

## Ecozones of the Nantahala and Pisgah NFs

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### Spruce-Fir



The overstory is predominantly red spruce and Fraser fir, with a low diversity of other canopy trees; low to moderately diverse herb layer; and high bryophyte, moss, liverwort diversity. A distinct bird community exists including the red crossbill. Northern flying squirrel, spruce-fir moss spider and rock gnome lichen may be present.

### Northern Hardwood



Typical canopy species include yellow birch, sugar maple, and beech. Hobblebush and red elderberry are distinctive in the shrub layer. Rhododendron is common on some sites; herb layer can be diverse, often with ramp patches. This is generally a closed canopy habitat with wind and ice as major disturbance factors. Northern flying squirrel, ruffed grouse, and golden-winged warbler may be present.

### High Elevation Red Oak



Predominantly red oak overstory, occurring on high elevation ridges. Wind and ice are typical disturbance events that shape the canopy structure. Some occurrences exhibit stunted tree growth from exposure to wind and ice. In the past, American chestnut was predominant in this ecozone and was replaced primarily by red oak. Shrub density is variable with deciduous azaleas, including the endemic pink-shell azalea. Pennsylvania sedge is occasionally abundant.

### Acidic Cove



High forest canopy with tulip poplar, hemlock, yellow buckeye, black birch typical in the overstory. Tall rhododendron and dog hobble are common midstory species. Seeps are common as these areas are often associated with springs and streams. Bryophytes are extremely diverse in this ecozone.

### Rich Cove



High tree diversity in the overstory including tulip poplar, basswood, and sugar maple. Silverbell and cucumber tree occurs as a midstory tree species. The shrub layer is sparse and the herbaceous layer is highly diverse, including American ginseng, black cohosh and bloodroot among many others. Salamander diversity is high due to mesic conditions and the high amount of moss-covered down woody debris. Rich coves may be distinguished from acidic coves by the absence of the heath shrub layer (such as rhododendron).

### Mesic Oak



Diversity of oak trees in the canopy including red and white oak with a diversity of hickories; red maple and tulip poplar present where disturbance has occurred. More tolerant red maple occurs in the midstory because fire has been excluded; low shrub density; herbaceous diversity is variable but

can be high, especially on basic substrates. Dogwood is common in the midstory. Wood thrush and ovenbird are likely to be present, among many other bird species. A high amount of hard mast production occurs that benefits wildlife. American chestnut was a common component prior to the blight.

### Dry-Mesic Oak



Chestnut oak, white oak, white pine, and a variety of hickories are typical canopy tree species. The midstory tends to have huckleberry and other deciduous heaths; white pine and red maple occur in the midstory where fire has been excluded. Herbaceous diversity is variable but tends to be sparse. There is a high amount of hard mast production for wildlife. American chestnut was a common component prior to the blight.

### Dry Oak Ecozone



Chestnut oak, scarlet oak, and black oak are predominant overstory species. Many areas exhibit an open canopy structure due to mortality from oak decline, lower site productivity and higher fire frequency. The midstory is typically dense with mountain laurel and lowbush blueberry; low herb density under dense midstory, but higher (grasses, legumes, and asters) where the midstory is sparse. This ecozone generally occurs on rocky south and west-facing aspects with thin soils; snags frequent. American chestnut was a common component prior to the blight.

### Pine-Oak/Heath



Pitch pine and/or table mountain pine are overstory components, commonly with chestnut oak, black oak and scarlet oak. Midstory and herbaceous layers are similar to the dry oak ecozone. This ecozone occurs on rocky south and west-facing aspects and ridges with thin soils. American chestnut was a common component in this ecozone prior to the blight.

### Shortleaf Pine



Shortleaf pine is dominant in the overstory, or codominant with southern red oak, blackjack oak, and a variety of other hardwoods. Blueberries are common in the shrub layer, along with mountain laurel. The herbaceous layer is sparse in the absence of fire but very diverse where fire has occurred. White pine may be aggressive on some sites.

### Floodplain Forest



Proximity to water defines this ecozone and in the case of floodplain forest, the potential for flooding is a key characteristic. Sycamore, silver maple, willow and ash trees are common in the overstory of floodplain forests; riparian forests may have a variety of tree species, including hemlock. Beavers have historically influenced the structure of these forests through dam construction.