





# LAKE FAIRFAX PARK MASTER PLAN REVISION











FAIRFAX COUNTY PARK AUTHORITY

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# CONTENTS

# LAKE FAIRFAX PARK MASTER PLAN REVISION



# 1 INTRODUCTION

- 1 PARK MASTER PLAN PURPOSE, GOAL AND DESCRIPTION
- 2 PLANNING PROCESS AND PUBLIC INVOLVEMENT

# 3 PARK BACKGROUND

- 3 GENERAL DESCRIPTION
- 3 PLANNING CONTEXT
- 3 ADMINISTRATIVE HISTORY
- 7 PARK CLASSIFICATION
- 8 PARK & RECREATION NEEDS

# 12 EXISTING CONDITIONS





- 12 NATURAL RESOURCES
- 29 CULTURAL RESOURCES
- 31 EXISTING IMPROVEMENTS & FACILITIES

# 38 CONCEPTUAL DEVELOPMENT PLAN

- 38 DESIRED VISITOR EXPERIENCE
- 38 MANAGEMENT FRAMEWORK
- 40 REMOVED PLAN ELEMENTS
- 41 USE AREAS & FACILITIES
- 53 VEHICULAR ACCESS AND PEDESTRIAN CIRCULATION
- 55 DESIGN CONCERNS
- 58 CONCEPTUAL DEVELOPMENT PLAN MAP



# LIST OF FIGURES

#### **Page**

- 4 Figure 1: Lake Fairfax Vicinity Map
- 6 Figure 2: 2001 Lake Fairfax Park Conceptual Development Plan
- 7 Figure 3: Facilities Developed Since 2001 Master Plan
- 9 Figure 4: Lake Fairfax Park Nearby Facilities
- 15 Figure 5: Lake Fairfax Park Soils Map
- 17 Figure 6: Map showing elevations, slope and RPA at Lake Fairfax Park
- 20 Figure 7: Lake Fairfax Park Natural Community Classification
- 21 Figure 8 & 9: Northern Piedmont Small Stream Floodplain Forest (CEGL006492)
- 21 Figure 10: Early Successional Floodplain Forest (CEGL007330)
- **22** Figure 11: Acidic Oak Hickory forest at Lake Fairfax (CEGL008475)
- 22 Figure 12: Acidic Oak-Hickory (CEGL008475) forest at Lake Fairfax with high coverage of invasive species in the lower strata.
- 23 Figure 13: Mixed Oak/Heath Forest (CEGL008521)
- 23 Figure 14: Chesnut Oak Forest (CEGL006299)
- 24 Figure 15: Successional Tulip Tree Forest (Rich Type) (CEGL007220)
- 24 Figure 16: Successional Tulip Tree Forest (TypicType) (CEGL007221)
- 25 Figure 17: Successional Virginia Pine Forest (CEGL002591)
- 25 Figure 18: Successional Virginia Pine Forest (CEGL002591)
- 26 Figure 19: Northeastern Modified Successional Forest (CEGL006599)
- 27 Figure 20: Northeastern Old Field Herbaceous Vegetation (CEGL006107)
- 28 Figure 21: Lake Fairfax Park Non-Native Invasive Protocol Map
- 30 Figure 22: 1937 Aerial Photograph with Current Lake Fairfax Park Property Line Displayed
- 31 Figure 23: Watermine Family Swimmin' Hole
- 33 Figure 24: Lake Fairfax Skate Park
- **34** Figure 25: Typical Campsite at Lake Fairfax
- 35 Figure 26: Park Existing Facilities Map
- 37 Figure 27: Houses and Structures at Acquired Parcels
- 37 Figure 28: Utility Building
- 41 Figure 29: Boardwalk at Lake Fairfax
- 41 Figure 30: Marina and Boat Rental House
- 42 Figure 31: Gazebo (precedent image)
- 45 Figure 32: Playground at Clemyjontri Park
- 47 Figure 33: Adventure Course Example
- 48 Figure 34: Example of a Yurt Rental at Lake Edge
- 51 Figure 35: Multi-Purpose Center Example
- 52 Figure 36: Interpretive Meadow Sign Example
- 56 Figure 37: Map Kiosk Example
- 56 Figure 38: Rain Garden in Parking Lot Example

# LIST OF TABLES

#### Page

- 5 Table 1: Developed 2001 Master Plan Revision Improvements
- 10 Table 2: Lake Fairfax Park Nearby Facilities
- 11 Table 3: Upper Potomac Planning District Recreational Facility Service Standards
- 32 Table 4: Picnic Areas & Shelters Seating Capacity

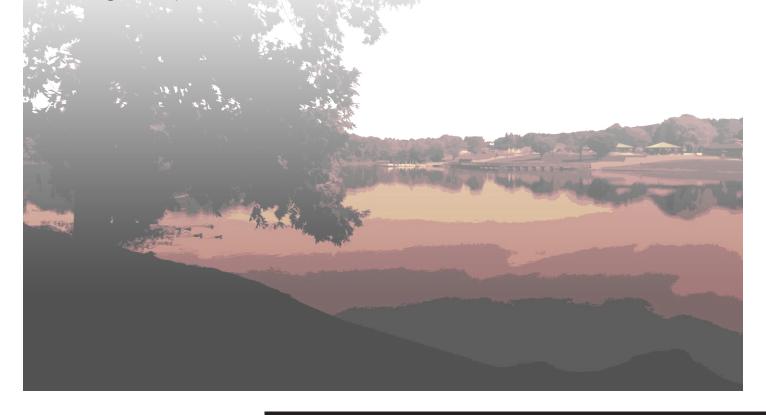
# INTRODUCTION

Fairfax County is home to more than one million residents and is the setting for over two hundred million square feet of commercial, industrial and retail space. The county's residents and workforce all uniquely benefit from the more than 23,000 acres of parkland and the variety of recreational opportunities provided throughout the county. In 1950, the Fairfax County Park Authority was established with the mission of developing and maintaining the viability of this expansive system of parkland and facilities. Through the provision of quality facilities and services as well as the protection of the county's cultural and natural resources, the Park Authority seeks to improve the quality of life for the county's residents today and well into the future.

To achieve its long-range objectives, the Park Authority has established a consistent and equitable process for the planning of park property and facilities. A key part of this process includes the development of park master plans, specific to each park and intended to establish a long-range vision towards future park uses and site development.

# PARK MASTER PLAN PURPOSE, GOAL, AND DESCRIPTION

Master Plans are used by the Park Authority to guide the development, protection, and use of park sites in the Fairfax County Park Authority (FCPA) system. Lake Fairfax Park was previously master planned in 2001. Since that time areas of the park have been developed in accordance with the adopted Master Plan, while other planned uses have not been built. The purpose of this document is to revise the 2001 Master Plan. A Master Plan Revision process allows citizens and planners to examine the park as a whole in order to address deficiencies or missed opportunities throughout the park.



The goal of this plan revision is to update the 2001 Conceptual Development Plan to show existing conditions as well as to create a more usable, holistic and flexible framework for subsequent planning and development. Lake Fairfax Park continues to be an important asset to the local community, but should also serve as a destination park for the entirety of Fairfax County. Finally, this plan should provide a framework for protecting and managing the natural and cultural resources located within the park. These goals can be met by adding new features to the park, updating existing features, and designing the park to better meet user demands now and in the future.

This plan is divided into three parts. The first section, Park Background, provides a basic overview of the historical and organizational context in which the park exists. The second part, Existing Conditions, describes the current physical characteristics, facilities, infrastructure and use areas within the park. The third part, the Conceptual Development Plan (CDP), describes specific land uses and identifies and explains target areas for future development, their location, and extent within the park.

Based on the research, site analysis, and data presented in this document, the Conceptual Development Plan (CDP) consists of two parts that comprise the detailed master plan. The first portion includes the plan text, which describes future park uses and facilities. This section also discusses design concerns that will need to be considered when the CDP is implemented. The second part of the CDP is a graphic depiction of the recommended uses and their general locations (Page 60). These two parts of the CDP should be used together to understand the full extent of the recommendations.

When all or part of the CDP is funded for implementation, detailed site design, resource condition studies, and engineering will be conducted as needed to refine design details. CDPs are general in nature so actual facility locations may shift based on future site engineering and resource studies.

# PLANNING PROCESS AND PUBLIC INVOLVEMENT

The Park Authority kicked off the public Lake Fairfax Park Master Plan Revision process on November 1, 2017, with a public information meeting attended by over 65 community members. Public input included concerns about sensible park growth, maintaining the park's existing facilities and natural resources, event traffic, trail usage and potential new uses. This public input is considered during development of the draft master plan, along with existing site conditions, natural and cultural resources, site management needs, and design concerns. This draft was published for public review and presented at a public comment meeting on June 20, 2018.

# PARK BACKGROUND

Lake Fairfax Park is a popular destination for local residents and visitors from across the region. The lake, the Water Mine Family Swimmin' Hole, and the variety of recreational activities draws a large number of visitors each year. The park received over 900,000 visitors in 2016. The abundant trails and natural areas attract hiking, mountain biking, running, equestrian riding, and camping events. Special events include a large 4th of July celebration and specialty festivals throughout the year. The diversity of activities within the park make Lake Fairfax truly a park for everyone.

# GENERAL DESCRIPTION

Lake Fairfax Park is comprised of a 20 acre lake surrounded by forested natural areas and intensively developed recreational facilities. The park facilities include the Water Mine Family Swimmin' Hole, administrative building, boat rentals, carousel, athletic fields, picnic areas, pavilions, a playground, restrooms, campgrounds, trails, skate park, bicycle pump track, and a maintenance yard. Additional parcels with existing structures have been added to the park along Hunter Mill Road since the prior park master plan was approved in 2001.

# PLANNING CONTEXT

The park is bordered on all sides by single-family residential neighborhoods, and partially by a business park along the southern boundary. The park is accessed from a single vehicular entrance at Lake Fairfax Drive off of Baron Cameron Avenue. Pedestrians can also enter the park from several trail connections that connect the adjoining neighborhoods.

Lake Fairfax Park is located in the Greater Reston Planning Sector (UP5) of the Upper Potomac Planning District as described in the Fairfax County Comprehensive Plan. Surrounding land uses are planned, zoned, and developed with residential uses ranging from 0.2 to 5 units per acre. The park is in the R-E residential zoning district that allows residential use at one dwelling units per two acres and public facilities, such as parks.

Within two miles of Lake Fairfax Park, there are seven elementary schools; one middle school; one high school; fifteen county parks; a segment of the Washington & Old Dominion Trail (W&OD); and the Cross County Trail. The Wiehle-Reston Metro Station is within an half mile of the park and the southern end of the park is directly adjacent to the Wiehle-Reston Transit Station Area.

# ADMINISTRATIVE HISTORY

Lake Fairfax Park, in the Hunter Mill Supervisory District, is located at 1400 Lake Fairfax Drive in Reston, in close proximity to Baron Cameron Road to the north and Hunter Mill Road to the east as shown in the General Vicinity Map (Figure 1). The park consists of 481.64 acres and is identified as parcels 18-1 ((1)) 6, 18-1 ((1)) 7, 18-1 ((7)) C, 18-2 ((1)) 39, 18-3 ((1)) 1A, 18-3 ((1)) 3, and 18-4 ((1)) 1 on Fairfax County Tax Maps.

Parcels were acquired by the Fairfax Park Authority between 1966 and 1972 that make up the majority of the park today. In 1979, the Park Authority created the original master plan for Lake

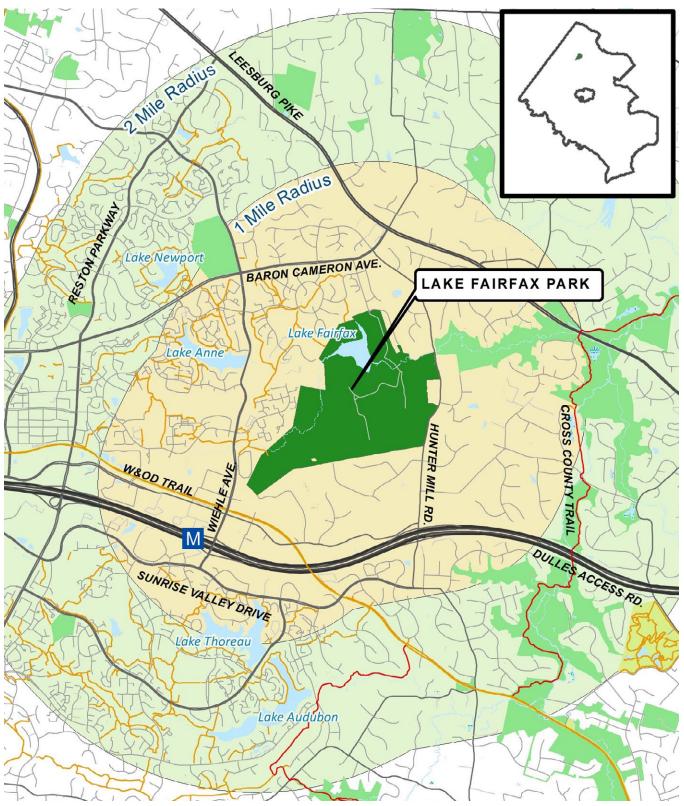


Figure 1: Lake Fairfax Vicinity Map

Fairfax Park and in 2001 a master plan revision was approved by the Park Authority Board. The 2001 master plan revision removed many of the formerly proposed facilities shown in the original master plan that were never built or desired and added other new elements to the plan. The document served as a guide for design and development projects up until the approval of this master plan revision. The 2001 conceptual development plan (Figure 2) defined different use areas within the park which include:

- Core Facilities
- Picnic Area
- · Resource Management Areas
- Athletic Fields
- Multi-Purpose Fields
- Camping

Within these use areas, elements to remain in the master plan from the original 1979 plan and new elements to be added were described. The matrix below lists the improvements and facilities proposed in the 2001 Master Plan and whether they were developed at the time of 2018 Master Plan Revision. Figure 3 on page 10 also shows those improvements and facilities on a map of the park.

| 2001 Master Plan Revision<br>Improvements & Facilities | Developed<br>(Yes/No) |  |  |
|--|-----------------------|--|--|
| Park Entrance Improvements                             | Yes                   |  |  |
| Water Mine Expansion                                   | Yes                   |  |  |
| Park/Control Information Center                        | Yes                   |  |  |
| Boat Rental House Upgrade                              | Yes                   |  |  |
| Core Facilities Food Service Area                      | No                    |  |  |
| Core Facilities Restrooms                              | Yes                   |  |  |
| Carousel Enclosure                                     | No                    |  |  |
| Mini-Train   | No                    |  |  |
| Mini-Golf Area   | No                    |  |  |
| Off-Leash Dog Area                                     | No                    |  |  |
| Skate Park   | Yes                   |  |  |
| Tot Lot Expansion                                      | No                    |  |  |
| Campground Improvements                                | Yes                   |  |  |
| Camp Store/Interpretive Center                         | No                    |  |  |
| Athletic Fields Lighting Improvements                  | Yes                   |  |  |
| *Day Camp Area   | Yes                   |  |  |

