

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

To be completed with reference to the "Project Reporting Information Note"
(<https://darwinplus.org.uk/resources/information-notes>)

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

Submission Deadline: 30th April 2023

Submit to: BCF-Reports@niras.com including your project ref in the subject line

Darwin Plus Project Information

| | |
|--|--|
| Project reference | DPLUS152 |
| Project title | Coastal Resource Atlas 2021 & Temporal Analysis for the BVI |
| Territory(ies) | British Virgin Islands (BVI) |
| Lead Partner | National Oceanography Centre |
| Project partner(s) | Joint Nature Conservation Committee Coastal Management Consulting BVI National Parks Trust of the Virgin Islands Ministry of Natural Resources and Labour (BVI Gov) |
| Darwin Plus grant value | £248,650.00 |
| Start/end dates of project | 01/07/21 – 30/06/23 |
| Reporting period (e.g. Apr 2022-Mar 2023) and number (e.g. Annual Report 1, 2) | Annual Report 2 |
| Project Leader name | James Strong |
| Project website/blog/social media | None |
| Report author(s) and date | James Strong (18/04/2023) |

1. Project summary

Marine habitat maps provide vital information on 'what is where'. Consequently, marine habitat maps are necessary for understanding the distribution of impacts, the planning of sustainable human activities at sea and the placement of protected marine areas. This project will combine recent high-value surveys of the physical seabed with additional fieldwork to produce new and more extensive maps for the BVI's marine environment surround. The fieldwork will also examine the change in marine habitats over time and their current condition.

2. Project stakeholders/partners

The Joint Nature Conservation Committee (JNCC) have coordinated the development of an appropriate classification for the main seabed habitats in the BVI. The coordination role ensured that the Coastal Resource Atlas is compatible with the ES-CV tool being developed in DPlus150 and is of most value for local stakeholders. To refine this process, JNCC ran a workshop in the BVI (week commencing 30th January 2023 - two bouts lasting 4 hours). The workshop examined the following topics of relevance to DPlus152: (i) the habitat classes we're using in the outputs; and (ii) the habitat descriptions we developed from the literature and emails with input from key stakeholders. Invited attendees at the workshop included Argel

Horton, Mervin Hastings, Rozina Norris-Gumbs, Stacey Austin, and Joseph Smith Abbott (Ministry of Natural Resources, Labour, and Immigration - MNRLI); Shannon Gore (Coastal Management Consulting and the Association of Reef Keepers); Tessa Smith Claxton, Theodore James, Atoya George (Department of Agriculture and Fisheries, Ministry of Education, Culture, Youth Affairs, Fisheries and Agriculture) and Susan Zaluski (H. Lavity Stoutt Community College). JNCC have also kindly provided previously collated seabed observations to the project.

Dr Shannon Gore (BVI independent consultant) - Dr Gore has helped plan and conduct the in situ observations (ROV and diver transects), and also help prepare the temporal analysis and condition assessment. She has also been instrumental in guiding the temporal analysis of the results.

National Parks Trust of the Virgin Islands (NPTVI) and the Ministry of Natural Resources, Labour and Immigration (MNRLI) - NPTVI has assisted in the collation of historical data and the collection of new in situ observations (provision of a survey vessel and crew – vessel 'Missfit'). During the three weeks afloat, Trust staff were always present. Senior Trust staff, Dr Cassander Titley-O'Neal (Director) and Nancy Woodfield Pascoe (Deputy Director), joined the survey on several occasions.

The recent bout of fieldwork (17th April to the 9th May, 2022) resulted in NOC completing three weeks of fieldwork for the NPTVI. Equally, NOC conducted multiple impromptu capacity building sessions with staff from the Ministry. These events included the construction and deployment of water quality instrumentation (YSI Exo 2 Sonde) and a full day afloat using both drop down cameras and a sidescan sonar. The need for this training stemmed from the requirements outlined by Ministry staff.

3. Project progress

This section (3.1- 3.4) is the main narrative report on project progress in the last year, and should be a flowing paragraphed presentation written in a formal style. Sub-sections reflect the progress against the project's logframe. We do not require a summary at the start, just clear reporting under 3.1 to 3.4. Please ensure that you clearly refer to evidence to support the narrative.

Annex 1 requires you to provide a condensed version of this narrative against the logframe (where applicable). In this section and in Annex 1 please report against the latest approved version of the logframe. Please also include your full project logframe in Annex 2. If there have been changes to the logframe please indicate where these are, and please note that, as described above, major changes to the logframe must be submitted for approval by separate email.

