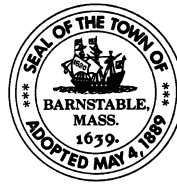
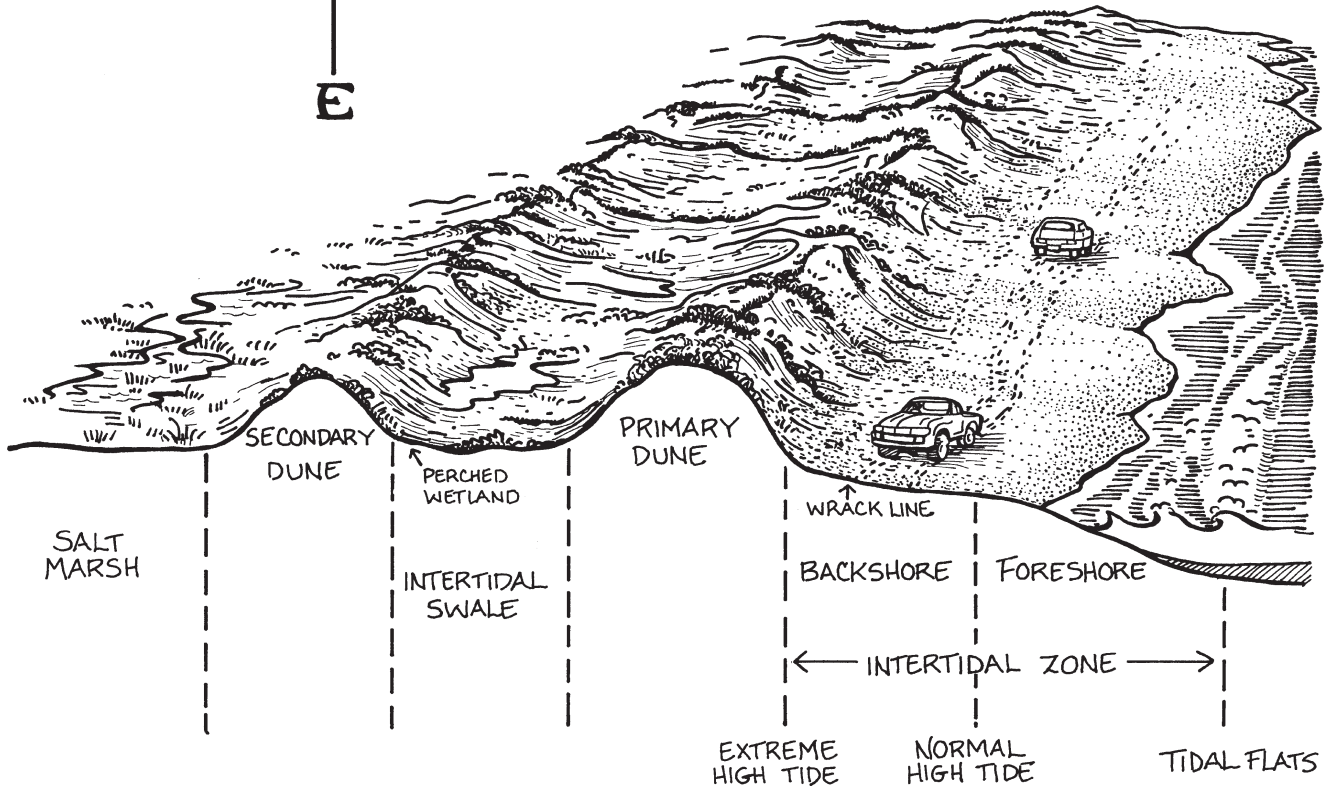
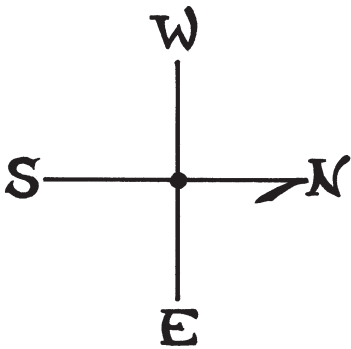


SANDY NECK NATURE TRAIL



Barnstable
Conservation
Commission



SANDY NECK NATURE TRAIL

1. Public Parking Lot – Orientation

Welcome to Sandy Neck, one of the most dynamic and beautiful protected areas on Cape Cod. It is managed by the Town of Barnstable. Sandy Neck Rangers are here to help you enjoy your visit. Please help them by taking only pictures and leaving only foot prints.

