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to other shrub species. Based on importance value, Ilex > Lyonia ~ Clethra >> Smilax >> Itea as significant contributors to the shrub layer.

When all woody plants within the community are considered as a whole, there is a shift in the relative importance value of certain species. Taxodium replaces Gordonia as the dominant tree, and Ilex shares its dominance in the shrub layer with Clethra and Lyonia. When viewed from the whole community perspective the dominance of basal area by Taxodium supercedes the higher frequency and density of Gordonia, resulting in Taxodium having a 25% higher community importance value than its nearest competing tree species, Gordonia, or any other dominant woody plants. Ilex also shifts in significance in the shrub layer becoming more similar in importance value to Clethra and Lyonia.

The reproductive success of the tree species may be ascertained by comparing the densities (Table 2) of seedlings (<2 cm dbh and >1 m high), saplings (2-10 cm dbh), and trees (>10 cm dbh). Gordonia, Persea, and Magnolia have sufficient numbers in both the seedling and sapling size class to sustain their potential contribution as canopy species. Considering that about 14% of the trees are Nyssa, the complete absence of Nyssa seedlings and the relatively few saplings is not understood. It is questionable whether or not there are sufficient numbers in the smaller size class to establish Nyssa in the canopy. However, even as a potential contributor to the upper canopy, Nyssa is still an immature tree with most of its representatives in the smaller size class of trees. The lack of reproductive success for Taxodium is quite apparent especially since there are no individuals smaller than the 26 cm dbh size class (actually the smallest Taxodium individual recorded was 30 cm dbh). In fact, the mean breast height diameter for Taxodium sampled during the surveys was 53.1 cm (standard error [S.E.] ± 9.6 cm).

Only six tree species (i.e., woody plants with 10 cm dbh) occur in the site, though a few large slash pine (Pinus elliottii) are clumped near the outer edge. These are Taxodium, Gordonia, Magnolia, Nyssa, Persea, and Ilex. Ilex is, in this case, treated as a tree since it has a few individuals in the tree size class and is often treated as such by other authors. Tree diversity (\bar{H}) (Table 3) in the site is 1.80 (S.E. ± 0.09); considering there are only six species, the maximum diversity (H'_{max}) possible for this community is 2.58. For the plant community described, the estimated evenness (J') of the population distribution pattern is 0.70. These data correspond more closely to diversity values for bayheads ($\bar{H} = 1.75$) than for cypress domes ($\bar{H} = 1.16$) (Monk, 1966, 1968), although the similarity in species numbers and composition more closely match those for cypress domes. Partial accounting for these discrepancies lies in the fact that the old-growth cypress community in the Okefenokee is more similar to a floodplain cypress community than to cypress dome communities. In fact, Taxodium dominates cypress dome communities, accounting for 60% of the average importance value (based on the sum of relative frequency and density) with the other species common to the old-growth community accounting for only 16% of the average importance value (Monk and Brown, 1965). A comparison of similar data (Table 1) for the old-growth community reveals that Taxodium contributes only 7% to the average importance value.