

# Bermuda

32° 19' N , 64° 46' W

3



# Bermuda

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## Basic facts and Figures

Note: Island areas calculated using Bermuda’s 2003 Topographic Map Database (TMD). Islets smaller than 30m<sup>2</sup> were excluded from the calculation (M. Shailer, pers comm.).

<b>Location</b>	Bermuda is located in the subtropics of the North Atlantic at latitude 32° 19’ N and 64° 46’ W. The islands lie 1,476km Northeast of Nassau, Bahamas and 1,052km East of Cape Hatteras, North Carolina, USA. See map at Appendix 1.
<b>Area</b>	53.71km <sup>2</sup> (20.73 miles <sup>2</sup> ).
<b>Number of islands</b>	There are eight islands connected by bridges and causeways that make up “mainland” Bermuda. There are also approximately 193 other smaller islands/islets measuring 30m <sup>2</sup> or greater. Of these, 56 islands are inhabited, or were at one time (M. Shailer).
<b>Population</b>	64,566 (2010 projection, Dept. of Statistics 2006).
<b>Topography</b>	Bermuda is a mid-Atlantic seamount topped by a limestone cap. The islands lie along the southern edge of the top of the seamount, the rest is a shallow lagoon. The highest point of land in Bermuda is Town Hill in Smiths Parish at 78m. Most of the island is covered by low, rolling hills.
<b>Main economic sectors</b>	International business (including banking, financial services, insurance and reinsurance) and tourism.

## Legislative and Policy Framework

### Multilateral environmental agreements

Bermuda has been included in the UK's ratification of 17 MEAs. Status of ratification of key MEAs: See also Appendix 2.

Multilateral Environmental Agreement	Included in ratification?
Convention on Biological Diversity	x
Convention on International Trade in Endangered Species	✓
Convention on Migratory Species	✓
Ramsar Convention on Wetlands	✓
World Heritage Convention	✓

### National environmental legislation

Bermuda has at least 19 laws that relate directly to the environment and biodiversity conservation. Most of Bermuda's laws can be found at:

[www.bermulalaws.bm/Laws/Consolidated%20Laws](http://www.bermulalaws.bm/Laws/Consolidated%20Laws). See also Appendix 3.

### National environmental strategies

There are four national strategies that provide the framework for environmental work in Bermuda, these are: the Bermuda Biodiversity Strategy and Action Plan; Sustainable Development Strategy and Implementation Plan; Strategy for the Sustainable Use of Bermuda's Living Marine Resources; Bermuda Plan 2008. Bermuda has also signed an Environment Charter with the UK government. See Appendix 4 for more details.

### Protected Areas

There are 29 areas that have been declared 'no-take' Fisheries Protected Areas under the Fisheries (Protected Areas) Order 2000 and two seasonally protected areas (the South western Area and North eastern Area) The Department of Conservation Services manages 13 Nature Reserves while the Department of Parks owns 75 Amenity Parks, 10 coastal marine areas, and 10 Recreational Parks. In addition, there are 45 Nature Reserves that are owned between the Bermuda National Trust and the Bermuda Audubon Society that have been donated to the NGO or purchased as private land for preservation. See Appendix 5 for a full listing of protected areas.

## Research Priorities

- Control of invasive species through investigating legislation and programme development - for both terrestrial and marine species.
- Implementation of protected species (terrestrial and marine) recovery as per published species recovery plans. See Appendix 4 for more detail.
- Investigating pollinators in Bermuda, triggered by decline of honey bee; this includes level of pollination by various pollinators, and identification of target species by pollinators.

## Institutional Arrangements

**Government:** The Department of Conservation Services is responsible for species and habitat management and research, and is the coordination centre for the Bermuda Biodiversity Strategy and Action Plan (NBSAP). The Departments of Planning; Environmental Protection; Parks and Environmental Health also have responsibility for environmental matters.

**Non-Governmental Organisation:** There are approximately 15 NGOs involved in environment and biodiversity related conservation in Bermuda. See Appendix 6 for further information.

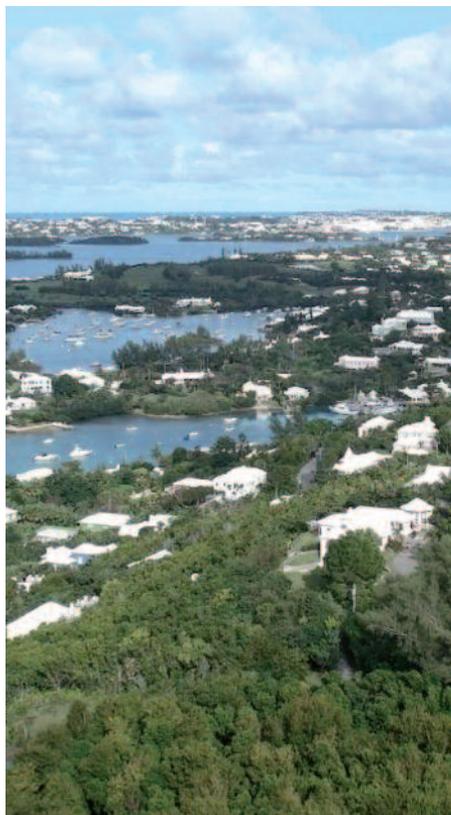
## Ecosystems and Habitats

Bermuda's habitats are mapped online at [www.conservation.bm/bermudas-habitats/](http://www.conservation.bm/bermudas-habitats/)

