Applicant: **Stagnetto, Lewis Sebastian**
Organisation: **The Nautilus Project**
Funding Sought: **£50,000.00**
Funding Awarded: **£0.00**

DPLR3\1002

Restoration of local seagrass habitats along Gibraltars coastline

The seagrass habitat restoration project is a nature-based solution that aligns with local and national priorities. It combats climate change by sequestering carbon dioxide and provides critical habitats for marine species, aligning with national environmental laws and objectives. Moreover, it enhances water quality, offers coastal protection, and contributes to the preservation of coastal ecosystems. This initiative represents a strategic effort to create a sustainable and resilient environment while adhering to regional agreements and policies.

DPLR3\1002

Restoration of local seagrass habitats along Gibraltars coastline

Section 1 - Project Title & Contact Details

Q1. Project Title

Restoration of local seagrass habitats along Gibraltars coastline

Q2. Please select whether you are applying as an organisation or as an individual **(Guidance section 3 and Guidance Glossary)**

⦿ Organisation

PRIMARY APPLICANT DETAILS

Title	Mr
Name	Lewis Sebastian
Surname	Stagnetto
Website (Work)	https://www.thenautilusproject.co
Tel (Work)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

CONTACT DETAILS

Title	Mr
Name	Aenon
Surname	Avellano
Tel (Work)	[redacted]
Email (Personal)	[redacted]
Address	[redacted]

CONTACT DETAILS

Title	Mr
Name	Chandler
Surname	Roberts
Tel (Mobile)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

CONTACT DETAILS

Title	Mrs
Name	Melanie
Surname	Soiza-Stagnetto
Tel (Work)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

GMS ORGANISATION

Type	**Organisation**
Name	The Nautilus Project
Phone (Work)	[redacted]
Email (Work)	[redacted]
Website (Work)	[redacted]
Address	[redacted]

Section 2 - Overseas Territory(ies)

Q3. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in? Please note that in case of a non-permanent resident population you need to demonstrate a clear, meaningful, long-term link to the territory.

☑ Gibraltar

*** if you have indicated a territory group with an asterisk, please give detail on which territories you are working on here:**

No Response

In addition to the UKOT(s) you have indicated, will your project directly benefit any other UK OT(s) or country(ies)?

⦿ No

Section 3 - Project Partners

Q4. Project partners (Guidance section 3.2)

In this section, please give details of all the partners involved (including the Lead Partner) and provide a summary of their roles.

Project Leader name (Guidance section 3.1):	Lewis Stagnetto
Lead Partner name (if applying as an organisation; Guidance section 3.1):	*No Response*
Lead Partner Website (if applicable):	*No Response*
Is the Lead Partner based in a UKOT where the project is working (Guidance section 3.1)?	⦿ Yes
List other partners involved and where are they based:	Department of the Environment Sustainability, Climate Change and Heritage - HM Government of Gibraltar
Summary of roles and responsibilities of each partner in the project:	Staff time and the processing of relevant permits. In addition they will offer the support of their Environmental Protection and Research Unit.
I confirm that all listed partners are aware of this application and have indicated support:	Checked

Attach a Cover Letter for your application (Guidance section 4.2).

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Section 4 - Project Summary & Description

Q5. Project Summary (Guidance section 3.8)

Please provide a brief summary of your project. This may be used in communication activities and/or published online, if your application is successful.

The seagrass habitat restoration project is a nature-based solution that aligns with local and national priorities. It combats climate change by sequestering carbon dioxide and provides critical habitats for marine species, aligning with national environmental laws and objectives. Moreover, it enhances water quality, offers coastal protection, and contributes to the preservation of coastal ecosystems. This initiative represents a strategic effort to create a sustainable and resilient environment while adhering to regional agreements and policies.

