Information Sheet on Ramsar Wetlands (RIS)

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DD MM YY

Designation date | Site Reference Number

2. Date this sheet was updated: February 2006

3. Country: Antigua and Barbuda

4. Name of the Ramsar site: Codrington Lagoon

5. Map of site included:

a) Hard copy (printed from digital format): *yes* ■ -or- *no* □

b) Digital (electronic) format: *yes* ■ -or- *no* □

6. Geographical coordinates (latitude/longitude): 17 ° 39′ 10″ N 61° 50′ 36″ W

7. General location: The wetland stretches along the entire western and north-western section of the island of Barbuda, near the town of Codrington. Codrington with a population of about 1200 is the only town in Barbuda.

8. Elevation: Average: 2.35 m Maximum: 6.1 m

9. Area: Approx. 3,600 hectares.

10. Overview:

The Codrington Lagoon is a relatively well-flushed and healthy ecosystem, supporting a diversity of habitats which thrive with marine species such as juvenile lobster, reef fish, sea turtles, nesting sea birds and marine mammals. The Lagoon may be considered as one of the most prominent ecological features of Barbuda. It is also one of the islands greatest economic assets as it currently supports a thriving lobster fishery and an expanding tourism market that is largely centred on the nesting colony of frigate birds. The major component subsystems include: mangroves, sea grass beds, algal mats, tide and mud flats, beaches and coral reefs. The lagoon can be viewed as critical to the replenishment of offshore ecosystems, especially the reef systems.

11. Ramsar Criteria:

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. above:

Criterion 2: Codrington Lagoon is notorious for hosting a variety of turtles with special status both in the Red List of the World Conservation Union (IUCN) and on CITES Appendices. Among those considered critically endangered by IUCN are the Leatherback turtle (*Dermochelys coriacea*) and Hawksbill turtle (*Eretmochelys imbricata*); whereas the Green turtle (*Chelonia mydas*) is considered endangered. All three species are found in CITES Appendix I, and their extraction is also regulated under Antigua & Barbuda's Fisheries Act. Finally, the terrestrial red-footed tortoise (*Geochelone carbonaria*) is also in CITES Appendix II.

Criterion 8: The Barbuda Lagoon is known to be a primary nursery site for the Caribbean Spiny Lobster (Panulirus argus) and other commercial fish species. Adult spiny lobsters generally inhabit protected crevices and caverns of coral reefs, sponge flats, and other hard-bottomed areas (outside the lagoon). After spawning, the female lobsters carry the bright orange eggs on their undersides until they turn brown and hatch. Larvae can be carried for thousands of kilometers by currents until they settle in shallow nearshore areas among beds of seagrass and algae. Lobsters are solitary until they reach the juvenile stage, when they begin to congregate around protective habitat in nearshore areas. The Barbuda Lagoon provides ideal conditions during early stages of the life cycle. As they begin to mature, spiny lobsters migrate from the nursery areas to offshore reefs.

13. Biogeography:

a) biogeographic region:
Antigua & Barbuda is situated in the Neotropical Biogeographic Region, between the "Greater Antillean Marine" and "South Caribbean Sea" ecoregions (numbers 236 and 237 in the WWF / National Geographic classification system). Barbuda shares most of its marine species with the latter.

b) Biogeographic regionalisation scheme
The Global 200: A Representation Approach to Conserving the Earth's Distinctive Ecoregions. Source: http://www.panda.org/about_wwf/where_we_work/ecoregions/southern_caribbean_sea.cfm

14. Physical features of the site:

Climate: Average temperatures range from 29ºC (82.2ºF) in summer to 24ºC (75.2ºF) in winter. Annual rainfall ranges from 76-99 cm (30-39 ins) with the rainy period generally coinciding with the hurricane season.

Geology and Soils: As outlined in Hill et al. (1966), most of Barbuda, the Barbuda Lagoon is generally flat and covered with limestone and sand. The slopes on the dominant limestone formation are mainly <2º. The generally thin soils are mainly Codrington Clay or the Blackmere Clay Loam. Sand dominates some areas including the sand spit and adjoining beaches areas. Salinas also exist along the fringes of the lagoon. The salinity

and level of compaction of the soils varies throughout the area.

Water Resources: Because of the flatness of the area, there are no distinct watercourses or surface drainage. Water generally seeps into sandy soils after rains. The Palmetto Aquifer is one of the major watersheds of Barbuda.

15. Physical features of the catchment area: Similar to those described in section 14.

16. Hydrological values:
The Palmetto Aquifer contributes to the groundwater recharge for Barbuda (CCA, 1991). The various sub-systems of the site, in particular mangroves, sea grasses, coral reefs and beaches provide ecosystem benefits such as shoreline stabilization, sediment trapping and flood control.

17. Wetland Types

a) presence: Indicated in red and underlined.