3.1 Progress in carrying out project Activities

Progress within the project is very much on schedule. The most challenging and risky component of the project, which is the survey phase where the new ground-truthing is collected, is now complete and has been a great success. Specific progress within each work package is:

Activity 1.1: collation of the remotely sensed data for the BVI is now complete (see annual report 2022).

Activity 1.2: habitat observations collected in 1991, 2015 and 2018 have now been collated into a single GIS project (see annual report 2022).

Activity 2.1: the ground-truthing survey, scheduled for 2022, has now been successfully completed (see annual report 2022).

Activity 2.2: this report was delivered to both the MNR&L as well as the Nation Parks Trust of the Virgin Islands (much of the material was reproduced in the 2022 annual report).

Activity 3.1: all of the collated bathymetry datasets have been merged into a single bathymetric surface for the BVI. As such, this activity is now complete (see annual report 2022).

Activity 3.2: The bout of fieldwork (17th April to the 9th May, 2022) resulted in NOC completing three weeks of fieldwork for the NPTVI. The fieldwork exceeded the number of survey stations examined. This activity is now complete.

Activity 3.3 and 3.4: the new maps for the Coastal Resource Atlas (as a ArcMap map package and Word document report) have just been completed and delivered to both the MNR&L and the NPTVI. This delivery is in advance of the 'official' hand-over, scheduled for June 2023, to allow stakeholders to comment on the maps.

Activity 4.1: All of the seabed imagery and GT interpretations have been provided to both the MNR&L and the NPTVI.

Activity 4.2 and 4.3: the examination of the new temporal data has just been completed. The temporal analysis, undertaken by Greg Anderson at the University of Southampton, has been summarised with a report (available on request but included in the DPlus main report (currently being draft for the close of the project)). The same report details the current condition of coral near Anegada.

3.2 Progress towards project Outputs

Output 1 (collated database of historical bathymetric surveys): this output is now complete. The unified bathymetric survey has been used for the production of the CRA2 maps. The method used to create the unified bathymetry surface is available in the final CRA2 report (attached).

Output 2 ('dataset of in situ seabed (camera imagery) data for historical and new ground-truthing stations in the BVI'): the new survey data has been processed and combined with the historical data. The combined dataset has been used to train the models used to create the new CRA2 maps. The methods used to create the models are detailed in the final CRA2 report (attached).

Output 3 ('updated CRA covering the major habitats out to both the 12 nm area (predictive habitat maps) and EFZ (geomorphology maps/seascape). All of the CRA2 maps are now complete. The presence is evidenced in the final CRA2 report (attached).

Output 4 ('better understand of the temporal change and overall trajectories of the major marine habitats in the BVI. Updated condition assessment for coral habitat in the BVI'): this output is also now complete. The report is currently being drafted so that it can be combined with the final report (a draft version of the temporal and condition report has been included with the current final report to evidence the completion of output 4).

3.3 Progress towards the project Outcome

Outcome: 'High-quality habitat maps made available for marine management, research, resource/inventory assessments, natural capital validations and the placement of protected sites etc. Improved management for a larger sea area (deeper waters)'.

Indicator 1 - Delivery of the CRA to the MNR&L by January 2023: the CRA is now complete and all of the output GIS files have been shared with both the MNR&L and NPTVI. draft and Ongoing and on schedule.

Indicator 2 - Hosting of the new CRA on the National GIS system by March 2023: we have clearly missed this deadline. The files are lodged with the Ministry but we will provide complete data hand-over in June. The March deadlines are a hang-over from when our original programme was to end in March but was extended, at the proposal phase, to June. The deadlines in the log frame were not updated.

Indicator 3 - Report describing the temporal analysis and current coral condition by Jan 2023: this analysis is now complete. The draft report is included with the final CRA2 report. The final version of the analysis is expected by the end of April.

Indicator 4 - Maps integrate the best available information from other sources: this is complete. The collation exercise has merged all of the available data into one source, ensuring the outputs produced here were created using the best evidence base possible.

Indicator 5 - In situ data used to support the validation of the Allen Coral Atlas by Oct 2022: JNCC confirmed that the time-frame for supplying data to the Allen Coral Atlas did not align with the timeline for this project. Regardless, the data are available for Vulcan to use as validation for their coral products.

Overall progress towards the overall outcome is progressing very well. Successful completion of the survey in the BVI and production of the CRA2 products has pretty much signalled the fulfilment of the project. We have partially missed some of our data delivery deadlines due to us planned an official data hand-over event in June (combined with training of the ES-CV tool produced in DPlus150) and that the data products are too large to transfer online (current size is 800 Gb).

