Red Mangrove

Rhizophora mangle

Bermuda Protected Species
GOVERNMENT OF BERMUDA
Department of Environment & Natural Resources

Current Status

Native

BPSA: Level 2

CITES: No

Bda Red List: CR (A2,B2a)

CMS: No

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Ecology

Identification

Red Mangroves are native to Bermuda and are salt tolerant trees, also known as halophytes, which are adapted to life in harsh coastal conditions. They are easily distinguishable through their unique prop roots and viviparious seeds, or propagules. The prop roots provide extra support and protection against storm waves and tides. They also help prevent hypoxia of the tree by allowing a direct intake of air through pores in the root structure. A red Mangrove can reach up to 80 feet (24m) in height in the tropics, however in Bermuda it reaches 20—30 feet (6.1—9.2m). Its bark is thick and a grey-brown color. The leaves are 3-5 inches (7.6-12.7cm) long and 1-2 inches (2.5-5.1cm) wide, with smooth margins and an elliptical shape. The tree produces small, star-shaped flowers in the spring.

Range

Distributed in estuarine ecosystems, protected coastlines and brackish coastal ponds throughout the tropics. In the Atlantic basin, this includes Florida, the Caribbean, Central America, northern South America, and Africa, up to about 28 degrees north and south latitudes. Bermuda is the most northerly location known for the Red Mangrove, mainly due to the warming influence of the nearby Gulf Stream.

Habitat

Red Mangroves are found in subtropical and tropical areas in both hemispheres. They thrive in brackish water ponds and swampy salt marshes. They are well adapted to salt water, thriving in the intertidal zone of protected coastlines where most plants fail, and creating their own ecosystems. Red Mangrove is often found in Bermuda with Black Mangrove (*Avicennia germinans*) and Buttonwood (*Conocarpus erectus*).

Reproduction and Life Cycle

As a viviparous plant, the Red Mangrove creates a propagule that is in reality an already sprouted, living tree. Resembling an elongated seed pod, the fully-grown propagule on the Mangrove falls in the water, and when washed up in a suitable protected shoreline, is capable of rooting and producing a new tree. The trees are hermaphrodites, capable of self-pollination or wind pollination. The tree undergoes no dormant stage as a seed, but progresses to a live plant before falling from its parent tree. A Mangrove propagule may float in the sea for over a year before washing ashore and rooting.

Why protect this species?

Bermuda's Mangrove areas the most northerly to be found on Earth and as such, are unique.

Mangroves are essential ecosystems for both terrestrial and marine species on the island. They provide stabilization of their surroundings, trapping fine silt and protecting the coastline behind from storm waves and surges with their dense growth of prop roots.

Mangroves create a community for other plants and animals including Giant Land Crabs (*Cardisoma guanhami*), Mangrove Crabs and juvenile Gray Snappers. In salt ponds, they provide shelter for Bermuda's endemic Killifish (*Fundulus relictus and F. bermudensis*). They also provide essential nesting sites for the native Green Heron and introduced Yellow-crowned Night Heron.

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What is being done to conserve it?

Protected Species Act Listing: Level 2, 2016

IUCN Red List: Least Concern v3.1.

Research: research has focused mainly on many of the species dependent on Mangrove ecosystems, including Bermuda Killifish, Green Heron, Giant Land Crab etc. Future research needs to be carried out to determine the present status of mangroves, total area covered by them, which areas are expanding or declining in coverage, and assessment of potential habitats for future re-introduction.

Artificial propagation

- Mangroves are easily propagated using the propagules, and have been grown in the past to re-establish colonies in locations where they had been lost through clearing for coastal development
- Anticipated future reintroductions in suitable locations in the wild.

Protective legislation

Protected Species Act (2003)

What you can do?

Learn: understand how destruction of habitat leads to loss of endangered and threatened species and Bermuda's plant and animal diversity. Tell others what you have learned.

Join a conservation group: such as the Bermuda Zoological Society, Bermuda National Trust or the Bermuda Audubon Society.

Report: if you think that you have seen any illegal cutting or clearing of Mangroves, please report it to the Department of Natural Resources at www.environment.bm/contact-us/ or 299-2329 ext. 2141

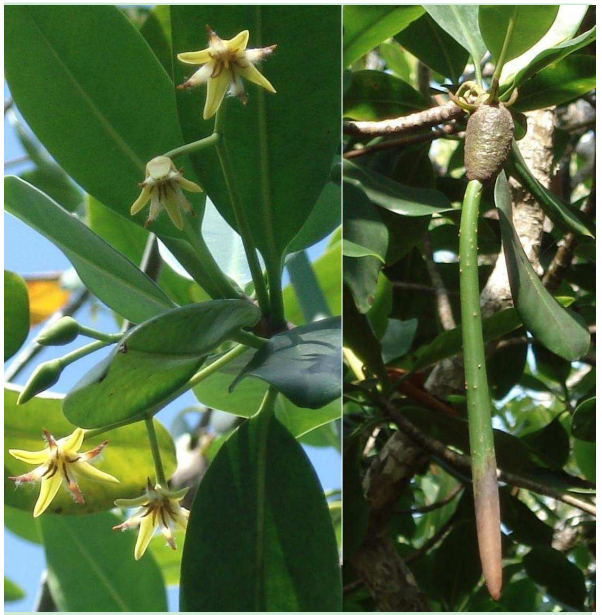
Information sources

To learn more please visit: www.environment.bm

Britton, N.L. 1918. Flora of Bermuda. Charles Scribner's Sons, New York.

Ellison, A., Farnsworth, E. & Moore, G. 2015. *Rhizophora mangle*. The IUCN Red List of Threatened Species 2015: http://dx.doi.org/10.2305/IUCN.UK.2015-1.RLTS.T178851A69024847.en.

Sterrer, W. E and D. B. Wingate. 1981. Wetlands and marine environments. In: Hayward, S.J., V.H Gomez and W.E. Sterrer (eds.). Bermuda's Delicate Balance - People and Environment. Hamilton. Bermuda National Trust: 402pp.



Red Mangrove flowers (left) and propagules (right) A. Copeland

For Further Information
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www.environment.bm