



Department
for Environment
Food & Rural Affairs



Foreign &
Commonwealth
Office



Department
for International
Development



DPLUS010

Darwin Plus: Overseas Territories Environment and Climate Fund Project Application Form

Submit by Monday 7 January 2013

Please read the Guidance Notes before completing this form
Information to be extracted to the database is highlighted in blue

Basic Data

1. Project Title	<i>“Coral Nursery Project in Little Cayman: Enhancing Resilience and Natural Capacity of Coral Reefs in the UKOTs”</i>
2. OT(s) covered by proposal	The Cayman Islands
3. Start Date:	1 st April 2013
4. End Date:	30 th March 2015
5. Duration of project (cannot be longer than 24 months)	24 months

Summary of Costs	2013/14	2014/15	2015/16	Total
6. Budget requested	£15,696	£25,935		£41,631
7. Total value of Co-funding	£25,075	£16,689		£41,764
8. Total Project Budget (all funders)	£40,771	£42,624		£83,395
9. Names of Co-funders	CCMI Fundraising (already in place)			

10. Lead applicant organisation (who will be responsible for delivering outputs, reporting and managing funds)	The Central Caribbean Marine Institute (CCMI)
11. Project Leader name	Carrie Manfrino, Ph.D.
12. Email address	[Redacted]
13. Postal address	Central Caribbean Marine Institute, Little Cayman Research Centre North Coast Road, P.O. Box 37 Little Cayman, KY3-2501, Cayman Islands
14. Contact details: Phone/Fax/Skype	

15. Type of organisation of Lead applicant. Place an x in the relevant box.							
OT GOVT	UK GOVT	UK NGO	Local NGO	International NGO	Commercial Company	Other (e.g. Academic)	X

16. Principals in project. Please identify and provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more personnel or more than one main, or other, project partner.

Details	Project Leader	Project Partner 1 – Main	Project Partner 2
Surname	Manfrino	Austin	Smith
Forename(s)	Carrie	Timothy	David
Post held	President and Director of Research and Conservation	Director of Research	Director of Coral Reef Research Unit, Research Group Coordinator
Institution (if different to above)		Department of Environment Cayman Islands	University of Essex
Department		Research	Marine Biology
Telephone/Skype			
Email			

17. Has your organisation received funding under the Darwin Initiative before? If so, please provide details of the most recent (up to 3 examples). No

Reference	Project Leader	Title

18. If your answer to question 17 was no, provide details of 3 contracts previously held by your institution that demonstrate your credibility as an implementing organisation. These contacts should have been held in the last 5 years and be of a similar size to the grant requested in this application.

Contract 1 Title	National Science Foundation—New Wet Lab Facility
Contract Value	\$204,000
Contract Duration	6 Months
Role of institution in project	To design, build and set-up a ‘climate change and coral reef stress’ wet lab
Brief summary of the aims, objectives and outcomes of the contract.	<p>By providing oceanographic facilities at LCRC, we enable scientists to carry out key research into coral reef stress and health and to conduct field studies at a remote site largely unaffected by local human and development impacts.</p> <p>The new wet lab pavilion will:</p> <ul style="list-style-type: none"> • Enhance our capabilities and capacity for research and education; • Allow for anticipated growth while still providing excellent facilities and research opportunities; • Improve the quality, quantity, and accessibility of information available at LCRC; and • Enable us to better serve international scientists and further develop collaborative partnerships with relevant institutions and government.
Reference contact details (Name, e-mail, address, phone number).	<p>Peter McCartney—Director of Biological Sciences, National Science Foundation (NSF)</p> <p>Email:</p> <p>Tel: (703) 292-8470</p> <p>Address: 4201 Wilson Boulevard, Arlington, VA 22230, USA</p>

Project Details

19. Project Outcome Statement: Describe what the project aims to achieve and what will change as a result. (100 words max)

CCMI's project aims to improve the biological diversity and architectural structure of the UKOTs' reefs by establishing the first coral nursery in the Cayman Islands. This conservation project will directly improve the health of the reef ecosystem by multiplying the current wild coral population, providing high-quality habitats for an abundance of fish and invertebrates and seeking new methods to adapt to climate change impacts. By developing local knowledge and capacity, this project aims to establish coral gardening as a viable conservation practice and will develop an outplanting strategy that considers the effects of Ocean Acidification on the local environment.

