



**Bahamas National Trust**

**Mission of the BNT**

To conserve and protect the natural resources of the Bahamas, through stewardship and education for present and future generations.

**The Bahamas National Trust**

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**A quick reference  
guide to the  
Sandy and Rocky  
Seashore**

of the Bahamas

**Draft**



Second edition

# The Sea Shore

# Notes

Also referred to as the *coast*, the seashore and its adjacent areas (both above and below the water) are important habitats that harbor many different types of plants and animals. There are different types of coasts depending on several environmental factors from erosion by waves to properties in the rock and types of sediment. Therefore some areas along a coast are more eroded than others or some become protected behind islands that break off the mainland producing areas such as lagoons, bays, sounds, mudflats etc. Each of these different types of coastline is inhabited by animals and plants that are better suited to those areas.

The animals and plants found in these regions have to be very tough organisms to survive. They are often well adapted to the pounding of waves, drying out by the sun, changes in salinity and temperature as well as the exposure to wind. The organisms deal with these problems in different ways and the further from the water they live, the requirements for survival change and so do their adaptations.

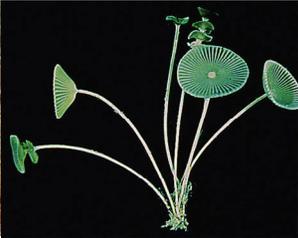
This guide is a general representation of the life found on the sandy and rocky shores of the majority of the more exposed coastal environments.



Various algae that can be found along the rocky shores.



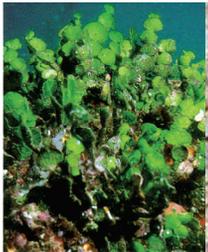
**White Scroll Alga**  
*Padina jamaicensis*



**Mermaid's Wine Glass**  
*Acetabularia sp.*



**Fuzzy Finger Alga**  
*Dasycladus vermicularis*



**Lettuce leaf alga**  
*Halimeda tuna*



**Sea Pearl**  
*Ventricaria sp.*



**Laurencia**  
*Laurencia obtusa*



**Y Branched alga**  
*Dictyota sp.*



**Saucer Leaf Alga**  
*Turbinaria sp.*



**Green Feather Alga**  
*Caulerpa sertularioides*



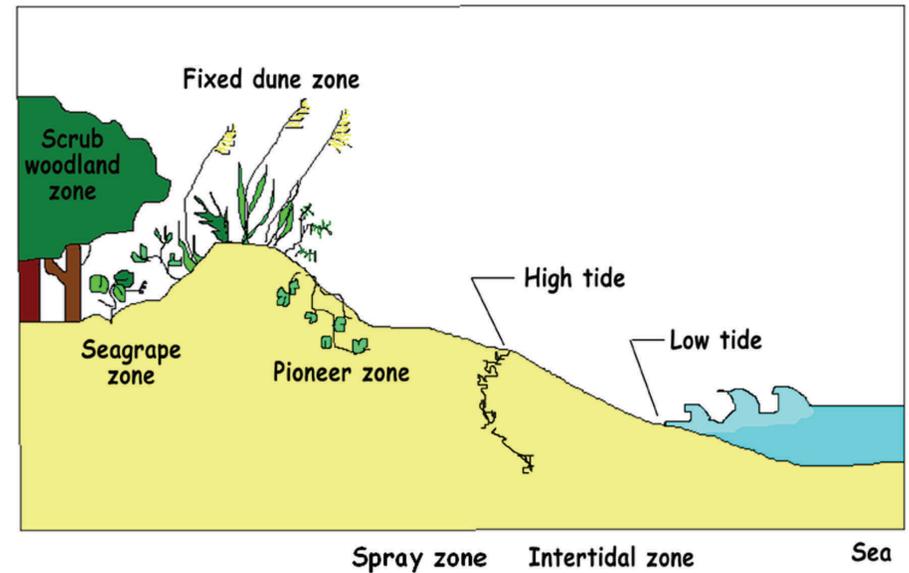
**Sea Lettuce**  
*Ulva sp.*



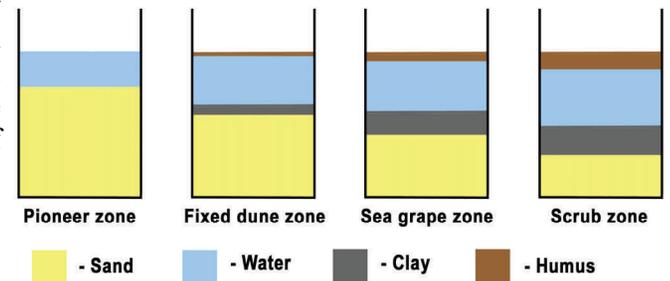
**Green Grape Alga**  
*Caulerpa racemosa*

