



Submit by Monday 1 December 2014

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 21: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required.

Information to be extracted to the database is highlighted blue.

ELIGIBILITY

1. Name and address of organisation (NB: Notification of results will be by email to the Project Leader in Question 7)

Applicant Organisation Name:	Wildlife Conservation Society (WCS)
Address:	Center for Global Conservation 2300 Southern Boulevard
City and Postcode:	Bronx, NY 10460
Country:	USA
Email:	
Phone:	

2. Stage 1 reference and Project title

Ref 2674	Title (max 10 words) Maximizing Benefits of Marine Reserves and Fisheries Management in Belize
-----------------	---

3. Project dates, and budget summary

Start date: 1 April 2015		End date: 31 March 2018		Duration: 3 years
Darwin request	2015/16 £88,000	2016/17 £89,538	2017/18 £95,612	Total request £ 273,150
Proposed (confirmed and unconfirmed) matched funding as % of total Project cost: 45%				
Are you applying for DFID or Defra funding? (Note you cannot apply for both)			DFID	

4. Define the outcome of the project. This should be a repetition of Question 24, Outcome Statement.

(max 30 words)

Sustainable fisheries management increases catch-per-unit-effort and income, strengthens ecosystem health, and provides a model for expansion of no-take zones and managed access programs in marine reserves across Belize.

5. Country(ies)

Which eligible host country(ies) will your project be working in. You may copy and paste this table if you need to provide details of more than four countries.

Country 1: Belize	Country 2:
Country 3:	Country 4:

6. Biodiversity Conventions

Which of the conventions supported by the Darwin Initiative will your project be supporting? Note: projects supporting more than one convention will not achieve a higher scoring

Convention On Biological Diversity (CBD)	Yes
Nagoya Protocol on Access and Benefit Sharing (ABS)	No
International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	No
Convention on International Trade in Endangered Species (CITES)	No

6b. Biodiversity Conventions

Please detail how your project will contribute to the objectives of the convention(s) your project is targeting. You may wish to refer to Articles or Programmes of Work here.

Note: No additional significance will be ascribed for projects that report contributions to more than one convention

(Max 200 words)

This project will assist Belize in meeting its commitment under the Convention on Biological Diversity (CBD) to designate at least 10% of its marine territory under full protection (Aichi Targets 11 and 14). Through the participation of fishers and the implementation of a managed access program, this project will contribute to sustainable fisheries management as well as better awareness and understanding of the importance of biodiversity conservation to securing livelihoods (Aichi Targets 1, 4 and 6). By expanding protected areas and improving management of fishing, this project will reduce stress on the Belize coral reef system, contributing to better overall reef ecosystem health (Aichi Target 10) and, in turn, to improved livelihoods and well-being of fishing communities (Aichi Target 14). Furthermore, with the expected improved health of coral reefs, the project will also contribute to increased resilience of this ecosystem to climate change (Aichi Target 15).

Is any liaison proposed with the CBD/ABS/ITPGRFA/CITES focal point in the host country?

Yes No if yes, please give details:

7. 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 project partner.

Details	Project Leader	Project Partner 1 - Main	Project Partner 2
Surname	Gibson	Majil	Epstein
Forename (s)	Janet	Isaias	Lawrence
Post held	Country Director	Marine Protected Areas Coordinator	Senior Program Manager
Organisation (if different to above)		Belize Fisheries Department	Environmental Defense Fund
Department	Marine		
Telephone			
Email			

Details	Project Partner 3	Project Partner 4
Surname	Robinson	Babcock
Forename (s)	Julie	Elizabeth
Post held	Marine Specialist	Assistant Professor
Organisation (if different to above)	The Nature Conservancy	University of Miami, Rosenstiel School of Marine and Atmospheric Science
Department	Belize Program	Dept. of Marine Biology and Ecology
Telephone		
Email		

8. Has your organisation been awarded a Darwin Initiative award before (for the purposes of this question, being a partner does not count)? **If so, please provide details of the most recent awards (up to 6 examples).**

Reference No	Project Leader	Title
2292	Lilian Painter	Sustainable Ranching and Participatory Land Use Planning in Bolivia and Paraguay
1969	Tom Clements	Conserving biodiversity and reducing poverty through wildlife-friendly farming in Cambodia
2114	Nyawira Muthiga	Strengthening the capability of Kenyan communities to conserve coral reefs
1970	Roan Balas McNab	Evaluating community-based conservation agreements in Guatemala's Maya Biosphere Reserve

9a. If you answered 'NO' to Question 8 please complete Question 9a, b and c.

If you answered 'YES', please go to Question 10 (and delete the boxes for Q9a, 9b and 9c)

9b. DO NOT COMPLETE IF YOU ANSWERED 'YES' TO QUESTION 8.

Provide detail of 3 contracts previously held by your organisation that demonstrate your credibility as a research organisation and provide track record relevant to the project proposed. These contracts should have been held in the last 5 years and be of a similar size to the grant requested in your Darwin application.

9c. DO NOT COMPLETE IF YOU ANSWERED 'YES' TO QUESTION 8.

Describe briefly the aims, activities and achievements of your organisation. (Large organisation please note that this should describe your unit or department)

10. Please list all the partners involved (including the Lead Institution) and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

<p>Lead institution and website: Wildlife Conservation Society (WCS) www.wcs.org</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The Wildlife Conservation Society (WCS) is an international nonprofit established in 1895 that saves wildlife and wild places worldwide through science, conservation action, education and inspiring people to value nature. WCS’s global conservation program is active in landscapes and seascapes in over 60 nations. With more than 100 years of field conservation experience and more than 30 years of research and conservation action specifically in Belize, WCS is well placed to lead this project.</p> <p>WCS will be responsible for project coordination, implementation and reporting. The WCS technical staff in Belize will coordinate with government and NGO partners to implement the fisheries management activities, working closely within the framework of the National Managed Access (MA) Working Group. WCS will conduct the required training for government/NGO personnel and for fishers. The WCS team will also lead coordination of the no-take or replenishment zones expansion activities, working under the guidance of the National Replenishment Zones Expansion (NRZE) Steering Committee. WCS’s technical team will be responsible for the ecological monitoring in marine reserves and for overseeing the fisheries catch data collection. WCS will also facilitate and support the meetings of the various marine reserve advisory committees and MA committees.</p>
---	---

<p>Partner Name and website where available: Belize Fisheries Department www.fisheries.gov.bz</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The Belize Fisheries Department of the Ministry of Forestry, Fisheries and Sustainable Development is the government agency responsible for the management of marine and freshwater fisheries and marine reserves of Belize. The mission of the Department is “to provide the country and the people of Belize with the best possible management of aquatic and fisheries resources, with a view to optimize the present and future benefits through efficient and sustainable management.”</p> <p>The Department implements the provisions of the Fisheries Act and its subsidiary regulations, and therefore oversees all fisheries legislation enforcement. The Department’s Enforcement Strategy explicitly embraces innovative technologies that make patrols at sea more efficient and cost-effective.</p> <p>The Department has adopted the rights-based, or managed access, approach to fisheries management and is collaborating with several partners, including WCS, in the expansion of the program from two pilot sites (Glover’s Reef Marine Reserve and Port Honduras Marine Reserve) to all the territorial sea of Belize. The Department manages a network of marine reserves and is also overseeing the expansion of the no-take areas in collaboration with several partners. The Fisheries Administrator chairs the National Replenishment Zones Expansion Steering Committee, which is supported by WCS, that guides and oversees the program.</p>
--	--

