

UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.

Turks and Caicos Islands: Appendices.

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More information available at: www.environment.tc

This section includes a series of appendices that provide additional information relating to that provided in the Turks and Caicos Islands chapter of the publication: UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.

All information relating to Turks & Caicos available <http://jncc.defra.gov.uk/page-5758>

The entire publication is available for download at <http://jncc.defra.gov.uk/page-5821>

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APPENDIX 1: NATIONAL LEGISLATION AND STRATEGIES

- Coast Protection Ordinance 1998
- Encouragement of Development Ordinance 1998
- Endangered Species Act (pending)
- Fisheries Limits Ordinance 1998
- Fisheries Protection Ordinance 1998
- Marine Pollution Ordinance 2010
- Minerals (Exploration and Exploitation) Ordinance 1998
- National Parks Ordinance 1998
- National Trust Ordinance 1992
- Petroleum Ordinance 1998
- Physical Planning Ordinance 1998
- Plant Protection Ordinance 1998
- Salvage and Wreck Ordinance 1998
- Summary Offences Ordinance 1998
- Wild Birds Protection Ordinance 1998

APPENDIX 2: PROTECTED AREAS

Table 1: Protected Areas in the Turks and Caicos Islands

Name of site	Significance of site
National Parks	
Admiral Cockburn Land and Sea National Park , Grand Turk	Excellent wall diving and representative coral reef ecosystems.
Chalk Sound National Park , Providenciales	Scenic water; bone-fish; boating; picnic area, endemic rock iguanas.
Columbus Landfall Marine National Park , Grand Turk	Excellent wall diving
Conch Bar Caves National Park , Middle Caicos. <i>Managed by TCNT</i>	Extensive under-ground cave system containing large subterranean lagoons and bat colonies; possibly endemic crustaceans, historic value includes history of being a used by Lucayan Tainos and mined by plantation slaves for guano.
East Bay Islands National Park , North Caicos	Scenic islands, second largest population of endemic rock iguanas, and favourite picnic area.
Fort George Land and Sea National Park , Fort George	Dive and picnic sites; 1798 English Fort, shipwreck, cannons in shallow water, possibly remnant population of endemic iguanas, ospreys and wading birds
Grand Turk Cays Land and Sea National Park , Grand Turk	Gibbs, Penniston and Martin Alonzo Pinzon Cays off Grand Turk and the surrounding 400 feet of sea in each case. Shallow dive sites, important seabird nesting sites, fish nurseries, day outings and picnic areas. Gibbs Cay specifically hosts only known Turks Bank population of Turks and Caicos rainbow boa and a human-acclimated population of southern stingrays.
North West Point Marine National Park , Providenciales	Best wall diving off Providenciales.
Princess Alexandra Land and Sea National Park , Providenciales	Dive and picnic excursions, endemic rock iguanas, ospreys, mangroves and marine life.
South Creek National Park , Grand Turk	Wetlands, mangroves, endemic plants, viewpoint, tourist destination, picnic areas, small boat activities and harbourage.
West Caicos Marine National Park , West Caicos	Excellent wall diving.
Nature Reserves	
Admiral Cockburn Nature Reserve (Long Cay, Six Hill Cays, Middleton Cay) :. Grand Turk	Important for endemic rock iguana and breeding terns and frigate birds.
Bell Sound Nature Reserve , South Caicos	Bonefish reserve; fish, conch, and lobster breeding.
Cottage Pond Nature Reserve , North Caicos	Bird nesting, rare aquatic plants, historic plantation ruins, sole source of permanent natural surface fresh water in area, crustaceans endemic only to this pond.
Dick Hill Creek and Bellefield Landing Pond Nature Reserve , North Caicos	Bird nesting, fish, conch, lobster nursery, mangroves.
Lake Catherine Nature Reserve ,	Area of scenic value and of interest to naturalists; large hyposaline lake supporting

