

DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES: APPLICATION FOR GRANT FOR ROUND 10 COMPETITION

Please read the accompanying Guidance Note before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Applicants are asked not to use the form supplied to cross-refer to information in separate documents except where this is invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate sheet if necessary. Copies of this form are available on disk or by e-mail on request. You are asked also to complete the summary sheet. Although you may reproduce this sheet in a reasonable font, you should not expand it beyond an A4 sheet (leaving the allocated space for DEFRA comments to be made) as additional information will not be taken into account.

1. Name and address of organisation

Coral Cay Conservation (CCC). 13th Floor, The Tower, 125 High Street, Colliers Wood, London, SW19 2JG

2. Principals in project

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Harborne		Brady
Forename(s)	Alastair Richard		Irma
Post held	Marine Science Co-ordinator		Director
Institution (if different to above)			Bay Islands Conservation Association
Department	Science		
Telephone			
Fax			
Email			

Please provide a one page CV for each of these named individuals.

3. Project title (not exceeding 10 words)

Regeneration rates of coral communities in Roatán, Honduras.

4. Abstract of study (in no more than 750 characters)

The biodiverse reefs of Roatán (Honduras) are vital to the economy of the island and there are increasing efforts to improve their management. However, many key parameters are still unknown, including the spatio-temporal pattern of coral recruitment and hence reef regeneration. Such regeneration is vital since Roatán has been affected by a range of factors (e.g. pollution, Hurricane Mitch and coral bleaching). This project aims to provide this knowledge by studying both the currents that distribute entrained larvae and their settlement rates at two sites around the island. Such data will assist the siting of marine reserves, improve zoning schemes of existing reserves and provide information on coral population dynamics. The project will use simple techniques and involve training that will facilitate continuation of recruitment monitoring by Honduran partners.

5. Timing. Give the proposed starting date and duration of the project.

April 2002 for 2 years.

6. Describe briefly the aims, activities and achievements of your organisation. (Please note that this should describe your unit, institute or department within a university.)

Aims

To provide resources to help sustain and alleviate poverty through the protection, restoration and management of coral reefs and tropical forests.

Activities

- (i) Provision of human and financial support to tropical developing countries for the acquisition, assimilation and synthesis of data from the coastal zone for the purposes of environmental monitoring and production of integrated coastal zone management plans for biodiversity conservation;
- (ii) Strengthening of human resources and institutional capacity to permit the activities at (i) to be performed independently;
- (iii) Provision of education, training and alternative livelihood opportunities for local communities, non-governmental organisations and government.

Achievements

Since the establishment of CCC in 1986 the organisation has played a major role in the following activities:

- (i) Provision of scientific data for the designation of eight marine reserves and a World Heritage Site in Belize and the Philippines, and production of the South Water Cay Marine Reserve Management Plan (Belize);
- (ii) On-going technical assistance to host-country partners in Honduras, the Philippines and Fiji (marine and terrestrial);
- (iii) Improvement of environmental awareness amongst local communities via e.g. distribution of educational materials;
- (iv) Development of host-country human resources and the creation of employment and alternative career opportunities;
- (v) Recipients of a series of awards from e.g. CMAS, British Airways and Worldaware;
- (vi) Publication of a series of scientific papers and reports and involvement with a variety of media productions.

7. Has your organisation received funding under the Initiative before? If so, please give details.

YES: £186,500 funding awarded to CCC under the first round of Darwin Initiative funding for the initial surveys of habitats in the southern region of Turneffe Atoll. Resulted in education, management recommendations and construction of a research centre

8. Which overseas institutions, if any, will be involved in the project? Please explain the responsibilities of these institutions.

