

## Topic 10: Posters and other items on other topics

We have tried to include in these Proceedings the posters where these were made available to the editor. Those posters which related to the topics of conference sessions have been included with those sessions. The other posters received are included in this section.

In a note on all the posters, Jennifer Gray, of Bermuda, reported:

Some 40 presentations dotted around the walls of our conference rooms are most definitely worthy of acknowledgement. Overall they were impressive and expressed a deep sense of national pride by the authors. This especially pertained to those which spoke of native and endemic biodiversity. It also is evident that we have amongst us an extraordinary gathering of photographers; the quality of imagery is suggestive of National Geographic quality in many cases. Many of these presentations were a welcome window into the culture of our special territories where we saw community participation and homeland names entwined in progressive monitoring, research, and educational programmes.

We can see from these presentations that OTEP has a supporting presence throughout the territories and the Darwin Initiative continues to do good work. It is somewhat concerning that these sources for funding are so limited but at the same time refreshing to see JNCC now offering some assistance.

Posters revealed that throughout the territories we are all working hard and going in the right direction. If Ascension Island was successful at eradicating the entire island of feral cats and enabling the successful re-establishment of a sea-bird colonies and Falklands can succeed at reducing the mortality rate in sea-bird populations by 90%, then we can safely say that any effort is worthwhile and that there is hope for the biodiversity in our territories in the hands of this group of passionate environmentalists.



*At work throughout the conference!/: Dace Ground (left) consults Eudora Fergus and Mike Pienkowski on points in the conference summary and conclusions.*

## Poster: BVI National Parks Trust

**Joseph Smith Abbott and Nancy K. Woodfield-Pascoe, British Virgin Islands National Parks Trust**



Smith Abbott, J. & Woodfield-Pascoe, N.K. 2007. BVI National Parks Trust. p 332 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

The British Virgin Islands National Parks Trust is a statutory body established by the Government of the British Virgin Islands through the National Parks Ordinance of 1961. Under this Ordinance, the Trust is responsible for managing natural and historic resources in legally declared protected areas. The Marine Parks and Protected Areas Ordinance of 1979 further strengthens the Trust's role in acquiring, integrating and managing marine areas and adjacent terrestrial habitats. Twenty National Parks and Protected Areas have been established from 1969 to 2003.



Additionally, the work of the Trust supports the fulfilment of regional and international agreements designed to protect the natural environment and the cultural heritage of the BVI. All activities in protected areas are coordinated for the rational and sustainable utilisation of natural resources.

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## Poster: Anegada Vegetation Habitat Mapping

**Nancy K. Woodfield-Pascoe and Joseph Smith Abbott, British Virgin Islands National Parks Trust**



Woodfield-Pascoe, N.K. & Smith Abbott, J. 2007. Anegada Vegetation Habitat Mapping. p 333 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, www.ukotcf.org

A Darwin Initiative funded project to assess Anegada's coastal biodiversity from 2003-2006 resulted in vegetation habitat mapping using geographic information systems (GIS), in addition to the collection of flora species for seed banking and herbaria samples in collaboration with the Royal Botanic Gardens Kew.

Approximately 60,000 seeds from 16 species of flora were collected from throughout the BVI for inclusion in the Royal Botanic Gardens Kew Millennium Seed Bank Project. Additionally, 120 herbarium specimens from 40 species of flora were collected and sent to Royal Botanic Gardens Kew for curation, with half of the specimens accessioned into the Kew herbarium, with the remainder being temporarily stored until the BVI herbarium is established.



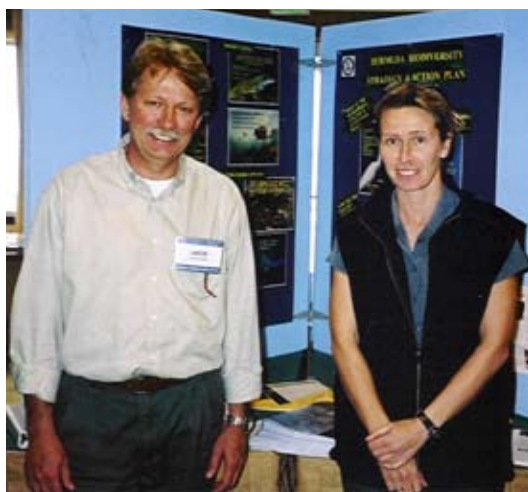
The GIS habitat map of Anegada will provide an important reference map for future scientific research on Anegada's flora and also the continued research of the critically endangered Anegada Rock Iguana *Cyclura pinguis* and its native habitat.