West Caicos	abundant pink bivalve molluscs and black mussels; habitat of sea turtles and bird life including flamingos and TCI's only resident breeding population of neotropical cormorants, with old causeway and small islands offering bird nesting sites.
North, Middle and East Caicos Nature Reserve (International Ramsar Site)	A wetland site of international importance containing a variety of habitat types representative of the region. Noteworthy individual sites within the park include the Mally Pond Slough, Sawgrass Pond and Flamingo Pond wetland area which contains excellent natural mangrove swamp, rich and varied fauna and diverse bird life; the unique Ocean Hole off Middle Caicos, believed to contain diverse and unusual fauna; the Armstrong and Big Pond areas of Middle Caicos (hosting populations of endemic TCI heather), the former area including numerous Lucayan Taino village sites, and the Iguana Cay and Flamingo Pond area on and close to East Caicos. The whole area is a particularly good example of coastal wetland habitat in the Caribbean region It regularly supports 10% of the individuals in a population of one species of waterfowl (on Sawgrass Pond, the threatened West Indian Whistling Duck) it has special value as the habitat of animals at a critical stage of their biological cycles (submerged banks, creeks and lagoons used by endangered turtles and commercial fish species for feeding).
North West Point Pond Nature Reserve, Providenciales	A prime example of red mangrove lagoon habitat with an abundance and diversity of lagoon fauna, serving as a nursery and food source for the neighbouring waters; an important feeding area for migrant wading birds and breeding area for locally common waterfowl species.
Pigeon Pond and Frenchman's Creek Nature Reserve, Providenciales	Wetland birds including West Indian whistling ducks; West Harbour Bluff rock carvings; Lucayan Taino sites; area utilised for mangrove replanting events for students and other groups.
Princess Alexandra Nature Reserve, Providenciales	Picnic excursions, endemic rock iguanas, ospreys and mangroves.
Pumpkin Bluff Pond Nature Reserve	Bird nesting, flamingo feeding area.
Vine Point (Man O' War Bush) and Ocean Hole Nature Reserve:	Frigate bird nesting area, and 220 feet deep by 1200 feet wide hole in 3 feet shallow sand bottom.
Big Sand Cay Sanctuary	Nesting birds and turtles
French, Bush and Seal Cays Sanctuary:	Nesting terns and frigate birds, reintroduced populations of endemic rock iguana.
Long Cay Sanctuary:	Nesting terns; flora; restored habitat for reintroduced endemic rock iguanas.
Three Mary Cays Sanctuary:	Osprey nest site.
Area of Historical Interest	
Boiling Hole Area of Historical Interest:	Salinas, historic salt-production ruins, endemic plants, bird feeding areas, unusually human-acclimated flock of flamingos.
Cheshire Hall Area of Historical Interest <i>Managed by TCNT</i>	ruins of 1790s plantation house and outbuildings
Fort George Area of Historical Interest	1798 English fort
Endymion Wreck Area of Historical Interest	18th century shipwreck in shallow water
Molasses Reef Area of Historical Interest	site of oldest known wreck in W Hemisphere

Salt Cay Area Historical Interest	salt works, historic building including brown and white houses; whaling station due to ecological significance
Town Pond Salina and Red Salina Areas of Historical Interest	Remnant salt pans and windmills from salt industry; home to endemic national flower (the Turks and Caicos Islands Heather <i>Limonium bahamense</i>); Important Bird Areas providing habitats for endangered and migratory bird species
Sapodilla Hill Area of Historical Interest	The rocks atop this hill bear inscriptions dating as early as 1767, including the names of some of the earliest pioneers and settlers of the Turks and Caicos islands.

APPENDIX 3: TERRESTRIAL HABITAT TYPES

Major terrestrial habitats (as set out by TCI Terrestrial Habitat Mapping Project 2010)

1. Estuarine Evergreen Forest
2. Upland Mixed Evergreen/Drought Deciduous Forest
3. Estuarine Mixed Evergreen/Drought Deciduous Forest
4. Palustrine Mixed Evergreen/Drought Deciduous Forest
5. *Coccothrinax inaguensis* Coastal Evergreen Broadleaf Woodland
6. Estuarine Evergreen Woodland
7. Palustrine Evergreen Woodland
8. Upland Mixed Evergreen/Drought Deciduous Woodland
9. Coastal Mixed Evergreen/Drought Deciduous Woodland
10. Estuarine Mixed Evergreen/Drought Deciduous Woodland
11. Palustrine Mixed Evergreen/Drought Deciduous Woodland
12. *Pinus caribaea* Palustrine Coniferous Woodland
13. *Pinus caribaea* Palustrine Coniferous Woodland with Mixed Shrubland Understory
14. Coastal Evergreen Shrubland
15. Estuarine Evergreen Shrubland
16. Upland Mixed Evergreen/Drought Deciduous Shrubland
17. Coastal Mixed Evergreen/Drought Deciduous Shrubland
18. Estuarine Mixed Evergreen/Drought Deciduous Shrubland
19. Palustrine Mixed Evergreen/Drought Deciduous Shrubland
20. Estuarine Evergreen Dwarf Shrubland
21. Upland Mixed Evergreen/Drought Deciduous Dwarf Shrubland
22. Coastal Mixed Evergreen/Drought Deciduous Dwarf Shrubland
23. Estuarine Mixed Evergreen/Drought Deciduous Dwarf Shrubland
24. Palustrine Mixed Dwarf Shrubland
25. Coastal Rock Dwarf Shrubland
26. Coastal Graminoid Herbaceous
27. Upland Mixed Graminoid/Forb Herbaceous
28. Coastal Mixed Graminoid/Forb Herbaceous
29. Estuarine Mixed Graminoid/Forb Herbaceous
30. Palustrine Mixed Graminoid/Forb Herbaceous
31. Coastal Nonvascular
32. Estuarine Nonvascular