20. Background: (What is the current situation and the problem that the project will address? How will it address this problem? What key themes will it address? (200 words max)

The branching elkhorn and staghorn corals (*Acropora palmata* and *Acropora cervicornis*) were once-dominant large reef-building species in the Caribbean. They are now on the IUCN Red Listed as critically endangered. The demise of this branching coral, which functions as a habitat for fish and invertebrates, has reduced both the structural and biological diversity of Caribbean reefs. Stressors, including widespread outbreak of white band disease in the 1980s reduced the population by 90% in the Cayman Islands and across the region. Low coral (breeding) densities have impeded successful spawning and the species has not regenerated in the Cayman Islands.

Coral nurseries provide an excellent opportunity to enhance these coral species' long-term capacity to recover naturally. The threat of climate change is particularly relevant to these vulnerable species and CCMI seeks to address this within the nursery out planting methodology, with particular reference to Ocean Acidification. This endeavor is the first of its kind to take place within the Cayman Islands, one of the most densely populated UKOTs, which is heavily reliant upon marine tourism. This proposal therefore seeks to increase coral reef resilience, whilst developing new strategies to support mitigation and adaption to climate change stress.

21. Methodology: Describe the methods and approach you will use to achieve your intended outcomes and impact. Provide information on how you will undertake the work (materials and methods) and how you will manage the work (roles and responsibilities, project management tools etc). Give details of any innovative techniques or methods. (500 words max)

Pilot

In September, 2012, coral expert Dr Diego Lirman from the University of Miami trained a team of scientists and managers from the Department of Environment and CCMI in coral nursery techniques. Lirman assisted in selecting a nursery site to ensure good water quality, low predation, and workable depths. A single structure was deployed, multiplying 4 parent colonies of staghorn coral to 58 new individuals as a pilot project. After 3 months of trial, all colonies have survived and are growing rapidly. These results provide the basis for installing additional structures and further developing this nursery.

Main Project

Nursery (Year 1 & 2): A variety of structures to support coral growth will be deployed at our site in April (2013) to test the best methodology, including the A frame, line and tree nursery techniques. Additional donor colonies will be selected from a variety of sites across Little Cayman to ensure a genetically diverse parent population. Fragments from these donor colonies will be used to populate a larger nursery: our goal is to develop a self-sustaining nursery, which would require no further collection from wild populations subsequent to the initial collection; after allowing 6–12 months for the initial fragments to grow, nursery colonies may be fragmented to increase the amount of usable corals in the nursery, or outplanted back to the reef.

Regional training (End of year 1): Coral nurseries are not a new phenomenon but the methodology is still considered new and developing. The key to this project is to provide training and workshop opportunities, under the auspice of the Cayman Islands Department of Environment, to facilitate new

projects of this kind both within the Cayman Islands and other UKOTs. CCMI's role as a non-profit training facility would therefore offer an opportunity to develop more nurseries within the region.

Outplanting & climate change impacts (Year 2): Outplanting is the final stage of coral gardening. This is possible when the initial fragments reach a suitable size, structure and health to facilitate independent growth. Once outplanted, the corals will grow to a sexually viable size, thus establishing a breeding population and allowing the target species to reproduce and recover naturally.

A limited selection of corals will be included in our climate change and coral reef stress research project which investigates the natural variability of the pH across reef habitats. Determining whether the species is more resilient in habitats of known low or high pH variability should provide important guidance for nurseries being developed across the region, vulnerable to increased ocean acidification. Based upon this critical knowledge, a limited selection of outplanted corals can be strategically placed to test natural climate change impacts. The significant outcome is to link responses by natural systems to a range of future climate predictions and present the best marine park protection scenarios (including outplanting strategy for the coral nursery).

