
CV19RR\1019

Reducing the Impact of Invasive Lionfish on the Marine Ecosystem

The loss of tourism caused by COVID-19 has stopped sponsored dive trips to Montserrat's coral reefs where it was regular practice to remove invasive lionfish from deeper water habitats. Lionfish have a high impact on indigenous species and can devastate valuable food-stock resources and ecosystems.

This project will create an impactful and sustainable program through:

- Resumed regular site visits,
- Training of capable divers,
- Providing required equipment,
- Implementing an outreach program which promotes use of the fish and establishes a customer-base.

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title Mr
Name Andrew
Surname Myers
Organisation Scuba Montserrat Inc.
Website (Work) www.scubamontserrat.com
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

GMS ORGANISATION

Type	General
Name	Scuba Montserrat Inc.
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Website	[REDACTED]
Address	[REDACTED] [REDACTED] [REDACTED] [REDACTED]

Type	Delivery Partner
Name	Island Solutions Inc.
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Website (Work)	[REDACTED]
Address	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

Section 2 - Project Title & Previous Applications

Q3. Project Title:

Reducing the Impact of Invasive Lionfish on the Marine Ecosystem

Q4. Existing project

Q4a. Does your organisation have an existing (or recently finished) project under either Darwin Initiative, Darwin Plus or Illegal Wildlife Trade Challenge Fund?

Yes

If yes, please list the project reference and title of relevant projects (e.g. 25-001, DPLUS090, IWT099).

Reference of current/recent project:

DPLUS078

Title of current/recent project:

The Montserrat Recycling and Waste Reduction Initiative

Q4b. Is this proposal directly relevant to one of the projects listed above?

No

Section 3 - Countries, Dates & Budget Summary

Q5. Which Fund's objectives will your project most directly address? (please only select one)

Darwin Plus

Q6. Country(ies)

Which eligible country(ies) will your project be working in?

Country 1

Montserrat

Country 2

No Response

Country 3

No Response

Country 4

No Response

Do you require more fields?

No

Q7. Project dates

Start Date:

01 January 2021

End date:

31 March 2021

Q8. Budget summary

Darwin/IWT Funding Request

Total request 2020/21:

20,400.00

Please note all spending must fall between 1st January 2021 - 31st March 2021

Q8a. If any matched funding arrangements are proposed, please detail them here.

Rates charged for all personnel and equipment has been reduced between [redacted]-[redacted] on established rates creating a significant "in kind" matching fund contribution..

Section 4 - Project Outcome and Summary

Q9. Outcome

What is the expected Outcome of this project?

Through reestablished site visits, eradication training and the development of an effective network the negative impacts by an invasive species will be reduced and a sustainable program will be created.

Q10. Summary of project

Please provide a brief summary of your project, its aims, and the key activities you plan on undertaking. Please note that if you are successful, this wording may be used by Defra in communications e.g. as a short description of the project on GOV.UK.

The loss of tourism caused by COVID-19 has stopped sponsored dive trips to Montserrat's coral reefs where it was regular practice to remove invasive lionfish from deeper water habitats. Lionfish have a high impact on indigenous species and can devastate valuable food-stock resources and ecosystems.

This project will create an impactful and sustainable program through:

- Resumed regular site visits,
- Training of capable divers,
- Providing required equipment,
- Implementing an outreach program which promotes use of the fish and establishes a customer-base.





Section 5 - Project Partners





Q11. Project partners

Please list all the partners involved (including the Lead Organisation) and provide a summary of their roles. Please upload letters, emails or other confirmation of support from any new partners.





Lead Organisation name:	Scuba Montserrat Inc.
Other partners involved:	Island Solutions Inc.
Summary of roles and responsibilities in project:	Island Solutions is the registered nonprofit sister organisation of Scuba Montserrat and shares the same management, therefore the responsibilities will be covered as one entity.
If you have not provided evidence of support from the Lead Organisation or partners above, please explain why:	Provided

Please provide a combined PDF of letters of support from the lead organisation and partner(s) as relevant.