33. Palustrine Nonvascular
34. Lacustrine Nonvascular
35. Estuarine Mixed Algal Nonvascular
36. Human Altered Landscape, Maintained Landscape
37. Human Altered Landscape, Clear-cut Land
38. Habitat Impacted by Exotic Nuisance Species
39. Human Altered Landscape Water
40. Cave

APPENDIX 4: ENDEMIC, NEAR-ENDEMIC AND SELECTED NATIVE SPECIES LISTS

ENDEMIC PLANTS

Turks and Caicos heather	<i>Limonium bahamense</i>
Caroline's pink flower	<i>Stenandrium carolinae</i>
Caicos Encyclia orchid	<i>Encyclia caicensis</i>
Britton's buttonbush	<i>Borreria brittonii</i>
Capillary buttonbush	<i>Borreria capillaris</i>
Silvery silverbush	<i>Argythamnia argentea</i>
Peppergrass	<i>Lepidium filicaule</i>
North Caicos milkweed vine	<i>Metastelma stipitatum</i>
Lucayan pear bush	<i>Opuntia lucayana</i>

NEAR-ENDEMIC (BAHAMAS ARCHIPELAGO ENDEMICS OR ENDEMICS SHARED WITH ONE OTHER ISLAND, SUCH AS CUBA) PLANTS

Nash's pepperwort	<i>Marsilea nashii</i>
Frenning's gumbo limbo	<i>Bursera frenningae</i>
Bahama buttonbush	<i>Borreria bahamensis</i>
Inagua buttonbush	<i>Borreria inaguensis</i>
Bahama wedelia	<i>Wedelia bahamensis</i>
Haulbark	<i>Thouinia discolor</i>
Inagua silver top	<i>Coccothrinax inaguensis</i>
Inagua Encyclia orchid	<i>Encyclia inaguensis</i>
Bahama lovegrass	<i>Eragrostis bahamensis</i>
False frangipani	<i>Euphorbia gymnonota</i>
Pinweed spurge	<i>Euphorbia lecheoides</i>
Lucayan lobelia	<i>Lobelia lucayana</i>
Cat's paw	<i>Mimosa bahamensis</i>
Smooth pear cactus	<i>Opuntia bahamana</i>
Horse pear cactus	<i>Opuntia nashii</i>
Monkey fiddle	<i>Pedilanthus bahamensis</i>
Caicos pine	<i>Pinus caribaea</i> var. <i>bahamensis</i>
Lucayan silverbush	<i>Argythamnia lucayana</i>
Yellow silverbush	<i>Argythamnia sericea</i>
Inagua century plant	<i>Agave inaguensis</i>
Millspaugh's century plant	<i>Agave millspaughii</i>
Acklin's century plant	<i>Agave acklinicola</i>
Brasiletto	<i>Caesalpinia reticulata</i>
Red powderpuff	<i>Zapoteca haematomma</i>
Catesby's bush	<i>Catesbaea foliosa</i>
Lucayan cordia	<i>Cordia lucayana</i>
Bahama Rush	<i>Eleocharis bahamensis</i>
Millspaugh's golden creeper	<i>Ernodea millspaughii</i>
Serrate golden creeper	<i>Ernodea serratifolia</i>

