

Bottomland Pin Oak Forests

When we think of bottomland forests most of us picture areas dominated by sycamores, box elders, elms or maybe silver maples. In some areas of West Virginia, however, we have moist bottomland oak forests. These wetland broad-leaf forests, or “swamps,” are dominated by a particular type of oak -- the pin oak. Pin oak swamps occur on floodplains at low to middle elevations across the state.

The pin oak belongs to the red oak group, which is distinguished by having bristle-tipped leaf lobes. Pin oak leaves look very similar to those of red oak and scarlet oak, but the tree's characteristic shape and habitat provide clues for identification. The first thing one notices are the lower branches which hang down towards the ground like the arms of your body. Many of these branches are dead but are still attached to the trunk. Pin oaks hold onto their old branches and create a dense clutter of boughs.

The next thing you may notice is how flat the land is where the oaks are growing. It will probably be obvious that at least through part of the year, water will pool on the ground in this area. Water stains may be visible on the lower parts of the tree trunks. The ground can be very wet, and only certain species, including the pin oaks, are adapted to these conditions.



The bristle-tipped leaf lobes are a key characteristic of pin oak.



Paul Wray, Iowa State University, Bugwood.org



Jim Vanderhorst

Bottomland pin oak forest at Johnson T. Janes city park in Parkersburg.

One task of the DNR Wildlife Resources Section is describing unique communities or groups of plants that are consistently found together. West Virginia's pin oak forests can be divided into different types of plant communities based on where they occur and the characteristic plants which grow in each. At the relatively high elevations of the Meadow River wetlands in Greenbrier County, pin oak often grows with black ash (a state rare tree) and bromelike sedge (a state rare plant). In contrast, the swamps at lower elevations along the Ohio River lack these rare plants, and are more similar to widespread forests further west. Some species, like poison ivy and spicebush, are abundant in both communities. The differences between these two communities may be related to climate, as affected by elevation, and soils.

Pin oak swamps are wet because of where they occur on the landscape and the characteristics of their soils. They usually occur in the floodplains of rivers and streams on fine textured soils (silt and clay). During high water, the streams flood over their

banks and water pools in flat areas. As the water retreats, these pools are often trapped behind higher levees which line the stream edge. The fine textured soils are slow to drain and water may be held for long periods.

Pin oak forests can be explored in the Meadow River (Greenbrier County), Greenbottom Wildlife Management Area (Cabell County), Sleepy Creek Wildlife Management Area (Morgan County), and in the Johnson T. Janes city park in Parkersburg (Wood County). The largest and most unique of these swamps are along the Meadow River.

These are public lands and belong to all of us. Whether you are a hiker, birdwatcher, hunter, or all three, take the opportunity to visit some of West Virginia's more unusual plant communities. Be prepared to get wet feet (or wear rubber boots) and be careful not to touch the poison ivy.

Reprint of article written for West Virginia Nongame Wildlife & Natural Heritage News by Dean Walton. Revised by Jim Vanderhorst, Wildlife Resources Section ecologist stationed in Elkins.