 [Support Letter - Scuba Montserrat -COVID Rapid](#)
 01/11/2020
 20:33:26
 pdf 70.13 KB

 [Support Letter - Island Solutions -COVID Rapid](#)
 01/11/2020
 20:33:25
 pdf 97.73 KB

 [Letter of Support; DARWIN INITIATIVE COVID-19 RAPID RESPONSE GRANT](#)
 31/10/2020
 16:12:42
 pdf 529.79 KB

 [COVID-19 Rapid Response Support letter Oct 2020](#)
 31/10/2020
 16:12:42
 pdf 456.25 KB

Section 6 - Project Staff

Q12. Project staff

Please identify the core staff on this project, their role and what % of their time they will be working on the project. Further information on who should be classified as core staff can be found in the guidance. Please provide a 1 page CV for the proposed Project Leader and any co-Project Leader if relevant.

Name (First name, surname)	Role	% time on project	1 page CV attached?
Andrew Myers	Project Leader	14	Checked
Emmy Aston	Training and Outreach officer	14	Checked
Tracy Lewis	Administrative, reporting and outreach	14	
<i>No Response</i>	<i>No Response</i>	0	

Do you require more fields?


No

Please provide 1 page CVs for the proposed Project Leader and any co-Project Leader listed above as a combined PDF.


Ensure the file is named clearly, consistent with the named individual and role above.

 [Emmy Aston- 1 page CV](#)


 30/10/2020

 20:14:45

 pdf 75.63 KB

 [Andrew Myers - 1 page CV - 2020](#)

 30/10/2020

 20:12:33

 pdf 49.51 KB

Section 7 - Problem, Method and Change Expected

Q13. Problem the project is trying to address

Please describe the problem your project is trying to address in terms of Covid-19 and its impact on biodiversity or IWT and sustainable livelihoods. For example, what are the drivers of loss of biodiversity that the project will attempt to address? Why are they relevant, for whom? How did you identify these problems? Please cite the evidence you are using to support your assessment of the problem (references can be listed in an additional attached PDF document).

Invasive species can be devastating to native species and habitats. Within the western north Atlantic Ocean and the Caribbean Sea the invasive lionfish has taken on this devastating role regionally since the early 2000s and locally since the late 2000s. According to NOAA lionfish impacts include:

-Reduction of recruitment of native reef fish by 79%,

-Preying on commercially important native species,

-Reduction of herbivores that control algal growth which left unchecked is detrimental to coral reef health.

*The attached lionfish plan and factsheet highlight the issues further.

These increased stresses only add to the challenges faced by coral reefs. Without efforts to reduce stresses the biodiversity of coral reefs can collapse. However in regards to lionfish negative impacts can be reduced greatly through culling programs.

Prior to Covid-19 Montserrat's tourism industry supported regular, if not daily, visits to the coral reefs of Montserrat in which efforts were done to remove this invasive species. Scuba allowed access to reefs of greater depths than local spear fishermen could patrol, and our organisation offered the only scuba tours for the island. Since April the tourism industry has been shut down, including a multiple week full island lockdown. The current immigration policy, which is expected to continue, restricts all non-residents from entering the country and those that can return are required to have a 14 day quarantine, detriments to the reestablishment of the tourism sector. This reduction of the tourism industry and Covid-19 restrictions have impacted the lionfish control efforts greatly by:

-No longer providing the funded visits to the coral reefs used to support the removal of lionfish,

-Removing/reducing the customer base at tourism-based restaurants that supported the sale of lionfish,

-Preventing any monitoring and removal efforts during lockdowns.

This grant opportunity offers ability to reestablish the essential practices to reverse negative impacts.

Q14. Methodology

Describe the methods and approach you will use to achieve your intended Outcome. Provide

information on:

- How you have analysed historical and existing initiatives and are building on or taking work already done into account in project design. Please cite evidence where appropriate.
- The rationale for carrying out this work and a justification of your proposed methodology.
- If relevant, how this project links to an ongoing Darwin/IWT project.
- How you will undertake the work (materials and methods).
- How you will manage the work (roles and responsibilities, project management tools etc.).

Projects should also consider how best they can address inequality, especially gender inequality, as per the existing guidance for each fund.

Please make sure you read the Guidance Notes, particularly Section 3, before answering this question.

