



**An Introduction to
Better Beach Management
for Jamaican Communities**



ACKNOWLEDGEMENTS

The Big Up Wi Beach guidebook was created by the Jamaica Environment Trust (JET) with funding from the Irwin Andrew Porter Foundation under the project 'Better Beaches for Jamaicans' 2016 – 2017. The project seeks to promote public access to beaches and improve their management and ecological health through community workshops and public education.

JET is a non-profit, non-governmental membership organization operating in the island of Jamaica. Formed in 1991, we are a registered charity under Jamaican law and our main focus is environmental education and advocacy. Our vision is: Jamaicans are knowledgeable and concerned about the environment and this is reflected in their lifestyles and behaviour, environmental issues are given high priority and are an integral part of national development objectives, and natural areas are valued, protected and properly managed.

The Irwin Andrew Porter Foundation, is a family foundation based in the United States. The mission of the foundation is to fund innovative projects that foster connections between individuals, communities, the environment and the world at large. Founded in 1996, the foundation funds a broad range of focus areas and is most interested in projects that require and/or inspire those directly benefiting from the project to give back to their communities both during the project and into the future. The Irwin Andrew Porter Foundation has made grants in nine states and 15 countries to 110 separate organizations.

Every effort has been made to ensure the accuracy of this material which will be under frequent review. We invite input, corrections and suggestions for improvement.

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Beach Basics

WHAT HAPPENS AT A BEACH?

- Swimming
- Parties
- Relaxing with friends
- Playing games
- Being in nature

- Fishermen selling their catch
- Cook shops
- Vendors selling jewellery or carvings
- Water sports operators renting equipment

BEACHES ARE COMPLEX

Beaches are found at the boundary between the land and the ocean, but they are not just sand and sea. They are very complex and provide home to many animals and plants. The living parts of the beach (plants and animals) interact very closely with the non-living parts (rocks, ocean currents and sand).

Beaches are:

- Created by waves, currents, storms, tides and the shape of the coast
- Constantly changing, sometimes wide, sometimes narrow, sometimes steep, sometimes shallow
- Affected by storms, global climate change and rising sea levels
- Moved around by wind and waves

WHAT ARE BEACHES MADE OF?

Pebbles

(eroded from rocks and cliffs)

Coarse grey and black sand

(from rivers)

Soft white sand

(from the breakdown of coral reefs and some dead plants and animals)

MOST BEACHES HAVE THE SAME BASIC STRUCTURE

Sand dunes

Sand that has collected into piles at the back of the beach, protecting the land behind them

Foreshore

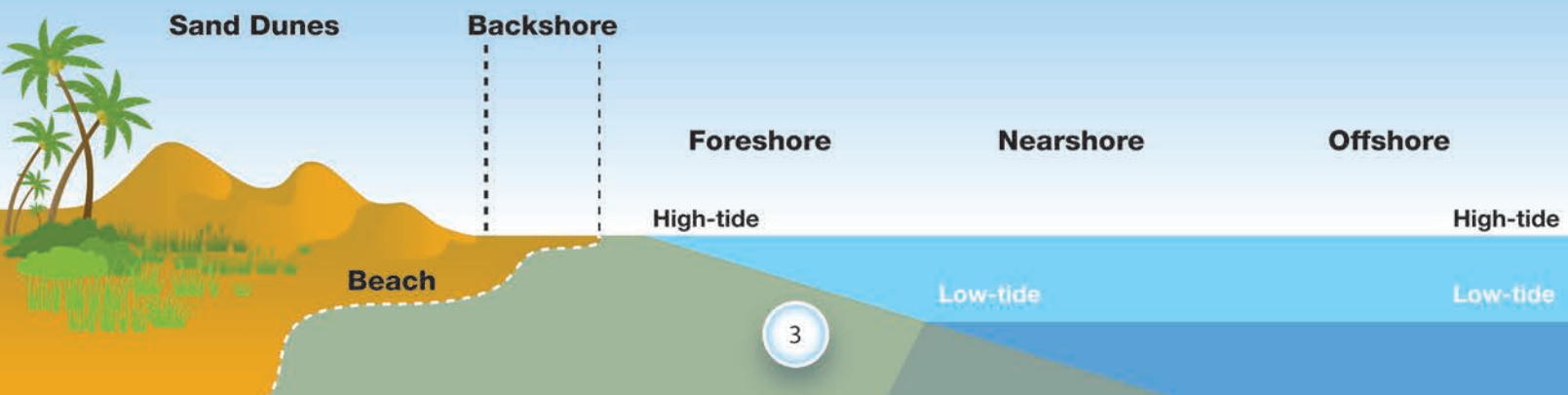
Area between the high and low tide marks. This is the part of the beach governed by Jamaican law.

