



# DARWIN INITIATIVE

Project Ref No. 14/051

*In Ivan's Wake: Darwin Initiative BAP for the Cayman Islands*

Annual Report April 2006



**Marine Geospatial Ecology Lab**



**Darwin Initiative**

**Annual Report**

**1. Darwin Project Information**

Project Ref. Number	14-051
Project Title	<i>In Ivan's Wake: Darwin Initiative BAP for the Cayman Islands</i>
Country(ies)	<i>Cayman Islands</i>
UK Contractor	<i>Marine Turtle Research Group, University of Exeter</i>
Partner Organisation(s)	<b><i>In the Cayman Islands:</i></b> <i>Cayman Islands Department of the Environment</i> <i>Office of the Governor of the Cayman Islands</i>  <b><i>In the UK:</i></b> <i>Karen Varnham Invasive Species Consultant</i> <i>Royal Botanic Gardens Kew</i> <i>Royal Society for the Protection of Birds</i> <b><i>In USA:</i></b> <i>Duke University Marine Geospatial Lab</i>  <b><i>Local collaborators in the Cayman Islands</i></b> <i>Department of Agriculture</i> <i>Mosquito Control Unit</i> <i>Bat Conservation Group</i> <i>Blue Iguana Recovery Programme</i> <i>Cayman Wildlife Connection</i> <i>Garden Club</i> <i>Humane Society</i> <i>National Trust for the Cayman Islands</i> <i>QEII Botanic Park</i> <i>Wildlife Rehab Centre</i>
Darwin Grant Value	<i>£178,822</i>
Start/End dates	<i>1<sup>st</sup> October 2005-31<sup>st</sup> March 2008</i>
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number	<i>1<sup>st</sup> October 2005-31<sup>st</sup> March 2006</i> <i>Annual report number 1</i>
Project website	<i><a href="http://www.seaturtle.org/mtrg/projects/cayman/">http://www.seaturtle.org/mtrg/projects/cayman/</a></i>
Author(s), date	<i>Annette Broderick and Brendan Godley</i> <i>20<sup>th</sup> April 2006</i>

## **2. Project Background**

The project is being carried out on the Cayman Islands and has the main aim of generating a sound, government endorsed, implementable **Biodiversity Action Plan (BAP)** for the Cayman Islands following the catastrophic effects of Hurricane Ivan (reef damage, loss of natural vegetation, pollution and loss of infrastructure).

## **3. Project Purpose and Outputs**

The project has several strands as outlined in the bid (see also modified log-frame attached):

### **A. Integrated Scientific Monitoring and Research**

#### ***1. Detailed Satellite Mapping to Underpin Biodiversity Management***

#### ***2. Monitoring and Research of Marine Species***

#### ***3. Monitoring and Research of Terrestrial Species***

### **B. Institutional Capacity Building**

### **C. Raising Environmental Awareness**

### **D. Management Planning**

Neither the outputs or proposed operational plan have been modified substantially over this Darwin reporting year.

## **4. Progress**

We feel that the progress of the project over the **first 6 months of funding** has been excellent. The project has exceeded expectations in terms of outputs for this period (**See Table 1** NB this includes outputs over and above those in the agreed project bid). All milestones have been reached on or ahead of schedule.

For an overview of progress it is best to deal with the different elements in turn:

### **A. Integrated Scientific Monitoring and Research**

#### ***1. Detailed Satellite Mapping to Underpin Biodiversity Management***

Image acquisition has occurred and a detailed classification is now underway to be augmented by a GIS workshop in June 06.

#### ***2. Monitoring and Research of Marine Species:***

- a. *Crucial Marine Habitats: Reefs, Seagrass and Mangrove*
- b. *Exploited Species: Turtles, Grouper, Conch and Lobster*

Post hurricane monitoring of all marine habitats is underway in synergy with A.1 (above) by CIDoE and international partners. Species research is also going well, indeed 3 papers have been submitted for publication (marine turtles) and another 2 (groupers, conch) are in advanced stages of preparation.

#### ***3. Monitoring and Research of Terrestrial Species:***

- a. Key Habitats
- b. Native Plants
- c. Charismatic Species: Birds and Iguanas
- d. Undervalued Species: Insects
- e. Invasive Species Assessment

Work on all five of these categories has begun by the consortium of local organisations and international partners in conjunction with A1 above. Key supporting outputs have included the Invasive Species and Seedbanking workshops and the establishment of a Darwin Insectarium.

## **B. Institutional Capacity Building**

### **Phd Studentship**

Janice Blumenthal is well on her way in her PhD studies at the University of Exeter focussing on marine turtles.