<sup>\*</sup> Currently defined as Canopy Picnic Area G

Table 1: Developed 2001 Master Plan Revision Improvements

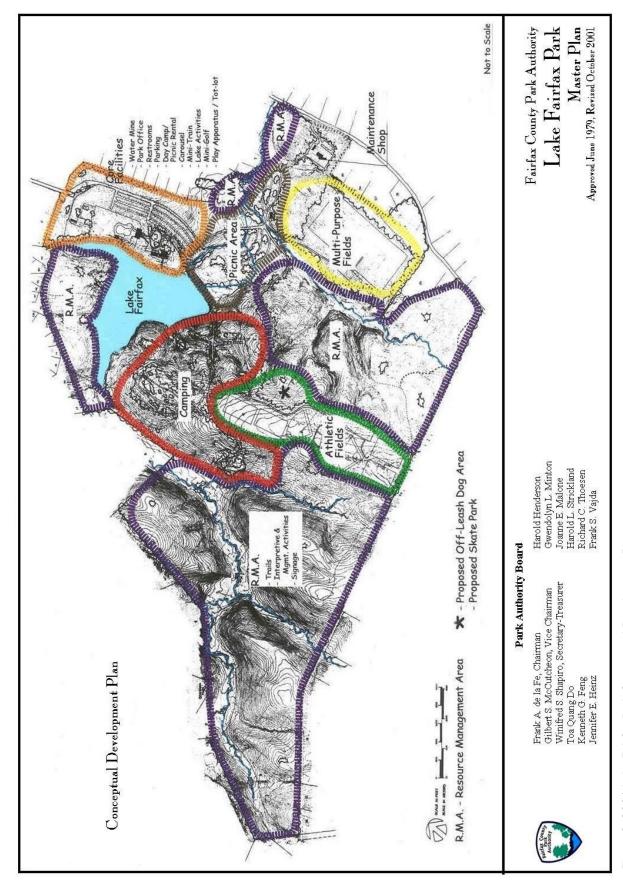


Figure 2: 2001 Lake Fairfax Park Conceptual Development Plan



Figure 3: Facilities Developed Since 2001 Master Plan

# PARK CLASSIFICATION

Park classifications provide a categorical framework for parks within the County park system. Lake Fairfax Park is classified as a Countywide Park. As described in the Fairfax County Comprehensive Plan, Policy Plan, Parks and Recreation section, Countywide Parks primarily function to serve the county and provide a variety of larger-scale indoor or outdoor recreation facilities and facilities that are unique within the county. Areas designated for natural and/or cultural resource protection may also be included within these parks. The service area for these parks is typically larger than 5 miles often including the entire county, or larger, depending on the facilities and location. Countywide Parks can be located in most areas within the county and access should be available by the major arterials and the countywide trail system to encourage pedestrian and bicycle usage.

Countywide Parks provide diverse opportunities for passive and active recreation uses to a wide range of simultaneous users. Generally, these parks provide complexes of intensively developed activity areas. The complexes may include multiple facilities for the same activity, an assortment of different activity focuses in one or more areas of the park, and/or unique facilities found in only one

or a few parks within the entire park system. Facilities in these parks are larger in scale than those found in District Parks.

Countywide Parks may combine larger complexes of developed areas with extensive natural areas. The extent of development will depend on actual site conditions, such as topography, amount of developable acreage, access, and intensity of adjacent land uses. Appropriate facilities include those typically found in District Parks as well as the facilities unique to Countywide Parks and the support uses necessary for a full day activity such as concessions and restrooms. Formally scheduled community gathering places and areas for large programmed activities and events are also typical. Lighted facilities and extended hours of operation are the norm.

These parks offer diverse experiences and activities that typically involve an individual or group for a time period of up to a day and which may attract large numbers of spectators or participants. Typical activities may include those found in District Parks. Other countywide-serving facilities that are larger scale, broader serving, and distinguished from Local or District serving facilities may include, but are not limited to, group event areas, sports complexes, indoor sport and event facilities, lakefront parks, festival and arts venues. Sensitive environmental areas and cultural resource sites within the parks will be managed as Natural or Cultural Resource Areas.

# PARK & RECREATION NEEDS

Within two miles of Lake Fairfax Park are fifteen County parks of various sizes. These parks provide some recreational facilities, ranging from playgrounds to athletic fields (Table 2). Some offer distinctive facilities including equestrian facilities at The Turner Farm and the historic mill at Colvin Run Mill Park. Additionally, there is an extensive trail network at Difficult Run and Colvin Run Stream Valley Park that connects to the trail system at Lake Fairfax.

The county's demographics have changed since the 2001 master plan. The county's population grew by over 147,000 residents between 2001 and 2016. This trend is anticipated to continue with Fairfax County welcoming an additional 125,000 residents by the year 2030. With an increasing population, large countywide parks will be in ever-increasing demand for the recreational, cultural and natural resources they provide. New population and employment growth is anticipated in Reston Town Center and along the transit corridor within the three Transit Station Areas.

The need for park and recreation facilities is determined through long-range planning efforts. Recreation needs are generally met through the provision of park facilities. The 2016 Needs Assessment provides guidance for parkland and facility needs. As part of the Needs Assessment process, the Park Authority tracks inventory of facilities, looks at industry trends, surveys County citizen recreation demand, and compares itself with peer jurisdictions to determine park facility needs. In addition, the Park Authority Board adopted countywide population-based service level standards for parkland and park facilities. Table 3 reflects projected local serving park facility needs in the Upper Potomac Planning District in which Lake Fairfax Park is located.

Evaluation of park and recreation facility service levels uses planning district geography established

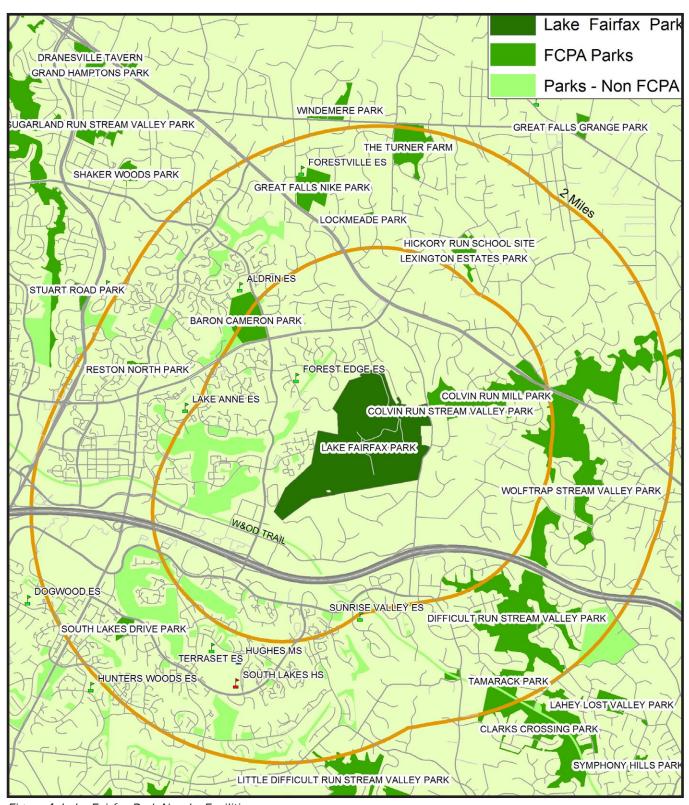


Figure 4: Lake Fairfax Park Nearby Facilities

| PARK NAME                    | TRAILS | OPEN PLAY AREA | PICNIC AREA | PLAYGROUND/TOTLOT | RECTANGLE FIELD | DIAMOND FIELD | TENNIS COURTS | BASKETBALL COURTS | EQUESTRIAN FACILITIES | HISTORIC FEATURE | DOG PARK | GARDEN PLOTS |
|------------------------------|--------|----------------|-------------|-------------------|-----------------|---------------|---------------|-------------------|-----------------------|------------------|----------|--------------|
| Clark Crossing Park          | •      | •              |             |                   | 2               |               |               |                   |                       |                  |          |              |
| Hickory Run School Site      |        |                |             |                   |                 |               |               |                   |                       |                  |          |              |
| Great Falls Nike Park        | •      | •              | •           |                   | 3               | 5             | 2             | 1                 |                       |                  |          |              |
| Colvin Run SV Park           | •      | •              |             |                   |                 |               |               |                   |                       |                  |          |              |
| Difficult Run SV Park        | •      | •              |             |                   |                 |               |               |                   |                       |                  |          |              |
| Baron Cameron Park           |        | •              | •           | •                 | 9               | 1             |               |                   |                       |                  | •        | •            |
| Lexington Estates Park       |        |                |             |                   |                 |               |               |                   |                       |                  |          |              |
| Lockmeade Park               |        | •              |             |                   | 1               |               |               |                   |                       |                  |          |              |
| Reston North Park            | •      |                |             | •                 |                 | 2             |               |                   |                       |                  |          |              |
| South Lakes Drive Park       | •      | •              | •           | •                 | 1               | 1             |               | 1                 |                       |                  |          |              |
| Little Difficult Run SV Park | •      |                |             | •                 |                 |               |               |                   |                       |                  |          |              |
| Wolftrap SV Park             | •      |                |             |                   |                 |               |               |                   |                       |                  |          |              |
| The Turner Farm              | •      |                |             | •                 |                 |               |               |                   | •                     |                  |          |              |
| Colvin Run Mill Park         |        |                | •           |                   |                 |               |               |                   |                       | •                |          |              |
| Tamarack Park                | •      |                |             |                   |                 |               |               |                   |                       |                  |          |              |

Table 2: Lake Fairfax Park Nearby Facilities

in the County Comprehensive Plan. As shown in Table 3, the Upper Potomac Planning District, which includes the Town of Herndon, has a deficit of public playgrounds and athletic facilities (fields and courts). Most parks in the district have few opportunities available where these needs can be addressed. School facilities and private facilities in homeowner common areas supplement the public inventory of trails, playgrounds, fields, and courts. Additionally, the Reston Association provides a significant amount of parks, open space, trails, and recreational facilities in the immediate area.

| 2017 Population - Uppe      | 196,732                   |                                |                              |  |
|-----------------------------|---------------------------|--------------------------------|------------------------------|--|
| 2030 Population - Uppe      | 224,603                   |                                |                              |  |
| Facility                    | Service Level<br>Standard | 2017<br>Existing<br>Facilities | 2030<br>Needed<br>Facilities | 2030<br>Projected<br>(Deficit)/<br>Surplus |
| Rectangle Fields            | 1 per 2,700 people        | 86                             | 83.2                         | 3.2  |
| Adult Baseball Fields       | 1 per 24,000 people       | 9                              | 9.3                          | (0.3)                                      |
| Adult Softball Fields       | 1 per 22,000 people       | 3                              | 10.2                         | (7.2)                                      |
| Youth Baseball Fields       | 1 per 7,200 people        | 36                             | 31.2                         | 4.8  |
| Youth Softball Fields       | 1 per 8,800 people        | 36                             | 25.5                         | 10.5                                       |
| Basketball Courts           | 1 per 2,100 people        | 78.5                           | 106.9                        | (28.4)                                     |
| Tennis Courts               | 1 per 2,100 people        | 99.5                           | 106.9                        | (7.4)                                      |
| Playgrounds                 | 1 per 2,800 people        | 105                            | 80.2                         | 24.8                                       |
| Neighborhood Dog<br>Parks   | 1 per 86,000 people       | 2                              | 2.6                          | (0.6)                                      |
| Neighborhood Skate<br>Parks | 1 per 106,000 people      | 1                              | 2.1                          | (1.1)                                      |

Table 3: Upper Potomac Planning District Recreational Facility Service Standards

In addition, the Great Parks, Great Communities Comprehensive Park System Land Use Plan adopted by the Park Authority Board on June 22, 2011, includes several specific recommendations for improvements in the Upper Potomac Planning District. This plan included a four-year process with extensive public comments on the draft Plan, after which Park Authority staff considered all public comments received. Recommendations relating to Lake Fairfax Park include the following:

- Provide pedestrian (walking) trails from neighborhoods next to Lake Fairfax into the park.
- Work with transit providers to improve bus transit service to parks in the district, especially to Lake Fairfax Park and the numerous district parks. This should include coordination of bus stop locations and transit schedules.
- Construct planned skate park at Lake Fairfax Park.
- Complete expansion of the Lake Fairfax core area including retrofitting the amusement area and expansion of the Water Mine.
- Identify overflow parking areas at Lake Fairfax Parks that may be converted to permanent parking as needed
- Continue, expand, and strengthen natural resource management efforts at Lake Fairfax Park, including the Invasive Management Area (IMA) program.

# **EXISTING CONDITIONS**

The existing site conditions determine the opportunities and challenges located within the park, such as soil types and steep slopes, which affect or limit suitability for construction of park facilities. Using the existing conditions data allows for more focused and accurate planning and development.

# NATURAL RESOURCES

#### **GEOLOGY**

Lake Fairfax Park falls within the Piedmont Physiographic Province of Virginia, characterized by gently rolling topography and slow-moving streams. As classified by the United States Geological Survey, the geology of the park is consistent, with Schist bedrock throughout the park. This type of bedrock originated as a series of sedimentary deposits on the ocean floor, then metamorphosed under intense heat and pressure, forming the schist found under the park.

#### **SOILS**

Soil characteristics can have major implications on how or where uses may be suitably established within a site. As classified by the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA), Lake Fairfax Park is comprised of a mix of twelve soil types, plus urban land and open water. Parent materials include mica schist, quartz, sericite, serpentine, chlorite, talc, soapstone, and anthophyllite. These soils and their characteristics are described as follows.

# (6) Barkers Crossroads-Rhodhiss-Rock Outcrop Complex

This soil is a mixture of the development-disturbed Barkers Crossroads soil, the natural Rhodhiss soil, and naturally occurring outcrops of granite bedrock. The complex occurs in areas of the piedmont with granite bedrock that have been developed but retain a good portion of undisturbed soil. This complex is mostly limited to areas on or adjacent to steep hillsides bordering the floodplains of larger streams. Barkers Crossroads soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Rhodhiss soil will be found under older vegetation in ungraded back and front yards and common areas. Rock outcrops will be found on the steepest hill slopes. Thin, rocky Rhodhiss-like soil will be mixed in with the rock outcrops. The outcrops are difficult to use for any development because of the slope and rockiness.

