

Pensacola Beach

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Barrier Island description (from <http://science.howstuffworks.com/barrier-island2.htm>)

Barrier islands, sometimes called barrier spits, are found on coastlines all over the world and are fragile, constantly changing ecosystems. These ecosystems are long, narrow, offshore deposits of sand or sediments that parallel the coast line and can extend for hundreds of miles. The islands are separated from the main land by a shallow sound, bay or lagoon and serve two main functions: to protect the coastlines from severe storm damage and to provide habitat for wildlife. The formation of



barrier islands is complex and not completely understood. The current theory is that barrier islands were formed about 18,000 years ago when the last Ice Age ended. As the glaciers melted and receded the sea levels began to rise which flooded areas behind beach ridges. The rising waters carried sediments from those beach ridges and deposited them along shallow areas just off the new coast lines. Waves and currents continued to bring in sediments that built up forming the barrier islands. In addition, sediments from the mainland were transported to the barrier island by rivers increasing the islands' size.



As you walk the island from the Gulf of Mexico to Santa Rosa Sound, you will notice very different ecosystems – localized groups of interdependent organisms together with the environment that they inhabit and depend on for survival. **The beach** is much like a desert in that it lacks fresh water, but a large portion of the beach (known as the **intertidal zone** – between tides) gets covered almost entirely with salt water daily. Sargassum, a macroalgae which is the most common seaweed washed ashore, harbors lots of animals such as bryozoans and sea horses. The animals on the beach itself include burrowing animals like mole crabs that filter-feed during high tides, burrowing

worms that feed on bacteria in the sand, scavenging crabs (ghost crabs) and various shorebirds (sandpipers, seagulls and pelicans) that eat the crabs, burrowing animals and offshore fish. Moving north, you enter the **dunes** which receive moisture from rain and surf and are occasionally flooded during severe storms. The dunes are still a relatively hostile environment with high salt content, sandy soil and little fresh water. Dunes are formed as sand that is blown across the island gets caught in the plants growing on the island such as **sea oats, cactus, sand spurs, and spiderwort**. Within the dune system, you will find a diverse array of wildlife including crabs (particularly ghost crabs), birds (gulls, terns), and mice. Behind the primary dune lies the secondary dune which couples with maritime forests containing shrubs and trees (sand live oak, myrtle oak, slash pine and magnolia). Animals in these forests include snakes, opossums, skunk, raccoon and fox. The sound-side of an island is usually dominated by **salt marsh**. The salt marshes are similar to those found on the coastal mainland and like the barrier flats; salt marshes are regularly flooded with seawater during high tide. Pensacola Beach occupies land bound by a 1947 deed from the United States Department of Interior to be administered in the public interest by the county or leased but never "disposed".

