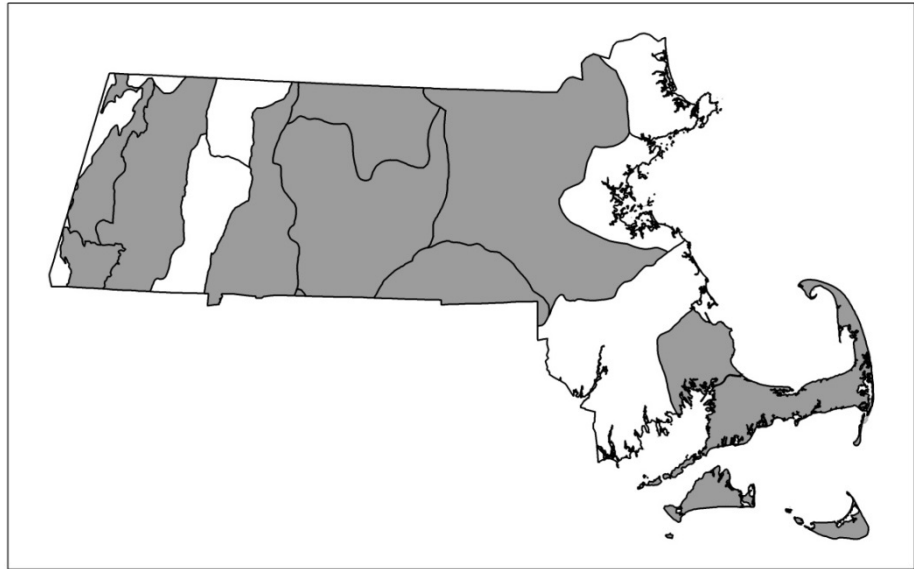




Shrub Swamp

Community Code: CP2AOC0000

State Rank: S5



Concept: Shrub-dominated wetlands occurring on mineral or mucky mineral soils that are seasonally or temporarily flooded.

Environmental Setting: Wetland shrubs dominate Shrub Swamps. Shrub height may be from <1m to 5 meters, of uniform height or mixed. Shrub density can be variable, from dense (>75% cover) to fairly open (25-75% cover), with graminoid, herbaceous, or open water areas between shrubs. These common, widespread communities can be found where the water table is at or above the soil surface for most of the year, in lowlands, along the margins of rivers, streams and other waterbodies, and along or within forested or herbaceous-dominated wetlands. Soils may be mineral or well-decomposed organic material.

Vegetation Description: The species composition of Shrub Swamps is highly variable within and among sites. Possible dominant and codominant shrub species include speckled alder (*Alnus incana* ssp. *rugosa*), smooth alder (*A. serrulata*), meadowsweet (*Spiraea alba* var. *latifolia*), steeplebush (*S. tomentosa*), buttonbush (*Cephalanthus occidentalis*), maleberry (*Lyonia ligustrina*), swamp azalea (*Rhododendron viscosum*), silky dogwood (*Swida amomum*), winterberry (*Ilex verticillata*), sweet gale (*Myrica gale*), willows including pussy willow (*Salix discolor*) and black willow (*S. nigra*), arrowwood (*Viburnum dentatum*), and poison sumac (*Toxicodendron vernix*). Shrub swamps in areas with circumneutral water often have abundant spicebush (*Lindera benzoin*). Low-growing, weak-stemmed shrubs include dewberry (*Rubus hispidus*), water-willow (*Decodon verticillatus*), and Canadian burnet (*Sanguisorba canadensis*). Trees tend to be scattered and stunted and may include red maple (*Acer rubrum*), gray birch (*Betula populifolia*), white pine (*Pinus strobus*), or other



