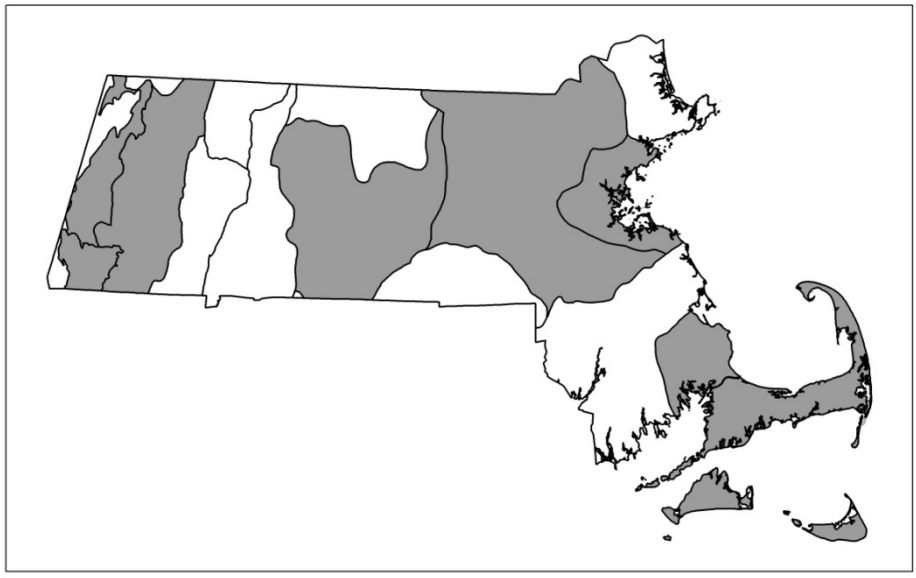
Deep Emergent Marsh

Community Code: CP2A0A1200

State Rank: S4



Concept: Tall graminoid/emergent herbaceous wetlands occurring on saturated, mucky mineral soils that are seasonally inundated and permanently saturated.

Environmental Setting: Deep Emergent Marshes occur along rivers and streams, lakes, artificial impoundments, and other waterbodies. Deep Emergent Marshes are generally flooded with half a foot to 3 feet of water year round, though water depth may vary not only during the growing season, but from year to year. Vegetation is primarily herbaceous and graminoid; species type and abundance vary with water depth. There may be areas of open water with little or no vegetation, except for aquatic plants. Deep Emergent Marshes often occur as patches in intergrading complexes of forested and shrub swamps and open water. The soils are a mixture of organic and mineral components, typically with a layer of well-decomposed organic muck at the surface overlying mineral soil. The movement of ice following thaws can disturb vegetation within marshes, particularly adjacent to open water. Depending on the amount of open water, wave action due to wind or boating may affect vegetation and sediment deposits.

Vegetation Description: Tall graminoids, like broad-leaved cattail (*Typha latifolia*) and phragmites (*Phragmites australis*), often form extensive dense stands. Narrow-leaved cattail (*Typha angustifolia*) occurs in more alkaline sites or in saline areas along roads. Other characteristic graminoids include wool-grass (*Scirpus cyperinus*), common threesquare (*Schoenoplectus pungens*), Canada bluejoint (*Calamagrostis canadensis* var. *canadensis*), reed canary-grass (*Phalaris arundinacea*), rice cut-grass (*Leersia oryzoides*), and tussock-sedge (*Carex stricta*). Herbaceous associates include arrow-leaf tearthumb (*Persicaria sagittata*), bulblet water-hemlock (*Cicuta*

bulbifera), swamp-candles (*Lysimachia terrestris*), beggar-ticks (*Bidens* spp.), bedstraw (*Galium* spp.), common arrowhead (*Sagittaria latifolia* var. *latifolia*), slender-leaved goldenrod (*Euthamia caroliniana*), and marsh-fern (*Thelypteris palustris* var. *pubescens*). Nutrient-rich sites in Berkshire County typically have cattails mixed with soft-stemmed bulrush (*Schoenoplectus tabernaemontani*), hard-stemmed bulrush (*S. acutus*), river-horsetail (*Equisetum fluviatile*), marsh-cinquefoil (*Comarum palustre*), sweet-flag (*Acorus calamus*), bristly sedge (*Carex comosa*), lakeside sedge (*C. lacustris*), and giant bur-reed (*Sparganium eurycarpum*), among others. Short shrubs including sweet-gale (*Myrica gale*), meadowsweet (*Spiraea alba* var. *latifolia*), and hardhack (*S. tomentosa*) may be scattered among tall graminoids. Tall shrubs such as speckled and smooth alders (*Alnus incana* and *A. serrulata*), and highbush blueberry (*Vaccinium corymbosum*) are generally sparse, totaling <25% cover. Invasive species include purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*).