- (i) The Bay Islands Conservation Association (BICA) is a key NGO in the Bay Islands. BICA - Roatán is, for example, responsible for management of the Sandy Bay - West End Marine Reserve, which is one of the study sites for this project. CCC and BICA are currently developing a Memorandum of Understanding relating to technical assistance in the Sandy Bay - West End Marine Reserve and the research documented here represents an additional component to this work. Within the proposed research, BICA will provide some staff for training and will use the results to assist with management of the reserve. CCC will also use the local knowledge of BICA to arrange stakeholder meetings for dissemination of results.
- (ii) CCC has an excellent working relationship with the Universidad Nacional Autonoma de Honduras (UNAH; National University of Honduras) and UNAH students will be trained as part of the project. UNAH will also receive the research findings and management implications.
- (iii) Research findings and implications will be disseminated to the local communities close to both study sites.
- (iv). Research findings and implications will be disseminated to the Cooperación Hondureña de Desarrollo Forestal (COHDEFOR; Forestry Department) who are the government department responsible for marine reserves.

PROJECT DETAILS

9. Define the purpose (main objective) of the project in line with the logical framework.

The objective of this project is to study the replenishment and regeneration of coral communities on the reefs of Roatán and provide training that will facilitate the project to be continued by Hondurans on its conclusion. The research objective requires the collection of three main data sets: (1) current flow around Roatán to assess patterns of larval movement; (2) observation of coral spawning patterns and (3) rates of recruitment of juvenile corals and their survival rate. There is very little data currently available in Honduras for these variables but they are a key component of modern marine reserve design. Data will be collected from two areas, namely the Sandy Bay - West End Marine Reserve (western Roatán) and the south-eastern coast of Roatán. This sampling design will allow analysis of spatial trends around the island, the efficacy of the Sandy Bay - West End Marine Reserve and provide data to improve the design of existing and future marine reserves. Although much of this research will be undertaken and co-ordinated by CCC's Project Scientist (who will have a post-graduate qualification) the associated volunteer programme will be utilised to collect samples in order to provide an extensive data set. In addition to management recommendations, this study will also generate new information on the natural history of many coral species in Honduras. Finally, the project will be important regionally as Honduras is inextricably linked with the rest of the Meso-American Barrier Reef System.

10. Is this a new project or the continuation of an existing one?

This is a new, additional component that will add significant value to a larger project that is currently running and will soon be expanded.

11. What is the evidence for a demand or need for the work? How is the project related to conservation priorities in the host country(ies)? How would the project assist the host country with its obligations under the Biodiversity Convention?

How was the work identified?

CCC has been providing technical assistance on coastal zone management to a variety of Honduran stakeholders since 1999 (Harborne et al., In press). This work has identified a clear desire to expand the existing network of marine reserves and increase their efficacy. Research elsewhere shows that coral recruitment is a key consideration for designing optimal marine reserves but such specific research projects are not possible within CCC's existing project without additional funding.

Harborne, A.R. et al. In press. Beyond data: The expanding role of a volunteer programme assisting resource assessment and management in the Bay Islands, Honduras. Proceedings of the 9th International Coral Reef Symposium.

How is the project related to conservation priorities in the host country?

Coral reefs are a priority for conservation in Honduras (Harborne et al., In press). This has been shown by existing legislation and the recent establishment of major conservation projects, particularly the 'Bay Islands Environmental Management Project' (Programa Manejo Ambiental de las Islas de la Bahía; PMAIB). Furthermore, Honduras signed the Tulum Declaration in 1997, and hence agreed with Mexico, Belize and Guatemala to work towards regional conservation of the Mesoamerican Barrier Reef System.

The need for coastal zone management and sustainable development in Honduras has also been well documented and recognised internationally. For example, a recent review listed the Bay Islands as a high priority for conservation action.

Harborne, A.R., D.C. Afzal and M.J. Andrews. In press. Honduras: Caribbean coast. Marine Pollution Bulletin.

How will the project assist the host country meet its obligations under the Biodiversity Convention?

