BRITISH VIRGIN ISLANDS

INTRODUCTION

No information was received on the current situation in the British Virgin Islands. The following account is based on CCA/ECNAMP (1981), Lettsome (1981), IUCN (1982 & 1983), Putney (1982) and Goodwin *et al* (1984).

The Virgin Islands are a group of small islands between Puerto Rico and the Leeward Islands. The smaller eastern group comprises the British Virgin Islands, a British Crown Colony of 153 km^2, while the larger western group is a United States Territory. The forty or so islands, rocks and cays in the British Virgin Islands are all of volcanic origin except for Anegada, a low-lying island of coral and limestone to the northeast of the main group. The population of about 12,000 is concentrated on the four main islands, Tortola, Virgin Gorda, Anegada and Jost Van Dyke, and most of the smaller islands are uninhabited. The economy of the islands is heavily based on tourism.

The climate is dry subtropical, with maximum summer temperatures of about 30°C, minimum winter temperatures of 19°C, and an average annual rainfall of less than 1,200 mm in most areas. The dominant natural vegetation is cactus scrub and dry woodland, but on the main islands, much of this has been modified by grazing or lost to urban development. Much the largest wetland in the British Virgin Islands is a complex of saline lagoons and mangrove swamps at the west end of Anegada. However, there are over twenty smaller lagoons and salt ponds, and about twenty-five stands of mangroves scattered throughout the islands. The ponds are of considerable importance as feeding areas for migratory shorebirds, and the mangrove swamps provide feeding and nesting areas for a variety of Ardeidae, and nursery grounds for many commercially important fishes and crustaceans, such as *Megalops atlantica, Lutjanus griseus, Caranx hippos, Epinephelus itajara* and *Panulirus argus.* Some of the mangrove fringed lagoons also provide safe shelters for boats during hurricanes and tropical storms. There are many long sandy beaches important for nesting sea turtles, several islets and cays with sea-bird colonies, and extensive offshore coral reefs and beds of sea grasses (*Thalassia testudinum, Syringodium filiforma* and *Diplanthera wrightii*) throughout the archipelago.

Institutional Base for Wetland Conservation and Research

The Ministry of Natural Resources is the governmental body responsible for conservation. The National Parks Trust, based in Tortola, was established in 1961 as a Statutory Body under the portfolio of the Ministry of Natural Resources. It is responsible for the development and management of national parks, marine parks and other reserves, and is currently establishing a Botanic Garden and Museum.

The British Virgin Islands Conservation Society was established in 1978 to promote historical and cultural development and preservation of the environment. It is doubtful, however, if this society is still active.