## The Sandy Shore

The sandy shores are usually coastal areas that are regularly deposited with sediment or sand and so are areas that are usually continuously building. The sandy shore can be divided into different areas or zones. If you start at the low tide mark and walk up the beach we will find next the middle inter-tidal zone then the high tide zone, the spray zone, the pioneer zone, fixed dune zone, the sea grape zone and then the scrub woodland zone. Each zone supports different organisms from the other as each zone requires different adaptations to survive in that area.



The different zones also exhibit different soil structure (the layers have been separated to demonstrate their proportions). Notice that as the zones get further up the beach there is a general increase in the percentage of humus.



### ***Intertidal zone***

The intertidal zone, also known as the littoral zone, is divided into different zones depending on how long it is submerged underwater. The lower inter-tidal area becomes dry only during the lowest tides and is usually submerged. This is the inter-tidal zone's most stable region and is therefore home to the greatest diversity of life. The middle inter-tidal zone is a turbulent area that is submerged by water and dried out twice a day. The upper tidal zone is where sea water only reaches during the extremely high tides. Here life must survive two long droughts a day.

When looking from the sea up the shore the first animals encountered tend to bury themselves under the sand to avoid predators, prevent drying out during low tides, to find food or protect themselves from storms.

Worms and shrimp are the usual burrowing animals to be found here. Some of these worms live in tubes that they have made for themselves by secreting a sticky substance around them. Many things stick to this tube including shell pieces, twigs and seaweed. Many other worms are freely living in the sand which are mostly found at the lower inter tidal region.

As you move into the intertidal zone you will encounter sand crabs that live under the sand in burrows. These are able to live submerged when the tide is up and when the tide goes down they scamper sideways along the beach looking for bits of food that the tide may have left behind.



**Above are some typical items found in this area: Crab holes, sea shells, calcareous algae skeleton, sea urchin skeleton.**

Many shells and other remnants of marine life can be encountered within this area.



**West Indian Top Shell**  
*Cittarium pica*

Locally known as a **whelk** or **whilk**.



**Zebra Periwinkle**  
*Nodilittorina ziczac*



**False Prickly Winkle**  
*Tectarius antonii*



**Bleeding tooth**  
*Tectarius antonii*



**Beeded Periwinkle**  
*Cenchritis muricatus*



**Zebra Nerite**  
*Puperita pupa*

**Cerithis**  
*Cerithium or Bittiolium sp*

During the low tides you can often find the following organisms above the water mark. As with many organisms of the rocky shore, they can be found in “zones”. As different species can tolerate longer drought periods and can venture further from the water than others.



During the low tide



During the high tide

**Fuzzy Chiton**  
*Acanthopleura Granulate*

Locally known as a **Curb** or **Curve**.



**Ribbed Barnacle**  
*Tetraclita stalacifera*



**Mussels**  
*Brachidontes sp.*



Various limpets

**Spray zone**

The spray zone, or splash zone, is mostly dry and is only moistened by the splash of waves. This area can be considered the “desert” of the sea shore zone as not many organisms are found here. A line of seaweed and sea grass is typical at the beginning of this area along with many shells and other washed up items. An Arthropod which can sometimes be seen hopping in the seaweed, is the sand flea, where it hides away to keep moist and to feed.



**Sargassum seaweed**

**Pioneer zone**

The pioneer zone is the first area where plants try to colonize the sand. This is a hard place for plants as there is little or no humus, the sand is unstable and often shifting. The plants in this area are very low lying and are usually vines.

**Saltwort** (*Batis maritima*). Saltwort Family (Batidaceae)



**Goat's Foot** (*Ipomea pes-Caprae*). Bay Hops Family (Convolvulaceae)



Also known as Beach Morning Glory or Bay Hop.