<p>Have you included a Letter of Support from this institution?</p>	<p>Yes</p>
---	------------

<p>Partner Name and website where available:</p> <p>Environmental Defense Fund (EDF) http://www.edf.org/</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The Environmental Defense Fund (EDF) seeks to protect the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. Its Oceans Program works to harmonize human activities with ocean health. A centrepiece of this program is its rights-based fisheries management approach called 'catch shares', which generally includes no-take areas to help replenish fish stocks and leads to increases in economic performance.</p> <p>WCS has partnered with EDF since 2008 to introduce a form of the 'catch shares' program first to the pilot site of Glover's Reef Marine Reserve and, subsequently, expanding to all of Belize's territorial waters. The program has been tailored to suit conditions in Belize, and has evolved into the Managed Access (MA) program, which marks the end of the country's open access system of fisheries management.</p> <p>EDF is providing the technical expertise to the ongoing development of the MA program in Belize, helping to guide the design and implementation of various critical project components, including licensing, governance, monitoring, data collection and sustainable catch limits. Having introduced similar programs in many countries around the world, EDF's scientists and technical staff have broad experience in the application of rights-based fisheries management.</p>
<p>Have you included a Letter of Support from this institution?</p>	<p>Yes</p>

<p>Partner Name and website where available:</p> <p>The Nature Conservancy http://www.nature.org/</p>	<p>Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)</p> <p>The mission of The Nature Conservancy (TNC) is to conserve the lands and waters on which all life depends. It is a membership organization with about 1 million people, and manages conservation programs in 35 countries.</p> <p>Presently the marine conservation program of TNC in Belize is focusing on the expansion of the no-take area network, management of sustainable fisheries and development of permanent financial mechanisms to fund conservation activities into the future.</p> <p>Its fisheries management work is supporting the Managed Access program in one of the two pilot sites, the Port Honduras Marine Reserve, funding work such as fisheries catch data collection. In collaboration with EDF, TNC also supports the analysis of data by its team of fisheries experts.</p> <p>In the no-take expansion work, TNC is leading the mapping and technical analyses to determine the most effective network of no-take areas. It is also supporting economic alternatives for fishers who may be displaced by the expansion of no-take areas. The financial mechanisms developed are expected to cover the costs of the no-take area expansion and establishing economic livelihoods for fishers.</p>
--	---

Have you included a Letter of Support from this institution?	Yes
--	-----

Partner Name and website where available: Elizabeth Babcock, Assistant Professor of the Rosenstiel School of Marine and Atmospheric Sciences (RSMAS), University of Miami www.rsmas.miami.edu	Details (including roles and responsibilities and capacity to engage with the project): (max 200 words) Dr. Elizabeth Babcock is a highly-respected fisheries scientist who has been assisting the Managed Access program at the Glover's Reef Marine Reserve by developing a depletion model for spiny lobsters to determine the sustainable catch level for this important fishery. She is also working on developing a similar model for the conch fishery at Glovers Reef Marine Reserve and will lay the foundations for both lobster and conch models at South Water Caye Marine Reserve. The Rosenstiel School of Marine and Atmospheric Sciences is one of the leading academic research institutions in the world and is well-known within the Caribbean region for its fisheries scientists who have developed methods for managing data-limited tropical fisheries. Their fisheries experts are leaders in the field of fisheries stock assessments, working on methods to help better manage the lobster, conch and reef fisheries. The University's scientists and students are also involved in many studies to investigate the performance of no-take zones. Dr. Babcock has been intimately involved in many of these studies and thus brings a wealth of knowledge to this aspect of our work in Belize.
Have you included a Letter of Support from this institution?	Yes

11. Have you provided CVs for the senior team including the Project Leader	Yes
--	-----

12. Problem the project is trying to address

Please describe the problem your project is trying to address. For example, what biodiversity and challenges will the project address? Why are they relevant, for whom? How did you identify these problems?

(Max 200 words)

Passing Belize in 1848, Charles Darwin wrote that he had seen the “most remarkable reef in the West Indies.” The Belize Barrier Reef, now a World Heritage Site, encompasses a wide range of habitat types and is home to 500 fish species, 134 bird species, three species of endangered sea turtles, and much more. This remarkable reef ecosystem, however, is under threat from overfishing. Although Belize is well known for its network of marine reserves, only 3% of its marine territory is legally protected from fishing (designated as “no-take”). This area is too small to ensure replenishment of resources, protection of biodiversity and resilience to climate change. Outside of these no-take zones, fisheries such as lobster and conch that provide food and income for local communities are threatened by growing pressure from increasing numbers of fishers and illegal fishing. The current open-access system has led to overfishing of species that are functionally critical to the health of coral reef ecosystems (such as parrotfish, an important grazer) and has threatened the sustainability of local livelihoods. As a result, both the conservation and fishing communities have expressed interest in developing a rights-based management approach that ensures the sustainable use of marine resources.

13. 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.).

(Max 500 words – repeat from Stage 1 with changes highlighted)

The proposed project consists of two mutually reinforcing approaches that improve biodiversity protection and sustainable livelihoods across the Belize Barrier Reef: (1) a rights-based, Managed Access (MA) program that uses licensing to facilitate sustainable fishing and (2) the designation of certain marine areas as no-take zones that function to replenish commercial species and overall biodiversity in surrounding areas. To ensure success of both project components, we will implement an innovative enforcement program using the Spatial Monitoring and Reporting Tool (SMART) approach.

Through the MA program, licenses are issued annually to fishers according to criteria developed in consultation with fisher representatives. Licenses allow fishers access to specific areas and require them to comply with regulations and report their catch. One key regulatory measure is total allowable catch (TAC) of conch and lobster. TACs are calculated by creating special depletion models based on total catch and catch-per-unit-effort (CPUE), with the ultimate goal of determining what level of catch is sustainable. Each season, fishers will report on catch through a catch log system that will be the basis for fishery-dependent monitoring. Models can then be refined each year based on data from the previous season.

The MA programs will be complemented by the designation of no-take zones that protect certain areas from fishing, allowing them to replenish fished species in other areas through net larval and adult recruitment. In order to monitor and enforce both the MA program and no-take designations, the Fisheries Department will use SMART software that integrates data collection and GIS technology to standardize and map information collected during sea patrols. Belize is the first country to pilot SMART’s use in the marine environment and will be expanding these efforts using tablets to more easily facilitate data collection with predefined forms. This will allow the Fisheries Department to better deploy enforcement resources through mapping hotspots of illegal activity and analyzing trends.