Q6a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

- **the overall objective**
- **the current situation and the problem the project is trying to address**
- **what success will look like and how you will measure it**

Please be as specific as possible when describing the project, using quantified data and evidence where available. You may wish to consider: what are the specific threats to the environment that the project will attempt to address, and what should we know about these threats? What does your successful project look like? And how will you demonstrate whether and how your project has been successful?

The purpose of the UN Sustainable Development Goal 14 is to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”. In the Bay of Gibraltar like the rest of the word, the marine ecosystem has degraded through the loss of key seagrass assemblages primarily due to increases in human populations along the coastline as well as poor water quality management (Ralph et al., 2006, Waycott et al., 2009). Eutrophication appears to have the greatest effect on seagrass meadows with nutrients appearing to have a toxic effect on them (Burkholder et al., 1992, Van Katwijk et al., 1997)

These ecosystems are the most productive environments along a healthy coastline (Duarte and Chiscano, 1999, Zieman and Wetzel, 1980) and are important nursery habitats for many species (Duarte et al., 2020, Heck Jr et al., 1997). Current estimates indicate that at least 29% of global seagrass areas have been lost globally (Waycott et al., 2009) with these figures set to increases with further anthropogenic pressures (Waycott et al., 2009).

The loss of seagrasses locally has led to a significant degradation in species abundances and diversity (Cooley et al., 2022). Factors But, despite this fact, attempts in restoration have been achieved successfully throughout the world with clear recovery in existing organism populations as well as the return of once present species (Dorenbosch et al., 2004, Amone-Mabuto et al., 2022).

However, the recovery of these key ecosystems have an important role in helping to mitigate the impacts climate change (Nellemann and Corcoran, 2009). As much as 93% of the Earths carbon dioxide (CO_2), a key greenhouse gas, is stored and cycled through the oceans (Nellemann and Corcoran, 2009). Seagrasses help to draw down CO_2 from the atmosphere and lock it in new growth (around 15%) and within the sediments in root and rhizome growth (85%) (Duarte et al., 2010, Kennedy et al., 2010, Fourqurean and Zieman, 1991). Estimates of carbon draw from atmosphere from sea grass production are between 41 and 66 gC m-2 yr-1 (Kennedy et al., 2010). Globally these estimates account for between 48 – 112 Tg yr-1 (Kennedy et al., 2010), demonstrating the importance of the habitat in keeping to achieve the proposed 1.5oC IPCC average global heat limitation target (450ppm CO_2 concentration in the atmosphere).

Improved understanding and management of these key habitats have helped to recover previously lost habitats whilst reducing the factors which destroyed them in the first place (Almela and Duarte, 2008, Amone-Mabuto et al., 2022). However more work is urgently required to help prevent further degradation as the oceans presently contribute 2.5% of Global GDP and provide employment to around 1.5% of the global workforce (Duarte et al., 2020). The estimated global turnover was at US $1.5 Trillion with an estimated doubling by 2030 (Duarte et al.,

2020). These figures are predicted to decline as climate change continues to reduce biodiversity and ocean productivity (Duarte et al., 2020).

Q6b. Long-term sustainability (Guidance section 2.1 and 6)

Please describe the long-term benefits of the project and the change it will bring about. How will the outcomes of the project be sustained after the funding is finished?

Sea-grass habitat restoration is a powerful tool in the fight against climate change, offering a multitude of benefits for both marine ecosystems and the planet. These underwater meadows are essential carbon sinks, capable of sequestering vast amounts of carbon dioxide from the atmosphere. When damaged or lost, they release stored carbon, contributing to global warming. By restoring sea-grass beds, we not only mitigate climate change but also support biodiversity, as they serve as nurseries and habitats for a wide range of marine species.

Furthermore, sea grasses act as a buffer against coastal erosion, protecting shorelines from the impacts of rising sea levels and extreme weather events. They also improve water quality by filtering pollutants and trapping sediment, ensuring healthier oceans. The restoration of sea-grass habitats represents a win-win strategy, offering a nature-based solution to combat climate change while promoting resilient coastal ecosystems.

