

British Virgin Islands



Clive Petrovic, Esther Georges and Nancy Woodfield



Great Tobago

General introduction

The British Virgin Islands comprise more than 60 islands, cays and rocks, with a total land area of approximately 58 square miles (150 square km). This archipelago is located on the Puerto Rican Bank in the north-east Caribbean at approximately 18°N and 64°W. The islands once formed a continuous land mass with the US Virgin Islands and Puerto Rico, and were isolated only in relatively recent geologic time. With the exception of the limestone island of Anegada, the islands are volcanic in origin and are mostly steep-sided with rugged topographic features and little flat land, surrounded by coral reefs.

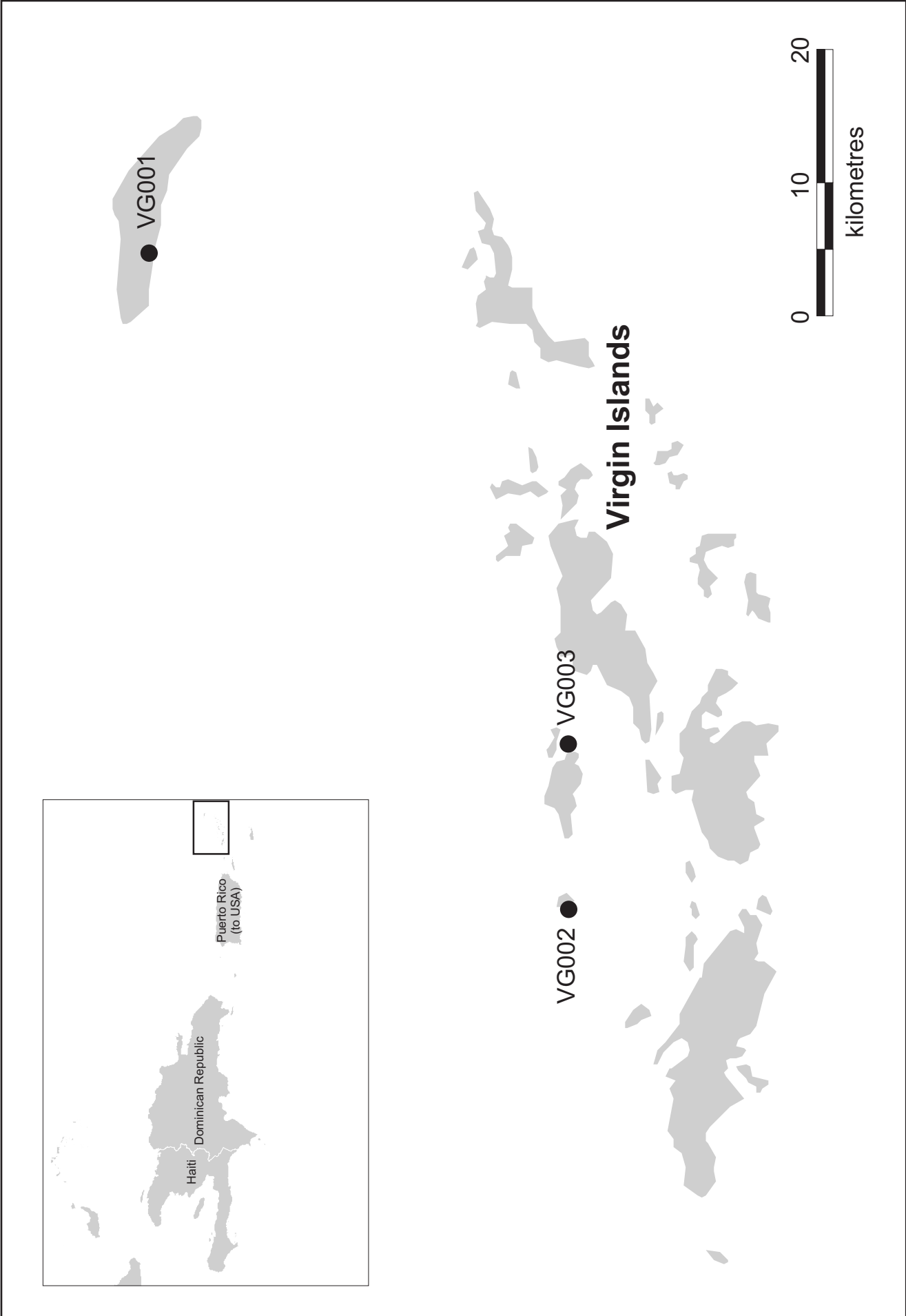
Situated at the eastern end of the Greater Antilles chain, the islands experience a dry sub-tropical climate dominated by the prevailing north-east trade winds. Maximum summer temperatures reach 31°C; minimum winter temperatures are 19°C, and there is an average rainfall of 700 mm per year with seasonal hurricane events.