This project will be operational for the full thirteen week duration allotted for this fund, though pre-operational aspects will be implemented prior. Those aspects will include:

- Identifying competent local divers and securing commitments to join the project training sessions,
- Ordering specialised equipment needed to support training operations,
- Preparing training program educational material.

This project will use a 2-focus system similar to those used throughout the region to reduce the impacts of lionfish:

I. LIONFISH CONTROL ACTIONS

Removal of lionfish is the only effective way to reduce the impacts of this invasive species. It has been determined that scuba is the best way to implement a focused eradication program, especially on deeper reefs. To maximise the effectiveness of this short-term project training will be done simultaneously during all site visits.

Operation details:

-A minimum of 13 field work days will be conducted, planned as weekly dive trips (schedule will be adjusted for weather),

-Each dive trip will visit 3 separate dive sites. 9-13 sites will be monitored on a rotating basis to allow multiple visits during the program,

-Dive sites will be between 10-30m deep to focus on sites that cannot be effectively monitored/serviced by free-divers,

Divers will work with establish safe diving practices which include:

- Pre-dive briefings,
- Buddy team assignments – experienced professional level diver/lionfish hunter teamed with trainee,
- Required safety stops,
- Air usage limits,
- Post-dive debriefings.

During each dive divers will:

1. Record information on every sighting:
 - Depth,
 - Number of fishes in groups,
 - Categorized sizes,
 - General area description.
2. Capture and contain lionfish in safe holder,
3. Record any escaped fish,
4. Take photos, if carrying the camera.

Data will be collected after every dive to support local and regional databases which will include:

- Site name,
- GPS coordinates,
- Depth range,
- Conditions,
- Total captured.

Post dive aspects will also include:

- Measuring and weighing each fish,
- Cleaning and descaling of fish,
- Stomach content for every 10th fish,
- Final processing for use.

The training program will consist of:

1. Lionfish anatomy with a focus on venomous spines,
2. Use of spear to safely capture/contain lionfish,
3. Avoiding damage to the reef through poor diving practices,
4. Implementing all above data collection systems and processes.

II. COLLABORATIONS/EDUCATION/OUTREACH

Most effective programs require these aspects to increase the capacity and scope of a project. These efforts will be done:

1. Collecting data using the established Montserrat's Fisheries Unit fish landings datasets,
2. Providing to/creating databases on capture, location and other details for the Departments of Agriculture and Environment (a new database),
3. Providing data to regional lionfish databases,
4. Creating education programs that use printed and social media to provide detailed information on lionfish,
5. Use local radio to support the project on shows and ads,
6. Conduct an event for the public to see and try lionfish.

Project leads, Andrew Myers and Emmy Aston, will be involved in all operational and training aspects.

Data consolidation, processing and provision will be done by Tracy Lewis.

Q15. Change expected

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for biodiversity/environment and for people in developing countries, and how they are linked. If you are proposing building on a current or past

project, be clear how additional benefits will be delivered through this project.

When talking about people, please remember to give details of who will benefit and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used. If possible, indicate the number of women who will be impacted.

Invasive species are well documented to have negative impacts which result in broad concerning implications to native habitats. The effects of lionfish on the native species are not just environmentally damaging but also have impacts on livelihoods of those who depend on the sea for food or a living. Through this project's lionfish reduction actions, training programs and outreach the following positive changes will result:





SHORT TERM





1. Removal of lionfish will allow increased survival of native species that support the established balanced ecosystem,
2. Commercially important native fish species will increase in population,
3. Local scuba divers trained on best practices and with access to proper equipment will be able to monitor and reduce lionfish impacts from several reefs (2-6 persons),
4. Through the education and outreach program the public will have access to accurate information and use of lionfish as food source will increase,
5. A collaborative network of lionfish hunters will be established to increase coverage of Montserrat's coral reefs

LONG TERM

1. The removed stress of invasive species will support stronger biodiversity,
2. Newly trained lionfish divers will have access to increased income as demand for the product increases,
3. Overall health and capacity of Montserrat's fisheries will increase with the removal of the voracious eating lionfish,
4. Overall health of Montserrat's coral reef will improve with the reestablishment of herbivore fish species,
5. Additional persons will be properly trained on controlling lionfish through the newly developed network of well trained and experienced lionfish hunters,
6. Because of increased site visits other potential impacts to coral reefs, such as coral diseases, have a higher likelihood of being identified and can be monitored in subsequent visits.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

 [lionfish15](#)
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 pdf 1.1 MB

 [lionfish factsheet](#)
 01/11/2020
 18:34:13
 pdf 1.46 MB

Section 8 - Aims, Objectives and Exit Strategy

Q16. Aims and objectives

Clearly outline the aim and objectives of the project and how the achievement will be measured. Use SMART objectives if possible.

