

BARRIER ISLANDS ARE AMONG THE MOST DYNAMIC LANDFORMS ON EARTH. FROM OCEAN TO BAY, ASSATEAGUE ISLAND IS DEFINED BY CHANGE.

The rhythms of tides and seasons shape the island. The smallest gust of wind or gentlest of waves moves sand in a ceaseless rearrangement of island terrain. While summer waves and longshore currents may build a wide beach, most of the year sand is scoured from the shore and moved southward leaving a narrow, steep shoreline. Storms can create inlets or fill them in. They can cut away dunes and wash sand across the island. The retreating dunes mark the island's westward movement. New habitats are created—old ones are reinvented. Plants and animals shift and adapt in counterpoint to these changes. On Assateague Island, nature's rhythmic processes are a brilliant display.

Natural zones shaped and reshaped by wind, wave, and current characterize Assateague Island. Distinct plant and animal communities have adapted to each zone. This north-facing view depicts these habitats, left to right, from bay to ocean.

ARTWORK: NPS / MICHAEL HAMPSHIRE

COASTAL BAYS Chincoteague Bay and two smaller bays separate Assateague from the mainland. They provide an environment rich in aquatic life and vital to ocean ecosystems. The warm, shallow waters create a productive nursery for mussels, crabs, clams, terrapin, and fish. Twice a day, tides rejuvenate these areas and ferry aquatic animals out to the ocean or into the relative safety of the bays.

Just beneath the bays' surface, in the shadowy world of the seagrass meadows, diverse marine life thrives. Blue crabs molt, hidden in

the grasses. Young fish find refuge from predators. Seahorses and pipefish, vulnerable in open water, depend on grasses for anchorage and safe haven. Mud-loving creatures cluster around roots. These are the secret gardens of the coastal bays.

SALT MARSH Once considered worthless, salt marshes are incredibly valuable areas. They are complex ecosystems defined by the constant ebb and flow of salt water. Tides transport nutrients into the marsh and detritus (decaying plants and animals) out

into the bay. Scavengers, like snails, amphipods, and fiddler crabs, feed on detritus. They in turn are food for high tide visitors to the salt marsh like fish and crabs. When the tide is out, a banquet is exposed in the mudflats where birds feast on the small creatures that inhabit this transitional area. Few plants can thrive in a salt marsh. Cordgrass, salt meadow hay, and saltwort are among those that can. These plants create shelter for willet and rail and hunting grounds for Northern harrier and raccoon. Horses can often be seen grazing on marsh grasses.

MARITIME FOREST The forest edge is bordered by a shrub thicket on both bay and ocean sides. This is another transition area between distinct communities. Greenbrier, highbush blueberry, and bayberry thrive here. Trees, stunted and sculpted by salt-laden winds, mingle with shrubs and vines. Guarded by this thicket, the maritime forest is sheltered from much of the wind and provides habitat for some of Assateague's other residents. While loblolly pine is the dominant tree, southern wax myrtle, American holly, and red cedar survive in the shaded understory. The forest is home to

white-tailed and sika deer, raccoons, and birds like the yellow-rumped warbler and Eastern towhee. Predators like great horned owls and red fox hunt small mammals, birds, and reptiles in the woodland.

DUNES AND UPPER BEACH The dunes and upper beach are always in motion. Windblown sand and salt dictate the plant and animal life of this stark environment. Less salt-tolerant plants like beach heather and seaside goldenrod hide on the leeward side of dunes, sheltering the small but fierce dune wolf spider as it hunts its insect prey. Plants trap sand, elevate dunes, and

form a malleable barrier against the assault of wind and water. Where overwash does occur, piping plovers and other birds find prized nesting habitat. The primary beach front dunes are dominated by American beach grass, with its extensive root system and ability to tolerate relentless exposure to the elements. Many creatures visit the beach, but ghost crabs enjoy a great view from oceanfront burrows.

OCEAN So visually compelling are the surf and ocean that it is easy to forget how much happens beneath the surface. Mole crabs, coquina clams, and small invertebrates thrive in the inter-

tidal zone where crashing waves deliver food and render all homes temporary. Shorebirds dance away from the surf while attempting to dine on creatures concealed in the sand.

The ocean food web starts with phytoplankton. Most other marine life is dependent upon these tiny plants for survival. The oceans support more than half the species on earth, yet 95 percent of these waters remains unexplored, offering endless possibilities for discovery.



Osprey

Northern harrier

Loblolly pines

White-tailed deer

Bald eagle

Brown pelicans

Willet

Cordgrass

Sika deer

American oystercatchers

Saltwort

Prickly pear

Seabeach amaranth

Sanderlings

Great blue heron

Diamondback terrapin

Groundsel

Tree swallow

Eastern towhee

Boat-tailed grackle

Horseshoe crabs

Bluefish

Clearnose skate

Cownose ray

Great egret

Northern puffer fish

Lined seahorse

Redbeard sponge

Virginia rail

Black-backed gull

Northern pipefish

Seaside dragonlet

Yellow-rumped warbler

Piping plovers

Red-winged blackbird

American beach grass

Blue crab

Fowler's toad

Hognose snake

American holly

Seaside goldenrod

Monarch butterfly

