

# DPLR4\1003

Darwin Plus Local - Final Report (1)

Officer: Linzi Ogden

## Section 1 - Darwin Plus Local Project Information (Essential)

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### Project Reference Number

DPL00116

### Q1. Project Title

*No Response*

### Overseas Territory(ies)

☒ British Virgin Islands (BVI)

### Lead Organisation or Individual

Jenni Kneale

### Partner Organisation(s)

Green VI

### Value of Darwin Plus Local Grant Award

£17,320.89

### Project Start Date

09 November 2024

### Project End Date

31 March 2025

### Project Leader Name

Jenni Kneale

### Project Website/Twitter/Blog etc.

*No Response*

### Report Author(s)

Report Date

18 April 2025

Project Summary

No Response

Project Outcomes

Checked	<b>Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;</b>
Checked	<b>Climate Change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;</b>
Unchecked	<b>Environmental quality: improving the condition and protection of the natural environment;</b>
Checked	<b>Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.</b>

Section 2 - Project Outcomes (Essential)

On a scale of 1 (high – outcome substantially exceeded ) to 5 (low – outcome substantially did not meet expectation ), how successful do you think your project has been?

⦿ 3 - Outcome met expectation


Project outcomes and justification for rating above


- i) A baseline data set showing presence of MPs in sand, sargassum, seawater and naturally sargassum compost mounds has been established. Increased awareness of MP problem and general waste management and recycling capacity on Virgin Gorda as a result of workshops and partnership with Green VI. Schools workshop engaged young people to think about ocean awareness and the common marine issues facing islands globally. A methodology for experiments to test for MPs that can be easily as safely replicated in schools as an educational tool has been developed. Results indicate that MPs do accumulate in Sargassum on the ocean. Samples taken from naturally composting deposits raise some interesting questions and further studies in this area could provide greater understanding of process occuring within the composting Sargassum.
- ii) The project met the objectives to conduct an investigation into the presence of MPs in sargassum strandings on Virgin Gorda, which included sand, sea water, fresh sargassum and compost sargassum deposits. A report on the results of the sampling has been written and distributed to interested parties. It did not meet the intention to engage with tertiary level students and to have them involved in sampling and counting, this was due to the


time spent developing a methodology that was feasible and sourcing items which needed to be shipped from outside of the BVI. Co-ordinating separate school visits was challenging so one workshop was hosted and all schools invited. 23 children of primary and secondary age and three teachers attended the workshop.


iii) Schools workshops were conducted in school classrooms and children did not directly handle any sargassum or plastics. PPE was used during collection and testing of sargassum samples. Project Lead met with Arragorn Dickread for a very useful learning and sharing of ideas / experiences in relation to his project investigating pontridrilus worms in sargassum.

## Supporting Evidence - file(s) upload


 [Investigation into the presence of microplastics on beaches of Virgin Gorda - Google Docs](#)


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## Supporting Evidence - links to published document/online materials

This research has been a pilot study, results have demonstrated the presence of MPs at differing quantities with sand, seawater and sargassum. The sample size is too small to draw any significant conclusions from, nor is there enough data to submit a peer reviewed paper. The project does not have a website, or facebook page. The attached report and methodology is available by request and has been shared with key stakeholders.

In hindsight it would have been useful to record the workshop presentation and make it available online.

## Project Challenges

This is a understudied area with no standardised method for extracting MPs from Sargassum, it took longer than expected to test, replicate other studies and create a method that worked, was feasible to reproduce, which minimised the use of hazardous chemicals as there are challenges with both shipping to and disposal of in the BVI. Thus the study is likely an undercount of MPs present.

Shipping items to the BVI is challenging, few suppliers were prepared to ship Red Nile dye, a standard used for MP counting. Studies indicated that Idye poly-pink can be used as a subsitute, in the end we ran three different methods alongside each other. This could have been an entire project, testing different options and a long time was spent deciding which option/s were most feasible. Underestimated the time required to count samples.

Sargassum did not wash up in December, so no fresh samples could be collected. January, February and March saw only small deposits washing ashore each month. Sample size, areas covered and timeframe was too small to make any conclusions about seasonal variation in MPs, nor their origin.

It was not realistic to engage with students before a set method had been created, timetabling individual sessions with schools was challenging, so one workshop was hosted by Ciboney Centre for Excellence with all Virgin Gorda school children being invited to attend. In addition the presentation and workshop was offered to the wider Virgin Gorda, hosted by Green VI.