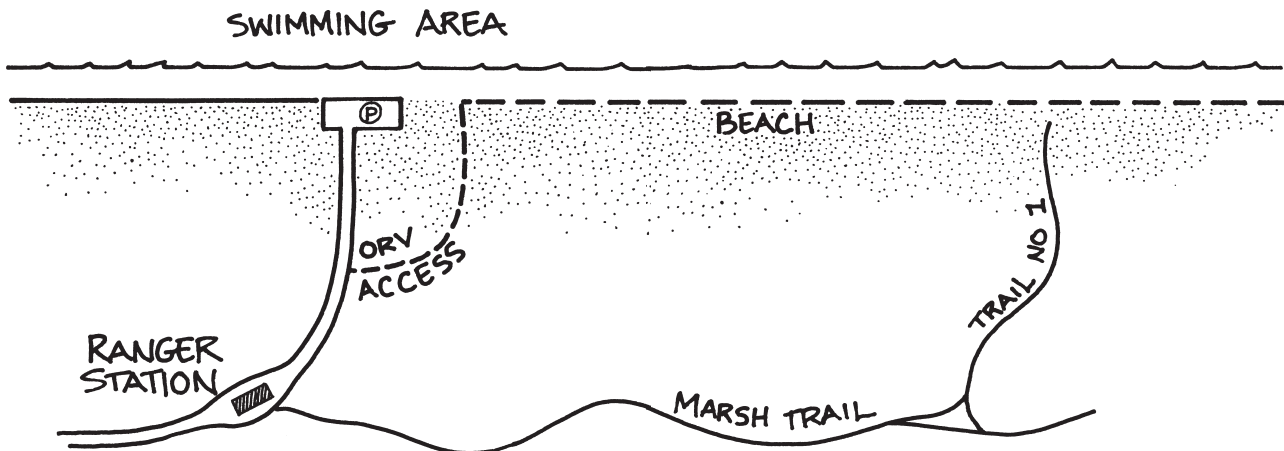
Sandy Neck is a barrier beach system 6 miles long and up to 1/2 mile wide. This trail leaflet will guide you over a 1.6 mile loop trail, which will take about 1.5 hours. You too can discover what makes Sandy Neck so interesting.

2. Beach – Conservation and Recreation

Begin by descending the stairs to the beach. Notice the fenced-off areas of planted beach grass, and please stay off this fragile resource. Sandy Neck is carefully managed for a balance between conservation and recreation. This small section of beach is set aside for swimming. Lifeguards are provided in the summer. ORVs (off-road vehicles) are prohibited for your safety. ORVs make extensive use of the rest of the beach, so be alert. Forms of recreation that are compatible with conservation include walking, beachcombing, bird watching, photography, horseback riding, fishing, and hunting. Become familiar with the regulations by picking up a folder. Follow the beach to the east, stopping to read this leaflet every tenth of a mile.

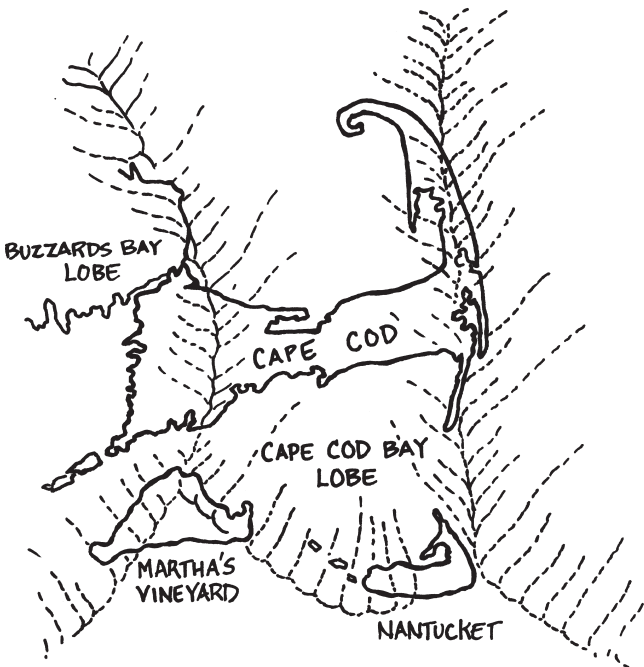
It is 0.4 miles to trail #1.