Honduras signed the Convention on Biological Diversity (CBD) on 13/6/1992 and ratified it on 31/7/1995. This project provides data on coral reefs, which are known to be one of the world's most biodiverse ecosystems and hence their conservation is a vital part of Honduras' desire to meet the objectives of the CBD. One of these objectives is to achieve conservation and sustainable use of biological diversity and marine reserves are widely regarded as a key management tool for the maintaining biodiversity of coral reefs (e.g. Roberts and Hawkins, 2000). This project will provide vital data for improving existing marine reserves and assisting the optimal design of new reserves. Note that all research and analysis will be carried out in Honduras and hence no material will be taken out of the country.

Roberts C.M. and J.P. Hawkins. 2000. Fully protected marine reserves: A guide. WWF Endangered Seas Campaign.

12. In what ways can this project be considered a Darwin project? How does the project relate to the Darwin principles? How would the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

This project can be considered a Darwin project because:

(i) Honduras has extensive coral reefs, which are one of the world's most biodiverse systems. The country's coral reefs are also vital economically to local communities and their degradation will lead to increased poverty. However, capacity for conservation of marine resources is extremely limited and can be significantly assisted by British expertise.

(ii) The project builds on strong, existing collaborative links between CCC and its partner organisations in Honduras.

(iii) The research will provide data to assist the establishment and improvement of existing and future marine reserves that will have a direct impact on coral reef conservation.

(iv) The project has significant added value via the volunteer-based programme that has already been established. Hence the project will be extremely cost effective. CCC's work in Honduras has also shown a clear need for the research.

(v) The project will increase the capacity of BICA - Roatán to manage the Sandy Bay - West End Marine Reserve and provide novel training opportunities.

(vi) The research will elucidate an important ecological process in the Bay Islands and improve the knowledge of the natural history of coral species in Honduras.

(vii) The work will provide a baseline data set for analysing future changes in reproductive success.

(viii) The project will improve the understanding of important reef processes by local stakeholders.

Darwin Initiative support would be acknowledged in all scientific reports and publications and any associated media exposure. The Initiative's name and logo would be prominently displayed on project stationary, education materials, monthly and quarterly newsletters, press releases, advertisements and other relevant material.

13. Set out the proposed timetable for the work, including the programme's measurable outputs using the attached list of output measures.

PROJECT OUTPUTS		
Year/Month (starting April)	Output Number (see standard output measures)	Description (include numbers of people involved, numbers of publications printed or produced and days/weeks where applicable)
April 2002 - June 2002	7, 8, 10	Project planning by Project Leader and Project Scientist (2 weeks and 8 weeks respectively). Finalisation of sampling strategy and field techniques. Synthesis of existing literature to produce project identification guide for juvenile corals. Production of training materials for Honduran counter-parts (leaflet and poster).
July 2002 - December 2003	8, 12A, 13A	Data collection around Roatán. Co-ordinated by Project Leader (8 weeks) but implemented by Project Scientist (18 months). Establishment of project database and reference collection of juvenile corals.
July 2002 - December 2003	4A, 4B, 6A, 6B, 8	Training of Honduran counter-parts by Project Scientist (4 weeks). 3 biannual, 1 week training courses (followed by fieldwork) in project field techniques for up to 5 BICA staff and 5 UNAH undergraduates.
July 2003	8, 14A, 16A	Review workshop / newsletter. Organised by Project Scientist (1 week).
January 2004 - February 2004	4A, 6A, 8, 9	Data analysis, production of report and resulting action plans by Project Scientist and Leader (12 weeks each). Training for 2 Hondurans.
March 2004	8, 11B, 14A, 15A, 15B, 15C, 16A	Results dissemination at stakeholder workshop. Organised by Project Scientist and Project Leader (4 weeks each) and including press releases, and project newsletter. Submission of paper to peer reviewed journal.
March 2004	20, 22	Handing over of project equipment (approximately £5000) and management of 2 field sites.
April 2002 - March 2004	23	In kind support from BICA and UNAH via the provision of students and staff for training.