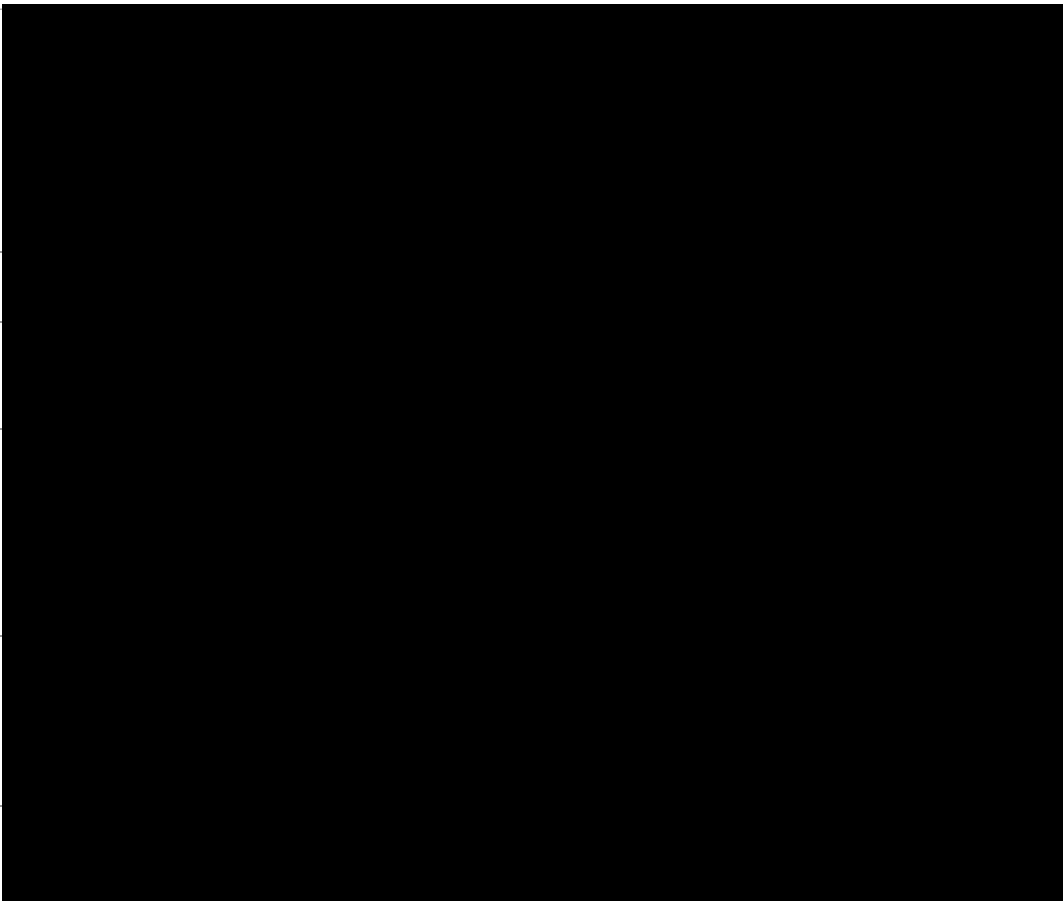
## Lessons Learned

- i) Access to equipment on Virgin Gorda facilitated through Green VI. Sharing of knowledge and learning with Green VI team. Research and testing of other studies to establish a methodology compatible / feasible / easily repeatable.
- ii) Under estimated the time involved in testing methods and counting MPs.
- iii) Take and count more compost samples to more fully evaluate the different layers  
Run the project during summer months when Sargassum is more plentiful.  
Start the workshops earlier to engage more interest and allow momentum to grow around the project.  
Allow more time, or engage more people in the counting process.  
Consider composting fresh samples as a method of extraction of MPs, via and accelerated composting process.
- iv) Test and compare different methods for extraction of MPs in Sargassum in advance. Get schools onboard early and try to get workshops as a timetabled activity.

## Section 3 - Project Finance (Essential)

### Project Expenditure

Project Spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total actual Darwin Plus Costs (£)	Variance %	Comments (please explain significant variances)
Staff Costs				

Consultancy Costs			
Overhead Costs			
Travel and Subsistence			
Operating Costs			
Capital Items			
Others			
<b>Total</b>	17,320.82	14,877.71	-14.11

## Please provide a short narrative summary on project finances.

Money was saved on capital items, shipping and operating costs by sourcing / renting equipment locally, minimising the need to travel between to islands. Staffing costs went over anticipated budget as all samples were counted by a research assistant and the project lead as it had not been possible to coordinate to get students to assist with counting. Contingency allocated in the budget was not required.

There was no co-financing for this project.

## Section 4 - Contribution of Project to Darwin Plus Programme Objectives

Please select up to **one** indicator that applies within **each group/indicator list (A, B, C, D)** and report your results for that indicator in the text box underneath. If you do not have relevant results to report for any of the indicators in a particular group, you can leave them blank.