Backshore

Part of the beach above the high tide mark, which typically has dunes and vegetation

Nearshore

The area where the waves break and just offshore, where the water is shallow enough to allow for sunlight to shine through and seagrass to grow



WHAT DO BEACHES DO?

- They hold and release sand
- They protect the land from storms by slowing down the waves
- They absorb polluted and clean water flowing from land to sea
- They provide a place to live for many types of animals (Examples: turtles, birds, crabs)
- They provide a place to live for many types of plants (Examples: mangroves, trees, vines, grasses, cactus)

HEALTHY BEACHES

All parts of the beach have a purpose. Below are some important parts of a healthy beach and what they do:

Sand Dunes

Protect land behind the beach from storms. Store and release sand – they are a sand bank! Provide a place to live for animals and plants. Help to prevent beach erosion.

Beach Vegetation

Protects the beach from storms. Reduces beach erosion by trapping and collecting sand. Absorbs pollutants and improves water quality. Provides a place to live for animals and plants. Includes vines, grasses, trees, and cactus

Seagrass

Flowering plants that typically grow in beds in nearshore shallow water and are rooted on the seafloor. Prevent beach erosion by trapping and collecting sand. Improve water quality. Provide food and a place to live for different types of marine animals, including many of the fish that we eat. Some types break down to form sand. Seagrasses are often called seaweed.

Mangroves

The dense roots of mangrove forests trap sand and other sediment. They also help to stabilize beaches and prevent erosion from waves and storms. In areas where mangroves have been removed, the impact of hurricanes is much worse. Mangroves also protect coral reefs and seagrass from being smothered in sediment and pollution coming from the land.

Coral Reefs

Occur near to many beaches; provide protection from storms and places for marine animals to live. Many of the fish, shrimp, lobsters, and other animals we eat live on coral reefs.

Beach Animals

Many different kinds, from really tiny ones living between sand grains to big ocean-going ones, like sea turtles and seabirds. More information about some important beach animals can be found on pages 6-9.

A HEALTHY, STABLE BEACH NEEDS ALL THESE THINGS





Sea Turtles

WHAT ARE THEY?

- Sea turtles are reptiles, meaning they are cold-blooded and lay eggs
- They are marine animals and spend most of their life at sea and have shells and feet modified into paddles
- They go to the surface of the sea to breathe
- Only females come to land to nest on beaches
- Because sea turtles return to beaches, often the same one where they were born, we must take special care to protect their nesting area and nests
- All sea turtles are endangered species, protected by law in Jamaica and internationally
- Killing or harming a sea turtle is illegal and attracts a big fine. It is illegal to have a sea turtle or any part of one (shell, eggs) in your possession Fine: J\$100,000 or up to 12 months imprisonment

Commonly found types of sea turtles in Jamaica are:

- Leatherback
- Green
- Hawksbill
- Loggerhead

WHY ARE THEY IMPORTANT TO THE BEACH?

- They maintain healthy seagrass beds and coral reefs, providing places to live for many types of marine life
- Some types of sea turtles eat jellyfish
- They move food and energy around
- If your beach has nesting sea turtles, this can be an economic opportunity for beach managers. You can offer tours to visitors and locals, educating them about how to protect sea turtles and giving them the opportunity to see the animals – at a distance!

HOW CAN WE PROTECT THEM?

