



## Chapter Four

### Condition Assessment

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### Landscape Condition Assessment

#### Introduction

This chapter includes an assessment of existing landscape conditions at the White property for 2004 with management recommendations for the park as a whole and for each character area specifically. The landscape condition assessment is organized by character area, defined below. For each landscape character area, the existing conditions are described and specific woody plants and landscape features mapped. Treatment guidelines for the park as a whole are outlined below and support all of the management recommendations that follow each character area condition assessment. While the focus of this study is on the property's horticultural resources, data is also provided on the property's constructed landscape features (excluding buildings). Circulation and constructed features typical within more than one character area are described as a whole following the character area descriptions.

#### *Landscape Management Guidelines*

The following section provides general guidelines for the management of the White Horticultural Park based on a comprehensive view of the property as a whole. These guidelines are based on sustainable management practices to preserve horticultural resources and rehabilitate declining horticultural resources and plant communities. The following guidelines should be used as overarching principles to guide all landscape management approaches.

- Institute horticultural and natural resource management and maintenance methods that are environmentally sensitive and sustainable over the long term.
- Minimize areas of vegetative disturbance, soil compaction and excavation, and drainage pattern alteration.
- Undertake maintenance regimes that incorporate holistic, ecologically-based strategies aimed at contributing to the repair and restoration of horticultural resources and natural systems.
- Encourage best management practices (BMPs) and soil and erosion control measures. BMPs are methods that decrease the potential damage from land-disturbing activities. These practices can reduce erosion and prevent or control pollution resulting from

landscape management. Likely activities where BMPs should be considered include, but are not limited to, chemical applications and any ground-disturbing activity like tree removal or clearing. BMPs should be utilized whenever possible, especially to minimize erosion and runoff, and prevent pollutants such as pesticides and excess nutrients from fertilizer from entering the watershed.

- Develop an integrated pest management (IPM) approach to minimize the threat of pests, especially invasive plant species that will easily overtake horticultural resources. IPM is a decision-making process to determine selection, integration, and implementation of pest management methods that are ecologically sound and protect resources. Details on developing an IPM program are described later in this chapter under Treatment Recommendations for Invasive Plant Species. In determining pest management strategies it should be noted that Mrs. White does not advocate the use of any chemicals at the property; this includes fertilizer and pesticides including herbicides.<sup>1</sup> As such, the chemical removal measures outlined under Treatment Recommendations of Invasive Plant Species are provided as general information, and should be tailored to future FCPA management goals and objectives for use at this property.
- Use pesticides wisely, if used at all. Pesticides should be Environmental Protection Agency (EPA) approved. Follow all mixing and application instructions and wear all recommended protective gear. Consider how a pesticide might impact adjacent resources before use. Select appropriate pesticides for environmental conditions, for example certain herbicides are specifically formulated for use in or near water systems. In order to protect nearby horticultural and natural resources, it is recommended that glyphosate-based herbicides be used because they are systemic and inert in the soil. Any mention of pesticide product in this report does not constitute an endorsement of any material.
- Ensure public safety and welfare by implementing maintenance techniques to reduce risk of injury. For example, walnuts in lawn areas are a trip hazard and should be removed regularly. The scope of this project did not include the identification of plants poisonous if ingested. However, these plants pose a threat if ingested and should be identified and managed to reduce risk of injury. Other risk factors that should be addressed include any area conducive to someone slipping or tripping, clogged or blocked drains that create wet or icy conditions, and low or protruding branches that could impale someone.
- Prevent structural damage by investigating surrounding plants, especially trees. Consult a certified arborist or forester to consider preventative measures to stabilize or strengthen trees that could harm structures.
- Exercise care during any site excavation. Archeological resources were not identified as part of this project. In addition, potentially hazardous materials may have been buried during previous dumping.

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<sup>1</sup> Margaret K. White, field observation, July 22, 2004.

### *Landscape Management Recommendations*

Specific landscape management recommendations follow the condition assessment of each character area. These recommendations:

- Identify representative landscape features/types requiring repair;
- Identify plants/planting areas requiring maintenance;
- Describe the approaches and processes required to treat the condition (management guidelines); and
- Identify the need for more information or specialized study/diagnosis, where necessary.

