

## ANTIGUA AND BARBUDA

### INTRODUCTION

No information was received on the current situation in Antigua and Barbuda. The following account is based on Stoddart *et al* (1973), IUCN (1982) and Putney (1982).

Antigua and its two dependencies Barbuda and Redonda lie in the Leeward Islands of the Lesser Antilles, to the north of Guadeloupe and to the east of Saint Kitts-Nevis. Antigua, with an area of 280 km<sup>2</sup>, is the largest of the group. It is a limestone and volcanic island rising to over 400m in the southwest. Barbuda is a low-lying island of pleistocene and recent limestones, 45 km north of Antigua. Of its total area of 161 km<sup>2</sup>, about 20% is occupied by shallow lagoons and mudflats. Redonda is an uninhabited rocky islet 50 km to the west of Antigua, between Nevis and Montserrat. Antigua became independent in 1981 and has a population of about 72,000 with an economy based on agriculture, light industry and tourism. Barbuda remains almost undeveloped; the population is less than 1,000 and most of these live in the only village on the island.

The islands lie in the Northeast Trades and have a rather dry tropical climate, with mean annual temperatures of approximately 27°C and an average annual rainfall of less than 1,000 mm. The predominant native vegetation is dry evergreen woodland and cactus scrub, but this has been much altered by human activities, particularly on Antigua. Both main islands are rich in wetlands, mainly brackish to saline lagoons and mangrove swamps, and Barbuda is particularly noted for the abundance of its wildlife. There are many sandy beaches with nesting sea turtles around both islands; extensive offshore coral reefs and sea-grass beds, particularly around Barbuda; and several islets with sea-bird colonies off the east coast of Antigua.

The Ministry of Agriculture and Supply (formerly the Ministry of Agriculture, Lands and Fisheries) has official responsibility for conservation in the islands. The Marine Parks Act of 1972 provides the legal basis for the establishment of Marine Parks which are administered by the Fisheries Department. The Antigua National Trust Act, also of 1972, has provision for the setting up of parks, reserves and monuments. There is no office in the Government specifically responsible for matters relating to wetlands or laterfowl. Only three protected areas had been established by 1981; two marine parks protecting offshore coral reefs, and a reserve at Cape Shirley in southern Antigua. None of these contains wetlands. However, of the areas under consideration for protection in 1981, two incorporated wetlands; a proposed reserve on Barbuda including the whole of Codrington Lagoon and mangrove swamps to the northwest, and a proposed reserve on Antigua including Guiana Island, with some mangrove swamps at the west end and nearby islets with sea-bird colonies.

## WETLANDS

No recent information is available on the wetlands of Antigua and Barbuda. Descriptions of the six main wetland areas are based almost entirely on Stoddart *et al* (1973), Putney (1982) and Goodwin *et al* (1984). Other wetlands, probably of only local importance, include several saline ponds and about ten small patches of mangroves in bays along the southern coast of Antigua, and mangrove swamps and associated marshes in Cobb Cove, on the northeast coast of Barbuda. (For map, see Anguilla.)

### Parham Harbour and Guiana Bay (1)

**Location:** 17°07'N, 61°45'W; on the northeast coast of Antigua.

**Area:** 600 ha.

**Altitude:** 0m.

**Province and type:** 8.41.13; 01, 03, 06, 07 & 08.

**Site description:** A chain of mangrove swamps, brackish to saline marshes and coastal mudflats around a series of shallow sea bays (Parham Harbour, Guiana Bay and Mercer's Creek Bay), and several small offshore islands with some mangroves.

**Principal vegetation:** Mangrove swamps with *Laguncularia racemosa* and *Conocarpus erectus*, and brackish to saline marshes with *Batis maritima*, *Sesuvium portulacastrum*, *Sporobolus virginicus*, *Heliotropium curassavicum*, *Phylloxerus vermicularis*, *Egletes prostrata*, *Bacopa monnieri* and *Eleocharis geniculata*; sea-grass beds offshore, and dry woodland and cactus scrub inland.

