

Remnant Natural Areas in Parks, Waterways, and Undeveloped Sites in the City of Alexandria, Virginia: Eisenhower Valley



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**Natural Resources Technical Report 12-1
February 2012**

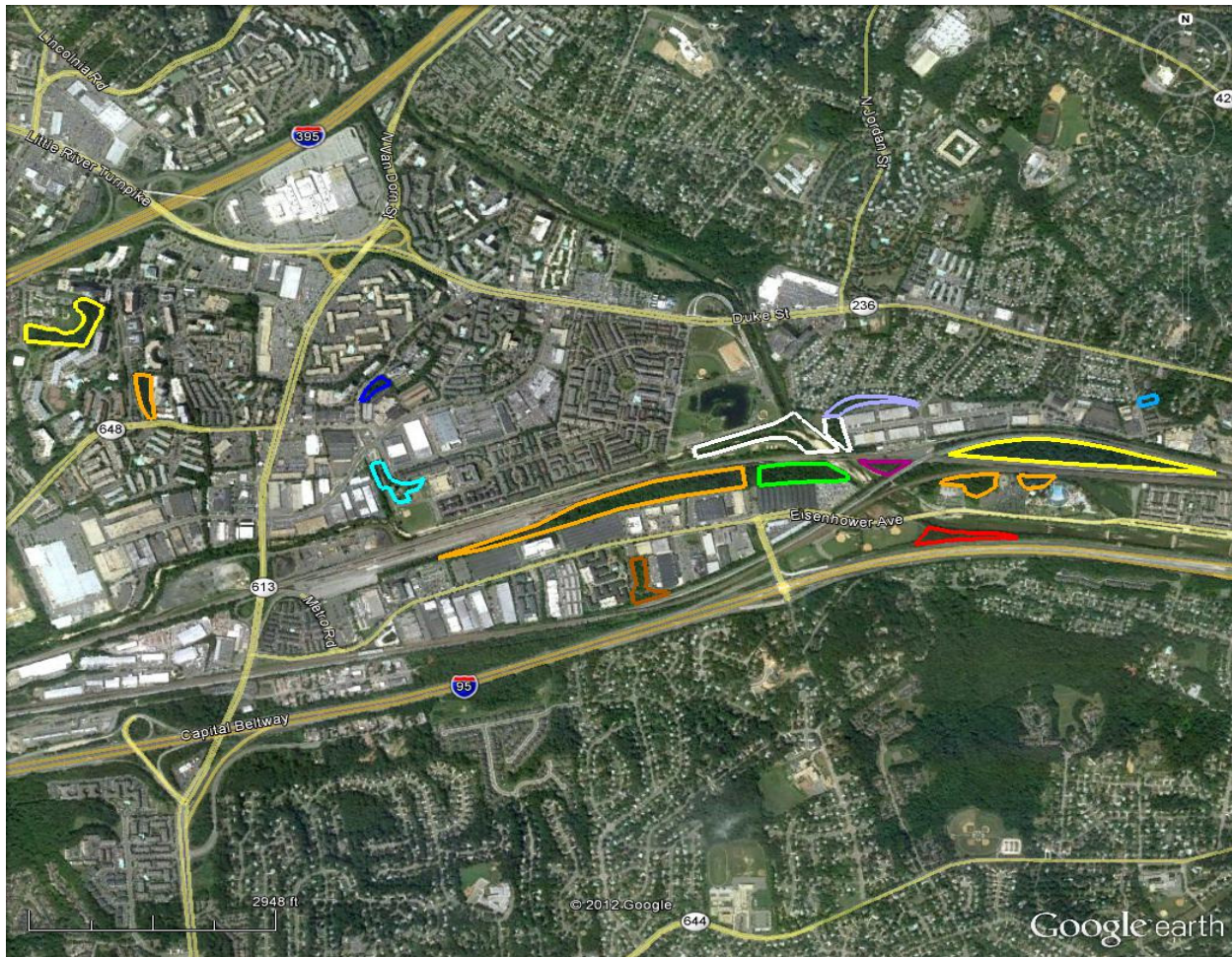


Fig. 1. Remaining natural areas (outlined in color) of Eisenhower Valley in the City of Alexandria, Virginia that are regularly stewarded by City natural resource management staff.