22. How does this project:

- a) Deliver against the priority issues identified in the assessment criteria
 - b) Demonstrate technical excellence in its delivery
 - c) Demonstrate a clear pathway to impact in the OT(s)
- (500 words max)

Priority Issues

This project seeks to address the following DEFRA criteria:

- 1) Habitat or species conservation, management and sustainable use for terrestrial and marine environments
- 2) Climate change resilience, mitigation and adaptation

The nursery project and above criteria are aligned to policy outlined by the UK government regarding Climate Change in the UKOTs (2008) and Environment and the UKOTs (2012). Small island states have been identified as particularly vulnerable to climate change and the least adaptable (IPCC 4th Assessment, 2007). This is reflected by the Cayman Islands Climate Change Policy (September 2011), which states the need to:

“Enhance the resilience and natural adaptive capacity of terrestrial, marine and coastal biodiversity and ecosystems”.

The CCMI Coral Nursery has therefore been developed to:

Ensure increased protection and conservation for *Acropora cervicornis*, which will directly sustain marine biodiversity in Little Cayman/Cayman Brac;

Provide a training facility for nurseries of this kind on Grand Cayman and Little Cayman (overseen by the DOE), to build resilience capacity within the region; and

Present an outplanting methodology that includes climate change mitigation and adaptation strategy for this species.

This project therefore presents a practicable conservation initiative with three clearly defined and measurable outcomes.

Technical excellence

The CCMI Coral Nursery has been developed and overseen in partnership with the Cayman Islands Department of Environment and specialist partners such as Dr Lirman and the University of Essex. The project offers coral reef restoration properties that are currently lacking within the region. The inclusion of both the training and outplanting climate change mitigation and adaptation elements of the project offer a multi-lateral project aim that CCMI is in a unique position to provide. CCMI's climate change and coral reef stress research project contributes to the outplanting methodology, adding a new technological element to this project. The results from this project will help facilitate recommendations for increased marine protected areas and climate change mitigation strategy in the future. The dual purpose of this project is therefore of the highest technical excellence, with clear and deliverable outcomes.

The biggest risk to the project is severe weather and increased disease. Hurricane Sandy threatened the pilot project (Nov 2012) but did not inflict any damage on the newly established nursery. Please see section 28 for a description of all the risks and the plans.

Pathway to impact the OTs

The Cayman Islands is the second most densely populated UKOT. Tourism represents 23.4% of the GDP (2010 CI Government Statistics) and is heavily reliant upon water sports and the marine environment as the epicentre of its tourist industry. The proposed nursery project would provide a tangible contribution to protecting the region's biodiversity and helping build capacity to adapt to climate change. The results from this project, including the training, could be replicated in all tropical UKOTs. CCMI's project partnership with the Cayman Islands Department of Environment and relationship with the Foreign and Commonwealth Office in the Cayman Islands offers opportunities for wider dissemination of results and cooperation with UKOT governments and NGOs.

23. Who are the **stakeholders** for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them. (250 words max)

This project has been developed in association with our partners.

The Coral Nursery methodology has been supported by Dr Lirman, a specialist in coral nursery techniques who mentored our research and conservation assistant (responsible for the day-to-day maintenance of the nursery), Katie Lohr.

The initiation and pilot of the project took place under strict supervision from and partnership with the Cayman Islands Department of Environment (DOE) (Tim Austin, John Bothwell). The DOE will remain key partners in the project, particularly regarding any structural design changes and outplanting strategy. They will also regulate the training and workshop aspects, to ensure any future nursery developments (and therefore training needs) within the region are managed as per CI Environmental Law.

The final aspect of the project, seeking to test the impacts of ocean acidification on a few samples, will be conducted in association with the University of Essex (David Smith) and the Coral Reef Research Unit, as part of our collaborative research project.

CCMI recently received an award from the CI FCO, to install crucial climate change monitoring equipment. Our contact, Tom Hines, has expressed support for this project and CCMI's ongoing research.

The biggest stakeholders for this project however are the residents and visiting tourists that will benefit from the increased population of staghorn coral, particularly those involved in the marine industry. The response to the pilot project has seen widespread support, both locally and internationally—the CCMI Facebook page demonstrates how connected the local population are to protecting marine biodiversity.

24. Institutional Capacity: Describe the implementing organisation's capacity (and that of partner organisations where relevant) to deliver the project. (500 words max)

CCMI's highest priority is to increase the sustainability and conservation of coral reef ecosystems. We believe that understanding the factors which improve coral reef resilience and sustainability is the leading challenge for marine protection today. We invest in improving conservation in the region by providing excellent facilities, the best technology, long-term monitoring data and training and outreach opportunities for reef managers and young early career scientists. CCMI's field station is based in Little Cayman, where the coral reef ecosystem demonstrates the highest levels of resiliency in the entire region. This virtually undeveloped island provides an ideal control site for working with Marine Protected Area managers and stakeholders to identify and incorporate tangible sustainable solutions to the varied impacts of climate change on tropical ecosystems, marine protection, and fisheries management.