#### (30) Codorus and Hatboro

This channel-dissected soil grouping occurs in floodplains and drainage-ways of the Piedmont and Coastal Plain, and is susceptible to flooding. Soil material is mainly silty and loamy, but stratified layers of sand and gravels are not uncommon. The seasonal high water table varies from 0 to 2 feet below the surface. Depth to hard bedrock ranges from 6 to 30 feet. Permeability is variable. Foundation support is poor because of soft soil, seasonal saturation and flooding. Septic drain fields and infiltration trenches are poorly suited because of wetness and flooding potential. Streambank erosion within these soils may result in undercutting of embankments on adjacent properties. Hydric soils, which may include non-tidal wetlands, occur within this mapping unit.

# (39) Glenelg

This Piedmont soil occurs extensively on hilltops and sideslopes underlain by micaceous schist and phyllite. Silts and clays overlie silty and sandy decomposed rock. Depth to hard bedrock ranges from 5 to 100 feet. Permeability is generally adequate for all purposes. Foundation support for small buildings (three stories or less) is typically suitable. Because of a high mica content, the soil tends to "fluff" up when disturbed and is difficult to compact, requiring engineering designs for use as structural fill. This soil is suitable for septic drain fields and infiltration trenches. Glenelg is highly susceptible to erosion.

#### (50) Hattontown

This soil consists of sandy, silty and clayey sediments from areas of the Triassic Basin and Piedmont with igneous bedrock such as diabase. The soil materials have been mixed, graded and compacted during development and construction. The areas of the County where this soil is found tend to have naturally high percentages of plastic clays. As a result, Hattontown tends to have a higher percentage of plastic clays than other development-disturbed soils, but characteristics are highly variable depending on what materials were mixed in during construction. The subsoil is generally clay but can range to sandy loam. The soil has been compacted, resulting in higher strength and slow permeability. The soil is well drained and depth to bedrock is greater than 5 feet. Foundation support is marginal because of the clay content, but this suitability is very site specific. Suitability for septic drain fields and infiltration trenches is poor because of slow permeability. Grading and subsurface drains may be needed to eliminate wet yards caused by the slow permeability. Fibrous asbestos minerals may occur in areas of greenstone bedrock. These fibers may become airborne during excavation and blasting operations. Worker protection and dust control measures are required in such instances. Please refer to the soils map to identify affected areas.

#### (78) Meadowville

This soil occurs in drainage-ways and the bottom of slopes of the Piedmont over micaceous schist and phyllite bedrock. Silt and clay loam alluvium overlies silty and sandy decomposed rock. Depth to the seasonal high water table ranges from 3.5 to 6.5 feet. Depth to hard bedrock is greater than 6 feet. Foundation support is fair because of soft soil and seasonal saturation. Foundation drains (exterior and interior) and waterproofing are necessary to prevent wet basements. Grading is required to eliminate wet yards. Suitability for septic drain fields and infiltration trenches is marginal because of the high water table.

#### (82) Orange

This plastic clay soil occurs on hilltops and sideslopes over greenstone bedrock in the Piedmont and Triassic Basin. A thin silty surface overlies a plastic clay subsoil. The plastic clay, generally one to two feet thick often extends to bedrock. A perched seasonal water table, resulting from the slow permeability of the subsoil and underlying bedrock, is 1.5 to 2.5 feet below the surface. Depth to hard bedrock ranges from 4 to 6 feet. Foundation support is poor because of the plastic clays, soft soil and high water table but can be improved by sinking the footings down to bedrock. Foundation drains, grading, and waterproofing are necessary to prevent wet basements and crawl spaces. Grading and subsurface drainage may be needed to eliminate wet

yards. Suitability for septic drain fields and infiltration trenches is poor because of the plastic clays, perched water table, and shallow depth to bedrock. Deep basements and excavations may require blasting. Fibrous asbestos minerals may occur in the greenstone bedrock. These fibers may become airborne during excavation and blasting operations. Worker protection and dust control measures are required in such instances. Please refer to the soils map to identify affected areas.

# (83) Orange, very stony

This plastic clay soil occurs on hilltops and sideslopes over greenstone bedrock in the Piedmont and Triassic Basin. Numerous surface and shallow subsurface boulders may be present. A thin silty surface overlies a plastic clay subsoil. The plastic clay, generally one to two feet thick often extends to bedrock. A perched seasonal water table, resulting from the slow permeability of the subsoil and underlying bedrock, is 1.5 to 2.5 feet below the surface. Depth to hard bedrock ranges from 4 to 6 feet. Foundation support is poor because of the plastic clays, soft soil and high water table but can be improved by sinking the footings down to bedrock. Foundation drains, grading, and waterproofing are necessary to prevent wet basements and crawl spaces. Grading and subsurface drainage may be needed to eliminate wet yards. Suitability for septic drain fields and infiltration trenches is poor because of the plastic clays, perched water table, and shallow depth to bedrock. Deep basements and excavations may require blasting. Fibrous asbestos minerals may occur in the greenstone bedrock. These fibers may become airborne during excavation and blasting operations. Worker protection and dust control measures are required in such instances. Please refer to the soils map to identify affected areas.

# (88) Rhodhiss-Rock Outcrop Complex

This soil consists of sandy and clayey Rhodhiss soil mixed in with outcrops of granite bedrock. It occurs in the Piedmont, mainly on steep side slopes. Outcrops and boulders occupy fifteen to forty percent of the soil surface. Depth to bedrock varies from 0 to more than 6 feet. Foundation support is good, but excavation can be very difficult due to the rock outcrops and slope. Blasting is often necessary. Septic drain fields and infiltration trenches are poorly suited due to the rockiness and shallow depth to bedrock.

#### (95) Urban Land

This unit consists entirely of man-made surfaces such as pavement, concrete or rooftop. Urban land is impervious and will not infiltrate stormwater. All precipitation landing on Urban Land will be converted to runoff. Urban Land units lie atop development disturbed soils.

# (103) Wheaton-Codorus Complex

This complex is a mixture of the development-disturbed Wheaton soil and the natural Codorus soil. The complex occurs near floodplains in the areas of the Piedmont with micaceous schist and phyllite bedrock that have been developed but retain a good portion of undisturbed soil. Wheaton soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Codorus soil will be found along undisturbed areas within the border of the floodplain.

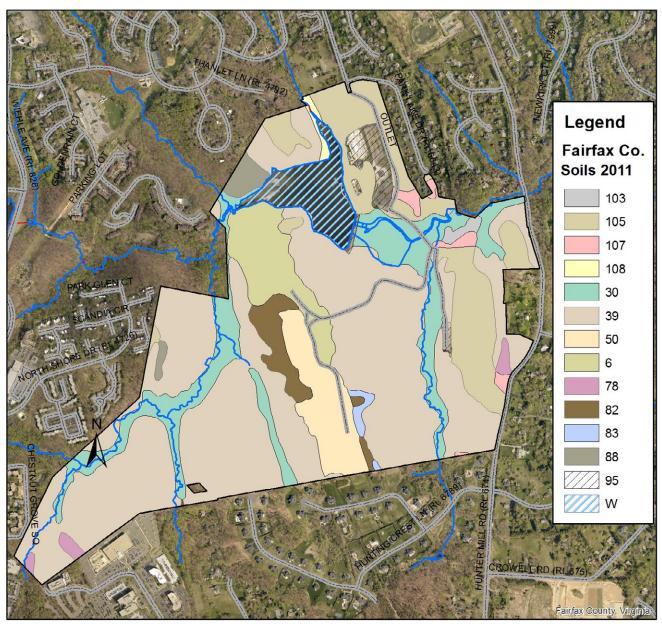


Figure 5: Lake Fairfax Park Soils Map

# (105) Wheaton-Glenelg Complex

This complex is a mixture of the development-disturbed Wheaton soil and the natural Glenelg soil. The complex occurs in upland areas of the Piedmont with micaceous schist and phyllite bedrock that have been developed but retain a good portion of undisturbed soil. Wheaton soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Glenelg soil will be found under older vegetation in ungraded back and front yards and common areas.

# (107) Wheaton-Meadowville

This complex is a mixture of the development-disturbed Wheaton soil and the natural Meadowville soil. The complex occurs near floodplains in the areas of the Piedmont with

micaceous schist and phyllite bedrock that have been developed but retain a good portion of undisturbed soil. Wheaton soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Meadowville soil will be found along undisturbed areas within and just outside of the floodplain.

# (108) Wheaton-Sumerduck

This complex is a mixture of the development-disturbed Wheaton soil and the natural Sumerduck soil. The complex occurs near floodplains in the areas of the Piedmont with micaceous schist and phyllite bedrock that have been developed but retain a good portion of undisturbed soil. Wheaton soil will be clustered around foundations, streets, sidewalks, playing fields and other graded areas. Sumerduck soil will be found along undisturbed areas within the border of the floodplain.

#### **TOPOGRAPHY**

A slope analysis of the park was completed that defined slopes of 0-5%, 5-15%, and over 15%. At least one half of the park has slopes greater than 15%. Those areas which are in the 0-5% range are primarily along streams and on the tops of ridges and comprise approximately 30% of the site. The remaining 20% of the site has slopes of 5-15%. These are primarily transitional areas (See Figure 6).

#### WATER RESOURCES

Lake Fairfax Park lies within the northern half of the Difficult Run watershed, which at 58.3 square miles is the largest watershed in Fairfax County. The main water feature of the park is Colvin Run, which was impounded to form Lake Fairfax in the late 1950s. Lake Fairfax occupies approximately 20 acres of the park. Initially created for private recreational use, the lake continues to support boating and fishing activities, but is not suitable for primary contact recreation such as swimming.

The watershed includes a variety of conditions, including forested slopes and urban environments. In general, the watershed is less developed than many others in Fairfax County, with an average of 18% impervious surface.

A stream restoration project of Colvin Run below the dam was completed by the Department of Public Works and Environmental Services in 2017. This project was identified in the 2007 Difficult Run Watershed Management Plan (DF9213).

The lake has been dredged in the past and the process of sedimentation within the lake will continue into the foreseeable future. The lake will likely have to be dredged again within the next 10 years in order to continue boating and fishing activities. This may require significant disturbance of forest and/or facilities along the shoreline.

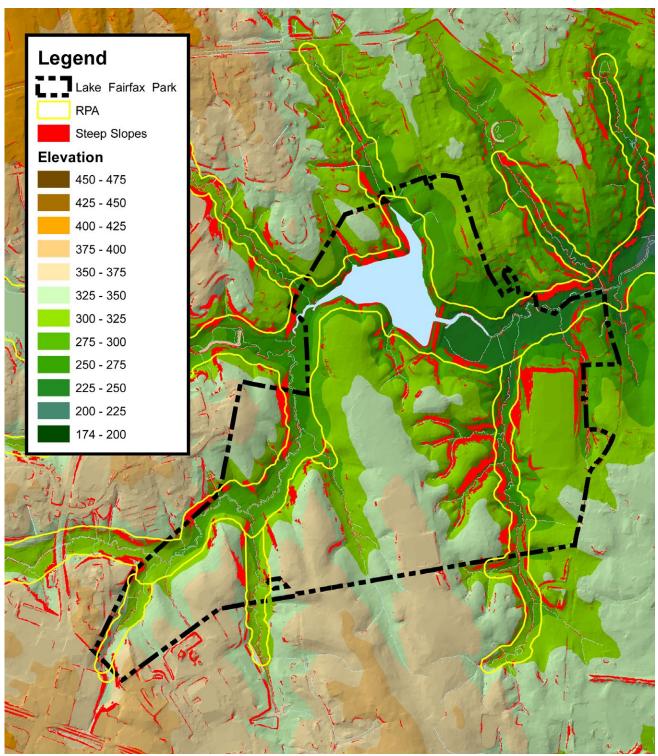


Figure 6: Map showing elevations, slope and RPA at Lake Fairfax Park

#### WILDLIFE

# **Species Diversity**

Lake Fairfax Park contains a diverse range of habitats including open water, streams with wooded floodplains, upland forests and open grasslands. The natural areas of the park help to conserve wildlife, providing stopover and breeding habitat for numerous species of birds, mammals, reptiles, amphibians, and insects.

Bird diversity at the park is high due to the numerous habitat types, the overall size of the park and the availability of food and shelter. Birding is a popular pastime at the park. The national e-Bird database compiled by recreational birders lists 187 bird species for Lake Fairfax Park. Some notable species include shorebirds and waterfowl, such as hooded merganser, gadwall, american coot, double-crested cormorant, bufflehead, wood duck, green-winged teal, killdeer, yellowlegs, and sandpipers. The park's shrubby meadow areas provide habitat for orchard oriole, baltimore oriole, purple martin, american kestrel, merlin, numerous species of sparrows, eastern towhee, eastern bluebird and yellow-breasted chat. Common in the woodland areas are many species of warblers, both breeding and migratory, and woodpeckers.

Resident canada geese are geese that remain in the United States year-round and have not learned to migrate like other geese. There are approximately three million resident canada geese in the contiguous United States. They are well-adapted to our mild climate and suburban developments, supplied with ample food and refuge. In order to reduce wildlife conflict with geese and keep the resident goose population in the parks from increasing further, the Park Authority follows the Federal Resident Canada Goose Nest and Egg Depredation Order to destroy eggs of resident canada geese. The Park Authority uses the "Geese Peace" methodology. This management activity has been carried out by staff and volunteers at lakefront parks and golf courses, including Lake Fairfax, since 2007.

Mammals in the park range from small and hard to detect, to large and charismatic. Common species include white-tailed deer, red fox, raccoon, gray squirrel, woodchuck, eastern chipmunk, and coyote. Beavers have not been reported in recent years, but have been spotted in the past.

Reptiles and Amphibians have been well-surveyed by park naturalists. Snakes found at the park include northern copperhead, northern brown snake, eastern rat snake, black racer, northern water snake, northern ring necked snake, eastern worm snake, eastern garter snake and queen snake. Turtles and lizards include: snapping turtle, eastern painted turtle, eastern box turtle, red eared slider, red bellied turtle, stinkpot turtle, common five lined skink and broad headed skink. Amphibians found include: green frog, bull frog, american toad, fowlers toad, spring peeper, pickerel frog, two lined salamander, red backed salamander.

The 20-acre lake supports year-round recreational fishing by park visitors. The Virginia Department of Game and Inland Fisheries (VDGIF) conducted a fish survey at the lake on June 11, 2018. The survey results showed healthy populations of Largemouth Bass, Bluegill, Redear Sunfish, and large brown bullhead. The diversity of fish species is indicative of high fertility water. Some species of fish are stocked seasonally by the Virginia Dept. of Game and Inland

Fisheries, for instance, rainbow trout (spring or fall) and channel catfish. A management plan for the lake could be developed and implemented to meet specific objectives. Anglers must purchase fishing passes from the park as well as maintain a current Virginia freshwater fishing license.