**Sea Purslane** (*Sesuvium portulacastrum*). Carpet Weed Family (Aizoaceae)



**Red Sea Urchin**



**Brittle Star**  
*Ophiocoma sp.*



**Orange Sponge**



**Lesser Star Coral**  
*Siderastrea radians*



**Spotted Sea Hare**  
*Aplysia dactylomela*



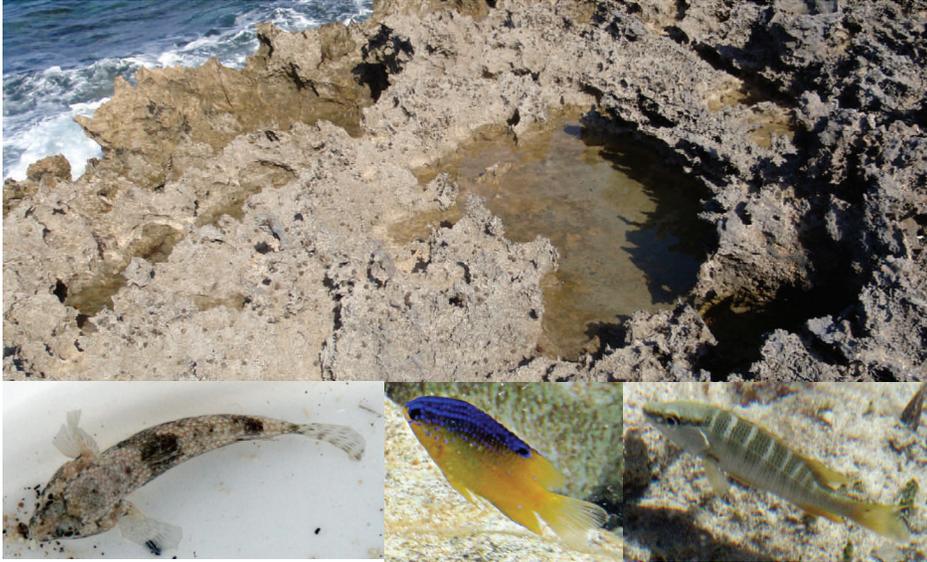
**Nibble Spray Crab**  
*Percnon gibbesi*



**Yellow Fanworm**  
*Notaulax occidentalis*

### ***Intertidal zone***

As in the Sandy shore this zone is divided into different zones depending upon how long areas are submerged underwater. The rocky shore also has an additional feature, rock pools. Also known as tidal pools, these features trap and hold water as the tide falls and allows organisms to live further away from the sea. Tidal pools can often be very interesting and diverse environments and can often contain some small corals, feather dusters, algae, anemones, starfish, urchins, fish, young eels and the occasional octopus.



**Frillfin Goby**  
*Bathygobius soporator*

**Beaugregory Juvenile**  
*Stegastes leucostictus*

**School Master Juvenile**  
*Lutjanus apodus*



**Giant Caribbean Sea Anemone**  
*Condylactis gigantea*

**Swollen Claw Squilla**  
*Gonodactylus oerstedii*

### ***Fixed Dune zone***

The fixed dune zone is where plants have managed to stabilize the sediment. Their roots are able to grip the nearby sand causing the sand to mound up around them. These plants are a little taller than the pioneers but are still highly adapted to salt spray, low nutrients, wind and hot sun. The fixed dune zone helps to protect areas immediately behind it from wind and salt spray but it also produces the little bit of humus which provides some nutrients and stops some of the drainage of water.