The MA program and no-take zone approach has been rolled out at a pilot site, Glover’s Reef Marine Reserve (GRMR), which has already demonstrated the biodiversity benefits of limited entry in promoting sustainable fisheries. For this Darwin Initiative project, WCS and partners will (1) work to improve the pre-existing pilot MA program at GRMR by improving the licensing

program, catch data collection and compliance monitoring, (2) establish a new MA program and improve the no-take zone at the South Water Caye Marine Reserve (SWCMR) and (3) build on evidence from these sites to guide the expansion of no-take zones to 10% of Belize's territorial waters by the end of 2018. The GRMR and SWCMR programs will feed into several national working groups focused on marine reserve management allowing important stakeholders such as fishers and resource managers to be involved in designing and implementing programs. Additionally, the no-take zone expansion will be led by the National Replenishment Zones Expansion Steering Committee, coordinated by WCS. Supported by evidence and lessons learned from our pilot sites, these activities will guide the national rollout of a holistic, sustainable fisheries management strategy in Belize.

14. Change Expected

Detail what the expected changes this work will deliver. You should identify what will change and who will benefit.

- If you are applying for Defra funding this should specifically focus on the changes expected for biodiversity conservation and its sustainable use.
- If you are applying for DFID funding you should in addition refer to how the project will contribute to reducing poverty. Q19 provides more space for elaboration on this.

(Max 250 words)

Increased profits to fishers from better-managed fisheries resources

Better management of fisheries and the designation of no-take zones will increase catch-per-unit-effort (CPUE), in turn yielding a higher average income for local fishers.

Enhanced engagement and stewardship of natural resources among fishers

Fishers have an active role in the MA programs, from consultations during the planning process through to data collection and reporting. The MA Committees, which include elected fisher representatives, are integrally involved in vetting license applications and guiding the progress of the program. Increased ownership of natural resources by local communities will also reduce illegal, unreported and unregulated fishing.

Improved ecological health and conservation of commercial species and overall biodiversity

Ecological health indicators – including densities of commercial species inside the no-take zone, coral and algal cover, densities of parrot fish and *Diadema* and counts of Nassau grouper at their spawning aggregation site – will demonstrate either sustained or improved rankings.

Increased capacity of Belize's Fisheries Department to manage fishing and enforce regulations

Partners will develop protocols and provide training that result in improved capacity of the Fisheries Department to strategically and sustainably manage fisheries over both the short and long terms.

Progress toward Belize's commitments under the Convention on Biological Diversity (CBD)

Under the CBD, Belize has committed to increasing no-take designation from 3% to 10% of its territorial sea. GRMR and SWCMR will serve as models that demonstrate the benefits of no-take zones, thereby guiding national working groups and informing the expansion of such areas.

15a. Is this a new initiative or a development of existing work (funded through any source)? Please give details (Max 200 words):

WCS has been collecting fishery dependent and independent data since 2005. The information collected has been used to evaluate replenishment zones and guide the establishment of the GRMR MA program. In collaboration with the Fisheries Department and the Environmental Defense Fund, this MA program at GRMR was introduced in 2011 following two years of consultations with local fishing communities. Based on the success at this pilot site, the

Fisheries Department plans to roll out the program nationwide. The national replenishment zones expansion work was initiated in early 2013, with WCS leading the coordination of activities. Despite our success so far, a concerted effort is required to meet Belize's target of expanding replenishment zones in area from 3% to 10% of the territorial sea by the end of 2018. This Darwin-funded project will support and strengthen the program in GRMR, building on its success so far and also facilitate the establishment of an MA program in the SWCMR as part of the national expansion. On a broader level, this project will contribute to our work of expanding replenishment zones and will clearly demonstrate the benefits of this approach to both fisheries and biodiversity.

15b. Are you aware of any other individuals/organisations/projects carrying out or applying for funding for similar work? Yes No

If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

15c. Are you applying for funding relating to the proposed project from other sources? Yes No

If yes, please give brief details including when you expect to hear the result. Please ensure you include the figures requested in the spreadsheet as Unconfirmed funding.

We will be applying for funding from the Oak Foundation for activities that complement those outlined in this proposal and for additional conservation activities. We have submitted a concept and we expect to receive a decision on our application in mid 2015. In addition, we currently have funding from the Summit Foundation for activities related to this work and should have support through June 2016.

16. 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?

(Max 250 words)

WCS has worked in marine conservation in Belize for more than three decades and manages a research station on Glover's Reef Atoll - the platform for our monitoring and research at this site. Over many years, we have built trust and strong relationships with the Fisheries Department and other in-country partners. Each partner has contributed their specific expertise within coordinated efforts. This approach has led to conservation outcomes with tremendous impacts.

The close link and synergies between the MA program and the expansion of no-take areas, which are mutually supportive activities, provide additional value. This project is an investment in an initiative built on a solid foundation, thus increasing the probability of long-lasting conservation success in the future.

This initiative provides additional value through its scalability, especially as we focus on building national capacity in marine management and monitoring methods. While our work during this project will contribute directly to improved management of 828 km² in GRMR and SWCMR (of which 162 km² is protected through no-take designation), it will also serve as an easily scalable model that will be replicated nationally and potentially in other Caribbean nations. WCS's international experience adds further value since the project can draw on WCS's experience implementing SMART technology, coral reef monitoring methods, and fisheries assessments at other sites.

Finally, the resulting benefits will be profound, as they are measured in terms of ecosystem health and sustainable fisheries for Belize, which can be considered priceless.

17. Ethics

Outline your approach to meeting the Darwin Initiative's key principles for research ethics as outlined in the guidance notes.

(Max 300 words)

The WCS program in Belize adheres to all US government and local laws and regulations and follows strict procedures that govern all aspects of staff relations, finance and audits, and registration. We have both general internal legal counsel as well as local counsel who ensure our adherence to various legal requirements. Safety is very important to us, as our work is on the sea and often in remote locations, and we also manage a remote research station on Glover's Reef Atoll. We therefore have strict safety guidelines and ensure regular training for our staff in the required procedures.

WCS also has internal overarching ethical values that guide our work. These include respect for all, accountability and transparency cultures, collaboration by embracing teamwork, and preserving integrity through upholding the highest standards of honesty and ethical behaviour.

Our work with local communities is based on mutual respect; ensuring community well-being, is one of our ultimate goals. For our MA program, we have conducted hundreds of community consultations alongside our partners to ensure that local input and traditional knowledge are incorporated in management plans for fisheries and marine reserves. Our method of work includes creating mechanisms that facilitate the participation of fishing communities and other stakeholders. In our data collection program with fishers we are diligent in protecting their privacy and only report on aggregated results without revealing private information.