### *Character areas*

Landscape character areas share similar natural or man-made features and visual characteristics. The character areas, described below, were determined based on similarities in physical character derived from plantings and/or plant communities, natural features, topography, built elements, spatial organization, and land use. Four general areas were identified based on land use; they include the woodland area, garden area, domestic core, and open space. These were then subdivided to create unique character areas based on key similarities. In all, eight character areas have been identified for the White Horticultural Park. They include the North Woodland, East Woodland, West Woodland, Upper Garden, Lower Garden, Residence surrounds, Utilitarian Area, and Field. Each character area is described in detail below. See Figure 4-1 for character area delineation.

### *Condition Assessment Methodology*

For most areas, the character area condition assessment summarizes the condition assessments of individual features (presence of wounds, pests, and disease; vigor; plant growth and form; and invasive species infestation) undertaken in the resource inventory. Typically, the majority condition of individual features resulted in the same overall condition assessment for the character area. Individual features rated fair or poor were reviewed more closely to determine if that should affect the overall condition assessment for the area. If necessary, the condition assessment was altered to reflect the severity of individual features. For character areas that did not have component features with condition ratings, the condition criteria for individual features were used to assess the entire plant community.

### *Woodland*

The three woodland character areas are described in detail later in this chapter. Description and condition assessments for these areas are based on visual inspection from the woodland perimeter, or along trails, and do not include an extensive investigation. As a whole, these woodland areas share common similarities, which are as follows:

- Stand composition is predominantly that of an oak-hickory forest. Characteristic tree species typical of this forest type include northern red oak, black oak, scarlet oak, white

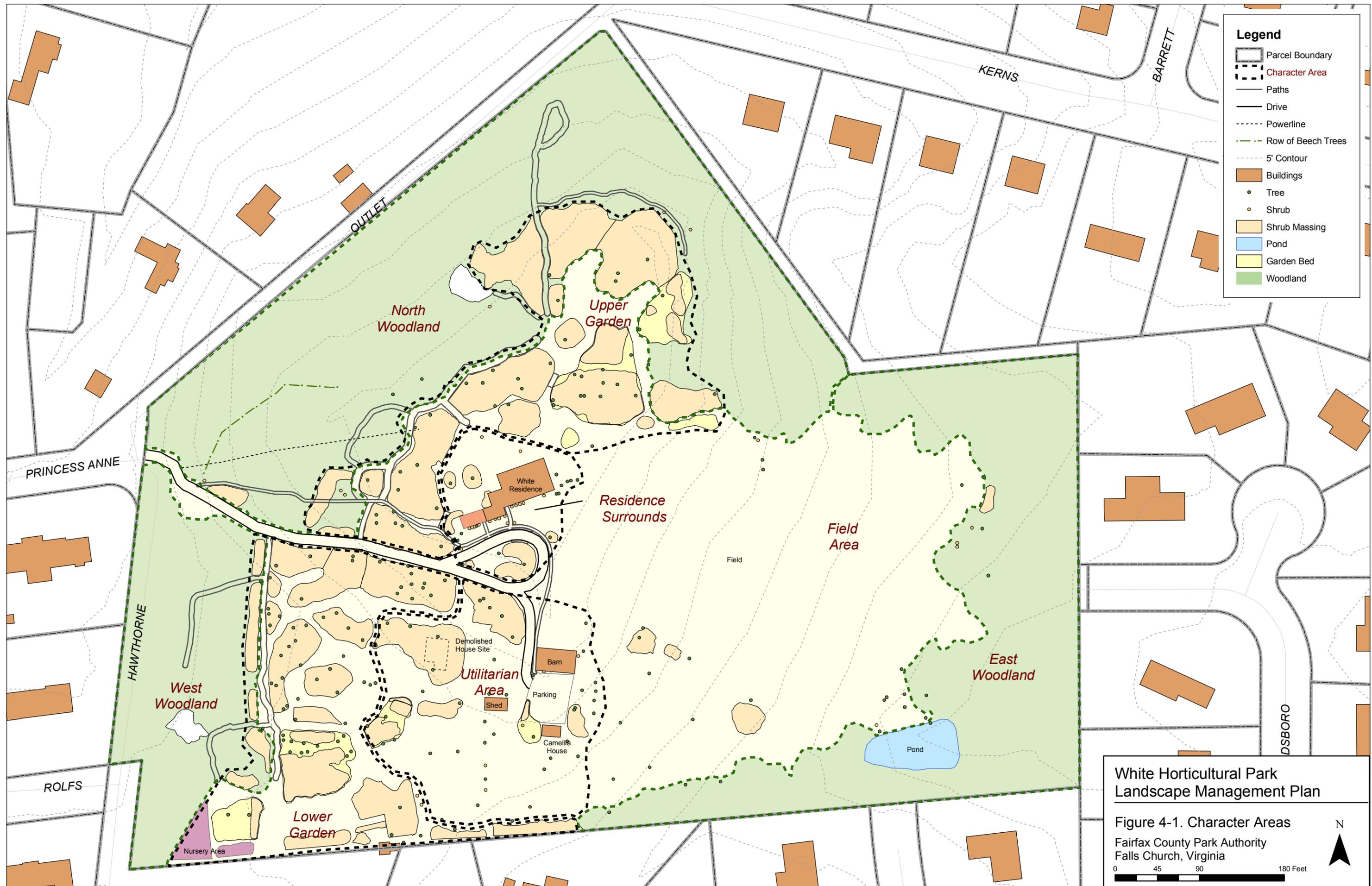
oak, chestnut oak, and all hickories. Associated tree species include tulip poplar, red maple, blackgum, persimmon, black walnut, beech, sweetgum, and sassafras. Understory plants include sourwood, serviceberry, eastern redbud, dogwood, viburnum, spicebush, wild grape, greenbrier, and poison ivy.