**Land tenure:** A mixture of public and private ownership.

**Protection:** None.

**Land use:** Most of the area is relatively undisturbed; there are some small settlements in the vicinity, and a tanker terminal and oil pipeline on the Parham Peninsula.

**Waterfowl:** No information.

**Other fauna:** There are sea-bird colonies and sea-turtle nesting areas on islands in Guiana Bay and Mercer's Creek Bay.

**Threats:** Domestic pollution and pollution from the tanker terminal on Parham Harbour.

**Research and conservation:** Identified by Putney as one of the largest remaining stands of relatively unaltered mangroves in the Lesser Antilles. A proposal has been made for the creation of a protected area incorporating the islands in Guiana Bay; this would include a small patch of mangroves at the west end of Guiana Island.

**References:** Putney (1982); Portecop & Benito-Espinal (1984a).

**Source:** See references.

**Criteria for inclusion:** 3a.

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### Five Island Harbour (2)

**Location:** 17°06'N, 61°53'W; south of Five Islands on the west coast of Antigua.

**Area:** c.200 ha.

**Altitude:** 0m.

**Province and type:** 8.41.13; 01, 07 & 08.

**Site description:** Mangrove swamps and associated brackish to saline marshes by a sea bay.

**Principal vegetation:** Mangroves; cactus scrub inland.

**Land tenure:** Privately owned.

**Protection:** None.

**Land use:** Grazing of domestic livestock nearby.

**Waterfowl:** No information.

**Other fauna:** No information.

**Threats:** Pollution from industrial and domestic waste from urban areas to the east.

**References:** Putney (1982).

**Source:** See references.

**Criteria for inclusion:** 0.

Salt Ponds of western Antigua (3)

**Location:** 17°07'N, 61°53'W; along the west coast of Antigua.

**Area:** 201 ha (seven ponds).

**Altitude:** 0m.

**Province and type:** 8.41.13; 05, 07 & 08.

**Site description:** Seven saline ponds along the west coast of Antigua from Runaway Bay in the north to Lignumvitae Bay in the south.

**McKinnon's Pond:** 40 ha; a large salt pond up to 50 cm deep with some mangrove swamps, behind a sea beach. The pond dries out completely in exceptionally dry years. The sea beach occasionally breaches during storms allowing the ingress of sea water.

**Cocks Hill Pond:** 10 ha; an enclosed salt pond behind a sea beach.

**Jolly Hill Pond:** 100 ha; an enclosed salt pond less than 1m deep with surrounding brackish marshes. The pond dries out completely during dry periods.

**Deep Bay Pond:** 18 ha; an enclosed salt pond 1-2m deep, behind a sea beach. The pond is currently being dredged.

**York's Pond:** 13 ha; a salt pond with mangrove swamps, behind a sea beach; formerly enclosed but now open to the sea via a channel dredged by local residents.

**Pinching Bay Pond:** 12 ha; a small coastal lagoon with mangrove swamps, connected to the sea by a narrow channel.

**Galley Bay Pond:** 8 ha; an enclosed salt pond with dense stands of mangroves, behind a sea beach.

A salinity of 236 p.p.t. was recorded at Deep Bay Pond in December 1983; salinities at five of the other ponds ranged from 36 to 53 p.p.t.

**Principal vegetation:** Mangrove swamps with *Avicennia germinans* and some *Laguncularia racemosa* at McKinnon's, York's, Pinching Bay and Galley Bay Ponds, and brackish marshes at Jolly Hill Pond; cactus scrub, low forest and some grassland in surrounding areas.

**Land tenure:** Mostly privately owned.

**Protection:** None.

**Land use:** Solid waste disposal at Cocks Hill Pond, marina development at McKinnon's and Deep Bay Ponds, and livestock grazing around Jolly Hill Pond. There are numerous tourist resorts in the area, several immediately adjacent to ponds, and there is intensive recreation on nearby beaches.