The most abundant vegetation type is cactus scrub and dry woodland, although much of this has been modified. Over 20 species of plant are recorded as endemic to Puerto Rico

and the Virgin Islands. These include the globally threatened *Cordia rupicola* (CR), *Maytenus cymosa* (EN) and *Acacia anegadensis* (CR).

A quarter of the 24 reptiles and amphibians identified are endemic, including the Anegada Rock Iguana *Cyclura pinguis* (CR), which is now restricted to Anegada. Other endemics include *Anolis ernestwilliamsii*, *Eleutherodactylus schwartzi*, the Anegada Ground Snake *Alsophis portoricensis anegadae*, the Virgin Gorda Gecko *Sphaerodactylus parthenopian*, the Virgin Gorda Worm Snake *Typlops richardi naugus*, and the Anegada Worm Snake *Typlops richardi catapontus*. Other globally threatened reptiles within the BVI include the *Anolis roosevelti* (CR) and *Epicrates monensis granti* (EN).

Habitat alteration during the plantation era and the introduction of invasive alien species has had major impacts on populations of native flora and fauna. Economic progress and population expansion has placed great stresses on the natural environment, which is especially true on the main island of Tortola, where coastal



British Virgin Islands

development pressures have resulted in the degradation of most wetlands. The impact of human activities on fauna has been substantial and many invertebrate species have decreased in abundance or been extirpated by human-induced habitat changes, especially within native freshwater habitats. While these freshwater ecosystems have always been ephemeral, they are now frequently dry and lack their former species richness. Vertebrate fauna

have been similarly impacted by the loss of freshwater habitats such as ghuts, and freshwater fish have been eliminated or greatly reduced in number. Additionally, native amphibians and reptiles have also been affected by human interference in the landscape with the only native toad, *Bufo lemur*, last recorded over four decades ago and now presumed extinct. The terrestrial mammalian fauna is limited to a few species of bat.

Ornithological importance

The avifauna on BVI comprises a small core resident breeding population, which is augmented by pelagic seabird species in the summer months and numerous migrants from North America during the winter months.

A total of 210 species are recorded for the British Virgin Islands, with new species such as the Cattle Egret, Northern Mockingbird, Smooth-billed Ani and the Caribbean Eleania colonising during the last century as a result of passing hurricanes. A few species of global conservation concern are recorded, including the Vulnerable West Indian Whistling-duck, which has not been seen for a number of years, and the Piping Plover, which does not breed on the islands, as well as the Near-threatened White-crowned Pigeon and the Caribbean Coot. These species were seen regularly on Tortola until the early 1980s, but recent breeding needs to be confirmed.

The British Virgin Islands form part of the Puerto Rican and Virgin Island endemic bird area (029). Eight restricted-range species are recorded, including the Bridled Quail-dove, Green-throated Carib, Antillean Crested Hummingbird, Puerto Rican Flycatcher, Pearly-eyed Thrasher and the Lesser Antillean Bullfinch. There are a few records of the Antillean Mango Hummingbird and the Puerto Rican Screech-owl but these need to be verified and therefore are not covered by the sites currently selected (see the table below). More research is urgently required on the Puerto Rican Screech-owl to confirm whether it has been extirpated from the islands, as there are reports of sightings from Sage Mountain and Guana Island; however, little is known about this small, forest-dwelling owl.