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# Poster: Development and population of a dynamic, map-based, interactive Bermuda biodiversity web portal for island-wide and global information dissemination

A.F. Glasspool, J.A. Ward, W. Sterrer, M. Outerbridge and T.J. Murdoch, Bermuda Zoological Society and Department of Conservation Services, Bermuda

Glasspool, A.F., Ward, J.A., Sterrer, W., Outerbridge, M. & Murdoch, T.J. 2007. Development and population of a dynamic, map-based, interactive Bermuda biodiversity web portal for island-wide and global information dissemination. pp 334-336 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)



*The first two authors*

In a community-wide collaborative initiative, the Bermuda Biodiversity Project has been collating information on Bermuda's biodiversity into a central repository at the Bermuda Aquarium, Museum and Zoo, and at the same time has been undertaking baseline studies in an effort to fill the information gaps, so as to promote more informed environmental management. A Bermuda Natural History Bibliography has been established, and a Bermuda Species database is a 'work in progress' with over 7,000 species listed to date. However, access to this vast resource has been severely limited and is currently restricted to those who physically visit the facility. Scientists, educators, students, resource managers, and visitors have had no remote access to any of this information. Moreover, much of the biodiversity information has been contained in specialised scientific papers in a format that is of little interest to the wider public.

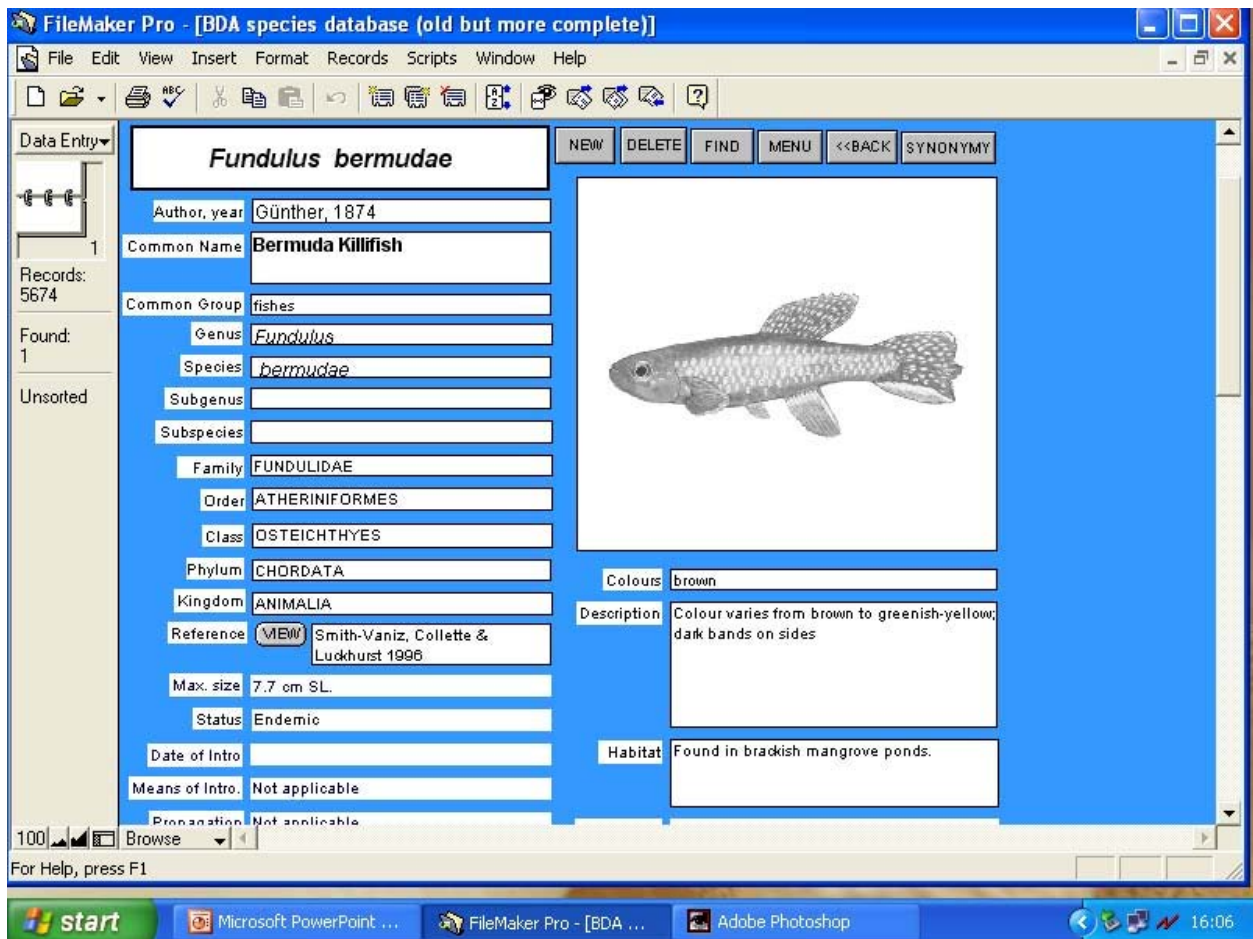
Funded through OTEP and the Department of Conservation Services, the design and population of a purpose-designed web portal is a remedy to this situation. More than just an online environmental encyclopaedia, the web portal is using the latest Flash multimedia technology and a proprietary mapping system that powers an interactive map of Bermuda, to make available critical biodiversity information in an exciting, interactive and educational format. Once compiled, the user will be able to view distribution data for habitats and key species (endemics, protected species, invasive species, etc.) as layers which may be switched on or off so that they can be superimposed upon one another, as well as follow dynamic links that lead to the related data and literature. They will have access to the searchable Species Database and Bermuda Bibliography. Key reference materials and teaching materials including Powerpoint presentations will be made available as pdf files whilst streaming video and still images will bring texts to life. Such an interactive approach is long overdue. Local conservationists and educators have long realised the need for a more engaging strategy for promoting the Island's unique natural history and the conservation issues faced.