Progress in Wetland Conservation and Research

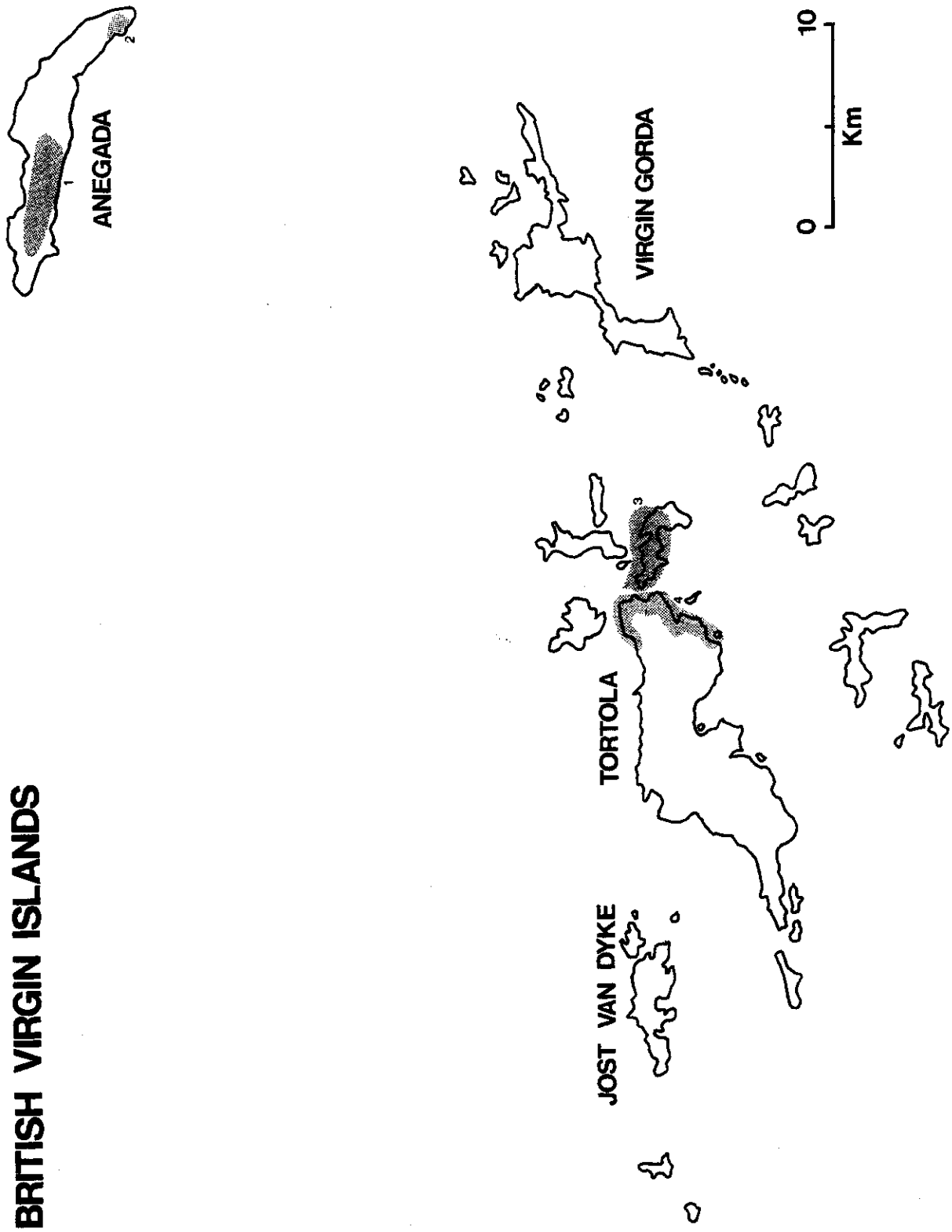
The National Parks Ordinance of 1961 and the Marine Parks and Protected Areas Ordinance of 1979 provide the legal basis for the establishment of national parks, marine parks and other protected areas. Other relevant legislation includes the Endangered Animals and Plants Ordinance (1976), Wild Birds Protection Ordinance, Salt Ponds Ordinance, and Protection of Trees and Conservation of Soil and Water Ordinance. Eleven terrestrial protected areas and one marine park had been established by the end of 1980. Only one of these contains any significant wetland habitat, namely the Flamingo Pond Bird Sanctuary (449 ha) at the west end of Anegada, established in 1977. Many other areas have been proposed for protection; those incorporating wetlands include large reserves at the east end of Anegada and off the north coast of Virgin Gorda.

A Parks and Protected Areas Project is currently being executed by the National Parks Trust and the Eastern Caribbean Natural Area Management Programme (ECNAMP), with funding from Jackson Hole Preserve, Inc. This aims to develop a system of parks and protected areas in which the utilization of marine and coastal resources is consistent with national objectives for development. The eight areas so far designated for management are all shallow marine areas and small offshore islands; they include areas important for fisheries production, sea turtles and nesting sea-birds.

Research has focussed primarily on the marine resources of the islands, but Lettsome (1981) has prepared an inventory of critical terrestrial ecosystems and mangrove areas, and Goodwin *et al* (1984) have studied salt ponds with a view to assessing their potential for mariculture.

Major Threats to Wetlands

Most of the wetlands in the British Virgin Islands are under threat. Several salt ponds and mangrove communities have already been lost to development, and by 1981, of the twenty stands of mangroves known on Tortola, only four remained in an unaltered condition. Threats include land reclamation for development, dredging for marina construction, sand mining, the dumping of solid waste and the cutting of mangroves for timber, fuel and animal fodder. Two of the three salt ponds on Virgin Gorda have recently been opened to the sea and dredged or partly filled for tourist development, and at least three of the six ponds on Tortola are under imminent threat.


BRITISH VIRGIN ISLANDS
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WETLANDS

Site descriptions based on the literature, principally Lettsome (1981), Putney (1982) and Goodwin *et al* (1984).

