

## Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

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

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

**Submission Deadline: 30<sup>th</sup> April 2022**

### Darwin Plus Project Information

Project reference	DPLUS150
Project title	Ecosystem Sensitivity
Territory(ies)	British Virgin Islands (BVI)
Lead partner	National Oceanography Centre
Project partner(s)	Ministry of Natural Resources, Labour and Immigration Joint Nature Conservation Committee Wood Plc.
Darwin Plus grant value	£356,763.00
Start/end dates of project	01/07/21 – 30/06/23
Reporting period (e.g. Apr 2021-Mar 2022) and number (e.g. Annual Report 1, 2)	Annual Report 1
Project Leader name	James Strong
Project website/blog/social media	None
Report author(s) and date	James Strong (18/05/2022)

### 1. Project summary

The marine environment can be effectively managed using Marine Spatial Planning (MSP - similar in concept to planning on land). However, extra tools are required to consider the impacts of human activities on marine habitats. This project will expand, integrate and enhance existing tools and outputs developed by the project partners to create a new ES-CV tool covering both the marine and terrestrial environment, including representation of human-environment interactions and impacts, and existing indicators to track change in the environment. MSP remains the most effective mechanism for managing damaging human activities and protecting vulnerable marine features. The proposed tool and process will enable MSP issues in the BVI to be addressed and allow the MNRL&I to produce marine spatial plans based on integrated datasets and more holistic planning considerations for the foreseeable future. The tools proposed here will greatly facilitate the production of marine spatial plans by in-country partners.

### 2. Project stakeholders/partners

Key stakeholder engagement has been extensively delivered through work package 1 (identify and prioritise pressures affecting the marine environment in the BVI). This work package required extensive communication with various contacts at the MNRLI. The format for this engagement was a short series of workshops that focused on fully documenting the human activities that occur within the BVI that might impact on the marine environment (18 March 2022 – JNCC and NOC with MNRLI). This included documenting both marine and terrestrial activities (e.g. changes in land use increasing the severity of turbidity events in coastal waters).

NOC has also run several capacity building events for the BVI during the project. Delivered training events include:

- GIS in support of MSP (NOC)
- Habitat mapping in support of MSP (NOC)
- Linking tools in MSP (NOC)
- Gathering activity data for MSP (NOC)
- Using YSI instruments for water quality monitoring (NOC)

### **3. Project progress**

#### **3.1 Progress in carrying out project Activities**

Significant progress has been made on the project and we are currently on schedule to complete the project for mid-2023. Within the project, work package 1 (identify and prioritise pressures on the marine environment) and work package 3 (review available cumulative impact assessment methods and assess feasibility for use in the BVI) are complete. Progress on work packages 2 and 4 is progressing well and deliverables are on schedule. Work package 5 (deliver of training for use of the end products) has yet to start.

#### **3.2 Progress towards project Outputs**

Progress on individual outputs is detailed below:

Output 1: the objective here is to produce a complete activity > pressures matrix developed for BVI. The complete list of activities has now been finalised – this has done in conjunction with key stakeholders in the BVI. The finalised list of activities has also been mapped across to the full suite of resulting pressures. The complete list of activities and pressures has also been prioritised so as to assist in the topics covered by the sensitivity matrix (work package 2).

Output 2 (Sensitivity Assessment for Marine and Coastal habitats in BVI): Good progress is being made on the production of the sensitivity matrix. Assessments for the first suite of habitats (Acropora, Montastrea, seagrass, mangroves and sand) are underway and we are on track to have draft assessments completed by the end of July 22 as planned.

Output 3 (Review available cumulative impact assessment methods and assess feasibility for use in the BVI): this output has now been completed. The review highlighted 10 existing cumulative impact approaches and tools. The review then focused on just four tools what are freely available and complete. Of those, three proved unsuitable on closer inspection. Of these:

- One was formatted for ArcMap Pro only (Seanergy) – its package is not commonly used by Government staff in the BVI;
- One was coded in R and only covered physical pressures (CumI); and
- One tool lacked a CIA module that dealt with habitat x pressure interactions within the publicly available tool (Baltic Sea Impact Index (BSII) Cumulative impact Assessment Toolbox).

Based on this, only the Marine Threat Model (Halpern et al., 2008; 2015) is suitable and available for inclusion within the ES-CV tool. This tool is simplistic when compared to other tools that do typically convert human activities to pressures. However, the basis of the Marine Threat Model has been extensively reproduced in other approaches and it remains a useful tool for estimating cumulative impacts in the marine environment.