# Deer at the Park

White-tailed deer are a common, native species to northern Virginia, but have become overabundant due to increased food availability, low predation, and low hunting pressure. A public safety risk from overabundant deer is increased deer-vehicle collisions. Park ecologists are concerned about the destruction of the forest understory through overbrowsing. An adult deer typically consumes 3-5% of its body weight in plant matter each day.

Deer density estimates were completed at Lake Fairfax Park using a camera trap survey during 2014. The survey followed a standard protocol to capture pictures of deer using infrared triggered wildlife cameras, over bait piles of corn during the month of August prior to the hunting season. A population density estimate of 52 deer per square mile was obtained using this method.

Deer Management has been implemented at the park since 2007. The selected management method was police sharpshooting in 2007 and 2011-2015. Archery was implemented at the park in 2016 and is now the preferred management method due to its effectiveness and low cost.

# Rare, Threatened and Endangered Species

The Virginia Natural Heritage Program (VANHP), within the Virginia Department of Conservation and Recreation, defines and maps the state's known locations of rare, threatened and endangered species and natural communities. Natural resources can be assigned multiple levels of rarity and endangerment, with designated status under the U.S. Endangered Species Act being the highest level of protection for a species. Other levels include VANHP's lists of rare species and natural communities in the Commonwealth, which are updated every two years. Each species or community identified on these lists is provided a state and a global rank of rarity. There are also species that are of more general conservation concern in the Commonwealth, as identified by groups such as Partners in Flight (PIF) or Partners for Amphibian and Reptile Conservation (PARC).

There are no species of designated status under the U.S. Endangered Species Act known to occur within Lake Fairfax Park. Suitable habitat for small-whorled pogonia (*Isotria medeoloides*) is present in the park, and no formal surveys have been conducted for this species. However, the park has had many casual surveys by visitors and amateur botanists over the years, and no populations of this species have been identified.

The North American populations of numerous bat species are in sharp decline due to white-nose syndrome (WNS), a fungal skin infection first discovered in 2007 that is already responsible for over one million bat deaths. Many bats that were formerly common in our region are now facing

endangerment. Bats have not yet been inventoried within the park, but auditory and mist-net capture surveys are planned to be conducted by park inventory biologists during 2018. Little brown bat (*Myotis lucifugus*) and Tricolored bat (*Perimyotis subflavus*) are state-endangered in Virginia. Northern long-eared myotis (*Myotis septentrionalis*) is listed as Threatened under the U.S. Endangered Species Act and is listed as threatened in Virginia. As more and more bats are affected by white-nose syndrome, there is certainly the potential for federally- or state listed bat species to occur within the park.

#### **VEGETATION COMMUNITIES**

The vegetation of Lake Fairfax Park ranges from mesic stream valleys to dry uplands. Like most of the region, large areas of what is now Lake Fairfax Park were cleared in the past for a variety of purposes, including pasture and agriculture. The current and historical land-use of Lake Fairfax Park has left an imprint on the regeneration of high-quality forests.

Vegetation communities at Lake Fairfax Park can be broken into two major systems, palustrine and terrestrial. The palustrine system includes the Colvin Run stream valley and tributaries that see some degree of alluvial activity, such as flooding or drainage. Terrestrial systems in Lake Fairfax Park range from herbaceous to upland forest communities. Currently maintained areas, such as lawns, ball-fields, and the lake are not included in this description.

Oak-Hickory and Oak/Heath forests are among the higher-quality areas of Lake Fairfax Park

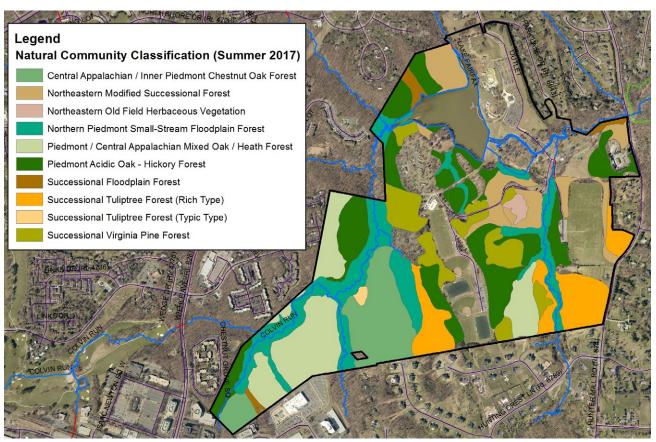


Figure 7: Lake Fairfax Park Natural Community Classification

and occur in uplands, especially in the western block of the Park. Many areas of Lake Fairfax Park, including the stream valley, have been heavily impacted. It is possible that with time and proper management, forests in various states of regeneration will transition to recognizable Oak-Hickory or Oak/Heath forests. In other areas, forest regeneration will be inhibited by invasive species and excessive deer browse.

# Palustrine System - Floodplain Forests

Northern Piedmont Small-stream Floodplain Forests (CEGL006492) and Early Successional Floodplain Forest (CEGL007330)

Around 60 acres of Lake Fairfax Park is covered by floodplain forest. Much of Colvin Run stream





Figure 8 & 9: Northern Piedmont Small Stream Floodplain Forest (CEGL006492)



Figure 10: Early Successional Floodplain Forest (CEGL007330)

valley and its tributaries, in Lake Fairfax Park, are Northern Piedmont Small-Stream Floodplain Forest (Figures 8 and 9). Five acres fit the Early Successional Floodplain Forest classification (Figure 10). Both community types are widespread in Fairfax County and exist on a scale of highly degraded to high quality, however all examples are susceptible to invasive species.

Floodplain forests are characterized by alluvial tree species such as tuliptree (*Liriodendron tulipifera*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*) and red maple (*Acer rubrum*). Invasive species such as Japanese stiltgrass (*Microstegium vimineum*), Japanese honeysuckle (*Lonicera japonica*), multiflora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*) and Japanese barberry (*Berberis thunbergii*) are abundant in floodplain communities. Native vines are common in floodplain forests such as grapes (*Vitis spp.*), Virginia creeper (*Parthenocissus quinquefolia*), and poison ivy (*Toxicodendron radicans*). Shrubs such as spicebush (*Lindera benzoin*), ironwood (*Carpinus caroliniana*) and American hazelnut (*Corylus americana*) are characteristic of floodplain forests, but in degraded examples the shrub layer is sparse and dominated by invasive species. In early spring, the herb layer is much more diverse in the Northern Piedmont Small-Stream Floodplain Forest and is composed of many native species such as spotted jewelweed (*Impatiens capensis*), Canada horsebalm (*Collinsonia canadensis*), meadow-rue (*Thalictrum sp.*) and a variety of fern species. In the Early Successional Floodplain Forest, even-aged tuliptree and red maple are the dominant trees with few native species in lower strata.

# Terrestrial Communities- Acidic Oak-Hickory *Piedmont Acidic Oak-Hickory Forest, CEGL008475*

Around 70 acres of Lake Fairfax Park is Piedmont Acidic Oak-Hickory Forest. These forests are widespread throughout the Piedmont. In Lake Fairfax Park, Acidic Oak-Hickory forests are found on a gradient between drier Oak/Heath forests and richer stream valleys. They range from high-quality stands with mature trees and diverse understories (Figure 11) to sites overrun with invasive species (Figure 12).

Stands are somewhat open and dominated by, white oak (*Quercus alba*), a variety of other upland oak species (*Quercus spp.*) and hickories (*Carya spp.*). Mockernut hickory (*Carya tomentosa*) is the most common hickory in the canopy at Lake Fairfax Park. Some younger



Figure 11: Acidic Oak Hickory forest at Lake Fairfax (CEGL008475)



Figure 12: Acidic Oak-Hickory (CEGL008475) forest at Lake Fairfax with high coverage of invasive species in the lower strata.

stands have significant percentages, of tuliptree and/or Virginia pine (Pinus virginiana) in the canopy. A variety of more mesic species (tuliptree, red maple, and black gum) are common in the understory and shrub layers. Increased abundance throughout the mid-Atlantic is generally attributed to the exclusion of fire from the landscape. Maple-leaved viburnum (Viburnum acerifolium) and flowering dogwood (Cornus florida) are common shrubs. Lowbush blueberry (Vaccinium pallidum) and deerberry (Vaccinium stamineum), are present but patchy in the shrub layer. Herbaceous species range from sparse to diverse, with overgrazing by deer likely impacting diversity. Characteristic herbs include naked-flowered tick trefoil (Hylodesmum nudiflorum), blue-stemmed goldenrod (Solidago caesia var. caesia) and rattlensnake weed (Hieracium venosum). Invasive species, such as Japanese honeysuckle, oriental bittersweet and multiflora rose are problematic in some Acidic Oak-Hickory stands at Lake Fairfax Park and will impede regeneration of canopy species.

#### Oak/Heath

Piedmont/Central Appalachian Mixed Oak/Heath Forest (CEGL008521) and Central Appalachian/Inner Piedmont Chestnut Oak Forest (CEGL006299)

Around 88 acres of uplands in Lake Fairfax Park are considered Oak/Heath forests. Two types of Oak/Heath Forest found at Lake Fairfax Park are Central Appalachian/Inner Piedmont Chestnut Oak Forest (Figure 14) and Piedmont/Central Appalachian Mixed Oak/Heath Forest (Figure 13). The largest stand of Oak/Heath forest is in the western half of the Park, above the stream valley. Soils are acidic and while species diversity is generally low in these communities, they represent the highest quality forest type at Lake Fairfax Park. Oak species dominate the canopy and hickories are a minor component of Oak/Heath forests. The two types of Oak/Heath forest found at Lake Fairfax Park, are primarily differentiated by the species of upland oaks in the canopy. Mixed Oak/Heath Forests are characterized by a variety of oak species, most notably,



Figure 13: Mixed Oak/Heath Forest (CEGL008521) Figure 14: Chesnut Oak Forest (CEGL006299)



white oak, northern red oak (Q. rubra), black oak (Q. velutina) and chestnut oak (Q. montana). The Inner Piedmont Chestnut Oak Forest is characterized by dominance of chestnut oak. Pines (Pinus spp.) are common canopy associates of these forests, especially in the stand of Oak/ Heath forest between the ballfields. As with the Acidic Oak-Hickory Forest, the abundance of more mesic species in the shrub and understory layers (tuliptree, red maple, black gum, and sassafras, etc.) is generally attributed to the exclusion of fire from the landscape. Upland ericaceous shrubs such as lowbush blueberry, deerberry, black huckleberry (Gaylussacia baccata), mountain laurel (Kalmia latifolia), and wild azalea (Rhododendron periclymenoides) are abundant in the shrub layer. Mountain laurel is generally more abundant in the Chestnut Oak Forest than what is found at Lake Fairfax Park. Chinquapin (Castanea pumila) is locally abundant in blocks of Oak/Heath forest at Lake Fairfax Park and a small number of American chestnut (Castanea dentata) survive as shrubs. The herb layer is sparse, with no species achieving high coverage, but notable species include, small-fruited panic grass (Dichanthelium dichotomum), spotted wintergreen (Chimaphila maculata), white-leaf greenbrier (Smilax glauca), and several orchid species, including (downy rattlesnake-plantain (Goodyera pubescens), pink lady's-slipper (Cypripedium acaule) and large whorled pogonia (Isotria verticillata)).

# Semi-Natural (Successional) Vegetation Communities

Over 90 acres of Lake Fairfax Park is successional or semi-natural terrestrial vegetation communities. These community types regenerate following current or former high-impact land-use. Deer browse is severe and coupled with competition from invasive species inhibits regeneration of species with higher habitat value. These stands may need management intervention to achieve any identifiable natural community.

# Successional Tulip Tree Forest (Rich Type) CEGL007220

Over 30 acres of Lake Fairfax Park is Rich Type Successional Tulip Tree Forest (Figure 15). This forest type occurs on rich soils of Lake Fairfax Park, between stream valley and uplands forest. Rich Type Successional Tulip Tree Forests are dominated by even-aged tuliptrees in the canopy



Figure 15: Successional Tulip Tree Forest (Rich Type) (CEGL007220)



Figure 16: Successional Tulip Tree Forest (TypicType) (CEGL007221)

and spicebush in the shrub layer. Mesic trees persist in the understory and shrub layers. In Lake Fairfax Park, the shrub layer is dominated by invasive species such as autumn olive (*Elaeagnus umbellata*), Japanese barberry, wineberry (*Rubus phoenicolasius*), linden viburnum (*Viburnum dilatatum*) and Amur honeysuckle (*Lonicera morrowii*). The herb layer is dominated by Japanese stiltgrass, Japanese honeysuckle and Christmas fern (*Polystichum acrostichoides*). In some areas, this forest type contains a high number of native species and may transition to a natural community if invasive species do not take over.

# Successional Tulip Tree Forest (Typic Type) CEGL007221

One acre in the western block of Lake Fairfax Park is Typic Type Successional Tulip Tree Forest (Figure 16). This forest type occurs on less fertile soils than its rich analog. It is dominated by even-aged tulip trees, with a noticeable component of pine. The shrub layer is dominated by red maple. Cucumber root (*Medeola virginiana*), lowbush blueberry and oak seedlings persist between colonial ferns (hay-scented fern (*Dennstaedtia punctilobula*), New York fern (*Parathelypteris noveboracensis*)) and running ground cedar (*Dendrolycopodium obscurum*). This occurrence is anticipated to transition to Acidic Oak-Hickory or Oak/Heath.

# Successional Virginia Pine Forest (CEGL002591)

Successional Virginia Pine Forest (Figures 17 and 18) is found on almost 30 acres at Lake Fairfax Park. It occurs following land clearing and is in various stages of succession. Stands are generally short-lived and range from pure pine canopies to those where pine is dying out and occupies no less than 50% of the canopy. Where the canopy is dense, very little light penetrates and lower strata is sparse. Near the campgrounds, canopy gaps from fallen pines have resulted in thick shrub layers dominated by common greenbrier (*Smilax rotundifolia*), blackberry species (*Rubus spp.*) and invasive shrubs. Oak regeneration is variable, some sites may transition to Oak-Hickory or Oak/Heath, though competition from invasive species and poor regeneration may lead to lower quality successional forest.



Figure 17: Successional Virginia Pine Forest (CEGL002591)



Figure 18: Successional Virginia Pine Forest (CEGL002591)

#### Northeastern Modified Successional Forest (CEGL006599)

Northeastern Modified Successional Forest (Figure 19) is found on about 28 acres at Lake Fairfax Park. This forest type occurs on land that is regenerating following agricultural or other heavy modification.