Through our research WCS is committed to, and well-known for, credible and independent science that is geared towards improving our understanding of ecosystems in order to better manage and conserve them, thus helping to sustain resource-based livelihoods. Our scientists are among the world's most respected in the field of conservation biology. In our actions, diversity and inclusion by valuing staff and partners of all backgrounds and

18. Legacy

Please describe what you expect will change as a result of this project with regards to biodiversity conservation/sustainable use and poverty alleviation (for DFID funded projects). For example, what will be the long term benefits (particularly for biodiversity and poor people) of the project in the host country or region and have you identified any potential problems to achieving these benefits?

(Max 300 words)

We expect that changes resulting from this project will include measurable improvements to biodiversity in the coral reef system at GRMR and possibly also to some extent at SWCMR. These changes, due to the benefits of the no-take zones and the reduction in fishing effort through the MA program, will be even greater over the long term, leaving a lasting legacy. The establishment of a significantly increased network of no-take areas, from 3% to 10%, will also be a tremendous achievement for the country that will have far-reaching effects as it will help to underpin further long-term benefits to biodiversity, fisheries, tourism and resilience to climate change on a national level.

The MA program expansion is also of global importance, representing a paradigm shift from an open access system to a rights-based management approach that can serve as an example for other tropical small-scale fisheries. It should lead to growth of the fishing economy, and secure improved livelihoods for fishers while at the same time help to protect the coral reef system from one of the main threats in Belize, namely, overfishing.

Another expected change is greater empowerment of fishers in the management of their resources. We expect to record improvements in voluntary compliance with fisheries regulations and participation in catch data collection, which in turn will lead to better management of the lobster and conch fisheries and overall governance, and decrease illegal, unreported, and unregulated fishing. These improvements will result in positive outcomes for fisheries, biodiversity, income, and poverty reduction.

19. Pathway to poverty alleviation

Please describe how your project will benefit poor people living in low-income countries. All projects funded through DFID in Round 21 must be compliant with the OECD Overseas Development Assistance criteria. Projects are therefore required to indicate how they will have a positive impact on poverty alleviation in low-income countries.

(Max 300 words)

The economic security of coastal small-scale fishers in Belize has been increasingly threatened over the years due to a significant growth in the number of fishers, resulting in overfishing and overuse of other marine resources. Current levels of fishing are causing an overall deterioration in reef ecosystem health, and are consequently unsustainable in the long term. Without changes to the current situation, economic insecurity and poverty in the region will only increase.

This project aims to alleviate pressure on the marine resources that fishers depend on by managing access to these resources so that they are not overexploited. Additionally, no-take zones will result in a net migration of fish to the fished areas, thereby helping to sustain the fisheries. By reducing pressure on critical coral reef resources, the MA programs and no-take zones will help reduce poverty in two critical ways: (1) Catch-per-unit-effort (CPUE) will increase for each local fisher, leading to an increase in income from catch such as lobster and conch, and (2) The stability and sustainability of marine resources that fishers depend on will be strengthened, ensuring more reliable income and less vulnerability for fishers into the future.

19a. Impact to beneficiaries

If applying to DFID funding, please indicate the number of beneficiaries who are expected to be impacted by your project. If possible, indicate the number of women who will be impacted.

We expect there to be a 3% increase in average annual fishing-related income for 130-135 fisher households (average household size of 4) at Glover's Reef Marine Reserve (GRMR) and some monetary benefits for at least 250 fisher households at South Water Caye Marine Reserve (SWCMR). Because the GRMR program has already begun and we have existing information to help us predict change, we are confident about the predicted benefits that will result to fishers licensed for that reserve. We are less confident about the results in SWCMR because the program at this site is just beginning and the reserve and fishing community have slightly different characteristics than those at GRMR. Nevertheless, by the end of this project, we should observe some benefits to the 250 SWCMR fishers and their families as well.

The general trend across Belize has been an increase in total number of fishers along with a decreasing or stable (depending on species) total catch. As a result, average fisher income has been declining in recent years. Therefore, **even a slight improvement in income or quality of life for fishers in this area would be a great achievement.** Our project's focus on ensuring security of rights and stability of catch will represent a huge change for fishers who have traditionally been depending on these waters. With anticipated recovery of the system and expansion of replenishment zones, real increases in catch (in addition to increases in CPUE) may also be realized in the future. Finally, this rights-based approach welcomes input from fishers and makes them an integral part of the program, characteristics that help empower fishers to be stewards of their own resources.

In addition to direct benefits, this project will result in indirect benefits that should not be undervalued. Using GRMR as a model and SWCMR to provide additional lessons learned, these programs will help inform the national rollout of this fisheries management strategy that includes both Managed Access (MA) and no-take zones. The introduction of this rights-based approach to fisheries management represents a huge paradigm shift from the traditional open access system that has prevailed. As a result, we expect the impacts realized to take time, but once the program is well underway on a national scale, the benefits should be significant and affect almost 2,500 fishers and their household members.

20. Exit strategy

State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave?

(Max 200 words)

This project will be a part of ongoing programs to implement a rights-based approach to fisheries management on a national basis and to expand the extent of no-take zones from 3% to 10% of Belize's territorial sea. WCS is committed to marine conservation work in Belize for the long-term. Ninety-five percent of WCS's staff members in the country are Belizeans. We intend to continue work relating to this project through sustained support of the Fisheries Department in the management of the no-take areas and ongoing strengthening of the MA program, both of which are part of our larger Belize country program. We will also continue our monitoring work and technical assistance to assess whether these conservation actions are having positive impacts on the overall health of the coral reef ecosystem and the well-being of fishers and their communities.

The Belize Fisheries Department has been heavily involved in these initiatives with local fishers and fisheries management, and it plans to eventually take over management of these programs once they are fully functional.

21. Raising awareness of the potential worth of biodiversity

If your project contains an element of communications, knowledge sharing and/or dissemination please provide a description of your intended audience, how you intend to engage them, what the expected products/materials there will be and what you expect to achieve as a result. For example, are you expecting to directly influence policy in your host country or is your project a community advocacy project to support better management of biodiversity?

(Max 300 words)

Project partners will analyse data associated with MA programs and share results with fishers to enhance their understanding of fisheries management and emphasize the importance of their role in data collection. Regular reporting to the fishers on the progress and achievements of the program is vital for maintaining their support and compliance. This engagement and information sharing will take place mainly through the MA Committee meetings and the Annual Fishers Forums, using various materials to help facilitate communication. Additionally, informal meetings in fishing communities and with fishermen associations will continue to be held in order to share program information.

Gaining support from fishers for the expansion of the no-take areas is also crucial for the success of this program. We will focus on sharing information on the performance of no-take areas at GRMR, demonstrating the benefits to fisheries and overall coral reef ecosystem health, particularly when implemented in conjunction with the MA program. This information will be shared with fishers and other stakeholders through community consultations, reserve advisory committee meetings, and National Replenishment Zone Expansion (NRZE) Steering Committee meetings. Through active participation in the NRZE Steering Committee and MA Working group, WCS and partners will continue to influence the rollout and design of the no-take zone expansion and MA implementation across Belize.