species found in either forested swamps or adjacent uplands. In general, a shrub community will have <25% cover of tree canopy. Since shrubs often form dense thickets, the herbaceous layer of shrub swamps is often sparse and species-poor. A mixture of the following species is typical: common arrowhead (*Sagittaria latifolia*), skunk cabbage (*Symplocarpus foetidus*), ferns (especially cinnamon fern (*Osmundastrum cinnamomeum*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), and marsh fern (*Thelypteris palustris*)), sedges (*Carex* spp.), bluejoint grass (*Calamagrostis canadensis*), bur reed (*Sparganium* spp.), virgin's-bower (*Clematis virginiana*), swamp candles (*Lysimachia terrestris*), clearweed (*Pilea pumila*), and turtlehead (*Chelone glabra*). While nonvascular flora is not a major component, sphagnum has been recorded in substantial abundance in some occurrences. Invasive species include reed canary-grass (*Phalaris arundinacea*), glossy buckthorn (*Frangula alnus*), common buckthorn (*Rhamnus alnifolia*), and purple loosestrife (*Lythrum salicaria*).

Differentiating Occurrences: The physical and biological characteristics of Shrub Swamp, Acidic Shrub Fen, Highbush Blueberry Thickets, Fresh/ Brackish Tidal Shrubland, emergent marshes, and shoreline communities overlap and intergrade. They all lack tree cover (<25% canopy cover) and they are all on wet substrates. Shrub Swamps have >25% cover of tall shrubs with well-decomposed organic soils. If highbush blueberries (*Vaccinium corymbosum*) are dominant, the community is likely to be a Highbush Blueberry Thicket, a tall-shrub community occurring on peat. Acidic Shrub Fens are peatlands, dominated by low-growing shrubs with sphagnum moss and herbaceous species of varying abundance. Deep Emergent Marshes and Shallow Emergent Marshes are graminoid-dominated wetlands with <25% cover of tall shrubs. Acidic Pondshores/Lakeshores are broadly defined, variable shorelines around open water. Shorelines often merge into swamps or marshes. Fresh/Brackish Tidal Shrublands are dense to open shrublands along tidal sections of coastal rivers. Forested swamp communities such as Red Maple Swamp and its variants often contain a significant shrub component, and may include patches of shrub swamp where the tree canopy cover is <25%.

Associated Fauna: Many Shrub Swamps provide high-quality vernal-pool habitats. Relatively long hydroperiods ensure that amphibian larvae have plenty of time to develop, and the diverse vegetation structure provides both cover for larvae and egg-attachment substrates for breeding adults. Many species of migratory birds use the dense shrub thickets as protected nesting habitat. In the winter when the surface is frozen, browsers, including New England cottontail, have easy access to the shrubs and protection in the dense thickets. The larvae of many rare and common moth species feed on a variety of shrubs and associated herbaceous plants in Shrub Swamps throughout Massachusetts.

Public Access: Greenler Reservation (Essex County Greenbelt Association), Boxford; Tophet Swamp (Town of Westminster and North County Land Trust), Westminster; Jacobs Hill Reservation (The Trustees of Reservations), Royalston; Wekepeke WCE, Sterling; Nineteenth Hill WCE, Winchendon.



Threats:

Invasive species can include reed canary-grass (*Phalaris arundinacea*), common buckthorn (*Rhamnus alnifolia*), glossy buckthorn (*Frangula alnus*), and purple loosestrife (*Lythrum salicaria*).

Management Needs:

Maintain water quality and quantity, as well as natural hydroperiods. Control invasives where practical. Most types of shrub swamps are successional and need regular disturbance to be maintained in place, or they are maintained as parts of a larger area by disturbances moving over the landscape in time and space.

USNVC/NatureServe:

G167: Northern and Central Shrub Swamp - *Alnus incana* Swamp Shrubland [CEGL002381]; *Alnus serrulata* Eastern Shrubland [CEGL005082]; *Cephalanthus occidentalis* Semipermanently Flooded Shrubland [CEGL003908]; *Decodon verticillatus* Semipermanently Flooded Shrubland [CEGL005089]; *Cornus (amomum, sericea) - Viburnum dentatum - Rosa multiflora* Ruderal Shrubland [CEGL006576]; *Cephalanthus occidentalis - Decodon verticillatus* Shrubland Northeastern Buttonbush Shrub Swamp [CEGL006069]; *Alnus incana - Cornus (amomum, sericea)/Clematis virginiana* Shrubland [CEGL006062]; *Alnus incana - Viburnum recognitum/Calamagrostis canadensis* Shrubland [CEGL006546].