

Maritime Dune Community

State Rank: S3 – Vulnerable



Trees perched on dunes eroded by a recent storm. Photo: Patricia Swain, NHESP.

Description: The Maritime Dune Community is usually on barrier beaches in a mosaic with other communities on the dynamic system's shifting sands in an extremely harsh physical environment. Winds move and carry salt and sand prune and bury plants and limit species diversity. The dunes behind the beachfront may occur as a single ridge or a series of parallel ridges that extend back through shrub and forest thickets to salt marsh and tidal flats associated with the protected bay or estuarine system. The dunes directly behind the beach are the most severely stressed by wind and airborne salt. These shifting foredunes are stabilized by colonies of beachgrass. Few other plants in the beach/dune community grow out into the unprotected foredunes. On back dunes, the community has sparse

The Maritime Dune Community consists of patches of herbaceous plants interspersed with areas of bare sand and shrubs. It occurs on windswept dunes within the salt spray zone, and often grades into shrubland or woodlands on more sheltered back dunes.

patches of herbaceous or low shrubby plants interspersed with areas of bare sand, and often grades into shrubland or woodland communities on more sheltered areas. Vegetation in wet areas between dunes is classified separately as a distinct Interdunal Marsh/Swale community.

Characteristic Species: The Maritime Dune Community is characterized by expanses of beach grass (particularly dominant on the foredunes) and beach heather with seaside goldenrod, beach pea, and non-native dusty miller. Poison ivy is often dense. Patches of shrubs in protected back dune areas include bearberry, bayberry, black cherry, and beach plum; extensive shrublands may be considered as a distinct community. Salt hay, common hairgrass, little blue stem, and poverty grass grow in protected areas of the dunes. Scattered pitch pines, scrub oaks, and red cedars occur in some dune systems. Actual composition and structure of the vegetation depends upon dune stability (deposition and erosion) and distance from the ocean.

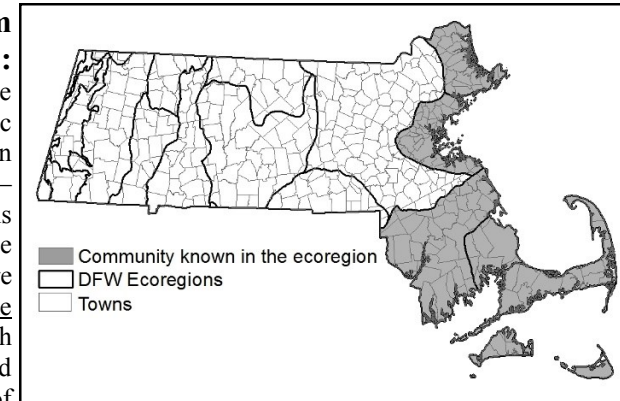


Beach pea (L) and beach grass (R) on dunes. Photos: Patricia Swain, NHESP.

Differentiating from Related Communities:

Barrier beach and dune communities occur in a mosaic with others that shift location over time as the dunes move – even in stable situations community edges may not be clear. Sandplain Heathlands are structurally similar to Maritime Dune Communities in that each has low shrub, herbaceous and grassy growth with patches of bare soil. Maritime Dune Communities are on sand dunes and dominated by beach grass and beach heather which are much less dominant in the species mix of Sandplain Heathlands. The two community types may overlap along the edges of dunes, necessitating arbitrary assignment based on land form or the prevailing community type. Maritime Dune Communities are the most sparsely vegetated communities on dunes with scattered patches of low shrubs, forbs, and grasses with lichens and earthstar fungi on bare sand. The distinctly wooded Maritime Juniper Woodland/Shrubland, Maritime Pitch Pine Woodland on Dunes, and Maritime Shrubland communities all have dominance of woody plants in larger areas than occur in the defined Maritime Dune Community. Very small patches of any type within another community should be considered to be part of the variation of the main community.

Habitat for Associated Fauna: No animal species are restricted to Maritime Dune Communities. However, a variety of seabirds, shorebirds, and song birds nest



at the base and sides of dunes and in the interdunal area. The particular species depend upon topography, and the amount and type of plant cover. Vernal pools occur in some dune systems, serving as important feeding and breeding areas for a variety of reptiles, amphibians, birds, mammals, and invertebrates. Generally, in more salt influenced environments, fewer animals will be expected.

Examples with Public Access: Sandy Neck, Barnstable; Cape Cod National Seashore, Wellfleet. Boston Harbor Islands, Hingham; Parker River NWR, Newburyport.



Dunes with beach heather, and bayberry thicket. Photo: Patricia Swain, NHESP.

