

# DPLR1\1060

Darwin Plus Local - Final Report (1)

Officer: Linzi Ogden

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

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### Project Reference Number

DPLR1\1060

### Q1. Project Title

*No Response*

### Overseas Territory(ies)

Montserrat

### Lead Organisation or Individual

Island Solutions Inc.

### Partner Organisation(s)

n/a

### Value of Darwin Plus Local Grant Award

£39,127.00

### Project Start Date

15 May 2023

### Project End Date

15 May 2024

### Project Leader Name

Andrew Myers

### Project Website/Twitter/Blog etc.

[www.islandsolutions.org](http://www.islandsolutions.org)

### Report Author(s)

## Report Date

17 June 2024

## Project Summary

*No Response*

## Project Outcomes

|           |   |
|-----------|---|
| Checked   | <b>Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;</b>   |
| Unchecked | <b>Climate Change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;</b>   |
| Checked   | <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?

2 - Outcome moderately exceeded

### Project outcomes and justification for rating above

SCTLD is still active in Montserrat and throughout the Caribbean. A variety of treatments systems have been utilised to varying success, however, each of these initial systems utilised non-naturally occurring in the marine environment chemicals. This project was the first in the Caribbean region to implement solutions for SCTLD based on treatments developed from naturally occurring marine based compounds. This project is the essential and necessary precursor program prior to in-situ treatments.

The following objectives, changes and outcomes have been achieved by this project to address SCTLD locally and regionally and increase Montserrat's capacity to address marine habitat impacts locally:

1. The Caribbean's and UKOTs' first marine research facility designed to test probiotic treatments was created in Montserrat through this project. Working in collaboration with members of the Smithsonian Marine Station (SMS) and the Ushijima Lab the multipurpose test tank was created using proven systems. Through the support of the Government of Montserrat a seafront section of land was provided and prepared which allows direct access to clean seawater and space for outreach, education and potential expansion. The original system design was improved, and made environmentally-friendly, through the joint effort of Island Solutions and the Ushijima

Lab by developing solar powered systems that supports essential operational functions.


2. During the visit by Woody Lee of SMS and Erin Papeke and Dr. Blake Ushijima of the Ushijima Lab members of Montserrat's government/JNCC and youth dive team were introduced and helped the marine research testing tank system. Additional training was also conducted for 4 persons from the team on coral sample collection, preparation, treatment procedures, documentation and system maintenance by the Island Solutions team.

3. Despite the delay of the project's treatment testing caused by the regional coral bleaching event the project was able to conduct 2 complete testing trials and 1 half trial, which ensured the system's functionality and provided treatment and documentation practice. A total of 6 probiotic samples were tested (a minimum of 4 was stated in our project goals). Trials were conducted on 8 different diseased coral colonies, of which there were 6 different impacted species.


4. Outreach and community/government engagement: Island Solutions conducted a private site visit for the directors of Agriculture and Environment to explain the system (note: additional visits to see the treatment procedures were also offered by scheduling issues didn't allow).The project held 1 public outreach open house and conducted one on one program explanations for anyone who stopped by the facility (these were informal events but included a teacher from the Montserrat Secondary School, a member of Montserrat's Rotary Club, and multiple members of the local community. Approximately 6 private tours were conducted.


5. Data analysis – Trial documentation photos were prepared in sequential records with species and treatment program information.


## Supporting Evidence - file(s) upload

 [MONTERRAT CORAL RESEARCH FACILITY DEVEL](#)

[OPMENT - 2023](#)

 17/06/2024

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 pdf 591.25 KB

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

[REDACTED]

## Project Challenges

As with many projects there were some unexpected and expected challenges:

UNEXPECTED

1. Montserrat's power generation system had regular and extended failures starting from early in the project and occurring throughout. Though power interruptions weren't an unknown occurrence the extent of the issues was new and unexpected given the efforts by the government to address previous issues. To reduce the impacts of power loss a solar supported battery bank was installed (an unexpected additional expense) to run essential systems.

2. A highly impactful high seawater temperature coral bleaching event occurred in Montserrat, first in 18 years. This event delayed the collection of corals because of the environmental stress the corals were under. This delayed the treatment trials and only allowed for 2 trials to be conducted (though the project delivered beyond

the minimum candidates tested).

#### EXPECTED

A regular challenge is the availability of government/JNCC/youth marine research divers for any programme being conducted. To overcome this challenge multiple and additional training sessions were offered.

## Lessons Learned

#### WORKED WELL

- Collaborations with other organisations – An important part of the success of this project the pre-project was relationship development with our partners from SMS and the Ushijima Lab. During the project a facility visit was done by Island Solutions to SMS (self-funded). The engagement was both professional and personal which strengthened the project’s ownership by all collaborators.
- Working with the Government of Montserrat – Support for developing up the facility by the Ministry of Agriculture, and Environment was interactive. Heads of departments lead by the permanent secretary worked with Island Solutions to finalise land usage and produce a land lease agreement which allowed for installation of support systems.
- Adapting to challenges – All the points of “didn’t work well” were adjusted to and the project was still delivered successfully. Plans laid out many months before a project will not be always as expected, the project management team was able to overcome the unexpected or the must be changed and still complete the project.