The following are the project's aims and objectives and how success will be measured:

1. Re-establish efforts to reduce invasive lionfish from deep water coral reefs through a minimum of 13 operational days over the duration of the project. Measured by - documentation of and data on lionfish removed from each site visit will be provided to government stakeholders,
2. To increase the opportunities and skills for local people 2-4 divers will be trained on established and safe best practices for the removal of lionfish. Measured by – 1. extensive training on culling techniques, data collection techniques and improvement of dive skills documentation. 2. Dive logs and documentation of each diver for all dives recorded,
3. Increase the health and diversity of the local marine ecosystem by reducing sightings of lionfish by a minimum of 25% on monitored reefs by the end of the project. Measured by - monitoring of sites, data collection and documentation from dives verify reduced presence of lionfish,
4. Awareness, access to information and interest in lionfish as a food source is expanded and easily accessible. Measured by – social media views/interaction/likes/follows doubles from week 3 to week 13 and attendance records for special events,
5. A network of customers is developed to create sustainability for the project. Measured by - record of sales from caught fish demonstrates an increase in consumption.

Q17. Exit strategy

State how the project will reach a stable and sustainable end point, and explain how the outcomes will be sustained, either through a continuation of activities, funding and support from other sources or because the activities will be mainstreamed in to “business as usual”.

The project outcomes and the continuation of activities will be achieved by:

1. Through the training and recruitment of local people there will be an expansion of the number of persons who can competently cull lionfish through use of best practices, the correct equipment, and with knowledge on important documentation aspects which greatly increases the likelihood of the project to be continued.
2. Through the outreach programme and by establishing a network of customers during the project the newly trained lionfish teams will be have the capability to produce the revenue to continue operations on a self-funded basis,
3. To assist with the funding of the continuation of the project, Scuba Montserrat will provide persons who complete the training with reduced costs for needed support equipment for hire and purchase to undertake their lionfish hunting dives.
4. Island Solutions will continue to support the established data and documentation process when

internally funded operations are conducted.

Section 9 - Budget

Q18. Budget

Provide a detailed breakdown of costs to be funded by the Darwin Initiative/Darwin Plus/IWT Challenge Fund in GBP.

See Finance for Darwin/IWT for which costs sit under which budget line.

Budget Line	Cost in £ (GBP)
Staff costs	██████
Consultancy costs	0
Overhead costs	0
Travel and subsistence	0
Operating costs	██████
Capital equipment*	0
Other costs	██████
Total (Must be less than or equal to £60,000)	20,400.00
*If you are proposing to purchase any capital items over £1,000 please detail these here and provide justification below	<i>No Response</i>

Q19. Financial Risk Management

This question considers the financial risks to the project. Explain how you have considered the risks and threats that may be relevant to the successful financial delivery of this project. This includes risks such as fraud or bribery, but may also include the risk of fluctuating foreign exchange and internal financial processes such as storage of financial data.

This project will minimise financial risks through the following ways:

1. Maintaining financial/accounting procedures used by the lead organisation, which has been operational for the past 12 years,
2. Creating a dedicated project bank account to separate project funds from other operations,

3. Using only local personnel to lower costs of travel or potential lockdown issues,
4. Having confirmed costs for operational expenses.

Q20. Capital items

If you plan to purchase capital items with Darwin/IWT funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

No capital items will be purchased in this project.

Q21. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

This project provides value for money by:

1. Only using local personnel that generate expenses only when the project is active, i.e. no cost if a COVID lockdown occurs and operations cannot be conducted,
2. Rates for project leaders being reduced by 75-78% from established project implementation rates,
3. Rates for equipment and tools reduced by approximately 50% from established rental rates.
4. Costs associated with living expenses, vehicle usage and overhead costs such as utilities, rent and communication will be covered by the partner organisations.