CAPE COD BAY



3. Beach – Geology

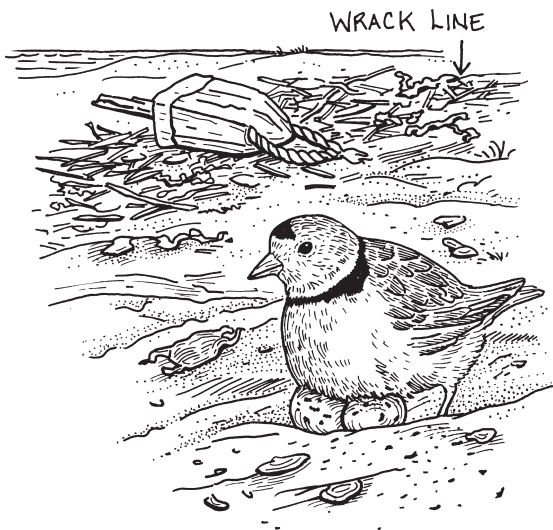
As you walk east along the beach, you will see evidence of the origins of Sandy Neck. Where do the sand and rocks come from? Sandy Neck is a product of the pleistocene ice age glaciers. About 10,000 years ago the retreating continental glacier left behind a pile of rocks, or moraine, which formed Cape Cod. The sand and rocks along this beach are from mountains north and west of here. Wind and water move the sand and rocks to form beaches and dunes. In summer gentle breezes and waves make a wide, gently sloping sandy beach. Violent storms of winter change it to a narrow, steep rocky beach. What season does the beach exhibit now? Continue east along the beach.



4. Beach - Intertidal Zone

Notice the lines of sticks, grasses and seaweeds usually high up on the beach. This wrack line represents the upper limit of the intertidal zone.

This zone is the most dynamic habitat on the barrier beach. Clams, worms, and millions of microscopic plants and animals live in the sand near low tide. Gulls, terns, and shore birds depend upon this abundant source of food. The endangered piping plover is one of these. This small shore bird lays its eggs among the sand and rocks above the high tide. When the flightless chicks hatch they must work their way down to the intertidal zone for food. To protect this species, it is often necessary to close portions of the beach during nesting season. Do you know what a piping plover looks like? What size the chicks are? Continue east along the beach.





CLAM SHELLS



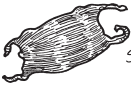
SCALLOP SHELL



WELK



WELK EGG CASE



SKATE EGG CASE



QUAHOG

PLASTIC



GLASS



METAL



5. Beachcombing

As you continue east along the beach toward Trail #1, you might wish to do some beachcombing. You will find many rounded stones, sand, seaweed or marine algae, eelgrass (a flowering plant) or reed sticks. Mixed among the wrack, you will discover clam shells, crab shells, the eared skate egg cases, long chains of whelk egg cases, fish bones, bird bones, and occasionally marine mammal bones. Along with these you may find driftwood and perhaps remains of an old shipwreck. Unfortunately, you also will find plastic, glass, and metal containers littering the beach, discarded overboard by careless people. Watch for the beginning of Trail #1, which you should turn into.

6. Trail #1 - Upper Beach Zone

Turning south toward Trail #1, you cross the upper beach, or backshore, above the high tide, and below the foredune, or primary dune. ORVs are restricted to this zone, so be alert.

The foredune is where pioneer species of plants first appear. Beach grass is the most abundant. It is frequently planted to stabilize sand (remember back at Stop 2). It spreads its long vine-like root stems or rhizomes throughout the dunes. Other plants include the silvery dusty miller, purple beach plum, lavender sea rocket, and seaside goldenrod. How do these plants survive? Stay on Trail #1 to avoid deer ticks, poison ivy, and to avoid destroying beach grass and other fragile plants.