DO

- Obey all regulations regarding the protection of sea turtles in Jamaica
- Report all breaches of the law to the National Environment and Planning Agency (NEPA) – 754-7540
- Dispose of garbage properly
- Maintain vegetation and soft sand at the back of the beach

DO NOT

- Purchase or sell sea turtle products
- Dig up sea turtle eggs
- Drive on sandy beaches that are known nesting sites, as eggs can be crushed and tire ruts can trap hatchlings crawling to the sea.
- Let dogs and cats roam unattended on the beach – they can harass nesting turtles and dig up nests
- Start fires on the beach; the heat from fires can cook turtle eggs buried in the sand
- Get rid of beach vegetation, since some turtles like to nest in it
- Build near the high water mark. Turtles nest above the high water mark so their nests won't get flooded by the sea. Building houses, sea walls and other structures near the high water mark will prevent them from nesting.



Seabirds and shorebirds

WHAT ARE THEY?

- Seabirds are warm-blooded animals and lay eggs. They live in marine and coastal environments. Seabirds gather their food from the sea either by themselves or in large flocks. All seabirds must return to land to lay eggs and raise their young. Common seabirds found in Jamaica are: Pelicans, Boobies, Frigate birds, Terns and Gulls
- Shorebirds are birds commonly found along sandy or rocky coastlines, mudflats, and shallow waters. In some areas, shorebirds are considered wading birds. Common shorebirds found in Jamaica include: Sandpipers and Plovers

WHY ARE THEY IMPORTANT TO THE BEACH?

- Keep the numbers of other animals (which they eat) in check
- They also help to cycle nutrients through the beach ecosystem
- They move food and energy around
- They are referred to as an indicator species, because their presence can tell us a lot about whether an environment is healthy or not.
- Having seabirds and shorebirds can also be an economic opportunity for beach managers. You can offer bird watching/photography tours to visitors and locals

HOW CAN WE PROTECT THEM?

DO

- Keep the beach clean. Garbage on the beach endangers birds who think it is food. Food scraps attract stray dogs and other animals like goats that then will prey on the birds and their nests
- Keep your distance from nesting birds

DO NOT

- Chase birds that are on the beach. Forcing birds to run or fly makes them use up valuable energy needed for nesting and interrupts feeding.
- Drive on the beach or in the sand dunes because this is where the birds nest.
- Bring dogs to the beach. If you are visiting a beach that allows dogs, keep them away from areas where birds may be nesting
- Feed stray animals like dogs, and cats, which will prey on bird nests – you can place signs on the beach which tell beach users not to do this.
- Fly kites, throw balls or explode fireworks near areas where birds may be nesting



Very small organisms (meiofauna)

WHAT ARE THEY?

- They belong to all kinds of animal groups.
- They usually have a long thin body, with which they can easily climb and twist between the sand grains, and tiny grasping organs to cling onto the sand.
- In the foreshore, a million animals can live just below one square meter of sand, but weighing no more than a total of two grams.

WHY ARE THEY IMPORTANT TO THE BEACH?

- They graze on bacteria and algae on the sand grains, feed on organic material and other tiny organisms
- They help to breakdown pollutants and decompose material
- They provide food for animals higher up the food web

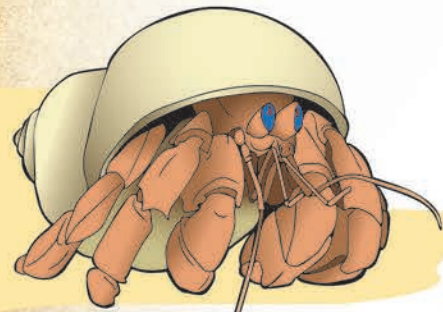
HOW CAN WE PROTECT THEM?

DO

- Try to bury seaweed at the back of the beach if there is a lot of it

DO NOT

- Rake the beach
- Remove seaweed, unless it is a very large seaweed event



Crustaceans & Molluscs

WHAT ARE THEY?