**Waterfowl:** A very important group of ponds for migratory shorebirds, particularly during the autumn passage when flocks of up to 2,000 *Calidris pusilla* have been observed (Maurice B. Hutt, pers. com.).

**Other fauna:** Marine fishes have invaded York's Pond since it was opened to the sea, and occasionally enter McKinnon's Pond during storms. The brine shrimp *Artemia* sp occurs in Deep Bay Pond.

**Threats:** Of the seven ponds, only Pinching Bay Pond remains undisturbed and under no immediate threat. McKinnon's Pond has been committed by the Government for the development of a marina, and an oil refinery to the east has caused some pollution. Cocks Hill Pond is used as a rubbish dump and is badly polluted. Jolly Hill Pond is likely to be filled by the development company which owns it. Deep Bay Pond and the surrounding land are being developed into a marina and resort area; a channel was dredged from the pond to the nearby beach in 1983 and this is likely to be opened to the sea. York's Pond has already been connected to the sea by a channel, and now constitutes a sea water pond. A resort hotel on the northwest shore of Galley Bay Pond causes some disturbance there.

**Research and conservation:** Jolly Hill Pond has been identified by Putney as one of the largest remaining natural salt ponds in relatively unaltered condition in the Lesser Antilles. It seems likely, however, that this pond will be completely destroyed in the near future.

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

**Source:** See references.

**Criteria for inclusion:** 3a.

Codrington Lagoon (4)

**Location:** 17°40'N, 61°51'W; in north and west Barbuda.

**Area:** 3,550 ha.

**Altitude:** 0m.

**Province and type:** 8.41.13; 05, 07 & 08.

**Site description:** A large saline lagoon of 2,650 ha, separated from the sea by a sand barrier and with a narrow connection to the sea at its north end; there are several small islands in the lagoon, about 900 ha of mangrove swamps, particularly in the north, and associated brackish to saline marshes.

**Principal vegetation:** Mangrove swamps with *Laguncularia racemosa*, *Conocarpus erectus* and *Rhizophora mangle*; beds of *Batis maritima*; brackish to saline marshes with *Sesuvium portulacastrum*, *Sporobolus virginicus*, *Salicornia perrenis*, *Borrchia arborescens* and *Heliotropium curassavicum*; cactus scrub in surrounding areas.

**Land tenure:** Almost entirely public land (state owned).

**Protection:** None.

**Land use:** The small settlement of Codrington lies on the east shore of the lagoon; otherwise the area is little disturbed.

**Waterfowl:** The area is known to be very rich in waterfowl, particularly Ardeidae, migratory shorebirds and Laridae, but no details are available.

**Other fauna:** There is a breeding colony of *Fregata magnificens* in the mangroves. Sea turtles nest on the adjacent beaches, and there is an important lobster fishery in the lagoon.

**Threats:** A little pollution from domestic waste from Codrington settlement.

**Research and conservation:** The mangrove swamps constitute one of the largest remaining stands of relatively unspoiled mangroves in the Lesser Antilles. The entire lagoon and mangrove swamps to the northwest have been proposed as protected areas.

**References:** Stoddart *et al* (1973); Putney (1982); Portecop & Benito-Espinal (1984a).

**Source:** See references.

**Criteria for inclusion:** 3a.

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Bull Hole and inland mangroves of Barbuda (5)

**Location:** 17°35'N, 61°46'W; in south-central Barbuda.

**Area:** 200 ha.

**Altitude:** Near sea level.

**Province and type:** 8.41.13; 07 & 08.

**Site description:** A complex of permanent and seasonal brackish pools with extensive mangrove swamps completely isolated from the sea, and some surrounding mudflats and brackish marshes.