Marine/coastal: **A** • **B** • **C** • **D** • **E** • **F** • **G** • **H** • **I** • **J** • **K** • **Zk (a)**

Human-made: **1** • **2** • **3** • **4** • **5** • **6** • **7** • **8** • **9** • **Zk(c)**

b) dominance: **A > I > E > G > B > C > J > Zk (a)**

18. General ecological features:
According to Horwith (1999), there are rare and endangered plant communities existing along Palmetto Point and the sand spit west of Codrington. Among these communities are the "sea grapes" *Coccoloba uvifera - Canella winterana* lowland tropical or subtropical broad-leaved evergreen vegetation; the *sclerophyllous* closed tree canopy; and the "coco plums" *Chrysobalanus icaco - Thrinax morrisii* tropical or subtropical mixed evergreen-drought deciduous dwarf-shrubland.

In addition, the following mangrove species are common in different areas of the site: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and button wood (*Conocarpus erectus*).

19. Noteworthy flora: Sea Grapes (*Coccoloba uvifera*) and Coco Plums (*Chryssobalanus icaco*) are quite common in Barbuda. Climate and geomorphology are the two main factors that determine the number and types of edible fruits available in Barbuda. Sea grapes and coco plums are the two main fruits that grow in the wild.

20. Noteworthy fauna:
Three species of marine turtles have been recorded as nested on Barbuda. These are: Hawksbill Turtle (*Eretmochelys imbricata*), Green Turtle (*Chelonia mydas*) and Leatherback Turtle (*Dermochelys coriacea*). According to Fuller et al. (1992), these three species are known to nest on beaches within the Ramsar site. There are also noteworthy animals such as the tortoise (*Geochelone carbonaria*) and a fallow deer (*Dama dama*) presently inhabiting Barbuda, although they are rare within the Codrington Lagoon area.

21. Social and cultural values:

Traditionally, the Barbuda Lagoon is closely linked to the culture and economy of the island. The Codrington Lagoon has always been a focus for social and economic activity mainly because of its location and bio-physical structure. It is a primary venue for recreational activities in Barbuda. More than half of the working population regularly uses the Codrington Lagoon duing some part of their fishing activity. It is also the location for two main fish landing sites on Barbuda.

22. Land tenure/ownership:

(a) within the Ramsar site:

Most of the land is vested in the Barbuda Local Government. **(DCA,** 1997)
Council. Private individuals however control small areas for development purposes. Direct proportions are not available.

(b) in the surrounding area: Similar to (a) with some areas used for residential purposes.

23. Current land (including water) use:

(a) within the Ramsar site: tourism, recreation, agriculture and fisheries

(b) in the surroundings/catchment: residential, tourism, agriculture and sand-mining

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

(a) within the Ramsar site: hurricanes and droughts, sand-mining and tourism development in small areas. Possibly climate change and sea level rise. Possible effects of sea level rise include salt water intrusion of aquifers and changes in the natural mangrove zonation process. Depending on the rate of sea level rise, the lagoon could eventually merge with the Caribbean Sea.

(b) in the surrounding area: hurricanes and droughts, human settlement expansion, climate change and sea level rise.

25. Conservation measures taken:

Codrington Lagoon was declared a national park (The Lagoon National Park) in 2004. However, management plans are yet to be developed. In 2000, Jarecki proposed an Ecosystem Monitoring Plan for the Codrington Lagoon.

26. Conservation measures proposed but not yet implemented:

There are various project proposals to develop a management plan for Codrington Lagoon, e.g. the Caribbean Regional Environment Project (CREP), the Organisation of Eastern Caribbean States (OECS) and Protected Areas and Associated Livelihood (OPAAL) projects.

27. Current scientific research and facilities:

The Barbuda Lagoon has attracted several environmental proposals for research projects, over the past two decades. Presently, the Fisheries Division monitors two 2 beaches (Palm

Beach, Low Bay and the beach at Palmetto Point) that are located within the Lagoon National Park.

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28. Current conservation education:

Currently, there is no formal conservation education programme. However, as part of a Caribbean Regional Environmental Programme (CREP), there are plans to formalise what was once a small visitor centre and expand the outreach programme.

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29. Current recreation and tourism:

The Bird Sanctuary is a primary tourism site for visitors. In 2004, there were 4250 visitors to the Bird Sanctuary. In addition, the white and pink sand beaches within the Lagoon National Park support a large number of casual visitors and recreational users, annually.

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30. Jurisdiction:

State: Antigua and Barbuda
Island: Barbuda
Sector: Tourism

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31. Management authority:

Mrs. Dorothy Symister
Secretary to the Barbuda Council
The Barbuda Local Government Council (Barbuda Council)
Codrington, Barbuda W.I.
Tel:/Fax: 268 562 1505, 268 460 0410

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32. Bibliographical references:

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