To date, our work has demonstrated that improved ecosystem resilience requires a multi-faceted approach. CCMI has developed several successful initiatives on topics that help to bridge some of the challenges, adding value to current debates including:

- Identifying and describing critical habitats that need protection for juvenile Nassau grouper (Little Cayman has the territory's last identified 'grouper spawning aggregation');
- Developing a regional coral bleaching threshold model using the Little Cayman Coral Reef Early Warning System (CREWS) instrumentation;
- Coordinating community lionfish culling efforts so that we can determine if any level of effort can succeed in managing the impacts of this invasion;
- Establishing a community-wide understanding of the importance of living sustainably through a three-year "Green Guide" series with a 30,000 distribution;
- "Campaigning for Ocean Literacy" across the region, providing educational tools (*Our Ocean Planet*) for children so they are ocean literate by the time they are 12 years old, and training for teachers.
- Hosting workshops with local marine park managers and scientific community to improve the relationship between research, education and conservation methodology and techniques.

Partners:

The Cayman Islands Department of Environment (DOE) is the main Government agency responsible for the management and conservation of the environment and natural resources. The DOE works to facilitate responsible management and sustainable use of the natural environment and resources of the Cayman Islands through various environmental protection and conservation programmes and strategies.

Dr Diego Lirman's research emphasis is on the disturbance ecology of coastal ecosystems, including the development of coral nursery methodology. Over the past 10 years, he has worked on diverse projects to evaluate the health of seagrasses, macroalgae, and coral reef communities; estimate the impacts of multiple human and natural stressors on these susceptible natural resources; and predict the potential impacts of future disturbances on these systems.

The University of Essex Coral Reef Research Unit operates a cross-disciplinary approach utilising the expertise and experience of an international advisory board. Field research covers topics including the community ecology of coral reef systems, tropical seagrass beds, mangroves and fisheries. Economic and social science field studies are also carried out in conjunction with biological and ecological studies, whilst coral ecophysiology research is carried out in state-of-the-art laboratories.

25. Expected Outputs

Output (<i>what will be achieved e.g. capacity building, action plan produced, alien species controlled</i>)	Indicators of success (<i>how we will know if its been achieved e.g. number of people trained/ trees planted</i>)	Status before project/baseline data (<i>what is the situation before the project starts?</i>)	Source of information (<i>where will you obtain the information to demonstrate if the indicator has been achieved?</i>)
1. Establish an <i>Acropora</i> nursery and outplanting system	Nursery is healthy and parent colony is recovering. Any risks have been mitigated.	The pilot project results will provide the baseline data, including photography.	Photographic reporting will be provided on a monthly basis
2. Develop and Implement training programme for local region	A project workshop will be hosted to ensure techniques are agreed upon. This will translate into nursery training within the region for 10 local participants, using local best practice developed by the CCMI team.	Good training tools are available, therefore the project team will establish best practice and any regional differences applicable.	A workshop concept note will be established, followed by training best practice notes which will be available on CCMI's website.

Output (<i>what will be achieved e.g. capacity building, action plan produced, alien species controlled</i>)	Indicators of success (<i>how we will know if its been achieved e.g. number of people trained/ trees planted</i>)	Status before project/baseline data (<i>what is the situation before the project starts?</i>)	Source of information (<i>where will you obtain the information to demonstrate if the indicator has been achieved?</i>)
3. Develop outplanting strategy, including investigation of climate change (bleaching and ocean acidification) on <i>Acropora</i> , in various habitats	A successful outplanting strategy will include over half the original nursery fragments being outplanted and remaining healthy. The outplanting will also include climate change mitigation and adaptation strategy.	An outplanting strategy has been informally scoped out but will need further development. CCMI's climate change project has identified habitats that are more vulnerable to climate change impacts (pH in particular) and will be included in the strategic approach.	The outplanted colonies will be monitored bi-weekly and a quarterly report will be issued to stakeholders. Results will be made available on CCMI's website.