Please also submit some form of evidence (above) to demonstrate any results you list below, where possible.

## Group A: Capability and Capacity - Core Darwin Plus Standard Indicators (select one)

Unchecked	<b>DPLUS-A01: Number of people from key national and local stakeholder groups completing structured and relevant training.</b>
Unchecked	<b>DPLUS-A02: Number of secondments or placements completed by individuals of key local and national stakeholders.</b>
Checked	<b>DPLUS-A03: Number of local/national organisations with improved capability and capacity as a result of project.</b>
Unchecked	<b>DPLUS-A04: Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.</b>
Unchecked	<b>DPLUS-A05: Number of trainers trained reporting to have delivered further training by the end of the project.</b>

## Group A Indicator Results

12 people from local and national organisations, 1 government minister, 3 teachers and 23 school children with improved capability and capacity as a result of the project through delivery of workshops. 2 employees at BVI Kelp have adjusted working practices as a result of collaboration and shared learning,

## Group B: Policies, Practices and Management- Core Darwin Plus Standard Indicators (select one)

Unchecked	<b>DPLUS-B01: Number of new/improved habitat management plans available and endorsed.</b>
Unchecked	<b>DPLUS-B02: Number of new/improved species management plans available and endorsed.</b>
Unchecked	<b>DPLUS-B03: Number of new/improved community management plans available and endorsed.</b>
Unchecked	<b>DPLUS-B04: Number of new/improved sustainable enterprises/ community benefits management plans available and endorsed.</b>
Unchecked	<b>DPLUS-B05: Number of people with increased participation in local communities / local management organisations (i.e., participation in Governance/citizen engagement).</b>
Unchecked	<b>DPLUS-B06: Number of Local Stakeholders and Local Communities (people) with strengthened (recognised/clarified) tenure and/or rights.</b>

## Group B Indicator Results

n/a

## Group C: Evidence and Best Practices - Core Darwin Plus Standard Indicators (select one)

Unchecked	<b>DPLUS-C01: Number of best practice guides and knowledge products published and endorsed.</b>
Unchecked	<b>DPLUS-C02: Number of new conservation or species stock assessments published.</b>
Unchecked	<b>DPLUS-C03: New assessments of habitat conservation action needs published.</b>
Unchecked	<b>DPLUS-C04: New assessments of community use of biodiversity resources published.</b>
Unchecked	<b>DPLUS-C05: Number of projects contributing data, insights, and case studies to national Multilateral Environmental Agreements (MEAs) related reporting processes and calls for evidence.</b>

## Group C Indicator Results

n/a

## Group D: Sustainable Benefits to People, Biodiversity and Climate - Core Darwin Plus Standard Indicators (select one)

Unchecked	<b>DPLUS-D01 Hectares of habitat under sustainable management practices.</b>
Unchecked	<b>DPLUS-D02: Number of people whose disaster/climate resilience has been improved.</b>
Unchecked	<b>DPLUS-D03: Number of policies with biodiversity provisions that have been enacted or amended.</b>

## Group D Indicator Results

n/a

## Section 5 - Project Partnerships, Wider Impacts and Contributions

### Project Partnerships

i) The project was facilitated by Green VI on Virgin Gorda who were able to provide equipment, training and consultancy to initiate the project and overcome some of the challenges of working on small islands, this meant that the project could run on Virgin Gorda as initial plans to use facilities on Tortola were unrealistic in terms of transportation of samples and risk of contamination or loss of samples. Beach Buddies (Isle of Man) provided educational resources and a connection to other islands facing the same issues with marine litter.

ii) while the government was not directly involved, Hon. V. Wheatley Minister for Health and for District 9 (Virgin Gorda and Anegada) attended the workshop, this gave opportunity for an active discussion between the Minister and members of the community where concerns and ideas were expressed. The Minister provided an update on the current waste management plans for the Territory. The benefit of his local knowledge also added to a greater understanding of the shoreline changes and processes at Handsome Bay.

iii) Working with Green VI has led to enhanced collaboration and shared learning throughout the project. Working with BVI Kelp has increased awareness and understanding of MPs in Sargassum. Working with BVI Kelp brought shared learning and new knowledge to both parties. BVI Kelp have adapted some working practices as a result.

iv) Ciboney Centre for Excellence hosted a workshop for school children. Local Sargassum business BVI Kelp provided research assistance, local knowledge and shared learning.

## Wider Impacts and Decision Making

The Minister for Health has requested a follow-up meeting which is due to take place this month.

An additional workshop is being held for stakeholders on the main island of Tortola, including Green VI management team and Unite BVI.

Networking between stakeholders from various groups including marine industry, government, farming community, local business has raised awareness and opened conversations about plastics and waste management within the community. Changes of working practices and capacity building at local Sargassum company.