- **Crustaceans** have a hard external covering or shell, antennae, segmented bodies, and jointed limbs. They include lobsters, crabs, shrimps, krill, hermit crabs, barnacles, some types of plankton
- **Molluscs** have a soft unsegmented body and live in wet habitats. Most kinds have a shell. They include snails, oysters, clams, octopus, squid

WHY ARE THEY IMPORTANT TO THE BEACH?

- The larger crustaceans (shrimps, lobsters, and crabs) and molluscs (conch, squid, cuttlefish) are used as food throughout the world, and are therefore important to human economies.
- They are also an important food source for marine animals and birds
- When they die, they leave their shells behind on the beach. Empty shells provide small homes for a wide range of creatures. When the shells break down, they form sand.

HOW CAN WE PROTECT THEM?

- Do not remove shells from the beach



Echinoderms

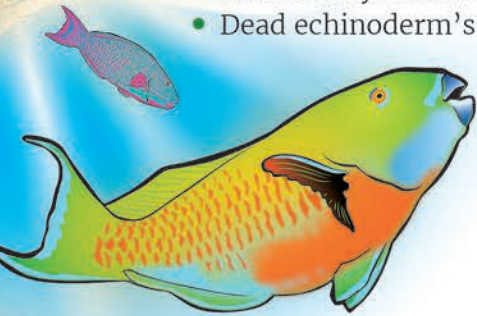
(Sea Urchins, Sea Eggs, Sea Cucumbers, Sand Dollars & Star Fish)

WHAT ARE THEY?

- Echinoderms are marine animals with multiple limbs that extend from a central body in a symmetric radial pattern. They include sand dollars, sea cucumbers, starfish, and sea eggs (urchins).

WHY ARE THEY IMPORTANT TO THE BEACH?

- Sand dollars and sea cucumbers burrow into the sand, providing more oxygen to the organisms that live there.
- Sea cucumbers eat dead animals
- Starfish prevent the growth of algae on coral reefs.
- Sea eggs eat seaweed and algae and keep its growth in check. They are also a source of food for other sea life.
- Dead echinoderm's tests (shells) break down to form sand.



Parrotfish

WHAT ARE THEY?

- Parrotfish is a type of brightly coloured reef fish which many Jamaicans love to eat

WHY ARE THEY IMPORTANT TO THE BEACH?

- They are one of the main grazers on the reef and they help to keep algae down
- They scrape off little pieces of the coral as they feed and poop it out as sand
- They are a very important source of sand for beaches

HOW CAN WE PROTECT THEM?

DO

- Carefully move them to deeper water to prevent swimmers stepping on them

DO NOT

- Disturb these animals – poke, catch or eat them

HOW CAN WE PROTECT THEM?

DO NOT

- Catch parrot fish
- Eat parrot fish

DO

- Encourage others to do the same

THREATS TO OUR BEACHES

Although we love our beaches, sometimes we do things that destroy them. Jamaica is suffering from beach erosion in many places because of the actions of humans.

- We take out the sand dunes which speeds up beach erosion because there is no sand bank at the back of the beach to replenish sand lost in storms
- We remove beach vegetation which speeds up beach erosion, destroys places for animals to live and makes the beach more likely to be damaged in storms
- We build hard structures (groynes and seawalls) which alter the natural movement of sand along the coastline. Hard structures accumulate sand on one side of the structure, but other parts of the coastline lose their sand. Hard structures can also reduce turtle nesting sites.
- We bring in sand from other beaches. Beach sand is not all the same. Before sand can be added to a beach careful study must be done of the current and wave patterns, the shape (profile) of the beach and the grain sizes and type of sand. If sand from one place does not “match” sand in another place and is just dumped there, it

will likely not stay on the beach for very long and may even affect other natural processes, such as those carried out by the tiny creatures living between the grains of sand. It can also affect turtle nesting if it is too compact.