Section 10 - Ethics and Safeguarding

Q22. Ethics

Outline your approach to meeting Darwin/IWT's key principles for ethics as outlined in the guidance note. Additionally, are there any human rights and/or international humanitarian law risks in relation to your project? If there are, have you carried out an assessment of the impact of those risks, and of measures that may be taken in order to mitigate them?

This project will meet the Darwin key principles on ethics by:

1. Adhering to all local laws,
2. Operating under required permits and only performing operations stated within that permit application,
3. Following all applicable international laws,
4. Maintaining open dialogues with governmental stakeholders,
5. Assuring that a safe and open work environment is created and maintained,
6. Avoid impacting the rights, livelihoods, and interests of other stakeholders and the general public.

Q23. Safeguarding

Projects funded through the Darwin Initiative/IWT Challenge Fund must fully protect vulnerable

people all of the time, wherever they work. In order to provide assurance of this, projects are required to have appropriate safeguarding policies in place. The award Terms and Conditions set out clear requirements on safeguarding. Please confirm you have read and understand these and that you comply with them all.

Checked

Section 11 - Key Milestones

Q24. Provide an overview of your proposed project, outlining key milestones.

N.B. This should cover the period of your requested project only and the start/end dates should match with those provided in Question 7.

Date	Key Milestone
01 January 2021	START
01 January 2021	Divers that will participate in the project will be confirmed.
02 January 2021	Lionfish removal dive operations and training begins.
01 February 2021	Outreach and public engagement begins beyond social media posts.
27 March 2021	Dive operations conclude. A minimum 4 persons trained on collection best practices, improved dive skills, data collection and fish processing.
28 March 2021	Project public open day conducted presenting results and increasing awareness.
31 March 2021	All data delivered to Government of Montserrat and regional stakeholders.
<i>No Response</i>	<i>No Response</i>
<i>No Response</i>	<i>No Response</i>

No
Response

No Response

No
Response

No Response

No
Response

No Response

31
March
2021

FINISH

Section 12 - Certification

Q25. FCDO notifications

Please check the box if you think that there are sensitivities that the Foreign, Commonwealth and Development Office will need to be aware of should they want to publicise the project's success in the Darwin/IWT competition in the host country.

Unchecked

Please indicate whether you have contacted your Foreign Ministry or the local embassy or High Commission (or equivalent) directly to discuss security issues (see Guidance Notes) and attach details of any advice you have received from them.

Yes (no written advice)

Q26. Certification

On behalf of the

Company

of

Scuba Montserrat Inc.

I apply for a grant of

£20,400.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I have enclosed a CV for the Project Leader/co-PL and letters or confirmation of support (uploaded at appropriate points in application)

Checked

Name Andrew Myers

Position in the organisation Co-owner/general manager

Signature (please upload e-signature)

 SIGNATURE
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Date 02 November 2020

Section 13 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance, including the "Guidance Notes for Applicants" and "Finance for Darwin and IWT Challenge Fund".	Checked
I have read, and can meet, the current Terms and Conditions for the relevant fund.	Checked
I have provided actual start and end dates for my project.	Checked
I have provided my budget in GBP.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
I have included a 1 page CV for the Project Leader (and co-Project Leader if relevant).	Checked
I have included a letter or electronic confirmation of support from the lead organisation and main partner organisation(s) identified at Question 11, or an explanation of why not.	Checked
I have checked the website on GOV.UK immediately prior to submission to ensure there are no late updates.	Checked
I have read and understood the Privacy Notice on GOV.UK.	Checked

Data protection and use of personal data

Information supplied in this application form, including personal data, will be used by Defra as set out in the latest copy of the Privacy Notice for Darwin, Darwin Plus and the Illegal Wildlife Trade Challenge Fund available [here](#). 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 the Darwin Initiative including project details (usually title, lead organisation, location, and total grant value) on the GOV.UK and other websites.

Information relating to the project or its results may also be released on request, including under the 2004 Environmental Information Regulations and the Freedom of Information Act 2000. However, Defra will not permit any unwarranted breach of confidentiality nor will we act in contravention of our obligations under the General Data Protection Regulation (Regulation (EU) 2016/679).