Lucayan Eupatorium	<i>Eupatorium lucayanum</i>
Wild thyme	<i>Euphorbia inaguensis</i>
Wild thyme	<i>Euphorbia vaginulata</i>
Bahama milk-pea	<i>Galactia bahamensis</i>
Low heliotrope	<i>Heliotropium diffusum</i>
Egger's heliotrope	<i>Heliotropium eggersii</i>
Ashy heliotrope	<i>Heliotropium nanum</i>
Nash's heliotrope	<i>Heliotropium nashii</i>
Britton's hibiscus	<i>Hibiscus brittonianus</i>
Inagua milkweed vine	<i>Metastelma inaguensis</i>
Bahama swamp bush	<i>Pavonia bahamensis</i>
Bahama vervian	<i>Stachytarpheta fruticosa</i>
Bumbo bush	<i>Lepidaploa arbuscula</i>
Jujube	<i>Ziziphus taylori</i>
Rong bush	<i>Wedelia bahamensis</i>
Cuban shamrock	<i>Oxalis eggersii</i>
Dwarf sea purslane	<i>Sesuvium microphyllum</i>
Brace's broom	<i>Evolvulus bracei</i>
Lice root	<i>Angadenia berteroi</i>

ENDEMIC INVERTEBRATES

Turks Islands leafwing butterfly	<i>Anaea intermedia</i>
Drury's hairstreak butterfly	<i>Strymon acis leucosticha</i>
Airport Cave amphipod	<i>Bahadzia stocki</i>
Caicos isopod	<i>Bahalana caicosana</i>
Cave crustacean	<i>Deevaya spiralis</i>
Cave crustacean	<i>Erebonectoides macrochaetus</i>
Conch Bar Cave fosshagenioid	<i>Fosshagenia ferrarii</i>
Cottage Pond remipede	<i>Godzillius robustus</i>
Remipede	<i>Kaloketos pilosus</i>
Cave remipede	<i>Lasionectes entrichoma</i>
Cave remipede	<i>Pelagomacellicephala iliffei</i>
Providenciales amphipod	<i>Spelaeonicippe provo</i>
Cave remipede	<i>Speonebilina cannoni</i>

NEAR-ENDEMIC INVERTEBRATES

Spicebush swallowtail butterfly	<i>Papilio andraemon</i>
Cuban cave prawn	<i>Barbouria cubensis</i>
Garcia's cave shrimp	<i>Typhlatya garciai</i>

ENDEMIC REPTILES

Turks & Caicos rock iguana	<i>Cyclura carinata</i>
Caicos barking gecko	<i>Aristelliger hechti</i>
Caicos dwarf gecko	<i>Sphaerodactylus caicosensis</i>

Turks Islands dwarf gecko *Sphaerodactylus underwoodi*
Turks and Caicos curly tail lizard *Leiocephallus psamodrommus*

Note: worm snake currently identified as *Typhlops richardi* is possibly a TCI endemic species; study is underway.

NEAR-ENDEMIC (BAHAMAS ARCHIPELAGO ENDEMIC) REPTILES

Bark anole *Anolis scriptus*
Mayaguana dwarf gecko *Sphaerodactylus mariguanae*
Southern Bahamas rainbow boa *Epicrates chrysogaster*
Snake doctor *Mabuya mabouya sloanei*

ENDEMIC BIRDS

Thick-billed vireo, endemic race *Vireo crassirostris*
Greater Antillean bullfinch, endemic race *Loxigilla violacea*

NATIVE MAMMALS

Native mammals consist of five presently confirmed species of bats.
(There are no endemic mammals).

Jamaican fruit bat *Artibeus jamaicensis* (Possibly extirpated)
Cuban fruit bat *Brachyphylla nana*
Buffy flower bat *Erophylla sezekorni*
Red bat *Lasiurus borealis*
Big-eared bat *Macrotus waterhousi*
Leach's single-leaf long-tongued bat *Monophyllus redmani*

APPENDIX 5: INVASIVE SPECIES LIST

SIGNIFICANT INVASIVE PLANTS

Cow bush	<i>Leucaena leucocephala</i>
Australian Pine/Cedar	<i>Casuarina equisetifolia</i>
Hawaiian scaevola	<i>Scaevola taccada</i>
Guinea grass	<i>Panicum maximum</i>
Foxtail grass	<i>Pennisetum setaceum</i>
Brazilian pepper	<i>Schinus terebinthefolius</i>

INVASIVE INVERTEBRATES

Pine tortoise scale insect	<i>Toumeyella parvicornis</i>
Barnacle scale	<i>Ceroplastes cirripediformis</i>