Materials will be disseminated at select meetings in order to facilitate outreach effort. These materials will demonstrate the links between biodiversity (in the form of a productive and healthy reef system) and sustainable fisheries, both of which can be achieved by well-enforced replenishment zones and MA programs, as demonstrated by the work at GRMR. Finally, WCS and project partners plan to share knowledge with the research and scientific community by publishing 2-3 peer-reviewed scientific articles highlighting the results of our ecosystem health monitoring and catch data collection analyses.

22. Access to project information

Please describe the project's open access plan and detail any specific costs you are seeking from Darwin to fund this.

(Max 250 words)

Our technical reports for GRMR, which include results for both fisheries dependent and independent data analysis, are presently available online through our Glover's Reef Research Station's web site at <http://wcsglowersreef.org/>. We will continue this practice with monitoring and technical reports generated by this project. In addition, we will continue to share copies of these reports directly with our main project partners, namely the Fisheries Department, EDF, and TNC. In addition, we plan to share our reports with the Environmental Research Institute of the University of Belize, which is developing a repository for national scientific reports and publications. For SWCMR, which is managed by the Fisheries Department, technical reports will be uploaded and available on their website (www.fisheries.gov.bz).

In relation to data collection and management, we have put a lot of effort into developing well-structured electronic databases for our varied sets of monitoring data and our sampling protocols have been reviewed by a WCS statistician to ensure that they are statistically robust. We have also implemented protocols to ensure that our databases are secure and backed up systematically. All datasets of our monitoring and catch data collection activities are shared with the Belize Fisheries Department.

For the 2-3 scientific papers we plan to write, we are committed to publishing results in open access journals and have budgeted accordingly using PLoS One (\$1350/publication) and Conservation Biology (\$3000/publication) to guide our cost estimates.

23. Importance of subject focus for this project

If your project is working on an area of biodiversity or biodiversity-development linkages that has had limited attention (both in the Darwin Initiative portfolio and in conservation in general) please give details.

(Max 250 words)

The specific approach to fisheries management that we propose here – which combines no-take zone designation, rights-based MA programs and modern monitoring technology – has received limited attention both in the Darwin portfolio and in conservation more generally. Furthermore, the performance and benefits of these synergistic strategies has not been well-documented. For our project, we plan to not only implement this new approach, but also to collect detailed data in order to monitor its impacts on ecosystem health and livelihoods.

This project is also worthy of attention because of its potential impacts on wider management and governance policies. The MA approach being rolled out nationally in Belize focuses on rights-based fisheries management and is one of the first of its kind as a national program governing inshore coral reef fisheries. If its successes can be demonstrated, it has the potential to become a global model for other countries with similar fisheries management issues. This progressive management approach is in keeping with the FAO Code of Conduct for Responsible Fisheries and represents an important shift away from the traditional open access fishing that often leads to overfishing. Instead, this approach establishes user rights for fishing resources, which simultaneously empowers fishers to become stewards of their resources and promotes sustainability of both resource-based livelihoods and biodiversity. Through this approach, fishing communities will experience greater catch-per-unit-effort and therefore increased income, and will be less vulnerable as access to resources becomes more stable.

24. Leverage**a) Secured**

Provide details of all funding successfully levered (and identified in the Budget) towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity.

Confirmed:

1. Oak Foundation £44,176
2. The Summit Foundation £29,809

b) Unsecured

Provide details of any matched funding where an application has been submitted, or that you intend applying for during the course of the project. This could include matched funding from the private sector, charitable organisations or other public sector schemes.

Date applied for	Donor organisation	Amount	Comments
17 October 2014	Oak Foundation	£153,488	The Oak Foundation has been a supporter of our work for many years and we are confident that we will receive a new grant from this donor in 2015. We have already received verbal approval of our concept paper.

PROJECT MONITORING AND EVALUATION
MEASURING IMPACT

25. LOGICAL FRAMEWORK

Darwin projects will be required to report against their progress towards their expected outputs and outcomes if funded. This section sets out the expected outputs and outcomes of your project, how you expect to measure progress against these and how we can verify this.

The information provided here will be transposed into a logframe should your project be successful in gaining funding from the Darwin Initiative. The use of the logframe is sometimes described in terms of the Logical Framework Approach, which is about applying clear, logical thought when seeking to tackle the complex and ever-changing challenges of poverty and need. In other words, it is about sensible planning.

Impact

The Impact is not intended to be achieved solely by the project. This is a higher-level situation that the project will contribute towards achieving. All Darwin projects are expected to contribute to poverty alleviation and sustainable use of biodiversity and its products.

(Max 30 words)

Belize's marine reserves and coastal fisheries are sustainably managed, significantly reducing negative environmental impacts, creating socioeconomic benefits for coastal fishing communities, and demonstrating a scalable model for Caribbean reef ecosystems.

Outcome

There can only be one Outcome for the project. The Outcome should identify what will change, and who will benefit. The Outcome should refer to how the project will contribute to reducing poverty and contribute to the sustainable use/conservation of biodiversity and its products. This should be a summary statement derived from the answer given to question 14.

(Max 30 words)

Sustainable fisheries management increases catch-per-unit-effort and income, strengthens ecosystem health, and provides a model for expansion of no-take zones and managed access programs in marine reserves across Belize.

Measuring outcomes - indicators

Provide detail of what you will measure to assess your progress towards achieving this outcome. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure the outcome – if you have more than 3 indicators please just insert a row(s).

Indicator 1	By 2018, fishery-dependent data from GRMR indicates an increase in CPUE to at least 7.5 conch/hour and 1.5 lobsters/hour, compared, compared to a current baseline of 6.5 conch/hour and 1.3 lobsters/hour.
Indicator 2	By 2018, fishery-independent surveys at GRMR of conch, lobster, selected species of finfish including parrotfish, <i>Diadema</i> , as well as coral cover, show improvement against established baselines: <i>Mean conch density of 70 conch/ha against a baseline of 60 conch/ha.</i> <i>Mean lobster density of 32 lobster/ha against a baseline of 28 lobster/ha</i> <i>Mean biomass of parrotfish of 12kg/ha against a baseline of 10kg/ha</i> <i>Mean Diadema density of 0.08 urchins/m² against a baseline of 0.06 urchins/m²</i>
Indicator 3	By 2018, annual socioeconomic surveys of 135 fisher families totalling approximately 540 people, with about 282 males and 258 females, around GRMR (not including those at SWCMR), show a 3% increase in average fishing-related income from £3,234 to £3,534/fisher/year.
Indicator 4	By 2018, the WCS-facilitated NRZE Steering Committee has successfully increased the designation of no-take areas from 3% to 7% of the territorial sea of Belize, achieving significant progress towards the national goal of 10% by the end of 2018.
Indicator 5	By the end of the project, the SWCMR MA program will be in year 3 of licensing with 80% of fishers submitting their catch data logbooks.

