

Oak - Tulip Tree Forest

State Rank: S1 - Critically Imperiled



Red maple and tulip tree in an Oak - Tulip Tree Forest in the fall. Photo: P.C. Swain, NHESP.

Description: Oak - Tulip Tree Forests are tall closed canopy forests that occur from upper mid slope to the bottom of moist concave, north or east facing slopes. The forest grades into wetland forests on flats at the base of the slopes. Soils are moist and generally well drained, circumneutral to acidic, with intermediate fertility. Some sites are very rocky. Leaf litter covers most of the ground with moss covered rocks and a patchy diverse herbaceous layer.

Oak -Tulip Tree Forests are characterized by tall, often emergent, tulip trees, mature red oaks, and scattered other trees. Occurrences are small patches on moist warm slopes in south central and western Massachusetts.

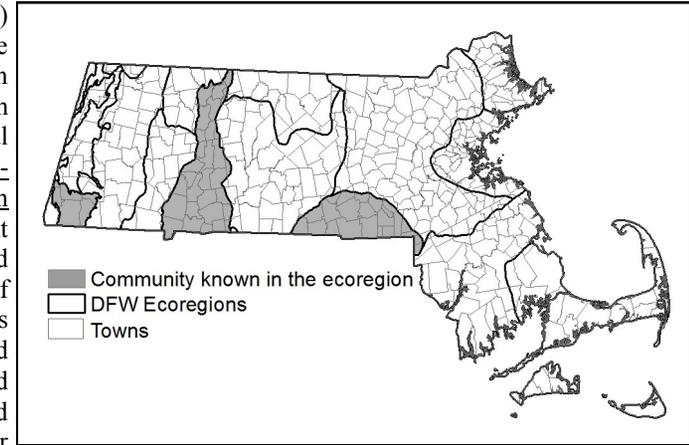
Characteristic Species: In Oak - Tulip Tree Forests, tulip trees are emergent (over 100 ft.) above an already tall canopy dominated by red oak with red and sugar maples, black and yellow birches, white and black oaks, sassafras, white ash, and additional tulip trees. A subcanopy/tall shrub layer may include the same species with scattered white pine, eastern hemlock, striped maple, and witch-hazel. Witch hazel is often the most dominant shrub with abundant maple-leaf viburnum. Other sites have patches of mountain laurel and beaked hazelnut in the shrub layer. The diverse herbaceous layer covers about a third of the ground, with leaf litter covering the rest. Common herbaceous species include small jack-in-the-pulpit, false Solomon's seal, ground pine, New York fern, Indian cucumber, Christmas fern, white wood-aster, wild oats, and two-leaved toothwort. Wetland species such as skunk cabbage, sweet pepperbush, and highbush blueberry can become common towards the base of the slopes when the community grades into wetlands.



Tulip tree leaves and flower.
Photo: William M. Ciesla, Forest Health Management International, Bugwood.org.

Differentiating from Related Communities: The key feature that differentiates Oak - Tulip Tree Forests from other communities is the presence of multiple mature tulip trees (not just

occasional individuals) with a strong dominance of red oak (>25%) in association with both northern and central hardwoods. Red Oak - Sugar Maple Transition Forest is very similar but lacks the tulip trees, and lacks a strong mix of species of northern areas (sugar, mountain, and striped maples and bluebead lily) combined with more southern or coastal species (called central hardwoods) (tulip tree and sassafras). Other types of oak forest lack large populations of tulip trees and sugar maples.



Habitat for Associated Fauna: All upland forest types provide valuable structural attributes such as tree cavity den sites (used by a variety of bird and mammal species) and large woody material (used by various amphibian, reptile, and invertebrate species). These small patch communities would constitute only parts of the habitats of many animals found in them. Acorns are important for wildlife including white-tailed deer, black bear, grey squirrels, and other small rodents. Birds include Wild Turkeys in areas with sufficiently large forests to provide all the habitat needs. Song birds typical of oak forests would be expected. Likely amphibians would include northern redback salamanders and spotted salamanders. Ringneck snake and redbelly snake would be expected.

Examples with Public Access: Robinson SP, Agawam; Douglas SF, Douglas.



Typically tall straight tulip tree in Oak - Tulip Tree Forest. Photo: Ted Elliman, New England Wild Flower Society.