POISON IVY



SEA ROCKET



BEACH GRASS



SEASIDE GOLDENROD



DUSTY MILLER



BEARBERRY



POVERTY GRASS



BAYBERRY



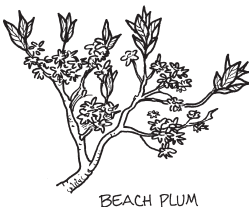
BEACH PEA

7. Trail #1 – Primary Dunes

As you enter the dunes, you are crossing the primary dune or foredune. Look east and you can see the high primary dunes covered with salt spray rose, bearberry, beach plum, and bayberry. Beach grass covers the dunes nearby. Here and there is a clump of bayberry or a seaside goldenrod, beach pea, or sea rocket. Further on, a patch of dark heather-like poverty grass covers a dune. Few animals and birds can live on the windblown primary dune. Gulls, crows, and occasionally snowy owls are seen. Mice, moles, shrews, and other small animals are found here. Foxes, coyotes, raccoons, and deer cross the primary dune occasionally. Look for their tracks.

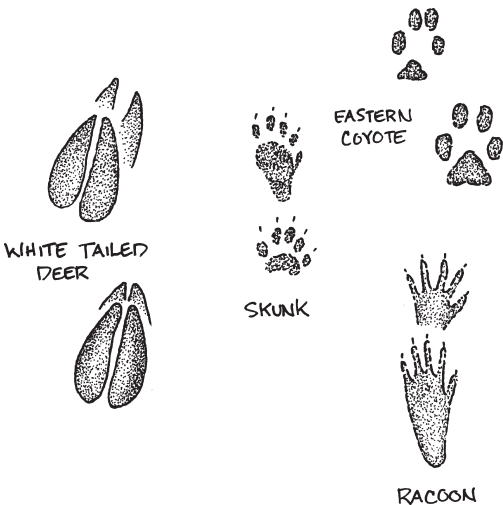
8. Trail #1 – Interdune Swale

As you continue, you will notice that you are in an area between two higher dune systems, called the interdune swale. You notice that there is less wind and the temperature is higher. In this extremely arid environment water is still available to plants that have adapted. Salt spray rose, bearberry, beach plum, and bayberry form clumps among the beach grass. Pioneer trees such as pitch pine have adapted to the salt spray and drying effects of the wind. Many birds are found here. Look for the northern harrier, formally known as marsh hawk, cruising low over the dunes. Song sparrows and mockingbirds sing from the pitch pines. Chickadees, house finches, catbirds, and several other species dart around in the shrub community. Can you identify any of them?



9. Trail #1 – Secondary Dunes

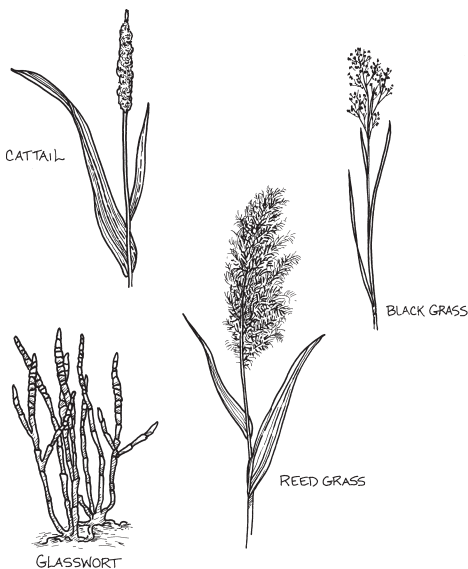
Continuing on, you climb over the secondary dune or back dune. You pass large bare areas known as “blow-outs.” While some are natural, many are caused by human abuse. There is a thin black layer exposed that is iron oxide deposited by storm winds years ago. You also see a perched wetland containing cattails and reed grass, or phragmites, to the east. In the spring and summer it is filled with red-winged blackbirds and Brewer’s blackbirds. This is also the beginning of the thicket zone between the grassland of the swale and the maritime forest at the edge of the marsh. Plants of the thickets include those of the swale plus wild cherry, red cedar, greenbrier, Virginia creeper, and honeysuckle. Watch for animal tracks of skunks, raccoons, coyotes, and deer. Do you see more tracks here?



