

Oak - Hemlock - White Pine Forest

State Rank: S5 - Secure



Oak - Hemlock - White Pine Forest with sparse shrub layer. Photo: Michael Batchner.

Description: The Oak - Hemlock - White Pine Forest (OHWPF) is the broadly defined matrix forest of lower-elevation areas of eastern and south-central Massachusetts with extensions north and west on warm south facing slopes. OHWPF are commonly on mid- and upper slopes on acidic soils. Reforestation after farm abandonment and ongoing human land use establish and maintain early- and mid-successional forests as well as blurring the line between the OHWPF and northern hardwood forests in cooler areas. Within the general OHWPF type recurrent variants are named: many are successional stages, some are distinct species mixes of particular conditions. Many of the sites called OHWPF lack distinctive characteristics of named subtypes.

Oak - Hemlock - White Pine Forest is a mixed conifer-hardwood community common on dry, acidic, low-nutrient mid-slopes in the eastern and south-central part of the state. At higher elevations, this forest is found on south facing slopes.

Characteristic Species: Oak - Hemlock - White Pine Forest is dominated by a variable mix of white, scarlet, chestnut, black, and red oaks, red maple, American beech, black cherry, and black birch in association with scattered hemlock and white pine. Either conifer may occur in small patches. Some white pines emerge above the deciduous canopy. American chestnut sprouts are common. The shrub layer is generally patchy and sparse, with witch-hazel, mountain laurel, lowbush blueberry, huckleberry, and maple-leaved viburnum typically present. The herbaceous layer also tends to be somewhat sparse with little diversity, but often includes wintergreen, wild sarsaparilla, wild oats, Indian cucumber, star flower, fringed bindweed and Canada mayflower.



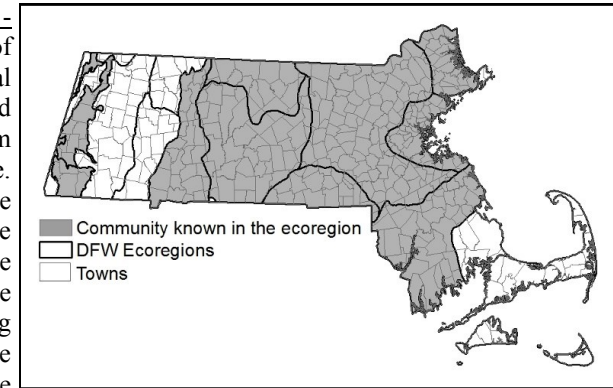
Chestnut sprout and mixed trees in a OHWP Forest. Photo: Patricia Swain, NHESP.

Differentiating from Related Communities: OHWP Forest is the most broadly defined of a continuum of oak dominated forests; specific types are split out from this matrix type. OHWPF is dominated by a mix of tree oaks with scattered white pine and hemlock, either of which may be in local dense patches. Occurrences have a large amount of

internal variation. White Pine - Oak Forest has >25% cover of white pine overall (not just local patches). The rest of the related forest types in the oak continuum lack significant conifer presence. Oak - Hickory Forest is on the less acidic and moister end of the oak continuum; hickories are present in the canopy. The subcanopy often has flowering dogwood and hop hornbeam. The shrub and herbaceous layers are generally diverse. Dry, Rich Oak Forest/Woodland, also on the less acidic end of the oak continuum, includes low percentages of sugar maple and white ash, and has a diverse herbaceous layer that includes false foxgloves and multiple legumes. Mixed Oak Forest/Woodland tends to be on dry acidic soils and exposed slopes with an open canopy (<75% cover) and an understory dominated by heath species. Coastal Forest/Woodland is within a few miles of the coast at <~60 ft. elevation and receives storm winds and spray. The diverse canopy includes oaks and often has American holly, sassafras, and black gum. In the northern part of its range, the OHWPF tends to be on south facing slopes and is surrounded by Northern Hardwoods - Hemlock - White Pine Forest (NHHWPF) that is dominated by sugar maple and white ash. In NHHWPF the only oak is red oak and the only hickory is bitternut hickory, which is not common in OHWPF.

Habitat for Associated Fauna:

All of the upland forest types provide valuable structural attributes such as tree cavity den sites (which are utilized by a



variety of bird and mammal species) and large woody material (which is utilized by various amphibian, reptile, and invertebrate species). Oak acorn production, an important source of wildlife food, is substantially greater in oak forest types than in northern forest types. Oaks and acorns play a fundamental role in the organization and dynamics of wildlife communities.

Examples with Public Access:

Hiram Fox WMA, Worthington; East Brimfield Lake property (USACE), Brimfield; Conant Brook Dam property (USACE), Monson; Wolf Swamp WMA, Brookfield; 19th Hill WCE, Winchendon.



Young OHWP Forest with low shrub understory. Photo: Patricia Swain, NHESP.