3.4 Monitoring of assumptions

Assumption 1: Other data sources, such as the distribution and intensity of human activities are sufficiently resolved for effective marine management

This did indeed pose a problem as it became apparent that the spatial data for the distribution and intensity of human activities (useful for the mapping) was not available. Thankfully, within DPlus150, there was sufficient resource to fashion a new output and fill this data gap. As such, this assumption did not hold but corrective measures were implemented immediately to fill that gap.

Assumption 2: we did indeed have to apply for various data sharing agreements to assess both bathymetry and ground-truthing data sets. Thankfully, assistance from JNCC and the MNR&L had this process quick and easy. All of the collated data was in different formats and a significant amount of time was spent reformatting and merging information.

Assumption 3: As with a survey at sea, weather downtime may reduce the duration or timing of the survey work. However, we only experience 2 weather down-days and NOC managed to complete a very successful bout of fieldwork (extended from 2 to 3 weeks to ensure adequate collection). The number of stations visited greatly exceeded the expectations of the lead. Equally, the quality of the temporal data sets collected round Anegada were more superior that had been anticipated. We must also highlight the valuable contribution made by the NPTVI in helping NOC gather the ground-truthing.

Assumption 4: the project timeline did not change as the UKHO were able to promptly provide access to the BVI LiDAR dataset.

Assumption 5: The collated data is now a complete and unified repository of new and historical data for the BVI. Habitat observations collected in 1991, 2015 and 2018 have now been collated into a single GIS project. To achieve this, NOC formally entered into several data sharing agreements with the respective data sources (CEFAS, JNCC and University of Newcastle). A similar collation has also been completed for the historical data, with the raw data collected by Dunne and Brown (1975 and 1977) and Anderson et al. (1985) has also been centralised into one GIS project. All raw notes have been either hyperlinked to spatial objects or carefully georeferenced. These products will be provided to both the Ministry and NPTVI during the official data hand-over event in June 2023.

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

The overarching objective of Darwin Plus is to provide support to the UKOTs to achieve strategic long-term outcomes for the natural environment.

- The collated data provides an excellent baseline for most of the important marine habitats to be found in the BVI's waters.
- The newly acquired ground-truthing (270 odd observations of the seabed round all of the island in the BVI provides an excellent data set for providing a much-needed condition assessment of the marine habitats.
- However, it is only the end products from this project that will make tangible impacts on local long-term goals. The updated Coastal Resource Atlas will provide critical information on the 'what, where and how much' for the seabed habitats of the BVI. Equally, deliver of the CRA to the Marine Spatial Planning project will provide the meaningful contributions to the: (i) Convention on Biological Diversity (CBD), which requires parties to undertake a comprehensive list of actions to protect species and ecosystems; (ii) MSP requirements outlined in the Blue Charter, Blue Belt and Virgin Islands Strategic Blue Economy Roadmap initiatives.

5. Gender equality and social inclusion

| | |
|--|--|
| Please quantify the proportion of women on the Project Board ¹ . | 11 females compared with 4 male board staff |
| Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ² . | The project's primary points of senior contact at the NPTVI, JNCC, MNR&L and Coastal Management Consulting BVI (Dr Shannon Gore) are all female. |

6. Monitoring and evaluation

Specific project partners are responsible for individual outputs, and these partners have been tasked with monitoring and evaluating the delivery of these outputs. To-date, this process has been successful. The project lead (NOC) has also maintained oversight over the entire project and links to the other associated DPlus150 project. The communication of overall progress within the project is typically promulgated to other partners via update emails. In hindsight, this method has not been sufficient to keep all stakeholders updated during the project. The shortcomings of the system were pointed by a partner and additional meetings were quickly scheduled to increase the flow of information both within and between projects.

7. Lessons learnt

The main lesson learnt from 2023 was that J.Strong (lead for DPlus 150 and 152) did not maintain sufficient communication between the two related projects. This was unfortunate oversight caused by the lead being too absorbed in the production of deliverables (the DPlus152 mapping was a significant and time-consuming activity). For future projects, the lead will commit to scheduling all update meetings at the beginning of the project (e.g., schedule meetings once every 2 months for the entire lifetime of the project at the very beginning). This scheduling quickly establishes a habitat of routine communication throughout the project. With regard to events that went well, NOC were delighted with the assistance provided by the National Parks Trust Virgin Islands in delivering the fieldwork section of this project, none of

¹ A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

² Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

which would have been possible without the hard work, help and patience of Finfun, Cecil, Nancy, Cassander and Sean (all National Parks staff). T

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

No feedback was received so no action was taken.