At Lake Fairfax Park, this type of forest is composed of a canopy and understory of generalist, early-successional species, such as black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotina*), black walnut (*Juglans nigra*) red maple, white ash (*Fraxinus americana*) and tuliptree. Invasive shrubs dominate the shrub layer such as, autumn olive, amur honeysuckle, oriental bittersweet, multiflora rose, Japanese barberry, wineberry and native blackberries and range from dense to sparse. At Lake Fairfax Park, native vines like frost grape (*Vitis vulpina*), Virginia creeper, poison ivy, and common greenbrier are abundant in the Northeastern Modified Successional Forest. The herb layer contains both native and exotic species, with the most abundant species being Japanese stiltgrass, garlic mustard (*Alliaria petiolata*) and Christmas fern. These stands have a weedy character and it is unlikely that they will transition to a recognizable natural plant community without intensive management.



Figure 19: Northeastern Modified Successional Forest (CEGL006599)

# Northeastern Old Field Herbaceous Vegetation (CEGL006107)

Just over two acres, in one location at Lake Fairfax Park, is Northeastern Old Field Herbaceous Vegetation (Figure 20). This patch of grassland is located south of a stand of young Successional Virginia Pine Forest off the road leading to the campgrounds.

This area is dominated by invasive and naturalized grasses, especially tall fescue (*Lolium arundinaceum*), orchard canary grass (*Dactylis glomerata*), sweet vernal grass (*Anthoxanthum odoratum*), native grasses like (*Panicum virgatum*) switch grass, broomsedge (*Andropogon* 

virginicus), are common. A variety of weedy native and non-native herbaceous species, predominately common mugwort (Artemisia vulgaris var. vulgaris) and Chinese lespedeza (Lezpedeza cuneata) are thick throughout the field. This field is mowed occasionally, but not managed as intensively as are those areas considered lawn. Scattered shrubs such as eastern redcedar (Juniperus virgniana) and autumn olive are kept low by mowing, and will take over if management is discontinued.



Figure 20: Northeastern Old Field Herbaceous Vegetation (CEGL006107)

#### Non-Native Invasive Plants

Non-native invasive plants pose long-term threats to forest health and are periodically monitored within the park. Lake Fairfax Park was assessed for non-native invasive plant species in 2014 using a multifaceted scoring system developed for the Park Authority in 2009 (*Biohabitats ISM. 2009. Fairfax County Non-Native Invasive Plant Assessment*). The Non-Native Invasive Assessment Prioritization (NNIAP) is used to strategically evaluate the impacts of non-native species on a particular area of land. Each area of similar habitat receives a score from 3-16. The score is assessed in the field under three main areas: the overall quality of the ecosystem, the level and type of infestation, and the cultural importance of the area. The score helps determine how to allocate limited resources in treating non-native invasive species. A higher score represents areas where resources should be preferentially allocated.

Invasive plants have been chemically treated in several areas of the park using FCPA's contractor, Invasive Plant Control Inc. One species of note is wavyleaf basketgrass (*Oplismenus hirtellus ssp. undulatifolius*), a new invasive species of high risk first reported in the park in 2012, and treated each year since then.

#### **Deer Browse**

Ten permanent browse survey plots were established in 2014 within the park and adjacent stream valley to measure browse by white-tailed deer and analyze change over time. Forty percent of plots showed severe browse and thirty percent showed heavy browse. This is similar to conditions in many parks countywide. These plots will be resurveyed in 2018.

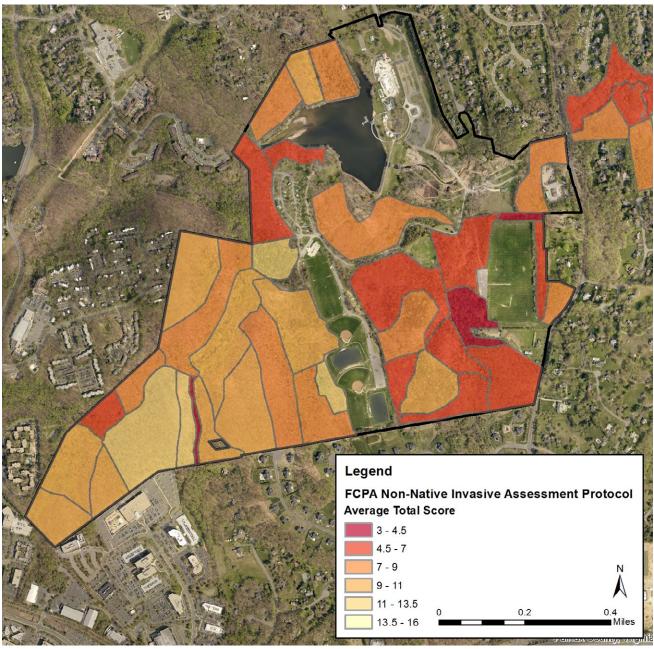


Figure 21: Lake Fairfax Park Non-Native Invasive Protocol Map

# **CULTURAL RESOURCES**

# PRE-COLUMBIAN ERA

Three Native American sites have been recorded on Lake Fairfax Park. All three sites were recorded during a 1979 pedestrian survey of the park. No subsurface testing or archaeological excavations have been conducted on these sites. All three yielded small amounts of stone debris that were the results of the manufacture of stone tools. One site yielded a fragment of a projectile point that probably dates from 3000 to 6000 years ago. Without further testing, it is not possible to determine whether these were small hunting and/or tool making stations or the sites of larger and longer occupations. At least one of the sites is located in a disturbed area (the picnic area). The present conditions of the other two sites are not known.

Several factors argue for the likelihood of there being additional sites on the park. First, the presence of several known sites is a good indicator that Native Americans favored the local environs. Second, the area would have been favored because of the proximity of well-watered streams and the local topography which offers some relatively level areas for settlement and/or use. Finally, the presence of soapstone in the vicinity of the park would have made this location particularly desirable. Before they learned how to manufacture pottery, Native Americans who lived in the Chesapeake region approximately 3000 years ago manufactured bowls from soapstone. These soapstone artifacts represent a significant technological innovation for local prehistoric residents. Many archaeologists believe that these stone containers reflect a change in the methods for storing and preparing foods. They also signal a change from small, mobile social groups to larger, more sedentary communities. In addition, there is ample evidence that these vessels were valuable trade commodities throughout the region. Sources of soapstone, therefore, were valued locations and Native American sites are commonly found in the vicinity of these sources.

#### EARLY SETTLEMENT TO PRESENT DAY

The first owners of record for this property were John Warner and John Grant, who were granted adjacent tracts on Difficult Run by the Northern Neck Proprietary in 1731. Grant received 825 acres that extended southwest to just south of the present day location of Lake Fairfax and northeast to the opposite side of the Sugarlands Rolling Road, now known as Leesburg Pike. Warner's 600-acre grant lay to the west and south of Grant's. Grant and his wife sold their tract in 1732 to John Colvill and John Lewis. Warner sold his tract to Catesby Cocke in 1741.

By the turn of the 19th century, Jonathon Swift had acquired much of the land that had been contained in these two grants. His estate, called "Long Glades," contained 1,357 acres in 1824. Court minutes for 1810 state that the house and property of Swift had burned and were completely destroyed.

During the 19th century, the land that was to become Lake Fairfax Park came under the ownership of two principal landowners. By the middle of the century, the northern portion of this land (generally north of Colvin Run) was part of the estate of Thornton Johnson while Edward Johnson owned the remainder of what would become the park.

During the 1920s, Joseph Augustus Wheeler acquired the majority of these properties. Based on local newspaper accounts, J.A. Wheeler was a successful dairy farmer and an active member of the Colvin Run/Brown's Chapel community. He reportedly had a prize-winning dairy herd and raised Percheron draft horses. He owned a milling business, a farms goods supply store, was an agent for REO automobiles, and sold horses. He was active in local citizens associations and in local and national politics. Furthermore, it seems that he hosted numerous events such as dances, horse shows and tournaments at his apparently prosperous farm. Not long before he died, Wheeler also applied for a zoning application for a commercial airstrip. This landing strip was located where the athletic fields are located today.

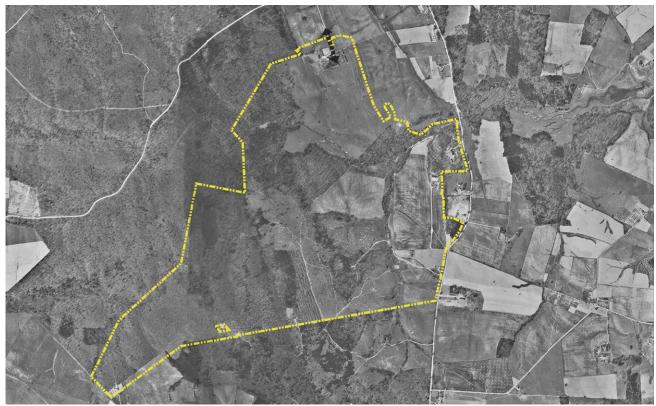


Figure 22: 1937 Aerial Photograph with Current Lake Fairfax Park Property Line Displayed

J.A.Wheeler passed away in 1954. Mack S. Crippen, Jr. and his wife, Irene B. Crippen assembled property largely from parcels purchased from relatives who had inherited the land from J. A. Wheeler. In 1958 Crippen proposed the construction of a dam to create a lake approximately 20 acres in area. Lake Fairfax was then created, and the Crippens developed the property as a recreation area. This parcel containing 292 acres was conveyed to the Fairfax County Park Authority in 1966. Inez Thew Hill conveyed an additional 129 acres to the Park Authority in 1972 to make up the majority of acreage at Lake Fairfax Park.

As of the present, few historic resources have been recorded on the park and the land records yield little evidence that additional resources may be located. Nevertheless, the known resources should be protected and the lack of documentary evidence of additional resources

does not ensure their absence. Because land records do not routinely record the locations of all improvements, the absence of a record does not necessarily guarantee the absence of resources on the ground.

# **EXISTING IMPROVEMENTS & FACILITIES**

Lake Fairfax Park has a diverse mix of popular facilities and an abundance of natural resources. Contained within the park are a themed recreational facility, campgrounds, picnic areas, skate park, carousel, boardwalk/marina, athletic fields, bicycle pump track, and a small playground. As defined in the 2001 Conceptual Development Plan (Figure 2), the park is organized into several different spatial areas which include; Core Facilities, Camping, Athletic Fields, Picnic Area, Multi-Purpose Fields, and Resource Management Areas.

#### **EXISTING RECREATIONAL FACILITIES**

# Water Mine Family Swimmin' Hole

Located within the Core Facilities Area near the park entrance, the Water Mine Family Swimmin' Hole is a popular themed family recreational facility. The swimming facility was originally an outdoor pool and later converted to the Water Mine Family Swimmin' Hole in 1997 and renovated in 2016. The recreational facility is over an acre in size and includes an admissions building, main activity pool, two smaller pools, and a 725- foot lazy river. The activity pool consists of slides, flumes, sprays, showers, floatables, and an interactive water playground. The park offers various types of shade umbrellas, cabanas, a bathhouse, and two large canopy tent rentals. Admission options include daily and season passes.



Figure 23: Watermine Family Swimmin' Hole

#### Carousel

The carousel is located near the center of the Core Facilities Area in a fenced area and is a portable model built by the C.W. Parker Company at Leavenworth, Kansas in the 1920s. Several painted metal horses adorn the amusement ride. The carousel had mechanical parts restored in 2009 -2010.

# **Boardwalk & Marina**

A boardwalk with attached docks and a boat rental house is located on the east side of the lake near the Core Facilities Area. Upgrades to the boardwalk and marina were completed in 2006. Paddle boats and kayaks are available for rent and private boats can be launched for a fee. A tour boat offers scenic trips around the lake and the docks/boardwalk are also used for fishing.

#### **Picnic Areas & Shelters**

Lake Fairfax Park has the largest amount of picnic facilities of any Fairfax County Park. There are picnic shelters and picnic areas available for rent as well as other picnic areas that are available free of charge. The picnic areas are very popular and are well-used by small families to large groups. Most of the picnic areas are located just to the south of the activity core and adjacent to Colvin Run. The individual picnic areas are organized as shown in the chart below. All of the picnic areas include tables, trash receptacles, and grills.

|                                | Tables | Seating Capacity |
|--------------------------------|--------|------------------|
| Picnic Area A                  | 20     | 100              |
| Picnic Area B                  | 10     | 60               |
| Picnic Area C                  | 10     | 60               |
| Picnic Area D                  | 10     | 60               |
| Large Shelter &<br>Picnic Area | 59     | 376              |
| Canopy Picnic Area G           | 24     | 160              |
| Picnic Shelter H               | 10     | 60               |
| Picnic Shelter I               | 10     | 60               |
| Picnic Shelter J               | 15     | 100              |
| Picnic Shelter K               | 15     | 100              |

Table 4: Picnic Areas & Shelters Seating Capacity

There are a variety of picnic shelters available for rent at Lake Fairfax Park (See Figure 26). There are four octagon shaped pavilions with metal seamed roofs situated in the activity core overlooking the lake. A large rectangular pavilion shelter is located at the eastern end of the picnic area and a large rectangular pavilion tent is located to the west of the park entrance. Several of the shelters that are available for rent are also used for day camp activities. All picnic shelters have electrical outlets and grills.

#### **Athletic Fields**

The park offers a variety of athletic fields to service local athletic groups from Reston, Herndon and Great Falls during an eight-month period from April through November. Within the athletic fields area, there are two lighted rectangle synthetic turf fields, three rectangle natural turf fields, and two lighted softball fields. There is a parking area located adjacent to the fields and portable restrooms are available.

## Multi-Purpose Field

The multi-purpose field is located on the eastern edge of the park near Hunter Mill Road. The field is approximately 500 ft. x 1200 ft. (13.8 acres), the size of eight full-size rectangular fields. The southern end of the field has a cricket pitch and is used for scheduled cricket games. The remaining space is unprogrammed and serves as a venue for special events and demonstrations. This multi-purpose field is the largest open field in the park system and is a unique asset to Lake Fairfax Park. The facility is served by an asphalt parking lot configured for 160 spaces. Portable restrooms are accessible from the parking lot.

### **Skate Park**

The skate park is located in a central portion of the park between the athletic fields and the camping area. The 16,000 square foot plaza style outdoor facility features well-rounded terrain and an array of unique obstacles that appeal to skateboarders at all skill levels. The plaza obstacles include a shark fin, manual pad, and euro gap with ledges and rails. The ledges and rails are all of the low to medium



Figure 24: Lake Fairfax Skate Park

type. The clover-shaped bowl consists of three sections at 4, 6, and 8 feet, three high-to-low curved hips, and consistent 8 foot tranny radius throughout. A 28-space parking lot serves the skate park. Portable restrooms are accessible from the parking lot.

