

Pocosins

Early in the year 1700, John Lawson, a young explorer venturing through South Carolina, takes note of a peculiar swamp, stating, “all over this swamp, a tall, lofty bay tree, not the same as in England, these being in verdure all winter long.” In his journals he calls these areas percoarsons, which is a name adapted by the Algonquin Indians to mean “bay-covered swamp” or “swamp on a hill.” The name later took several forms and is now commonly known as “pocosin.” It is believed that the development of pocosin ecosystems began after the Wisconsin Ice Age about 15,000 years ago as the ice receded and the sea level rose. While there is much skepticism as to the exact formation and geological situations responsible for these areas, most of the pocosin habitats in the Carolinas seem to have formed in relation to stream-flow areas with very little drainage.

After hundreds of years of natural and Native American born fires swept the Southeast burning vegetation and peat layers, forming fire-dependant pocosin ecosystems, early settlement moved in and took its toll. Beginning in the mid to late 1700’s, pocosins were already being drained, stripped of timber resources, and utilized for agricultural use. During this time, many of the pocosins, once dominated by tall cypress and Atlantic white cedar trees, now existed un-replenished or as agriculture fields. Much of the pocosin habitat within the SWA 1187 may have once existed as areas of enormous cypress and Atlantic white cedar trees.

During the late 1800’s, the trend shifted from agricultural use to forestry practices as farmers started acknowledging the fact that these soils could not support intensive long-term agricultural use. Timber companies bought the land, and once logged, the areas were of very little economic value. The next shift occurred around the 1930’s as paper companies bought the cheap wetlands, drained the areas, and converted them to vast pine plantations. The paper industry had a devastating affect on pocosin ecosystems, and by the 1960’s, most of the once pristine, pocosin wetlands were now overrun with drainage ditches and roads. In 1970, it was estimated that the rate of loss of wetland habitat in the Southeast throughout this time was over 356,000 acres per year and by 1980 less than 30% of pocosins remained in their natural state. While some remnants of that era such as ditches and canals still exist within the SWA 1187, much of the property’s pocosin ecosystems are ones of deep organic soil unsuitable for timber production and remain in great condition. Since most of the pocosin areas in the Southeast have been destroyed and a small percentage of the remaining under state or federally ownership, this provides the Solid Waste Authority with a great opportunity to preserve these ecosystems not only for conserving the natural heritage of the Southeast but to preserve biological and landscape diversity in a fast developing area.

What is a pocosin?

Since the early European settlers discovered the first pocosin, the term “pocosin” has taken many different definitions and caused much confusion throughout pocosin literature. One of the earliest definitions merely describes them as flatwoods with no natural draining, different from swamps because they are not alluvial, occurring on divides between rivers and sounds and elevated from streams in which they are the source. They were later described as extensive flat, damp, or peaty areas usually remote of large streams, supporting a scattered growth of pond pine and a very dense growth of shrubs, mostly evergreen, with a heath-like appearance. Wells, however, best describes these areas specifically as “being restricted to the Southeast, occurring in broad, shallow basins, in drainage basin heads, and on broad, flat uplands” and often occur within Carolina Bays. He also adds that they have “long hydroperiods, temporary surface water, periodic burning, and soils of sandy humus, muck, or peat.

Plant composition

Pocosins are most recognized for their sparse and widely spaced canopy of pond pine (*Pinus serotina*) and dense shrub layer. The canopy is most often only associated with pond pine except with an occasional longleaf, loblolly, or slash pine from prior timber regeneration efforts. The shrub layer is usually dominated by fetterbush (*Lyonia lucida*), titi (*Cyrilla racemiflora*), zenobia (*Zenobia pulverulenta*), and all wrapped in greenbrier (*Smilax spp*). The herbaceous layer is usually limited under the thick shrub layer. The indicator species for pocosin habit types are pond pine and zenobia, as zenobia is endemic to pocosins throughout the Carolinas.



Figure 1. Stunted pond pines

Four pocosin types found throughout the SWA 1187 are low pocosins, high pocosins, bay forests, and those associated with deep depressions of Carolina Bays. Although low and high pocosins are the most common throughout the SWA 1187, remnants and small areas of the other types exist within the site.

Low pocosin

Low pocosins are associated with poorly drained areas with a deep peat layer (3 – 16 ft) and generally found in higher, better-drained central parts of domed peatlands and Carolina Bays. Its recognition is by the low shrub layer (less than 5 ft), which is due to the lack of root penetration to mineral soil through the deep peat layer. This nutrient deprived habitat is normally associated with few widely spaced and stunted pond pines and very few redbay (*Persea borbonia*), loblolly bay (*Gordonia lasianthus*), and sweetbay (*Magnolia virginiana*). As with most pocosins the low shrub layer consists of mostly fetterbush (*Lyonia lucida*), titi (*Cyrilla racemiflora*), zenobia (*Zenobia pulverulenta*), and greenbrier (*Smilax spp*) with little or no herbaceous layer. Since these areas are higher and drier than the surrounding areas, a severe fire during a drought could burn much of the peat layer and kill most of the vegetation.



Figure 2. Low pocosin

High pocosin

High pocosin habitats are very similar to low pocosins except that they exist on the intermediate parts of domed peatlands and have a peat layer less than 5 ft deep. With the shallower layer of peat, plant roots are able to reach the underlying mineral floor during times of drought and flourish better than those in a low pocosin. The shrub layer may reach 5 – 10 ft in height. Aside from being taller, the vegetation composition is much the same as a low pocosin with inkberry (*Ilex glabra*), switchcane (*Arundinaria gigantea*), redbay, loblolly bay, and sweetbay being more common.



Figure 3. High pocosin