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## Background

Bermuda is one of the best studied islands in the world. Over 4,000 scientific documents describe

the island's natural history, which includes over 8,000 locally-recorded species, and numerous isolated datasets exist which house critical biodiversity information. From the enactment of the

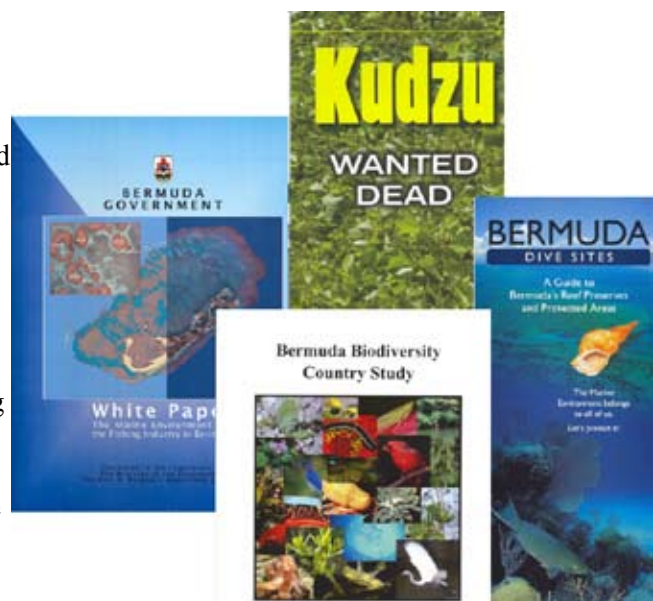


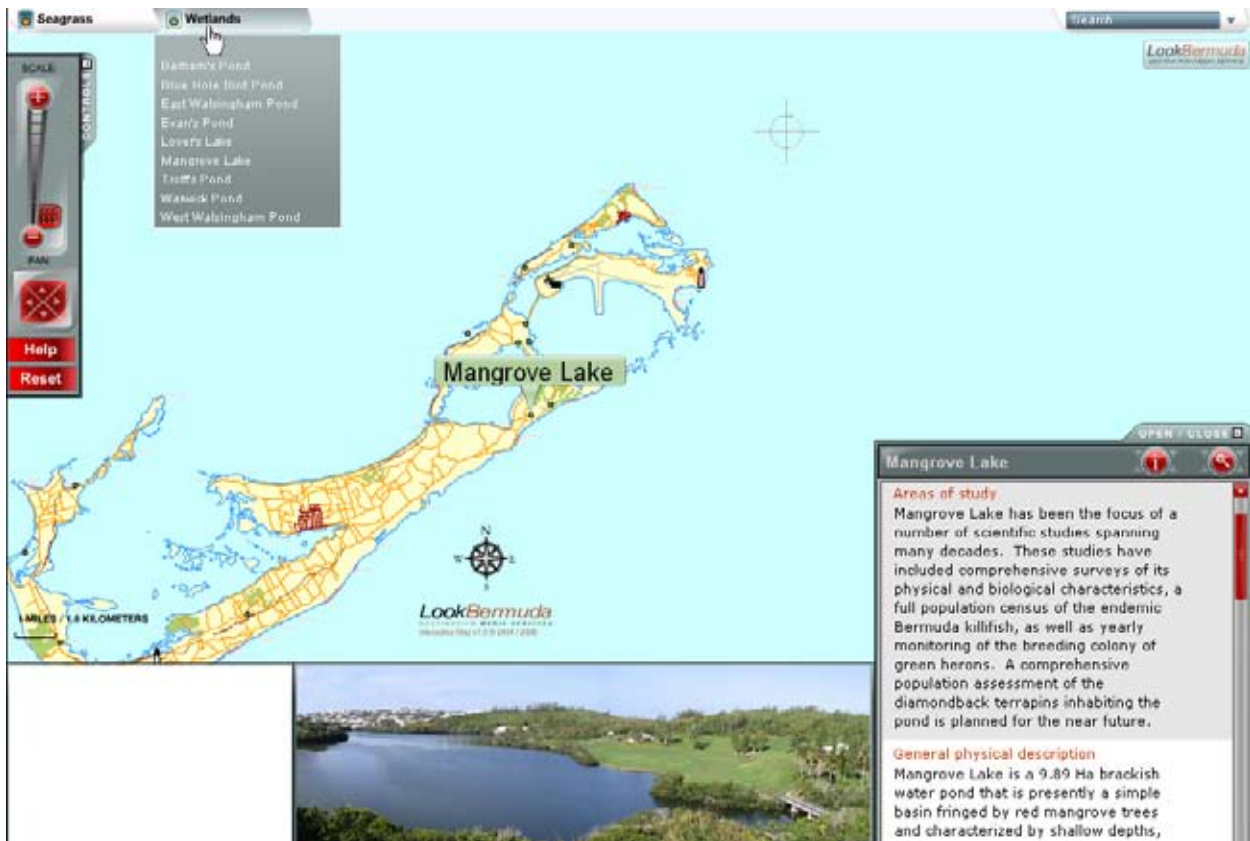
earliest conservation legislation in the western hemisphere to the development of the first widely-recognised example of an ecosystem restoration effort, Bermuda has often been seen as a leader in good conservation practices. At the same time, human colonisation and development have resulted in one of the world's most densely populated islands (1,500 people per km<sup>2</sup>), and a landscape that is widely considered as suburban. Major threats include habitat loss and competition with invasive species, largely mediated by human impact. These changes have resulted in the known extinction of 25 endemic species, the decimation of an estimated 200 native species, and naturalisation of at least 1200 exotic terrestrial species. Bermuda's biodiversity is seriously threatened.