The Eisenhower Valley in the City of Alexandria comprises the broad floodplain of lower Holmes Run and a mosaic of associated tributaries, backswamps, and bottomlands, as well as steep, upland gravelly slopes, ravines, and terraces at the western edge of the City near Lincolnia. This area is bordered more or less by Shirley Highway (395) and Fairfax County on the west; Duke St. (Rt. 236) on the north; Hooff's Run on the east; and the Capital Beltway (495) and railroad tracks (Southern Railway System) on the south. (Fig. 1 shows expanse of the valley eastward to Quaker Lane.)

Holmes Run flows under Duke St. at Ben Brenman Park (formerly Cameron Station) to its confluence with Backlick Run at the south side of the park opposite Tarleton Park. At this point, it becomes Cameron Run and flows southeastward to the confluence of Hooff's Run where it becomes Hunting Creek (Great Hunting Creek) and continues to the mouth of the Potomac River. The tidal reaches of the Potomac River extend up Cameron Run past Telegraph Rd. to where the Beltway crosses the stream, as well as up Hooff's Run to the Alexandria National Cemetery.

In the late 19th century through the 1950s – and more recently in some places - much of this area was rural and undeveloped with little or no roadways. Areas that were not cleared for pasture or industrial use were vegetated with extensive bottomland forests and a remarkably diverse flora. Today, much of the valley is

heavily urbanized with few remaining natural areas. Significant remnants that are actively stewarded by City natural resource management staff are listed below.

For further information on the flora, natural communities, and geology of this area, as well as natural resource management in the City, see <http://alexandriava.gov/48838> and <http://alexandriava.gov/22560>.

Stevenson Park:

A 9.04 acre City park (property class 731) at the extreme western edge of the City near the Fairfax County border in an area of extensive sand and gravel mining in the late 19th and early 20th centuries. Approximately 5 acres are high-quality forest with numerous old-age upland oaks: Chestnut Oak (*Quercus montana*), White Oak (*Quercus alba*), Southern Red Oak (*Quercus falcata*), Black Oak (*Quercus velutina*), and Scarlet Oak (*Quercus coccinea*), as well as several natural oak hybrids, including the City co-champion Bush's Oak (*Q. marilandica* x *Q. velutina*) and the only known location in the City for Hawkins' Oak (*Q. rubra* x *Q. velutina*). Also, this park is the only known location in Alexandria for Downy Wild Rye (*Elymus villosus* var. *villosus*) and one of 2 locations in the City for the regionally-rare Fragrant Sumac (*Rhus aromatica*).



Fig. 2. Natural section of Stevenson Park (yellow) and nearby Yoakum Parkway Woods (orange).

The vegetation of the flat gravel terrace is Low-Elevation Mixed Oak / Heath Forest: *Quercus alba* - *Quercus (coccinea, velutina, montana)* / *Gaylussacia baccata* Forest (USNVC: CEG008521), though most of the park's terrace is occupied by a natural turf athletic field and playground areas. Much of the remaining woodland at Stevenson Park occupies southwest-facing slopes and ravines and is best classified as Acidic Oak – Hickory Forest. The stand of old-age (at least 120-150 yr old) Southern Red Oak along the south-facing slope is perhaps the finest remaining in a City park.

The main threats to the park are potential plans for athletic field expansion or conversion to artificial turf, which would greatly impact groundwater infiltration and future sustainability of the forested areas. The loss of native forest, notable trees, and valuable wildlife habitat would also greatly diminish the park and environs. (Speculative plans for expanding the athletic field at the park that included the removal of acres of woodland and filling and leveling several ravines were strongly discouraged by natural resource management staff and may be moot.)

Natural resource management at this site consists of routine control of invasive exotic plants, trash and litter removal from wooded areas, and floristic inventories.



Fig. 3. Wooded ravines at the southwestern edge of Stevenson Park. Photo by R.H. Simmons.

Yoakum Parkway Woods:

A forested scenic easement of three contiguous tracts that includes the City-owned parkland site of 1.45 acres at 450 Yoakum Parkway (property class 731); the nearly half-acre (21,148 sq. ft.) partial scenic easement for The Park at Landmark at 400 Yoakum Parkway owned by EQR – Fresca 2009 Limited Partnership; and the nearly half-acre (20,470 sq. ft.) site at 350 Yoakum Parkway owned by Corcoran, Mullins, and Jennison, Inc. (Fig. 2).