- We rake the beach, trample it, and drive on it
- We bring domesticated animals onto the beach (cats, dogs, horses). These animals poop in the sand, which can make children playing in the sand sick, and dig up the nests of seabirds and turtles. Animal poop can also wash into the sea, which can make marine animals sick.
- We pollute the beach with garbage (mostly plastic and Styrofoam), sewage, and oil. This garbage looks terrible and acts as a breeding ground for mosquitoes and other pests. Garbage also threatens beach and marine animals – they think it is food and can get tangled in it – and garbage can also smother coral reefs and seagrass.
- We destroy our coral reefs by overfishing, and allowing runoff from the land to pollute the water. When coral reefs are weak or destroyed, they cannot protect our shorelines, and as a result make our beaches more vulnerable to storms and hurricanes.

A LITTLE BIT ABOUT CLIMATE CHANGE

The planet is heating up, due to certain kinds of gases put into the atmosphere by human activities – mostly cars, the production and generation of electricity, and farming. These are called Greenhouse Gases and the change in temperature is called Climate Change. As the global temperature gets hotter, sea levels will rise, more coral reefs will die, there will be more droughts and heavier rainfall, and possibly stronger storms. Jamaica is not a big producer of greenhouse gases, but we will be affected by many of the impacts of global climate change. We should not be building structures too close to the sea, because it is very likely that the sea will destroy them before too long.

Protect Di Beach

Maintaining a healthy beach requires the protection of the different living and non-living parts of the beach and their natural functions. Some of the ways we can protect our beaches are:

- Limiting the use of hard structures
- Increasing setbacks for man-made structures – don't build too close to the sea. If buildings already exist, make a plan to move them further inland
- Restoring and protecting the important parts and functions of a healthy beach – coral reefs, seagrass beds, beach vegetation, sand dunes and animals
- If you have a big influx of floating seaweed, bury it at the back of the beach
- Minimizing all raking, trampling and driving on the beach
- Ensuring any new sand matches the existing sand – and avoid bringing in new sand, if possible.
- Doing a beach cleanup!
- Finding ways to reduce the amount of garbage generated by visitors to beaches and ways to reuse or recycle it

NUH DUTTY UP WI BEACH!

Some ways to reduce garbage:

- Ask beach visitors to take their garbage away with them, perhaps to a garbage bin on the road where it can be collected
- Avoid using foam boxes. Sell food in reusable containers – this needs a good supply of clean water, so they can be washed
- Use coconut husks to make pathways, garden beds or crafts.



WHAT ABOUT BATHROOMS?

- If your beach has bathrooms, find out where the bathroom waste goes. It should not go into the sea.
- Bathrooms have to be kept clean or no one will use them
- Put up a sign so visitors will know where the bathrooms are
- You can ask visitors to make a donation towards keeping the bathrooms clean
- Water can sometimes be collected from gutters into a rain barrel and used to flush toilets, wash sand off feet, etc.
- If there are no bathrooms at your beach, see if bathroom facilities are available at nearby locations. Talk to the owners and let them know how clean seawater benefits everyone. Maybe they will let visitors use their bathrooms.
- Human waste pollutes both fresh and seawater and makes people and beach animals sick
- Provide facilities for fish cleaning and waste disposal.



BETTER BEACH BEHAVIOUR

Sometimes visitors to beaches cause harm. They may litter, play games which affect other beach users, make a lot of noise, rip up beach vegetation, or park or drive on the beach. Here are some suggestions to improve the behaviour of beach users:

- Put up signs. Examples: no parking, no littering, beach rules, quiet area, children’s play area, don’t feed stray animals, closed season dates for lobster (April 1 – June 30) and conch (variable, but usually between the end of August and end of February)
- If you have regular garbage collection, get some bins
- Develop a team of volunteers who will speak to visitors who are causing a problem
- Be very polite and respectful
- Explain why you are asking them to do or not do something. (Examples: Littering causes rats and flies. We don’t want anyone to park there because that’s where turtles nest.)

- Remind visitors that a beach is a natural place and many people want to enjoy nature in peace and quiet

Everyone who works on the beach should understand what “harassment” is. Harassment is persistent, unwanted attention that makes someone feel uncomfortable or afraid. It will drive away beach users.