One of the primary goals for launching the Bermuda Zoological Society's Bermuda Biodiversity Project in 1997 was the collation of all the existing historical data on Bermuda's biodiversity. There was justifiable concern that much of this information was widely scattered and not easily accessible to current researchers and resource managers. The design and population of a purpose-designed web page seeks to remedy this situation.

## Project Goals

More than just an online environmental encyclopaedia, the web site under development is using the latest Flash multimedia technology and a proprietary interactive mapping system which powers an interactive map of Bermuda, the "LookBermuda





map” ([www.lookbermuda.com](http://www.lookbermuda.com)) to make available critical biodiversity information in an exciting, interactive, educational format. The user will be able to view habitat distributions and key species distributions (endemics, protected species, invasive species) as layers which may be switched on or off so that they can be superimposed upon one another, as well as data and literature related to them. They will have access to the searchable Species Database and Bermuda Bibliography. Key reference materials and teaching materials including powerpoint presentations will be made available as PDF files whilst streaming video and still images will bring texts to life.

## Outputs

- A searchable species database incorporating taxonomic information on 7,200 species, and descriptive information and scanned illustrations of 2,000 of these
- A searchable bibliography with over 4,200 Bermuda-based scientific references
- GIS-integrated habitat and species layers for all key habitats, nature reserves, protected areas, endangered species, natives and endemics
- Key Bermuda environmental resource materials accessible via the web as PDF files (technical reports, brochures, species recovery and action plans, teaching materials, ECOfiles)

- An online interactive field guide to Bermuda’s natural history
- Curriculum-driven online lesson plans
- Streaming video of a suite of ongoing conservation and research initiatives
- Powerpoint presentations of key studies and their findings
- An online map-based reporting mechanism to allow members of the public to report unusual species sightings on land or at sea.

## Acknowledgements.

We gratefully acknowledge the support of the UK Government’s Overseas Territories Environment Programme, the Bermuda Government and the Bermuda Zoological Society for this initiative.

This is Contribution # 131, Bermuda Biodiversity Project (BBP), Bermuda Aquarium, Natural History Museum and Zoo.

## **Poster: Distribution, population assessments and annual reproductive cycles of Bermuda's endemic killifishes**

**Mark Outerbridge, John Davenport and Anne F. Glasspool, Bermuda Zoological Society, and Department of Zoology, Ecology & Plant Science, University College Cork, Ireland**

Outerbridge, M., Davenport, J. & Glasspool, A.F. 2007. Distribution, population assessments and annual reproductive cycles of Bermuda's endemic killifishes. pp 337-339 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

*Fundulus bermudae* and *Fundulus relictus* are endemic to the islands of Bermuda and are listed as protected species in the Bermuda Protected Species Act 2003. These killifishes were described as abundant and widespread in the wetland communities of Bermuda during the late nineteenth and early twentieth centuries, but are now only found in nine small, isolated ponds. Quantitative assessments of each pond population have been lacking and are limiting conservation efforts for these species. Surveys were undertaken during 2004-2005 to determine the current distribution as well as to make estimates of the size and structure of each *Fundulus* population. This was achieved by performing a census based on mark and recapture sampling while simultaneously gathering size frequency and demographic variance data to assess the condition of each population. In addition to these assessments, the annual reproductive cycle was described from the population inhabiting Mangrove Lake.

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# Distribution, population assessments and annual i

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**Overview:** *Fundulus bermudae* and *Fundulus relictus* are endemic to the islands of Bermuda and are listed as protected species in the Bermuda Protected Species Act 2003. These killifishes were described as abundant and widespread in the wetland communities of Bermuda during the late nineteenth and early twentieth centuries, but are now only found in nine small, isolated ponds. Quantitative assessments of each pond population have been lacking and are limiting conservation efforts for these species. Surveys were undertaken during 2004-2005 to determine the current distribution as well as to make estimates of the size and structure of each *Fundulus* population. This was achieved by performing a census based on mark and recapture sampling while simultaneously gathering size frequency and demographic variance data to assess the condition of each population. In addition to these assessments, the annual reproductive cycle was described from the population inhabiting Mangrove Lake.