### Pump Track

A 50 foot x 100 foot bicycle pump track is located to the east of the athletic fields. The track is suitable for bicyclists of all ages and abilities. The earthen track is above the drainage grade and water runoff is managed using collection basins and subterranean drainage pipes. The track consists of various jumps and sculpted landforms. Parking is available along the athletic field access roadway.

#### Tot Lot

A small tot lot is located at the southern end of the picnic area, adjacent to the athletic fields access road. The playground is encompassed by a split rail fence. The play equipment consists of a network of slides, platforms, climbers, and activity panels to accommodate different age groups. The playground is surfaced with engineered wood fiber and is accessible via a paved walkway from an adjacent parking area.

# Campgrounds

Lake Fairfax Park offers opportunities for RV camping, tent camping, and group camping. RV users, individuals, and families with tents can camp at the family camping areas in Campground A while multiple groups of up to 100 people can camp in the group camping areas in Campground C. A park with such a large quantity of camping sites within the Washington D.C. Metro Area is unique.

Each campsite has a picnic table and a fire ring with a grill. Parking is available at or near each campsite. There are 54 campsites that offer electrical hookups; (14) 30amp sites and (40) 50 amp sites. There is a bathhouse with showers and toilets at Campground A and Campground C.



Figure 25: Typical Campsite at Lake Fairfax

### **Paths & Trails**

Existing trails within the park include a segment of the Rails to River Trail, paved pathways, and natural surface trails that traverse the varying terrain. The trails provide a network of varying length loops within the park and connections to widely used county and regional trails. The trails are primarily used for mountain biking and hiking, while the Rails to River Trail permits equestrian use.

The Rails to River Trail connects the W&OD Regional Trail with the Potomac River. This multi-use trail connects through an easement to the W&OD, then runs along Colvin Run within the park, exiting at the Hunter Mill Road bridge across the creek. The trail continues northeast to Route 7 and Colvin Run Mill, where it becomes a part of the route of the Cross County Trail to Great Falls National Park.

There are trail kiosks with maps at a couple of the trailheads within the park. Some of the trails are well delineated and marked, while others have no way-finding markers present. Many of the trails are improved and maintained by biking and hiking enthusiast organizations, such as the Mid-Atlantic Off-Road Enthusiasts (MORE).

### **Amphitheater**

A small wooden amphitheater with bench seating is located in a wooded area adjacent to Group Camping Area A. The amphitheater seats approximately 100 people and is used for summer entertainment performances, Boy Scout ceremonies, and summer camp activities.



Figure 26: Park Existing Facilities Map

## **EXISTING INFRASTRUCTURE**

## Park Main Office

The Park Main Office is positioned between the two primary parking areas within the Core Facilities Area of the park. The building houses park management offices, community rooms, storage space and public restrooms. The structure sits above the parking area to the south upon a platform formed by a large retaining wall. There is a large exterior paved area in the rear of the building that is currently used for storage.

### **Vehicular Access and Circulation**

The park is accessed by vehicle only from Lake Fairfax Drive at the Northern end of the park. Lake Fairfax Drive continues to the south and crosses a recently improved bridge at Colvin Run. Immediately after crossing Colvin Run, the roadway splits into two unnamed roadways. The roadway to the West is used to access a picnic area, picnic shelter and the Area 6 Maintenance Facility. An access drive from this roadway accesses the parking area at the multi-use fields. The roadway to the East is used to access the athletic fields, skate park, pump track, and camping areas.

During high attendance events such as the 4th of July Celebration, traffic can be an issue due to "bottlenecking" on Lake Fairfax Drive. At times of high congestion, access through the maintenance facility is opened up to allow vehicles to exit onto Hunter Mill Road.

## **Parking**

During normal day to day park use, there is adequate parking. Two large parking lots serve the Water Mine Family Swimmin' Hole and the Core Facilities Area. These parking lots are close to full during the summer months when the recreational facility is open. Other large parking areas include the parking lot at the multi-purpose fields, the parking lot at the large picnic shelter, and the athletic fields parking lot. Smaller single row parking lots are present throughout the park next to recreational facilities, such as the skate park and picnic areas. During high attendance events, the lawn areas surrounding the parking areas in the Core Facilities Area are used for overflow parking.

## **Maintenance Shop**

A small building with three truck bays, storage, and office space is located within a fenced maintenance yard. This facility is currently used by Area VI Management and Lake Fairfax Park maintenance crews.

### **Restroom Facilities**

There are four permanent restroom facilities at the park, not including the seasonal restroom facilities located within the Water Mine Family Swimmin' Hole. Permanent restrooms are located in the Core Facilities Area, the picnic area, Camping Area A, and Camping Area C. Portable restrooms are located throughout the park near each recreational facility.

### **Utilities**

The park is supplied with municipal water services only in the Core Activity Area near the Water Mine Family Swimmin' Hole. The park utilizes wells located on site for water service to the remainder of the park. Above ground lines bring electric service to the park near the Lake Fairfax Drive entry. Throughout the remainder of the park, the electrical lines are primarily below ground. Multiple sanitary sewer lines traverse the park and generally follow the stream valleys with the exception of a sanitary line running parallel to the athletic fields.





Figure 27: Houses and Structures at Acquired Parcels

Figure 28: Utility Building

### **ACQUIRED PARCELS**

Additional parcels have been added to the park since the approved 2001 park master plan. Three residential parcels totaling approximately five acres in size along Hunter Mill Road have been acquired by the Fairfax County Park Authority. Three mid-20th century houses with various accessory structures are present within the parcels. The accessory structures include a barn, three sheds, a garage, and a utility building. All of the buildings and accessory structures at the parcels have been analyzed and deemed not to have any historical or cultural significance, with the exception of a small utility building which should be fully documented prior to any future removal. Additionally, several of the structures are in poor condition and deteriorating with age.

The landscape at the parcels consists primarily of sloping lawn with hedgerows and a couple of stand-alone trees. Two gravel drives from Hunter Mill Road are used to access the properties.

# CONCEPTUAL DEVELOPMENT PLAN

### DESIRED VISITOR EXPERIENCE

Lake Fairfax Park is a park that attracts people from across the county and region to enjoy the natural resources and diverse recreational opportunities available. The park represents something different to each individual. It is a field where clubs play cricket on weekends, a favorite spot in the lawn where fireworks are watched every summer, or where one goes mountain biking after a long workday. People get to know the park through experiences and it is important in planning for the future of the park that we preserve and enhance these experiences.

The park is essentially a stage for people's experiences and it is critical that we not only plan for uses, but design for intended character. The quote, "design is in the details" holds true for parks and makes a difference. It is a thoughtfully placed tree for shade, a camping area with a scenic view, or an interpretive area along a restored stream bank. Fundamentally, the idea is to design with the intended character in mind.

The intended character for Lake Fairfax Park should be centered around the ideas of celebrating nature, improving health, and fostering social interaction. Activities centered around nature, such as hiking and interpretive programs, should be combined with preservation and restoration efforts within the park. Athletic facilities such as fields should be designed to increase their use by incorporating elements such as lighting or synthetic turf. Finally, appropriate areas should be designed to incorporate seating, amenities, and landscaping to encourage social gatherings and passive activities.

The park is staffed and supports the visitor experience through regular maintenance needs of facilities and providing support services for event and festival setup. The Water Mine Family Swimmin' Hole has its own seasonal staff. As new facilities are incorporated into the park appropriate staff should be added to maintain programs and the visitor's experience.

### MANAGEMENT FRAMEWORK

As with many countywide parks, Lake Fairfax Park has expanded or added new recreational facilities over the years to meet the demand of a growing population. The park offers lake activities, hiking, skateboarding, mountain biking, field sports, swimming, fishing, picnicking, camping, and seasonal festivals. The relatively large size of the park has allowed for further development in the past with little disturbance of natural areas. The park is now at an equilibrium where new development must occur in a design-efficient manner within previously developed areas in order to protect and preserve the natural areas of the park.

The combination of preserved natural areas and intensively used active recreational facilities in any park requires careful planning and balanced perspective. Forests take decades to centuries to mature and significant population growth and development in a county can occur in less than

five years. In densely populated regions across the United States, parks are challenged with meeting the recreation expectations of the present public while preserving sensitive natural areas for future environmental and public benefit.

#### PARK PURPOSE

Park purpose statements provide a framework for planning and decision-making. As described in the Fairfax County Comprehensive Plan, Policy Plan, Parks and Recreation section, the purpose of countywide parks, such as Lake Fairfax Park, is to serve the county and provide a variety of larger-scale indoor or outdoor recreation facilities, or both, and facilities that are unique within the county. Areas designated for natural and/or cultural resource protection may also be included within these parks.

## MANAGEMENT OBJECTIVES

In order to achieve the park's purpose, the following objectives will guide actions and strategies for dealing with management issues:

- The forests and natural resources within Lake Fairfax Park are valuable to the park's
  environmental health, outdoor activities, and overall character. Every effort should be made
  to balance the stewardship of these resources with active recreation needs.
- Foster attitudes as well as responsible stewardship practices that support conservation of natural and cultural resources.
- Provide educational programs and exhibits promoting an appreciation of nature within the park.
- Incorporate revenue generating facilities that are in harmony with the park's purpose to
  offset the costs of park management and maintenance.
- Manage the park to provide recreational facilities and open space for public enjoyment.
- Provide universal access to any future park facilities when access is possible and feasible.
   This includes accessible facilities and connections between different areas of the park.

### REMOVED PLAN ELEMENTS

In 2001 the Park Authority completed the last CDP for Lake Fairfax Park. The plan showed many features that now exist in the park. Some features, however, in the 2001 plan were never built or are planned to be removed as part of this master plan revision. These facilities are described below in greater detail.

### **CAROUSEL**

The carousel receives moderate use during the warmer months and has required a considerable amount of maintenance to keep it up and running over the last several years. Due to decreased use and increased maintenance needs, the carousel should be removed from the park. The carousel is a portable model from the 1920s and is culturally significant. The carousel should be fully documented with photos and descriptions by the Park Authority's Historic Preservation Branch prior to removal.

### **GROUP CAMPING AREA 10**

The Group Camping Area 10 is not used as frequently as the other group camping areas in the park. This camping area should be removed and replaced with a use that is better suited for this location.

### **MINI-GOLF AREA**

A mini-golf area was included in the park facilities core area in the 2001 master plan revision. Since that time, a mini-golf area was never constructed. There are other parks within Fairfax County that have miniature golf facilities and the popularity of this recreational activity has been declining over the years. Additionally, miniature golf facilities typically receive more use in areas that receive a fair amount of "passer-by" traffic from vehicles and pedestrians. For these reasons, the Mini-Golf Area has been removed from the Conceptual Development Plan.

### TOT LOT EXPANSION

The tot lot within the picnic area was built in 1998 and is located within a resource protection area (RPA). Expanded facilities and new construction are not permitted in RPAs as described by the Chesapeake Bay Preservation Ordinance. Therefore, the tot lot will not be expanded and will be maintained within its current footprint for the foreseeable future.

### CAMP STORE/INTERPRETIVE CENTER

A camp store/interpretive center located within the camping area was planned for in the 2001 Master Plan Amendment. The facility was intended to include a small office, store area, reservation desk, restrooms, lounge, interpretive center, and laundry machines. Since the 2001 Master Plan, two bathhouses, which include restrooms, were constructed and/or renovated within the camping area. Additionally, the Park Control and Information Center was built in 2008 and houses the reservation procedures, including ticketing for all of the camping areas. Further study has been given to the need for an indoor interpretive center in Lake Fairfax Park and it has been determined that this type of use would not be as successful as interpretive areas that immerse people in actual outdoor environments. It is for these reasons that the camp store/interpretive center is being removed from the Conceptual Development Plan.

### **USE AREAS & FACILITIES**

As part of the Conceptual Development Plan (CDP), the park is organized into use areas that provide a framework for site management and decision making (Page 60). These areas identify the primary purpose of each location, providing guidance for determining a range of acceptable uses within each area. The use areas contain descriptions of both existing and proposed plan elements and are accompanied by a graphic map that shows the general locations of the existing and planned elements. These two elements of the master plan – written and graphic should be used together to understand the full extent of the recommendations.

#### **ACTIVITY CORE**

Located to the east of the lakefront, the Activity Core is the central area of liveliness within the park. This portion of the park has the highest density of facilities, parking, and consequently park patrons. In addition to the draw of the Water Mine Family Swimmin' Hole, users are attracted to this location because of the lakefront activities and numerous picnic shelters. Many of the events and festivals within the park occur within the Activity Core. The Activity Core should remain to be the focal area of the park with an emphasis on lake activities and passive recreation.

# Water Mine Family Swimmin' Hole

The Water Mine Family Swimmin' Hole has been recently renovated and expanded. Future improvements to the facility should focus on support facilities, such as the bathhouse, admissions building, and a potential food service. A small food service facility should be positioned at a location that can accommodate Water Mine guests and park visitors that are outside the water park perimeter.

## Park Control & Information Center

The Park Control and Information Center was constructed in 2008 and is in relatively good condition. The building houses the park administrative offices and a small group meeting space. The building is perched on top of a raised platform that overlooks the parking area to the south. An outdoor paved area at the rear of the building is currently used for park storage. As this is a highly visible location in close proximity to the core facilities of the park, locating outdoor tables and seating at the patio would be a more appropriate use of this space.

### **Lakefront and Boardwalk**

The Boardwalk and Marina at the lakefront were constructed in 2006. The arch shaped







Figure 30: Marina and Boat Rental House

boardwalk extends out into the lake with the boat rental house and marina located at the center. The boardwalk will benefit from the addition of interpretive signage that explains the history of the park and the wildlife communities at the lake.

#### Central Gazebo

In the location where the carousel is located a gazebo should be placed to serve as a focal point within the core area of the park. The gazebo would serve as a space that could be used for events, such as speeches, farmer's markets, and educational activities. Planned activities should be cognizant of excessive noise and conform to noise regulations of the Zoning Ordinance. The gazebo should be large enough to accommodate a variety of activities. A diameter of 40 to 50 feet is recommended.



Figure 31: Gazebo (precedent image)

### **Picnic Shelters**

The picnic shelters within the core activity area were constructed in 2009 and are used frequently. The shelters should continue to be used and maintained as needed.

### **Restroom Building**

The restroom building within the core activity area is in good condition. The restroom building should continue to be used and maintained as needed.