### **We have had 3 workshops:**

1. **Invasive Species** (Leaders: C Clubbe, Kew and K Varnham, Independent Consultant in **March 06**)
2. **Seedbanking** (Leader D Hicks, Kew **March 06**)
3. **Experimental Design and Statistics** (Leader D Hodgson, UofE **April 06**)

### **Four local personnel have attended international meetings**

Two members of the Blue Iguana Team have attended an International workshop on Iguana Conservation.

Two member of CIDoE have attended and presented work at the International Sea Turtle Symposium.

## **C. Raising Environmental Awareness**

### **We have two websites**

1. Specifically for the Darwin project and outputs  
<<http://www.seaturtle.org/mtrg/projects/cayman>>
2. To host the BAP longterm, being built incrementally  
<<http://www.caymanbiodiversity.org/>>

### **We have produced one Darwin Newsletter**

This was printed in the Cayman Islands and is hosted as a PDF at:  
<<http://www.seaturtle.org/mtrg/projects/cayman>>

### **We have had 4 Darwin Seminars in Cayman**

These have been lead by International Partners and Local Project Staff

## **D. Management Planning**

The major thrust of the project is to build a National BAP for the Cayman Islands but this will be produced in modular format, with the Blue Iguana Recovery Plan already having been produced, publicized in the Darwin Newsletter and stored on the Darwin project website.

### **Progress Against Milestones**

All project milestones (below) have been reached on or ahead of schedule. Indeed we are well on our way to meeting many of the 06/07 milestones.

	<b>Apr-Mar 2005/6</b>	
<b>Oct</b>		<i>Steering Group Meeting 1</i>
<b>Nov</b>		
<b>Dec</b>		<i>Workshop1; Website Established</i>
<b>Feb</b>		<i>Workshop2;</i>

This is an unusual project with several threads running in parallel leading towards the Darwin BAP. These will continue as they have in the last 6 months. A timetable of key outputs and events for the next reporting period will be:

**May** 2<sup>nd</sup> Darwin Newsletter

**June** GIS Workshop lead by Coyne and Halpin (Duke University)

**July** UG training begins

**Aug** Submission of Paper 4

**Sept** Completion of GIS classification of post hurricane habitats.

**Oct** Press Release

**Nov** Newsletter 3

**Dec** Publication of Floral Red List

**Jan** Submission of Paper 5

**Feb** Project Staff to International Sea Turtle Symposium

**Mar** Completion of avifauna assessment

#### 5. Actions taken in response to previous reviews (if applicable)

- NA. This is first report for this project.

#### 6. Partnerships

This Darwin project is very much defined by partnerships and teamwork with the CIDoE being lead partner with the support of 5 international groups with diverse specialisms: **In the UK:** Karen Varnham Invasive Species Consultant , Royal Botanic Gardens Kew , Royal Society for the Protection of Birds, University of Exeter. **In USA:** Duke University Marine Geospatial Lab. We stay in regular contact through a bespoke listserv for the Steering Group which involves key staff at CIDoE and staff from each of the international groups. We have had no difficulties and the healthy collaborative nature of the project is evidenced by the large number of field visits to date by overseas partners, some additional to the bid. Visits to the Cayman Islands have been made by Dr Brendan Godley (May 05, Feb 06); Dr Colin Clubbe (RBG Kew; Nov 05, Mar 06); Karen Varnham (Mar 06), Michael Coyne (Duke Univ, Feb 06). In addition, as a result of OTEP funded collaboration, Dr David Hodgson (University of Exeter) has visited CI DoE to assist in data analysis of conch populations and harvest; give a statistics workshop and advise on future data analysis on a range of projects (Mar 06). Damian Hicks (RBG Kew; Mar 06) lead a Seedbanking Workshop and helped spearhead seed collection efforts.

A great asset of this current project is the way that we have been able to involve all the relevant stakeholders in the design and execution of project activities. These groups include:

Department of Agriculture

Mosquito Control Unit

Bat Conservation Group

Blue Iguana Recovery Programme

Cayman Wildlife Connection

Garden Club

Humane Society

National Trust for the Cayman Islands

QEII Botanic Park

Wildlife Rehab Centre

This is leading to great synergies and additional added value to the project and will no doubt contribute to greater buy in to the BAP, so increasing the legacy of this project.

## **7. Impact and Sustainability**

The project has a very high profile in the Cayman Islands with much media interest in the press, radio and TV resulting from our proactive media strategy. The Darwin Newsletter has been widely disseminated. Decision makers have been engaged with the support of the Governor who hosted a VIP reception for the project launch. The consortium of local stakeholder organisations is working extremely well towards the common purpose. As well as demonstrating an increasing interest from international organisations and the private sector, the funds raised for additional projects (£54k) is testament to this. The exit strategy will be to leave the local partners a sound, government endorsed, implementable Biodiversity Action Plan (BAP) for the Cayman Islands. Given capacity to implement and public awareness will be at an all time high, it is likely that the Darwin legacy will be significant.