#### DIDN'T WORK WELL

- Forecasting the unexpected extreme events and personnel schedules - Our team didn’t expect the extreme bleaching event that impacted the project timeline. Unexpected climate change impacts should be prepared for. Additionally, when working with persons with other jobs availability can quickly change; this impacted data processing as well as the. facility set-up date
- Collecting project supplies/equipment - To ensure all needs are covered it would have been advantageous to travel to staging site to organise and make final purchases.

## Section 3 - Project Finance (Essential)

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### 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) |
|---|-------------------|--|------------|---|
| <b>Staff Costs</b>                                  |                   |  |            |   |
| <b>Consultancy Costs</b>                            |                   |  |            |   |
| <b>Overhead Costs</b>                               |                   |  |            |   |
| <b>Travel and Subsistence</b>                       |                   |  |            |   |

|                        |           |           |   |
|------------------------|-----------|-----------|---|
| <b>Operating Costs</b> |           |           |   |
| <b>Capital Items</b>   |           |           |   |
| <b>Others</b>          |           |           |   |
| <b>Total</b>           | 39,127.00 | 39,127.00 | 0 |

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

The project leaders were able to effectively forecast expected expenses with the variances coming from unexpected costs. These costs were associated with:

The cost of setting up the facility - cost of land works to prepare the land were higher than expected because of terrain that had to be corrected, the lack of government support equipment, and costs associated with utilities installation.

Need for back up power sources - when the project was developed Montserrat's power supply was dependable. However, from the start of the project regular and extended power outages became excessive. To ensure proper operations a solar powered back up system had to be created that incurred unexpected costs.

To offset increased costs, Island Solutions reduced management and labour charges and the Ushijima Lab covered the sample processing costs.

## 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

7 persons from Island Solutions and Montserrat government and youth divers received training that increased capability and capacity

## 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

Not applicable

## 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>   |
| Checked   | <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

The project is supporting and contributing to the development of best practices for regional coral disease treatment action plans (yet to be published and endorsed) - 1.

## 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>                         |
| Checked   | <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

The facility and data from this project increases climate and biodiversity resilience for the population of Montserrat, approximately 4,300.

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

### Project Partnerships

Not applicable.

### Wider Impacts and Decision Making

Not applicable.

### Sustainability and Legacy

The project has developed infrastructure that will be utilised in another Darwin Local project. Additionally, Island Solutions has the support of both the Ushijima Lab and Bard College at Simon's Rock to conduct future marine

research programs. We are currently working with the Government of Montserrat for a multi-year land lease and expanded land usage to increase the facility's capacity.

## Section 6 - Communications & Publicity

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### Exceptional Outcomes and Achievements





This project created the first marine research facility in the Caribbean and the UK Overseas Territories to conduct tests of probiotic based treatment for Stony Coral tissue Loss Disease. Additionally, the facility is the first to be able support marine research in any capacity within the direct neighbouring islands to Montserrat, thus being able to provide the ability to assist neighbouring countries with the same impacts faced in Montserrat.

Any photos and data in the supporting evidence section can be used.





### 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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

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

IMG\_20231101\_165914.jpg - A team effort by Island Solutions, Woody Lee of the Smithsonian Marine Station and Dr. Blake Ushijima and Erin Papke of the Ushijima Lab of Coral Health and Restorative Microbiology at The University of North Carolina - Wilmington created the first probiotic testing facility in the Caribbean.

IMG\_20240402\_102445.jpg - Shane Caesar conducting treatment trials at the Montserrat Marine Research Centre at Carrs Bay. He received training through this project.

IMG\_20240402\_101558.jpg - Shane Caesar doing a partial water change. He received training through this project.

IMG\_20240308\_175354.jpg - Emmy Aston of Island Solutions prepares samples of corals impacted by Stony Coral Tissue Loss Disease for the probiotic trials. Each donor coral was divided into 4 segments to test 3 different treatment strains and 1 control.

**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.

Facebook - <https://www.facebook.com/montserratreefproject> - Island Solutions - Montserrat Reef Project

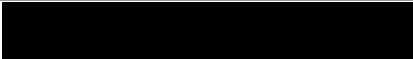
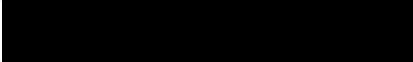
## Section 7 - Darwin Plus Contacts

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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  | Andrew Myers  |
| Role within Darwin Plus Project                                     | Project manager   |
| Email   |   |
| Phone   |  |
| Do you need further sections to provide additional contact details? | <input checked="" type="radio"/> No   |

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