



Red Maple – Black Ash – Bur Oak Swamp

Community Code: CP1B2B1000

State Rank: S2



Concept: Deciduous swamp forest occurring in areas with somewhat enriched circumneutral groundwater. The tree canopy is close to continuous.

Environmental Setting: Red Maple - Black Ash - Bur Oak Swamps are forested wetland communities on flat but hummocky terrain, characterized by a generally closed (but varying from continuous to scattered) canopy at 60 ft. or higher. The hummock - hollow topography supports a variety of species from herbaceous emergents in the hollows to shrubs and trees on the hummocks. The community occurs in western Massachusetts within the eastern edge of the range of bur oak, where somewhat nutrient-enriched circumneutral, but not calcareous, groundwater occurs. Soils are a mucky mix of mineral and organic, silt and sandy loams, with pH ranges generally 5.1 to 7.3. The sediments are saturated throughout the year; in the spring hollows are filled with water but by late summer many have dried to bare surfaces or leaf litter, supporting plants tolerant of the changing moisture regime.

Vegetation Description: The canopy is a variable mixture of deciduous and occasionally coniferous trees. Red maple (*Acer rubrum*), black ash (*Fraxinus nigra*), and bur oak (*Quercus macrocarpa*) are the most common. Swamp white oak and white oaks (*Q. bicolor* and *Q. alba*) are present and hybridize with bur oak. Associated tree species include green ash (*F. pennsylvanica*), slippery and American elms (*Ulmus rubra* and *U. americana*), sugar maple (*A. saccharum*), and yellow birch (*Betula alleghaniensis*). When present, eastern hemlock (*Tsuga canadensis*), tamarack (*Larix laricina*), and white pine (*Pinus strobus*) are generally scattered, but sometimes locally abundant. The subcanopy has a similar composition, often dominated by black ash. The shrub layer is generally patchy, with highbush blueberry (*Vaccinium corymbosum*),



winterberry (*Ilex verticillata*), hornbeam (*Carpinus caroliniana*), and black ash, with witch-hazel (*Hamamelis virginiana*) and spicebush (*Lindera benzoin*) near the edges. The herbaceous layer is variable and moderately diverse although dominated by tussock sedge (*Carex stricta*) and skunk cabbage (*Symplocarpus foetidus*). Other typical herbaceous layer species are common horsetail (*Equisetum arvense*), awned sedge (*Carex crinita*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), foamflower (*Tiarella cordifolia*), goldthread (*Coptis trifolia*), marsh marigold (*Tiarella cordifolia*), and northern blue flag (*Iris versicolor*). Poison sumac (*Toxicodendron vernix*) is uncommon. Even in open areas, true calciphiles (calcium-loving) species are absent. Invasive species established in areas of past disturbances include the aggressive exotics Japanese barberry (*Berberis thunbergii*), glossy buckthorn (*Frangula alnus*), and phragmites (*Phragmites australis*).

Differentiating Occurrences: Red Maple - Black Ash - Bur Oak Swamps are similar in structure and species composition to Red Maple - Black Ash Swamps), but bur oak swamps occur in Berkshire County near marble/limestone bedrock and black ash swamps occur east of Berkshire County. Both are forested wetlands with fairly closed canopies, but only the bur oak swamps have bur oak or bur oak/swamp white oak hybrids. A detailed study would be needed to determine other differences or similarities between the two community types. Bur oak swamps are often geographically close to Red Maple - Black Ash - Tamarack Calcareous Seepage Swamps (calcareous seepage swamps); however, bur oak swamps are more forest-like with taller trees and more closed canopies, with stands of bur oak or bur oak/swamp white oak hybrids more likely than in calcareous seepage swamps. The clearest differentiation may be that even in openings, bur oak swamps do not have the strong calciphiles found in calcareous seepage swamps. (Calciphiles include shrubby cinquefoil (*Dasiphora floribunda*), grass-of-Parnassus (*Parnassia glauca*), Kalm's lobelia (*Lobelia kalmii*), alder-leaf buckthorn (*Rhamnus alnifolia*), hemlock parsley (*Conioselinum chinense*), autumn and hoary willows (*Salix serissima* and *S. candida*), and slender cotton-grass (*Eriophorum gracile*).

Associated Fauna: Swamps can function as vernal pool habitat if water remains standing for 2-3 months and they lack fish; these areas provide important amphibian breeding habitat.

Public Access: George L. Darey Housatonic Valley WMA, Lenox.

Threats: Logging, alteration of water levels, and invasive species are the primary threats. Beavers and windthrow are locally dominant processes that could lead to a shift to a shrubland if canopy dominants are not able to regenerate. Invasive species are established in areas of disturbances such as canopy opening and water level changes, including the aggressive exotics Japanese barberry (*Berberis thunbergii*), glossy buckthorn (*Frangula alnus*) and phragmites (*Phragmites australis*).

Management Needs: Removal/control of non-native plant species.



USNVC/NatureServe:

Fraxinus nigra - *Acer rubrum* Saturated Forest Alliance: CEGLO06502 *Acer rubrum* - *Fraxinus nigra* - (*Tsuga canadensis*)/*Tiarella cordifolia* Forest. Related to *Acer rubrum* - *Fraxinus pennsylvanica* Seasonally Flooded Forest Alliance CEGLO06630: *Acer (rubrum, saccharinum)* - *Fraxinus pennsylvanica*/*Ilex verticillata*/*Osmunda regalis*/Forest and Midwestern CEGLO02098- *Quercus macrocarpa* - *Quercus bicolor* - *Carya laciniosa*/*Leersia* spp.- *Cinna* spp. Forest.