### **Sea Oat Grass (*Uniola paniculata*). Grass family (Graminae)**



### **Spider Lily (*Hymenocallis arenicola*). Lily family**





**Bay Geranium** (*Ambrosia hispida*).  
Daisy family (Asteraceae)



**Bay Cedar** (*Suriana maritima*). Bay Cedar family (Surianaceae)

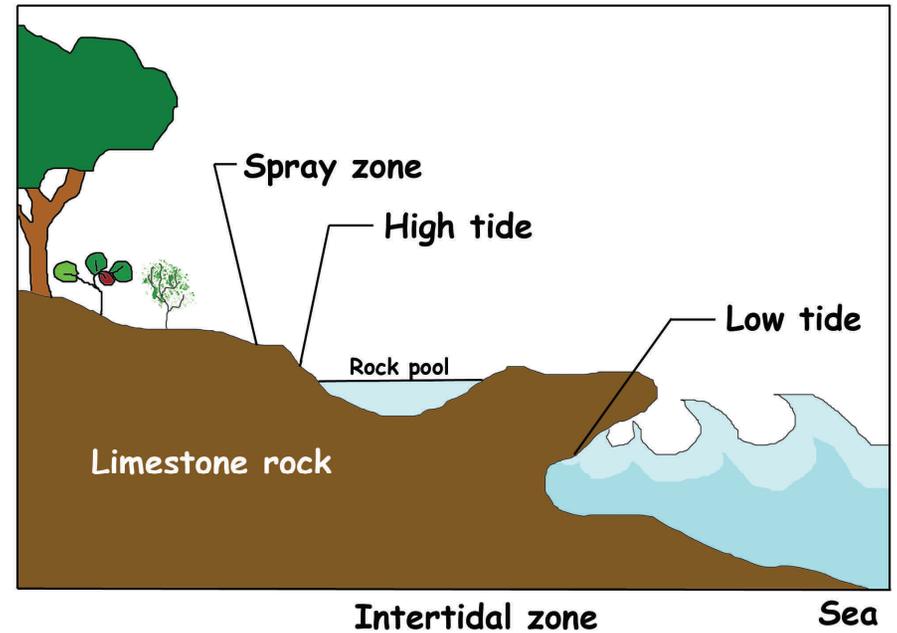


**Bay Lavender** (*Mallotonia gnaphalodes*). Borage family (Boraginaceae)



## The Rocky Shore

Many of the shores of the islands are made of limestone rock that are constantly being worn away to form ridges, cracks and crevices. This is the Rocky shore and it usually forms perfect places for sea plants to grow in and away from the rough sea waves, and for animals to hide in. The Rocky shores therefore are quite productive with lots of biodiversity. And the ones with the most animals and plants on are those that are broken up enough to provide shade from the sun.



The rocky shore can also be divided into different zones. Moving from the sea onto the land you would notice a greater diversity of organisms where the rock is always underwater. As you move up you would notice less diversity but the organisms that are adapted to that area are usually found in abundance.

One common creature that can be found at all zones is the Hermit crab.

A few animals can be encountered living amongst the dune plants including lizards, spiders, crabs and even small scorpions. There is a particular snail that is very common living on these plants known as the Cerion.

**Cerion** (*Cerion sp.*). Cerionidae



### Invasive plants of the Sandy shores

Below are three plants that are frequently encountered along the sea shore, particularly along sand dunes and more so on New Providence. These plants are not native to the Bahamas and they are considered Invasive species whereby they actively reduce or disturb the native Bahamian species that are naturally found in these areas.

**Brazilian pepper** (*Schinus terebinthifolius*).  
Native to: South America.



**Casaurina** (*Casaurina equistifolia*). Native to: Australasia.



**Hawaiian Sea grape** (*Scaevola sericea*).  
Native to: Indo-Pacific.

**Beach Iva** (*Iva frutescens*). Daisy family (Asteraceae)



### *Sea grape zone*

Very salt tolerant plants are usually found behind the dune which is usually dominated by sea grapes and associated plants and so it has been termed the sea grape zone. As these plants are protected by the sand dune, they tend to be more sheltered from the wind and can therefore grow a little taller.

**Seagrape** (*Coccoloba uvifera*). Knotweed family (Polygonaceae)



**Bay Marigold** (*Borrchia arboresce*). Thislte family (Carduaceae)



Also known as **Sea Ox eye**.



**Ink Berry** (*Scaevola plumieri*). Goodenia family (Goodeneaceae)



**Night shade** (*Solanum nigrum*).  
Night shade family (Solanaceae)



**Cocoplum** (*Chrysobalamus icaco*). Rose family (Rosaceae)



Fruits can be purple of white.



**Buttonwood**  
(*Conocarpus erectus*).  
White mangrove family  
(Combretaceae)

There are two forms,  
green leaves and the grey  
leaves "silver".  
Some plants have both  
on the same plant.