**Principal vegetation:** Mangroves, principally *Laguncularia racemosa* and *Conocarpus erectus*, with some stands of *Rhizophora mangle*; mudflats with patchy cover of *Sesuvium portulacastrum*, *Sporobolus virginicus* and *Heliotropium curassavicum*; and sedge marshes with *Fimbristylis ferruginea* and *Eleocharis cellulosa*. Cactus scrub in surrounding areas.

**Land tenure:** Public land (state owned).

**Protection:** None.

**Land use:** Some grazing of domestic livestock in surrounding areas.

**Waterfowl:** The endangered West Indian Tree-Duck *Dendrocygna arborea* is a resident breeding bird.

**Other fauna:** No information.

**Threats:** None known.

**Research and conservation:** The mangrove swamps are of considerable botanical interest in having no direct communication with the sea; they have been the subject of a detailed study by Stoddart *et al*.

**References:** Stoddart *et al* (1973); Putney (1982).

**Source:** See references.

**Criteria for inclusion:** 2a & 3a.

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**The Flashes (6)**

**Location:** 17°33'N, 61°45'W; near Cocoa Point at the southeast tip of Barbuda.

**Area:** 150 ha.

**Altitude:** Near sea level.

**Province and type:** 8.41.13; 07 & 08.

**Site description:** A group of shallow hypersaline lagoons and salt flats subject to periodic flooding during high spring tides or after heavy rain. Parts remain permanently flooded and there is some sparse mangrove woodland.

**Principal vegetation:** Scattered mangroves *Avicennia germinans* and *Laguncularia racemosa*, *Batis maritima* and species of *Salicornia*; cactus scrub in surrounding areas.

**Land tenure:** Public land (state owned).

**Protection:** None.

**Land use:** Some of the lagoons are used for salt production.

**Waterfowl:** No information.

**Other fauna:** There are sea turtle nesting areas on nearby beaches.

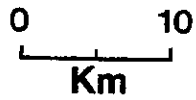
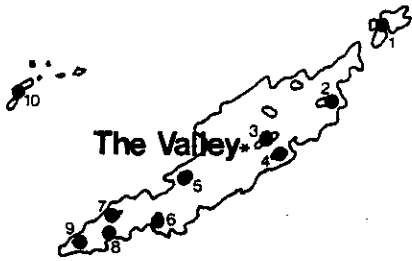
**Threats:** No information.

**References:** Stoddart *et al* (1973); Putney (1982).

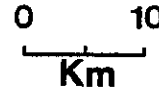
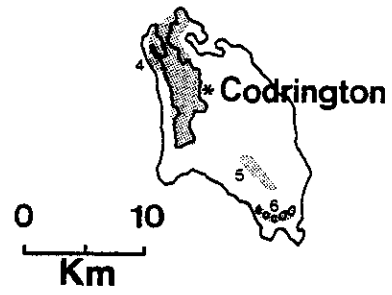
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**Criteria for inclusion:** 3a.

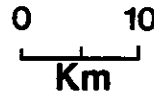
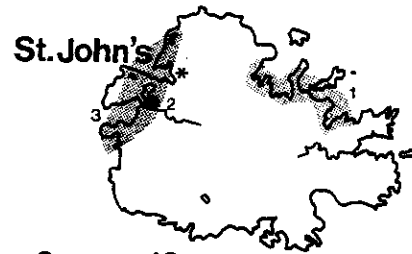
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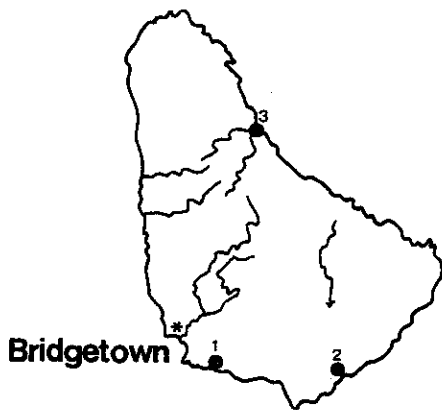
### BARBUDA



### ANTIGUA



### BARBADOS



### BERMUDA