The occurrence and presence of restricted-range species at Important Bird Areas in the British Virgin Islands

	VI001	VI002	VI003
Bridled Quail-dove <i>Geotrygon mystacea</i>		X	
Green-throated Carib <i>Eulampis holosericeus</i>	X	X	X
Antillean Crested Hummingbird <i>Orthorhyncus cristatus</i>	X	X	
Puerto Rican Flycatcher <i>Myiarchus antillarum</i>	X	X	X
Lesser Antillean Bullfinch <i>Loxigilla noctis</i>		X	
Puerto Rican Screech-owl <i>Megascops nudipes</i>			
Antillean Mango Hummingbird <i>Anthracothorax dominicus</i>			
Number of species recorded	4	5	2

Important Bird Areas in the United Kingdom Overseas Territories

The Greater Flamingo was extirpated as a breeding bird by the early 20th century, however the efforts of the BVI National Parks Trust to reintroduce this species on Anegada approximately a decade ago have been successful and the population continues to expand annually. The White-crowned Pigeon was also hunted to the extent that few individuals remained and recent breeding has not been confirmed. Passerines dependent on freshwater habitats have also suffered from the loss of coastal mangroves, and the once common Pied-billed Grebe is rarely seen today.

During the winter months, many migratory species from North America pass through the British Virgin Islands, including the *Phalacrocoracidae* family, notably the Double-crested and Olivaceous Cormorants, and the *Charadriidae*

family, including the Black-bellied and American Golden Plovers. The islands provide an important corridor and are one link in a greater chain that determines their survival; however the migrant shorebirds, which are dependent on extensive coastal habitats, have been affected by the loss of freshwater habitats.

During the summer months, the British Virgin Islands are host to pelagic seabirds that nest on the offshore cays and islets. The Tobagos are the most important breeding site in the British Virgin Islands for the Magnificent Frigatebird and the Brown Booby, while The Dogs provide nesting sites for significant numbers of Bridled Terns, Sooty Terns, Roseate Terns and Red-billed Tropicbirds.

Conservation infrastructure and Protected Area system

Responsibility for conservation in the British Virgin Islands falls to the Ministry of Natural Resources and Labour. The Conservation and Fisheries Department (CFD) and the BVI National Parks Trust are the two main agencies responsible for conservation under this ministry.

The Conservation and Fisheries Department is responsible for biodiversity conservation, including environmental monitoring and fisheries management. The National Parks Ordinance established the BVI National Parks Trust in 1961 as a statutory body with responsibility for the Territory's terrestrial and marine National Parks. The Trust is a non-profit organisation that receives an annual subvention from the BVI Government and raises the remainder of its budget from park entrance fees and mooring permit fees. The Trust manages 20 National Parks and Protected Areas, five of which are bird sanctuaries, including Dead Chest, Fallen Jerusalem, Great Tobago, Little Tobago and Prickly Pear. Overall there are 20 designated bird sanctuaries, some of which are also proposed Protected Areas.

The British Virgin Islands are included in the UK ratification of the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Wetlands of International Importance (Ramsar), Convention on the Conservation of Migratory Species of Wild Animals (Bonn) and the World Heritage Convention.

Local legislation pertaining to conservation includes the following provisions:

- National Parks Ordinance 1961 (as amended)
- Marine Parks and Protected Areas Ordinance 1979

- Endangered Animals and Plants Ordinance 1976
- Protection of Endangered Animals, Plants & Articles (Removal and Possession Ordinance 1981)
- Wild Birds Protection Ordinance (7/1959) 1961 (as amended); it protects 31 species of wild birds within the BVI, and the nests, eggs and young of all bird species; the Bird Sanctuaries Order (20/1959) permits the designation of areas as bird sanctuaries where it is prohibited to kill, injure or take any wild bird, or to take, damage or destroy the nests or eggs of any wild bird
- Salt Ponds Ordinance 1959
- Protection of Trees and Conservation of Soil and Water Ordinance 1954
- Fisheries Ordinance 1979
- Beach Protection Ordinance 1985
- Land Development (Control) Ordinance 1969
- Turtle Ordinance 1959 (as amended).

Existing environmental legislation includes the Fisheries Act 2003, the Physical Planning Act 2004, which addresses land development issues, environmental assessments and historical preservation, and the draft National Parks Act 2004, which is pending review by the Legislative Council. Environmental education courses are part of the Community College curriculum, with additional public awareness environmental programmes managed by the BVI National Parks Trust and the Conservation and Fisheries Department.