The entire easement of 2.40 acres comprising the three tracts is mature Acidic Oak – Hickory Forest and is fairly diverse and largely free of invasive exotic plants, much like nearby Stevenson Park. The 350 Yoakum Parkway section is also the only known location in the City for the regionally-rare Violet Bush Clover (*Lespedeza violacea*).

Natural resource management at this site consists of infrequent floristic inventories.

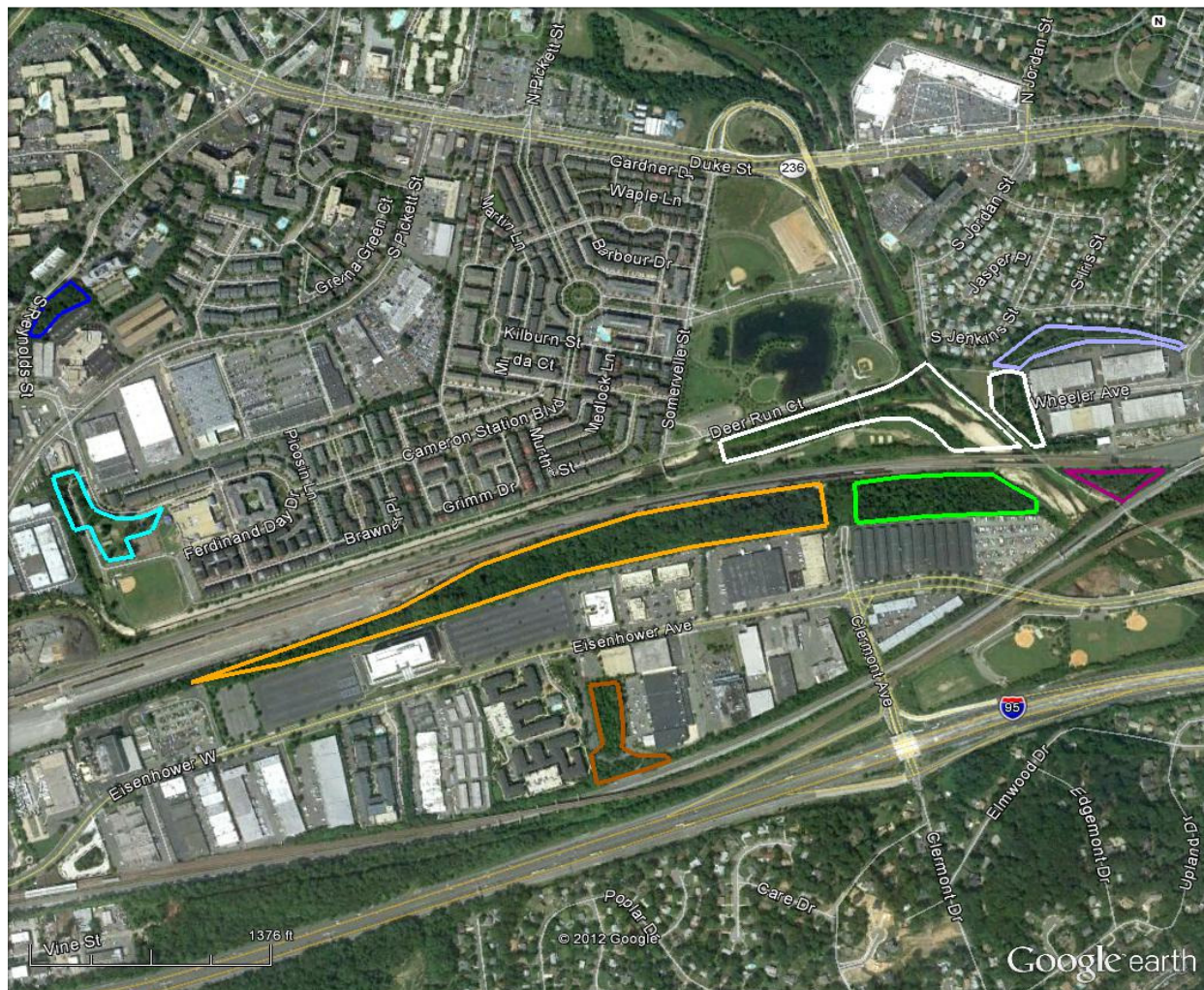


Fig. 4. S. Reynolds Street Woods (indigo); Armistead Boothe Park (turquoise); Clermont Swamp Forest (orange); Bush Hill (brown); Clermont Natural Park (green); Backlick Run and convergence with Holmes Run at Ben Brenman Park (large white outline) and old-age bottomland forest remnant adjacent to Tarleton Park (small white outline); Tarleton Park (lavender); Cameron Run Regional Park easement (magenta).