Key Milestones	
Year/Month (starting April)	Description (include travel dates, drafts and other processes that support the delivery of outputs)
April 2002	Appointment of first Project Scientist (tenure until December 2002).
May 2002	Draft training materials, juvenile coral field guide and detailed sampling strategy and development of project database. Translation of materials into Spanish.
June 2002	Project Leader and Project Scientist travel to Roatán.
July 2002	Placement of field equipment (e.g. settlement plates for coral and alabaster blocks for current flow).
August 2002	Discussion of content of biannual training course.
August 2002 - August 2003	Invitation of BICA and UNAH students to training courses.
January 2003	Appointment of second Project Scientist (tenure until September 2003). Travel to Roatán.
May 2003	Invitation of key stakeholders to project review workshop. Translation of workshop materials into Spanish.
September 2003	Appointment of third Project Scientist (tenure until April 2004). Travel to Roatán.
December 2003	Identification of Honduran counter-parts to be trained during the period of data analysis, report writing and preparation of action plans.
January 2004	Project Leader travels to Roatán.
February 2004	Invitation of key stakeholders to project results workshop.
March 2004	Translation of dissemination materials into Spanish.

14. Do you know of any other individual/organisation carrying out similar work? Give the details of the work, explaining the similarities and differences.

There are no other organisations carrying out similar work in Honduras.

15. Will the project include training and development? Please indicate how many trainees will be involved, from which countries and what will be the criteria for selection. How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length of any training course.

Training Activity	Dates	Who will participate, how many will participate and for how long?
An introduction to the collection of field data.	September 2002, April 2003, September 2003.	Each of these three, 1 week training courses will be available to up to 5 BICA staff and 5 UNAH students (selected by BICA and UNAH). Students will require some biological training. The training course will be followed by a minimum of one week's fieldwork.
An introduction to the collection of field data.	July 2002 - December 2003	Each month, approximately 16 CCC volunteers will be introduced to the project fieldwork so that they can provide the necessary additional manpower to collect the requisite number of samples.
Preparation of project results	February 2004	Following the completion of the fieldwork phase, 2 Hondurans, drawn from the best students on the 1 week training courses, will receive training from the Project Leader / Project Scientist in data analysis / report writing / preparation of action plans.

16. How will trainee outcomes/destinations be monitored after the end of the training?

The quality of the training received by both Honduran counter-parts and CCC volunteers will be monitored by the quality of the data collected during subsequent fieldwork. The Project Scientist will be responsible for ensuring that data standards are maintained. All Honduran students undertaking the 1 week data collection training course will be invited to return to the field whenever possible to assist with further data collection. A key aim of this project will also be to ensure that some of the students continue to measure core parameters after March 2004 and hence the volume and quality of data collected after this date will monitor training efficacy. Similarly, the quality of project outputs after March 2004 will monitor the quality of training provided in result analysis and report preparation.

17. How is the work of the project expected to continue after the end of grant period? A clear exit strategy must be included.

This project will generate, on its completion, discrete management recommendations that will effectively improve the quality of the marine protected areas in Roatán. However, the importance of the project database will be improved by additional fieldwork after March 2004. Further data collection will be ensured by:

- (i) Provision of suitable training opportunities during the project to Honduran counter-parts.
- (ii) Provision of materials that can be used to train new counter-parts.
- (iii) Use of cheap sampling materials (e.g. larval settlement plates). Expensive capital items will be donated to in-country partners at the end of the project.
- (iv) The continued presence of CCC's volunteer programme which will provide logistical support for additional fieldwork.

MONITORING AND EVALUATION

18. Describe how progress on the project would be monitored and evaluated in terms of achieving its aims and objectives, both during the lifetime of the project and at its conclusion. How would you ensure that it achieves value for money? What arrangements will be made for disseminating results? If applicable, how would you seek the views of clients/customers?