10. Marsh Trail – Great Marsh

Now you stand on the edge of Barnstable's Great Marsh, one of the richest biological habitats on Cape Cod. The marsh is a product of tides, stream and groundwater discharge (thus saltwater and fresh mixing to form brackish water), and rampant wetland plant growth. The saltmarsh is made up of two principal species of marsh grass: the matted, low salt meadow cordgrass (*Spartina patens*) and the taller smooth cordgrass (*S. alterniflora*). Over years they build up deep peat soils that support the richest habitat. Looking east you will see an island on which is a private camp. Please respect this property and do not trespass. You are now 0.3 mile from the beach. Turn west (right) along the Marsh Trail.



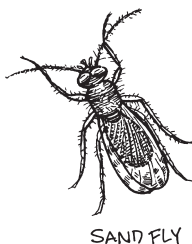
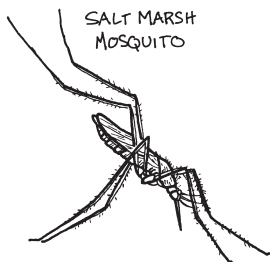


11. Marsh Trail – Grasses

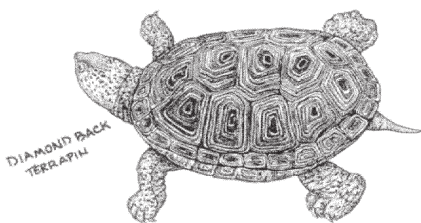
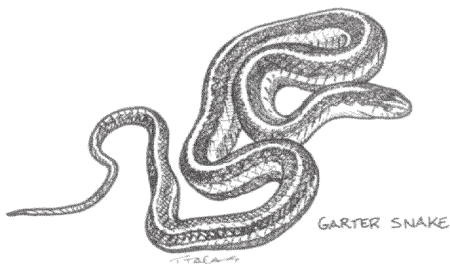
In addition to the two dominant salt marsh grasses (*S. patens* and *S. alterniflora*), there are many others you can identify along this trail. Spike grass with curly leaves and wheat-like seed heads is often mistaken for cordgrass. Blackgrass grows in patches and looks like grass; however, its small flowers show it to be a rush. Common reedgrass (phragmites) is a tall (3-4 ft.) grass with feathery seed heads. Phragmites originates in the Old World. Cattails also grow along the edge of the marsh. Glasswort or pickleweed with its fleshy stems is found along the trail. There are many other plants common to the salt marsh. Can you find one?

12. Marsh Trail – Insects

If you haven't already discovered it, the salt marsh is home to many insects. Salt marsh mosquitoes, greenhead flies, deer flies and sand flies all bite or sting you. The long straight ditches cutting through the salt marsh were dug to drain standing water to control mosquitoes. Perhaps more effective are swallows who consume millions of flying insects. The nesting boxes encourage the swallows to stay. The big blue boxes put out in the salt marsh in summer trap greenhead and deer flies. "No-see-ums", or sand flies, breed in the salt marsh. There are many more harmless insects that live in the salt marsh. Although these insects seem noxious to humans, they each occupy an important position in the food chain.



(MAGNIFIED VIEWS)

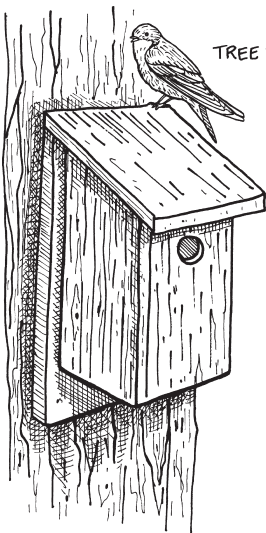


13. Marsh Trail – Reptiles

You may be especially lucky to see one of the few reptiles that live along the edge of the salt marsh. Diamond back terrapins live in the marsh, only venturing on land to lay their eggs. This 4-8 inch turtle has been extensively studied here at the northern extent of its range. Once a year the turtles cross this trail and climb up the steep dunes to lay 5-12 eggs. The young hatch and make the perilous journey back to the salt marsh. It has been found that the temperature during incubation may determine gender for all of one nest. Other reptiles found here include hognose snakes, garter snakes, and box turtles. Why are there so few reptiles found in this area?