S. Reynolds Street Woods:

A 1.01 acre (44,184 sq. ft.) City-owned wooded scenic easement (property class 731) on the east side of lower S. Reynolds St. (Fig. 4) with mature canopy trees and several uncommon to rare species in the City, including Yellow Passionflower (*Passiflora lutea*) and Red Mulberry (*Morus rubra*). Unfortunately, much of the ground and shrub layers of the woodland are overrun with invasive exotic plants.

Natural resource management at this site consists of infrequent floristic inventories, although in 2011 there was a request to set up a volunteer invasive exotic plant removal program at the site.

Armistead Boothe Park:

An approximately 12.55 acre City park (property class 731) at 530 Cameron Station Boulevard that consists mainly of stands of old trees, playgrounds, mowed turf, and an athletic field. (RPCA park information website lists the park as 10.81 acres.) Natural features of the site occupy app. 3 acres and include a very small remnant of upland forest that grows on coarse sandy-gravelly soil of the toe-slope at the edge of the floodplain (Old Town terrace; Fleming 2008) and old-age bottomland trees that are characteristic of the ancient, silt-loam soils in many sections of the lower Holmes Run valley.



Fig. 5. Old stand of Shortleaf Pine (*Pinus echinata*) at Armistead Boothe Park. This stand is regionally significant and is the largest remaining in the City. Photo by R.H. Simmons.

Old-age, remnant bottomland species at Armistead Boothe Park are Northern Red Oak (*Quercus rubra*), Pin Oak (*Quercus palustris*), Sweetgum (*Liquidambar styraciflua*), and Shortleaf Pine (*Pinus echinata*). The stand of Shortleaf Pine is regionally significant for its size and floodplain association and is the largest in Alexandria (Fig. 5).

The main threats to the natural features of this park are potential plans for playground, athletic field, or hardscape expansion that would damage or destroy existing native trees.

Natural resource management at this site consists of routine control of invasive exotic plants, mainly English Ivy (*Hedera* sp.) near the park entrance, and efforts by City natural resource management staff to restore and expand the existing canopy by planting species of native trees that naturally occur on the site.

Ben Brenman Park:

A large area of 46.29 acres (RPCA lists the park as 59.3 acres) that was re-developed as a City park (property class 731) with the closing of Cameron Station in the late 1990s, the U.S. Army base that formerly occupied the site. The park is notable as the location of the confluence of Holmes Run and Backlick Run, with sections of the park spanning both sides of the streams.

Most of the park is highly developed and consists of broad expanses of maintained turf with walking/biking trails, a large pond, athletic fields, picnic areas, a dog park, and other amenities. The narrow walking/biking trail and mowed turf that comprises the adjoining 7.56 acre **Cameron Station Linear Park** at 5131 Brawner Place connects Ben Brenman Park and Armistead Boothe Park and is also a greatly altered landscape, including the concrete flume of channelized Backlick Run that borders the park.

Few natural features remain at either park. However, the app. 5 acre section of relatively undisturbed Backlick Run at the eastern end of Cameron Station Linear Park and east of the bridge contain excellent exposures (ledges) of naturally cemented sandstone (Cameron Valley sand; Fleming 2008) and are important geologic features.

Also along the shallow waters at the confluence of Holmes Run and Backlick Run are good examples of sand and gravel depositional bar communities. This natural community type is classified as Piedmont / Central Appalachian Sand Bar / River Shore (Low Herbs Type): *Eragrostis hypnoides* - *Lindernia dubia* - *Ludwigia palustris* - *Cyperus squarrosus* Herbaceous Vegetation (USNVC: CEG006483), with few remaining sites in the City.

Also important are the app. 2 acres of remnant bottomland forest that form a grove on the east side of Holmes Run adjacent to Tarleton Park. Many of these trees are surviving relics of a once-continuous mosaic of bottomland forest and backswamps that extended throughout the lower Holmes Run valley. Old-age, remnant bottomland species of the east side of Ben Brenman Park are Green Ash (*Fraxinus pennsylvanica*), Pin Oak (*Quercus palustris*), White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Sweetgum (*Liquidambar styraciflua*), and Bitternut Hickory (*Carya cordiformis*). A few scattered natural groves of younger trees also occur in the main section of Ben Brenman Park.

