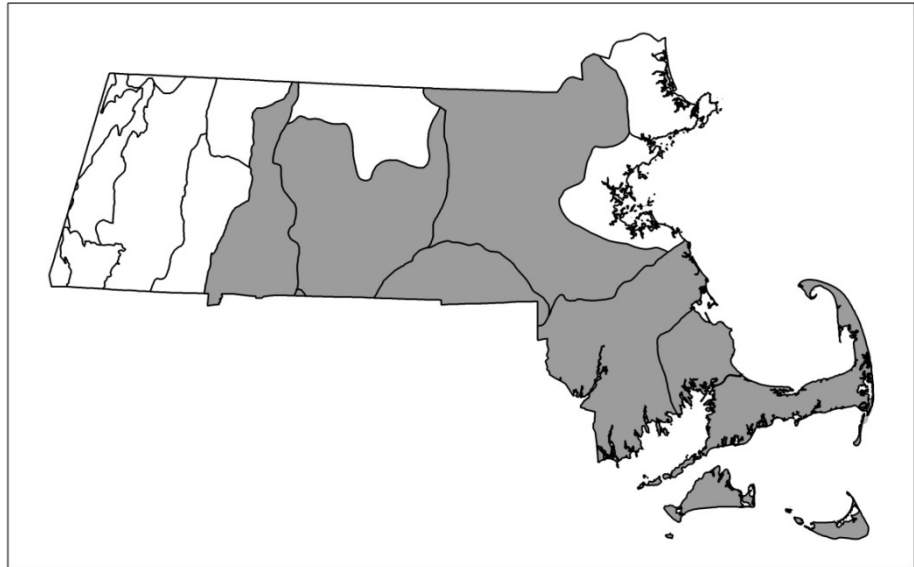




## Red Maple Swamp

**Community Code:** CP1A2A1000

**State Rank:** S5



**Concept:** Acidic forested swamps with red maple dominant in the overstory. Red Maple Swamps are the most common forested wetlands in Massachusetts.

**Environmental Setting:** Red Maple Swamps occur in many different physical settings. Golet et al. (1993) describe three basic types: hillside seeps and upland drainage ways fed primarily by groundwater seepage and overland flow; seasonally flooded basin swamps in undrained basins in till or stratified drift (or low-lying areas in outwash as on Cape Cod); and alluvial swamps on low-lying floodplains, oxbows, or river terraces. The last category is classified separately in Massachusetts; see the description for Alluvial Red Maple Swamp. Depending on the physical setting, Red Maple Swamps receive water through surface runoff, groundwater inputs, or stream and lake overflow. The hydrogeologic setting is the primary determinant of water regime and the plant community structure and composition. pH ranges from less than 4 to 7. Soils have shallow to thick organic layers overlying mineral sands/silts.

**Vegetation Description:** Red maple (*Acer rubrum*) is usually strongly dominant in the overstory, and often provides more than 90% of the canopy cover. A variable mixture of tree species co-occurs with red maple, including yellow birch (*Betula alleghaniensis*), black gum (*Nyssa sylvatica*), white ash (*Fraxinus americana*), white pine (*Pinus strobus*), American elm (*Ulmus americana*), hemlock (*Tsuga canadensis*), pin oak (*Quercus palustris*), and swamp white oak (*Quercus bicolor*). Atlantic white cedar (*Chamaecyparis thyoides*) is a common associate in coastal areas and locally at sites in central Massachusetts and the lower Connecticut Valley. When Atlantic white cedar is dominant in the overstory, the community is classified as an Atlantic white cedar swamp. The shrub layer of Red Maple Swamps is often dense and



well-developed, generally with >50% cover, but it can be variable. In eastern Massachusetts, sweet pepper-bush (*Clethra alnifolia*) and swamp azalea (*Rhododendron viscosum*) are the dominant shrubs, often dense and bound together by greenbriers (mainly *Smilax rotundifolia*). Other common shrubs are highbush blueberry (*Vaccinium corymbosum*) and common winterberry (*Ilex verticillata*), which are often dominant, along with spicebush (*Lindera benzoin*). In richer areas, northern arrow-wood (*Viburnum dentatum* var. *lucidum*), speckled alder (*Alnus incana* ssp. *rugosa*), nannyberry (*Viburnum lentago*), and poison sumac (*Toxicodendron vernix*) also occur. The herbaceous layer is highly variable, but ferns are usually abundant. Cinnamon fern (*Osmundastrum cinnamomeum*) is common; other ferns include sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), marsh fern (*Thelypteris palustris*), and spinulose wood fern (*Dryopteris carthusiana*). Skunk cabbage (*Symplocarpus foetidus*) is one of the most common herbaceous species. Graminoids are common, mixed with a variety of herbaceous species. Variants of Red Maple Swamps associated with groundwater seepage usually have a richer flora than depressional occurrences, with multiple species mixed in the canopy and an even more diverse herbaceous layer.

**Differentiating Occurrences:** Red Maple Swamp is a broadly defined red maple-dominated community type. Several fairly distinctive types have been defined separately. Alluvial Red Maple Swamps occur along low-gradient rivers and receive river flood waters. Silver maple is often a codominant with red maple. Alluvial Hardwood Flats are along small, flashy streams, usually have black cherry and white pine abundantly in the canopy, and have ironwood and alternate-leaved dogwood mixed with other shrub species. Red Maple - Black Ash Swamps are an enriched variant of Red Maple Swamps, with black ash close to codominant in the canopy/subcanopy in at least parts of the swamp. Red Maple - Black Ash - Bur Oak Swamps occur in Berkshire County and have bur oak or bur oak/swamp white oak hybrid trees. Red Maple - Black Gum Swamps are generally in small, topographically constrained basins surrounded by upland forests. Black gum needs to be abundant in large areas of the swamp. Black Gum - Pin Oak - Swamp White Oak Perched Swamps occur in the Connecticut River Valley on glacial Lake Hitchcock lakebed sediments. The presence of fairly high proportions of black gum, pin oak, and swamp white oak in the canopy, in addition to the topographic setting, distinguish the type. When Atlantic white cedar is dominant in the overstory, the community is classified as an Atlantic white cedar swamp.

**Associated Fauna:** Red Maple Swamps contribute variation to the habitats of many wide-ranging wildlife species. Songbirds of swamp forest are similar to the birds of structurally similar upland forests, but the dense shrub layers provide excellent nesting locations for birds of thickets. The amount of escape cover and water availability makes swamps important habitat for many species of small mammals. Ground-dwelling species, such as reptiles and amphibians, are affected by the presence of wet or moist soils in swamps, and tend to use them for breeding and feeding. Parts of Red Maple Swamps that have two or three months of ponding and



lack fish can function as vernal pools; these sections provide important amphibian breeding habitat.

**Public Access:**

Red Maple Swamps literally occur state-wide. Because they are so widespread and abundant, NHESP does not usually keep track of occurrences. Examples on public lands from the NHESP database are in the Quaboag WMA, West Brookfield, and Haskell Swamp WMA, Rochester.

**Threats:**

Conversion to agriculture; filling for development and highway construction; upland development adjacent to swamps impacting normal hydrology and geochemistry.

**Management Needs:**

Control of glossy buckthorn (*Frangula alnus*).

**USNVC/NatureServe:**

*Acer rubrum/Nemopanthus mucronatus - Vaccinium corymbosum* Forest (CEGL006220); *Acer rubrum/Carex stricta - Onoclea sensibilis* Woodland (CEGL006119); *Acer rubrum/Carex lacustris* Woodland (CEGL006105).