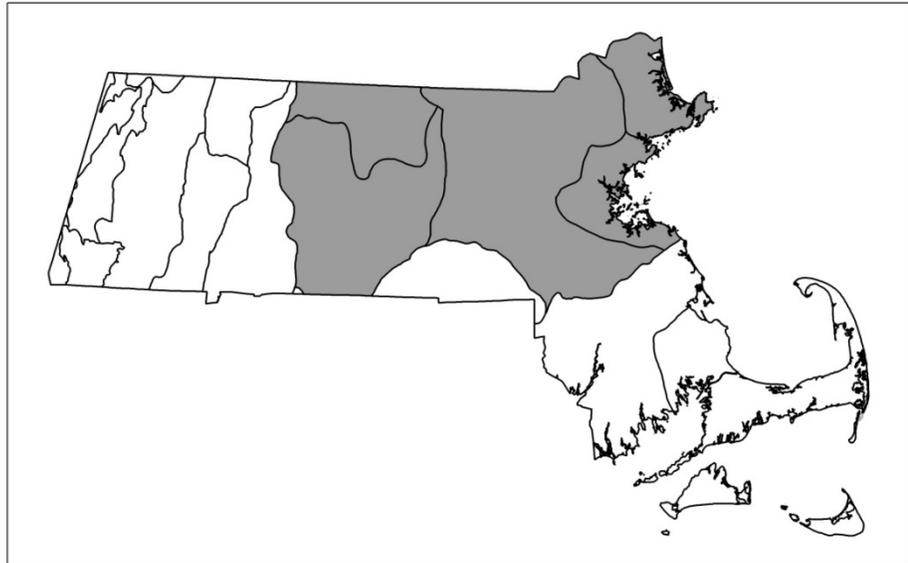




Oak – Hickory Forest

Community Code: CT1B2B0000

State Rank: S4



Concept: A somewhat enriched hardwood forest dominated by a mixture of oaks, with hickories mixed in at a lower density.

Environmental Setting: Oak - Hickory Forest is a somewhat enriched hardwood forest dominated by a mixture of oaks, with hickories mixed in at a lower density. They occur on well-drained sites, such as ridgetops or slopes, often with southwest-, south-, or southeast-facing aspects. The canopy is closed to interrupted (~67% cover), the shrub layer diverse with dense patches, and the herbaceous layer diverse but scattered. The duff layer may be deep with undecomposed oak leaves. Many occurrences are rocky. A fire history is evident at some of these sites. The forest may include or surround small patches of rock outcrop or Hickory – Hop Hornbeam Woodland, and be surrounded itself by White Pine – Oak or Oak – Hemlock – White Pine Forests.

Vegetation Description: Oak - Hickory Forest is a broadly defined, variable forest type. The canopy is dominated by one or several oaks (*Quercus rubra*, *Q. alba*, and *Q. velutina* with *Q. coccinea* and/or *Q. montana*). Mixed in are lower densities of one or several hickories (*Carya ovata*, *C. tomentosa*, *C. glabra*, or *C. cordiformis*). Occasional other trees include white ash (*Fraxinus americana*), black birch (*Betula lenta*), sassafras (*Sassafras albidum*), and red maple (*Acer rubrum*). If present, conifers (white pine (*Pinus strobus*) and/or eastern hemlock (*Tsuga canadensis*)) constitute <25% cover. A subcanopy/tall shrub layer (usually 25-50% cover) commonly includes hop hornbeam (*Ostrya virginiana*), flowering dogwood (*Benthamedia florida*), downy shadbush (*Amelanchier arborea*), American chestnut (*Castanea dentata*), and witch-hazel (*Hamamelis virginiana*). Low shrubs are often diverse and generally



sparse, but dense in patches: maple-leaved viburnum (*Viburnum acerifolium*), blueberries (*Vaccinium angustifolium* and *V. pallidum*), beaked and American hazelnut (*Corylus cornuta* and *C. americana*), and gray dogwood (*Swida racemosa*) may be present. The herbaceous layer is also richer than in many oak forests. Plants typical of the herbaceous layer include silverrod (*Solidago bicolor*), tick-trefoils (*Desmodium glutinosum* and *D. paniculatum*), wild sarsaparilla (*Aralia nudicaulis*), rattlesnakeweed (*Hieracium venosum*), false Solomon's seal (*Maianthemum racemosum*), pink lady's slipper (*Cypripedium acaule*), and patches of long-beaked Pennsylvania sedge (*Carex lucorum*) or Pennsylvania sedge (*C. pensylvanica*).