Natural resource management at this site mainly consists of efforts by City natural resource management staff to restore and expand the existing canopy by planting species of native trees that naturally occur on

site. Recent discussions also took place with City Horticulturist John Walsh regarding the feasibility of re-introducing to the City by way of the Ben Brenman Park pond several highly state rare Pondweeds (*Potamogeton* spp.) that are extirpated in Alexandria.

Clermont Swamp Forest:

A 14.5 acre forested backswamp remnant along the south side of Backlick Run below Ben Brenman Park at 201 Clermont Ave. (Fig. 4). This site is owned by the Norfolk Southern Railway Co. (property class: vacant land-industrial 940) and would be an important property to acquire through Open Space funding as a designated conservation easement.

Despite an abundance of litter and debris from storm water runoff and past dumping, the hydrology of the site performs an invaluable function, by way of numerous braids, hummocks, and depressions, in mitigating storm water flow and maintaining water quality in the watershed. Also, the perennial spring waters from the sand ridge at Bush Hill flow northward to Backlick Run and converge with the braided swamp at this site.



Fig. 6. Piedmont / Central Appalachian Floodplain Swamp Forest along Accotink Creek at Eakin Park in Fairfax County, Virginia. Backswamps along Accotink Creek are floristically similar to those of the lower Holmes Run valley in the City of Alexandria. Photo by R.H. Simmons.

The vegetation of this forested wetlands is classified as Piedmont / Central Appalachian Floodplain Swamp (Pin Oak - Swamp White Oak Type): *Quercus palustris* - *Quercus bicolor* / *Carex tribuloides* - *Carex radiata* - (*Carex squarrosa*) Forest (USNVC: CEG006497) – though is somewhat transitional between the piedmont and coastal plain bottomland swamp forest types - and is globally and state uncommon to rare (Fig. 6). Dominant canopy species are Swamp White Oak (*Quercus bicolor*), Pin Oak (*Quercus palustris*), Sweetgum (*Liquidambar styraciflua*), Red Maple (*Acer rubrum*), Green Ash (*Fraxinus pennsylvanica*), and American Elm (*Ulmus americana*). The stands of Swamp White Oak at this site are the largest remaining in the City. This is also the only known station in Alexandria for Marginal Wood Fern (*Dryopteris marginalis*).

Natural resource management at this site consists of infrequent floristic inventories.



Fig. 7. Photo of Bush Hill prior to 1977 by Bush Hill School and Edith Moore Sprouse (courtesy of Virginia Room, Fairfax County Library, Fairfax, Virginia; Alexandria Archaeology Museum).

Clermont Natural Park:

A 5.15 acre, forested City natural easement (property class 731) adjoining Clermont Swamp Forest on the east at 200 Clermont Ave. (Fig. 4). (RPCA lists the site as 5.95 acres.) This forested wetlands was an unofficial City dump decades ago and is smaller, less floristically diverse, and more degraded than

Clermont Swamp Forest, with less intact hydrology. Nonetheless, it serves as an important natural area connector, wildlife habitat, and preserve of relic bottomland forest vegetation.

Natural resource management at this site consists of infrequent floristic inventories.

Bush Hill:

A nearly 9 acre site along the southern boundary of the City owned by Calcast Nat City Station, LLC (property class: office/commercial warehouse 486) at 4720 Eisenhower Ave. (Fig. 4). This area is just east and adjoining the home site of the historic Bush Hill estate (Fig. 7) – the grounds of Alexandria’s last remaining plantation home and location of prehistoric Indian sites until the late 1990s when they were completely cleared for development (Gardner and Hurst 1999; Alexandria Archaeology Museum).

App. 3 acres of wooded thickets, with some mature and large trees, and the perennial springs that flow to Backlick Run are all that remain of this site. This area, including a small, sandy section along the railroad tracks, contains several species that are unknown elsewhere in the City, such as Small-leaved Tick Trefoil (*Desmodium marilandicum*), Warty Panicgrass (*Panicum verrucosum*), and others.

Natural resource management at this site consists of infrequent floristic inventories.

Tarleton Park:

A 25,508 sq. ft. City park (property class 731) at 4420A Vermont Ave. (Fig. 4) that adjoins a nearly acre-sized parcel (40,500 sq. ft.) owned by David G. Watkins (property class: vacant land-residential 910) along the north side of an old mill race that was once part of the Strawberry Hill farm. (RPCA lists the park as 6.14 acres.)