Overview of the inventory

Several researchers have published work on the avifauna of the BVI, which have informed this IBA account. These include the BVI National Parks Trust bird list compiled by Rowan Roy (1998), a report on the conservation of species

under threat or undetermined status by Lazell, and Raffaele's (1998) illustrated field guide of the birds of Puerto Rico and the Virgin Islands.

British Virgin Islands

Three sites within the British Virgin Islands currently qualify for IBA status; their combined area is approximately 1,616 hectares, which is 10% of the total terrestrial area for BVI (see the table below for their justification).

The Western and Eastern Ponds systems on Anegada include salt ponds and coastal habitats, which are important for nesting birds as well as migrants. The second site is Great Tobago, which contains the largest nesting colony of Magnificent Frigatebirds in the eastern Caribbean region, and both sites are important for nesting Brown Boobies. The final site is Green Cay, which is an important nesting and resting site for seabirds, particularly Roseate Terns.

Of the three proposed IBA sites, the system of salt ponds on Anegada requires the most immediate conservation status

as it has no national protection, although the Western Ponds were designated as a Ramsar site in 1999, and both the Eastern and Western ponds are proposed National Parks.

The IBA process has highlighted the need for more systematic surveys to be undertaken. There are a number of potential IBA sites but further data are required – for example, the network of ponds on Tortola, which includes Bar Bay. This is one of the last intact mangrove ecosystems on the island and, as such, merits consideration, as species restricted to or dependent on mangroves are limited to this site. Potential sites for future consideration may also include Guana Island and Sage Mountain, once records of the Puerto Rican Screech-owl have been confirmed.

Sites of global conservation importance

IBA code	Site name	A1	A2	A4i	A4ii	A4iii
VI001	Anegada: Western Salt Ponds and coastal areas		X	X		
VI002	Great Tobago		X		X	
VI003	Green Cay		X	X		

Site accounts

VI001: Anegada: Western Salt Ponds and coastal areas

Ref number	VI001
Admin region	British Virgin Islands
Coordinates	18°44'N 64°22'W
Area	1,500 ha
Altitude	0–5 m
IBA categories (details below)	A2, A4i
Status	The Western Salt Ponds are a Ramsar site; mostly Crown land; proposed National Park

Site description

Anegada is a flat limestone island and has a different landscape from the other islands within the British Virgin Islands. The soils are shallow and alkaline, predominantly composed of calcium carbonate and detritus. Rainfall is approximately 800 mm or less throughout the island and, as a result, the vegetation is mainly xerophytic, coastal scrub and dry woodland. Mangroves, primarily red mangrove, fringe much of the south and east coast and interior wetlands. The western sandy plain consists of edaphic and xeric vegetation. It has the most diverse range of flora, including the Yellow Prickle *Guaiacum sp.* and Loblollies *Pisonia sp.* The entire north coast is sandy beach with calcareous sediments. The beaches are fringed by littoral hedges such as Bay Cedar and Sea Grape. The IBA covers the networks of salt ponds at the eastern and western ends of the island (including the mangrove network) that provide important habitats for migratory and resident birds. The Flamingo Pond, a salt pond of over 445 hectares at the western end of the island, was declared the Anegada Nature Reserve in 1977 and a Ramsar site in 1999. The extensive ponds on the eastern end of the island, with large stands of pristine mangrove, are presently unprotected.

Birds

See the accompanying table for details of key species. The extensive salt ponds and wetlands of Anegada provide important habitats for a variety of waterbirds, especially the Greater Flamingo and the West Indian Whistling-duck,

which were both extirpated by the early 20th century. However, a successful reintroduction of the Greater Flamingo, consisting of 20 birds, was launched in 1990 and they subsequently began nesting in 1995, expanding the colony to over 80 birds (current figures). The wetlands are an important habitat for herons and egrets, and waterbirds such as the White-cheeked Pintail. Anegada contains ideal habitats for the Piping Plover, which has been recorded in the past. Additionally, several species of shorebirds nest on the flats, such as Snowy Plovers, Wilson's Plovers and Black-necked Stilts. Terns including Royal Terns, Sandwich Terns, Gull-billed Terns, Roseate Terns, Common Terns and Least Terns either nest on Anegada or feed in the salt ponds and surrounding waters. It is thought that the IBA may be found to qualify in the future for the A4iii criterion, but data are currently lacking. Anegada is also an important habitat for landbirds such as the permanent residents characteristic of mangrove and coastal scrub. These include the Green-throated Carib, the Antillean Crested Hummingbird and the Puerto Rican Flycatcher, which occur throughout the island.

