

Freshwater & Brackish Ponds



Martin Thomas

HABITAT PROFILE

Global Status: Threatened.

Global Distribution: World wide.

Status in Bermuda: Threatened.

Distribution in Bermuda:

There are approximately a dozen fresh-brackish ponds in Bermuda, including Warwick Pond (the largest), Tivoli Pond, David's Pond in Paget Marsh, Somerset Long Bay Pond, Pitman's Pond, Seymour's Pond, Cloverdale Pond, and those ponds found on golf courses.

Conservation Importance: These ponds are important for aquatic insects, snails, migratory waterfowl, and Bermuda's endemic killifishes.

Threats: Run-off petrochemical pollution from roadways, pesticides, herbicides and fertilizers, groundwater enrichment through sewage seepage, added sediment, and trash debris from illegal dumping are the main threats to Bermuda's ponds.

OVERALL TARGETS

Short term (5 years): To prevent further reduction in the area and quality of all existing ponds.

Long term (30 years): To rehabilitate selected ponds, re-establish selected filled ponds and fairly acquire additional land for wetland restoration conservation.

BACKGROUND INFORMATION ON HABITAT

Bermuda does not have extensive freshwater habitats. In fact the term 'freshwater' is a relative one since almost all of Bermuda's freshwater ponds have some salt content in them, making them technically brackish. Salinity levels in these ponds generally follow predictable seasonal patterns and are affected by evaporation and the sporadic addition of freshwater either directly as rainfall or indirectly as surface run-off, typically via storm drains from neighboring roads. Many of Bermuda's freshwater ponds were completely filled during the period of marsh reclamation (1920s-1970s) leading to major losses in biodiversity.

Natural freshwater ponds have thick peat deposits on the bottom and around the edges, which prevents water from draining away. They are usually fringed by a variety of native and endemic plants. Most ponds support populations of the mosquito fish (*Gambusia holbrooki*), introduced in the twentieth century to combat mosquitoes. They also serve as a refuge for resident birds as well as migratory birds that regularly winter in Bermuda.

Not all freshwater ponds occur naturally; many have been artificially created and can be found in nature reserves and private gardens across the island. Those created on lands that do not drop to the freshwater lenses generally need liners of plastic or concrete to prevent their draining. A limited number of drainage canals are also present in Bermuda, the largest of which runs through a significant portion of the industrial area of Hamilton.

Existing Measures for Conservation

In 1983 a Development Plan was created that designated all remaining (wetland habitats ?) peat marshes as Nature Reserves under the provisions of the Nature Reserve Zoning Category.

Saltwater (Anchialine) Ponds

Mark Outerbridge



HABITAT PROFILE

Global Status: Rare and threatened.

Global Distribution: Confined to limestone and volcanic coastlines.

Status in Bermuda: Threatened.

Distribution in Bermuda: Island wide. Some of the larger saltwater ponds include Mangrove Lake, Trott's Pond, Lover's Lake, the Walsingham Ponds, Evan's Pond, Coney Island Pond, and the Blue Hole Pond.

Conservation Importance: These marine ponds support an outstandingly high diversity of both marine and brackish water organisms. The endemic Bermuda killifishes and native diamondback terrapin are found exclusively within a limited number of ponds across the island, whilst the endemic Bermuda sargassum weed can be found in Walsingham Pond.

Threats: Run-off petrochemical pollution from roadways, pesticides, herbicides and fertilizers, groundwater enrichment through sewage seepage, added sediment, and trash debris from illegal dumping are the main threats to Bermuda's ponds.

OVERALL TARGETS

Short term (5 years): To prevent further reduction in the quality of all existing ponds.

Long term (30 years): To rehabilitate selected ponds, re-establish selected filled ponds and fairly acquire additional land for wetland restoration conservation.

BACKGROUND INFORMATION ON HABITAT

Saltwater ponds are usually formed when inland depressions fall below sea level, thus allowing seawater to enter. They are all connected to the ocean in some way or other, usually via underground tunnels and caves, and are often surrounded by mangroves. Those ponds that have a good connection to the sea have a healthy flushing rate (salt water exchange with the ocean) and therefore support a greater diversity of marine life than those ponds that do not. What makes Bermuda's marine ponds so unique is that no two ponds are alike, even when found close together. Since many of the ponds are shallow and have high levels of plant nutrients, they are excellent places to find marine flowering plants, algae, and phytoplankton. These in turn provide abundant food for the animals that inhabit them. They have rich feeding grounds and, with the extensive mangrove root system, provide a protected environment for many marine and terrestrial animals. Marine ponds are very sheltered thereby creating a safe environment for many delicate and beautiful organisms that could not exist in more open habitats. In Walsingham Pond there are a number of resident green turtles, and Trott's Pond and Mangrove Lake support Bermuda's only population of the internationally threatened and rarely seen diamondback terrapins.

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