- Variable age stand, with dominant canopy trees averaging 50 to 100 years old.
- Habitat for a variety of wildlife species including birds, raptors (hawks), insects, small mammals including rabbit, fox, and squirrel, and possibly deer.
- Brambles (*Rubus* spp.) and briars (*Smilax* spp.) form thick patches in the understory in various areas throughout the woodland area. Wild grape (*Vitis* spp.) is also prominent, especially along edges and openings in the canopy.
- All woodlands abut adjacent residential landscapes and are susceptible to unfavorable factors from surrounding land use like invasive plant species, runoff, and dumping.
- Interior edge of woodland surrounds garden beds, shrub masses, and other cultural plantings, and is influenced by these to varying degrees.

Three woodland character areas were defined based on the following unique characteristics. The north woodland was identified because it is a large patch providing interior woodland mostly free of exotic species. The east woodland was identified as a corridor of edge habitat because species composition differs slightly from the other woodlands. The west woodland was identified based on its high composition of invasive exotic plants. Though similar in species to the north woodland area, the presence of the exotics presents a major maintenance issue.

The condition assessment for the woodland character areas included additional factors than those described earlier. Each woodland area was viewed as an ecosystem consisting of living organisms interacting with each other and their environment. Because the investigation for the woodland areas was based on limited field observation, only the overall plant community was evaluated. There is a correlation between vegetation composition and many other ecosystem components, including wildlife. Therefore, for the basis of this analysis, vegetation was evaluated based on the following criteria in order to make a general assessment of the overall woodland character areas.

Each area was analyzed for overall plant community health based on vegetation structure, arrangement, and species composition. Structure and arrangement was evaluated based on vertical layering and horizontal pattern of vegetation. Vertical layering refers to the stratification of vegetation from groundcovers to large trees. The spatial organization and distribution of species was considered for horizontal pattern. Species composition focused on trees identified in the field. An overall condition of **good** was determined if the area exhibited stratification, variety in species distribution, and overall diversity in plant species.



## North Woodland

This character area includes the woodland area north of the drive and surrounds the upper garden, see Figure 4-2. The dividing line between the north and east woodland is just east of the crape myrtle plantings. The size of this woodland area is 3.5 acres.