26. Expected Outcomes: How will each of the outputs contribute to the overall outcome of the project? (100 words max)

- 1) Enhance the Cayman Island's capability to protect marine biodiversity and specific coral species' long-term capacity to recover naturally by establishing a productive coral nursery. The nursery will provide more independently growing colonies as a result of outplanting nursery-reared corals, which will encourage a genetically diverse and sexually viable breeding population.
- 2) Increase project partners' and local stakeholders' knowledge and ability to develop reef restoration techniques.
- 3) Develop climate change mitigation and adaptation techniques to provide a stronger response to threats on the marine environment from increasing climate change impacts such as ocean acidification and coral bleaching.

27. Main Activities

Output 1	Establish nursery—set-up, maintain, manage and monitor
1.1	Maintain and upgrade nursery structures on a regular basis.
1.2	Develop management best practices including: refining nursery techniques, and managing disease outbreak and natural disaster
1.3	Assess the nursery year-round, providing biweekly in-situ monitoring of nursery colonies by our conservation coordinator.
1.4	Quarterly monitoring of wild parent colonies to ensure recovery and 6 month reporting as per DEFRA requirements.
1.5	Develop best practice monitoring and reporting protocol.
1.6	Provide relevant information for global reef monitoring organisations, such as the IUCN and Reefbase and disseminate results to project stakeholders via CCMI's website.
Output 2	Develop and implement training programme
2.1	Host coral nursery workshop with project team and relevant local stakeholders to: disseminate project results; develop coral nursery methodology further; develop outplanting strategy (see output 3).
2.2	Develop local training methodology, based on project results and workshop developments.

2.3	Facilitate training, based on DOE requirements.
2.4	Disseminate results—training notes made available through CCMI’s website and project reports.
Output 3	Develop outplanting strategy, including climate change mitigation and adaptation studies
3.1	Develop and test outplanting strategy in line with local ecology.
3.2	Select small number of outplants to be used to test climate change (ocean acidification) variations in habitats relevant to this species, <i>Acropora cervicornis</i>).
3.3	Refine outplanting techniques and strategy, then complete on larger scale, including climate change mitigation and adaptation recommendations.
3.4	Disseminate results and publish a scientific paper

28. Risks			
Description of the risk	Likelihood the event will happen (H/M/L)	Impact of the event on the project (H/M/L)	Steps the project will take to reduce or manage the risk
Severe weather	M	M	Hurricanes and severe weather pose a risk to the project. The nursery can be moved to safer areas in the event of severe weather, which minimises the risk. Outplanted corals cannot be moved; however, the outplanting strategy will include various locations to ensure that diverse habitats are included, which reduces risk. Note that Hurricane Sandy did not affect the pilot project, although the wave action was significant.
Disease	M	H	Disease is a constant threat to the project; however, this is mitigated by the following: constant monitoring of the nursery; continuous assessment of the local and regional conditions, especially disease outbreaks; a rigorous outplanting strategy to ensure diverse habitats are used to prevent mass disease in the outplanted colonies (where possible).

29. Sustainability: How will the project ensure benefits are sustained after the project has come to a close? If the project requires ongoing maintenance or monitoring, who will do this? (200 words max)

The direct impact of this project will have long-term sustainability implications for the staghorn’s health and biodiversity within the region. The pilot has been running successfully for 3 months and indicates the current conditions are preferable for growing *Acropora cervicornis*. Once established, the nursery will thus establish a breeding population, allowing the target species to reproduce and recover naturally.

Once the *Acropora cervicornis* project has been fully completed (April 2015), a decision will then be made whether to continue the project (funded by CCMI partners) or expand the project to include additional species. CCMI will provide training opportunities for the DOE for as long as it is required, as per our commitment to the local community.

As part of CCMI’s long-term commitment to climate change and coral reef stress, once the nursery has been established, reached capacity and then fully-outplanted, the monitoring of the species and outplanted sections will become part of our annual assessment and monitoring protocols.

30. Monitoring & Evaluation: How will the project be monitored and who will be responsible? Will there be any independent assessment of progress and impact? When will this take place, and by whom? (250 words max)

This project has a monitoring and evaluation plan in place, agreed at the pilot stage.