INVASIVE FISH

Lionfish	<i>Pterois volitans</i>
Mosquitofish	<i>Gambusia affinis</i> (deliberately spread for mosquito control)

INVASIVE REPTILES AND AMPHIBIANS

House gecko	<i>Hemidactylus mabouia</i>
Green iguana	<i>Iguana iguana</i>
Cuban knight anole	<i>Anolis equestris</i>
Cuban treefrog	<i>Osteopilus septentrionalis</i>
Marine toad	<i>Bufo marinus</i> (Three individuals found in Providenciales from 2010 - 11)
Greenhouse frog	<i>Eleutherodactylus planirostris</i>

INVASIVE BIRDS

Domestic fowl	<i>Gallus gallus</i>
Guinea fowl	<i>Numidia meleagris</i>
Gambel's quail	<i>Callipepla gambelii</i> (possibly extirpated)

INVASIVE MAMMALS

Brown rat	<i>Rattus norvegicus</i>
Black rat	<i>Rattus rattus</i>
House mouse	<i>Mus musculus</i>
Cat	<i>Felis catus</i>
Dog	<i>Canis lupus familiaris</i>
Donkey	<i>Equus asinus</i>
Horse	<i>Equus ferus caballus</i>
Cattle	<i>Bos primigenius</i> ; <i>Bos Taurus</i> ; <i>Bos indicus</i> and hybrids
Swine	<i>Sus domestica</i>
Goats	<i>Capra hircus</i>

APPENDIX 6: PROJECTS

Table 2: Table of Projects

Project date	Project name	Funded by	Main Outputs
2010 to present	Climate Change Adaptation	DFID	<ol style="list-style-type: none"> 1. National Climate Change Adaptation Strategy and Action Plan 2. Climate Change Public Education and Outreach Strategy
2010-2011	Lionfish Control Programme	JNCC	<ol style="list-style-type: none"> 1. Control the lionfish populations in the TCI especially marine protected areas. 2. Establish and maintain a database of lionfish numbers and other associated data 3. Continue the implementation of public education strategy regarding this invasive species.
2010-2011	Bird Monitoring Project	SCSCB	<ol style="list-style-type: none"> 1. Monitoring of waterbirds in selected areas 2. Monitoring of environmental parameters at the habitat sites 3. Monitoring of migratory birds
2009 - 2010	TCI Turtle Project: Green and Hawksbill Turtles Partners: <i>DECR Marine Conservation Society; Marine Turtle Research Group; School for Field Studies</i>	People's Trust for Endangered Species; British Chelonia Group.	<ol style="list-style-type: none"> 1. Assessed marine turtle populations using satellite tagging. 2. Assessed turtle harvest in TCI waters 3. Developed sustainable turtle fishery management regime
2008 - 2013	Caicos Pine Recovery Project	OTEP	<ol style="list-style-type: none"> 1. GIS maps of current and past habitat of Caicos Pine 2. Description of genetic characteristics of pine trees 3. Plan for experimental plots to test effectiveness of management tools.
2009 - 2010	Terrestrial Habitat Mapping Project	JNCC	<ol style="list-style-type: none"> 1. Country-wide, broad-scale habitat use map
2007-Present	Reef Restoration Project	Conservation Fund, Beaches, Carnival Corporation, JNCC	<ol style="list-style-type: none"> 1. Five established Reef Restoration Projects towards rehabilitation and preservation of vulnerable coral species in the TCI particularly as it relates to developing resilience against climate change 2. Provide additional habitats for fish and crustacean population

Climate Change Adaptation

DFID-funded project 2008 - present

The Intergovernmental Panel on Climate Change (IPCC) has confirmed that small, low-lying coastal developing states like the Turks & Caicos Islands are the most vulnerable to global climate change, and accompanying sea level rise. Responding to climate change risks (adaptation) is therefore important and demands the attention of all key stakeholders.

As part of the Turks and Caicos Islands ongoing efforts to strengthen private and public sector institutional capacities to respond to climate change, the Ministry of Environment and District Administration in collaboration with the Caribbean Community Climate Change Centre (CCCCC) and the United Kingdom Department for International Development (DFID) are developing a ***National Climate Change Adaptation Strategy and Action Plan*** and a ***Climate Change Public Education and Outreach Strategy***.