9. Risk Management

No new risks have arisen in the last 12 months that were not previously accounted for. Please find the DPlus150 risk register attached to this Annual Report.

10. Other comments on progress not covered elsewhere

None.

11. Sustainability and legacy

Conducting the fieldwork (DPlus152) significantly raised the profile of this Darwin Plus project with the BVI. The training event planned for June 2023 will also significantly promote the impact and value of the project locally. Ultimately, the GIS ES-CV tool is dependent on the CRA2 maps, we believe that the legacy of the mapping work will significant in the form of continued good governance as well as suitable use of the marine environment.

12. Darwin Plus identity

The most important event for highlighting the profile of both Darwin Plus projects was the presentation of the outputs for both projects to the Hon Dr. Natalio Wheatley, Prime Minister of the British Virgin Islands (BVI), during a visit to the NOC in February 2023. The press release for this event is included below:

“Last week the NOC was delighted to meet with the Hon Dr. Natalio Wheatley, Prime Minister of the British Virgin Islands (BVI), who was accompanied by colleagues from the BVI London Office. During the meeting, the NOC presented a historic account of our long-standing relationship and details of two ongoing marine scientific research projects funded via Darwin Plus, [DPLU150](#) and [DPLUS152](#). Both projects not only support capacity development of local stakeholders but provide data that will be vitally important in support of the BVI's efforts to manage their marine estate. In parallel these data will be critical in the BVI's efforts to promote their carbon reduction credentials, providing access to carbon markets and enabling the development of partnerships that support carbon removal initiatives. NOC lead scientist Dr. James Strong presented recently produced outputs from the Darwin Plus projects, which included a harmonised bathymetric surface (merged from both LiDAR and multibeam echosounder surveys), a seabed imagery data set consisting of over 500 historical observations and 340 additional stations visiting during fieldwork in 2022, and some of the recently modelled maps that'll represent the new Coastal Resource Atlas for the BVI (i.e. full coverage maps for various geomorphological features, habitat and species – DLPU152). Finally, Dr. Strong outlined the structure of a toolbox of Marine Spatial Planning tools (produced in conjunction with the Ministry of Natural Resources and Labour (BVI), the Joint Nature Conservation Committee (UK) and WSP Global Inc. - DPLU150), that has been calibrated for marine habitats and human activities in the BVI. These tools will allow local policymakers to exploit fully the new Coastal Resource Atlas, quickly draft marine spatial plans and bring about a step-change in marine management capabilities es locally. The NOC would like to thank Dr Wassim Dbouk of the University of Southampton who organised the visit.”



Furthermore, the visit was also covered by press within the BVI (see the link below). Of particular note is the quote:

“Premier Wheatley also counted a meeting held with the UK's National Oceanographic Centre as a triumph, describing it as “amazing”.

“We will soon be presented with the data from the environmental mapping. And that has huge implications for us,” he stated.

“I’m not sure how familiar persons in the Virgin Islands are with carbon markets, but carbon markets basically essentially, we have carbon emissions in the world and there are companies who want to be able to offset their carbon emissions,” Dr Wheatley explained.

Premier Wheatley further explained that these endeavours have an economic value. “And so they’re willing to fund projects that will help to preserve [the] environment and do other types of environmental projects.”

<https://bvinews.com/southampton-mou-a-major-achievement-premier/>

13. Safeguarding

| | |
|--|-------------------------------------|
| Has your Safeguarding Policy been updated in the past 12 months? | No |
| Have any concerns been investigated in the past 12 months | No |
| Does your project have a Safeguarding focal point? | Yes: James Strong (lead) [REDACTED] |
| Has the focal point attended any formal training in the last 12 months? | Yes: “Active Bystander” course |
| What proportion (and number) of project staff have received formal training on Safeguarding? | Not known |
| Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses. None | |
| Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify. None | |

14. Project expenditure

Please expand and complete Table 1. If all receipts have not yet been received, please provide indicative figures and clearly mark them as Draft. The Actual claim form will be taken as the final accounting for funds.

Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)

| Project spend (indicative) in this financial year | 2022/23 D+ Grant (£) | 2022/23 Total actual D+ Costs (£) | Variance % | Comments (please explain significant variances) |
|---|----------------------|-----------------------------------|------------|---|
| Staff costs | | | | |
| Consultancy costs | | | | |
| Overhead Costs | | | | |
| Travel and subsistence | | | | |
| Operating Costs | | | | |
| Capital items | | | | |
| Others (Please specify) | | | | |
| TOTAL | £122,610.59 | £76,046.32 | | |

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin Plus?

Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)

| | Matched funding secured to date | Total matched funding expected by end of project |
|---|---------------------------------|--|
| Matched funding leveraged by the partners to deliver the project. | | |
| Total additional finance mobilised by new activities building on evidence, best practices and project (£) | | |

15. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

In this section you have the chance to let us know about outstanding achievements of your project or significant strides towards attaining a particular goal so far that you consider worth sharing with the wider Biodiversity Challenge Fund community. This could relate to achievements or considerable progress already mentioned in this report, on which you would like to expand further, or achievements that were in addition to the ones planned and deserve particular attention. We may use material from this section for various promotion and dissemination purposes, including for example, publication in the Defra Annual Report, Darwin Plus promotion material, or on the Darwin Plus website. **Please limit text to 400 words.**

Please also include an engaging image, video or graphic* that you consent to be publicised alongside the above text. Please ensure:

- that you have left the above agreement clause to indicate your consent. Text without this will not be used
- any images or videos are sent as separate files and not embedded in the body of the report

*If you have no photos or videos for reasons of sensitivity, then please state that clearly and the Defra Comms team can work to create an alternative graphic.

Image, Video or Graphic Information:

| File Type (Image / Video / Graphic) | File Name or File Location | Caption, country and credit | Online accounts to be tagged (leave blank if none) | Consent of subjects received (delete as necessary) |
|-------------------------------------|----------------------------|-----------------------------|--|--|
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |

Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023 – if applicable

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|--|---|---|--|
| <p>Impact</p> <p>Effective marine management based on accurate and up-to-date information on the distribution of marine habitats. Effective targeting and prioritisation of management activities. Provision of information for spatial assessments and research.</p> | | <p>(Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits)</p> | |
| <p>Outcome High-quality habitat maps made available for marine management, research, resource/inventory assessments, natural capital validations and the placement of protected sites etc. Improved management for a larger sea area (deeper waters).</p> | <p>0.1 Delivery of the CRA to the MNRL&I by January 2023 0.2 Hosting of the new CRA on the National GIS system by March 2023 0.3 Report describing the temporal analysis and current coral condition by Jan 2023 0.4 Maps integrate the best available information from other sources, e.g. Allen Coral Atlas by Nov 2022 0.5 In situ data used to support the validation of 0.1 Summary maps to be provided in the project report 0.2 Results of the temporal analysis, and the creation of the new map classes, will be provided in the project report 0.3 Testimonial from the MNRLI that the updated CRU has been integrated into their marine management workflow 0.4 Use project data within the validation exercise for the Allen Coral Atlas Other data sources, such as the distribution and intensity of human activities are</p> | <p>Indicator 1 - Delivery of the CRA to the MNR&L by January 2023: the CRA is now complete and all of the output GIS files have been shared with both the MNR&L and NPTVI. draft and Ongoing and on schedule.</p> <p>Indicator 2 - Hosting of the new CRA on the National GIS system by March 2023: we have clearly missed this deadline. The files are lodged with the Ministry but we will provide complete data hand-over in June. The March deadlines are a hang-over from when our original programme was to end in March but was extended, at the proposal phase, to June. The deadlines in the log frame were not updated.</p> <p>Indicator 3 - Report describing the temporal analysis and current coral condition by Jan 2023: this analysis is now complete. The draft report is included with the final CRA2 report.</p> | <p>(Highlight key actions planned for next period)</p> |

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|---|---|---|---|
| | sufficiently resolved for effective marine management Defra – July 2020 2 the Allen Coral Atlas by Oct 2022 | <p>The final version of the analysis is expected by the end of April.</p> <p>Indicator 4 - Maps integrate the best available information from other sources: this is complete. The collation exercise has merged all of the available data into one source, ensuring the outputs produced here were created using the best evidence base possible.</p> <p>Indicator 5 - In situ data used to support the validation of the Allen Coral Atlas by Oct 2022: JNCC confirmed that the time-frame for supplying data to the Allen Coral Atlas did not align with the timeline for this project. Regardless, the data are available for Vulcan to use as validation for their coral products.</p> | |
| Output 1. Collated database of historical biological and physical seabed observations | <i>See Activities</i> | Output 1 (collated database of historical bathymetric surveys): this output is now complete. The unified bathymetric survey has been used for the production of the CRA2 maps. The method used to create the unified bathymetry surface is available in the final CRA2 report (attached) | |
| Activity 1.1 Database populated with historical seabed observations (ground-truthing observations of species and habitat) into one database. The number of items within the database will be a suitable indicator of progress | | Collation of the remotely sensed data for the BVI is now complete (see annual report 2022) | (Outline what will be carried out in the next period) |
| Activity 1.2 Geo-spatial database populated with existing bathymetric data from various sources and methods. The footprint of collated bathymetric | | Habitat observations collected in 1991, 2015 and 2018 have now | |

