

DARWIN INITIATIVE

NEWSLETTER

SPRING 2007



Welcome... to our third Darwin Newsletter.

The focus for this edition is on local and international collaborations.

Partnership is key to the success of the Darwin Initiative.

We have some successes to report... and some hefty targets yet to meet.

UPDATE

In March 2007 the

National Conservation Law

was tabled as a white discussion paper in the L.A. This is not the first time that this long-pending legislation has reached this stage. However, Minister Charles Clifford stated *"It is my intention to table the green bill for debate during the September 2007 meeting of (the) house"*.

The National Conservation Law is key to underpinning the commitment of the Cayman Islands to do our part towards local conservation and preservation of global biodiversity.

We would encourage all to participate in the process and comment through the Gov website www.gov.ky

A focus for this edition is **exotic** and **invasive** species. What's the difference? An exotic species is a plant or animal introduced to Cayman by human means, either deliberately, or accidentally....



Cayman Prep students get muddy in an attempt to save our mangrove habitats.
See p. 4

... **some exotic species are beneficial**, a good example is our well-loved Mango tree. **Others are not beneficial.** They out-compete native species and spread out of control, to the detriment of local biodiversity. These species are termed "invasive". Darwin researchers are working with **members of the public** and the **Department of Agriculture** to examine some of our exotic species, and determine what impact they are having on our local wildlife.

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Local Partnerships - Orchid Society

Following a generous donation from Coutts (Cayman) Ltd in April 2006, construction work began on a new **Shade House** for the Orchid Society, based at the QEII Botanic Park.



MANY HANDS... AND STILL HARD WORK - Orchid Society Members, friends and family pitch in to see the Shade House construction through design, construction and fitting.
PHOTOS - Orchid Society



The Shade House is now home to a growing collection of local orchids, including the critically endangered endemic **Ghost Orchid**.



"These orchids, rescued from indigenous bush land cleared for development, might otherwise have been lost to us", said Sue Gibb, President of the Orchid Society, "Rescued orchids and seedling plants from our Seed Propagation Programmes will be cared for at our new Shade House until they can be re-established in protected areas for the benefit of all."



The official opening, by David Neuschaffer, Managing Director of Coutts, was marked with the unveiling of this commemorative plaque

Cayman Islands Orchid Society

SHADE HOUSE

APRIL 2006

IN GRATEFUL RECOGNITION
OF THE GENEROUS DONATION
OF COUTTS (CAYMAN) LTD.



WHICH MADE THIS PROJECT POSSIBLE

"to preserve for posterity the indigenous
orchid species of the Cayman Islands"



Continuing the theme of conserving Cayman's native flora, the **Native Tree Nursery** was established at the **Queen Elizabeth II Botanic Park**.

The objective of the nursery is to establish a reliable source of native trees and shrubs for private gardeners and commercial landscapers, to add some local flavor to standard landscaping design, and to improve the ecological value of developed areas.



Seagrape, Christmas Berry and Cedar are amongst the species being cultivated

PHOTO - DoE



The Native Tree Nursery Team - Mat Cottam (Dept. Environment), Ann Stafford (CaymANNature), Eliza Strachan (Shade Brigade), and John Lawrus, Tytia Habing and Andrew Guthrie (QE II Botanic Park)

PHOTO - DoE

The nursery has started growing the *Cayman Collection* - twenty species of native trees and shrubs - specially selected for

- Hardy nature and salt tolerance
- Potential to attract birds and wildlife
- Conservation significance and
- Cultural significance.

Seed collections have been ongoing for the past six months, and plants should start to become available for sale over the next year.

Interest from developers has been immediate, with **Chalmers Gibbs** landscaping architects for the new airport facility amongst the first to request native stock for landscaping the new terminal development.

The nursery team have also been working with the **Department of Planning** to assist in their development of a **Native Plant Palette**.



Broadleaf

Cordia sebestena caymanensis
FAMILY: BORAGINACEAE

Slender, resilient, fast-growing tree with a narrow crown. Brilliant red flowers. Distinctive white fruits. Traditionally the rough leaves were used to polish turtle shells. Threatened by land clearance, invasion of Casuarina Pines, and hybridization from exotic imported varieties.

-  Suitable for landscaping
-  Salt tolerant
-  Hardy – does well in full sunlight
-  Culturally significant
-  Vulnerable in Cayman
-  Endemic - grows only in Cayman

International Collaborations - US Fish and Wildlife NMBCA

The **Department of Environment** and the **Reefball Foundation** have joined forces in an ambitious attempt to restore Cayman's coastal mangroves, lost during hurricane Ivan. This collaboration was made possible with funding from the **US Fish and Wildlife Service** Neotropical Migratory Bird Conservation Act – supporting projects benefiting **migratory birds**



Delivery of a weighty container - packed with over 800 concrete Reefballs. Rubber gloves and boots are optional... but there is no escaping some hard work...