Verifying outcomes

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Indicator 1	Reports on number of MA licenses issued, total lobster and conch catches in relation to total TAC, reports on CPUE and total catch and total value.
Indicator 2	WCS survey reports on densities of conch, lobster, selected species of finfish including parrotfish, <i>Diadema</i> , and percentage cover of coral and algae.
Indicator 3	Annual socioeconomic survey reports tracking trends in quality of life of fishers.
Indicator 4	National working group minutes, reports and communiqués.
Indicator 5	Reports on number of MA licenses issued, logbook data.

Outcome risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the *outcome and impact* of the project. It is important at this stage to ensure that these assumptions can be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	The political will to establish additional replenishment zones exists. WCS is actively involved at the community level and the political level, and there is indication that Belizeans support further development and expansion of the activities currently piloted at GRMR and to be developed at SWCMR.
Assumption 2	The Fisheries Department continues to support the rights-based, or MA, program. WCS works in close collaboration with the Fisheries Department, which has supported the development of MA programs and plans to expand this approach as a national strategy for marine resource management.
Assumption 3	The fishers are willing to participate in the MA program and support the no-take expansion. Fishing communities have expressed their desire for programs that reduce overfishing so we anticipate these communities will generally respect no-take zone exclusions designated through these efforts. Additionally, the expansion will largely cover deep-water areas, which are underrepresented in our current system. Most of these areas are not currently fished and therefore their closure to fishing will impact very few fishers. For these fishers and any others impacted during the expansion from 7% to 10% of territorial sea, economic alternatives will be offered by partner agencies, including TNC, before no-take zones are designated. TNC and the Belize Fisheries Department are currently leading this separate, concurrent project which focuses on activities such as seaweed farming, sea cucumber farming, and an integrated livestock-fish farm-aquaponics ventures. They have already secured funding from the World Bank for a project entitled "Belize Marine Conservation and Climate Adaptation Project," and TNC is currently in the process of identifying additional funds.
Assumption 4	The export prices for lobster and conch remain at a stable level. The revenue from these two major fisheries is based to a large extent on exports by the fishing co-operatives, mainly to the US market. These prices will influence how much fisher income will change during the lifetime of the project.
Assumption 5	There are no natural disasters, such as hurricanes and el Niños, during the project period that will affect the coral reefs and near-shore fisheries. Even in light of a major storm event, WCS is committed to working on managed access and no-take expansion in these geographies and Belize in the short- and long-term.

Outputs

Outputs are the specific, direct deliverables of the project. These will provide the conditions necessary to achieve the Outcome. The logic of the chain from Output to Outcome therefore needs to be clear. If you have more than 3 outputs insert a row(s). It is advised to have less than 6 outputs since this level of detail can be provided at the activity level.

Output 1	For GRMR and SWCMR, sustainable fishing regulations are implemented through no-take zones and license-based MA programs that employ total allowable catch (TAC) quotas.
Output 2	The combination of increased stewardship among fishers and improved enforcement efforts have led to reduced illegal, unreported and unregulated fishing over the life of the project, as documented through the use of the Spatial Monitoring and Reporting Tool (SMART).
Output 3	Benefits of no-take zones and MA programs on coral reef ecosystems and resource-based livelihoods are better understood, strengthening adaptive management and community support.

Output 4	With the widespread support of fishing communities and the general public, new or expanded no-take zones are established in Belize's network of marine reserves.
-----------------	--

Measuring outputs

Provide detail of what you will measure to assess your progress towards achieving these outputs. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure each output – if you have more than 3 indicators please just insert a row(s).

Output 1	
For GRMR and SWCMR, sustainable fishing regulations are implemented through no-take zones and license-based MA programs that employ total allowable catch (TAC) quotas	
Indicator 1	The number of annually-issued MA licenses for GRMR remains stable at the current rate of about 130/year.
Indicator 2	At least 95% of MA licensed fishers in GRMR are completing and submitting their catch logbooks each year.
Indicator 3	At SWCMR, where licenses have not been issued yet, the number issued annually will decrease by at least 5% between year 1 and year 3.
Indicator 4	The annual catch of lobster and conch for each reserve remain within the level required by their respective TACs.
Indicator 5	Participation at MA Committee Meetings and Annual Fisher Forums is at least 70% of licensed fishers, demonstrating active interest and participation in the program.

Output 2	
Spatial Monitoring and Reporting Tool (SMART) is implemented in order to improve targeted enforcement efforts aimed at reducing illegal, unreported, and unregulated fishing.	
Indicator 1	By end of year 1, 100% of patrols at GRMR and SWCMR by the Fisheries Department are carried out using Spatial Monitoring and Reporting Tool (SMART).
Indicator 2	Infraction rate in GRMR declines from 4% to 3% by the end of the project.
Indicator 3	Infraction rate in SWCMR declines from 5% to 3% by the end of the project.
Indicator 4	Maps produced on patrol activity, fishing activity, and hotspots of illegal activity.

Output 3	
Benefits of no-take zones and MA programs on coral reef ecosystems and resource-based livelihoods are better understood, strengthening adaptive management and community support.	
Indicator 1	Reports on trends in CPUE and fisher income produced annually and distributed at Annual Fisher Forums at GRMR and SWCMR, demonstrating benefits to community members.
Indicator 2	Each year, results of logbooks and independent sample datasets are analysed and used for new TAC models, allowing for us to adaptively manage the regulations.
Indicator 3	Two peer-reviewed scientific papers on the lobster and conch depletion models and performance of the no-take area of GRMR will be submitted for publication by the end of year three.

Output 4	
With the widespread support of fishing communities and the general public, new or expanded no-take zones are established in Belize's network of marine reserves.	
Indicator 1	No-take zones and their benefits are supported by at least 50% of survey respondents.
Indicator 2	Fifteen meetings of National Replenishment Zones Expansion Project Steering Committee are coordinated and held.
Indicator 3	Statutory instruments designating at least 7% of territorial sea as no-take zones are passed by the end of the project (with the ultimate goal of 10% by the end of 2018).

Verifying outputs

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Output 1	
Indicator 1.1	Record of licenses issued at GRMR
Indicator 1.2	Logbook catch database and analysis reports
Indicator 1.3	Record of licenses issued at SWCMR
Indicator 1.4	Logbook analysis reports; scientific publications and technical reports detailing development of TACs
Indicator 1.5	Minutes of meetings of National MA Working Group and MA committees; reports of Annual Fishers Forums including list of participants and presentations
Output 2	
Indicator 2.1	Surveillance and enforcement (SMART) reports describing patrol activities and results
Indicator 2.2	GRMR annual reports
Indicator 2.3	SWCMR annual reports
Indicator 2.4	Reports which include maps produced
Output 3	
Indicator 3.1	Annual reports on CPUE and fisher income
Indicator 3.2	Reports on catch data and independent data analysis
Indicator 3.3	Scientific article manuscripts
Output 4	
Indicator 4.1	Survey results
Indicator 4.2	Minutes of meetings of the Steering Committee
Indicator 4.3	Government gazette with statutory instruments

Output risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the achievement of your outputs. It is important at this stage to ensure that these assumptions can be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	The Fisheries Department continues to share data on licenses issued, the catch logbooks and on enforcement.
Assumption 2	The Managed Access program remains a central policy of the Fisheries Department and its expansion to additional areas proceeds as planned.
Assumption 3	The Fisheries Department implements and enforces a total allowable catch for the lobster and conch fisheries.
Assumption 4	The Ministry of Fisheries and fishers support the expansion of the no-take, or replenishment areas to meet the target of 10% of the territorial sea.