Examples of Harassment:

- Frequent requests to buy goods and services (Examples: taxi services, hair braiding, money changing, massages, juices, tours).
- Requests to engage in illegal acts (Examples: using of drugs, prostitution, consuming illegal products such as turtle punch, buying jewellery made from turtle shells, possessing lobster or conch out of season).
- Soliciting a date or sexual relationship. Making sexually suggestive comments is sexual harassment.
- Use of obscene language or gestures, even if not directed at anyone in particular.

Beach Law & Regulations

The main law in Jamaica which deals with beach access and the types of activities which are allowed to take place on beaches is the Beach Control Act (1956, last amended 2004).

There is no definition of a beach in the Beach Control Act, but it is usually defined as the foreshore. The foreshore is defined in the Beach Control Act as the “land that is adjacent to the sea between the high and low water mark”.

The foreshore is owned by the Jamaican Government. People can be given rights to use the foreshore by a licensing system, so anything done to the foreshore needs a license from the Government of Jamaica. Activities that require a licence include using the beach for any trade or business purpose and erection or maintenance of any dock, wharf, pier, jetty or related structure on the foreshore or floor of the sea.

The Jamaican Government can declare any part of the foreshore and floor of the sea to be a protected area. If the government declares a beach protected, the following activities may be prohibited:

- fishing
- operating motorized boats and/or equipment
- disposal of garbage
- water-skiing
- dredging (clearing of the floor of the sea)
- destruction or removal of coral or marine animals
- searching for any treasure or artefacts

Jamaica’s Beach Control Act does not give a general right of public access to beaches – there is no right to access any beach for free

BEACH ACCESS

The public’s rights to access beaches are limited to the following:

- If you can prove that you have used that beach, uninterrupted, for at least 20 years
- If you are a fisherman who has been using the beach before June 1956
- If the beach has been declared a public beach by a government agency
- If you have the permission of the owner of the land adjoining the beach

BEACH LICENCES

A Beach Licence is required for commercial use of any beach. This is partly to ensure that proper safety measures are in place. The Beach Control Act is supported by Beach Control (Safety Measures) Regulations, 2006. These regulations set out the safety measures required for operating a commercial beach. These are:

- A sign stating the opening and closing hours of the beach
- A sign stating the hours the lifeguard is on duty
- Adequate lifeguard stands
- At least one licenced lifeguard, in uniform, on duty during opening hours
- No child under 12 years is to go onto the beach without an adult
- No swimming if no lifeguard on duty
- No fishing in the area buoyed for swimming
- No vessel operating in the area designated for swimming
- Adequate life saving devices/equipment on the beach
- Life-saving devices in good condition

Using the foreshore for public, business or commercial purposes without a licence is an offence under the law. Penalty after conviction in the Parish Court is a maximum fine of \$500,000 and/or up to 12 months imprisonment. Default of payment may cause up to 12 months imprisonment, with or without hard labour. The National Environment and Planning Agency (NEPA) receives applications for beach licences and may grant them after review.

TYPES OF BEACHES (UNDER THE LAW)

Public beach

A beach area designated by the Jamaican Government to which the public has the right to access and use. There are 85 public beaches across the island.

Private beach

A beach adjoining privately owned land which has a license to be used only by the owner

Community beach

A beach that has been designated by a community or sub divisional plan for the use and benefit of that community

Fishing beach

A beach that has been designated by the Jamaican Government as a fishing beach – one where fishers can bring in their catch and pull up their boats

Other licenses which may be required for activities on the beach:

Jamaica Association of Composers Authors and Publishers (JACAP) Licence if you use music for any promotional, commercial or entertainment event. The cost for a JACAP licence is dependent on the kind of event that is being held. You should contact the JACAP office well in advance of the date of your event.

Amusement Licence given by the Parish Council, for any entertainment activity such as dances, parties, festivals, stage shows, sporting events etc. The cost of an Amusement Licence ranges from \$4,000 to \$25,000 depending on the type of event and the number of persons expected to attend the event.

