

# Mangroves and a Sustainable Environment



Mangroves are predominately tropical trees that grown in mixed salt and freshwater along the coast where they are the dominant species in communities known as mangrove forests.

## TRUE MANGROVES

- ⇒ Only exist in the mangrove environment
- ⇒ Play a major role in estuarine community structure
- ⇒ Have specialized form and structure – i.e. aerial roots and reproduction via propagules
- ⇒ Have a physiological mechanism for salt exclusion
- ⇒ Are isolated from freshwater relatives



## RED MANGROVE (*Rhizophora mangle*)

- ⇒ Prop roots
- ⇒ Pencil shaped propagules
- ⇒ Shiny pointed leaves
- ⇒ Deep vertical roots

## BLACK MANGROVE (*Avicennia germinans*)

- ⇒ Pneumatophores
- ⇒ Tear shaped propagules
- ⇒ Shiny upper leaf, gray under leaf
- ⇒ Horizontal roots



## WHITE MANGROVE (*Laguncularia racemosa*)

- ⇒ Smallest propagule
- ⇒ Rounded Leaves
- ⇒ Root System varies

## BUTTONWOOD (*Conocarpus erectus*)

- ⇒ Not a true mangrove—an associated species
- ⇒ Sharply pointed alternating leaves
- ⇒ Has seeds, not propagules



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## MANGROVES AND SALT

- ⇒ Salt excluders  
Red and White mangrove
- ⇒ Salt extruders  
Black Mangrove

## MANGROVE ENVIRONMENTS

Mangrove environments are so diverse it is usually difficult to determine the general ecological requirements of different species, as detailed studies in one area may be contradicted by equally precise studies of the same species in a different area.



## MANGROVES AND OUR ENVIRONMENT

- ⇒ Protects against coastal erosion
- ⇒ Provides food and shelter for estuarine animals
- ⇒ Serves as a hurricane buffer
- ⇒ Sequesters carbon dioxide
- ⇒ Improves water quality

## THREATS TO MANGROVES

Worldwide direct loss of mangrove habitat by conversion to agricultural and/or urban lands; clear cutting for timber, fuel wood, pulp, and charcoal; impounding for mosquito control; destruction for fish and shellfish culture operations; and conversion to salt ponds have resulted in the loss of over half of the area once occupied by mangroves.



**In Florida mangroves are protected and trimming and alteration often requires a permit.**

**For more information <http://www.floridadep.com/southwest/erp/>**



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