This ***Green Paper*** is intended to serve as a platform to facilitate ongoing consultations with stakeholders in the public and private sectors and civil society on the implications of climate change for the Turks and Caicos Islands. It is hoped that this ***Green Paper*** will generate informed discussion about a viable climate change strategy for the Turks and Caicos Islands and ultimately lead to the development, adoption and implementation of such a strategy as a key pillar of national efforts to achieve sustainable development.

Endemic and Endangered Plant Rescue Project.

JNCC –funded project beginning July 2010 and ending November 2010.

In the advent of tourism related developments in TCI, important species are compromised. This project aims to rescue or collect suitable planting materials for endemic and endangered plant species as listed by IUCN. The collected planting materials are propagated/raised in ex situ nursery. The ultimate goal of this project is to ensure that important species are not extinct but rather maintain a plant stock to be used as source planting materials in the future. The planting stock in the nursery will also be used for education purposes, not only for elementary and high school students but everybody who may want to study endemic and endangered plants.

Bird Monitoring Project.

Society for the Conservation and Study of Caribbean Birds-supported project that started in 2010. The population of waterbirds in selected areas are monitored. Similarly, the environmental parameters of wetlands where these birds are observed are also monitored. The monitoring provides the type of information needed for adaptive management of a site. This project is part of the *Caribbean Waterbird Census (CWC) Promoting Wetland Bird Conservation*.

Turks and Caicos Islands Turtle Project: Green and Hawksbill Turtles

2009/2010

The Turks and Caicos Islands Turtle Project is research collaboration between the Turks and Caicos Islands (TCI) Department of Environment and Coastal Resources, the Marine Conservation Society, the Marine Turtle Research Group at the University of Exeter Cornwall Campus and the School for Field Studies based on South Caicos. The Project seeks to assess the marine turtle populations and turtle harvest within TCI waters and develop a sustainable turtle fishery management regime.

The satellite tagging programme is supported by the Peoples Trust for Endangered Species and the British Chelonia Group.

http://www.seaturtle.org/tracking/index.shtml?project_id=398

Caicos Pine Recovery Project

OTEP-funded project beginning April 2010 and ending March 2013.

The Caicos Pine, the national tree of the TCI, is threatened by invasive pests- the pine tortoise scale insect *Toumeyella parvicornis*, and Wax scale; salt intrusion; and, uncontrolled forest fire. About 95% of the total pine population are dead or dying. A project to address the problem started in 2008, with funding support from TCI Conservation Fund (2008-2009) and OTEP (2010-2013). The project aims to rescue the remaining seedlings and raise them in ex situ nursery, and hopefully be re-introduced at opportune time. The current and past pine habitats are GIS-mapped and genetic characteristics of the pine trees that occur in the three main islands where the tree occurred are described. Experimental plots to test the effectiveness of using controlled burning as a management tool to control the pine scale infestation is planned. Similarly, the use of systemic insecticide to control the scale insect will be conducted.

The project partners are: RBG Kew, FERA, Turks and Caicos National Trust, Turks and Caicos Island Government's Department for Environment and Coastal Resources, Environmental Health Department, District Administration

Terrestrial Habitat Mapping Project.

JNCC-funded project beginning October 2009 and ending August 2010.

The terrestrial habitat mapping project covers the whole land area of the TCI. The deliverable output include a country-wide broad-scale habitat use map for discernible terrestrial communities compatible with the existing national GIS database. Specifically, the habitat map layers (shape files) for critical, at risk and sensitive areas will be produced.

Artificial Reef Restoration: BioRock, ReefBall and Acropora Nursery Projects

Two Biorock® reef restoration projects were installed in Grand Turk, at Oasis (July 2007), and at Governor's Beach (November 2007) just outside the swim zones. Biorock® Reefs

are funded by the Turks and Caicos Islands (TCI) Government and the Department of Environment and Coastal Resources (DECR), through the Conservation Fund. The system works by submerging a negatively charged cathode framework structure made up of construction grade steel, and a positively charged anode. A low voltage electric current from the shore, which is safe for swimmers, runs between them through seawater causing white limestone, calcium carbonate, to crystallize from seawater onto the framework. The benefits to the corals transplanted to the Biorock® reefs are vast and they have been shown to grow 3-5 times faster and also heal up to 20 times quicker from bleaching or stress.