## **8. Outputs, Outcomes and Dissemination**

We began working towards project aims immediately upon announcement of the award and thus were able to hit the ground running within the funding frame. As shown in **Table 1**, we are doing extremely well in reaching outputs with all temporally defined outputs for the reporting period having been met on or ahead of schedule and a number for the next reporting period already attained. Indeed in 15 categories we have already met or exceeded total project targets.

For other major output categories we well on the way to having have results in place:

1A/B Janice Blumenthal has begun her PhD studies

4A/B Students will be involved extensively in this summer's fieldwork

10 A Flora of the Cayman Islands is nearing completion

11A 3 papers are at the review stage

One slight change has been to the order of workshops within the project due to logistical reasons. Thus the GIS workshop has been re-scheduled to June 06; however additional workshops not in the project bid have already been given on Statistical Techniques for Biologists to CI DoE by (Dr David Hodgson of University of Exeter in March 2006) and SeedBanking (Damien Hicks of RBG Kew in March 2006) in CI. Further additional outputs are also included in Table 1 and include additional grant income and substantial media outputs.

Dissemination activities include Darwin Seminar by both international and local partners, Darwin Newsletter, Darwin E-mail dissemination network, Darwin Project Website, Biodiversity Action Plan website and a proactive media strategy. CIDoE are committed to maintain this dissemination work as a core activity post-project.

**Table 1. Project Outputs (According to Standard Output Measures)**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
1A	Number of people to submit thesis for PhD qualification *	0				1
1B	Number of people to attain PhD qualification *	0				1
4A	Number of undergraduate students to receive training *	0				10
4B	Number of training weeks to be provided	0				10
4C	Number of postgraduate students to receive training *	1				1 (100%)
4D	Number of training weeks to be provided	3				10 (30%)
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above) *	30				20 (60%)
6B	Number of training weeks to be provided	30				30 (100%)
7	Number of (ie. different types - not volume - of material produced) training materials to be produced for use by host country	2				2 (100%)
8	Number of weeks to be spent by UK project staff on project work in the host country	11				20 (55%) (Plus 90 by Darwin Officer who will be employed locally)
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	1				1 (100%)
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	0				1
11A	Number of papers to be published in peer	0				5

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	<i>reviewed journals</i>		
11B	Number of papers to be submitted to peer reviewed journals	3	5 (60%)
12A	Number of computer based databases to be <b>established</b> and handed over to the host country	2	3 (67%)
13A	Number of species reference collections to be <b>established</b> and handed over to the host country(ies)	1	1 (100%)
13B	Number of species reference collections to be <b>enhanced</b> and handed over to the host country(ies)	1	1 (100%)
14A	Number of conferences/seminars/workshops to be <b>organised</b> to present/disseminate findings	4	1 (400%)
14B	Number of conferences/seminars/workshops <b>attended</b> at which findings from Darwin project work will be presented/disseminated.	2	3 (67%)
15A	Number of national press releases in host country(ies)	4	5 (80%)
15C	Number of national press releases in UK	2	2 (100%)
15D	Number of local press releases in UK	2	2 (100%)
16A	Number of newsletters to be produced	1	4 (25%)
16B	Estimated circulation of each newsletter in the host country(ies)	1000	1000 (100%)
16C	Estimated circulation of each newsletter in the UK		>100
17A	Number of dissemination networks to be <b>established</b>	2	1 (200%)
18A	Number of national TV programmes/features in host country(ies)	2	4 (50%)
19A	Number of national radio interviews/features in host county(ies)	1	4 (25%)
19D	Number of local radio	1	1 (100%)

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	<i>interviews/features in UK</i>		
20	<i>Estimated value (£'s) of physical assets to be handed over to host country(ies)</i>	9,785	£19,570 (50%)
22	<i>Number of permanent field plots to be established during the project and continued after Darwin funding has ceased</i>	>50	>50 (100%)
<b>Other Outputs in bid</b>	<i>Estimated International circulation of Newsletter</i>	200	200 (100%)
	<i>Darwin Project Website</i>	2	1 (200%)
<b>Extra outputs achieved</b>	<i>Press Articles in Cayman</i>	9	
	<i>TV Features in UK</i>	1	
	<i>Articles in UK Specialist Media</i>	1	
	<i>Articles in International Specialist Publications</i>	1	
	<i>Grant income obtained</i>	£54k	
	<i>Weeks spent by International partners (US) in the field</i>	1	

- In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications Database. Mark (\*) all publications and other material that you have included with this report.

**Table 2: Publications**

Type *	Detail	Publishers	Available from	Cost £
(e.g. journals, manual, CDs)	(title, author, year)	(name, city)	(e.g. contact address, website)	
Newsletter			website	free
Blue Iguana Action plan			website	free

## 9. Project Expenditure

- Please expand and complete Table 3.

**Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)**

## **10. Monitoring, Evaluation and Lessons**

The project consortium keeps in very close contact via the DarwinCaymanSteering listserv and a formal steering group meeting is undertaken during each visit of UK project staff. There progress is discussed versus key milestones and output and any emerging problems dealt with. This in part helps to explain how effective the project has been. Although it is early days (6 months of a 30 month project) there appears to have been a tangible increase in interest in biodiversity with much media attention and private sector donations for Darwin supported biodiversity projects. So far we have had no problems to report. Our major lesson is that our consortium is working well together and if we maintain the communication and industry that this project will be highly successful.

## **11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)**

The most outstanding achievement of this project has been that of impact resulting from synergy.

Building on the diverse expertise of the consortium of UK organisations already working in the successful Darwin Initiative Biodiversity Action Plan for Anegada BVI (RBG Kew, RSPB and University of Exeter) the collaborative network (10 NGO's/Gov

Departments) established in the Cayman Islands is outstanding. All the key stakeholder groups in the Islands are working together to a common purpose under the umbrella of the Darwin Project. This involved regular meetings and has resulted in mutually beneficial funding proposals supported by the Darwin Research Fellow, Dr. Matt Cottam:

CI\$ 6,580 for a shade house for the Orchid Society to assist in their propagation conservation efforts- successful

CI\$ 32,620 for establishment and running of a native tree nursery at the QEII Botanic Park- pending

Additionally, the development of BAPs under the Darwin Initiative was also referenced in support of our (successful) 2006 OTEP grant application for the development of an shrubland interpretation centre of the Blue Iguana Recovery Programme GBP49,975.

■ *I agree for ECTF and the Darwin Secretariat to publish the content of this section*

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2005/2006

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
<p><b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>• The conservation of biological diversity,</li> <li>• The sustainable use of its components, and</li> <li>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b> Carry out an assessment of the key biodiversity elements of the Cayman Islands; create the capacity for its future monitoring and conservation; increase environmental awareness</p>	<p><i>Increased knowledge of the patterns of biodiversity of Cayman Islands.</i> <i>Effective management of biodiversity in Cayman Islands</i></p>	<p><i>Fieldwork underway (yes)</i> <i>Reports and publications by partner organisations (yes)</i> <i>Minutes of Steering Committee Meeting (yes)</i></p>	<p><i>Progress has been excellent, the project has been launched and managed effectively. All stakeholder organisations have been engaged and are contributing. The consortium approach is working well.</i></p>
<p><b>Outputs</b></p>			
<p><i>(insert original outputs – one per line)</i></p>	<p><i>(insert original output level indicators)</i></p>	<p><i>(report completed activities and outcomes that contribute toward outputs and indicators)</i></p>	<p><i>(report any lessons learned resulting from the project &amp; highlight key actions planning for next period)</i></p>
<p><i>Partner organisations able to undertake long-term monitoring &amp; management of the biodiversity of Cayman Islands</i></p>	<p><i>Minimum of 14 staff from partner organisations trained in key biodiversity assessment techniques</i></p>	<p><b>1 student in PhD training</b> <b>Infrastructure in place for UG training</b> <b>3 successful workshops</b></p>	<p><i>A high proportion of participants continue current employment. This seems likely</i></p>

		<p><b>Posters, Stats manuals and popwerpoints produced</b></p> <p><b>Large amounts of international staff time spent in CI</b></p> <p><b>Submission of 3 papers supported</b></p> <p><b>4 personnel participate in international meetings</b></p>	
<p><i>Greatly enhanced knowledge of key biodiversity elements in Cayman Islands</i></p>	<p><i>Habitat maps, Population assessments of key species</i></p>	<p><b>Habitat mapping well underway</b></p> <p><b>Insect reference collection established</b></p> <p><b>Seedbank augmented</b></p> <p><b>3 papers submitted</b></p> <p><b>Invasive species database established</b></p> <p><b>GIS established</b></p>	<p><b>Fieldwork progressing well. There is much to do but local partners approaching it with gusto.</b></p>
<p><i>Publications and Presentations</i></p>	<p><i>Computer databases, biodiversity action plan, peer reviewed papers, reference collections, conference presentations, website, research</i></p>	<p><b>2 Websites</b></p> <p><b>Extensive media attention</b></p> <p><b>4 Darwin Seminars</b></p>	<p><b>Progress to all these outputs going well</b></p>

	<i>seminars, press releases and media items, newsletter; teachers resources</i>	<b>1 Darwin Newsletter (&gt;1000 circ)</b> <b>3 Peer Reviewed papers</b> <b>4 conference presentations</b>	
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