Differentiating Occurrences: The physical and biological characteristics of emergent marsh, wet meadow, shrub swamp, and shoreline communities overlap and intergrade. The vegetation for all these types is broadly defined and understudied: focused surveys might establish which dominant species and hydrological situations define identifiable community types, or might determine that there is a continuum of types that require arbitrary separation. Deep Emergent Marshes are tall graminoid wetlands often dominated by cattails, phragmites, and wool-grass growing in water from a half foot to 3 ft. deep. Shallow Emergent Marshes are short graminoid/herbaceous wetlands and usually have shallow (averaging <6" deep) surface water all year. Shallow Emergent Marsh vegetation composition is similar to Deep Emergent Marsh, except that shorter grasses, sedges and rushes dominate. Shrub Swamps have >25% cover of shrubs. Wet Meadows are graminoid wetland subtypes of emergent marshes, typically with a single sedge or grass species dominating. Standing water is not present throughout the growing season as in emergent marshes. Kettlehole Wet Meadows occur in small basins on mucky peat. Coastal Plain Pondshore Communities and Coastal Plain Pondshore Communities - Inland Variant are generally on sand in closed basins that intersect groundwater. The exposed shoreline supports herbaceous species not generally dominated by dense graminoids. Acidic Pondshores/Lakeshores are broadly defined, variable shorelines around open water, not explicitly included in calcareous or coastal plain pondshores. The shoreline is often not distinct, merging into emergent marsh or other wetlands. Bogs and fens are peatlands, with peat instead of mucky mineral soil; however, gradations do exist.

Associated Fauna: Deep Emergent Marsh is the primary nesting habitat for a suite of secretive marshbirds (rails, bitterns, grebes, and moorhens). This habitat also provides important nesting habitat for other birds of high conservation interest, such as Marsh Wren, Northern Harrier, and a variety of ducks. Deep Emergent Marsh habitat supports many species of frogs and salamanders, especially leopard, pickerel, green, and bull frogs, and some vernal-pool obligate species, such as wood

frogs and spotted salamanders, may use areas of Deep Emergent Marsh for egg-laying if the areas are fish free.

Public Access: Hop Brook WMA, Tyringham; Quaboag River WMA, East Brookfield/Brookfield/ West Brookfield; Pantry Brook WMA, Sudbury.

Threats: Deep Emergent Marshes are threatened by filling and dredging, impoundments that alter natural water-level fluctuations, and by nutrient inputs from adjacent roads, fields, or septic systems. Invasive species are a significant threat. Reed canary-grass (*Phalaris arundinacea*) can collect sediments that alter water depths and reduce habitat variability. Common reed (*Phragmites australis*) can also form monocultural stands that out-compete native species. Purple loosestrife (*Lythrum salicaria*) has a similar range of water depth requirements as cattails, and will gradually invade and become abundant in such systems.

Management Needs: Control of exotics. Maintain normal water level and fluctuation.

USNVC/NatureServe: G125. Eastern North American Freshwater Marsh: A1436 *Typha angustifolia* - *Typha latifolia* - *Schoenoplectus* spp. Deep Marsh Herbaceous Alliance - *Typha* (*angustifolia*, *latifolia*) - (*Schoenoplectus* spp.) Eastern Herbaceous Vegetation [CEEGL006153]; A3664 *Schoenoplectus acutus* - *Schoenoplectus fluviatilis* - *Schoenoplectus tabernaemontani* Deep Marsh Herbaceous Alliance - *Schoenoplectus* (*tabernaemontani*, *acutus*) Eastern Herbaceous Vegetation [CEGL006275]; *Schoenoplectus fluviatilis* Herbaceous Vegetation [CEGL006366]; Calcareous *Schoenoplectus acutus* - *Carex lasiocarpa* Herbaceous Vegetation [CEGL006358]; A3669 *Peltandra virginica* - *Pontederia cordata* - *Sagittaria* spp. Herbaceous Alliance - CEGL006191 *Pontederia cordata* - *Peltandra virginica* - *Sagittaria latifolia* Herbaceous Vegetation. G556. Northern and Central Ruderal Wet Meadow and Marsh - A1431 *Phragmites australis* ssp. *australis* Ruderal Herbaceous Alliance - *Phragmites australis* Eastern North America Temperate Ruderal Herbaceous Vegetation [CEGL004141]; A1381 *Phalaris arundinacea* Herbaceous Alliance ALSO Shallow Emergent Marsh - *Phalaris arundinacea* Eastern Herbaceous Vegetation [CEGL006044].