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 sides of A4, and is combined as a single PDF:

Seagrass Restoration Project - Technical Annex
17/10/2023
09:36:03
pdf 1.08 MB

Section 5 - Project Outcome(s)

Q7. Project Outcome(s) (Guidance section 1.2)

Successful Darwin Plus Local projects must demonstrate measurable outcomes in at least one of the themes of Darwin Plus with a clear focus on biodiversity and the natural environment, either by the end of the project or soon after through a credible plan.

Please confirm that your project has a clear focus on biodiversity and the natural environment.

Checked	**Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;**
Checked	**Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;**
Checked	**Environmental quality: improving the condition and protection of the natural environment**
Unchecked	**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.**

Please justify your selection. Please use quantitative information where possible here.

Biodiversity & Environmental quality - Sea grasses are important habitats for sea horses and fan mussels. These organisms have seen a huge decline in numbers and are rarely seen.

Climate Change - Seagrass meadows cover less than one percent of the ocean surface but contribute an estimated 10 percent of the annual carbon sequestration in the ocean.

Section 6 - Workplan

Q8. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Workplan (available at: Darwin Plus website) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project must start after 1 April 2024 and be completed by 31 March 2025.

Start date:	End date:	Duration (e.g. 3 months):
02 April 2024	30 March 2025	11 months

Please upload the completed Darwin Plus Local Project Workplan with your proposed project activities here

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17/10/2023
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pdf 492.56 KB

Section 7 - Costs

Q9. Costs (Guidance section 2.2 and please read the Finance Guidance)

Please provide a breakdown of costs to be funded through Darwin Plus Local (in GBP).

Are you seeking any matched funding for this project?

◉ No

Budget line	Explanation	Cost in GBP

Staff costs:	We will need to employ one new member of staff whose role it will be to keep detailed records of water quality, and light spectrum efficiency, over the growing period of the seedlings. This will include monitoring and treating of any possible outbreaks of nuisance blue-green algae or nerite snails. This member of staff will also be crucial in the transplanting and monitoring of the seagrasses once we place them at Site A.	£[redacted]
Consultancy costs:	Any costs arising for which we require external consultation.	£[redacted]
Overhead costs:	We need to purchase the equipment and pumps to grow the sea grasses under controlled conditions. This step is vital as it will prevent many herbivorous fish species from eating the new shoots and allow the seedlings to mature to the point that the survival rate will increase to an acceptable level.	£[redacted]
Travel & subsistence costs:	Fuel for boat throughout transplanting and monitoring.	£[redacted]
Operating costs:	Spare filters and lamp bulbs, electricity for lamps and pumps over the course of the year. Also any additional resources required to treat any outbreaks of nuisance species.	£[redacted]
Capital equipment:	na	£[redacted]
Other Costs	Purchasing for seeds from three species of sea grass. Obtaining the relevant documentation/licences for their transport from Spain to Gibraltar.	£[redacted]
Total:		50,000.00

This section provides more information on the budget to help evaluators understand how you will use the funds you are requesting. You do not need to list all costs, but please list and detail costs of more than £1,000 per item below, under the appropriate budget line.

Details of staff costs over £1,000 (if relevant)

Chandler Roberts, Marine Biologist - Growing and monitoring the sea grasses in ideal water and light conditions. Monitoring any outbreak of any bacterial, algal or invertebrate species which might hamper the growth of the grasses before transplantation into the wild. Would also be a key personnel in the transplanting of the grasses into the wild along with Lewis Stagnetto (Chief Marine Biologist).

Details of overhead costs over £1,000 (if relevant):

The nursery equipment to grow the seedlings is vital to make sure we retain some grasses behind for future attempts at transplanting in other locations. We would use the nursery to harvest more seeds from mature grasses still in the nursery and use them to germinate more grasses which can be transplanted in nature.