Activities

Define the tasks to be undertaken by the research team to produce the outputs. Activities should be designed in a way that their completion should be sufficient and indicators should not be necessary. Risks and assumptions should also be taken into account during project design.

Output 1	
For GRMR and SWCMR, sustainable fishing regulations are implemented through no-take zones and license-based MA programs that employ total allowable catch (TAC) quotas.	
Activity 1.1	Assist authorities with data collection and analysis for development of TAC for conch and lobster for SWCMR.
Activity 1.2	Monitor trends in number of MA licenses issued annually at GRMR and SWCMR to understand how licensing criteria impact the number of fishers in each reserve.
Activity 1.3	Assist the Fisheries Department with entering catch data from fishers and monitor total catch per reserve, evaluating against established TACs.
Activity 1.4	Collect independent sample of catch data monthly in both reserves to serve as benchmark for quality control, allowing for the evaluation of the accuracy of fisher logbook data.
Activity 1.5	Conduct regular meetings of the MA Committees and Annual Fisher Forums to ensure that fishers are kept up-to-date on program progress and have an opportunity to discuss their concerns.

Output 2	
Spatial Monitoring and Reporting Tool (SMART) is implemented in order to improve targeted enforcement efforts aimed at reducing Illegal, unreported, and unregulated fishing.	
Activity 2.1	Train Fisheries Department and NGO personnel who help co-manage marine reserves in the use of SMART software and procedures, including use of the new applet for tablet use, in order to record and track enforcement effort and illegal activities.
Activity 2.2	Collaborate with reserve enforcement staff in developing SMART reports to determine infraction rates.
Activity 2.3	Use SMART results to identify types and hotspots of illegal activity in order to design more effective and efficient patrols that reduce distance travel and fuel used.
Activity 2.4	Use SMART to map fishing activity throughout the reserves in order to better understand fishing patterns.
Activity 2.5	Convene workshop to review implementation of national SMART rollout and conduct training in analysis of data.

Output 3	
Benefits of no-take zones and MA programs on coral reef ecosystems and resource-based livelihoods are better understood, strengthening adaptive management and community support.	
Activity 3.1	Analyse both logbook and independent sample datasets for conch and lobster, including mean size, population structure, and CPUE, and use results to update TAC models each season.
Activity 3.2	Using well-established protocols, monitor and report on a suite of coral reef ecosystem health indicators (including several focusing on critical herbivores like parrotfish).
Activity 3.3	Conduct annual socioeconomic surveys of MA licensed fishers in collaboration with the Fisheries Department.
Activity 3.4	Monitor perceptions among fishers of the necessity and effectiveness of enforcement program.
Activity 3.5	In collaboration with partners, prepare and disseminate information on results with participating fishers in order to foster dialogue and continued support.

Output 4	
With the widespread support of fishing communities and the general public, new or expanded no-take zones are established in Belize's network of marine reserves.	
Activity 4.1	Conduct national survey to evaluate level of understanding and support for no-take areas and their benefits.
Activity 4.2	Facilitate regular bi-monthly meetings of the Steering Committee for the National Replenishment Zones Expansion program, and its associated Technical and Communications Sub Committees.
Activity 4.3	Conduct quarterly meetings of the Reserve Advisory Committees and discuss potential new expanded zones (proposed by WCS and TNC) with stakeholders at these forums.
Activity 4.4	Develop outreach material in coordination with TNC and the Fisheries Department to inform stakeholders of the biodiversity and fisheries benefits of no-take areas that incorporate results from GRMR analyses.

26. 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.

Activity	No of Months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1 <i>For GRMR and SWCMR, sustainable fishing regulations are implemented through no-take zones and license-based MA programs that employ total allowable catch (TAC) quotas.</i>													
1.1 Assist authorities with data collection and analysis for development of TAC for conch and lobster for SWCMR.	36												
1.2 Monitor trends in number of MA licenses issued annually at GRMR and SWCMR to understand how licensing criteria impact the number of fishers in each reserve.	3												
1.3 Assist the Fisheries Department with entering catch data from fishers and monitor total catch per reserve, evaluating against established TACs.	12												
1.4 Collect independent sample of catch data monthly in both reserves to serve as benchmark for quality control, allowing us to evaluate the accuracy of fisher logbook data.	36												
1.5 Conduct regular meetings of the MA Committees and Annual Fisher Forums to ensure that fishers are kept-up-to-date on program progress and have an opportunity to discuss their concerns.	12												
Output 2 <i>Spatial Monitoring and Reporting Tool (SMART) is implemented in order to improve targeted enforcement efforts aimed at reducing illegal, unreported, and unregulated fishing.</i>													
2.1 Train Fisheries Department and NGO personnel who help co-manage marine reserves in the use of SMART software and procedures, including use of the new applet for tablet use, in order to record and track enforcement effort and illegal activities.	3												
2.2 Collaborate with reserve enforcement staff in developing SMART reports to determine infraction rates.	3												
2.3 Use SMART results to identify types and hotspots of illegal activity in order to design more effective and efficient patrols that reduce distance travel and fuel used.	8												
2.4 Use SMART to map fishing activity throughout the reserves in	6												

	order to better understand fishing patterns.												
2.5	Convene workshop to review implementation of national SMART rollout and conduct training in analysis of data.	4											
Output 3	<i>Benefits of no-take zones and MA programs on coral reef ecosystems and resource-based livelihoods are better understood, strengthening adaptive management and community support.</i>												
3.1	Analyse both logbook and independent sample datasets for conch and lobster, including mean size, population structure, and CPUE, and use results to update TAC models each season.	24											
3.2	Using well-established protocols, monitor and report on a suite of coral reef ecosystem health indicators (including several focusing on critical herbivores like parrotfish).	27											
3.3	Conduct annual socioeconomic surveys of MA licensed fishers in collaboration with the Fisheries Department.	9											
3.4	Monitor perceptions among fishers of the necessity and effectiveness of enforcement program.												
3.5	In collaboration with partners, prepare and disseminate information on results with participating fishers in order to foster dialogue and continued support.	9											
Output 4	<i>New and expanded no-take zones in Belize's network of marine reserves are designated through statutory instruments and approved by relevant stakeholders.</i>												
4.1	Conduct national survey to evaluate level of understanding and support for no-take areas and their benefits.	6											
4.2	Facilitate regular bi-monthly meetings of the Steering Committee for the National Replenishment Zones Expansion program, and its associated Technical and Communications Sub Committees.	12											
4.3	Conduct quarterly meetings of the Reserve Advisory Committees and discuss potential new expanded zones (proposed by WCS and TNC) with stakeholders at these forums.	12											
4.4	Develop outreach material in coordination with TNC and the Fisheries Department to inform stakeholders of the biodiversity and fisheries benefits of no-take areas that incorporate results from GRMR analyses.	12											

