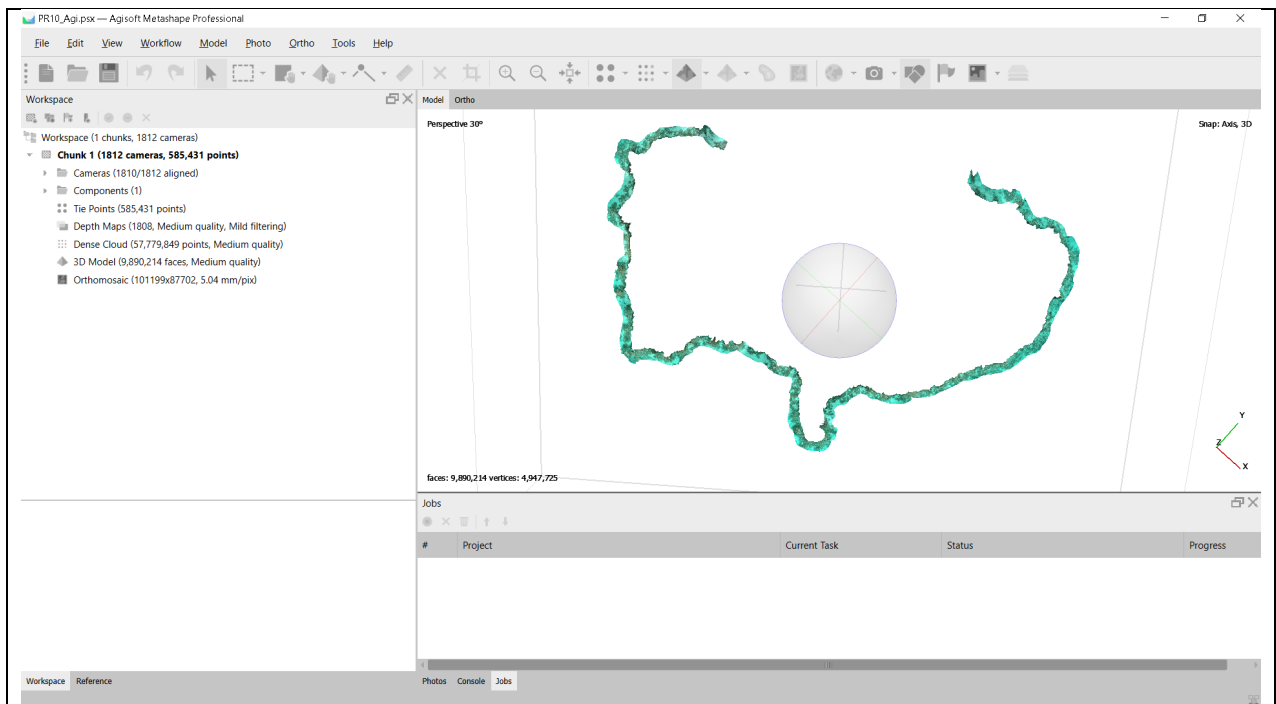
Conclusion

NOC are delighted with the progress made to date, none of which would have been possible without the hard work, help and patience of Finfun, Cecil, Nancy, Cassander and Sean (all National Parks staff). The final ground truthing database forms an exceptionally well-replicated and extensive dataset for map ground-truthing. This GT dataset will form the basis of a well training and validated map for the BVI. The work completed during the ground truthing survey far exceeded the aspirations of NOC as only one day was lost to poor weather in a three-week period and many more stations were visited each day when compared with our initial predictions.