The project will be monitored and evaluated through regular submission of reports and accounts to the Darwin Initiative, collaborating organisation and independent assessors within the host country and abroad, through regular meetings with representatives from government, local communities and stakeholders and through publication of scientific papers in refereed primary journals. Primary indicators of achievement will include the improvement of scientific knowledge about coral regeneration within the project area, creation of a coral larval recruitment and current database for Roatán, increased knowledge of the natural history of coral species, the adoption and implementation of policies prescribed within the action plans, improvement in environmental awareness and technological ability amongst Hondurans.

The project is assured of achieving value for money through the significant element of co-funding from CCC and in-country support from the existing volunteer-based programme. CCC project will continue the fiscal, managerial and operational policies that have been successfully employed in current and previous projects. Long-term value will be generated by the provision of suitable training opportunities and infra-structural support within the host country.

The results of the project will be disseminated primarily through the stakeholder workshops during, and at the end of, the fieldwork phase. Results will also be disseminated via reports, published papers, media coverage, a project newsletter, the World Wide Web and presentations at international scientific meetings and conferences. The views of personnel who have recently participated on CCC projects are routinely sought through the issue of questionnaires and this information will be used to assess international public opinion concerning the project.

Logical framework. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note.

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal</p> <p><i>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</i></p>		<p>(i) Improved legislation for management of new and existing reserves.</p> <p>(ii) Long-term increases in reef health and maintenance of biodiversity within study sites.</p>	<p>(i) National and political will to improve and expand the network of marine reserves is still present.</p> <p>(ii) Honduras remains a safe location to be based.</p>
<p>Purpose</p> <p>Using techniques that can be continued after the project, provide a clear understanding of the spatio-temporal patterns of coral recruitment at 2 study sites around Roatán in order to improve the understanding, regeneration and management of biodiverse reefal resources via the optimal design of marine protected areas.</p>	<p>(i) Increased understanding of local stakeholders of the importance of coral recruitment processes.</p> <p>(ii) Number of trained Hondurans continuing survey work.</p> <p>(iii) Incorporation of action plan into marine reserve management e.g. changes to existing zoning schemes.</p>	<p>(i) Acceptance of project results by local stakeholders.</p> <p>(ii) Amount of raw data and subsequent reports produced after the project conclusion.</p> <p>(iii) Findings from project incorporated into new or existing marine reserve management plans.</p>	<p>(i) Typical ecological processes (e.g. coral spawning behaviour) are present during fieldwork.</p> <p>(ii) Anthropogenic influences on the project sites do not increase dramatically.</p> <p>(iii) Trained students are willing to continue work after March 2004.</p>
<p>Outputs</p> <p>(i) Project training materials and field guides.</p> <p>(ii) Database and reference collection.</p> <p>(iii) Trained Hondurans to continue work.</p> <p>(iv) Project review and results dissemination.</p> <p>(v) Action plan to incorporate results into new and existing reserves.</p>	<p>(i) Deliverance of training materials to Roatán prior to the start of fieldwork.</p> <p>(ii) Database and reference collection within Honduras.</p> <p>(iii) Number of trained Hondurans.</p> <p>(iv) Provision of results and action plan to local stakeholders.</p>	<p>(i) Number of training materials available in Honduras.</p> <p>(ii) Number of data points and specimens within database and reference collection respectively.</p> <p>(iii) Training course reports.</p> <p>(iv) Project reports and action plans, workshop minutes and scientific papers.</p>	<p>(i) Results are accepted by local stakeholders.</p> <p>(ii) Action plan is accepted by local stakeholders.</p>
<p>Activities</p> <p>(i) Collection of data on coral spawning, larval settlement and survival rates and current flows.</p> <p>(ii) Data analysis / documentation of results.</p> <p>(iii) Provision of training opportunities.</p> <p>(iv) Organisation of stakeholder workshops.</p>	<p>(i) Number of raw data sheets.</p> <p>(ii) Improved understanding of coral recruitment around Roatán.</p> <p>(iii) Documentation relating to the content of training courses.</p> <p>(iv) Documentation relating to the content of stakeholder workshops.</p>	<p>(i) Survey log book listing number of survey dives.</p> <p>(ii) Number of technical reports and scientific papers.</p> <p>(iii) Number of applicants and accepted students onto training courses.</p> <p>(iv) Number of participants at stakeholder workshops.</p>	<p>(i) Typical environmental conditions present during fieldwork.</p> <p>(ii) Local stakeholders are interest and available for workshops.</p> <p>(iii) Suitable BICA and UNAH representatives are available for training.</p>

