

Peat Marshes

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HABITAT PROFILE

Global Status: Threatened.

Global Distribution: World wide.

Status in Bermuda: Threatened.

Distribution in Bermuda: Most of the remaining peat marshes can be found in the central parishes. The most notable ones are Paget Marsh, Devonshire Marsh (presently the largest), and Pembroke Marsh.

Conservation Importance: Probably the single greatest important role peat marshes perform for Bermuda is that they act as water collection basins. These marshes are also a vital habitat for many species of birds, particularly waterfowl, and have a high diversity of native and endemic plant species that grow well only in the wet, acidic soils.

Threats: Expanded industrial development, arson, invasion from aggressive plant species (including brazil pepper, surinam cherry, and guava), introduced animals discarded by local pet owners, (such as the apple snail and red-eared terrapins), the theft of cedar wood, the continued illegal dumping of garbage, increased nutrient enrichment of ground water from residential cesspits, and sea level rise all threaten this habitat.

OVERALL TARGETS

Short term (5 years): To prevent further loss and degradation of existing peat marshes.

Long term (30 years): To improve the quality and accessibility, through restoration and the installation of raised board-walks, of the remaining peat marshes around Bermuda.

BACKGROUND INFORMATION ON HABITAT

Peat marshes are formed very slowly over time when water collects in natural depressions, such as collapsed caves or between hills. They are confined to low lying inland areas and form the most extensive freshwater habitat in Bermuda. The standing water is normally slightly brackish, but salinity is altered by rainfall. Peat soil is formed by the slow accumulation of partially decayed plant material. The formation of this peat layer is a critical and essential event in marshland development. This is because the compressed layer of peat forms a black, acidic layer virtually impermeable to water, thus preventing it from draining through the porous limestone rock beneath. In 1900 there were about 120 hectares (298 acres) of marsh. This area had been reduced by nearly half to 63 hectares (165 acres) in 1997. The very large and diverse West Pembroke Marsh has been entirely eliminated, as has much of East Pembroke Marsh. Together, these two marshes made up the largest peat marsh area in Bermuda and gave rise to the only stream which fed the only estuary. Despite restoration projects initiated by the Bermuda Audubon Society and the Bermuda National Trust this habitat continues in rapid decline. Paget marsh is the only living swamp forest example of what Bermuda's primeval forest of palmettos and cedar trees once looked like, providing a tangible link to our past.

Marshes were historically used as areas to dump garbage, which provided an efficient way to eliminate mosquito breeding grounds. They were also cleared for lowland agricultural use. Some have been filled to allow industrial and housing development, whilst others have been grassed over after being filled with waste and rubble to form lawns or wayside habitats. Bermuda palmetto, cedar and wax myrtle dominate the canopy in forested areas mostly above the water table, whereas the large grassy areas are dominated by sawgrass. Peat marshes are the habitat of a wide variety of ferns in both forested and grassy areas.

Existing Measures for Conservation

In 1983 a Development Plan was created that designated all remaining (wetlands) peat marshes as Nature Reserves under the provisions of the Nature Reserve Zoning Category. Ongoing activities include the selective culling of invasive plants and the restoration of native vegetation in some of the main peat marshes.

Recommended Actions

Legislation and Policy: Already established ?

Direct Intervention: Take measures to improve the quality of the existing peat marsh communities.

Activity	Priority	Action Taken
Maintain existing areas and quality of marshes, including ditch communities.	A	✓
Identify those native and endemic plants that would be suitable for planting and re-establish lost species where translocation is appropriate.	A	
Limit the spraying of insecticides for mosquito control within peat marsh habitats and target only those areas where larvae are found.	B	

Research and Monitoring: Promote research and monitoring programmes for Bermuda's peat marsh habitat.

Undertake regular culling of invasive plants in the peat marshes.	A	✓
Monitor the number of birds using the peat marshes.	B	✓
Implement a monitoring programme to assess the extent and distribution of peat marshes.	B	

Communications and Publicity: Promote the importance of peat marsh habitats to Bermuda's biodiversity.

Develop signage to explain the threats to, and responsible public behaviour when visiting, Bermuda's wetland habitats.	A	
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Plan Monitoring: Develop and implement a monitoring plan to assess the success of the habitat action plan.

Provide an annual report to the Department of Conservation Services on the progress of the habitat action plan.	A	
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Principle contact: Terrestrial Conservation Officer (Department of Conservation Services)