

Calcareous Seepage Marsh

State Rank: S2 - Imperiled



Calcareous Seepage Marsh. Photo: Bruce A. Sorrie, NHESP.

Description: Calcareous Seepage Marshes are open (non-forested) wetlands, with scattered shrubs in a mix of herbaceous and graminoid plants. Although there are hummocks and hollows, the overall surface is flat to slightly sloping. The community is maintained by calcareous groundwater in a variety of physical settings--in basins, in current or former beaver drainages, or in level to slightly sloping sites associated with sloping fens. Waters are circumneutral to alkaline (pH 6.0-8.1) with high concentrations of calcium and magnesium dissolved from bedrock or glacial materials rich in those elements. In marshes, the plant materials in the mucky substrate are decomposed more than in

Calcareous Seepage Marshes are marshy wetlands enriched by calcareous groundwater seepage. Of the three types of calcareous fen communities described in Massachusetts, they are intermediate in richness and botanical rarities.

fens with peat, likely due to greater availability of more types of nutrients, more oxygen, and/or warmer ground water.



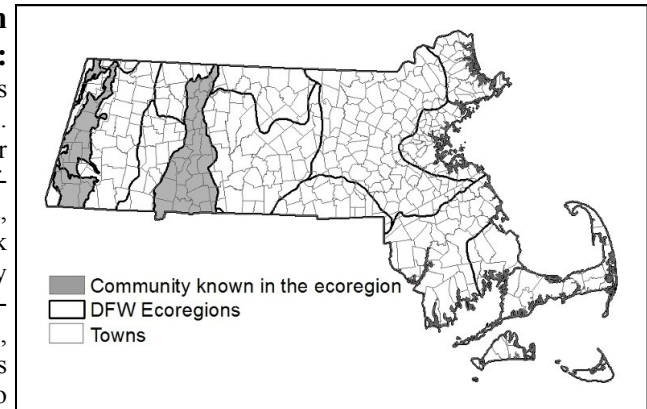
Shrubby cinquefoil: a characteristic species of calcareous wetlands. Photo: Bryan A. Connolly,

Characteristic Species: Calcareous Seepage Marshes have a mix of scattered shrubs, herbaceous, and graminoid species similar to an emergent marsh. A diverse, but generally not dense, shrub layer may include highbush blueberry, swamp rose, meadowsweet, alders, and/or poison-sumac, as well as shrubby calciphiles (calcium loving plants) such as hoary and autumn willows, swamp-birch, and shrubby cinquefoil. The dense herbaceous/graminoid layer is a mixture of typical marsh species such as cattails, sweet flag, lakeside sedge, tussock sedge, cinnamon fern, royal fern, swamp milkweed, swamp loosestrife, and herbaceous calciphiles.

Differentiating from Related Communities:

All calcareous wetlands include shrubby cinquefoil. Most also have other calciphiles such as grass-of-Parnassus, Kalm's lobelia, alder-leaf buckthorn, hemlock parsley, autumn and hoary willows, and slender cotton-grass. Within a given site, calcareous fen communities may grade from one type to another. Calcareous Seepage

Marshes share species with both Shallow and Deep Emergent Marshes, but contain more calciphiles. Calcareous Basin Fens have deep (>2.0 m (6.5 ft.)) peat in basins. They are dominated by sedges with a sparse shrub layer; they generally contain a more developed bryophyte layer than the other calcareous fens. They share many species with acidic fens, but include species restricted to calcareous conditions, such as bog birch and the calciphiles listed above. Calcareous Sloping Fens are on shallow to moderate slopes and have more mineral soil than other calcareous fens: peat is mostly restricted to sedge hummocks. A diverse herbaceous layer dominates the vegetation. Tall shrubs and short trees may occur in scattered patches. Red Maple - Black Ash - Tamarack Calcareous Seepage Swamps are dominated by sparse trees and tall shrubs. Small openings share many of the species and conditions of Calcareous Sloping Fens.



Habitat for Associated Fauna: Calcareous Seepage Marshes contribute variation within the habitats of large, mobile animals.

Examples with Public Access: Due to the sensitivity of calcareous wetlands to damage from visitation, most land owners prefer not to publicize the locations.



Dense hoary willow at the edge of a Calcareous Seepage Marsh. Photo: M.D. Cullina, NHESP.