Despite its small size, both parcels of this park from the S. Gordon St. entrance to Ben Brenman Park are relics of an ancient bottomland backswamp and contain numerous old-age trees (Fig. 8), including Pin Oak (*Quercus palustris*), Green Ash (*Fraxinus pennsylvanica*), and Swamp White Oak (*Quercus bicolor*). This site is also significant for the nearly continuous colonies of Spring Beauty (*Claytonia virginica*) that carpet the woodland floor in early spring.

Natural resource management at this site consists of extensive invasive exotic plant removal work; efforts by City natural resource management staff to restore and expand the existing canopy by planting species of native trees that naturally occur on site; and the re-introduction into appropriate habitats of native species historically known from the lower Holmes Run valley.

Cameron Run Regional Park easement:

A small wooded area of several acres (Fig. 4) that is part of Cameron Run Regional Park (property class 731), which apparently is owned by the City of Alexandria but managed and operated by the Northern Virginia Regional Park Authority. This site consists of somewhat disturbed, mesic woodland, with some large and mature trees scattered throughout.

Natural resource management at this site consists of infrequent floristic inventories.



Fig. 8. Old-age relics of an ancient bottomland backswamp at Tarleton Park. Photo by R.H. Simmons.

Hensley Park:

A 16.87 acre City park (property class 731) at 4200 Eisenhower Ave. (Fig. 9), including the 2.12 acre paved compound at 4251 Eisenhower Ave. that is used as the City leaf-shredding facility. (RPCA lists the park as 21.66 acres.)

Much of the park on the south side of Eisenhower Ave. consists of athletic fields, with a small section of several acres of young, mesic woodland.

Natural resource management at this site consists of infrequent floristic inventories.

Cameron Run Regional Park natural area remnants:

An app. 6 acre remnant of rich, alluvial levee forest that extends from behind the Vola Lawson Animal Shelter to the batting cage, as well as app. 2 acres of scattered stands of old-age bottomland trees surrounding the park facilities (Fig. 9). Both areas are within the 36.3 acre Cameron Run Regional Park at 4001 Eisenhower Ave. (property class 731) that is owned by the City of Alexandria and maintained and operated by the Northern Virginia Regional Park Authority. Most of the natural features of this site were lost when the park and animal shelter were built, with these two areas remaining.

The vegetation of the alluvial levee forest is exceptionally lush and diverse and is very similar to the small sections of alluvial levee forest along Holmes Run at Dora Kelley Nature Park and Holmes Run Scenic Easement well upstream of this site. Soils of the old Cameron Run alluvial levee forest (probably a long abandoned oxbow along the old channel of Cameron Run) are ancient, rich, friable loams produced by millennia of stream bank deposition and flooding.

The vegetation is somewhat a combination of Coastal Plain / Outer Piedmont Basic Mesic Forest: *Fagus grandifolia* - *Liriodendron tulipifera* - *Carya cordiformis* / *Lindera benzoin* / *Podophyllum peltatum* Forest (USNVC: CEG006055) and Alluvial Floodplain Forest communities.

Bitternut Hickory (*Carya cordiformis*) is the dominant canopy species, with some reaching large size (front cover photo). Redbud (*Cercis canadensis*) is prominent in the understory, along with Bladdernut (*Staphylea trifolia*) in moister areas, Red Mulberry (*Morus rubra*), and Paw Paw (*Asimina triloba*). The herbaceous layer is lush and diverse throughout the growing season, including extensive carpets of Mayapple (*Podophyllum peltatum*), Trout Lily (*Erythronium americanum*), Potato Dandelion (*Krigia dandelion*), Violet Wood Sorrel (*Oxalis violacea*), and numerous other spring wildflowers.