FINANCIAL ASPECTS

20. Please state gross expenditure on the programme of work. Please work by financial year (defined as April to March) using 2001/2002 prices throughout - do not include any allowance for assumed future inflation. Indicate salary costs on Table A and total costs on Table B. For programmes of less than 3 years' duration, enter 'nil' as appropriate for future years. It would be helpful to highlight (by bold, italics or underlining) the areas for which Darwin funding is requested. Show Darwin funded items separately; do not include with other funding

Table A Salary costs

	2002/2003 (£)	2003/2004 (£)	2004/2005 (£)
List each member of the team and their role in the project			
a) UK			
Project Leader			
Project Scientist (3 will appointed over the course of the project).			
b) collaborators			
Show the % of time each person would spend on this work			
Project Leader			
Project Scientist			
Total cost of salaries			

Table B Other costs (Please highlight or underline the areas for which Darwin funding is requested)

	2002/2003	2003/2004	2004/2005
Rents, rates, heating, lighting, cleaning or overheads			
Office costs eg. postage, telephone and stationery			
Travel and subsistence			
Printing			
Conferences, seminars etc			
Capital items/equipment (please specify)			
Other (please specify)			
Sub-total			
Cost of salaries (from previous table)			
Total of spend*			

* Grants may be limited to a percentage of the total cost of the project. The Department will look for balancing income from non-public sources (eg. private sector funding, subscriptions, donations, fees).

21. How is your organisation currently funded?

CCC is almost exclusively funded by contributions from volunteers participating on expeditions.

22. Please give details of resources you have sought from the host country partner institution(s) for this project. Include donations in kind eg. accommodation with these costed where possible. Indicate any income or donations which are confirmed.

CCC's modus operandi is to provide technical assistance to host country partners and never ask for direct compensation. In line with this principal, no resources will be requested from BICA or UNAH. However, both these institutions will select and supply staff / students for training and fieldwork. Their expertise will also be used to assist the planning and implementation of the stakeholder workshops. BICA will also facilitate payment of a lower 'reef tax' for CCC volunteers and Honduran counter-parts to dive within the Sandy Bay - West End Marine Reserve.

23. Please state all other sources of income and amounts to be put towards the costs of the project (including any income from other public bodies, private sponsorship, trusts, fees or trading activity).

This project is a discrete, additional project to CCC's on-going commitment within Honduras. However, the volunteer programme will provide significant in-kind support via for example, provision of boats, diving equipment, training facilities, volunteer manpower, additional data on the status of the reefs at the survey sites and provision of the Project Leader's salary while working on the project. This support will equate to approximately £200,000 per annum.

24. Please deduct any confirmed income or donations from elsewhere (where these may be costed) and indicate in Table C the amounts of grant requested under the Darwin Initiative.

Table C Darwin funding request

	2002/2003	2003/2004	2004/2005
Income to be deducted	18,000	18,000	Nil
Amount of Darwin Initiative funding requested	17,500	13,500	Nil

FCO NOTIFICATION

25. 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

CERTIFICATION

On behalf of the trustees/company (*delete as appropriate*) Coral Cay Conservation

I apply for a grant of £ _____ in respect of expenditure to be incurred in the financial year ending 31 March 2003 on the activities specified in paragraph 13.

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 enclose a copy of the organisation's most recent audited accounts and annual report.

Name (block capitals)	
Position in the organisation	

Signed

Date:

Please return completed form to the Department for Environment, Food and Rural Affairs, 4/A2 Ashdown House, 123 Victoria Street London SW1E 6DE.

Department for Environment, Food and Rural Affairs
August 2001