

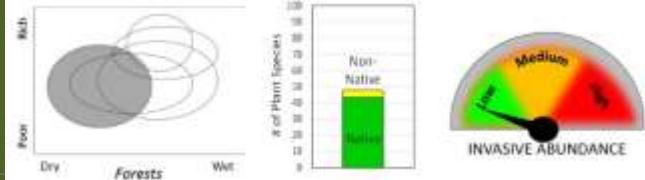
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Oak-Hickory Forest



Upland Forest: Oak-Hickory

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Oak-Hickory Forest is one of our mature (and often ancient) upland forest habitats. Oaks predominate while hickories can be relatively inconspicuous. The other trees are primarily deciduous. The canopy can be tall and continuous; stunted and somewhat irregular; or anything in-between. There tends to be some vegetation on the ground, but only a moderate amount of shrubs and small trees. This tends to be the forest of our hills, especially of dry and often rocky hilltops and upper slopes.

How to Recognize It

Walking into an Oak-Hickory Forest is usually relatively easy – the sparse understory offers few obstacles. Underfoot, the slow-to-decompose leaves of the oaks mean there is often a dry, crunchy leaf litter. As the browns and subdued burgundies of an autumn Oak-Hickory Forest hillside attest, these forests are oak dominated, from the dark-barked Red and Black Oaks to the lighter-barked White Oak or the deeply furrowed, oft-twisted Chestnut Oak. Red Maple is usually also quite common, while the scaly trunks of Shagbark Hickory can appear here and there, together with the more subtle Pignut Hickory. Other deciduous trees, as well as White Pine and Hemlock may also occur.

This is a nice forest for appreciating the understory – the delicate Hophornbeam, the autumn-flowering Witchhazel, the purplish trunks of Serviceberry with their occasional witch's brooms, and the evidently photosynthetic bark of Striped Maple. Traces of past glory (we would have given this habitat a different name 100 years ago!) persist in some stands where the root shoots of American Chestnut grow up around dead stumps. Closer to the ground, one sometimes finds Lowbush Blueberry. The ground flora is not diverse but can occur in conspicuous patches, such as lawns of Pennsylvania Sedge or miniature forests of Bracken Fern. Invasive species are few. The herbaceous plants are worth a closer look since we found several rare species (see table) in this habitat.

Location

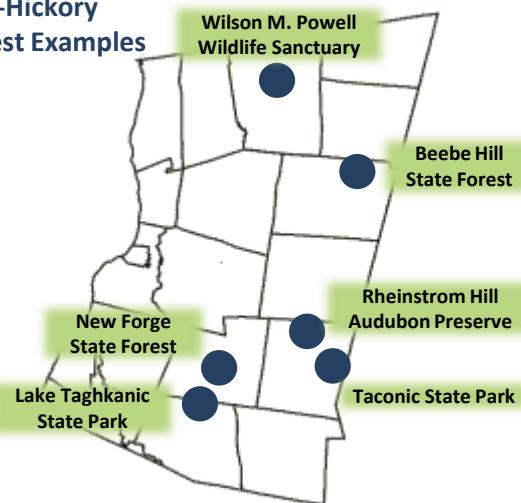
Oak-Hickory Forest is mostly found along the ridge, around hilltops, and on upper south or west facing slopes of the Taconic Range and its foothills in the eastern half of Columbia County. Scattered examples

exist throughout the County. Oak-Hickory Forest tends to occur in dry microclimates and tolerates summer heat as well as harsh conditions in winter.



The acorn and leaf of a White Oak (left) and Red Oak (right). The small buttons on the Red Oak leaf are leaf galls.

Oak-Hickory Forest Examples



Visiting

Visit Oak-Hickory Forest throughout the year. In June, look for the blossoms of Pink Lady's Slippers, Pinkster, Mountain Laurel and the variety of blueberry species. In July, come back to pick berries. Throughout the summer, observe the different oak species. In fall, look for wildlife gorging themselves on acorns and hickory nuts. Some of the best views in the County are from locations surrounded by Oak-Hickory Forest.

What to Look For

Plants: This is a great place to see a variety of oak species growing next to each other. Scan the leaf litter for the pointy-lobed leaves of Red and Black Oak, the round- and deeply lobed leaves of White Oak, and the round-, but shallowly lobed leaves of Chestnut Oak. Small trees of American Chestnut are also sometimes present, hardly ever exceeding 10 foot in height, before they succumb to Chestnut Blight, and then regrow from their roots. A variety of blueberry species and their relatives also occur here, including Mountain Laurel and Pinkster. This is one of the best places to observe Pink Lady's Slipper orchids and Sweet Fern, which is not a fern at all, but a woody shrub with aromatic leaves.

Mammals, Birds & Acorns: These forests provide, via acorns and hickory nuts, important food stuffs for an array of wildlife. Among the larger resident mammals eating these nuts are White-tailed Deer, Black Bear, and Red and Grey Fox. Added to this are many rodents – Grey, Red and Flying Squirrel, Eastern Chipmunk and White-footed Mouse, for example – and a surprising number of birds including Turkey, Blue Jay, Nuthatch, Brown Thrasher and Rufous-sided Towhee. During summer, the spacious bark of Shagbark Hickory can provide bat day roosts and, at least elsewhere, the endangered Indiana Bat is thought to use such forests.