Given the population density of the islands, none of Bermuda's terrestrial habitats are untouched by human impacts. The largest habitat by area, and least adversely impacted are the coral reefs which appear to be in good health. Five habitats (salt marshes, caves, freshwater marshes, brackish ponds and offshore islands) are threatened – and are home to a significant number of endemic and critically endangered species. See Appendix 7 also.

## Species

Bermuda has at least 8,299 recorded species, 4,597 of which are marine and 3,702 are terrestrial. Of these 110 marine species (2.4 %) and 137 terrestrial species (3.7%) are considered endemic (Sterrer 1998). Some of Bermuda's important species are listed online at [www.conservation.bm/bermuda-species2/](http://www.conservation.bm/bermuda-species2/) Also see Appendix 8.



Bermuda © Alison Copeland

### Summary of the 2008 IUCN red listed species for Bermuda

Critically endangered	Endangered	Vulnerable	Near Threatened	Extinct (Extinct in the wild)	Lower risk/ conservation dependent	Data Deficient
28	8	15	17	0	2	16

## Threats

**Invasive species:** Bermuda faces a significant and ongoing struggle with invasive species. Brazil pepper tree (*Schinus terebinthifolius*) and the Casuarina (*Casuarina equisetifolia*) are some of the most significant terrestrial plant pests, while the Pacific Lionfish (*Pterois volitans*), first recorded in 2000, is the most significant marine invasive. See also Appendix 9.

**Climate change:** A recent report on the impact of climate change on Bermuda (Glasspool 2008) discusses threats such as increased erosion from rising sea level and storms that are expected to negatively affect seagrasses and corals. The potential impact on birds, reptiles, amphibians and plants are also discussed.

## Projects

In addition to its core work, Bermuda's projects over the last five years include both terrestrial and marine projects focussing on a range of taxa and habitats. Conservation projects, focused on specific species, include the sea turtle, skink, seahorse, tropic bird, Cahow, terrapin, grouper and green heron. Habitat-based projects include seagrass and woodland restoration and marine benthic habitat monitoring and mapping. See also Appendix 10.

### Case Study: Cahow Translocation Project

**Funded by:** Bermuda Government and Bermuda Zoological Society.

**Dates:** 2004 – 2008 (Phase 1)

The Cahow translocation project aims to establish new breeding colonies of the endangered Cahow, or Bermuda petrel (*Pterodroma cahow*) on larger, more elevated islands kept free of mammal predators. These are safer from erosion and hurricane damage, and have the potential of supporting larger populations of birds than the current nesting islets. Phase I was carried out on Nonsuch Island, using translocation of near-fledged chicks and sound attraction.

#### Main outcomes:

- 102 translocated chicks successfully fledged from Nonsuch Island over five years.
- Translocated chicks, fledged at essentially the same weight, wing chord length and age as control birds.
- In 2009, first chick since the 1620s to hatch and fledge at Nonsuch Island successfully. In 2010 over a dozen of the translocated Cahows returned as adults to nest; four pairs nested and a second chick successfully fledged from Nonsuch (Madeiros 2010).
- By February 2011, a total of 27 of the translocated Cahows had returned to Nonsuch, and seven pairs were incubating eggs; five additional nest burrows were being prospected by returning birds.



Jeremy Madeiros and Cahow chick © Jeremy Madeiros

## Contacts

### Department of Conservation Services

#### Shorelands

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See also Appendix 11 for additional contact information.

### Project Partners

See Appendix 6 or [www.conservation.bm/biodiversity-action-plan-partn/](http://www.conservation.bm/biodiversity-action-plan-partn/) for a listing of relevant NGO's and Government Departments working in the environment.

Joint Nature Conservation Committee (JNCC); UK Overseas Territories Conservation Forum (UKOTCF); Royal Botanic Gardens Kew; Overseas Territories Environment Programme (OTEP); Department for Environment, Food and Rural Affairs (DEFRA); – the Darwin Initiative

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[www.bnt.bm/Environmental\\_and\\_Conservation/climate-change-report.php](http://www.bnt.bm/Environmental_and_Conservation/climate-change-report.php)

See Appendix 12 for additional bibliography

## Appendices

All appendices referred to in this chapter are available at

<http://jncc.defra.gov.uk/page-5745>