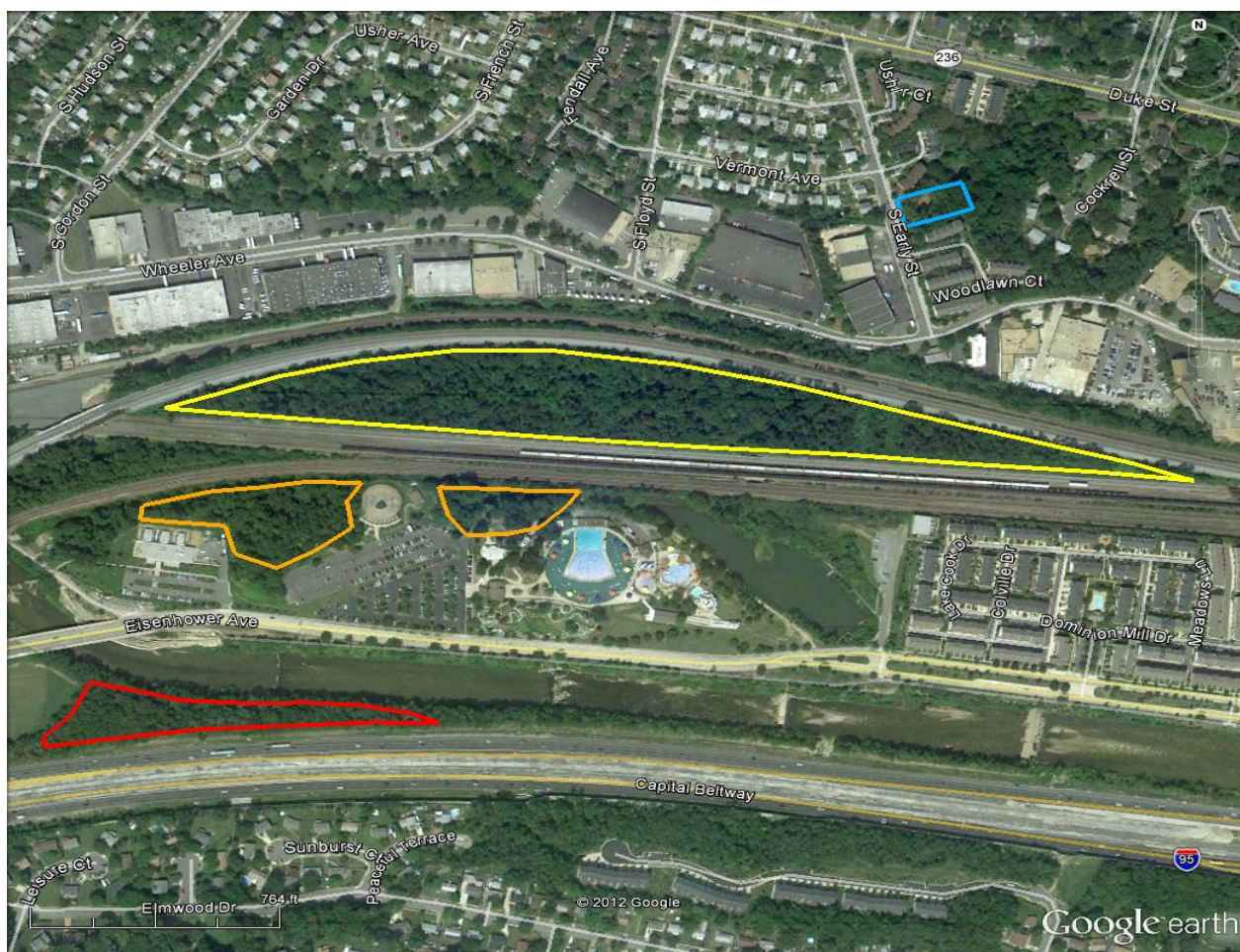


Fig. 9. Hensley Park (red); Cameron Run Regional Park natural area remnants (orange); old Cameron Run channel floodplain forest (yellow); 48 South Early (blue).

This site represents the only remaining station in the lower Holmes Run valley for this regionally uncommon to rare community type, including a number of species that do not occur elsewhere in Alexandria, such as Smooth Beardtongue (*Penstemon laevigatus*), Swamp Chestnut Oak (*Quercus michauxii*), and others.

At the eastern edge of the alluvial levee forest, the vegetation grades to a remnant bottomland floodplain forest community similar to those at Armistead Boothe Park and the eastern section of Ben Brenman Park. Although this section of the park is highly developed, groves of mature, bottomland trees are scattered throughout, including Swamp Chestnut Oak, White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Sweetgum (*Liquidambar styraciflua*), and others. This is also the only known location in Alexandria for Beadle's Oak (*Quercus x beadlei*), the natural hybrid between White Oak and Swamp Chestnut Oak.

Natural resource management at these sites consists of floristic inventories and invasive exotic plant control efforts. Additional vegetation plot sampling also needs to be done at this site to more accurately classify the natural community types.



