

Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike

Pitch pine - mixed oak forest

This community type generally occurs on acidic, sandy soils, often on ridgetops and dry southern exposures. Fire is an important factor in the establishment and persistence of pitch pine. In the absence of fire, pitch pine is likely to decrease in favor of hardwood species. *Pinus rigida* (pitch pine), sometimes with a mixture of other pines, e.g. *P. strobus* (eastern white pine), *P. pungens* (tablemountain pine), *P. virginiana* (Virginia pine), and less often *P. echinata* (short-leaf pine) or *P. resinosa* (red pine), contribute over 25% of the overstory. Hardwood associates may include any of the dry-site oaks including *Quercus montana* (chestnut oak), *Q. coccinea* (scarlet oak), *Q. velutina* (black oak), and *Q. alba* (white oak). Other tree species include *Nyssa sylvatica* (black-gum), *Acer rubrum* (red maple), *Betula lenta* (sweet birch), and *Carya glabra* (pignut hickory). *Quercus ilicifolia* (scrub oak) may occur in more open areas; other shrubs include *Smilax* spp. (greenbrier), *Kalmia latifolia* (mountain laurel), *Gaylussacia baccata* (black huckleberry), *Parthenocissus quinquefolia* (Virginia creeper), and *Vaccinium angustifolium* (*pallidum*, *stamineum*) (low-bush blueberries). The forest type sometimes grades into an open-canopy type, or contains gaps with an open canopy. The herbaceous layer is sparse, often with *Pteridium aquilinum* (bracken fern), *Aralia nudicaulis* (wild sarsaparilla), *Gaultheria procumbens* (teaberry), *Cypripedium acaule* (pink lady's-slipper), and various *graminoids*, including *Danthonia spicata* (poverty grass), *Deschampsia flexuosa* (common hairgrass), *Carex pensylvanica* (Pennsylvania sedge), *Carex communis* (a sedge), and *C. rosea* (a sedge).

Related types: The "Dry oak - heath forest" is distinguished from this type in that it has less than 25% relative cover by conifers. The "Pitch pine-mixed hardwood woodland" has an open canopy, the woodland type may occur upslope adjacent to this community.

The "Serpentine pitch pine - oak forest" differs from this community in ecology and species composition. The serpentine type occurs only on serpentinite-derived soils. *Q. stellata* (post oak) and *Q. marilandica* (blackjack oak), which are not characteristic of the more common type, are found in the serpentine forest type. The understory of the serpentine type is generally dominated by *Smilax rotundifolia* (greenbrier) and/or *S. glauca* (catbrier). For a more detailed explanation of the ecology of serpentine barrens, see the description of the "Serpentine barrens complex."

Range: Glaciated NE, Piedmont, Pittsburgh Plateau, Pocono Plateau, Ridge and Valley, South Mountain.

Selected references: Hunter and Swisher 1983, Illick and Aughanbaugh 1930, Reschke 1990.

[**Crosswalk:** Smith's "Xeric Central Hardwood - Conifer Forest," TNC's *Pinus* (*rigida*, *echinata*) - *Quercus* Forest Alliance, SAF's Pitch pine (45).]