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# Coral Reefs of the United Kingdom Overseas Territories

Coral Reefs of the World

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**Volume 4**

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Charles R.C. Sheppard  
Editor

# Coral Reefs of the United Kingdom Overseas Territories

 Springer

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## Preface

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### Where and What Are the British Overseas Territories?

The UK's 14 Overseas Territories are highly diverse. They include the world's most remote community (Tristan da Cunha) and one of the richest (Bermuda). They include vast areas of ocean and, in the case of Antarctica, land six times the size of the UK. A UK Government White Paper published in June 2012 gives much useful background on all the Overseas Territories: <http://www.fc.gov.uk/resources/en/pdf/publications/overseas-territories-white-paper-0612/ot-wp-0612>.

Figure 1 shows the map of the UK Overseas Territories with coral reefs, which are covered in this volume, together with their 200 nautical mile boundaries; this map includes Ascension which has appreciable corals but which does not have coral reefs. Figure 1.1 of Chap. 1 shows the locations of all UK Overseas Territories. Each Overseas Territory has its own relationship with the UK and constitutional relationships continue to evolve. The UK, the Overseas Territories and the Crown Dependencies (the Channel Islands and the Isle of Man) form one undivided Realm. Each Territory has its own constitution, its own government and its own local laws. The constitutions set out the powers and responsibilities of the institutions of government, which for most Territories include a Governor or Commissioner, and elected legislature and ministers. Governors and Commissioners are appointed by the Queen on the advice of ministers in the UK, and in general have responsibility for external affairs, defence, internal security and the appointment, discipline and removal of public officers.

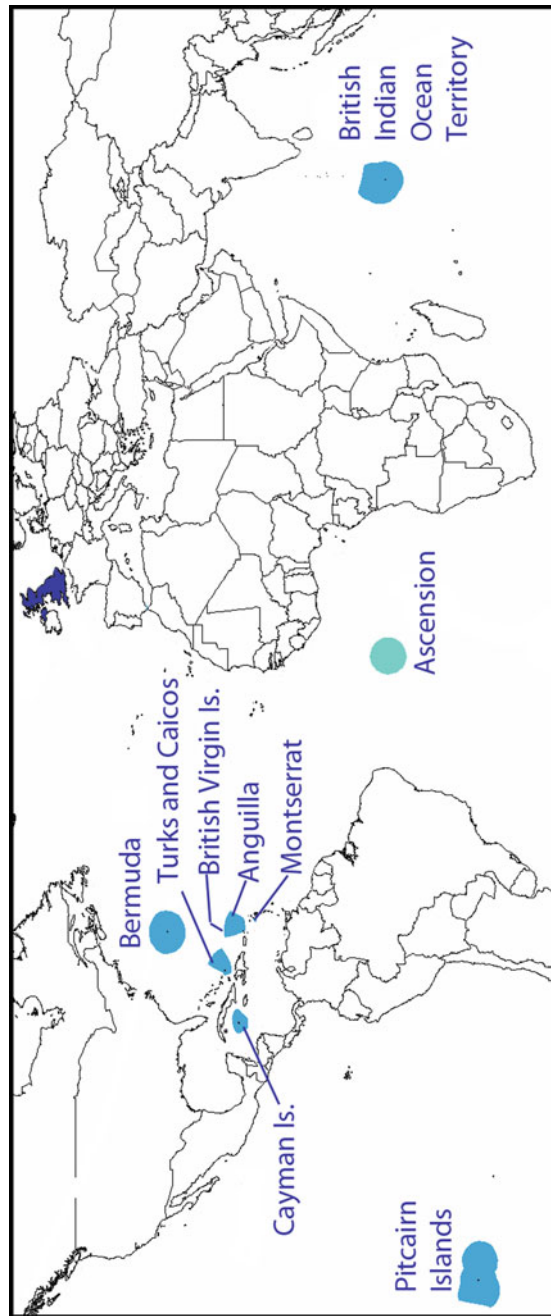
Bermuda is the most populous OT with a population of 66,000, and some OTs, such as British Indian Ocean Territory and British Antarctic Territory, have no permanent populations but do have scientific or military facilities. Territories with resident populations have an office in London.

The Foreign and Commonwealth Office in London is primarily responsible for the Territories, but most government departments also have responsibilities, particularly the Department for Environment, Food and Rural Affairs which assists them in meeting the requirements of various conventions, such as the Convention on International Trade in Endangered Species, Convention on Biological Diversity and Convention on Migratory Species. The Department for International Development has been key for several environmental projects, as has the Department of Energy and Climate Change.