Differentiating Occurrences: Oak - Hickory Forests are in the middle to moist end of a continuum of dry, acidic forests that are dominated by tree oaks. They are more diverse in all the forest layers than many oak forests/woodlands in the continuum. The canopies of Oak - Hickory Forests are generally closed or almost closed (averaging > 67% cover). White and black oaks usually dominate the canopy, with red or chestnut oaks producing additional canopy cover. Hickories and scarlet oaks are consistently present but not dominant. Hickory - Hop Hornbeam Forests/Woodlands have a park-like appearance, with a sparse shrub layer and a distinctive sedge understory. Hickories dominate the canopy with hop hornbeam forming a subcanopy. Dry, Rich Oak Forests might be an open, early successional variant of Oak - Hickory Forests that is maintained by regular or severe disturbance, particularly fire. Both lack abundant sugar maple, basswood, and white ash, and lack spring ephemerals and herbaceous species indicative of rich conditions found in Sugar Maple - Oak - Hickory Forests. Sugar Maple - Oak - Hickory Forest has fewer legumes and more spring ephemerals and herbaceous species indicative of rich conditions, such as herb Robert, wild geranium, and baneberry, than Oak - Hickory Forests. Red Oak - Sugar Maple Transition Forests have a greater dominance of red oak and sugar maple than Oak - Hickory Forests, and they have few hickories. Mixed Oak Forests/Woodlands lack abundant hickories and flowering dogwood and have a continuous low shrub layer formed by members of the blueberry family not found in Oak - Hickory Forests. Oak - Hemlock - White Pine Forests are the most broadly defined in the continuum of oak-dominated forests; Oak - Hickory Forests with abundant hickories are split out from this matrix type. White Pine - Oak Forests have >25% cover of white pine overall (not just local patches). Pitch Pine - Oak Forests have >25% cover of pitch pine overall (not just local patches).

Associated Fauna: There are no species known to be restricted to Oak - Hickory Forests. Wide-ranging species would include occurrences of this forest type as parts of their habitats, particularly when acorns are available. Wild Turkeys (*Meleagris gallopavo*) are found in primarily oak areas. Dry oak forests support a smaller mix of animal species than are found in moister communities. Common species of dry sites include short-tailed shrew (*Blarina brevicauda*), white-footed mouse (*Peromyscus leucopus*), and chipmunk (*Tamias striatus*). Snakes of dry forest sites include garter snakes (*Thamnophis sirtalis*) and redbelly snakes (*Storeria o. occipitamaculata*). Birds that nest in oak forests include Eastern Wood-Pewee (*Contopus virens*), Red-eyed Vireo (*Vireo olivaceus*), Scarlet Tanager (*Piranga olivacea*), and Ovenbird



(*Seiurus aurocapillus*). Moths, butterflies, and other insects of Oak - Hickory Forests include the orange sallow moth (*Pyrrhia aurantiago*, Special Concern).

Public Access:

J.C. Phillips Sanctuary, Boxford; Wachusett Meadow Wildlife Sanctuary (Massachusetts Audubon Society), Princeton; Camels Hump, Quabbin Reservoir Watershed, Petersham; Palmer WMA, Palmer; Moose Hill Wildlife Sanctuary (Massachusetts Audubon Society), Sharon.

Threats:

Invasive species, especially in richer areas. Many occurrences are remnants of formerly larger forests; further fragmentation would increase isolation.

Management Needs:

USNVC/NatureServe:

A2053 *Quercus alba* - *Carya* spp. - *Fraxinus americana* Forest Alliance -- *Quercus* (*alba*, *rubra*, *velutina*) - *Carya* spp./*Viburnum acerifolium* Forest [CEGL006336]. Broadly includes (CEGL006301 in A2053) but that is more explicitly Dry, Rich Oak Forest and Hickory Hop Hornbeam (although the colloquial name is Oak-Hickory/Hop Hornbeam/Sedge Forest).