Other threatened/endemic wildlife

While the extensive mangrove and arid coastal habitats are typically West Indian, the island does support endemic wildlife. Plants such as the Anegada Acacia *Acacia anegadensis* (CR) and Wirewist *Metastelma anegadense* are known only on this island, although additional plant species, rare and endangered in other locales, are found here.

Key species

Criteria	Key species	Number of breeding pairs (if known)
A2	Green-throated Carib <i>Eulampis holosericeus</i>	Not known
A2	Antillean Crested Hummingbird <i>Orthorhyncus cristatus</i>	Not known
A2	Puerto Rican Flycatcher <i>Myiarchus antillarum</i>	Not known
A4i	Sandwich Tern <i>Sterna sandvicensis</i>	25 pairs (1% of regional population)
A4i	Least Tern <i>Sterna antillarum</i>	60 pairs (3% of regional population)

British Virgin Islands

Anegada is home to the critically endangered Rock Iguana *Cyclura pinguis*, which is currently being rehabilitated through the conservation efforts of the BVI National Parks Trust and its international partners.

Conservation issues/threats

The main threats facing the birds and wildlife of Anegada are habitat loss and fragmentation through development

and feral animals. Historically, hunting was a serious issue and was responsible for the elimination of the Greater Flamingo, the West Indian Whistling-duck and the White-crowned Pigeon. In addition, the presence of cats, rats, mongooses, dogs and pigs can disrupt the breeding success of ground-nesting birds.



Anegada coastline

National Parks Trust

Site accounts

VI002: Great Tobago

Ref number	VI002
Admin region	British Virgin Islands
Coordinates	18°27'N 64°50'W
Area	104 ha
Altitude	0–175 m
IBA categories (details below)	A2, A4ii
Status	National Park (1995); bird sanctuary

Site description

Great Tobago is one of the most westerly of the islands in BVI. It is a small, steep island of volcanic origin with mixed vegetation including Caribbean dry forest and coastal scrub. The recent removal of 95% of feral goats by the BVI National Parks Trust has resulted in the regeneration of vegetation, particularly within the bird colony.



Magnificent Frigatebird (male)

Birds

See the accompanying table for details of key species. Great Tobago is known for its large colony of nesting Magnificent Frigatebirds. Hundreds of pairs nest in trees within Man o War Bay and the steep eastern hillsides facing the prevailing winds. Other nesting species include the Brown Pelican, Brown Booby and Laughing Gull. The Red-billed Tropicbird and White-tailed Tropicbird nest on exposed sea cliffs. Restricted-range species found on Great Tobago include the Green-throated Carib, Antillean Crested Hummingbird and Puerto Rican Flycatcher.

Other threatened/endemic wildlife

At present there is no other threatened or endemic wildlife known on Great Tobago.

Conservation issues/threats

A serious threat to the frigatebird colony is the loss of trees caused by hurricanes. Artificial nesting platforms have been installed within the colony to compensate for the lost trees while they regenerate. Grazing goats are also a problem as they prevent the natural regeneration of vegetation. The BVI National Parks Trust has set up a culling programme, which has removed 95% of the goats. An additional threat is the entanglement of seabirds in monofilament fishing lines.