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### Coral Reefs in the Territories

Eight UK Territories have coral reefs, indeed some are made entirely or mostly from them, and these collectively comprise a significant part of the world's total area of this very highly diverse and productive marine habitat. The marine environment of a few more such as Gibraltar, Ascension and the Cyprus military bases have corals, sometimes in modest profusion, but the corals do not form reefs. The largest reef systems in the Territories include the Pitcairn group in the Pacific, which has four atolls or islands with reefs, and British Indian Ocean Territory which contains five atolls with islands and numerous submerged atolls and banks. Five Territories



**Fig. 1** The UK Overseas Territories which have coral reefs or which have abundant corals, with the extent of their 200 nautical mile territorial boundaries. (Ascension, in paler blue, has corals with no reefs, as do the Mediterranean Territories of Gibraltar and those in Cyprus.)

are in the greater Caribbean region. These have abundant reefs and many islands which are entirely coralline, while Bermuda further north in the Atlantic is an atoll and the most northerly reef system in the Atlantic Ocean. All Territories with reefs have at least one chapter in this volume, as does Ascension which has corals but no reefs.

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## Environment and Conservation

In the case of multilateral agreements and conservation and wildlife treaties, the UK is responsible for international agreements, though it is the Territory itself that is responsible for implementing them. That the UK is party to a particular conservation agreement does not necessarily mean that it applies to a particular UK Territory, and a territory may not be a signatory to one or other if political, military or logistical concerns are deemed to make that course impossible or impractical. In 2001, Territories signed individual Environment Charters, which are important documents encompassing (mostly very briefly) intentions and responsibilities regarding environmental governance and processes. These are sometimes only aspirational where there is no method of measuring success and limited mechanisms for implementing their terms, and some aspects of the Charters have been taken more seriously than others. The UK Overseas Territories Conservation Forum is an NGO that embraces all Territories, and has the aims of raising public awareness about the wealth of biodiversity in the Territories, warning of potential threats to the environment or to various species, compiling data and facilitating the implementation of conservation conventions, and also of supporting conservation groups and facilitating funding and conservation project management (<http://www.ukotcf.org/index.cfm>). Most Territories also have their own local NGOs which are engaged, sometimes very actively, in conservation issues, along with or beside government departments. However, government departments in several Territories may be very small and under-resourced, and may be more concerned with, e.g. fisheries than with conservation, or may, indeed, cover both of those commonly conflicting subject areas.

For those tropical Territories that have coral reefs, the amount of scientific or ecological information that is known varies hugely. Bermuda has had a research station, museum and other facilities for many decades, and more is known about its marine environment and habitats than any other. Partly this is due also to its location, where it provided a convenient site for researchers from the UK and the USA, so that much early ecological and descriptive work, and taxonomy, was carried out there. The British Indian Ocean Territory has the largest area of reefs of all of them and has likewise supported a considerable amount of research in recent years. Many Territories in the Caribbean have supported substantial amounts, though Montserrat, famous for the destructive eruptions of its volcano which recently caused extensive damage including obliteration of its Capital, has supported very little investigations of its reefs. Likewise, the several components of Pitcairn in the Pacific have received little study. However, it has been possible to find enough scientific information about all of them for this volume.

As is the case around the world, coral reefs of most Territories have been subject to substantial environmental damage from overuse or extraction of resources. Over-fishing, poor agriculture on adjacent land that causes run-off which adds surplus nutrients and blanketing sediments, input of sewage and marine diseases from effluents, and numerous other forms of pollution have all degraded many reefs of the world, including those of the British UK Territories. Global climate changes have added a further “layer” to the stresses felt by reefs: Warming episodes affected reefs in British Indian Ocean Territories in 1998 and subsequently, and in the Caribbean in 2005 especially. Reefs serve as breakwaters for the land, and mortality of corals from warming has reduced the protection afforded by the reefs. Furthermore, sea level is rising, which brings its own problems to small low islands, and the sea is becoming less alkaline, which causes other stresses, especially to integral components such as calcareous red algae which are

critical components of the reef structure. As noted by the FCO (2012) White paper on the Overseas Territories:

The Intergovernmental Panel on Climate Change has identified the Territories as amongst the ‘most vulnerable’ and ‘virtually certain to experience the most severe impacts’ of climate change. This will mean sea level rise; changes in weather patterns, including higher intensity of extreme weather events; coral bleaching; ocean acidification; and sea temperature changes. Other immediate threats include land use change; waste management; invasive species; and threats to habitats from unsustainable development.

The following chapters cover aspects of all those Territories with coral reefs. For some, there is very limited information available, while three have several chapters. These show the Territories to be a remarkable set of places, whose territorial waters greatly exceed that of the UK and which have a marine diversity far greater than that found around the UK mainland. Chapter 1 maps the reefs of all of them, and notes that the UK is the twelfth biggest coral reef nation in the world. Defining coral reefs precisely is problematic and highly dependent on method, but however a reef is defined (with or without its sandy back-reef area, with or without the seagrass beds that intermingle with them, with or without the biologically connected fish nursery grounds in adjacent mangroves) their biological wealth is incalculable. Their value (or price – not the same at all!) varies according to opinion and method of measurement, and here one Territory has a chapter devoted to trying to assess the value of their reefs, an exercise which may have much meaning to economists but which is anathema to many scientists at the same time! The reefs of the UK Overseas Territories provide huge biodiversity, biological productivity, cultural value and large tourist revenue, and thus are enormously important to the Territories themselves.



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