

Mangroves are a varied group of salt-tolerant shrubs and trees that form one of the most productive ecosystems in Florida, as well as along many tropical coastlines worldwide.

The word “mangrove” is derived from the Portuguese word for tree (mangue) and the English word for a stand of trees (grove). There are three principal mangrove species in Florida—red, white and black. An associated species, buttonwood, is usually found growing nearby. Florida mangroves have leaves that are directly opposite one another on the stem (except buttonwood, which has alternate leaves). The leaves are always fleshy and many have glands on their leaf-stalks or leaf blades.

Mangroves have an unusual way of reproducing. The plants are viviparous, that is, their seeds germinate while still on the mother plant. The resulting “propagules” continue to develop on the plant until dispersed by gravity and water. After a dispersal period, while the propagule continues germination, the young plant is able to establish quickly once a suitable habitat is encountered.

Mangrove swamps are found in areas of salty or brackish water, especially intertidal areas sheltered from strong wave action such as bays, estuaries and rivers.

Mangroves grow equally as well in fresh water, though face more competition in areas where salt is not a factor. In Florida, mangrove swamps occur along the shores of the peninsula, on the leeward side of barrier islands, and the Florida Keys. As mangroves are tropical plants, their northern distribution is limited by temperature. Some of the largest mangrove communities in Florida occur in the Ten Thousand Island area along the southwestern coast and the Florida Keys.

Mangrove swamps are rich in life, providing food and a safe haven for coastal and marine creatures. The trees filter pollutants and play a major role in stabilizing shores and preventing erosion.

Detritus created from decaying mangrove leaves and other organic matter brought in by the tide forms a rich soup that supports mangrove inhabitants such as crabs and small fish. In turn, many mangrove animals serve as food sources for other animals higher up in the food chain.

**The great ecological value and beauty of mangroves has not always been recognized—mangroves frequently have been removed for housing developments. Mangrove swamps have been ditched or channeled in attempts to control mosquitoes and trimmed and removed to provide views. Florida law protects mangroves, though trimming of branches is still allowed with special permission.**



photo by Annemarie Post

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# Guide to the Mangroves of Florida





## Red Mangrove

(*Rhizophora mangle*, Rhizophoraceae)

The red mangrove is the most distinctive and commonly encountered mangrove in Florida. With its arching prop roots, it often forms large, nearly impenetrable colonies that provide an excellent nesting area and refuge for birds and marine animals. Red mangrove leaves are thick, blunt at the tip, and have no conspicuous glands. The prominent, long and sharp pointed terminal bud is distinctive, as is the horizontal scar seen on the stem between the leaves. Red mangrove flowers have whitish petals that are separate from each other and yellowish sepals. The seeds germinate while still on the plant and grow into elongated torpedo-like structures before falling off. The bark of the red mangrove, which is used for dyeing and tanning, is the smoothest of the mangroves. Flowering is year-round, though heavier in spring and summer.



## Black Mangrove

(*Avicennia germinans*, Acanthaceae, formerly Avicenniaceae)

The pencil-shaped aerial roots that protrude in large numbers above the soil around the tree and salty leaves that are whitish on the lower surface distinguish the black mangrove from its neighbors. The specialized aerial roots (or pneumatophores) serve as breathing tubes, helping the plant obtain atmospheric gases unavailable in the waterlogged soils where they grow. The fragrant flowers occur in terminal clusters; their whitish corollas have distinctive yellow centers and petals that are fused together. The tear-shaped leathery fruits of the black mangrove are a common sight on area beaches where they quickly germinate and take root. Black mangrove bark has a characteristic checkered texture. Honey produced from the flowers of the black mangrove is said to have an excellent, distinct flavor. Flowering occurs in spring and early summer.



## White Mangrove

(*Laguncularia racemosa*, Combretaceae)

White mangroves may produce a few isolated aerial roots similar to those in black mangroves, but their leaves provide the best clues for identification. White mangrove leaves are the most broadly rounded of the mangroves and often have a shallow notch at the very tip. The leaves have blackish glands between the midvein and leaf margin (best seen when the leaf is held up against a source of light) and their leaf stalks bear a pair of nodular, salt-excreting glands near the tip of the stalk (versus at the base of the stalk in buttonwood). White mangrove flowers are white, small, and occur in terminal clusters. Their petals are separate from each other. The small fruits are greenish, longitudinally ridged, and topped by the remnants of the calyx. The bark is relatively deeply and longitudinally furrowed. Flowering is in spring and early summer.



## Buttonwood

(*Conocarpus erectus*, Combretaceae)

Buttonwood trees are not true mangroves, but are often found adjacent to mangrove swamps above the high tide line. They are distinguished by their sharply pointed, alternately arranged leaves. They have small glands near the base of the leaf stalk and small glands on the leaf under-surface. Many branches often have one reddish or yellowish leaf that gives this plant a distinctive appearance from a distance. Buttonwood has dense round flower clusters. After flowering, the heads turn brown and are composed of many small fruits, each with one seed. Buttonwood bark resembles that of white mangrove. It has been used in tanning and the wood produces a high-grade charcoal that is smoke-free when burned. The silver buttonwood is a variety with densely pubescent grayish leaves and is often grown in coastal areas as a hedge or specimen tree.