### **Parking Areas**

The parking areas within the core activity area make up the majority of parking spaces within the park. The parking in this area consists of two large lots that are used for people visiting the Water Mine Family Swimmin' Hole, lakefront, and events. The parking lot to the south of the Park Control and Information Center is fully paved while the parking lot to the north of the building only has the drive aisles paved and the parking spaces as sod. The spaces within the northern parking lot are often devoid of sod and muddy. The parking area to the north should be designed to be fully paved with appropriately placed landscape islands for shade and stormwater infiltration. This improvement would reduce muddy stormwater seeping into Colvin

Run and also create a more favorable environment for visitors.

# Landscaping

The activity core area landscape consists primarily of lawn areas with a few shade trees. A forested buffer exists along the eastern property line providing separation between the single-family homes and park activities. As the core area is the most developed and heaviest used area of the park, a more manicured landscape would be appropriate. The lawn areas to the west of the parking lots would benefit from planting additional shade trees. Additionally, a greater portion of the lakefront should be converted from sod to more native grasses and shrubs to provide habitat and provide a naturalized setting for visitors.

### **EVENT AREA**

The event area is located at the northern end of the park to the west of the Lake Fairfax Drive. The area currently houses a temporary fabric event tent over a paved slab. Picnic tables, a grill, and a portable toilet are available at the site. A small parking area that is accessed via a gravel drive from Lake Fairfax Drive provides access to the tent.

#### **Event Pavilion**

The temporary tent should be replaced with a permanent picnic shelter that can hold a maximum of 200 people.

# **Parking Areas**

The drive and parking area should be paved to reduce maintenance needs and improve accessibility.

### DOG PARK ZONE

The Dog Park Zone is located to the north of the skate park and to the west of the family camping area. The area is relatively flat and easily accessible from the skate park parking lot. The location is also a quarter mile from the nearest neighbor's house.

## Off-Leash Dog Area

The Off-Leash Dog Area should be a minimum of 1/2 acre and connected to the skate park parking area to the south and any new parking areas by accessible paved walkways. The parking area will need to have spaces complying with current ADA regulations. The design of the Off-Leash Dog Area should meet the following specifications:

- The enclosure should be a black vinyl coated fence with a double-gated portal entrance and 12 foot maintenance gate.
- The surface should be a minimum of four inches of stone dust or decomposed granite over drainage gravel.
- Trees should be included within the off-leash area for shade when possible.
- An information kiosk displaying dog park rules and other pertinent information should be located in a visible area.
- A Minimum of two benches and a trash receptacle should be provided.

A water station for dogs and a dog waste dispenser box should be provided

#### **ENTRY ZONE**

The Entry Zone surrounds the primary park entrance at Lake Fairfax Drive. This is the front door to the park and the first impression visitors receive when coming to the park. The entry drive is split into two one-way drives with lockable access gates divided by a sod median that houses the park entry sign.

## **Park Entry Sign**

The Park Entry Sign sits within the median and is up-lit by landscape lighting. The design of the entry sign consists of a polycarbonate graphic sign placed upon a masonry base with two columns. The sign should be maintained until the wear and tear of time requires replacement.

## Landscaping

Additional landscaping that compliments the entry signage should be added in this area to help signify that this is the entry to the park and to add visual interest. Low height shrubs and ornamental grasses would be appropriate within the median. Large sod areas exist to the east of the park entry. These areas have no apparent use. The establishment of native shade and ornamental trees are recommended in this area to increase the buffer from adjacent residences and to minimize mowing areas.

### **PICNIC ZONE**

The Picnic Zone is located to the south of the Core Activity Area in the central portion of the park adjacent to Colvin Run. The zone consists of reservable Picnic Areas A, B, C & D and an open picnicking area. The Large Picnic Shelter and Area is located adjacent to the drive that provides access to the Maintenance Shop. A series of head-in parking areas are located along the drives in this zone. A small tot lot is located within the open picnicking area and a restroom building with accessible parking was recently constructed in this area to accommodate the large number of picnickers. The majority of the Picnic Zone sits within the Resource Protection Area for Colvin Run.

### Picnic Areas

The picnic areas are heavily used during the warm weather months. The heavy use and visitors driving vehicles to specific sites to unload or park have caused many of the lawn areas to become compacted and void of sod. These barren areas are not only unattractive to picnickers, but stormwater run-off from these areas is environmentally problematic to the recently restored Colvin Run that meanders through the site.

The barren areas and dirt paths used by vehicles should be reclaimed to sod. Removable barriers or lockable access gates along the drive should be considered to reduce the opportunity for visitor vehicles entering these areas. Maintenance vehicles should be the only vehicles permitted in these areas. Additionally, the parking areas should be redesigned to provide a more defined lot for patrons to park and access the picnic sites.

## Large Shelter & Picnic Area

The Large Shelter was recently constructed and is in good condition. A parking area adjacent to the shelter has two paved ADA parking spaces with an accessible pathway to the shelter. Visitors not requiring ADA parking spaces currently park within the sod areas around the shelter. A defined paved parking lot should be constructed in this area to accommodate visitors and limit disturbance of the lawn areas.

### **Tot Lot**

As part of this master plan revision, a new playground that accommodates distinct age groups is planned in an area to the immediate north of the Picnicking Zone. The existing tot lot within the Picnicking Zone should continue to be maintained until maintenance and/or repair is not feasible. At that time, the tot lot and fence should be removed and converted into additional picnic area.

### Colvin Run

The first phase of the Colvin Run Stream Restoration Project was completed in 2017. As part of the restoration different access points to the stream were established for environmental education. Interpretive signage related to the project, stormwater, and environmental stewardship should be placed at these access points.

## **Restroom Building**

A restroom building with parking was recently constructed to the east of the Open Picnic Area. The building and the parking should be maintained into the foreseeable future.

## Landscaping

Additional trees should be added to the eastern edge of the park property to increase the

width of the vegetated buffer from adjacent residents.

### PLAYGROUND ZONE

The Playground Zone is to the immediate south of the paved parking lot in the Activity Core.

### Playground

Lake Fairfax Park receives visitors from throughout the region attracted to the many activities the park offers. A regionally-sized themed accessible playground should be designed with creative



Figure 32: Playground at Clemyjontri Park

play features that may include fully accessible play structures, experiential equipment and natural elements within the Playground Zone. Any designs should feature inclusive play that accommodates individuals of different age, physical and mental abilities. The playground size

should be between 10,000 and 15,000 square feet with poured-in-place rubber surfacing. A variety of seating should be designed around the perimeter of the playground for guardians and children. Additionally, creative play elements for adults should be considered in this area, such as adult-sized swings. Shade should be provided within the playground through a combination of structures, fabric shade sails, and trees.

#### MAINTENANCE SHOP

The Maintenance Shop area is located on the eastern side of the park along Hunter Mill Road. The shop is primarily accessed from Hunter Mill Road and controlled access is available from a drive connecting through the Picnic Zone.

## **Maintenance Building**

The Maintenance Building is currently well maintained and utilized. There are no future anticipated changes to the building.

### Maintenance Yard

The Maintenance Yard consists of parking bays and storage facilities for maintenance equipment and materials. A salt dome may be an appropriate use in the Maintenance Yard area. If determined to be feasible, the structure should be located to minimize its visual impact. Additionally, the structure should be designed to reduce salt seepage into stormwater run-off.

### **MULTI-USE FIELDS**

The Multi-Use Fields are located on the eastern side of the park parallel to Hunter Mill Road. The area consists of Multi-Purpose Field A, Multi-Purpose Field B, and Field 8. The fields are currently accessed by a drive that stems from Lake Fairfax Drive.

### **Recreation Pathway Loop**

There is a need for accessible recreation pathways in this portion of Fairfax County. A six-foot wide pathway should be constructed around the outside perimeter of the multi-use fields. The half-mile recreation loop would not only accommodate exercise activities but also serve as an organizational element for arranging and setting up events. The design and surface of the trail should consider recreational need, maintenance, and stormwater impact.

#### Multi-Use Fields

The Multi-Use Fields are actively used for recreational activities, sports, and events throughout the year. When combined, the fields in this area form the largest recreational open space in the county. The fields should remain free of any permanent improvements to retain the flexibility and variety of future uses.

Lighting should be provided around the entire Multi-Use Field area. This would extend the time allowed for play on the fields and improve the general user experience. All efforts should be made to minimize impacts to neighboring residents. These fields should be irrigated in accordance with Park Authority policy to protect its investment in lit fields and maintain them in the highest quality.

### **Cricket Field**

Field 8 at the southern end of the Multi-Purpose Field Area currently has a cricket pitch constructed of synthetic turf. This field is one of few fields in the county that can accommodate cricket and therefore receives considerable use. A regulation size cricket field with a new synthetic pitch should be planned for Field 8. Lighting in the multi-use field area will extend the hours of use for cricket games.

# **Parking Area**

The parking area at the multi-use field area has approximately 140 spaces and adequately serves most activities scheduled at the fields.

### ADVENTURE COURSE ZONE

The Adventure Course Zone is located in the area that was previously the Group Camping Area 10. This camping area currently receives limited use and the forest in this area has previously been disturbed and thinned for campsites. The location, topography, and forest in this zone are ideal for an adventure course that includes features such as zip lines and rope obstacles.

## **Adventure Course Facility**

An Adventure Course Facility that encourages team building among children and adults with challenging adventure activities should be planned for this area. The course should be designed to utilize the existing trees and sloping topography. Any needed tree clearing should be closely coordinated with Fairfax County Park Authority Natural Resources Branch. The facility can be operated by the Park Authority or a third-party vendor.



Figure 33: Adventure Course Example

# **Adventure Course Administration Building**

The adventure course will require a small building (1000 SF or less) to house office space for administrative activities such as ticketing, scheduling and record keeping. The building should be located in close proximity to the parking area and restrooms. The area directly across from the skate park along the access road appears to be an ideal location because of minimal slope and proximity to other facilities, such as the skate park parking lot.

### Restrooms

A restroom will be needed to accommodate adventure course visitors. Should the adventure course be overseen by a private company that leases the land from the Park Authority, a permanently accessible restroom will need to be located within 500 feet of the facility. Ideally, the restroom can be incorporated into the Adventure Course Administration Building with a separate exterior entrance. A sanitary sewer line is located along the east side of the athletic

fields and water is available via a well near the skate park.

## Parking Area

The adventure course will need parking for 15 to 25 vehicles that should be located in close proximity to the start of the adventure course and the administration building. Fifteen pull-in parking spaces should be planned along the access road, directly across from the skate park. The parking lot at the skate park can be utilized for any overflow parking needs.

### **CAMPING AREA**

The Camping Area is located within a central portion of the park to the south of the lake and is made up of family and group campsite areas. Gravel drives are present throughout the area providing access to the several campsites.

## **Family Campsites**

Camping Area A offers 136 family campsites for recreational vehicles (RVs) and tents. There are currently 54 sites with electrical hookups (14 30amp sites and 40 50amp sites). The sites with electric are primarily utilized by RVs and tents typically occupy the sites without electric. Each campsite also has a picnic table and a fire ring/grill combination.

Outdoor electrical outlets should be added to more of the sites and water connections should be added to a portion of the campsites.

# **Group Campsites**

There are 10 Group Camping Sites located within the Camping Area. These sites are tucked into forested areas. Several of these camping sites have erosion issues due to a combination of steep slopes and denuded understory vegetation. Where these issues exist, campsites should be redesigned or relocated to allow for proper drainage and restorative plantings. Where steep slopes exist, wood platforms anchored into the grade may provide a flat base for tents and help with erosion/drainage issues.



Figure 34: Example of a Yurt Rental at Lake Edge

### **Bathhouses**

There are two bathhouses within the Camping Area at Lake Fairfax Park. The bathhouse at Camping Area A offers showers, sinks, toilets, and a sanitary dump station for RVs. The bathhouse at Camping Area C (group camping areas 2 through 8) includes showers, sinks, and

toilets. The bathhouses should continue to be maintained for the foreseeable future.

### **Rental Cabins**

There is a demand in the region for small one-room rental cabins or yurts as people look for new ways to experience the outdoors. Rental cabins provide guests that may not own a tent or an RV, or require an accessible facility, with a comfortable place to stay with built-in conveniences. In addition to providing a different experience for park visitors, rental cabins help provide additional revenue generation which is needed to support park operations.

The cabins should be located within one of the group and/or family campsite areas and within 500 feet of a bathhouse. They should be accessible from a vehicle and be located outside of resource protection areas. The orientation and arrangement of the cabins should be such that key views within the park are not blocked and there is a sense of privacy for each cabin. The cabins should include electrical outlets and offer amenities such as cots, tables, chairs, microfridges, and lights. The design of the cabins should incorporate low-impact design and green infrastructure practices.

## Amphitheater

The amphitheater is located on a sloped area of land between Camping Area A and Group Camping Area 9 The amphitheater is used by groups in the camping areas and for scheduled events during the summer months. The amphitheater seats approximately 50 people and has aged over the years. When the amphitheater reaches a point where continued maintenance can no longer preserve it, a new amphitheater should be built in the same general location. The new amphitheater should have ADA accessible seating and construction that reduces maintenance needs, such as composite lumber.

### Landscaping

Many individuals seek camping as a way to connect with nature. The addition of native trees and shrubs in the camping area would help provide a more natural character around the camp sites. In addition to enhancing the experience, vegetation can provide shade and stormwater management benefits.

### SKATE PARK ZONE

The Skate Park Zone is in a central portion of the park, located between the athletic fields and the camping area. The Skate Park, parking area, and two small shelters are within the Skate Park Zone.

### **Skate Park**

The Skate Park was constructed in 2013 and is relatively new. The skate park's plaza, obstacles, and features should continue to be maintained into the foreseeable future.

### **Parking Area**

The parking area is currently loose gravel with concrete parking stops. There are two paved ADA (Americans with Disabilities Act) spaces adjacent to a paved walkway that is used to access the skate park and portable restrooms. The parking area should eventually be paved to meet the

standards set forth in the Fairfax County Public Facilities Manual.

### **Skate Park Shelters**

Two small shelters sit across from each other to form the gateway into the skate park. One shelter has bays to house vending machines. There is a lack of seating in this area of the skate park to be used for resting and socializing. A variety of surface mounted tables and seating should be added under the shelters to accommodate skate park users.

### ATHLETIC FIELDS ZONE

The Athletic Fields Zone is located on a ridge that runs through the center of the park. Within this zone, there are two lighted rectangle synthetic turf fields, three rectangle natural turf fields, and two lighted diamond fields. There are parking areas located adjacent to the fields with paved pathways connecting to the individual fields.