Output 4 (Translation and integration of existing marine management tools into the ES-CV tool (activity to pressures matrices; sensitivity matrices; and options for considering cumulative impacts):

- An internal review of the Hazard and Climate Vulnerability Assessment (HCVA)
- Definition of the extent of the marine environment

- Development of grid to support identification and defining spatial overlap with pressures is ongoing.
- Developed a set of templates for pressure data to interact with defined development areas, for use in the assessment.
- Considering transition of tool from ArcGIS Desktop 10.x, using Python 2.7 to ArcGIS Pro, using Python 3.6.

Output 5 (Stakeholder engagement to understand: (i) the required format for the ES-CV tool to ensure its compatible with existing management measures; (ii) presence and intensity of human pressures; (iii) distribution of key habitats and the availability of information for estimating sensitivity; and (iv) the training requirements needed to maximise stakeholder use of the ES-CV tool): progress on output is scheduled for later in the project. As such, no progress has been made on this output to-date.

### **3.3 Progress towards the project Outcome**

The overall output for the project is to generate a step-change in the level sophistication and capability of marine management in the BVI along with an ability to integrate climate vulnerability and facilitation of MSP. There are five indicators attached to this output – what these indicators are and the progress that has been achieved is detailed below:

Indicator 0.1 Adoption of the ES-CV tool with the workflow generating marine management advice and actions by January 2023. Provision of direct training and practical demonstration of ES-CV tool by BVI stakeholders on national projects/case study problems. Following training, stakeholders will be expected to be able to demonstrate how they use and can apply the tool to solve real world problems.

Progress on indicator 0.1: the adoption and training on the final ES-CV tool is scheduled for the final section of the project. Clearly, it is not possible to significantly advance this indicator until the ES-CV tool is in place. As such, there has been little progress associated with this indicator to date.

Indicator 0.2 Identification and adoption of the ES-CV as the primary method for supporting marine spatial planning in the BVI by February 2023.

Progress on indicator 0.2: this indicator is reliant on the production of the ES-CV tool. As such, this indicator can only be considered at the end of this project.

Indicator 0.3 Ability to conduct spatial analyses across the land/sea boundary that support Marine Spatial Planning and analyses of coastal vulnerability by March 2023.

Progress on indicator 0.3: this indicator can only be progressed on completion of the ES-CV tool and delivery of the planned train on how to use the tool. As such, we anticipate significant progress for this indicator towards the end of the project.

Indicator 0.4 Application of ES-CV on at least 5 different national projects or case study problems during the project or within at least 1 year of project completion.

Progress on indicator 0.4: As per the other indicators, this indicator can only be assessment when the project deliverables are completed and adopted by the main end user in the BVI (MNRLI).

Indicator 0.5 Expectation that the tool will be maintained and modified by the BVI stakeholders following its deployment and project completion.

Progress of indicator 0.5: this indicator will be monitored when the end products have been delivered. We anticipate progress on this indicator within the lifetime of the project as case studies will be used for the ES-CV tool training.

### **3.4 Monitoring of assumptions**

The project partners and project lead have been carefully monitoring the risks during the project. As the entire project is desk-based, many of the risks associated with fieldwork or data collection are removed – this significantly de-risks most of the deliverables within this project. One critical risk that was dependent on fieldwork was the ingestion of the new Coastal Resource Atlas (CRA) into the ES-CV tool. The new CRA is being delivered by DPLUS 152.

Thankfully, the fieldwork to collect the required ground truthing dataset for the new CRA (most challenging section of the project) was successfully completed in mid-May. As such, this project is confident that the new CRA will be available to be fully integrated into the ES-CV tool at the end of the project.

Other risks that have been flagged up during the project involve the levels of redundancy within the project. Due to family reasons, the project lead has had to step out of managing this project for a couple of weeks. It is apparent that there isn't a suitable deputy in place at NOC to continue the management of the science whilst the lead was away. On return of the lead, NOC will move to appoint a deputy lead on the project to ensure the continuity of management should the lead be unavailable again.

Overall progress on the project is good and on schedule. The project team are not aware of any other significant risks to the project.

With regard to the assumptions (see log frame), the following comments have been made:

There are no comments associated with the assumptions attached to the project outcome.

Other assumptions include:

'BVI Government remain engaged and supportive of the project' - this has very much remained the case. The working relationship between the Ministry and project has strengthened during the first year of the project.

'Absence of natural hazards and disasters allow workshop to take place' – the human activities workshop was successfully completed in March 2022. The training on the final product will occur in spring 2023.

'There is data and information on habitat sensitivities is openly available' – this has proven to be true and the project enjoys free access to plenty of evidence for creation of the sensitivity matrix. It is likely however that certain habitats may not have enough evidence for their sensitivity profile to be completely based on scientific papers. In this situation, expert judgement will be used and the reduced level of certainty will be reflected in the confidence assessment that's attached to the sensitivity matrix.