To reintroduce mangroves to the exposed shoreline, a Reefball-Mangrove nursery has been established on land donated by the **Sailing Club**. Over the course of six weeks, over 800 Reefball-Mangroves were planted. After 18 months in the nursery, the Reefball-Mangroves will be transferred to the coast. The Reefballs should stabilize the young mangroves during the early stages of establishment, after which the long arching prop roots of the Red Mangrove will over grow the Reefball.

... even His Excellency the Governor and Mrs Jack dug deep for the mangrove restoration effort...



Grand Cayman mangroves are an important stop-over and over-wintering habitat for migratory birds - waterfowl, waders, raptors including Osprey, Merlin and Peregrine Falcon, and passerines including Northern Parula, Yellow-throated Warbler, Palm Warbler, Prairie Warbler, Black-and-white Warbler, American Redstart, Ovenbird and Northern Waterthrush.

Public participation was a great feature of this project...many schools groups pitched in, to learn more about mangroves and the importance of this habitat. Many thanks to

Cayman Academy, Cayman Prep School, St. Ignatius and John Grey Recyclers...



...phew !

CORAL REEF FISH AND INVERTS PROJECT



Survey team catch a break: Croy McCoy, Gary Murphy, James Gibb and John Bothwell

Over the past month, Gary Murphy, a visiting marine biologist from Ireland, has been working with DoE to investigate the numbers and sizes of fishes on Cayman's reefs. "By monitoring the abundance of certain species, we can track fish stocks over time and tell whether they are increasing or decreasing", said Gary. "This is of huge importance to the fishing and tourism industries".

Fish sizes can also give an indication of the populations of sexually mature fish. In heavily fished areas, adult fish can disappear... along with the chances of getting future generations of fishes. Some fish are more susceptible to over-fishing than others, for example, their aggregative behaviour makes Nassau Grouper an easy target. They no longer reproduce on Grand Cayman, because of over-fishing.

A more in-depth look at the data can yield valuable information on trophic levels (who-eats-who) and ultimately coral reef health.

Fluctuations in the abundance of fishes of a particular trophic level can reveal aspects of coral reef health not evident from studying individual species in isolation.

The team is also looking at invertebrates. Of particular interest is the Long-spined urchin, which is an important grazer of reef algae. Between 1983 and 1984, an unidentified disease killed 97% of the population of Long-spined urchins in the Caribbean. Since then, numbers have remained very low; however, any recovery in the population may aid coral reef recovery in the Cayman Islands.



Nassau Grouper



French Angelfish



Parrotfish

EXOTIC SPECIES: RED-EARED SLIDERS



Bethan gets to grips with a slippery issue

The Exotic Species Team:
(clockwise)
Dr Brendan Godley
Gina Ebanks-Petrie
Dr Mat Cottam
Nicola Simpson
Bethan Parry
Kristan Godbeer



I'm Bethan Parry, currently visiting Grand Cayman to study the invasive red-eared slider *Trachemys scripta*. I live in Cornwall and originally moved there eight years ago. After undertaking a foundation degree in *Animal Husbandry*, I am now studying for a Masters in *Conservation & Biodiversity* at the University of Exeter. For my research project I have also received a scholarship from the *British Chelonia Group* which is helping to go towards my subsistence costs.

Freshwater turtles have possibly received the least conservation attention of all chelonia. In addition to threats of habitat loss, disease and exploitation, many species are being put at risk from the red-eared slider. Red-eared sliders are popular pets, around the world. Increasingly, they are released into the wild when irresponsible owners no longer want them. When conditions are suitable for breeding, they can become a problem invasive species. Red-eared sliders are often able to out-compete native species for food, and basking and nesting sites. Interbreeding can also lead to hybridisation. This appears to be the case on Grand Cayman, where they have become established and may be having a negative impact on local wildlife, in particular the local freshwater turtle, the Hickatee *Trachemys decussata*.

My project will involve looking at the distribution and abundance of red-eared sliders on Grand Cayman and finding the exact locations in which they occur. I will be catching turtles, measuring, weighing and photographing them, and taking DNA samples, to assist deciphering whether / to what extent hybridisation is taking place.

The results of this study will be used to help implement a Conservation Action Plan for the Hickatee, as part of the Cayman Islands Biodiversity Action Plan.



Field work... or pond work, at least...



The exotic red-eared slider



A local Hickatee

EXOTIC SPECIES: GREEN IGUANA



Nicola Simpson takes a closer look at the Green Iguanas

Out in the field the research team:
Bethan Parry
Nicola Simpson
Kristan Godbeer



I'm Nicola Simpson - since completing my undergraduate degree in Marine Biology / Zoology at the University of Wales, Bangor, I have been keen to work in the field of conservation. I have participated in several conservation projects run by the local aquarium, where I have worked for several years and was very keen to be involved in this project on Grand Cayman.

Grand Cayman is home to the critically endangered blue iguana *Cyclura lewisi* - one of the most endangered animals in the world.

The blue iguana has suffered declines due to habitat destruction, however a blue iguana breeding programme has been set up on the island with the ultimate goal of re-establishing a sustainable blue iguana population to the wild. As part of the conservation programme, an assessment of the recently introduced green iguana *Iguana iguana* population is required, to determine whether they may negatively impact the blues.