A monthly report is compiled by the Research and Conservation Assistant, including photographs, measurements and health indicators. The project partners then assess the report individually and respond as required. If an issue were to arise with the project, this monthly assessment would provide the forum for discussion and solutions by the project team. This reporting protocol will continue throughout the project. A quarterly project summary will result from this monthly reporting, which is for the project team to use as a working document.

A 6-monthly full report of the project will be compiled, including financial reconciliation and recommendations for the following 6 months. This report is compiled by the Director of Development and Communications and the Treasurer—neither of whom is involved in the running of the project, ensuring objectivity and accountability. This report would provide the basis for DEFRA-required reporting.

A final report would be submitted as required.

Monitoring and evaluation responsibilities are as follows:

- Bi-weekly project monitoring: Conservation Coordinator (Katie Lohr)
- *Monthly reporting compilation*: Conservation Coordinator
- *Monthly evaluation*: Project Team
- *Quarterly project summary compilation*: Conservation Coordinator/Director of Research & Conservation (Dr Carrie Manfrino)
- *Quarterly project summary evaluation*: CCMI Board and Project Team
- *Six-monthly project report and evaluation (includes financials) presented to CCMI Board and DEFRA*: Director of Development & Communications (Kate Pellow), CCMI Treasurer (Simon Whicker).
- *Final report, submitted to DEFRA by the Director of Development & Communications and Treasurer.*

The project completion report is **due up to 3 months** after the project is over and is linked to the final payment.

31. Use of information: If your application is successful, the information in this form may be published on the internet or used in publications. If there are any parts of the application which you do not want to be used in this way, please indicate them in the box below.

N/A

32. Financial controls: (Who is responsible for managing the funds? What experience do they have? What arrangements are in place for auditing expenditure?)

The day to day expenditure of the project will be overseen by the Director of Operations and the Director of Research and Conservation. As described in section 30, CCMI has an internal reporting/financial protocol, which ensures all projects are checked in terms of development and finances every 6 months by the Director of Development and Communications and the Treasurer, neither of whom is involved in the daily project activities.

CCMI is audited, as per non-profit best practice guidelines. All project finances are therefore scrutinized by the external audit process, as per the budget submitted to the grant authority.

CCMI's staff are experienced at managing grant/sponsorship funds and have developed internal mechanisms to ensure our projects and project accounts are transparent and accurate at all times.

CCMI's Treasurer, Simon Whicker, who has ultimate responsibility for the finances of the organisation has recently retired from KPMG Cayman Islands.

CCMI's President and Director of Research and Conservation, Dr Carrie Manfrino, established CCMI in 1998 and has managed the project development with great success for over 14 years.

Please complete the separate Excel spreadsheet which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet.

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. **Budgets submitted in other currencies will not be accepted.** Use current prices – and include anticipated inflation, as appropriate, up to 3% per annum. The Darwin Initiative cannot agree any increase in grants once awarded.

33. Value for Money

Please explain how you worked out your budget and how you will provide value for money through managing a cost effective and efficient project. You should also discuss any significant assumptions you have made when working out your budget. (300 words max)

CCMI is a non-profit organisation and we endeavour to conduct our research, conservation and education practices with the upmost economic efficiency. The budget has been based upon CCMI's published rates, including field costs.

The coral nursery benefits from the following value for money elements:

- 1) CCMI has an experienced monitoring and maintenance team which includes our dedicated Conservation Coordinator (Katie Lohr, MSc). The Conservation Coordinator is already funded by CCMI efforts, alongside the Director of Research and Conservation, resulting in a significant reduction in budget for this proposal. The project needs an intern and coordinator to manage the weekly monitoring, and both are on site year round and will be dedicated to this project for 50% of their time. Therefore, the manpower is already in place and costs will be shared with other conservation projects that are already funded. The people cost for this project therefore covers 50% of an intern only.
- 2) The external project team provide their expertise *pro bono*, in the interests of delivering this crucial conservation project to the region.
- 3) The pilot has already been established, funded by local fundraising activity, to ensure all the set-up risks and costs have been eliminated from the project.
- 4) Holding workshops and training courses at CCMI is low cost. The field research station offers exceptional value for money when considering residential costs, due to the on-site facilities and sustainable aspect of the operation (solar power, rain water collection, composting toilets etc).
- 5) Little Cayman is a small island. Project transportation costs will be kept to a minimum due to easy access to the nursery location (directly outside the research facility) and outplanting locations (island-wide).
- 6) CCMI operates a protocol of ensuring project synergies to ensure financial efficiency is considered at all times, i.e., sharing boat fuel.