Highlighted the impacts of Sargassum mounds at Handsome in terms of longshore drift and changes to the beach.

100% of fish crates found on the beaches came from Moroccan fishing companies, showing the need for a global approach to tackle to issues of plastics entering the marine environment.

## Sustainability and Legacy

Baseline dataset and repeatable experiment now exist for four beaches on Virgin Gorda. This Pilot Study could be scaled up and repeated in the future. The methodology requires no dangerous chemicals and can easily be reproduced in the classroom and / or lab.

Green VI already hold regular beach cleans, hopefully the increased awareness of the issue in schools and the wider community will result increased participation in Green VI beach cleans and / or beach cleans in general.

The timing of end of this project coincides with Green VI launching a Promar project, results and resources from this project have been made available to Green VI and Promar.

Educational resources, workshop demonstration ideas have been given to Green VI for use in future workshops and sessions.

## Section 6 - Communications & Publicity

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### Exceptional Outcomes and Achievements



Sargassum is part of nature's processes, providing an important ecosystem for many species, Sargassum was recorded by Columbus in 1492. Accumulated of MPs and macroplastics within the Sargassum is a concern as it provides a vector to MPs to enter the food chain.

Marine debris from fishing boats is dominant on windward coasts, 100% of fish crates found were identified as being from Moroccan fishing companies from the other side of the Atlantic Ocean. Another major source of beach trash at Handsome Bay is an open dumpster for local domestic garbage collection.

Different extraction methods provide varying results, however MPs are present in all results. Sargassum does appear to entrap or accumulate MPs, presenting a significantly higher count of MPs in Sargassum than in seawater alone.

Sargassum and sand are tumbled together by wave action in the swash zone, Sargassum is likely to be a vector increasing the amount of MPs found in sand on beaches. Sinking Sargassum at sea could be a vector for microplastics to enter the deep ocean. Left to nature Sargassum will compost, could prevent coastal erosion, provide a barrier to storm surge and can naturally alter the dynamics of a beach, mounds are firm enough to walk on, vegetation is growing to cover the compost mounds.


Sargassum could have potential as a compost and could provide a useful source of biomass to counter soil erosion. The presence of MPs in the compost is a concern. Further research would be useful to understand whether some MPs are actually degrading as a result of natural composting and whether Sargassum could be used as a soil regenerative if MPs could be reduced.


A workshop at Green VI and the presence of Hon. Vincent Wheatley Minister for Health, provided valuable shared learning within the community - some plastics can be recycled by a company on Tortola. Plastic bottles are shipped out for recycling. Discussions about putting lids on trash cans and dumpsters, reducing single use plastics, concerns that these islands are 30,000 people hosting over a million tourists annually which generates a significant amount of plastic waste in the islands, efforts to reduce this through education and legislation are options to manage this challenge.


## Photo, video or graphic to be used for publicity and communications.


**Please upload at least one relevant and engaging image, video or graphic that you consent to be used alongside the above text in Defra, JNCC or NIRAS communications material.**

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## Photo, video, and/or graphic captions and credits.

20250303\_122025 - core sampling Sargassum compost mounds - Handsome Bay, Virgin Gorda (British Virgin Islands)

20250110\_095500 - 5 year old Sargassum mounds - Handsome Bay, Virgin Gorda (British Virgin Islands)

IMG-20250330-WA0001 - Jen Kneale / presentating findings at Green VI workshop - Virgin Gorda (British Virgin Islands)  
IMG-20250413-WA0004 - Ciboney Centre for Excellence schools workshop / demonstration of separating plastics from sand - Ciboney Centre for Excellence, Virgin Gorda (British Virgin Islands)

I agree for the Biodiversity Challenge Funds Secretariat, Administrator, and/or JNCC to publish the content of this section.

☒ Yes, I agree for the BCFs Secretariat and/or JNCC to publish the content of this section.

Please list any accounts that you would like tagged in online posts here. This can include project pages, partners’ pages or individuals’ accounts for any of the following platforms: LinkedIn, Facebook, Twitter, or Instagram.

<https://www.facebook.com/greenvi>

## Section 7 - Darwin Plus Contacts

Please tick here to confirm that you have read and acknowledge the BCF's Privacy Notice on how contact details will be used and stored and that you have sought agreement from anyone that you are sharing personal details with us on their behalf.

☒ I confirm I have read the Privacy Notice and have consent to share the following contact details

### Project Contact Details

Project Contact Name	Jenni Kneale
Role within Darwin Plus Project	Project Lead
Email	
Phone	
Do you need further sections to provide additional contact details?	<input checked="" type="radio"/> No