

IMPORTANT NOTICE! The modification, clearance or reclamation of wetlands requires an environmental permit from NEPA.

Vision

That Jamaica's natural resources are used in a sustainable way and that there is broad understanding of environment, planning and developmental issues, with extensive participation amongst citizens and a high level of compliance with relevant legislation.

Mission

To promote sustainable development by ensuring protection of the environment and orderly development in Jamaica through highly motivated staff performing at the highest standard.

For additional information on the Mangroves contact:

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*Managing and Protecting
Jamaica's land wood and water*



*Create an Environment
for Clean Living*



**National Environment
and Planning Agency**

**MANGROVES
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Mangroves are coastal plants which are able to survive in soil soaked with water, and are adapted to tolerate salt water. They occur in a wide range of places such as lagoons, and salt marches

There are four (4) types of mangroves in Jamaica:

- Red Mangrove (*Rhizophora mangle*),
- Black Mangrove (*Avicennia germinans*),
- White Mangrove (*Laguncularia racemosa*)
- Button Mangrove (*Conocarpus erectus*)

Red Mangrove

Red Mangroves are found at the water's edge and are usually flooded at high tide. They are easily identified by their tall arching roots, called prop-roots which extend from the branches and trunk of the plant. These roots, which are reddish in colour are adapted to transport air to the underground roots which are covered with water, and provide extra support to anchor the tree in the soft soil. The prop roots give the tree the appearance of walking into the water. Red Mangroves produce buds called propagules which are torpedo-shaped. The propagules eventually fall into the water and either take root in the ground below or float in the water until suitable ground is found. A red mangrove propagule can drift for a year before taking root and growing into a tree.



Black Mangrove

Black mangroves are found further inland at higher elevations which are only flooded by high tides. These trees are surrounded by pneumatophores (pronounced "new-mat-afores"), which are stick-like structures growing from the underground roots. Like the prop roots of the red mangrove, these structures transport air to the underground roots which are often in soil saturated with water.



White Mangrove

White Mangroves are usually found at higher elevations, further inland than the Red or Black Mangroves and are easily identified by two pumps at the base of each leaf which get rid of excess salt. The White Mangrove may have pneumatophores and/or prop roots depending on how much the soil is soaked with water. Most plants have neither root structure. The White Mangrove produces greenish-white flowers and small fruit which is dry, leathery and ribbed. The fruit contains a dark red seed, which can float to new growing sites.



Button Mangrove

The Button Mangrove is found much further inland and is not flooded even at high tide. The "Button" part of the name comes from the button-like appearance of the dense, rounded flower heads that grow in a branched cluster, and the purplish-green, round, cone-like fruit. This mangrove is in the same family as the white mangrove but is often considered only an associate of mangroves. It has no prop roots nor pneumatophores. It is shrubby when found along the shore, but takes on a tree form further inland.

Importance of Mangroves

Mangroves are very important commercially and provide many benefits to the environment. The importance of mangrove includes:

Stabilizes shorelines. Mangroves help protect the coastline from erosion, storm damage and wave action. They act as a buffer, breaking the force of the wind and waves as they hit the shore.

Building up land. The intricate prop roots of the Red Mangrove trap suspended materials which include soil and organic matter. The accumulation of this material causes the build up of soil. Continued soil build up, particularly by mangroves along the shoreline, builds the shoreline seaward (out to sea). Eg. Palisadoes

Flood protection. Mangroves protect the land from Flooding by absorbing the excess water.



Recycle nutrients. Mangroves play a very important role in the food web. The rotting leaves of mangroves provide food for bacteria and fungus. The rotting plant material, soil, water, fungus and bacteria makes up Detritus (pronounced "di-tri-tes") provides food for marine organisms such as crabs, shrimps and oysters. These marine species in turn provide food for larger species, such as Snook, Seatrout, Mangrove Snapper and Tarpon, which in turn provide food for Brown Pelicans, Great, Blue Herons, Bottle Nosed Dolphins, Crocodiles, and humans.



Protect the coral reef. Mangroves trap sediments from land run-off, thereby reducing the amount of sediment reaching sensitive coral reefs, which can die from siltation.



Acts as a natural sewage treatment plant. They absorb nutrients such as nitrates and phosphates found in sewage-making it safe to be flushed into the sea. In large amounts, these nutrients can harm the organisms in the sea by encouraging the rapid and abundant growth of plants that will use large amounts of oxygen leaving very little for the fish and other animals in the sea.

Provide home and shelter for fish. Many fish, including those of commercial importance, spend part of their lifecycle in wetlands during breeding and spawning. The sustainability of Jamaica's fishery is directly dependent upon the habitat provided by and mangrove systems. They serve as a nursery for young fish such as parrotfish, grunt and snapper and provide a home for many of other fish and crustaceans. For example, the pneumatophores of the black mangrove provide safety for many marine animals, sheltering crabs, shrimp and clams, protecting many from predators.



Serves as a home for many animals. The American Crocodiles and West Indian Whistling Duck are some of the animals that are found in the mangrove. Others include a number of wading birds and sea birds such as the Snowy Egret, Blue Heron, Scarlet Ibis, and a large variety of organisms such as oysters and crabs.

