

The Bog Garden - A Piedmont Alluvial Forest Natural Community

The Bog Garden Plant Committee proposes the adoption of the following guidelines as we work to restore the Bog Garden to the original vision of it as a natural site.

Due to the residential location and the current state of the Bog Garden habitat, these guidelines may cause controversy during their implementation phase. Adoption of these guidelines by GBI and Parks & Recreation principals will assist in their implementation and aid in the Garden's recovery. Many of these guidelines are also found in the management plan for the Bog Garden written by Ken Bridle, Stewardship Director, Piedmont Land Conservancy, in 2013. The GBI Public Gardens Committee initiated the assessment by Ken Bridle and the resulting management plan in 2012.

Background

1. A natural community is a distinct and reoccurring assemblage of populations of plants, animals, bacteria and fungi naturally associated with each other and their physical environment.
2. The primary natural community at the Bog Garden is a Piedmont Alluvial Forest. Dr. Ken Bridle, Stewardship Director, Piedmont Land Conservancy confirmed that this natural community best describes the flood plain adjacent to the creek.
3. The Piedmont Alluvial Forest natural community is described in the *Classification of the Natural Communities of North Carolina*, 3rd and 4th Approximations by Michael Schafale and Alan Weakley. This classification project is supported by the NC Natural Heritage Program in the Division of Land and Water Stewardship within the North Carolina Department of Natural and Cultural Resources.
4. Generally free of standing water, alluvial forests are subjected to the mechanical forces of flooding when a stream overflows its banks. Alluvial soils are characterized as clay, silt, sand, gravel, or similar detrital material deposited by running water. Hydric places are distinct from drier communities in their vegetation and in their fauna.
5. Attrition among stream bank trees is high because they tend to lean creekward towards uncanopied sunlight, often to their peril, as part of their trunks is immersed in fast-moving water in times of flooding. Also, stream bank erosion undercuts the root system of trees along the bank.
6. Inland from the creek channel there are elevated terraces of fluvial deposit which offer protection both from standing water and from high energy flooding.
7. Benjamin Lake, a Piedmont Semipermanent Impoundment, is a type of created wetland habitat which generally occurs in flood plains and valleys with a low gradient. These guidelines do not address the lake area; however, future assessments are needed.

Removal, Planting, and Maintenance Guidelines

1. Exotic invasive plants will be removed by the least harmful method to the ecosystem, taking into account the best and most effective practice as noted in the *Nonnative Invasive Plants of Southern Forests* by the US Department of Agriculture and other sources. A list of exotic invasive plants found in the Bog Garden is available from the Plant Committee. Removal methods, in order of priority from most to least desirable, are:
 - a. Hand pulling
 - b. Hand or mechanical digging
 - c. Cut-treat with herbicide
 - d. Foliar spray with herbicide
2. Aggressive plants will be reduced or removed to minimize maintenance and enhance the beauty of the Bog Garden. This may include native plants such as Poison Ivy that are near pathways.
3. Plants that are not characteristic of North Carolina natural communities may be relocated to an appropriate GBI garden.
4. Plants added to the Bog Garden will be native to North Carolina or the Southeast and appropriate for their locations in the Garden. Plant additions along the creek and floodplain will be characterized as those that tolerate the mechanical forces of flooding when the creek overflows the bank. Woody vegetation planted along the stream edge will be used to control soil erosion, provide wildlife habitat and improve water quality. A list of plants characteristic of the Piedmont Alluvial Forest is available from the Plant Committee.
5. In keeping with Dr. Christian's methods, plant acquisitions will include those obtained via plant rescues organized by the NC Native Plant Society, as well as native plants propagated for the Bog Garden or purchased by the Plant Committee.

Sources

Classification of the Natural Communities of North Carolina, Third and Fourth Approximations, Michael P. Schafale & Alan S. Weakley, North Carolina Natural Heritage Program, NC Department of Environment and Natural Resources, 1990 & 2012.

Field Guide To The Piedmont, Michael A. Godfrey, The University of North Carolina Press, 1997.

Nonnative Invasive Plants of Southern Forests: A Field Guide for Identification and Control, James H. Miller, US Department of Agriculture, Forest Service, Southern Research Station, 2003.

The Bog Garden at Benjamin Park Management Plan, April 24, 2013, Ken Bridle, 2013.

Submitted by The Bog Garden Plant Committee, January 2018

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