Most recently in September 2010, a nursery funded by JNCC was developed with the placement of a new domed structure (date?) at the centre of the Governors Beach Biorock for the propagation of the endangered *Acorpora sp.* coral.

Reef Balls have been in place on Grand Turk since November 2008 and are located at the Grand Turk Cruise Centre (GTCC) Beach and Governors Beach. They are funded by the GTCC and Department of Environment and Coastal Resources (DECR) and were developed by the Reef Ball Foundation. The reef balls have been used to relocate corals under threat and enhance the snorkel areas for local residents and tourists alike

Lionfish Control Programme

JNCC-funded project beginning April 2010 and ending April 2011.

The lionfish control programme is expected to promote public awareness to the general public on the effects and ways of which to control the invasive species. Individuals are encouraged to capture the species for the local consumption and create a market. Through the promotion of “tasting events” and the publication of a recipe book, visitors will be able to obtain an understanding of the importance of control of the species for the current and future marine ecosystem.

Other projects

There are other projects such as

- The pilot for the UK Overseas Territories Environment Charter Strategies (Department of Environment and Coastal Resources and UKOTCF)
- Various projects on biodiversity conservation and sustainable use (UKOTCF and others)
- Environmental Education ‘Wonderful Water’ (TCI Education Department, UKOTCF and others)

APPENDIX 7: USEFUL CONTACTS

Department of Environment and Coastal Resources (DECR)

www.environment.tc

National Environmental Centre (NEC)

Lower Bight Road, Providenciales

DECR-Providenciales: Tel. No. 649-941-5122 FAX No. 649-946-4793

DECR-Grand Turk: Tel. No. 649-946-2801 FAX No. 649-946-1895

DECR-South Caicos: Tel. No. 649-946-3709 FAX No. 649-946-3710

DECR-North Caicos Tel. No. 649-946-7108 FAX NO. 649-946-7305

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Ministry of Environment and District Administration

Grand Turk, Turks and Caicos Islands

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Turks and Caicos National Trust

www.nationaltrust.tc

Box 540

Town Centre Mall

Providenciales, Turks and Caicos Islands

(+1649) 941-5710

Tc.natrust@tciway.tc

Turks and Caicos National Museum

Guinep House, Front Street

Grand Turk, Turks and Caicos Islands

Tel. No. +1-649-946-2160

www.tcmuseum.org

Caribbean Wildlife Foundation

Animal House, Neptune Plaza

Providenciales, Turks and Caicos Islands

TCI Environmental Club

DECR's National Environmental Centre or "TCI Environmental Club" Facebook group

Turks and Caicos Reef Fund

Providenciales, Turks and Caicos Islands

www.tcreef.org

RESOURCE PERSONS

Individuals involved in TCI conservation and biodiversity efforts, within TCI

- Wesley Clerveaux: Fisheries management, protected areas management.
- Jewel Batchasingh: General conservation
- Fernando Perez: artificial Reef Restoration, Coastal zone management
- Kathy Lockhart: Fisheries management
- Eric Salamanca: Restoration Ecology, Biodiversity Conservation, invasive spp. control
- Jodi Johnson: Coral reef restoration
- Rhodriquez Ewing: Conservation law enforcement, bird monitoring.
- B Naqqi Manco: Botany, orchids, general ecology, history. Grant-writing.
- Lormeka Morley-Williams: Environmental Education
- Michelle Fulford-Gardiner: Environmental and protected areas management.
- Judith Campbell: Environmental law.
- Monet Collymore: Tropical dry forest ecology.
- Kathleen McNary Wood: Regional terrestrial botany and ecology.
- Marsha Pardee: Regional marine and mangrove ecology.
- Ethlyn Gibbs-Williams: History, culture. Turks and Caicos National Trust.
- Jonathan Sayao: Environmental education
- Edison Gibbs: East Caicos, caves, trails.
- Alton Higgs: Local herbalist, bush doctor.
- Nicardo Ewing: Eco-tourism.
- Mark Parrish: Eco-tourism, sub-aquatic cave ecology.
- Brent Forbes: Eco-tourism.
- David Stone: Nature photography and coral reef
- Don Stark: Videography, Coral Reef
- Brian Riggs: TCI History and archaeology
- John Claydon: Marine Ecology
- Members of TCI Environmental Club