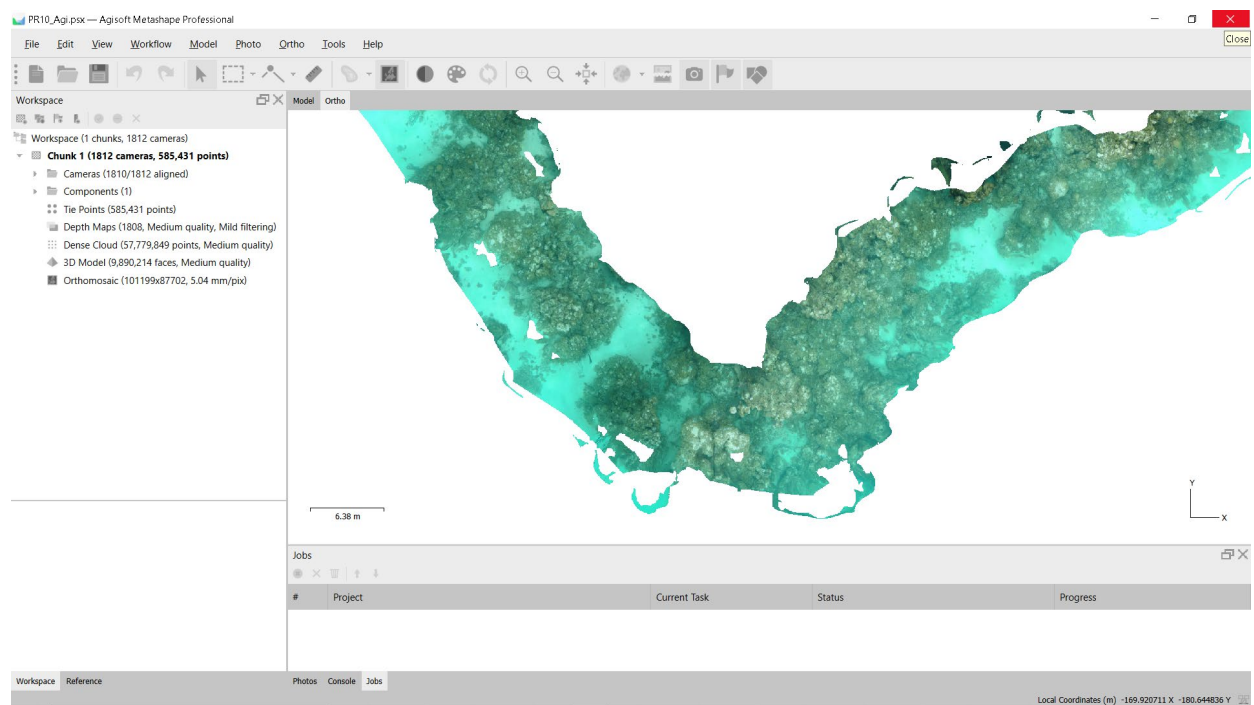
Processing of ground-truthing and historical transects

Based on the high number of ground-truthing sites visiting during the fieldwork, the processing of the videos has been split between NOC (James Strong) and Shannon Gore (BVI). NOC have now finished processing their half of the ground-truthing videos. This has required semi-quantitative analysis of all sessile organisms seen in the footage as well as classification of the substrata present. Additional notes have been made for features of interest within the footage such as the present of litter, lionfish, nuisance algae and invasive seagrass. Dr Shannon Gore is soon to complete her half of the analysis.

The processing of the temporal work is also well advanced. All of the historical coral observations (maps and transects) have been carefully geo-referenced in ArcMap for the first time. Furthermore, the video from each dive transect, collected in April-May, have been mosaiced together to produce photo-mosaics.



Partial outline of patch reef 10 mosaiced together in Agisoft Metashape.



Example section of photo mosaic made from approximately 50 individual photographs.

2. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Unusually for fieldwork, this project has a met, and exceeded, its objectives. Normally, survey plans made in the comfort of the office rarely unfold as desired in the field. However, the bout of fieldwork did meet all of its requirements. This is due an element of good luck (weather and no mechanical failures of survey equipment or boats) and the hard work of the survey staff and in-country partners. As such, there are no notable problems to report for the last six months.

3. Have any of these issues been discussed with NIRAS-LTS International and if so, have changes been made to the original agreement?

Discussed with NIRAS-LTS: NA

Formal Change Request submitted: NA

Received confirmation of change acceptance NA

Change request reference if known:

4a. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

4b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a re-budget Change Request as soon as possible. There is no guarantee that Defra will agree a re-budget so please ensure you have enough time to make appropriate changes if necessary. Please DO NOT send these in the same email as your report.

5. Are there any other issues you wish to raise relating to the project or to BCF management, monitoring, or financial procedures?

No further issues.

If you are a new project and you received feedback comments that requested a response (including the submission of your risk register), or if your Annual Report Review asked you to provide a response with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with NIRAS-LTS International through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to BCF-Reports@niras.com. The report should be between 2-3 pages maximum. **Please state your project reference number, followed by the specific fund in the header of your email message e.g. Subject: 29-001 Darwin Initiative Half Year Report**