

BEACHES

Beaches are shoreline areas that are covered by sand, gravel, coralline rubble or other materials that can come from the land or the sea. Beach sediments are moved continuously by the natural forces of wind, waves, currents, and tides. The shape, size and even location of any beach is always changing. These same forces also sort beach sediments. High wave action "washes away" small, light particles, like sand grains. Beaches with high wave energy are made up of large, heavier materials while sandy beaches are found in quiet, protected areas.

TYPES OF BEACHES IN THE V.I.

In the V.I. beach sediments come from many sources -- calcareous algal plates, coral particles (mainly produced by parrotfish grazing on dead coral), mineral grains (from erosion of quartz and feldspar rocks on land), gravel and boulders. While there is usually a mix of materials on any beach, the dominant type determines how the beach is classified.

Gravel beaches are made of minerals or rocks that erode from cliffs and soils and are transported to the shore by guts. Some gravel may be washed ashore from sea floor deposits by waves and currents. The "grain" sizes of gravel beach sediments ranges from a few millimeters to inches in diameter.

Coralline rubble or cobble is another common beach material in the V.I. Storms cause significant coral breakage and pieces of coral skeleton are carried to shore and deposited by wave, current, and tidal action.

Sandy beaches in the V.I. are made up of a mixture of several materials. Coral particles, shell and urchin fragments, and algal plates -- all composed of calcium carbonate -- give the sand its white color and fine texture. Natural forces such as wave and current action break these materials down into very fine particles. As the small grains are easily washed away,

sandy beach stability depends on a constant supply of new sand from offshore or upcurrent sources. Man-made structures can interrupt movement of the natural sand supply and cause beaches to disappear.

MORE THAN JUST SAND!

Organisms that provide materials for our beaches -- algae and many invertebrates (molluscs, bivalves, echinoderms, crustaceans) -- are important living components of our beaches, too. Crabs, clams, worms, sea stars, sand dollars, and urchins live in sand both above and below the tide line. Many salt tolerant plants are found along beaches. These help to hold the sand in place and prevent beach or shoreline erosion from wind and waves.

Most sand beaches and vegetated back-beach areas in the V.I. provide sea turtles with vitally needed nesting areas. Terns, Oystercatchers, Sandpipers, and other shorebirds feed and live there also.

WHY ARE BEACHES IMPORTANT?

Beaches are important to the organisms that live and feed on and near them. They are also important to people. Beaches:

- buffer coastal areas from storm energy. Beaches can absorb high-energy wave action due to their ability to change shape in response to storm forces.
- provide easy and safe access to the sea.
- provide us with recreation areas for picnics, parties, sunbathing, beachcombing, and for quiet contemplation and appreciation of our islands' beauty.
- enhance our tourist-based economy. Visitors are lured here by our beautiful beaches.
- act as filters for upland runoff, trapping soil particles and preventing them from clouding our coastal waters. This provides clear water

for our seagrass beds and coral reefs to grow.

KEEP OUR BEACHES BEAUTIFUL

• Always dispose of trash properly. If there are no trash receptacles around, take your trash home or to the nearest dumpster! Garbage on the beach can be unsightly and unhealthy. Trash also attracts mongooses that dig up turtle nests.

• Never remove sand from our beaches! It takes nature many years to make sand to replace any that is taken away.

• Discourage construction of man-made structures on or near (<50') beaches. Beach sediments constantly move; anything that affects that movement can forever change our beaches.

• Protect reefs and seagrasses. Without them, the sand supply for our beaches would disappear and eventually, so would our beaches.

• Shield all light fixtures near beaches, or use proper lights (low-pressure sodium) to prevent turtle hatchlings from wandering away from the sea to their deaths.

• Do not drive on beaches! This can crush turtle nests and increase beach erosion. It is against the law.

For more information on beaches and other habitats, contact:
DPNR's Division of Fish and Wildlife

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This brochure was produced with assistance from the University of the Virgin Islands Marine Advisory Service



BEACHES:

WHERE THE LAND MEETS THE SEA



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