14. Marsh Trail – Birds

Many birds are found in this ecological edge or ecotone. The salt marsh and dunes meet and are now covered with thickets and maritime forests. Of all the birds found along this trail, swallows, especially tree swallows, are most beneficial to us. They consume millions of insects each day. Many song birds are found here, including red-winged blackbirds, common grackles, cowbirds, catbirds, eastern kingbirds, goldfinches, pine warblers, yellow-throats, house finches, juncos, blue jays, and many others. Looking toward the salt marsh, you may see an osprey on its pole-top nest. Sharp-tailed sparrows nest in the marsh grasses. Great blue herons, snowy egrets, and other long-legged waders are seen fishing. For a more complete list, check at the ranger station.



TREE SWALLOW



RED WINGED
BLACK BIRD

SCRUB OAK



SASSAFRAS



SMOOTH SUMAC



15. Marsh Trail – Trees

Along the trail you pass near the trees of the maritime forest, which is influenced by the salt-laden winds. Trees such as pitch pine, scrub oak, red cedar, black cherry and sassafras are pruned by the wind. Shrubs like bayberry, beach plum and bearberry thrive under these trees. Poison ivy, Virginia creeper and greenbrier thread their vines through the shrubs and trees. Sumac seeks more open spaces and adds its color to fall. Shadbush blooms in the spring when the shad are swimming up streams. Be careful not to leave the trail, and avoid the poison ivy. Can you recognize poison ivy?

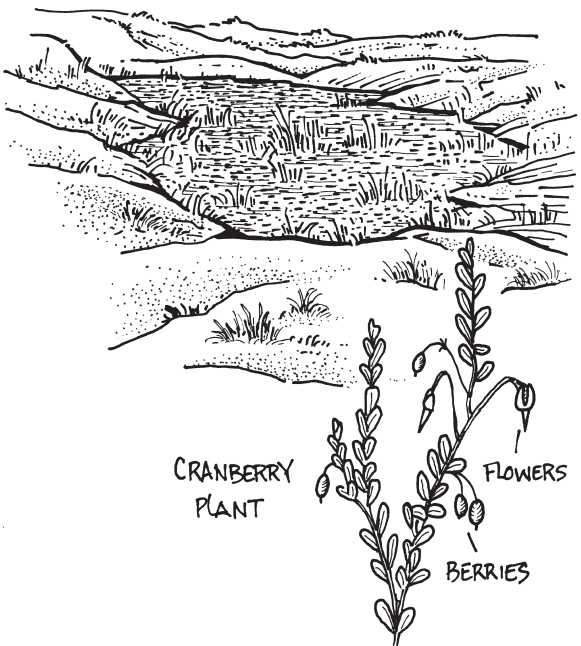
16. Marsh Trail – Information

The Marsh Trail ends at the Sandy Neck gatehouse (ranger station). The rangers here can provide you with more information upon request.

There are two pamphlets that are a must -“Sandy Neck Perspectives” and “Sandy Neck Beach Regulations.” If you have further questions the rangers are happy to answer them. Across from the gatehouse is a bulletin board with exhibits about the plants and animals of Sandy Neck. After you have looked around, follow the entrance road back toward the beach. Please walk on the left, facing oncoming traffic for your safety.

17. Entrance Road – Cranberry Bog

Opposite the ORV entrance, on the west side of the road, is a depression. Water collects here after rains and stands for a time. The wild cranberry grows in this type of environment. Look carefully and you may see the small red berries. Further along the road you will notice several stressed pitch pines. The salt-laden wind causes many to die. Looking on either side of the road you can see the dunes. Can you identify the primary and secondary dunes and the swale? This dynamic system illustrates natural changes in our environment more dramatically than anywhere else in Barnstable.



18. Parking Lot – Man Versus Nature

You have returned to the start. The forces of nature such as waves, wind, rain and sun have shaped this barrier beach for thousands of years without destroying it. Man's activities often disrupt this balance. This parking lot is built on the primary dune. Each winter, storms wash away more of it. Eventually the building will be washed away. Should we try to stop the erosion? How would we do this? Wind blows sand into dunes. Beachgrass and other vegetation stabilize them. This is why people and ORVs are now restricted from the dunes. The Town of Barnstable has recognized the importance of Sandy Neck by making it a special conservation area. Please help preserve Sandy Neck.

For Information

Contact:

Barnstable Conservation Commission
(508) 790-6245

Sandy Neck Rangers
(508) 790-6345

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