'Existing data sources have the required resolution, format and availability to: (i) identify and locate human activities; and (ii) describe and delineate the main marine habitats or resource present within the planning region' – this has proven to be a significant challenge in the project. On inspection, human activity data was not present at the required resolution, and many activities simply lack any spatial data all together. As such, NOC and JNCC have offered to generate some of this data for the BVI. This is a new deliverable and not specified in the original project. However, the project are content to do this as it will ensure that the ES-CV tool can be delivered and used immediately by the Ministry.

'Good working relationships are created and maintained between SHG/project partners and stakeholders' – this very much remains the case.

'Integration of WP components into the ESCV is not dependent on any one WP component, i.e. issues with one WP will not jeopardise the integration of other completed components' – this also remains the case and we are confident that we will deliver all aspects of the project.

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

This project remains timely in view of the current BVI government Green Paper; Environmental Management Climate Adaptation and Sustainable Development. The Bill specifically identifies the need for “institutional structures and procedures” (such as MSP) to manage (among others), “biodiversity conservation” and “marine pollution” and meet “International commitments under multilateral environmental agreements (MEAs)”. These include the Nagoya Protocol and inter-national agreements related to oil pollution. The project will support; Sustainable Development Goal 14 contributing to the sustainable management and protection of marine and coastal ecosystems, the Ramsar and Cartagena Convention. Associated with these ambitions, MSP is implicit in the Bill’s objective of establishing a Natural Resources Inventory and addressing biodiversity conservation more generally.

Further Multilateral Environmental Agreements important to biodiversity are applicable to the BVI as a result of their ratification by the UK (e.g. Ramsar Convention, Cartagena Convention). Associated with these ambitions, MSP is implicit in the Bill’s objective of establishing a Natural Resources Inventory and addressing biodiversity conservation more generally. Finally, the Virgin Islands Strategic Blue Economy Road map (2020–2025) states “A focus on spatial planning and cumulative environmental impact assessment should be adopted...” as a high priority (short term). This project will actively contribute to national policy development, supporting implementation of the BVI Comprehensive Disaster Management Strategy, BVI National Physical Development Plan and BVI Natural Resources Strategy.

#### **5. OPTIONAL: Consideration of gender equality issues**

#### **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 DPLUS (152) project. The scheduling of fieldwork for DPLUS152 unfortunately clashed with this major reporting cycle, which meant that project reporting as delayed slightly. However, the overall monitoring and evaluation of the project has been conducted successfully.

The communication of overall progress within the project is typically promogulated to other partners via update emails. This perhaps is a poor method for documenting and communicating progress and the lead will review this mechanism shortly.

#### **7. Lessons learnt**

- More careful scheduling to avoid bouts of fieldwork clashing with major reporting requirements is necessary.
- NOC needs to appoint a deputy lead to cover the lead’s duties in case they become unavailable.
- The delay in issuing the award letter impacted greatly on the ability of the partners to start work and draw down project resource. In hindsight, an extension/reprofiling should have been sort immediately.

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

None

#### **9. Other comments on progress not covered elsewhere**

The lead wishes to highlight that additional deliverables have been included in the project that were not specified in the proposal. The additional deliverables, namely the production of spatial data to reflect the distribution of human activities, is a significant additional contribution to the project that is done at no cost to Darwin.

## **10. Sustainability and legacy**

This can only really be assessed towards the end of this project. As such, we will provide a fuller examination of this in the next reporting cycle.

## **11. Darwin identity**

The project partners will publicise the project when we have the ES-CV complete. At which point, we will publicise the products widely and harness social media feeds.

## **12. Impact of COVID-19 on project delivery**

We have experienced no issues with COVID other than occasionally having key staff off on sick leave. At the proposal phase we made a conscious decision to base all of the stakeholder engagement online. The training on the ES-CV tool is still scheduled to be an in-person offering though.

## **13. Safeguarding**

Please tick this box if any safeguarding violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to [ODA.safeguarding@defra.gov.uk](mailto:ODA.safeguarding@defra.gov.uk) as indicated in the T&Cs.

#### 14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

Project spend (indicative) in this financial year	2021/22 D+ Grant (£)	2021/22 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs	██████	██████	██████	Staff on special leave, and overseas.
Consultancy costs				
Overhead Costs	██████	██████	██████	As above
Travel and subsistence				
Operating Costs				
Capital items				
Others (Please specify)	██████	██████	█	
<b>TOTAL</b>	██████████████████	██████████████████		

#### 15. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

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

## Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?	
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
<b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	