Key species

Criteria	Key species	Number of breeding pairs (if known)
A2	Bridled Quail-dove <i>Geotrygon mystacea</i>	Not known
A2	Green-throated Carib <i>Eulampis holosericeus</i>	Not known
A2	Antillean Crested Hummingbird <i>Orthorhyncus cristatus</i>	Not known
A2	Puerto Rican Flycatcher <i>Myiarchus antillarum</i>	Not known
A2	Lesser Antillean Bullfinch <i>Loxigilla noctis</i>	Not known
A4ii	Magnificent Frigatebird <i>Fregata magnificens</i>	3,000 individuals (approx)

Site accounts

VI003: Green Cay

Ref number	VI003
Admin region	British Virgin Islands
Coordinates	18°27'N 64°43'W
Area	6 ha
Altitude	0–30 m
IBA categories (details below)	A2, A4i
Status	Privately owned

Site description

Green Cay is a small, six-hectare, volcanic island composed of igneous bedrock reaching a maximum elevation of 30 m and covered in xerophytic coastal scrub. The island is currently privately owned and is a proposed Protected Area to be included within the system of National Parks.

Birds

See the accompanying table for details of key species.

Green Cay is an important nesting site for Roseate Terns. In 1996, a total of 1,755 Roseate Terns were counted, making Green Cay the largest breeding colony in the US and British Virgin Islands.

Other threatened/endemic wildlife

The terrestrial vertebrate fauna on Green Cay is limited to a few species of common lizard, primarily anoles.

Conservation issues/threats

Continued high visitation to the adjacent island of Sandy Spit by the yacht industry will result in disturbance to the nesting site unless mitigated.

Key species

Criteria	Key species	Number of breeding pairs (if known)
A2	Green-throated Carib <i>Eulampis holosericeus</i>	Not known
A2	Puerto Rican Flycatcher <i>Myiarchus antillarum</i>	Not known
A4i	Roseate Tern <i>Sterna dougallii</i>	1,755 individuals

Important Bird Areas in the United Kingdom Overseas Territories

Further reading

- Barnes, J. A. (1992) Flamingos return to BVI. *Forum News* (NGO Forum for the UK Dependent Territories) 7: 2.
- British Virgin Islands National Parks Trust and Eastern Caribbean Natural Area Management Programme (2000) *A Parks and Protected Areas system plan for the British Virgin Islands*. BVINPT and ECNAMP.
- Conyers, J. (1996) The BVI flamingo restoration project. *Critter Talk* (Bermuda Zoological Society) 19(2): 1–2.
- Godley, B. et al. (2003) *Darwin Initiative assessment of the coastal biodiversity of Anegada, BVI*. Approved project proposal to UK Darwin Initiative Programme.
- Goodyear, N. C. (1992) Flamingos return to Anegada: status update. *National Parks Trust News* (British Virgin Islands), August: 1.
- Jarecki, L. (–) Unpublished bird records of Anegada, Tortola and Guana Islands, British Virgin Islands 1994–2000.
- Jarecki, L. (1992) Hypersaline pond ecology in the British Virgin Islands. *Proceedings of the Regional Symposium on Public and Private Cooperation in National Park Development* (British Virgin Islands National Parks Trust): 60–75.
- Lazell, J. (–) Unpublished bird records of Guana Island, British Virgin Islands 1993–2001.
- Leahy, C. (–) Unpublished bird records of Guana Island, British Virgin Islands 1991–2001.
- Mayer, G. C. and Chipley, R. M. (1992) Turnover in the avifauna of Guana Island, British Virgin Islands. *Journal of Animal Ecology* 61: 561–6.
- Norton, R., Chipley, R. and Lazell, J. (1989) A contribution to the ornithology of the British Virgin Islands. *Caribbean Journal of Science* 25(3/4): 115–18.
- Overing, J. (1999) *Environmental Impact Assessment for Green Cay and Sandy Spit*. Lewis & Associates Ltd.
- Raffaele, H., Wiley, J., Garrido, O., Keith, A. and Raffaele, J. (1998) *Birds of the West Indies*. London: Christopher Helm.
- Roy, J. R. (–) Audubon Society Christmas bird count in the British Virgin Islands, 1994–2004.
- Roy, J. R. (1998) *Birds of the BVI* (brochure). BVI National Parks Trust.
- Schreiber, E. A. and Lee, D. S. (2000) Status and conservation of West Indian Seabirds. *Society of Caribbean Ornithology Special Publication* 1.
- Schreiber, E. A. and Pierce, J. (in draft) *Seabird biodiversity of the British Virgin Islands*.