## **Rectangle Fields**

As county population increases there is a greater demand for rectangle field use. Field lighting and synthetic turf extend the hours of use and reduce maintenance needs for these field types. Rectangle Fields 1 and 4 already have been upgraded to synthetic turf with lighting. Rectangle Fields 2, 6, and 7 should be upgraded to synthetic surfacing with lighting as well to increase the usage capacity.

### **Diamond Fields**

The Diamond Fields are in good condition and they should be well maintained into the foreseeable future.

## **Parking Areas**

The Parking Areas consist of one large paved parking lot at the south end of the fields and two gravel-surfaced pull-in parking bays adjacent to the access drive. The two gravel-surfaced pull-in parking bays should eventually be upgraded to paved parking to comply with the Public Facilities Manual. Additionally, shade trees should be planted and established in islands and around the perimeter where trees are not present. Additional trees will provide much needed shade and stormwater benefits in these areas.

## **PUMP TRACK ZONE**

The Pump Track Zone is located in a small area to the east of the athletic fields. Parking for the pump track is shared with athletic field parking with accessible spaces present.

## **Pump Track**

The Pump Track is regularly maintained by biking enthusiast groups. The pump track is very popular and gets a heavy amount of use. The pump track should be expanded into the immediate area to the northeast with additional jumps and features to accommodate bikers of all skill levels. Additionally, a permanent pump track entry sign should be placed at a visible location that displays safety information and rules.

### MULTI-PURPOSE CENTER AREA

The Multipurpose Center Area is located at the newly acquired parcels along Hunter Mill Road.

The area currently has several aging structures within lawn areas with a couple intermittent hedgerows. The adjacent multi-use fields are often used to host events that utilize the expansive open space. The Multi-Purpose Center Area adjacency to the multi-use fields is complimentary to these uses and is intended to expand the diversity of events that can be accommodated in this general area.

# **Multi-Purpose Center**

A multi-purpose center should be located within this area at a location that is in close proximity to the Multi-Use Fields. The center should be designed to have open flexible spaces that can accommodate a multitude of different seating arrangements and event types. Events may include classes, camps, weddings, parties, and conferences. The space within the building should physically and visually



Figure 35: Multi-Purpose Center Example

connect to a small paved outdoor space to serve as a continuation of the active space during warm weather months. The center should include administrative offices, restrooms, storage rooms, a catering prep room, and accommodate audio/visual equipment options.

The center should be designed with nature in mind and compliment the surrounding pastoral landscape with vernacular building materials such as wood and stone. Architectural features such as large windows and vaulted ceilings help visually connect the indoor spaces to the outdoor scenery.

The center will require an access road that extends from the parking area for the multi-use fields to a new parking area that serves the event center. This access road should eventually extend and connect to Hunter Mill Road to serve as an auxiliary entry for the park.

## **Parking Area**

A parking area should be located adjacent to the Multi-Purpose Center with enough spaces to accommodate the most commonly anticipated events. The parking area should include a drop-off location at the building's primary entrance and a couple spaces to accommodate horse trailers and larger trucks. The multi-purpose fields parking lot should be used for overflow parking for very large events.

## Landscaping

The existing landscape within this area should be preserved when feasible. Rolling pastures, hedgerows and split-rail fences are recognizable elements of the landscape within this part of the county. Maintaining this aesthetic within this area will not only help preserve the scenic experience along Hunter Mill Road but strengthen the appeal of the Multi-Purpose Center.

# **Open Space Area**

An open space area should be located within this area and may include amenities such as an outdoor educational garden. The open space area should be accessible from the Multi-Purpose Center.

### FOREST RESOURCE PROTECTION ZONES

These zones include high-quality forest stands of Piedmont Acidic Oak-Hickory Forest, Piedmont/Central Appalachian Mixed Oak/Heath Forest, Coastal Plain/Piedmont Small-Stream Alluvial Forest and Mesic Mixed Hardwood Forest, amongst other natural community types. Use within all Forest Resource Protection Zones will be restricted to foot traffic on park maintained trails, with horses and bicycles allowed on designated trails only. Off-trail use is prohibited for all visitors and their pets due to the sensitivity of the plant communities and wildlife species.

Existing trails may be rerouted for resource management purposes if they are found to be impacting significant resources. Trail maintenance and re-routing must be carefully coordinated to minimize impacts to all resources. Limited off-trail activity will be permitted for resource management activities along with programs scheduled and supervised by Park Authority staff that are compatible with the agency's resource management goals.

### MEADOW RESOURCE PROTECTION ZONE

Managed meadows require regular, periodic disturbance such as mowing or prescribed fire to maintain their successional ecological state. The interpretive meadow at Lake Fairfax should be managed as a native grassland, potentially with small native shrubs and trees scattered

throughout. Non-native invasive species, such as Autumn Olive, should be removed as they can impede the natural or induced disturbance process and serve as seed sources for other areas of the park. The specific maintenance regime for the interpretive meadow shall be determined by the park manager and interpretive site staff, in consultation with the natural resources branch, to meet specific goals and objectives.



Figure 36: Interpretive Meadow Sign Example

## **Meadow Interpretive Overlook**

An interpretive overlook should be located at a location overlooking the Meadow Resource Zone adjacent to the athletic fields access road. The overlook should be designed to be accessible from the planned walkway adjacent to the access road. The interpretive overlook should include some built-in seating and interpretive signage that explains the ecology and natural processes associated with the meadow.

### **MINI-TRAIN**

The park formerly had a 16 gauge miniature train that did not meet County safety regulations and was removed from the park. The mini-train should be replaced with one of similar stature for the enjoyment of young park visitors. The rail bed alignment should be located within or near the activity core area of the park in a location that does not impact vehicular or pedestrian circulation.

## VEHICULAR ACCESS AND PEDESTRIAN CIRCULATION

Circulation is an important aspect of how a park functions and performs. The ease with which park patrons can access facilities by vehicle, bike, and on foot directly relates to the frequency and use of these facilities. There are no direct public transportation routes into the park and the closest facility is the Metro bus stop at Baron Cameron Avenue. Even though this portion of the county is slowly urbanizing, the park remains in a rural area. The majority of visitors access the park by vehicle and this trend is expected to remain for many years to come.

The primary and only vehicular entrance to the park is from Lake Fairfax Drive. Lake Fairfax Drive shall remain to be the primary vehicular means for entering the park. A limited access secondary entry drive into the park is necessary to accommodate traffic congestion during special events and peak use periods. The new facilities proposed in this Conceptual Development Plan are not expected to significantly increase vehicular traffic.

Connectivity of trails and walkways not only provide recreational opportunities within the park but also provide an additional means for individuals to access the features within the park from the surrounding communities. It is the intent of this master plan amendment to strengthen and improve these bicycle and pedestrian connections. Alternative means of transportation into the park not only promotes a healthy lifestyle but also reduces the amount of parking needed within the park.

## HUNTER MILL ROAD ENTRANCE AND DRIVE

Lake Fairfax is a relatively large park and several of the facilities are located at far reaches within the park. Additionally, the entry drive and many of the access drives become congested during large events and peak use periods. Neighborhood concerns about park generated traffic was widely expressed during the master plan process. A limited access auxiliary entry drive from Hunter Mill Road will reduce neighborhood impacts, improve efficient flow of traffic within the park, and provide a secondary means of accessing facilities located in this vicinity. The specific location of entry from Hunter Mill Road will need to be carefully studied with the Virginia Department of Transportation (VDOT) and Fairfax County Department of Transportation (FCDOT).

Additionally, traffic control devices such as signage and gates at this entry will be necessary and should also be analyzed.

As with any other public or private development, the Park Authority will meet all applicable county, state, and federal codes and requirements, in effect at the time of development. These reviews ensure that the proposed facilities address potential impacts and meet all applicable standards for traffic, parking, safety, stormwater management, environmental protection, as well as zoning with review by the respective agencies.

### PAVED WALKWAYS

Paved walkways provide an accessible and safe way for pedestrians to travel throughout the park. Paved walkways are especially important in areas next to roads because they provide a place to walk that is away from the dangers of vehicles.

A sidewalk is present along Lake Fairfax Drive and then ends at the entrance to the park. A sidewalk should continue along Lake Fairfax Drive and then follow the western edge of the parking area until it eventually connects to the existing walkways near the Park Control and Information Center. A paved walkway should also branch off this sidewalk and connect to the Event Pavilion.

A paved walkway should be located alongside the roadway in the picnic area with an additional walkway branching off to form a loop within the open picnic area and connect to the pedestrian bridge over Colvin Run.

Sidewalks should also be located adjacent to the access drive to the athletic fields and the access drive to the multi-use fields. All proposed paved walkways are shown on the Conceptual Development Plan Map.

#### TRAILS

The extensive trail network is shown on the Conceptual Development Plan Map. The trail network shown on the map is a composite of existing trails, removed trail segments, and new additions to the trail network. These trails are sanctioned and maintained for public use when the park is open. The trails support a variety of uses including walking, hiking, nature observation, running, biking, and equestrian riding where designated.

Planned trail improvements include a trail that goes around the lake and new trail segments in strategic locations. There are also several segments planned for removal to be replaced with a new trail segment in close proximity to help remedy erosion and environmental impacts.

## **PARKING**

Parking at Lake Fairfax Park is adequate for most day to day uses. Although on peak days and for special events, lawn areas are needed for overflow parking. Additional parking areas are needed to support the facilities added within this Conceptual Development Plan. The Multi-Purpose Center will require an adequate amount of spaces to support the final intended uses.

The Adventure Course will also require about 15 spaces at the entry to the course, which is anticipated to be directly across the roadway from the skate park.

Parking can take up a large amount of land area which can limit the amount of open space dedicated to recreational activities. Therefore, parking should be planned to be minimal and flexible whenever feasible. Parking areas located near two facilities that have different usage patterns allows for a decrease in spaces due to sharing. Additionally, the size of parking areas should be planned for the facilities' average use instead of its peak use. When parking is in high demand within these areas, overflow lawn areas should be utilized.

The existing parking lots are to remain with the exception of the small gravel parking area within the open picnic area adjacent to Colvin Run. This parking area is inefficient in its layout and is within the Resource Protection Area. This parking area should be removed and restored to a condition that meets the Chesapeake Bay Preservation Act standards. Other parking lots within the park should be improved with paving, vegetated islands or medians that contain shade trees, and low impact development techniques (LID).

LID techniques are recommended for the parking lots to reduce stormwater runoff quantity and impacts. Consideration should be given to the use of pervious paving and/or LID structures to manage and reduce stormwater runoff. Use of these techniques, even with new and expanded parking lots, can improve runoff over current conditions.

## **DESIGN CONCERNS**

Implementation of the master plan will require that engineered plans be prepared and submitted for review and approval prior to development by applicable governing agencies. These plans will be reviewed for applicable county, state, as well as federal codes and requirements, in effect at that time. These reviews ensure that the proposed facilities meet all applicable standards for traffic, parking, size, safety, stormwater management, environmental protection, and zoning with review by the respective agencies. To ensure that these plans meet the latest development standards, and to responsibly manage the costs associated with creating engineered designs, plans are created during the design phase that precedes construction, after funding has been appropriated. When site design, plan submittal, and development occur, the following concerns should be considered:

### WAYFINDING

Wayfinding helps guide people through a physical environment and enhance their understanding and experience of a space. In the case of parks, wayfinding is particularly important as it allows pedestrians and vehicles to efficiently determine the best route to a desired facility. Map kiosks, directional signs, trail markers, and destination markers should all be part of a comprehensive system that provides directions and information to a park visitor.

Lake Fairfax Park currently has an entry sign, a couple trail map kiosks, and some directional signs to facilities. Most of these signs have been constructed and installed at different times and are therefore not consistent in nomenclature, graphic representation, nor branding. A

comprehensive plan should be put together to locate or replace wayfinding elements throughout the park. Trails should be well delineated with trail markers and map kiosks at trailheads. Facilities, such as the skate park, should have destination markers and directional signs located at key intersections. The design of the signage should follow the basic principles of signage design and fit within the Park Authority's branding.



Figure 37: Map Kiosk Example

## SITE FURNISHINGS

Site furnishings provide places

for park visitors to rest, socialize, and passively experience the park facilities and natural environment. Tables, benches, bike racks, and trash receptacles should be provided in appropriate locations throughout the park to support park users. Locating benches and trash receptacles near facility entrances where people are likely to congregate, such as the Admissions Building for the water park, are ideal spots. Similarly, bike racks should be located at locations where bike routes come in close proximity to facilities.

## STORMWATER MANAGEMENT & LAKE WATER QUALITY

Fairfax Lake is situated within the Difficult Run Watershed. The water quality of the lake is impacted by the overall health of the watershed. Reston and other urbanized areas are located within this watershed. Development, impervious areas, and residential lawn fertilization practices can all impact the water quality within the watershed and consequently the lake.

The Park Authority will continue to work with The Department of Public Works and Environmental Services to help ensure that improvements are made to the watershed that will lead to overall enhanced ecological health of the lake over time. Construction of stormwater management facilities may be necessary to address water quality and quantity detention associated with the addition of park facilities. Additionally, the master plan encourages green infrastructure



Figure 38: Rain Garden in Parking Lot Example

and porous paving wherever feasible with the understanding that these decisions will be made during the time of development with further engineering investigation to determine feasibility.

### **UTILITIES**

Nearly all of the electric lines to park facilities are underground. The Water Mine Family Swimmin' Hole and the Park Control and Information Center both receive county water service. The remaining facilities at the park are connected to well water. Sanitary sewer lines are present in the western and northern portions of the park. There are no sanitary lines in the eastern portion of the park near Hunter Mill Road. As new facilities are constructed, proximity to utilities should be considered and new utility line extensions should be constructed when feasible.

### **CULTURAL AND NATURAL RESOURCES**

All new developments will need to undergo cultural and natural resources review for conformity with Park Authority policy. If a further cultural review is warranted a Phase I archaeological survey may be needed. If Phase I survey identifies archaeological sites and avoidance is not prudent and feasible, additional Phase II investigation may be required to determine the significance of the resource(s). If determined significant and avoidance is not prudent and feasible, Phase III archaeological data recovery may be necessary in accordance with Park Authority policy.

All new developments must comply with Park Authority Policy 201, Natural Resources and the agency-wide Natural Resource Management Plan (NRMP). Specifically, identified actions include avoiding adverse impacts to natural areas, mitigating unavoidable impacts from construction and maintenance projects and requiring restoration and rehabilitation of impacted natural resources.

### **PHASING**

Major park development is generally done through the Capital Improvement Program and is budgeted over a five year period. New facilities shown in the master plan are likely to be constructed in phases as funding becomes available. To facilitate any of the conceived uses, adequate park infrastructure, parking, stormwater management, and ADA access will be required preceding the implementation of these plan elements. A prioritized phasing plan should be created to guide future funding and development.