Fig.1 Setting the baited minnow traps

Fig.2 Mature male killifish



Fig.3 Mature female killifish with green VIE tag

**Introduction:** Bermuda's anchianine ponds are isolated, saline, land-locked bodies of water with permanent connections to the ocean. Temperature and salinity are dependent upon the amount of sea water that enters from the ocean and vary from pond to pond, showing predictable seasonal patterns (1). The relative stability and isolation of these ponds has created sanctuaries for the organisms living in them and have enabled species like the killifishes to evolve to the degree of endemism. To date, 433 species of fishes have been recorded in Bermuda, of which eight are currently recognized as valid endemic species (2). Two of these eight endemics belong to the genus *Fundulus*; *Fundulus bermudae* and *Fundulus relictus*. These fishes are believed to be descendants of the *Fundulus heteroclitus* - *F. grandis* species group, originating from populations on the east coast of North America (3).

**Tagging:** 44 different areas around Bermuda were surveyed using a combination of direct observation and baited trapping (Fig.1). Where extant populations were found a census was performed based on the Petersen Index methodology of mark and recapture (4) using visible implant elastomer (VIE) tags. These biocompatible tags provided a clearly visible internal mark and were given to fish under full anaesthesia, immediately below the skin (Fig.4). Sex and total length were determined at the time of tagging.

**Results:** The surveys confirmed the existence of populations in the following locations only; Lover's Lake, Bartram's Pond, Mangrove Lake, Trott's Pond, Blue Hole Bird Watchers Pond, both East and West Walsingham Ponds, Warwick Pond and Evan's Pond (Fig. 5). No additional *Fundulus* populations were discovered. Size ranges, mean lengths, sex ratios and population estimates for 7 populations are displayed in Table 1. Females were significantly larger than males of the same age from Lover's Lake, West Walsingham, and Warwick Pond. Additionally, females outnumbered males in all ponds surveyed, except Trott's Pond where the sexes occurred in equal numbers.



Fig.4 Injecting *F. bermudae* with red VIE

**Acknowledgements:** This investigation was initiated by the Bermuda Biodiversity Project, and sponsorship provided by the Ernest E. Stempel Foundation, Mr. and Mrs. Anthony Jonklaas of the Kenridge Fund, and the Bermuda Government Department of Conservation Services. Thanks are due to Dr. Sarah Manuel and Anson Nash of the Department of Conservation Services Applied Ecology Unit and also to Evan Outerbridge for providing technical assistance in the field, as well as to Dr. Brian Luckhurst and Tammy Trott at the Department of Environmental Protection for granting access to their laboratory.



# reproductive cycles of Bermuda's endemic killifishes

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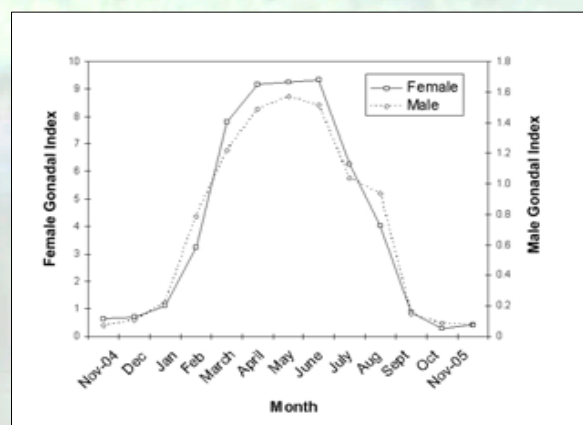
**Table 1.** Population assessments for *Fundulids* in Bermuda

Pond	Area (ha)	Size range TL (mm)	Mean Length TL (mm)	Female:Male ratio	Estimated population	Fundulus species
Mangrove Lake	12.27	52 – 126	71.9	1.17:1	15,200 (+/-2,220)	<i>F. bermudae</i>
Trott's Pond	3.85	36 – 100	61.5	1:1	9,528 (+/-2,538)	<i>F. bermudae</i>
Lover's Lake	0.50	41 – 97	63.0	1.08:1	9,194 (+/-1,647)	<i>F. relictus</i>
Blue Hole Bird Watchers Pond	0.12	34 – 97	55.0	1.78:1	6,706 (+/-1,272)	<i>F. bermudae</i>
West Walsingham Ponds	0.20	27 - 72	48.3	1.86:1	2,237 (+/-173)	<i>F. bermudae</i>
Bartram's Pond	0.40	38 – 92	53.8	2.06:1	1,808 (+/-616)	<i>F. relictus</i>
Warwick Pond	1.62	41 – 129	77.1	1.21:1	617 (+/-56)	<i>F. bermudae</i>

\* Not included are Evan's Pond and the East Walsingham Ponds; fish could not be trapped in these two ponds.