Details of travel and subsistence costs over £1,000 (if relevant):

No Response

Details of operating costs over £1,000 (if relevant):

This is the cost for electricity, equipment maintenance. Water testing kits and treatment kits as required to ensure that grasses are being grown in optimal conditions.

Details of capital equipment costs over £1,000 (if relevant):

No Response

Details of consultancy costs over £1,000 (if relevant):

There may be occasions where despite our best efforts the grasses are not growing as well as they should. In these cases we might seek 3rd party support to guide us through issues. These are hard to quantify as they are unseen. But by way of example algal or invertebrate outbreaks could been considered as a possible issue. We will invest in UV filters to limit this but it is still a possibility.

Details of other costs over £1,000 (if relevant)

The grasses are being sourced from Spain (EU). We already have established suppliers for this and each suppliers requirements are different. Some suppliers require fees for seeds and all will require complete documentation for export to Gibraltar. Due to the restoration nature this documentation will not be dependent on permissions being granted - we have confirmed this already. However, there are various fees surrounding the exportation in order to ensure compliance. These fees can be included in a breakdown if required.

If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
No Response	*No Response*	*No Response*	*No Response*

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory.

What % of the total will be spent in the OTs?	■

If less than 80% of the total project spend is to be spent within the OT(s), please explain why.

No Response

Section 8 - Local and National Priorities

Q10. Local and national priorities

Please explain how this project aligns with local and national priorities? You may wish to consider the project in the context of national environmental laws, objectives, strategies, territory specific agreements, action plans or policies.

The sea-grass habitat restoration project strongly aligns with both local and national priorities, as well as a range of environmental laws, objectives, and policies.

At the national level, this initiative supports key environmental laws and objectives, such as the Clean Water Act and the Endangered Species Act, by improving water quality and protecting critical habitats for various marine species. It also resonates with the national commitment to combat climate change, as sea-grass restoration plays a crucial role in carbon sequestration, contributing to the reduction of greenhouse gas emissions.

Furthermore, this project dovetails with broader national strategies and policies for coastal and marine conservation. The National Ocean Policy and the National Oceanic and Atmospheric Administration's (NOAA) Coastal and Marine Spatial Planning efforts prioritize the protection and restoration of critical marine ecosystems, including sea-grass beds.

At the local level, the project aligns with regional environmental goals, particularly in coastal communities where sea-grass restoration can mitigate coastal erosion and bolster resilience to climate change impacts. Coastal states often have specific regulations and policies that emphasize the preservation of coastal ecosystems, making sea-grass restoration a practical and legally endorsed approach.

Will the project take place on Government owned land or water or involve biocontrol, invasive alien species control or eradication?

⦿ Yes

Please attach evidence that you have Government support for this project i.e. a Letter of Support. Applications which indicate that they do not take place on Government land or water, but which propose work that appears to the reviewers would be difficult/impossible to carry out without working on government land or waters may be ineligible if no Letter of Support is provided.

Nautilus Project - Darwin Plus support letter 2023
15/11/2023
18:09:23
pdf 311.44 KB

Section 9 - Project Risks

Q11. Project Risks

Please demonstrate your consideration of any risks involved in this project and how you intend to manage them. Please note the importance of health and safety and environmental risk assessment in the design of your project. If there is any possibility that your project may have negative impacts on the environment or human health, it is important that you provide a comprehensive analysis of potential environmental and human health risks, and the prevention measures you will take to ensure the work does not cause harm.

Depending on your project, you may wish to consider:

- **Biosecurity risks – particularly for projects involving external equipment.**
- **Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.**

Risk	Mitigation

Habitat Disturbance: The process of planting seagrass can disrupt existing habitats.	Conduct thorough site assessments to minimize disturbance to existing ecosystems. Implement planting methods that reduce habitat disruption.
Water Quality Issues: Poor water quality (e.g., pollution, sedimentation) affecting seagrass growth.	Mitigation: Implement water quality monitoring programs. Collaborate with local authorities to mitigate pollution sources.
Human Activities: Anchoring, dredging, and coastal development can damage or remove seagrass beds.	Establish protected areas and work with stakeholders for responsible coastal development practices. Promote education and awareness campaigns.