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|--|--|---|---|
| data within 200 nm of the BVI would be an appropriate indicator of progress and success. | | been collated into a single GIS project (see annual report 2022). | |
| Output 2. Dataset of in situ seabed (camera imagery) and water column (profiler) data for historical and new ground-truthing stations in the BVI. | (Insert agreed Output level indicators) | Output 2 ('dataset of in situ seabed (camera imagery) data for historical and new ground-truthing stations in the BVI'): the new survey data has been processed and combined with the historical data. The combined dataset has been used to train the models used to create the new CRA2 maps. The methods used to create the models are detailed in the final CRA2 report (attached). | |
| Activity 2.1. 2.1 Delivery of the seabed imagery, profile data and GT interpretations to the MNRLI by September 2022 | | Activity 2.1: the ground-truthing survey, scheduled for 2022, has now been successfully completed (see annual report 2022). | |
| Activity 2.2. Project report detailing the number of observations collected during the fieldwork and the survey methods used by September 2022. | | Activity 2.2: this report was delivered to both the MNR&L as well as the Nation Parks Trust of the Virgin Islands (much of the material was reproduced in the 2022 annual report). | |
| Output 3. Updated CRA covering the major habitats out to both the 12 nm area (predictive habitat maps) and EFZ (geomorphology maps/seascape). Attribution of mapped classes with the results of the temporal analysis (i.e. identity and trajectory over time). | | Output 3 ('updated CRA covering the major habitats out to both the 12 nm area (predictive habitat maps) and EFZ (geomorphology maps/seascape). All of the CRA2 maps are now complete. The presence is evidenced in the final CRA2 report (attached). | |
| Activity 3.1 Presence of the updated CRA with a confidence layer (detailing the data sources used) uploaded the BVI National GIS database by March 2023 | | Activity 3.1: all of the collated bathymetry datasets have been merged into a single bathymetric surface for the BVI. As such, this | |

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|--|------------------|---|---|
| | | activity is now complete (see annual report 2022). | |
| Activity 3.2 Full coverage bathymetric surface for the BVI with terrain variables by Oct 2021 | | Activity 3.2: The bout of fieldwork (17th April to the 9th May, 2022) resulted in NOC completing three weeks of fieldwork the NPTVI. The fieldwork exceeded the number of survey stations examined. | |
| Activity 3.3 Delivery of a geomorphology maps to the BVI National GIS database by Dec 2021 | | Activity 3.3: the new maps for the Coastal Resource Atlas (as a ArcMap map package and Word document report) have just been completed and delivered to both the MNR&L and the NPTVI. | |
| Activity 3.4 Project report summarise the methods used in the project by March 2023 | | Activity 3.4: the new maps for the Coastal Resource Atlas (as a ArcMap map package and Word document report) have just been completed and delivered to both the MNR&L and the NPTVI. This delivery is in advance of the 'official' hand-over, scheduled for June 2023, to allow stakeholders to comment on the maps. | |
| Output 4. Better understand of the temporal change and overall trajectories of the major marine habitats in the BVI. Updated condition assessment for coral habitat in the BVI. | | Output 4 ('better understand of the temporal change and overall trajectories of the major marine habitats in the BVI. Updated condition assessment for coral habitat in the BVI'): this output is also now complete. The report is currently being drafted so that I can be combined with the final report (a draft version of the temporal and condition report has been included with the current final report to evidence the completion of output 4). | |

| Project summary | SMART Indicators | Progress and Achievements April 2022 - March 2023 | Actions required/planned for next period |
|--|------------------|---|---|
| | | | |
| Activity 4.1 Delivery of the seabed observations data base storing all of the information sourced during the project (same as 1.1 | | Activity 4.1: All of the seabed imagery and GT interpretations have been provided to both the MNR&L and the NPTVI. | |
| Activity 4.2 Report detailing the finding of the temporal analysis and current condition of coral habitats delivered to the MNRL&I by Jan 2023 | | Activity 4.2: the examination of the new temporal data has just been completed. The temporal analysis, undertaken by Greg Anderson at the University of Southampton, has been summarised with a report (available on request but included in the DPlus main report (currently being draft for the close of the project)). | |
| Activity 4.3 Delivery of the condition report to other key stakeholders and interested parties both within the BVI and elsewhere by Jan 2023 | | Activity 4.3: The same report (see 4.2) details the current condition of coral near Anegada. | |