Fig. 10. Bottomland forest with Swamp Chestnut Oak (*Quercus michauxii*) along the floodplain of the Patuxent River near the Baltimore-Washington Parkway in Prince George's County, Maryland. This alluvial coastal plain community is probably similar to how the bottomland forest at Cameron Run Regional Park in the City of Alexandria once appeared. Photo by R.H. Simmons.

Old Cameron Run channel floodplain forest:

An isolated forested tract consisting of two contiguous parcels (combined together in Fig. 9): the 12 acre site at 4050 Wheeler Ave. owned by the Norfolk Southern Railway Co. (property class: vacant land-industrial 940) and a similar-sized parcel to the east that is owned by Virginia American Water (John Walsh, pers. comm.; parcel information not available with Alexandria GIS viewer).

Both sites comprise an alluvial bottomland forest community, with seasonally-flooded backswamp depressions and braided waterways, including the undeveloped lower reaches of Strawberry Run (Fig. 11). The flora is highly diverse, though not as rich as the alluvial levee forest at Cameron Run Regional Park, and includes a number of species that are unknown elsewhere in Alexandria, such as Squarrose Sedge (*Carex squarrosa*) and Large-seeded Forget-me-not (*Myosotis macrosperma*).

The relatively large size of these two parcels, abundance of forested wetlands, floristic diversity, and wildlife habitat value make them very important considerations for acquisition through Open Space funding, with designated conservation easements.

Natural resource management at these sites consists of floristic inventories.



Fig. 11. The gravelly lower reaches of Strawberry Run near its confluence with the old channel of Cameron Run. This section of the stream remains in mostly natural condition because of the large mosaic of forested wetlands it conjoins. Photo by R.H. Simmons.

48 South Early:

A 0.14 acre neighborhood City Adopt-a-Garden park at 48 S. Early St. (property class 731) that adjoins a concrete channelized section of Strawberry Run and app. 2 acres of disturbed Acidic Oak-Hickory Forest on the east side of the stream.

Except for several mature canopy trees, few natural features remain at this park.

Natural resource management at this site consists of infrequent floristic inventories.

Old Cameron Run Channel Park:

A 2.71 acre City natural easement (property class 731) along the old channel of Cameron Run at the eastern end of the valley at 2251 Mill Rd. (RPCA lists the site as 2.83 acres.)

In the past, this was the main stream channel through a large freshwater tidal marsh that occupied the tidal reaches of lower Cameron Run, Hooff's Run, Hunting Creek, and the mouth of the Potomac River. Today, unfortunately much of what remains of this formerly pristine area is highly disturbed, weedy vegetation along the stream banks of the old channel.

Natural resource management at this site consists of infrequent floristic inventories.

Ewald Park: No natural features remain.

Luckett Stadium and Schuyler Hamilton Jones Skate Park: No natural features remain.

Cameron Run sand and gravel bars:

The best remaining examples in Alexandria of sand and gravel depositional bar communities occur along the shallow waters of Cameron Run in the section between Ben Brenman Park and the Beltway (495) crossing. These sites are classified as Piedmont / Central Appalachian Sand Bar / River Shore (Low Herbs Type): *Eragrostis hypnoides* - *Lindernia dubia* - *Ludwigia palustris* - *Cyperus squarrosus* Herbaceous Vegetation (USNVC: CEGL006483) and include many species that do not occur elsewhere in the City, such as Salt Marsh Aster (*Symphytotrichum subulatum*), Valley Redstem (*Ammannia coccinea*), Toothcup (*Rotala ramosior*), Purple Gerardia (*Agalinis purpurea*), and others.

Natural resource management of these sites consists of floristic inventories, infrequent invasive exotic plant removal work, and collaboration with Dept. T&ES, Office of Environmental Quality to protect habitats during routine dredging of Cameron Run and leveling of the sand and gravel bars.

Railroad Tracks:

The extensive open lands bordering the railroad tracks that span the valley are valuable open space and wildlife habitat connectors and provide unique habitats for many plants that are unknown elsewhere in Alexandria, including Prickly Pear (*Opuntia humifusa*), Northern Croton (*Croton glandulosus* var. *septrionalis*), Toothed Spurge (*Euphorbia dentata*), and numerous others.

Natural resource management of these areas consists of infrequent floristic inventories. However, at some point concerns need to be raised with Southern Railway System for protecting populations of

uncommon and rare flora that are disappearing as a result of excessive herbicide use and vegetation clearing along the tracks.

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