Recent studies have shown that the typically arboreal green iguana is very adaptable and can spread easily into urban areas. Reports indicate that the green iguana population may be spreading east across the island.

During my three months on Grand Cayman I will be looking at the abundance, distribution and behaviour of the introduced green iguanas. I am carrying out this study as part of the dissertation for my Master's course in Conservation and Biodiversity with the University of Exeter, UK.

This assessment of the ecological status of the green iguana is an identified component of the Species Action Plan for the Grand Cayman Blue Iguana - part of the Cayman Islands Biodiversity Action Plan.



Young Green Iguana

PHOTO: Mark Orr



Adult Green Iguana



Grand Cayman Blue Iguana

PHOTO: Fred Burton

EXOTIC SPECIES: MONK PARAKEETS

I'm Kristan Godbeer, originally from Weston-super-Mare, a seaside town in southwest England. It was there that I first developed my passion for nature, and this passion soon became my work. I am a graduate from the University of Wales, Bangor, with a first class honours in Zoology. Currently, I'm reading for an MSc in Conservation and Biodiversity at the Centre for Ecology and Conservation at the University of Exeter's Cornwall campus. During my work and studies I have developed an interest in island biogeography and biodiversity, and I am pleased to have an opportunity to work on this lovely island.

The UK's endemic biodiversity is a fraction of that of the Overseas Territories. Since ratification of the Convention for Biological Diversity, the UK has been obliged to challenge invasive species, both at home and abroad. This project has multiple dimensions of personal interest for me, and will be of sound conservation value to the Cayman Islands Biodiversity Action Plan.

The purpose of the project is to assess the current status of the Monk Parakeet *Myiopsitta monachus*. This will involve observing their abundance, distribution and feeding habits, to determine their impact on local wildlife. The parakeets originate from south-eastern South America. They were first released on Grand Cayman in 1987. By 1999 up to ten feral populations were established on island. In 2004 Hurricane Ivan decimated much of the island's avifauna, however the Monk Parakeets 'weathered the storm' and have since begun to re-establish themselves.

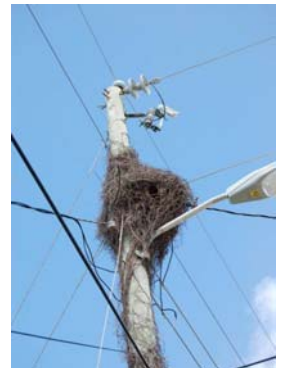
The most obvious sign of their presence is their large free-standing colonial stick nests. In Cayman they seem to prefer coconut palms *Cocos nucifera*, but are also found on Whistling / Australian Pine *Casuarina sp.*, Norfolk Island Pine *Araucaria heterophylla*, and even on electricity poles. Once they alight onto vegetation, their predominately green plumage allows them to blend well, making them difficult to detect. Their presence may only be given away by discarded seed cases falling to the ground.

Grand Cayman is also home to the endemic Cayman Parrot *Amazona leucocephala caymanensis*. It is possible that the invasive parakeets may place additional pressure on this already threatened species. The unique West Indian populations of *Amazona* parrots represent some of the most beautiful and spectacular species of the genus. The vulnerability of these endemic island parrots to decline and subsequent extinction has really captured my attention. The great efforts to save these birds inspired me and filled me with the aspiration to do what I can for these magnificent parrots.

Within their native range, Monk Parakeets have proven to be significant agricultural pests, and crop-raiding can encourage landowners to take preventative action by killing the birds. This could prove a problem for the local parrots, which also damage crops, as the destructive parakeets may exacerbate the situation, and encourage increased illegal shooting.



Kristan scopes out Cayman's parrots, both local and exotic



A typical parakeet nest... a potential hazard in power lines

PHOTO:
Kristan Godbeer



Exotic Monk Parakeet



Cayman Parrot

PHOTO: Mark Orr

WANTED



CIS\$ 1000 REWARD

Have you seen this plant?

cayman sage - *Salvia caymanensis* - believed extinct

Found in sandy thickets and clearings - endemic to Grand Cayman

If you see this plant - **DO NOT PICK IT!** - call the Department of Environment
(No reward for cuttings, picked specimens, or look-a-likes!)

Thank you to all Darwin Partners...

Blue Iguana Recovery Programme, Cayman Islands Humane Society, Cayman Islands Bird Club, Cayman Islands Orchid Society, CaymANNature, Cayman Wildlife Connection, Camana Bay Nursery, Department of Agriculture, Department of Environment, Duke University, Garden Club of Grand Cayman, Mosquito Research and Control Unit, National Museum, National Trust for the Cayman Islands, Queen Elizabeth II Botanic Park, Royal Botanic Gardens Kew, Royal Society for the Protection of Birds, Shade Brigade, University of Exeter ... and **photographers** who are sending in images for the website...

Further information...

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www.CaymanBiodiversity.com