

12. **Justification of the criteria selected under point 9:**

A good example of a *Typha* marsh that drains as an estuarine system into the sea and supports juvenile populations of certain fish species. The site regularly supports passage and wintering waterfowl and is an important breeding area for moorhen. The large capacity of the marsh buffers flooding from Hamilton city runoff during heavy rains.

13. **General location:**

On the north edge of the City of Hamilton, Pembroke Parish, Bermuda.

14. **Physical features:**

A freshwater cattail and Saw-grass marsh with open water channels up to 3m deep in a deep peat basin. There are only slight fluctuations in water level as freshwater runoff into the basin drains via a 2 km channel to Mill Creek and Hamilton Harbour.

15. **Hydrological values:**

The peat layer beneath protects Devonshire Lens aquifer from pollution by leachate from the dump.

16. **Ecological features:**

A freshwater marsh in a peat basin connected to the sea by a 2 km drainage channel.

17. **Noteworthy flora:**

The largest surviving cattail *Typha augustifolia* marsh on Bermuda, with some *Ceratophyllum demersum* and *Cladium jamaicensis*.

18. **Noteworthy fauna:**

Formerly the most important breeding area in Bermuda for moorhen *Gallinula chloropus* (6prs+) and American coot *Fulica americana* (1-2 prs). A wide variety of waterfowl are recorded on passage and in winter, including Pied-billed Grebe *Podilymbus podiceps*, American Bittern *Botaurus lentiginosus*, Least Bittern *Ixobrychus exilis*, Black-crowned Night Heron *Nycticorax nycticorax*, Green Heron *Butorides virescens* (= *B. striatus*), Great Blue Heron *Ardea herodias*, Teal *Anas crecca*, Blue-winged Teal *A. discors*, Ring-necked Duck *Aythya collaris*, Lesser Scaup *A. affinis*, Sora Rail *Porzana carolina* and Purple Gallinule *Porphyryla martinica*. The introduced minnow *Gambusia affinis* occurs, and the marsh supports Bermuda's largest populations of North American eel and tarpon juveniles, which gain access to the pond via a drainage ditch connecting to Mill Creek one mile to the west.

19. **Social and cultural values:**

A former garbage disposal site now being restored as parkland and nature reserve in the heart of a densely populated area. Will supply important open space and recreational value in future.

20. **Land tenure/Ownership of:**

Government of Bermuda.

21. **Current land use:**

The former landfill site is currently a major composting facility producing soil for landfill site restoration.

22. **Factors adversely affecting the sites ecological character:**

Windblown refuse and leaching of pollutants from landfill site have polluted the remaining marsh.

23. **Conservation measures taken:**

The landfill site was closed in 1992. Zoned as a nature reserve under the Planning Act 1974 and Development Act 1983. Designated as a Nature Reserve under The Bermuda National Parks Act 1986.

24. **Conservation measures proposed:**

The landfill site is currently under restoration as parkland. A plan for the nature reserve is about to be implemented and will involve enhancement of the drainage channel to the sea and increasing the open water areas of the marsh by removal of invasive Cow-cane *Arundo donax* and excavation of the maze of channels through the cattail to improve visual amenity and water circulation, and to create bird nesting islands.

25. **Current scientific research and facilities:**

Dr. Martin Thomas has studied the limnology of the Pembroke Canal. There have been various engineering studies on drainage problems in the marsh e.g. Chasemore Report 1960.

26. **Current conservation education:**

None

27. **Current recreation and tourism:**

None

28. **Jurisdiction:**

- a) Territorial – Government of Bermuda
 - b) Functional – Government of Bermuda
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29. **Management authority:**

Ministry of Works and Engineering, Government of Bermuda, and,
Parks Division, Government of Bermuda.

30. **Bibliographical references:**

Scott, D.A. and Carbonell, M., Compilers. 1986. A Directory of Neotropical Wetlands. IUCN Cambridge and IWRB Slimbridge.

The Pembroke Marsh Plan 1987. Department of Planning, Government of Bermuda.

Chasemore. 1960. Unpublished report for Bermuda Government Public Works Department: Drainage Arrangements for the Pembroke Marsh/Mill Creek Basin.

Thomas, M.L.H., 1997. – Summary and Recommendations from the Report on the Ecological Conditions of Pembroke Canal and the Inner Part of Mill Creek, 1996. Bermuda Zoological Society.
