

COASTAL ECOLOGY – MANGROVE ECOLOGY

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So welcome. So now we are at our first habitat here at Fort De Soto. We're going to look at a mangrove forest. And some things we want to learn. We had to learn the names of the mangroves. There's different species that occupy Tampa Bay. We're going to learn how they're adapted to live in salt water, kind of their importance in the estuary, and how they're just an amazing recycler in nature.

So we'll talk about several features. And I'd like to start by introducing my colleague, Angela Lodge. And she just is very well experienced with mangroves and leading a lot of teaching and learning activities to help us understand their importance and their role. Angela.

Hi, everyone. As Dr. Greeley mentioned, we are learning about mangroves today. As you know or may not know, all trees prefer fresh water. Mangroves have found themselves in an estuary. They have to deal with the salt. And so they have adapted features to help them filter or excrete the salts.

So before you walk away today, this is what you need to learn, the three types of mangroves. We're going to talk about the three types of mangroves, then talk about how they reproduce, their rooting system, their leaves, and what they look like so that you're able to identify them no matter where you go and see mangroves.

So we're going to start with the first mangrove. Now if you like to kayak or canoe, and you are along the shoreline, you're going to see red mangrove. You know that there are red mangroves, because if it's wet, you'll see the root. The rooting system goes down. They are called prop roots. So they have prop roots.

The leaves are usually nice, lush green. Of all the three types of mangroves, the red mangrove's leaves are lush, and they are pointy. So that's how the leaves look on the red mangrove.

In order for them to reproduce, they have what we call propagules. And the propagules, they usually hang down. And they're pretty short now, because they're young. But as they get older, they're going to start hanging. They grow probably six inches long. They get too heavy for the leaves to carry them, to hold on.

So they'll fall into the water. They'll bob along until they find a place that's nice and comfortable for them, then they'll take root, and they'll reproduce. Usually, they could last therefore year actually before reproduction starts. So this is the red mangrove.

And all mangroves are important to our ecosystem, because they help to hold the ground in place. They prevent erosion from happening. They're wonderful habitats for all kinds of sea creatures.

And they are protected species. And what I mean by that, if you're walking along the shoreline, and you go along snapping mangroves, you can get a fine. And that's because they're so important for our ecosystem. So don't do that. Even when they're down and brown, they are still good. And that's because you notice they have all these yellow leaves on the mangroves, well, all trees as the leaves age, they get yellow, they get brown, and they fall to the ground.

For the red mangroves, and the red mangroves only, these yellow leaves are sacrificial leaves. And what it means by that, they're given their lives to secrete all the salt for this species and to prevent the mangrove from dying or keep the mangrove living.

But when they fall into the ground, they don't just become trash. They become food for sea creatures. So if you're human, and you don't eat meat, you're vegetarian. If you are a sea creature, and you don't eat meat, you're a herbivore. So they provide food for herbivores, and that food is called the trikes.

I think we've said all we're saying about the red mangrove. Propagules, reproduction, prop roots, nice pointy lush green leaves, and secrete salts through the sacrificial yellow. That's the red mangrove.

All right. Over here, we have the black mangrove. You know that they're black mangroves, first of all, if you notice the rooting in system looks a little different where the black mangrove is. It comes up, aerating roots. Sometimes, they're referred to as dead men fingers, but they're really called pneumatophores.

The leaves, you'll notice, are the darkest of all the mangroves. And they secrete salts in the back of the leaves. Now I usually have you lick the back of the leaves, so you know I'm telling the truth that it's really pulling the salt. But birds love to poop in mangroves, so you have to find one that's really clean, poop-free. Hmm. Yum. Salty. You'll love it.

So they secrete salt. So every leaf on the black mangrove is working to secrete the salt. No sacrificial leaves. They're all sacrificing. They love each other. But aerating roots, dark green leaves. The leaves are a little pointy, but not as sharp pointed as the red mangrove and flowering for reproduction. And that's a story about the black mangroves.

Now we have to go find some white mangrove. The white mangroves usually blow closest to the shore. OK. So here we have some white mangroves. And remember, I said the red ones are the lush green. The black ones were the darker green. This is kind of mid-range green. The leaves, pretty oval shaped like I told you.

And if you come really close, really close, and you look at the base of the leaves, you going to see those two little-- they look like little whiteheads. I don't know how to say it-- but they're salt glands. And this is where they secrete salt. And the rooting system, regular rooting system.

Remember we said the black mangroves have these aerating roots, pneumatophores. And you'll see them all around. But that doesn't necessarily mean that it's a black mangrove, because this is a white mangrove. But those roots will come all the way out. So that's important to know.

So that's the story of all three mangrove, three types. We need them all. They all trade detritus. Mollusks love them because mollusks are herbivores. So if you pass, and you see mollusks jumping out of the water, they're happy. They've being well fed good food. That's it. I hope you learned something today. Bye.