

Marine and Terrestrial Ecosystems in the Bahamas

The Sand Strand and Rocky Shore Ecosystems

The land's last terrestrial ecosystems before it reach the sea; the sand strand (aka the beach) and the rocky shore. Both areas are distinguished by animals that tolerate the unstable environment created by the diurnal intertidal movement, salt and wind. Animals such as crabs and chitons dwell in the crevices of the rocky shore. Plants include the Sea Purslane, the Sandfly Bush, Bay Marigold, the Bay Lavender and the Bay Cedar.

The rocky shores are characterized by fragile limestone formations forming minute peaks along the coast and tide pools. The sandy shore is characterized by low to moderate wave action near the water's edge and grassy stabilizing plants in the upper zone.



The Rocky Shore

The Whiteland Coppice Ecosystem

This zone forms a transition from the beach areas to the mangroves or pineforest ecosystem. As such, the soil is a mixture of white sand and decomposed leaf litter. It is especially rich in plant life, due to the fact that it is somewhat protected by the nearby sand dunes. One of its most predominant trees is the giant poisonwood, which carries exactly the same kind of allergenic oil as poison ivy. Here you can also find Acacia and tall Sabal Palm, as well as Wild Coffee in the shade of the canopy. Land Crabs bury themselves in the large holes found scattered throughout this zone.



Poison Wood Plant

Rocky Coppice Ecosystem

The Rocky Coppice is a transitional zone between the Mangrove and the Coppice or Pine Forest ecosystem. It is frequently flooded at high tide. It is distinguished by limestone outcrops and an abundance of Ming trees, which the locals call "prickly trees." Their tiered branches are reminiscent of Asian bonsai trees. Also common in this zone are mahogany and red cedar trees.



The Ming Tree

The Pineforest Ecosystem

The Caribbean pine is actually the most common tree on the island of Grand Bahama, covering 50% of the land mass. This unique tree (*bahamensis* var.) is endemic to only four of The Islands of The Bahamas. It is fire resistant, containing resins just under its bark that set off small explosions when hit by fire, thereby suffocating the nearby flames. In the past, they were heavily harvested for lumber. Common in this ecological zone are also the Agave, or Century plant, and Palmetto.



The Caribbean Pine

The Blackland Coppice Ecosystem

This area is characterized by decomposing leaf matter. The leaf matter creates a nutritious soil which nurtures indigenous fig trees, Dogwood, Lancewood, and Gumbo-Limbo trees. Also growing here is the Satin Leaf tree, which produces a dark red edible fruit that migratory North American birds feast on in late winter. The shade created by all these trees makes a perfect habitat for various ferns, bromeliads, and orchids. Common to this area are sinkholes or blue holes throughout the Bahamas.



Blue hole – Andros Island

The Mangrove Ecosystem

One of the most fascinating ecological zones in The Bahamas, the Mangrove swamp is an environment where land and sea systems interweave. The huge, gnarly-rooted Red Mangrove trees grow in brackish water, secreting salt through their leaves. There are four kinds of mangrove species in the Bahamas, Red Mangroves, Black Mangroves, White Mangroves and Buttonwood, each having various levels of salt tolerance. The Red Mangroves collect sediment, a process that actually extends the land over time. Popular in this ecosystem are mangrove crabs, snails, fish and even the occasional raccoon.



The Red Mangrove

The Sea Grass Ecosystem

This ecosystem consists of flowering plants such as turtle grass and numerous algal types including green and brown algae. These beds of grass and algae create an ideal hiding and feeding spot for conch, turtle and various other fauna. A close examination of the seagrass environment would reveal microscopic plants and animals living on the blade of individual grasses. It is not uncommon for this ecosystem to blend with other marine ecosystems such as the mangroves and coral reefs. This is due to the similar environmental conditions upon which they thrive.



The Seagrass Ecosystem

The Coral Reef Ecosystem

Coral reefs are the most spectacular and most well known of the marine environments of The Bahamas. Andros Island in the Bahamas has the third longest barrier reef in the world (229km). However, they make up a small area of the country compared to mangroves and sea grass areas. They are structurally complex and biologically diverse areas.

The reef's massive structure is formed from coral polyps, tiny animals that live in colonies; when coral polyps die, they leave behind a hard, stony, branching structure made of limestone.

The coral provides shelter for many animals in this complex habitat, including sponges, nudibranchs, fish (like Black tip Reef Sharks, groupers, clown fish, eels, parrotfish, snapper, and scorpion fish), jellyfish, anemones, sea stars (including the destructive Crown of Thorns), crustaceans (like crabs, shrimp, and lobsters), turtles, sea snakes, snails, and mollusks (like octopuses, nautilus, and clams).



Coral Reef structure