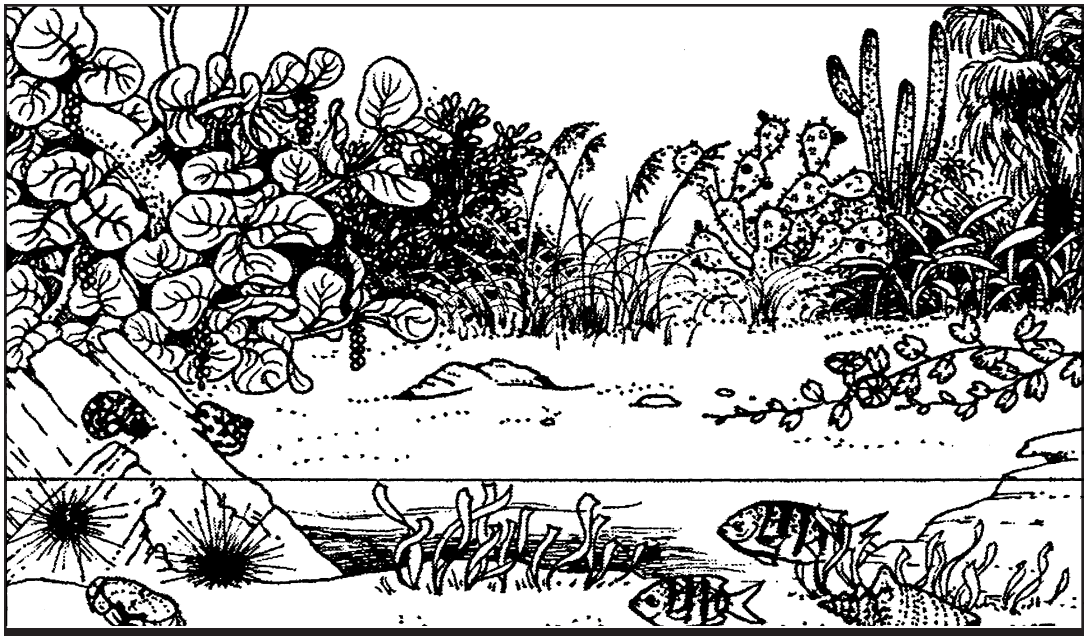
Ecosystems of The Bahamas



SEASHORE

DESCRIPTION

The seashore is an area filled with an interesting mix of unique plants and animals that have adapted to cope with this environment. Living on the edge of the sea is not easy. The soil is infertile, and it is often windy, dry and salty.

THE SANDY SEASHORE

Along a sandy shore there are no large rocks, algae or tidal pools. The sandy seashore can be divided into four general zones: Intertidal, Pioneer, Fixed Dune and Scrub Woodland.

1. Intertidal Zone: Between the low tide and the high tide mark is the intertidal zone. When the tide goes out the creatures living in this zone are left stranded. They have to endure the heat of the sun and the higher salinity of the water resulting from evaporation. Notice the many small holes on a sandy beach; they are the doorways to the homes of many animals which burrow under the sand where it is cooler. Some of the creatures living in this zone are sea worms, sand fleas and sand crabs.

2. Pioneer Zone: So named because it is where the first plants to try to grow over sand. These plants must adapt to loose, shifting sand and poor soil. There is no protection from wind or salt spray. Plants here are usually low growing vines with waxy leaves. Some plants found in the pioneer zone are Purple seaside bean *(C. rosea)*, Saltwort *(Batis maritima)*, Goat's foot *(Ipomea pes-caprae)*, and Sea purslane (*Sesuvium portulacastrum).*

3. Fixed Dune Zone: The next zone is the fixed dune, so named because as the plants in the pioneer zone grip the sand around their roots and make the beach more stable, the sand mounds up into small humps or dunes. Plants in this area must cope with dry infertile soil and sea spray, Some plants in this zone are Sea Oats grass *(Uniola paniculta)*, Gale of Wind *(P. amarus)*, Spider Lily *(Crinum zeylancium)*, and Bay Geranium (*Ambrosia hispida).*

4. Scrub Woodland Zone: This zone is high up the shore. The sand is stable and more varieties of plants are found, gradually taking on the appearance of a broad-leaved coppice. Problems here are high salinity and lack of water. Some of the flora of this zone are Cocoplum *(Chrysobalamus icaco)*, Buttonwood *(C. erectus)*, Silver Top Palm

(Cocothrinax argentata) and Seagrape *(Coccoloba uvifera)*. Most animals found in this zone are dead, having been washed ashore by the tide - their shells remain as a reminder of the creatures that once were.

THE ROCKY SEASHORE

Many shores in The Bahamas are made of limestone rock that has worn away to form ridges and crevices. They form ideal habitat for a variety of marine plants (algae) and creatures. The ridges and crevices provide protection from the waves and provides a safe haven for creatures to hide from predators. The plants and animals of the rocky shore face problems similar to those found in the sandy shore. They are tossed about by the waves with the movement of the tide, they face intense heat and high salinity, extreme variations in oxygen availability and high vulnerability to predators when stranded in pools at low tide.

The creatures of the rocky shore belong to many different families: Molluscs, Crustacea, Echinderms, Annelida and Fish. These creatures have adapted to their living conditions by having special equipment. Some have strong glue-like Barnacles that sticks them firmly down. Others, like sea urchins (sea eggs) and crabs hide under rock ledges. Chitons, Limpets and Sea Anemones have a large fleshy foot which sucks onto the rock. Some of the molluscs stop themselves from drying out at low tide by drawing back into their thick shells and closing the lid. Some creatures use camouflage to prevent predators from eating them. Others, like sea anemone have stinging cells for defense. The sea plants or algae are grouped into three headings according to their colour: red, brown and green. They are fixed firmly to the rocks so that they are not washed away by the tides. Some of the creatures found along the rocky shore are Peacock worms *(Sebellidae sp.)*, Limpets *(Acmaea sp.)* Rock Oyster *(Osttra sp.)*, Chitons *(Curbes)*, Sergeant major, Rock Beauty, Blenny, Sea Urchins *(Iytechinus)*, Common blue crab *(Collinectes aspidussp.)*, Common hermit crab *(Pargarus longicarpus sp.)*, and Clubbed finger coral *(Porites porites)*.

STATUS

From anywhere in The Bahamas, a seashore is close by. On some islands access to the seashore is limited due to the sale and consequent ownership of beach front property. Whereas the approach from land is sometimes prevented, beach ownership ends at the high tide mark.

THREATS

Collecting: Intertidal creatures removed for studies are not being returned to the sea. Most of them die quickly if not cared for properly.
Erosion: Erosion caused by development. Some buildings are being erected too close to the beach and much damage to the shoreline results.
Global warming: A looming threat to our shore. Scientists predict that the sea level will rise due to increased temperatures.
lnvasives: Vegetation displacement by invasive exotics like the Casuarina are killing our native beach vegetation.
Garbage: Marine debris from cruise ships and beach litter from picnics is destroying the aesthetics of the seashore vegetation as well as accounting for the demise of sea creatures and also attracting rats to the area.

IMPORTANCE

Native beach vegetation prevents beach erosion by holding the sand in place. They also act as a natural wind break. The seashore provides habitat for many unique creatures. The Bahamas is signatory to the Biodiversity Convention. This means that we have pledged to the world to preserve the biodiversity of The Bahamas. The seashore is a fine example of a unique ecosystem with a great variety of flora and fauna.

Illustration by John Thompson