Interdunal Marsh/Swale

State Rank: S2 - Imperiled

A cranberry swale early in the spring Photo: David Szczebak, MassWildlife.

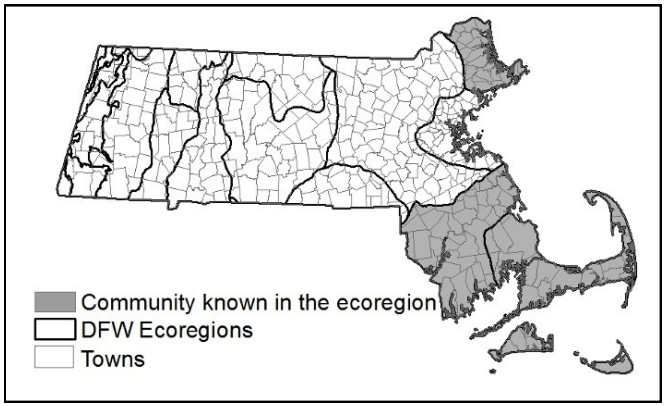
Interdunal Marsh/Swale communities are dominated by graminoids or shrubs in shallow depressions between sand dunes. They are part of dune systems, and the best examples are complexes of numerous swales.

Description: Interdunal Marsh/Swales (interdunal swales) form in barrier beach systems in low, shallow depressions between sand dunes. The best examples are complexes of multiple swales with varied conditions. Soils generally have a thin (1 cm) organic layer over coarse sand. The substrate may be seasonally flooded or permanently inundated, with water coming from groundwater and precipitation, with occasional brackish overwash from storms. The water regime controls the vegetation. The community is usually graminoid- or shrub-dominated, one variant has a pitch pine canopy.

Characteristic Species: Interdunal Marsh/Swale vegetation ranges from graminoid to low shrub dominated, with or without scattered patches of tall shrubs or, occasionally, a canopy of pitch pine. The most common type is dominated by large cranberry (often with > 90% cover) on sphagnum moss. Typical associates include various rushes, spatulate-leaved and thread-leaved sundews, beak sedges, yellow-eyed grasses, St. John's-worts, southern bog clubmoss, and several orchid species such as rose pogonia, grass-pink, and nodding ladies'-tresses. Graminoid-dominated swales are characterized by a mix of rushes, beak-sedges, and other graminoids. Scattered pitch pine, eastern red cedar, bayberry, sheep laurel or other wetland shrubs can also occur.

Differentiating from Related Communities: Occurring in shallow, wet basins in dune systems is the defining characteristic of Interdunal Marsh/Swales. They are graminoid-, shrub-, or pitch pine dominated communities growing on shallow peat over sand. Acidic Graminoid Fens and Sea-level Fens are differentiated by location - not being in barrier beach systems. They both generally have deeper peat than Interdunal Marsh/Swales, but all share many species.

Interdunal swales with dense shrubs and worn trail around it. Photo: Patricia Swain, NHESP.



Habitat for Associated Fauna: Interdunal Marsh/Swales can function as vernal pool habitat if water remains standing for 2-3 months and they lack fish; these swales provide important amphibian breeding habitat, particularly for toads such as American toad, Fowler's toad, and eastern spadefoot. Interdunal swales are part of the habitat of mobile animals for food, cover, and nesting sites. They can be an important source of freshwater in the generally very dry and exposed dune systems.

Examples with Public Access: Several dune systems on public lands have trails and/or boardwalks that intersect interdunal swales. If visited, care should be taken not to create trails across the peat surface or in the easily damaged surrounding dunes. Cape Cod National Seashore, multiple areas; Parker River NWR, Newburyport, multiple areas; Sandy Neck (town), Barnstable; Demarest Lloyd SP, Dartmouth.

A wet swale with pitch pine. Photo: Patricia Swain, NHESP.

Interdunal swale with twig rush in pitch pines on dunes. Photo: Patricia Swain, NHESP.

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