Do you require more fields?

⦿ Yes

Risk	Mitigation
Disease Outbreaks: Pathogens or diseases affecting seagrass health.	Regular monitoring for signs of disease. Research disease-resistant species or genotypes for planting.
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*

Section 10 - Terms & Conditions

Q12. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: Darwin Plus website **and as referenced in the Guidance at section 3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):**

- **Uphold a zero tolerance for inaction approach to tackling sexual exploitation, abuse, and harassment.**
- **Where appropriate, make all reasonable and adequate efforts to address gender inequality and other power imbalances.**
- **Notify all cases of fraud and theft (whether proven or suspected) relating to the project to the Grant Administrator as soon as they identified.**

Please indicate you have read, and understood, and will adhere to the Terms and Conditions.

Checked

Supporting documents list (please have these ready to attach with application)

- **Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).**

- **If the project takes place on public land or water or is addressing invasive alien species, a Letter of support from OT Government.**
- **Project Workplan in the template provided for Darwin Plus Local (available at: Darwin Plus website).**
- **Map and additional information (optional) maximum five additional pages.**

If your application is successful

If your project application is successful, the Fund Administrator (NIRAS) will ask you to provide some financial evidence for due diligence checks before you receive your project grant. (Please see section 3.3 of the Darwin Plus Local Finance Guidance). Please be ready to provide this evidence promptly.

- **Financial evidence for organisations: Year-end financial statements, the latest management accounts or audited accounts (if you have these).**
- **Financial evidence for individuals: Proof of identity such as a passport, ID card or driving licence and solvency (such as bank statements) and a police check.**

Section 11 - Certification

Certification

I certify that, to the best of my knowledge and belief, the statements made in this application are true and the information provided is correct.

Checked

I have the authority to submit an application on behalf of my organisation.

Checked

Name:	Lewis Stagnetto
Position in the organisation: (if applicable)	The Nautilus Project
Signature (please upload e-signature)	Esig 17/10/2023 11:23:45 pdf 183.58 KB
Date:	16 November 2023

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance **documents, including the "Darwin Plus Local Guidance" and the "Darwin Plus Local Finance Guidance".**	Checked

If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Unchecked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions **for this fund.**	Unchecked
I have provided actual start and end dates **for my project that fit this Round.**	Checked
I have provided my summary budget based on UK government financial years **i.e. 1 April – 31 March and in GBP in the application form.**	Checked
I have uploaded my project workplan using the specific template **provided.**	Checked
I have uploaded all supplementary documents if I have any.	Unchecked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Unchecked
The application has been signed by a suitably authorised individual **(clear electronic or scanned signatures are acceptable).**	Checked
I have checked the Darwin Plus website **immediately prior to submission to ensure there are no late updates.**	Checked
I have read and understood the Privacy Notice on the Darwin Plus website**.**	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Unchecked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the Forms and Guidance Portal.

This **Privacy Notice must be provided to all individuals** whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).

Darwin Plus Local

Provide a **Project Implementation Timetable** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Projects are based on UK Financial Years (**1 April – 31 March** - therefore starts April 2024).

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity #	Description (max 25 words)	No. of months	UK Financial Year 2024/25											
			Calendar Year 2024									Calendar Year 2025		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
	Plant seeds and begin germination	1	X											
	Grow seeds in ideal water conditions 24hr light cycle	7		X	X	X	X	X	X	X				
	Acclimatise seeds to 12hr light cycles	4							X	X	X	X		
	Plant seeds at site A	2											X	X
	Growth monitoring (will happen after project end)	12												