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

| Project Summary | Measurable Indicators | Means of Verification | Important Assumptions |
|---|---|--|---|
| <p>Impact: Effective marine management based on accurate and up-to-date information on the distribution of marine habitats. Effective targeting and prioritisation of management activities. Provision of information for spatial assessments and research</p> | | | |
| <p>Outcome: High-quality habitat maps made available for marine management, research, resource/inventory assessments, natural capital validations and the placement of protected sites etc. Improved management for a larger sea area (deeper waters).</p> | <p>0.1 Delivery of the CRA to the MNRL&I by January 2023 0.2 Hosting of the new CRA on the National GIS system by March 2023 0.3 Report describing the temporal analysis and current coral condition by Jan 2023 0.4 Maps integrate the best available information from other sources, e.g. Allen Coral Atlas by Nov 2022 0.5 In situ data, collected during the BVI fieldwork, are to be provided to researchers working on the Allen Coral Atlas so that the newest iteration of coral maps can be validated (cross validation) – data to be lodged with Vulcan by October 2022</p> | <p>0.1 Summary maps to be provided in the project report 0.2 Results of the temporal analysis, and the creation of the new map classes, will be provided in the project report 0.3 Testimonial from the MNRLI that the updated CRU has been integrated into their marine management workflow 0.4 Use project data within the validation exercise for the Allen Coral Atlas 0.5 Confirmation email that the BVI dataset has been lodged with Vulcan/Allen Coral Atlas</p> | <p>Other data sources, such as the distribution and intensity of human activities are sufficiently resolved for effective marine management</p> |
| <p>Outputs: 1.0 Collated database of historical biological and physical seabed observations</p> | <p>1.1 Database populated with historical seabed observations (ground-truthing observations of species and habitat) into one database to support the</p> | <p>1.1 Testimonial from the MNRLI that the finished databases of seabed observations have been received</p> | <p>Many datasets may require reformatting and permissions to be sort. This may mean that these work</p> |

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| | <p>temporal analysis). Observations from the previous two coastal mapping surveys are to be collated by December 2021</p> <p>1.2 Geo-spatial database populated with existing bathymetric data (i.e. ship-based sonar data, plane-base LiDAR and satellite derived bathymetry) and methods. The footprint of collated bathymetric data within 200 nm of the BVI would be an appropriate indicator of progress and success. Collation of all historical data to be completed by December 2021.</p> | <p>1.2 Updates on the quantity of information collected for both databases will be reported, and minuted, within the Project Management Group meetings</p> | <p>packages may continue to be updated throughout the project</p> |
| <p>2.0 Dataset of <i>in situ</i> seabed (camera imagery) data for historical and new ground-truthing stations in the BVI.</p> | <p>2.1 Process all newly acquired seabed footage to for use in the geo-statistical models by September 2022</p> <p>2.2 Project report detailing the number of observations collected during the fieldwork and the survey methods used by May 2022</p> | <p>2.1 Presence of a seabed ground-truthing database at NOC with a report sub-section detailing in-house QC and the processing method used by NOC</p> <p>2.2 Presence of a report detailing the fieldwork campaign. This will be provided as an attachment to a scheduled progress report to the Darwin Initiative</p> | <p>As with a survey at sea, weather downtime may reduce the duration or timing of the survey work</p> |
| <p>3.0 Updated CRA covering the major habitats out to both the 12 nm area (predictive habitat maps) and EFZ (geomorphology maps/seascape). Attribution of mapped classes with the</p> | <p>3.1 Presence of the updated CRA with a confidence layer (detailing the data sources used) uploaded the BVI National GIS database by March 2023</p> | <p>3.1 Deliverables will be summarised in the project report, Project Management Group minutes and a project press release</p> <p>3.2 Testimonial from Town and Country Planning (curator of the</p> | <p>Timelines may change depending on when access to existing data is make available e.g. the UKHO LiDAR</p> |