Individuals active in TCI conservation and biodiversity, based outside TCI

- Donald Keith: Archaeology, artefact preservation. Ships of Discovery; USA.
- William Keegan: Archaeology, extinct fauna, Lucayan language. USA.
- Gigi Saunders: Environmental education. Bahamas.
- Margaret Jones: Native plant identification and landscape use. South Africa
- Rob Wilde: Formerly of DECR's Coastal Resources Management Project. Terrestrial and marine ecology and development impact.
- Lorna Slade: Marine turtle conservation and education.
- Mark Day: Former director (2000-2001) DECR. UK.
- Jimi Sadle: Botany, invasive species management. Everglades National Park; USA.
- Jen Trusty: Botany. Florida.
- Ethan Freid: Botany, Bahamas Archipelago. Bahamas National Trust; Bahamas.
- Dace Ground: Coordination, NGOs, publishing, legislation. Bermuda.
- Richard Ground: Nature photography. Bermuda.
- Fred Burton: Caribbean botany, *Cyclura* iguanas, GIS. Cayman Islands.
- Sara Cross: NGO management. UK.
- Grace Turner: Loyalist-era ship carvings; Bahamas.
- Gerald Guala: Botany, specifically grasses.
- Martin Hamilton: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Marcella Corcoran: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Michele Sanchez: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Damien Hicks: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Daisy Dent: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Susanna Baena: GIS and habitat mapping. Royal Botanic Gardens, Kew; UK.
- Colin Clubbe: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Tom Heller: Botany, plant conservation. Royal Botanic Gardens, Kew; UK.
- Tom Illiffe: Cave crustaceans.
- Oliver Cheesman: Entomology: Lepidoptera. CABI Bioscience; UK
- Mike Pienkowski: Ornithology & ecology. UKOTCF; UK.
- Ann Pienkowski: Environmental education. UKOTCF; UK.
- Glenn Gerber: *Cyclura* iguanas and Caribbean reptiles and amphibians. San Diego Zoo; USA.
- Jeff Lemm: *Cyclura* iguanas and Caribbean reptiles and amphibians. San Diego Zoo; USA.
- R. Graham Reynolds: *Cyclura* iguanas and TCI snakes. University of Tennessee; USA.
- Karen Lisi: *Cyclura* iguana nutrition. USA.

- Roger Booth: Entomology: beetles. British Museum; UK
- Jim Hart Caves. The Nature Conservancy, Shippensburg, PA, USA
- Tony Hutson: Chiroptology. Bat Conservation Trust, UK.
- Tim McCarthy: Chiroptology. Carnegie Museum of Natural History, USA.
- Sophie Williams: MSc focus on TCI endemic plants. UK
- Chloe Hardman: MSc focus on TCI invasive plants. UK.
- Harry Earle-Mundil: MSc focus on pine yard ecology and endemic *Stenandrium*. UK.
- Elizabeth Brown: Environmental education. USA.
- Beth-ann Neiss: Botany, herbarium specimen collection. USA.
- Numi Mitchell: *Cyclura* iguanas. USA.
- Michael Fouraker: Flamingos. Fort Worth Zoo, USA.
- Katie Unger: Flamingos. Fort Worth Zoo, USA.
- Lisa Sorenson Birds Monitoring, University of Boston, USA and Society for the Conservation of Caribbean Birds (SCSCB)
- Matthew Simpson Wetland, Wildfowl and Wetland Trust (WWT), UK
- David Stroud Birds, Joint Nature Conservation Committee (JNCC), UK
- Tara Pelembe: General Biodiversity Conservation, JNCC, UK
- Peter Richardson Turtle Research, Exeter University, UK
- Manuela Schuwerach, Coastal Resilience, Plymouth University, UK

International Conservation Institutions with Active Project Partnerships in TCI

- United Kingdom Overseas Territories Conservation Forum
- Joint Nature Conservation Committee
- Overseas Territories Environment Programme San Diego Zoo Conservation and Research of Endangered Species
- Wildfowl and Wetlands Trust
- Royal Society for the Protection of Birds
- Caribbean Wildlife Foundation
- Royal Botanic Gardens, Kew
- Bahamas National Trust
- Bahamas Department of Agriculture
- US Forest Service
- The Nature Conservancy
- Fairchild Tropical Botanical Gardens
- Montgomery Botanical Foundation
- Institute for Regional Conservation
- Society for the Conservation and Study of Caribbean Birds
- Fort Worth Zoo
- Marine Conservation Society

- The Marine Turtle Research Group (University of Exeter)