**Fig.5** Distribution of killifishes across the islands of Bermuda



**Fig.6** Spawning cycle of killifish from Mangrove Lake



**Fig.7** Mangrove Lake

Photo by Mark Outerbridge

**Reproductive cycles:** Laboratory analysis of gonad development allowed for the description of the annual reproductive cycle of killifish from Mangrove Lake (Fig.7). A distinctive annual pattern was evident, with female and male cycles synchronous over the 13 month study period. The results indicate that these fish began their spawning season in winter and reached maximum reproductive output in early summer. Gonadal indices abruptly fell after June and continued to fall at a steady rate until September, marking the end of the spawning season. (Fig.6).

**Discussion:** The present distribution of Bermuda's *Fundulids* is substantially different from their former distribution. Historical records indicate that they were once abundant and widely distributed throughout many of the marshes and ponds of Bermuda, as well as the muddy bays around St. George's and St. David's in the mid 1800s and early 1900s (2,5,6). The survey results of the present investigation indicate that Bermuda's *Fundulus* species have completely disappeared from the coastal mangrove and the inland marsh communities. Human modification to historical killifish habitats is the single greatest reason why distribution is currently limited. Since Bermuda's killifish are now found in a few isolated populations, consideration has to be given to their viability in the short and long term. At least three populations are sufficiently low enough to be deemed vulnerable to extinction. The creation and restoration of wetland habitats, combined with transfer of killifish from the larger populations, is a sensible step forward to ensure the survival of these unique species.

**Literature Cited:**

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- (2) Smith-Vaniz, W.F., Collette, B.B., & Luckhurst, B.E. (1999) *Fishes of Bermuda: History, Zoogeography, Annotated Checklist, and Identification Keys.*
- (3) Able, K.W. & Felley, J.D. (1988) Bermuda *Fundulus* (Pisces: Fundulidae) revisited: taxonomy of the endemic forms. *Proceedings*, 140, 99.
- (4) Ricker, W.E. (1958) Handbook of computations for biological statistics of fish populations. *Fisheries Research Board of Canada. Bulletin* No. 119.
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- (6) Beebe, W. & Tee-Van, J. (1933) *Field book of the shore fishes of Bermuda and the West Indies.*

This is Contribution # 132, Bermuda Biodiversity Project (BBP), Bermuda Aquarium, Natural History Museum and Zoo

# Poster: Sustainability and the Ecosystem Approach

**Diana Mortimer, Joint Nature Conservation Committee**



Mortimer, D. 2007. Sustainability and the Ecosystem Approach. p 340 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

The ecosystem approach is an exciting concept. Its application seeks to create a world where natural resources and people are both fully taken into account. It provides a framework against which to assess if a policy (e.g. sustainable development plans) or project (e.g. individual species projects) meets sustainability objectives.

The core concept of the approach lies in integrating and managing the range of demands we place on the environment, such that it can indefinitely support essential services and provide benefits for all without deterioration to the natural environment. Adopting this balanced approach enables people and their natural resource use to be placed squarely in the centre of decision making, allowing a more equitable and long-term future for all.

The Joint Nature Conservation Committee (JNCC) can provide advice on how to use the ecosystem approach to help implement environmental charters, requirements of multilateral environmental agreements and individual projects.

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# Poster: Valuation and other economic tools for the Overseas Territories

Emily McKenzie, Joint Nature Conservation Committee



McKenzie E. 2007. Valuation and other economic tools for the Overseas Territories. p 341 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

Many ecosystem services are undervalued by the market or ignored in policies. As a result, biodiversity is often under-priced, over-consumed and under-conserved. Environmental economics tools can be used to address these problems, by helping to: 1) understand the root causes of biodiversity loss; 2) estimate and communicate the value of biodiversity; 3) assess the costs, benefits and uncertainty of alternative development options; and, 4) develop incentives for biodiversity conservation and sustainable use. JNCC is developing guidelines on simple environmental economics tools for the Overseas Territories and other small island States and Territories.

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# Poster: Fragments of Paradise: Promoting Biodiversity Conservation in the UKOTs

## UK Overseas Territories Conservation Forum

UK Overseas Territories Conservation Forum 2007. Fragments of Paradise: Promoting Biodiversity Conservation in the UKOTs. p 342 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

The Forum was established in 1986, as an unincorporated institution, when a number of UK-based science and conservation organisations recognised a previously unaddressed need to promote and coordinate conservation of the diverse and increasingly threatened plant and animal species and natural ecosystems in the UK Overseas Territories. UKOTCF became a charitable company in 1996. UKOTCF has assisted the establishment and development of locally based NGOs in the UKOTs, which are now strong members of the Forum.

The Forum display provides an introduction to the remarkable biodiversity of the UK Overseas Territories and the work of the UK Overseas Territories Conservation Forum and its member organisations. The Forum has helped local people to form conservation NGOs, and helps both these and governmental bodies develop their capacity to run themselves and manage projects, often jointly with UKOTCF and its other member organisations. It helps raise awareness about the wealth of biodiversity in UKOTs, both within the UK and the UKOTs. The display is a series of interpretation boards, three introductory boards and one each for fifteen of the individual UK Overseas Territories. Images based on the boards can be viewed on the UKOTCF web-site ([www.ukotcf.org](http://www.ukotcf.org)).