### *Landscape description*

The largest of the three woodland character areas, the north woodland is moderately to steeply sloped downwards towards the northern property line. In general, the dominant canopy trees consist of tulip poplar (*Liriodendron tulipifera*), red oak (*Quercus* spp.), and hickory (*Carya* spp.). Black cherry (*Prunus serotina*) is the common understory tree and Virginia creeper (*Parthenocissus quinquefolia*) is a major groundcover component. Deadfall, including fallen trees, large limbs, and branches, can be found throughout. In the southwest corner, a dense line of beech trees (*Fagus grandifolia*) form an L-shaped pattern within the surrounding woodland, see Figure 4-3. Mrs. White noted that her husband planted these trees to recreate something he saw while traveling, perhaps in Williamsburg, Virginia.<sup>2</sup> A cluster of hickory trees is located near the end of the beech line. A large area in the midwestern side of the character area is considerably younger than the surrounding woodland. Mrs. White reported this area had been unintentionally burned about forty to fifty years ago when a neighbor's fire spread out of control.<sup>3</sup> Conifers, mainly spruces, are concentrated near the intersection of the woodland trail and garden path along the woodland edge. These were perhaps planted to provide winter screening. Also, a dense blanket of English ivy covers this particular area. Tulip poplar is the dominant tree in the northern portion of the area west of the woodland trail, but is less common in the eastern portion of the area. Piles of debris surround the opening created by the loop at the woodland trail terminus. There is a concentration of microstegium (*Microstegium vimineum*) in this area. East of the woodland trail, red oaks dominate the canopy and the understory density increases towards the east. About midway along the eastern edge, there are several dead trees that remain standing; the cause of death is unknown. It is very likely that these trees are not within the White property but in the backyards of adjacent homes.

### *Condition*

The overall condition of this area can be considered **good**. Overall the plant community is in good condition as most trees observed appear to be free of wounds, pest infestation, and disease; overall vigor is high; and plant growth and form appears normal. This woodland stand appears diverse both in vertical layers of vegetation and overall arrangement of species. Human impact or disturbance within this area also appears to be minimal (beyond paths and debris piles). There appears to be only a minor presence of invasive exotics within this woodland. However, English ivy, bush honeysuckle, and microstegium present in adjacent garden beds are spreading into the area. The concentration of English ivy near the spruces is a primary concern because it is vigorously encroaching into the woodland. Without immediate

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<sup>2</sup> Margaret K. White, field observations, July 23, 2004.

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intervention, the concentration of microstegium (Japanese stilt grass) will continue to spread throughout the lower woodland at the trail loop. This grass is an invasive summer annual grass that occurs primarily in moist, shady areas. Several other condition issues were noted in this area, but were not considered significant enough to decrease the overall condition assessment. These include:

- A few trees with dead branches or minor damage from natural factors like lightening.
- A tree near the western edge of the woodland trail with major dieback, which could be a potential hazard.

The isolated area of dead trees was also considered not significant enough to decrease the overall assessment. These trees appear to have been dead for some time and existing trees were not observed to show signs of stress.

#### *Landscape Management Recommendations*

- The removal of invasive plants would improve overall native species composition and diversity of this stand. See Treatment Recommendations for Invasive Plant Species at the end of this chapter.
- A certified arborist or forester should carefully inspect the entire area to further assess condition and management issues. Further investigation of trees near structures, trails, and the woodland edge should be conducted to identify those trees in poor condition that would cause damage if they were to fall. Hazardous branches should be selectively pruned and debris removed from view of the garden. Tree removal should be considered within the context of this property's overall management plan as dead trees and branches provide wildlife habitat and are relatively rare in a predominantly suburban landscape. Leaving dead trees and branches to decompose naturally within the woodland area, or grinding and returning plant material to the site, should also be considered as long as these practices do not detract from the aesthetic qualities of the gardens.
- The cause of multiple tree deaths should be determined in order to evaluate any possible threat to surrounding trees.



Source: John Milner Associates, Inc., 2004

Figure 4-2: View of north woodland from woodland trail.  
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Source: John Milner Associates, Inc., 2004

Figure 4-3: A dense line of beech trees in the southwest corner of the woodland. 797