Flamingo Pond Bird Sanctuary (1)

Location: 18°44'N, 64°22'W; at the west end of Anegada Island.
Area: 449 ha.
Altitude: 0-5m.
Province and type: 8.41.13; 07 & 08.
Site description: A complex of interconnected saline lagoons (Flamingo Pond, 225 ha; Bones Bight Pond, 25 ha; and Red Pond, 150 ha), with several small islands and a single narrow connection with the sea. The lagoons, which are less than 1m deep, are subject to slight tidal influence, and there are some mangrove swamps in tidal areas near the coast. Salinities of 55-87 p.p.t. were recorded in January 1984.
Principal vegetation: Mangrove swamps with *Avicennia germinans, Laguncularia racemosa* and *Rhizophora mangle*; cactus scrub and dry woodland in surrounding areas.
Land tenure: The ponds and the land to the south are state owned; land to the north is privately owned.
Protection: Protected as the Flamingo Pond Bird Sanctuary (449 ha) established in 1977.
Land use: Some fishing in the mangroves; grazing in surrounding areas and a little tourism along the adjacent coast.
Waterfowl: A very important area for migratory waterfowl, particularly shorebirds. *Phoenicopterus ruber* was formerly a regular winter visitor, but few have been reported in recent years.
Other fauna: The endemic *Iguana pinguis* and the worm snake *Typhlops catapontus* occur in the reserve, and fish are present in the lagoons.
Threats: None known.
Research and conservation: Much the largest wetland in the British Virgin Islands; identified by Putney as one of the largest remaining saline lagoons in relatively unaltered condition in the Lesser Antilles.
References: Lettsome (1981); IUCN (1982); Putney (1982); Goodwin *et al* (1984).
Source: See references.
Criteria for inclusion: 2b & 3a.

East End Pond (2)

Location: 18°42'N, 64°17'W; at the eastern tip of Anegada Island.
Area: c.100 ha.
Altitude: 0m.
Province and type: 8.41.13; 07 & 08.
Site description: A saline lagoon 60 ha in extent and up to 20 cm deep, with open connection to the sea, mangrove swamps along the south, west and east shores and along the adjacent coast, and limestone pavement to the north. A salinity of 26 p.p.t. was recorded in January 1984.
Principal vegetation: Mangrove swamps with *Rhizophora mangle*; cactus scrub in surrounding areas.
Land tenure: The ponds and land to the north are state owned; land to the south and east is privately owned.
Protection: None.
Land use: Some grazing of domestic livestock in surrounding areas.
Waterfowl: No information.
Other fauna: An important nursery ground for juvenile fishes and crustaceans.
Threats: None known.

Research and conservation: Within a proposed protected area including the eastern end of Anegada and adjacent marine areas.
References: Putney (1982); Goodwin *et al* (1984).
Source: See references.
Criteria for inclusion: 3a.

Wetlands of Beef Island (3)

Location: 18°27'N, 64°32'W; on the western half of Beef Island, off the east end of Tortola.
Area: c.35 ha.
Altitude: Near sea level.
Province and type: 8.41.13; 05, 07 & 08.
Site description: Five shallow saline ponds behind sea beaches: Goose Hole Pond (14 ha), Bluff Bay Pond (7 ha), Trellis Bay Pond (2 ha), Sprat Point (Banana Wharf) Pond (4 ha) and Conch Bay Pond (4 ha); and a small mangrove swamp at Hans Creek. There are mangroves at all the ponds except Sprat Point; Goose Hole and Trellis Bay Ponds occasionally dry out completely; and Goose Hole Pond is open to the sea via a culvert. Salinities of 20-37 p.p.t. were recorded at the ponds in November 1983.
Principal vegetation: Mangrove swamps with *Avicennia germinans, Laguncularia racemosa* and *Rhizophora mangle*, and beach vegetation with the rare *Coccoloba swartziae*; coastal woodland, cactus scrub and some grassland in surrounding areas.
Land tenure: Mainly privately owned; Conch Bay Pond is state owned.
Protection: Sprat Point Pond is protected by the government because of the great botanical interest of the adjacent native coastal woodland. Other areas are unprotected.
Land use: The mining of sand for construction purposes at Bluff Bay Pond, and the harvesting of salt at Conch Bay Pond and Sprat Point Pond. There is a large airport near Conch Bay Pond, and a popular recreation beach to the north.
Waterfowl: An important nesting area for Ardeidae and feeding area for a variety of waterfowl, notably migratory shorebirds.
Other fauna: The brine shrimp *Artemia* sp occurs in Conch Bay Pond, and sea turtles nest on the nearby beaches.
Threats: None known, other than some disturbance from tourist recreation, and sand mining activities at Bluff Bay Pond.
Research and conservation: Sprat Point Pond and Hans Creek have been identified by Lettsome as critical areas for protection. The government is considering purchasing Goose Hole Pond in order to preserve it.
References: Lettsome (1981); Putney (1982); Goodwin *et al* (1984).
Source: See references.
Criteria for inclusion: 3a.