Red Squirrel, one of the many animals who cherish acorns.

Characteristic Plants

The following species are common in this habitat, but not necessarily unique to it. Those with an asterisk (*) are good indicator species.

Canopy Trees

Oak species
Hickory species
Red Maple
Hophornbeam

Shrubs/Understory Trees

Hophornbeam
Striped Maple
Witch Hazel
Serviceberry species
American Chestnut
Mountain Laurel*
Pinkster
Deerberry*

Ground Flora

Lowbush Blueberry (Early and Late)
Canada Mayflower
Pennsylvania Sedge
Wild Sarsparilla
Poverty Oatgrass
Starflower
Bracken Fern*
Huckleberry*
Downy Solomon's Seal

Both oaks and hickories have “masting years”, meaning years when they produce especially large nut crops. During some years, walking beneath an oak is like walking on ground strewn with marbles. Such years occur about every other year for White Oak types, every five or so years for Red Oaks, and every two to three years for the hickories. These fruiting rhythms can affect the populations of the nut eaters (and their predators), so watching for masting years may help you predict upcoming wildlife populations.

Amphibians and Reptiles: Although they are not feeding on the oaks themselves, our forest amphibians and reptiles will use these forests; and it is not uncommon to find Red-backed Salamanders, Spring Peepers, Wood Frogs, Efts, and Garter Snakes as one noses about. Most of our remaining Timber Rattlesnakes probably occur in this forest type, although they are hardly typical of it.

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More ‘What to Look For’

Insects: Of all our forest trees, oaks, as a group, seem to be the most heavily used by insects, with hundreds of species known to live on them. Among the most evident are the tiny wasps, flies and mites responsible for the conspicuous swellings and gnarls of the leaf and acorn galls. The mothwing is also great in Oak-Hickory Forest. Of the 259 moth species which have so far identified in the County, the caterpillars of 87 species feed on oaks and 62 on hickories.

There are four recorded oak-hosted butterfly species in the County (Juvenal’s and Horace’s Duskywings; Banded and White M Hairstreaks); and two hickory-eaters (Banded and Hickory Hairstreaks). However, the adults of these species are more likely to be seen along the flowery edge of an Oak-Hickory Forest than in that Forest’s shadowy recesses.

None of our ground beetles or ants were confined to this forest type. However, *Pterostichus tristis* and *Pterostichus adoxus* were almost twice as common in the Oak-Hickory Forest as in the remaining forests. Both of these are caterpillar eaters, and perhaps taking advantage of the abundance of moths. The ants of Oak-Hickory Forests seem to be a relatively standardized set of forest species. Interestingly, although several species of ant (of the genus *Temnothorax*) nest inside of hollow acorns, but they were no more common in nominate Oak-Hickory Forest than in other forest types, perhaps because of Red Oak’s occurrence across many forest types.



These are Acorn Plum Galls, formed when a gall wasp lays its eggs near the base of a developing Red Oak-group acorn; the inset shows the light, spongy interior surrounding the dark home of the gall wasp larva.

Rare Species

Plants

Pinkster (*Regionally Uncommon*)
Small-flowered Bittercress (*Regionally Scarce*)
Trailing Arbutus (*Regionally Scarce*)
Bush Honeysuckle (*Regionally Rare*)
Upland Boneset (*Regionally Rare*)
Violet Wood-sorrel (*NYS Rare*)
Pennsylvania Catchfly (*NYS Rare*)
Wild Indigo (*Regionally Uncommon*)
Spotted Wintergreen (*Regionally Uncommon*)
Mayapple (*Regionally Scarce*)
Giant Solomon’s Seal (*Regionally Scarce*)
Whorled Pogonia (*NYS Rare*)

Animals

Eastern Timber Rattlesnake (*NYS Threatened*)
Oak Hairstreak (Unseen but possible)
Sleepy Duskywing (Unseen but possible)
Edward’s Hairstreak (Unseen but possible)
Toothed Apharetra (Unseen but possible)
Inland Barrens Buckmoth (Unseen but possible)
Blueberry Gray (Unseen but possible)

Similar Habitats and Variation within the Habitat

Oak-Hickory Forest can be a little difficult to distinguish from other upland forests with a strong presence of Red Oak, especially a group of habitats which we tentatively call “rich” Oak Forests. The “rich” Oak Forests tend to have a larger variety of canopy trees, including Sugar Maple and other northern hardwoods, such as Beech and Basswood. Blueberries are rare or absent in the “rich” Oak Forest and the ground flora is more diverse than in the Oak-Hickory Forest. Around rocky summits at higher elevations, Oak-Hickory Forest sometimes grades into Oak-Heath Barrens, an upland shrub habitat characterized by a low canopy of Scrub Oak and Pitch Pine.

A variety of the typical Oak-Hickory Forest is found on clay bluffs along the Hudson River. It is characterized by the absence of blueberries and their relatives and by the presence of a set of herbaceous indicator species unique to the Clay Bluff and Ravine habitat, which is described separately.