

Hemlock Swamp

State Rank: S4 - Secure



Typically shaded Hemlock Swamp with trees on hummocks and dense ferns. Photo: Patricia Swain, NHESP.

Description: Hemlock Swamps are characterized by a dense tree canopy dominated by mature eastern hemlock that allows little light to reach the forest floor. Due to the nearly closed and mostly coniferous canopy, the understory is usually low in overall plant diversity, with patches of ferns and extensive areas of sphagnum mosses. Hemlock Swamps tend to occur in large or long depressions that often contain standing water and small intermittent streams. Trees grow on hummocks in a hummock-hollow topography. The hollows have wetter organic, peaty soils that are saturated throughout the year.

Characteristic Species: Eastern hemlock is the dominant tree species in Hemlock Swamps. Hemlock forms stands with dense canopies alone or mixed with lower amounts of white pine, red maple, or yellow birch. The hemlock dominated canopy allows little light through to support plants in lower strata, resulting in

Hemlock Swamps are acidic forested wetlands where eastern hemlock is dominant or codominant in the canopy. They occur in poorly drained basins throughout the state where the organic soils are saturated throughout the year.

a patchy subcanopy that is usually comprised of the overstory species growing in occasional canopy gaps created by windthrows. The poorly developed shrub layer has sparse and patchy cover with hemlock most characteristic: the saplings may persist in the understory for many decades, to be released to grow to maturity when canopy gaps occur. Typical shrubs include winterberry, mountain laurel, highbush blueberry, and mountain holly. Ferns are common, especially cinnamon fern, along with goldthread, partridgeberry, and wild sarsaparilla. The hummocky ground layer is covered with sphagnum moss, other mosses, and liverworts.



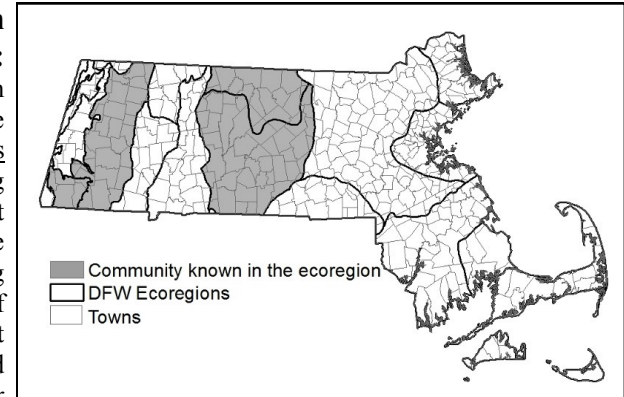
Eastern hemlock branch with green cones and hemlock wooly adelgid, a non-native invasive species that damages and kills hemlocks. Photo: Chris Evans, University of Illinois, Bugwood.org.

Differentiating from Related Communities:

Many swamps have eastern hemlock as a component of the canopy but Hemlock Swamps are differentiated by having eastern hemlock as the dominant canopy species throughout the community. All the following may have scattered patches of hemlock, but hemlock is not dominant overall. All but Red Spruce Swamps have greater diversity and density in all layers than do Hemlock Swamps. In cooler parts of the state, Hemlock Swamps grade into Red Spruce Swamps, differentiated by the dominance of red spruce: lower strata in this community, like Hemlock Swamps, are sparse. Rich Conifer Swamps are characterized by a canopy of mixed conifers and deciduous trees, and species such as spicebush that indicate less acidic conditions with greater nutrient availability. Atlantic White Cedar (AWC) Swamps are dominated by AWC. Red Maple Swamps and named variants such as Red Maple - Black Gum Swamps are dominated by deciduous trees, particularly red maple.

Habitat for Associated Fauna:

Hemlock Swamps are part of habitat of large mobile animals. Ground level browsers, including white tail deer, snow shoe hare, and New England cottontail, use shrubby areas in the community. Conifer swamps tend to have dense shade and are relatively cool in the summer, making them preferred areas for moose.



Birds that nest or forage in canopies or mid-sections of conifer trees don't differentiate as to whether the site is wet or not: many birds of upland conifer forest also use Hemlock Swamps.

Examples with Public Access: Three Mile Pond WMA, Sheffield; Appalachian Trail Corridor, Tyringham; Otis SF, Otis; Ware River Watershed (DCR), Rutland; Wolf Swamp WMA, Brookfield.



Hemlock Swamp with trees on hummocks. Photo: Patricia Swain, NHESP.