27. Project based monitoring and evaluation (M&E)

Describe, referring to the Indicators above, how the progress of the project will be monitored and evaluated, making reference to who is responsible for the projects M&E. Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

(Max 500 words)

To track progress of activities, the Belize Country Program Director, Janet Gibson, will hold weekly meetings with staff leading ecological monitoring work (WCS's Conservation Scientist), MA and enforcement work, (WCS's Community Fisheries Coordinator), and no-take expansion work (WCS's Project Coordinator for the National Replenishment Zones Expansion Project). Frequent meetings will ensure that up-to-date information is received and necessary adaptive measures can be made immediately. Field monitoring activities will be carried out by qualified staff led by our Conservation Scientist in collaboration with the Fisheries Department's marine reserve staff. Information will be collected as follows:

Outcome Indicators 1, 5; Output Indicators 1.1-1.4, 3.2: The Fisheries Department will report to project partners on the number of licenses issued annually to fishers in GRMR and SWCMR. We will use information from catch data sheets provided by fishers at both reserves, submitted monthly, to track changes in catch-per-unit-effort (CPUE) over time. This data will be validated by monthly independent sampling by WCS. Through our tracking of logbook data submissions, we will also compute the percent of fishers reporting and total catch, which will be reported by the Fisheries Department as part of regular reporting to MA Committees. This data will be used to ensure that catches remain within established TACs. As more data becomes available, TACs may need to be adjusted by refining depletion models.

Outcome Indicator 2: We will use our WCS fishery-independent monitoring method, the Long-term Atoll Monitoring Protocol (LAMP), to track and report on reef ecosystem health at GRMR and SWCMR over time. This rigorous protocol outlines methods of measuring density of conch, lobster, parrotfish, and black sea urchins, and also coral and macro-algal cover.

Output Indicators 2.1-2.4: For enforcement activities, WCS will monitor and evaluate results using reports generated through SMART. Based on these results, enforcement efforts will be adapted to improve efficiency, success, and cost-effectiveness (e.g. by redesigning patrol routes).

Outcome Indicator 3: Working with Belize's Fisheries Department, annual socioeconomic surveys of the MA licensed fishers will be conducted to track trends in fisher support for project activities, household characteristics, and quality-of-life indicators (e.g. access to running water, electricity, refrigeration, education, etc.). In addition, WCS will use catch data to track and report on average fisher income.

Output Indicator 3.3: All of our fishery-dependent and independent data will be stored in comprehensive databases and will be analysed and submitted for publication by the end of year 3.

Outcome Indicator 4; Output 1.5, 3.1, 4.2-4.3: During Annual Fisher Forums, MA Committee Meetings, National Replenishment Zones Expansion Project Steering Committee meetings, attendance will be taken and minutes will be recorded in order to track topics discussed, materials distributed, and decisions made.

Output Indicator 4.1: A survey evaluating respondents' knowledge, attitude, and behavior regarding replenishment zones will be conducted in four target fishing communities. It will be administered by trained persons and compiled and evaluated by an independent consultant who is an expert in behavioral change communications. Variables that will be considered include fisher versus non-fisher, and geographic location.

FUNDING AND BUDGET

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.

28. Cost Effectiveness

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.

(max 300 words)

WCS has been operating in Belize for more than three decades, allowing us to develop strong partnerships and a thorough understanding of the most cost-effective approach to carrying out activities. This extensive prior experience guided us as we drafted the budget and has allowed for cost-effectiveness in the following ways:

This project will build on our existing operational framework, infrastructure and equipment, leading to the most efficient use of resources. For instance, our monitoring field work at GRMR will use the WCS research station at Glover's Reef as our base of operations. Field equipment such as boats, diving equipment, underwater cameras, safety and navigational tools have already been purchased using other funds. Other routine equipment such as computers, data loggers and water quality monitoring equipment are also provided. Partners will bring additional equipment and human resources to the project. For example, the Fisheries Department will be using their own boats and staff to conduct SMART patrolling activities that will be critical to the project's success. In addition to the operational framework, other project components have already been developed, including monitoring protocols, database structure and protection, data collection sheets and survey instruments.

WCS and partners are well-placed to help facilitate the large scale rollout of the fisheries management strategies proposed in this project. We are already working with the government in many ways and participate in activities of the NRZE Steering Committee, MA Working Group, MA Committees and reserve advisory committees.

Finally, we will be contributing a relatively large amount of matching funds compared to overall project costs, which will be used to cover various communications activities related to this project. As will be demonstrated through the project audit, WCS will ensure that this project delivers value for money, utilizing practical cost management tools to control costs throughout the project's lifetime.

FCO NOTIFICATIONS

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

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) **Yes, advice attached** **No**

CERTIFICATION

On behalf of the trustees/company* of Wildlife Conservation Society (WCS)
(*delete as appropriate)

I apply for a grant of £273,150 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 applicant institution to submit applications and sign contracts on their behalf.)

- I enclose CVs for project principals and letters of support.
- Our most recent signed audited/independently verified accounts and annual report are also enclosed/can be found at:

2014 Audit:

<http://www.wcs.org/about-us/~media/Files/pdfs/Audited%20Financial%20Statements%202014%20WCS.pdf>

2013 Audit:

http://www.wcs.org/about-us/~media/Files/pdfs/F_180473_13_Unsecured_WildlifeConservationSociety_Subsidiaries_CF_SS.pdf

2013 Annual Report:

<http://www.wcs.org/files/pdfs/2013-WCS-Annual-Report.pdf>

2012 Annual Report:

<http://www.wcs.org/files/pdfs/2012-WCS-Annual-Report.pdf>

Name (block capitals)	JOE WALSTON
Position in the organisation	Vice President for Field Conservation; Global Conservation Program

Signed



Date:

11/24/14

Stage 2 Application - Checklist for submission

	Check
Have you read the Guidance Notes ?	X
Have you provided actual start and end dates for your project?	X
Have you indicated whether you are applying for DFID or Defra funding. NB: you cannot apply for both	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 identified at Question 7?	X
Have you included a letter of support from the main partner(s) organisations identified at Question 10?	X
Have you been in contact with the FCO in the project country/ies and have you included any evidence of this?	n/a
Have you included a signed 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 checked the Darwin 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 on Monday 1 December 2014 to Darwin-Applications@ltsi.co.uk using the application number (from your Stage 1 feedback letter) and 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 (eg 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 the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative 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 (ie name, contact details and location of project work) on the Darwin Initiative and Defra 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 Foreign and Commonwealth Office posts outside the United Kingdom, 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.