

Maritime Pitch Pine Woodland on Dunes

State Rank: S1 - Critically Imperiled



Pitch pine with partially buried trunks near the top of a dune. Photo: Patricia Swain, NHESP.

Description: Occurring as small patch communities on sand dunes on barrier beaches and other sandy shores, Maritime Pitch Pine Woodlands on Dunes tend to have linear occurrences along back sand dunes, just beyond the reach of daily salt spray. The moderately stabilized back dunes, and so the communities on them, are created and maintained by the movement of sand by wind: boundaries or an entire dune can change as sand is moved. During storms, back dunes receive windblown sand and salt that prune trees. The community appearance is open, with scattered, partially buried but living pitch pine trees separated by bare sand with lichens and pine needles. Older dunes may have a sedge lawn between trees. The pitch pine patches are in a

Maritime Pitch Pine Woodlands on Dunes have scattered pitch pines, many with partially buried trunks. Between pines there is bare sand with sparse, low growing, drought tolerant plants, fungi, and lichens.

mosaic of communities on dunes, with open dune communities in exposed areas, Maritime Juniper Woodland/Shrubland interdigitating in areas with more salt spray, denser deciduous woodlands forming in stable moist swales, and open interdunal swales in exposed areas with regular active sand movement.

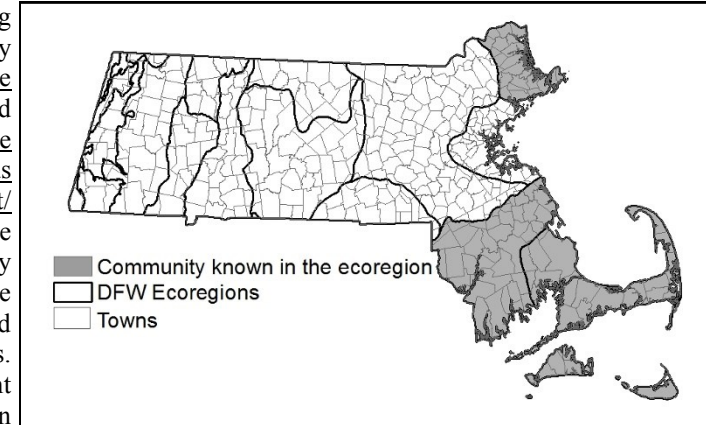
Characteristic Species: Maritime Pitch Pine Woodland on Dunes is an open woodland with short, scattered individuals of pitch pine that make up the low tree layer. Beach heather and bearberry characteristically form a patchy, very low shrub layer between areas of bare sand with some lichens and earth star fungus. Very exposed pines may be short, with taller trees in more protected areas where grasses and sedges may cover the ground.



Pitch pine skirt (partially buried low branch). Photo: Patricia Swain, NHESP.

Differentiating from Related Communities: Maritime forests, woodlands, and shrublands on dunes grade into each other and into more open dry shrubby or shrubless dunes, and wetland communities in interdunal

swales. Differentiating between open canopy Maritime Pitch Pine Woodland on Dunes and closed canopy Pitch Pine - Oak Forest/Woodlands or Maritime Forest/Woodlands would be based on the canopy openness and dominance of pitch pine, and paucity of other species. Active sand movement would be much less in closed woodlands, which have little bare ground, more soil development, a litter layer composed of more than pine needles, and more species diversity. The pines having skirts is typical of the dune community; in more established woodlands, even if the pine trunks are partially buried, shaded lower branches are unlikely to remain alive. Related open communities include the Maritime Juniper Woodland/Shrubland, in which red cedar dominates with about 25-75% of the cover. Pitch pine, and other widespread early successional shrubs and trees such as red maple and black cherry are usually present in lower abundances. Bare sand dominates Maritime Dune Communities that are only sparsely vegetated with very scattered patches of low shrubs, herbaceous plants, and grasses. Maritime Pitch Pine Woodland on Dunes occur in a complex of these and other barrier beach communities in a shifting mosaic as storm winds move sand, burying vegetation and restarting communities. Areas of temporary stability allow succession to more mixed forests.



Habitat for Associated Fauna:

There are no animal species known to be restricted to maritime forests. Open pitch pine areas are particularly harsh and exposed. Generally, in salt influenced environments, few animals are expected.

Examples with Public Access:

Cape Cod National Seashore, Wellfleet. Sandy Neck, Barnstable; Horseneck Beach SR, Westport; Parker River NWR, Newbury.



Patches of partially buried pitch pines with bare sand and lichens. Photo: P. Swain, NHESP.