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 (Q1 starting April 2013)

Activity	No of Months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Establish, monitor, maintain and manage nursery												
1.1	Maintain and upgrade nursery structures and assess the nursery year-round, providing biweekly in-situ monitoring of nursery colonies by our conservation coordinator.	4											
1.2	Develop management best practices including: refining nursery techniques; managing disease outbreak and natural disaster; and reporting protocol.	1.5											
1.3	Quarterly monitoring and reporting of nursery and wild parent colonies to ensure recovery and 6 month reporting as per DEFRA requirements.	1.5											
Output 2	Develop and Implement training programme												
2.1	Hosts coral nursery workshop with project team and relevant local stakeholders to: disseminate project results; develop coral nursery methodology further; develop outplanting strategy.	0.5											
2.2	Develop local training methodology, based on project results and workshop developments.	0.5											
2.3	Facilitate training, based on DOE requirements.	0.5											
2.4	Disseminate results - training notes made available through CCMI's website and project reports.	0.5											
Output 3	Develop outplanting strategy, including climate change mitigation and adaptation studies.												
3.1	Develop and test outplanting strategy inline with local ecology.	1											
3.2	Select small number of outplants to be used to test climate change (ocean acidification) variations in habitats relevant to this species <i>Acropora cervicornis</i> .	1											
3.3	Refine outplanting techniques and strategy, then complete on larger scale, including climate change mitigation and adaptation recommendations.	1											
3.4	Dissemination of results and publication of a scientific paper.	2											

CERTIFICATION 2013/14

On behalf of the trustees of **CENTRAL CARIBBEAN MARINE INSTITUTE**
(*delete as appropriate)

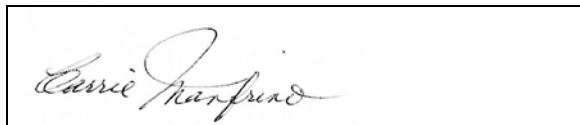
I apply for a grant of £41631 in respect of **all expenditure** to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

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 lead institution to submit applications and sign contracts on their behalf.*)

I enclose CVs for project principals and letters of support. Our most recent audited/independently verified accounts and annual report can be found at: http://www.reefresearch.org/ccmi_website/aboutccmi/2011_CCMI_Annual_Report.pdf

Name (block capitals)	CARRIE MANFRINO
Position in the organisation	PRESIDENT AND DIRECTOR OF RESEARCH AND CONSERVATION

Signed



Date:

7 JANUARY 2013

Application Checklist for submission

	Check
Have you provided actual start and end dates for your project?	X
Have you provided your budget based on UK government financial years i.e. 1 April – 31 March and in GBP?	X
Have you checked that your budget is complete , correctly adds up and that you have included the correct final total on the top page of the application?	X
Has your application been signed by a suitably authorised individual? (clear electronic or scanned signatures are acceptable in the email)	X
Have you included a 1 page CV for all the principals?	x
Have you included a letter of support from the <u>main</u> partner(s) organisations?	x
Have you included a copy of the last 2 years' annual report and accounts for the lead organisation? An electronic link to a website is acceptable.	x
Have you read the Guidance Notes?	X
Have you checked the Darwin Plus website immediately prior to submission to ensure there are no late updates?	X

Once you have answered the questions above, please submit the application, not later than midnight GMT at the end of Monday 7 January 2013 to Darwin-Applications@ltsi.co.uk using the first few words of the project title **as the subject of your email**. If you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (e.g. whether the e-mail is 1 of 2, 2 of 3 etc). You are not required to send a hard copy.

DATA PROTECTION ACT 1998: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of Darwin Plus. Application form data will also be held by contractors dealing with Darwin Plus monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (i.e. name, contact details and location of project work) on the Darwin Initiative and Defra/FCO/DFID websites (details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Governor's Offices outside the UK, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.