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# Poster: UK Overseas Territories Programme: current projects, activities and collaborations

Royal Botanic Gardens, Kew

Royal Botanic Gardens Kew 2007. UK Overseas Territories Programme: current projects, activities and collaborations. pp 343-350 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

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 	<h2>UK Overseas Territories Programme</h2> <p>Current projects, activities and collaborations</p>
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<h2>Raising awareness in the UK Overseas Territories</h2>
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### Kew works at three levels with UKOTs:

- Strategically by providing policy advice to the Foreign Office, Department of Environment, Food and Rural Affairs, and the Department for International Development
- Technically by undertaking a wide range of conservation projects both at Kew and in Territory and providing opportunities for capacity building and institutional strengthening
- In an Advisory role to both Governments and NGOs in Territories on a whole range of conservation related activities

### Our approach to developing and implementing conservation projects with our in-territory partners:

- Document biodiversity – what plants are found there
- Assess the origin of these plants – native, endemic, introduced, invasive
- Determine the distribution of these plants and assess the main threats
- Undertake conservation assessments
- Produce Territory Red Lists
- Evaluate the conservation/management needs (often as part of developing a management plan)
- Evaluate local capacity to identify what training needs there are and how these can best be met.



Caribbean Region GSPC Workshop participants in Montserrat, 2006

### Project Work Supported by:

- Darwin Initiative:
  - British Virgin Islands
  - Anegada, British Virgin Islands
  - Montserrat
  - Cayman Islands
- Overseas Territories Environment Programme:
  - Montserrat
  - Turks and Caicos Islands
- Kew
  - St Helena
  - Ascension
  - British Virgin Islands

# British Virgin Islands

## Assessment of the Coastal Biodiversity of Aneгада, BVI

Kew has been working closely with the BVI National Parks Trust (NPT) and the local community to build capacity and raise awareness about Aneгада's unique biodiversity and the threats it faces. Through this work many significant conservation outputs have been achieved including a Vegetation Map of Aneгада and a Red List of the flora.



Darwin Team members with local school group in the field

Other achievements of the project:

- a herbarium specimens collecting programme and a herbarium to house a national reference collection at the J.R. O'Neal Botanic Garden on Tortola
- a seed collecting programme and a long term seed storage unit at the J.R. O'Neal Botanic Garden
- development of botanical skills by providing training workshops and field experience



Kew and BVI NPT staff in the field



J.R. O'Neal Botanic Garden on Tortola

Kew has provided on-going support for the nursery facilities at the J.R. O'Neal Botanic Garden on Tortola. The science nursery area now holds 10 threatened species in *ex situ* collection. All garden staff have undertaken training in a range of horticultural topics.



Kew staff providing training in orchid propagation to J.R. O'Neal Botanic Garden Staff

# Montserrat

## Enabling the People of Montserrat to Conserve the Centre Hills

The volcanic eruptions of 1995-97 destroyed almost all the forests of the southern hill ranges resulting in the total loss of about 60% of Montserrat's forest ecosystem. The Centre Hills now hold the largest intact forest area remaining on the island. It is the last viable enclave for most of the island's wildlife. This highly collaborative three year Darwin project is undertaking a biodiversity assessment of the Centre Hills, researching the impact of alien invasive species on forest ecology and producing a Management Plan.



*Rondeletia buxifolia* is endemic to Montserrat



*Epidendrum montserratense* is endemic to Montserrat

Before the start of the project, little was known of the plant composition of the Centre Hills. Our work has already increased the number of plant species recorded for the island, and we have re-discovered one of Montserrat's endemic shrubs, *Rondeletia buxifolia* in the family Rubiaceae.

We are producing a Montserrat Vegetation Map, a Conservation Checklist for the flora of the Centre Hills and a Conservation Checklist and Red List for the whole island.



Kew staff collecting herbarium specimens in the Centre Hills



Kew staff using mobile technology for field data collection



Kew and Darwin Project Staff in the field with GIS maps



# Turks and Caicos Islands

Kew have been active in TCI through the work of the UK Overseas Territories Conservation Forum. Currently, we are working on a Red List of TCI plants. Our collaboration with the TC National Trust (TCNT) has found the endemic variety of Caribbean Pine, *Pinus caribaea* var. *bahamensis*, to be infested with a non-native scale insect. We are currently seeking funding to establish a project to help protect the pine.

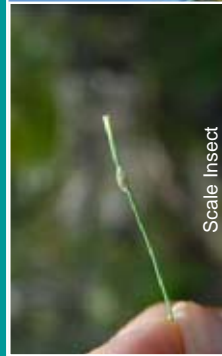


TCNT staff collecting herbarium specimens for red list project



Staff from Kew and TCNT working together to collect seeds of restricted range plant species

TCI have started a seed collecting programme through training provided by the Millennium Seed Bank Project (MSBP). Resulting seedlings will be added to the conservation collections at Kew. In time, cultivation protocols will be provided for the Territory so that the TCNT can grow native plants for use at sites under their management for landscaping or *in-situ* conservation.



