Boyce was the first of the regional parks to be dedicated, in 1963. William D. Boyce Park was named after the founder of the Boy Scouts who was born in the area. All the picnic groves and shelters have names with Boy Scout associations: Tenderfoot, Eagle, Den, and even Baden Powell (the founder of the British Boy Scouts).

Boyce serves the populous eastern region beyond Monroeville, and has been outfitted with major recreational features. It is the only location for downhill skiing in the county, with ski lifts, a lodge, and all the amenities. There is a large ski lodge called “Four Seasons,” a large recreational complex, and a wave pool. Allegheny County Community College occupies part of the original park property, which was exchanged for adjacent land farther removed from major highways, upon which the wave pool was built.

As much as half of the park is still undeveloped, but long-range plans call for the restoration of the Carpenter homestead - a log house, spring house and barn - and an interpretive center on the life of the pioneers.

In 1976 anthropologists associated with Carnegie Museum of Natural History excavated the site upon which the recreational complex was to be built. The findings included artifacts and some 26 burial sites, and suggested that a village of the Monongahela people occupied the site in the 14th century AD.