Wetlands of Eastern Tortola (4)

Location: 18°27'N, 64°34'W; around the eastern end of Tortola, from Josiah's Bay to Paraquita Lagoon.
Area: c.30 ha.
Altitude: 0m.
Province and type: 8.41.13; 05, 07 & 08.
Site description: A shallow brackish lagoon of 8 ha, Josiah's Bay Pond, with fringing mangrove swamps and brackish marshes behind a sea beach; and three coastal mangrove swamps: Paraquita Lagoon, Fat Hogs Bay and Beef Island Channel. Josiah's Bay Pond has been connected to the sea by a channel to allow partial drainage during periods of heavy rainfall; a salinity of 7 p.p.t. was recorded in November 1983.
Principal vegetation: Mangrove swamps with *Avicennia germinans, Laguncularia racemosa, Conocarpus erectus* and *Rhizophora mangle*, and brackish marshes; dry woodland and scrub in surrounding areas.
Land tenure: Mainly privately owned.

Protection: None.
Land use: Livestock grazing in the marshes around Josiah's Bay Pond. Paraquita Lagoon, Fat Hogs Bay and Beef Island Channel provide safe shelters for boats during hurricanes and tropical storms.
Waterfowl: An important area for resident Ardeidae and migratory shorebirds.
Other fauna: The mangrove swamps are nursery grounds for juveniles of marine fishes and lobsters *Panulirus argus*, and mullet *Mugil* sp occur in Josiah's Bay Pond.
Threats: The dumping of solid waste and wood-cutting at Paraquita Lagoon; land reclamation for development, erosion and wood-cutting at Fat Hogs Bay; and wood-cutting at Josiah's Bay Pond.
Research and conservation: All four areas have been identified by Lettsome as critical areas in need of protection.
References: Lettsome (1981); Putney (1982); Goodwin *et al* (1984).
Source: See references.
Criteria for inclusion: 3a.

Other wetlands

Other important wetlands include the following:

Brandy Point Pond, Prickly Pear Cay; a small saline pond with mangroves (*Avicennia germinans* and *Laguncularia racemosa*), rich in wildlife.

South Sound Mangroves, Virgin Gorda; one of the few unspoiled mangrove systems in the islands.

Pond Bay Salt Pond, Virgin Gorda; a small brackish pond with mangroves (*Avicennia germinans* and *Rhizophora mangle*), behind a sea beach. State owned; the surrounding land is leased to a resort corporation which apparently intends to retain the pond in an undeveloped state.

Sea Cow Bay, Tortola; one of the largest mangrove systems in the islands, with *Avicennia germinans, Laguncularia racemosa* and *Rhizophora mangle*. An important nursery ground for marine fishes and crustaceans, and a shelter for boats during storms. Threatened by the dumping of solid waste, land reclamation for development, and wood-cutting.

Cane Garden Pond, Tortola; a brackish pond with fringing mangroves (*Avicennia germinans* and *Laguncularia racemosa*), behind a sea beach. Rich in bird life, and identified by Lettsome as a critical area for protection, but used as a rubbish dump and polluted with domestic sewage. The owners have requested permission to fill the pond.

Belmont Pond, Tortola; a saline pond with fringing mangroves (*Avicennia germinans* and *Laguncularia racemosa*), behind a sea beach. Identified by Lettsome as a critical area for protection.

East End Harbour, Jost Van Dyke; one of the largest mangrove systems in the islands, and an important nursery ground for marine fishes and crustaceans.

References: Lettsome (1981); Putney (1982); Goodwin *et al* (1984).