Scale Insect



Kew staff using mobile technology to record scale infestations



MSBP staff training TCNT staff in herbarium voucher specimen collection

# Cayman Islands

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

The Darwin Initiative project aims to draw together local and international expertise with the goal of developing a Biodiversity Action Plan for the Cayman Islands - protecting terrestrial and marine life and their habitats.



Devastation after Hurricane Ivan

Land clearance for development and the devastating effects of Hurricane Ivan have opened many new areas of land for invasion by alien species. Recording and mapping these non-native aliens and developing strategies for dealing with them are important components of the Darwin Project.

Other botanical activities underway are:

- formation of a botanical stakeholders group
- initiation of a seed collecting programme
- publication of two key reference works: a second edition of the *Flora of the Cayman Islands*, and a *Red List for the Cayman Islands*.



Conservationists examine the endemic palm, *Coccothrinax proctorii*



Queen Elizabeth II Botanic Park (QEII BP)



QEII BP staff have successfully propagated the endemic shrub *Pisonia margaritae*

A native plant nursery has been established at QEII BP to encourage use of native species in landscaping and reduce the use of potentially invasive imported species. Seeds of 40% of the initial target of 20 species have been collected and established.



*Scaevola sericea* is a highly invasive alien species of coastal habitats

## Ex Situ Conservation Collections of UK Overseas Territories Species

The overall goals of the programme is to secure threatened species in *ex situ* cultivation, to develop recovery programmes as required, and to train project partners in threatened species management.



*Acacia anegadensis*

Inset: Staff looking after BVI endemic plants in Kew's Tropical Nursery

An on-going project has propagated *Trochetiopsis ebenus* and *T. erythroxylon*, two Critically Endangered trees from St. Helena, using traditional and novel methods.

- Kew's Micropropagation Unit undertook work to increase the collections of these tree species.
- Plants grown in agar-based cultures proved unsuitable for transplantation due to a poorly developed root system.
- The team trialed two novel supporting materials and is now able to produce healthy plants.

One project has focused on the Critically Endangered, single island endemic, *Acacia anegadensis* from Anegada, BVI:

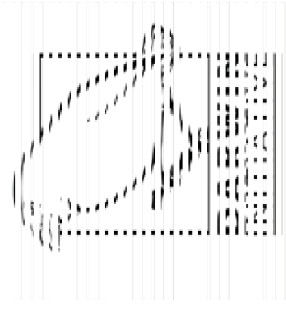
- Seeds from the Millennium Seed Bank Project were sown in the Tropical Nursery at Kew. A mirror project was undertaken at the J.R. O'Neal Botanic Garden in BVI.
- Resulting seedlings were trialled in different media types and climatic zones.
- Our findings are now being compiled and a protocol will be provided to the BVI.



*Trochetiopsis ebenus*

Staff looking after St Helena endemic plants in Kew's Tropical Nursery  
Inset: micropropagation of *T. ebenus*

# Current partners and funders of Kew's UKOTs Programme



# Book launch: Important Bird Areas in the UK Overseas Territories

**Sarah Sanders and Geoff Hilton, RSPB**

Sanders, S. & Hilton, G. 2007. Important Bird Areas in the UK Overseas Territories. pp 351-352 in *Biodiversity That Matters: a conference on conservation in UK Overseas Territories and other small island communities, Jersey 6<sup>th</sup> to 12<sup>th</sup> October 2006* (ed. M. Pienkowski). UK Overseas Territories Conservation Forum, [www.ukotcf.org](http://www.ukotcf.org)

The BirdLife Important Bird Area Programme is a worldwide programme that identifies sites of global biodiversity importance using internationally agreed and scientifically objective criteria. Across the UK Overseas Territories, 78 Important Bird Areas have been selected. Apart from birds, experience from elsewhere shows that Important Bird Area sites form an effective network for protecting wider biodiversity.

What next?

Although the process has identified priority sites for conservation action this is only the first step. At each of these sites we would like to see:

- Development of site management plans
- Action to conserve biodiversity
- Increased allocation of resources for conservation
- Regular monitoring and reporting on the status of sites
- Protected Area designation given to sites
- Policy makers taking IBA sites into account when making strategic development decisions

How?

There is no single approach that will apply to all IBAs – depending on the Territory some actions will be more applicable than others.

- Identify a national IBA co-ordinator
- Raise the profile of the IBA programme within Territories
- Establish 'Site Support Groups' of local stakeholders to monitor and champion sites
- Develop relationships with UK and UKOT government institutions so IBAs are designated as Protected Areas and resources are allocated for better management
- Set up an IBA monitoring system so we know what is happening at sites
- Provide relevant IBA monitoring data to UK and UKOT government institutions (helping them to meet reporting obligations under international conventions)
- Engage in regional BirdLife networks to share experiences

Who?

As resources are often limited on the UKOTs, to take the programme forward will require support from NGOs, Government and local communities.

More information: [www.birdlife.org](http://www.birdlife.org)

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*Above: Those authors and editors of Important Bird Areas in the United Kingdom Overseas Territories: Priority sites for conservation present at the conference gather for the book's launch.*

*Below: Exploratory meeting leading to the creation of UKOTCF's Europe Territories Working Group*

