Lab Report

Student's Name

Institutional Affiliation

Lab Report

Ecosystem 1: mangrove forests that consist of red, white, and dwarf black mangroves. The trees were observed on the ocean trails and swampy areas near the ocean. The faint winds caused a calm whizzing of the water and soft waves could be seen.

Ecosystem 2: coastal dunes. There was a drop in elevation between the dunes and the coastline that was easily noticed when we started a walk along the shoreline. The wind was steady, forcing the waves to cover the coast once in a while. Sea oats grew all over the dunes in abundance.

Anthropogenic Effects

Mangrove trees at Bill Bags Cape Florida State Park are a kind of trees under conservation. In the past few decades, some mangroves have been cut down to utilize the tidal land in which they thrive for other purposes. This is not appropriate as mangroves are essential species in the natural environment they grow. For example, they are said to buffer against cyclones, storms, and tsunamis. On the other hand, the littoral dunes are preserved at the Bill Bags Park. In some tourist attraction sites like South Beach Florida, the development of these dunes is artificially hindered, yet they are an appealing site to the eyes, which means that more tourists would flock the place.

Portuguese Man of War - Physalia Physalis

This is a colonial marine coelenterate of the order Siphonophora. It is an organism which body consists of several small living parts known as zooids. Each part of this creature can fulfill different functions, thus composing a self-sufficient being. They can be found washed up to the sea shore at the Bill Bags Park coastline.

Sea Oats – Uniola Paniculata.

Sea oats is a grass like plant; the East Coast is rich in it. It does well in salty lands. The plant has long roots that strengthen the soil they grow in and keep it together, thus preventing erosion. These plants are also important in buffering against devastating natural phenomena. Sea oats plant is subject to preservation in Florida. The coastal area in Bill Bags Park is rich in it.

Red Mangroves-Rhizophora Stylosa

Red mangroves grow along shallow bays, river inlets, and estuaries. The species prefers soils that are soft, muddy, and well drained. Sometimes they are found on coral and rock sands and the low tide areas. Red mangroves are commonly seen growing at lower tides of rivers and behind the seaward fringe. They grow together with yellow and grey mangroves. Their roots, also referred to as prop roots, are rather peculiar. It was observed that the trees grow with branches down the water to keep the tree in an upright position. Since they are subject to air, the

branches provide the stem with additional oxygen. Propagules are formed on red mangroves; they touch the water and, with time, germinate into new red mangroves. Salt for the red mangroves is eliminated through the roots as water is transported upwards. Excess salt is stored in the leaves of the plant and excreted when the leaves die and fall off.

White Mangroves-Laguncularia Racemosa

White mangroves can mostly be seen in shore areas around ponds and lagoons. However, depending on the level of the water, they can grow as pneumatophore and prop their roots. They give birth to a skinny fruit; it is rather small in size and looks like a prune. They have adapted to the areas where they grow by developing many pores on their leaves that help in salt discharging. The water emitted from the pores evaporates, leaving the salt behind, which is washed off by rain. They have round leaves at the tip and base while the underneath is smooth. The leaves are thick and have a leathery feel that helps them to keep moisture.

Black Mangroves-Avicennia Germinans

Just like the name suggests, the black mangrove got its name from its wood's unique color; brown to black. Black mangroves grow in sandy or slimy soils and farther from water than the white and red mangroves. Marsh land does not provide enough oxygen but this plant species has adapted to its environment. They have pneumatophore: peculiar roots that are aerial by nature making them look like haulms stuck up from the ground. These roots help to trap oxygen for the tree. If the area is flooded and its roots spend too much time underwater, the tree dies due to lack of oxygen. Oil pollution is another cause of their death as it blocks the breathing pores on the roots. Black mangroves produce small oval seeds that float for a long period before sapling. The leaves are egg-shaped and narrow with pointed ends. They are seen as whitish though they are dark green in color. This is because of the salt excreted by the leaves. Black mangroves have adapted to turning salt water into fresh water and excreting the excess salts.

Milk Weed – Aslepias L

This is a species that is essential for nectar production. Bees and other nectar sucking insects utilize it as a good source of sap. Milk weed is used in industry to produce a pillow infill that does not contain substances which can cause allergy.

Gold Silk Spider – Nephila Clavipes

This is a big and variegated (orange and brown) species of the orb web spider. It thrives in tropical climates where it has evolved to protect itself from the heat. For example, its silvery carapace is used to reflect light, while its cylindrical body is usually pointed to the sun to reduce the surface area of the parts receiving the sun.

Crab – Liocarcinus Vernalis

These are the inhabitants of the shore that can often be found buried in the sand. They play an essential role in the ecosystem as they feed upon decaying carcasses. This helps to get rid of the foul smell and clean the coastal area from natural litter.

Green Iguana-Iguana Iguana

Green iguana is a graminivorous species that belongs to the lizard family. It has a long body protected by squama, short legs and a lengthy tail. Its tail is hard and is used for balance during climbing and as a weapon. Its color is greenish grey and can slightly change its hue (not as good as chameleon's). The iguana is a social species that can be spotted feeding and resting in the trees in groups. They are ground and tree animals; they do well in shaded places within mangrove forests. They eat tree leaves and tap condensation water from the leaves.

Sea Grape-Coccoloba Uvifera

Sea grape tree can effectively defend itself from wind and is tolerant to salt. In most cases, they plant it to strengthen land and coastal territories. Very tall trees of this species serve as shades along the shoreline for turtles. In Bill Bags Park, this tree species is in plenty. It is planted for aesthetic purposes as it gives the beach an ornamental value. It has green round leaves . Sea grape trees give birth to a red fruit that is edible or can be fermented into wine.

Opinion

The excursion was rather interesting and educating. I learnt much about coastal plants, animals and how they adapt to their surroundings. It is really exciting to see how all living beings, even plants, evolve and adjust to natural environment, how they coexist. I understood that each species has its unique vital role and life cycle. Not a single thing could spoil my anxiety with the trip, or stop me from having the same experience again.