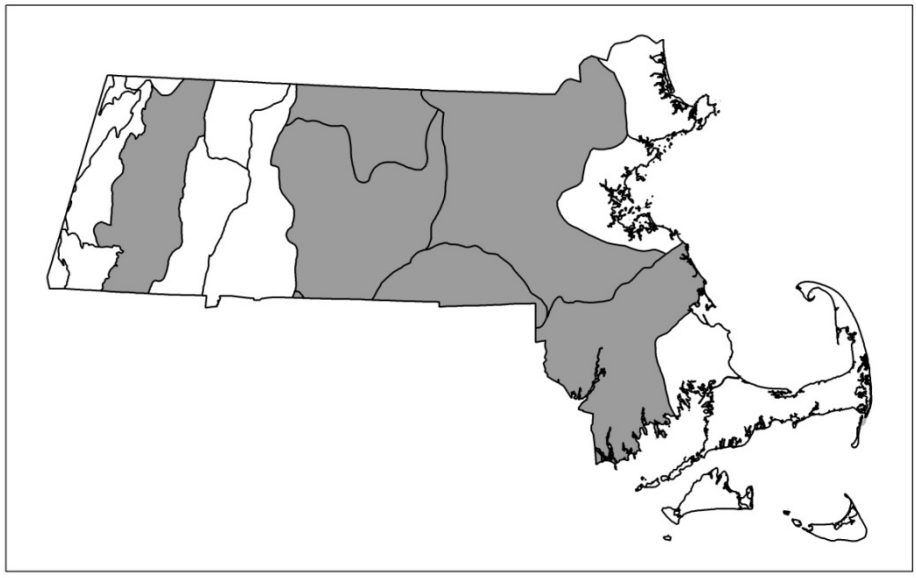
Acidic Shrub Fen

Community Code: CP2B0B2000

State Rank: S3



Concept: Shrub-dominated acidic peatlands characterized by a mixture of low-growing, primarily deciduous shrubs. Acidic Shrub Fens experience some groundwater and/or surface water flow, but not calcareous seepage.

Environmental Setting: Acidic Shrub Fens typically occur along pond margins, often at the edges of peat mats where the peat may be weak. Acidic Shrub Fens are primarily composed of low-growing, interwoven shrubs with patches of sphagnum moss growing at the shrub bases. Although acidic peatland communities, the plants of Acidic Shrub Fens are often in contact with pond water or have other surface or groundwater connectivity. The communities are weakly minerotrophic (some nutrients are present in the water and available to the plants). Standing water is present throughout much of the growing season. Peat mats are quaking and often unstable.

Vegetation Description: Dense, low growing (<1m tall) shrubs make up the dominant layer of Acidic Shrub Fens. Leatherleaf (*Chamaedaphne calyculata*), sweet gale (*Myrica gale*), water-willow (*Decodon verticillatus*), and meadow-sweet (*Spiraea alba* var. *latifolia*) are typical, sometimes with scattered taller highbush blueberry (*Vaccinium corymbosum*), red maples (*Acer rubrum*), alder (*Alnus* spp.), and/or sweet-pepperbush (*Clethra alnifolia*). Herbaceous plants may be abundant and diverse, or quite sparse. The layer often includes St. John's-worts (*Hypericum* spp.) and arrowheads (*Sagittaria* spp.). Typical graminoids include sedges (*Carex* spp.), cotton-grasses (*Eriophorum* spp.), and beak-rushes (*Rhynchospora* spp.).

Differentiating Occurrences: Acidic Shrub Fens are composed primarily of low-growing, interwoven shrubs with patches of sphagnum moss growing at the shrub bases. Dense water-willow and

sweet gale are indicative and characteristic. Acidic Shrub Fens are wetter with a less well-developed sphagnum mat than other acidic peatlands. Acidic Graminoid Fens are differentiated by the abundance of graminoid and herbaceous species and lack of extensive shrubs. Level Bog communities receive little or no stream flow and they are isolated from the water table, making them the most acidic (pH is in the range of 3 to 4) and nutrient-poor of peatland communities. The sphagnum peat tends to be deep and well developed, graminoids may be present but not dominant, and shrubs are dominated by leatherleaf. Kettlehole Level Bogs are a subset of Level Bogs that occur in iceblock depressions (commonly called kettleholes) in sandy glacial outwash. They are typically small (<3 acres) and round, and they lack inlets and outlets. Highbush Blueberry Thickets are dominated by tall (2m or more) dense shrubs of the blueberry family with other deciduous species. Shrub Swamps lack peat, are often more diverse than Acidic Shrub Fens, and are not dominated by blueberries or other ericaceous plants. They are often dense and tall.

Associated Fauna: Due to the extended periods of saturation, lack of nutrients, and high acidity and low oxygen content of the water, acidic peatlands are inhospitable to many animal species, including most amphibians and reptiles. Acidic Shrub Fens, when on the edge of open water, are less acidic and have more oxygen in the water than other types of peatlands. Winged animals and large terrestrial animals can use peatlands as part of their habitat and then move on when conditions are unfavorable. Many bird species use peatlands for part of the year as nesting or foraging habitat. Many species of dragonflies and damselflies inhabit acidic peatlands, especially where there is adjacent open water.

Public Access: Lowell-Dracut-Tyngsborough State Forest, Dracut; Quaboag WMA, Brookfield; Upton State Forest, Upton; Tully Lake Reservation (US Army Corps of Engineers), Royalston; Mud Pond-Horseshoe Pond Bog, Farmington River WMA, Otis.

Threats: Hydrologic alteration and nutrient enrichment from road and lawn runoff. Trampling from humans affects peat mat integrity, although the peat along shores is often very unstable and discourages access.

Management Needs: Pondside occurrences are threatened by wetland alterations (including dock building, small-scale peat mining operations, and conversion to commercial cranberry bogs), encroaching development, changes in hydrology, and nutrient enrichment from leach fields, road salt run-off, and siltation.

USNVC/NatureServe: *Myrica gale* - *Chamaedaphne calyculata*/*Carex* (*lasiocarpa*, *utriculata*) - *Utricularia* spp. Shrub Herbaceous Vegetation [CEGL006302] and *Myrica gale* - *Spiraea alba* - *Chamaedaphne calyculata* Shrubland [CEGL006512]. In part *Chamaedaphne calyculata* - (*Gaylussacia bigeloviana*) - *Decodon verticillatus*/*Woodwardia virginica* Dwarf-shrubland [CEGL006008]; also in part *Decodon verticillatus* Semipermanently Flooded Shrubland [CEGL005089].