Spirit (liquor) Licence given by the Parish Council, if you are serving or selling liquor on the beach or at your events. If you are setting up a shop that sells liquor on the beach on a permanent basis you will need a tavern licence, the cost of which is \$1,500. If liquor will be served at an event on the beach, an occasional spirit licence is required, the cost of which is \$1,200.

Police Permission Letter given by the Superintendent of Police in your area if you are playing music at your event.



FINAL THOUGHTS

Beaches are not just sand and sea. Beaches are not just places to eat fish and swim. They are important parts of our environment and they protect our coastal communities. We can take care of our beaches by protecting their different parts and functions, and by abiding by the laws and regulations which govern their use. We must all become better beach managers and better beach users by practicing better beach behaviour – Big Up Wi Beach!



Glossary

Algae	Living organisms that can make food from carbon dioxide and water using sunlight. Algae are important in marine, freshwater, and some terrestrial ecosystems. Seaweeds are large marine algae.
Backshore	Part of the beach above the high tide mark, which typically has dunes and vegetation
Bacteria	Tiny, single-celled organisms that live on every part of the beach, from offshore to the backshore
Beach	A landform bordering a body of water. It is made up of loose sediment – rock, sand, gravel, shingle, pebbles, or cobblestones
Climate Change	A change in global or regional climate patterns. Global climate change is caused by high levels of carbon dioxide and other greenhouse gases in the atmosphere from human activity.
Commercial	Relating to business; activity intending to make a profit.
Community Beach	A beach that has been designated by a community or sub divisional plan for the use and benefit of that community
Coral	A tiny soft-bodied animal that typically lives within a stony skeleton grouped in large colonies to form a reef
Coral Reef	A long line of coral that lies in warm, shallow water; composed of a large colony of corals including the stony skeletons of both living and dead corals
Crustaceans	Animals with a hard external covering or shell, antennae, segmented bodies, and jointed limbs.
Echinoderms	Sea creatures with multiple limbs that extend from a central body in a symmetric radial pattern
Endangered Species	A type of animal or plant that is at risk of extinction (being wiped out completely)

Erosion	A type of weathering in which soil, sand and rock are worn away through the actions of water and wind
Fishing Beach	A beach that has been designated by the Jamaican Government as a fishing beach – one where fishers can bring in their catch and pull up their boats
Foreshore	Area between the high and low tide marks. This is the part of the beach governed by Jamaican law.
Greenhouse Gases	Greenhouse gases trap heat in the atmosphere, which makes the Earth warmer. Humans add several types of greenhouse gases to the atmosphere, and each gas has an effect on the climate.
Groyne	A low wall or barrier built from land into the sea to catch and build up sand
Harassment	Persistent, unwanted attention that makes someone feel uncomfortable or afraid
Mangroves	Shrubs or small trees that grow in coastal saltwater environments. Most mangroves grow in muddy soil, but some also grow on sand and bare rock. They typically have dense roots which trap sediment and pollution. They are also important nursery habitats for many marine animals.
Marine	Relating to or found in the sea
Meiofauna	Tiny animals ranging in size from approximately 0.1 mm to 1 mm that live in between grains of sand or silt
Molluscs	Group of animals (such as snails and clams) that have a soft body without a backbone and that usually live in a shell
Nearshore	Where the waves break
Private Beach	A beach adjoining privately owned land which has a licence to be used only by the owner
Public Beach	A beach area designated by the Jamaican Government to which the public has the right to access and use

Sand Dunes	Sand that has collected into piles at the back of the beach, protecting the land behind them
Sea Turtles	Large reptiles that lives in the sea. Have a shell and feet modified into paddles.
Seabirds	Birds that live in marine or coastal environments. They are warm-blooded and lay eggs.
Seagrass	Flowering plants that grow entirely underwater in shallow coastal areas. The depth at which they are found is limited by water clarity, which determines the amount of light reaching the plant. Light is required for seagrass to make food.
Seawall	A structure separating land and sea. It is designed to prevent coastal erosion and damage due to wave action and storm surge.
Shorebirds	Birds commonly found along sandy or rocky coastlines, mudflats, and shallow waters. In some areas, shorebirds are considered wading birds.



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