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| <p>results of the temporal analysis (i.e. identity and trajectory over time)</p> | <p>3.2 Full coverage bathymetric surface for the BVI with terrain variables by Oct 2021</p> <p>3.3 Delivery of a geomorphology maps to the BVI National GIS database by Dec 2021</p> <p>3.4 Project report summarise the methods (geo-statistical modelling and temporal analysis) in the project by March 2023</p> | <p>National GIS database that the bathymetry, terrain variables and geomorphological surfaces have been received</p> <p>3.3 Placement of the maps onto an online portal for public access (e.g. OBIS)</p> <p>3.4 The updated project report will be provided as a supporting document attached to a scheduled progress report to the Darwin Initiative</p> | |
| <p>4.0 Better understand of the temporal change and overall trajectories of the major marine habitats in the BVI. Updated condition assessment for coral habitat in the BVI.</p> | <p>4.1 Delivery of all of the fieldwork data sourced during the project by December 2022</p> <p>4.2 Report detailing the finding of the temporal analysis and current condition of coral habitats delivered to the MNRL&I by Jan 2023</p> <p>4.3 Delivery of the condition report to other key stakeholders and interested parties both within the BVI and elsewhere by Jan 2023</p> | <p>4.1 Testimonial from Town and Country Planning (curator of the National GIS database that the bathymetry, terrain variables and geomorphological surfaces have been received</p> <p>4.2 Presentation to be provided by project partners on the outcomes of the temporal analysis and condition assessment</p> <p>4.3 Press release highlighting the delivery of products and key findings</p> | <p>Much of the historical data may have been lost during the extreme hurricanes of 2017. We hope that our in-country partners can help source this information. The project has the resources to help regenerate and collate some of the information lost</p> |
| <p>Activities:</p> <p>1.1 Collate historical surveys of the BVI seabed. Observations to collect include multibeam echosounder and LiDAR-based bathymetric datasets.</p> <p>1.2 Habitat observations collected in 1991, 2005 and 2018 also need to be collated into a similar database to facilitate the temporal analysis.</p> <p>2.1 Conduct a ground-truthing survey in 2022 to collect new drop-down video footage of the seabed habitats.</p> <p>2.2 Delivery of the seabed imagery, profile data and GT interpretations to the MNRLI with report.</p> <p>3.1 Merge bathymetric datasets to produce a new unified bathymetric surface for the BVI. Using this surface, additional terrain variables will be derived and geomorphological surfaces made. Use the terrain variables to model the distribution of observed seabed habitats throughout the waters of the BVI.</p> <p>3.2 All activities will include a work-shadowing/capacity building component for MNRLI staff.</p> | | | |

- 4.1 Examine temporal patterns and trajectories between historical observations to infer change over time for the major seabed habitats in the BVI.
- 4.2 Report temporal trends – potential scientific publication.
- 4.3 Use the most recent seabed observations (2022 survey) to assess the current condition of coral habitats within BVI waters.

Annex 3: Standard Indicators

The Biodiversity Challenge Funds (BCFs) use high quality and accessible Monitoring, Evaluation and Learning (MEL) to enable scaling, replication and increase the impact of the funds and the projects we support.

By asking project teams to align indicators with the Darwin Plus Standard Indicators, we aim to increase our contribution to the global evidence base for activities that support biodiversity conservation, poverty reduction and capability & capacity.

The tables below are provided to assist project teams in reporting against Standard Indicators. Please report against the Standard Indicators that you have selected specifically for your project in Table 1 below. Refer to the Standard Indicator Guidance & Menu available on the [Darwin Plus website](#) for guidance on how to select indicators, as well as how to disaggregate reporting within your chosen indicators.

New projects should complete the Y1 column and also indicate the number planned during the project lifetime. Continuing projects should copy and paste the information from previous years and add in data for the most recent reporting period.

We recognise that our menu cannot cover all the potential monitoring needs for all projects – where necessary you can select indicators from other sources or develop your own. See our BCF MEL guidance on best practices for selecting and developing indicators.

Table 1 Project Standard Indicators

| DPLUS Indicator number | Name of indicator using original wording | Name of Indicator after adjusting wording to align with DPLUS Standard Indicators | Units | Disaggregation | Year 1 Total | Year 2 Total | Year 3 Total | Total to date | Total planned during the project |
|-------------------------------|--|---|--------------|-----------------------|---------------------|---------------------|---------------------|----------------------|---|
| E.g. DPLUS-A01 | E.g. People who attended training on CBD Reporting Standards | E.g. Number of officials from national Department of Environment who attended training on CBD Reporting Standards | People | Men | 20 | | | 20 | 60 |
| E.g. DPLUS-C17 | E.g. Articles published by members of the project team | E.g. Number of unique papers published in peer reviewed journals | Number | None | 1 | | | 1 | 4 |
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In addition to reporting any information on publications under relevant standard indicators, in Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Mark with an asterisk (*) all publications and other material that you have included with this report.

Table 2 Publications

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

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| Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission? | |
| Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line. | |
| Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line. | |
| Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report. | |
| Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic. | |
| If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)? | |
| Have you involved your partners in preparation of the report and named the main contributors | |
| Have you completed the Project Expenditure table fully? | |
| Do not include claim forms or other communications with this report. | |