

Remnant Natural Areas in Parks, Waterways, and
Undeveloped Sites in the City of Alexandria, Virginia:
Beauregard Street Corridor



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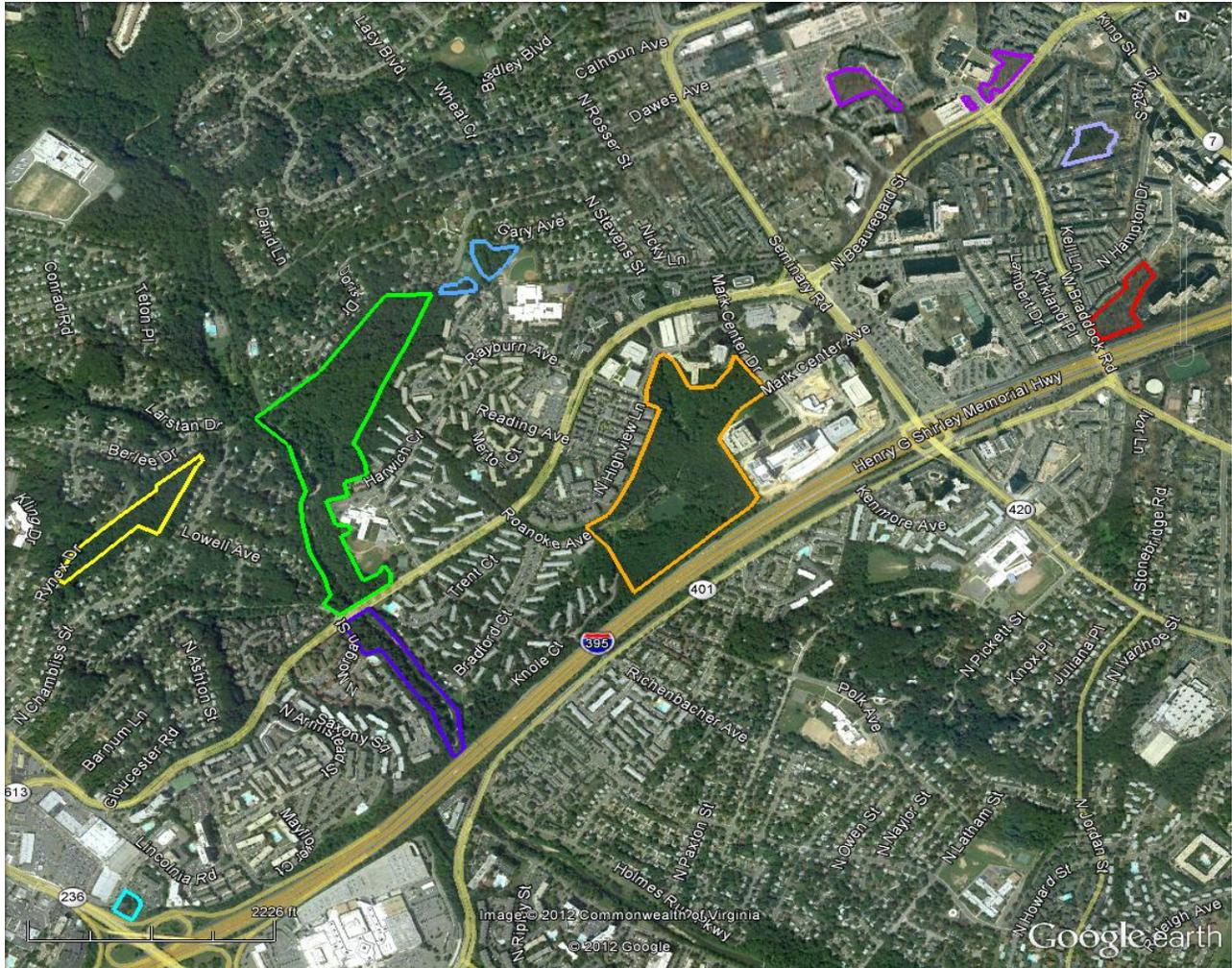


Fig. 1. Remaining natural areas and parks (outlined in color) of the Beaugard Street corridor in the City of Alexandria, Virginia that are regularly stewarded by City natural resource management staff: Lebanon Union Cemetery (turquoise), Rynex Natural Area (yellow), Dora Kelley Nature Park (green), Holmes Run Scenic Easement (purple), Chambliss Park (blue), Winkler Botanical Preserve (orange), NOVA Woods (violet), James Mulligan Park (lavender), and Stonegate Scenic Easement (red).

Overview:

The Beaugard Street corridor occupies the extreme northwestern section of the City of Alexandria from Lincolnia northward and encompasses lands along both sides of N. Beaugard Street north of Duke Street (Rt. 236); south of King Street (Rt. 7), S. 28th Street, and S. Columbus Street; east to Shirley Highway (395); and west to the border of Fairfax County.

This area was annexed from Fairfax County in 1952 and was at that time the most heavily forested and least populated section of Alexandria. Samuel Janney’s description of this region from a hundred years earlier while traveling through on stagecoach characterizes this setting well: “In passing through that unfrequented part of Fairfax, which lies between the Little River Road and the Middle Turnpike [including Lincolnia and the Beaugard Street corridor], the traveller finds himself in a wilderness of pines and journeys for miles without seeing a single habitation. In a distance of twelve miles which we

travelled through this district, we saw but two or three cabins, and nothing that is entitled to the appellation of a comfortable dwelling for civilized man” (Wrenn 1972).

In addition to extensive forests, the Lincolnia area and Beauregard Street corridor are famous for numerous springs, woodland seeps, Magnolia Bogs, and spring-fed stream valleys - all of which emanate from the abundant upland aquifers arising from vast deposits of porous sands and gravels of the Potomac Formation (see “Lincolnia silty clay” and “Winkler sand” in *Plate 4: Potomac Formation Expanded Explanation*, Fleming 2008, at <http://alexandriava.gov/22560>). From the late 1800s through the early 20th century, the Lincolnia area was characterized by an extensive mosaic of sand and gravel mines. Despite much deforestation and development throughout this area in the late 20th century to the present, pristine seepage wetlands and high quality forest communities still occur at Rynex Natural Area, Dora Kelley Nature Park, and the Winkler Botanical Preserve.

The area along Holmes Run below Lincolnia west of Shirley Highway is also noteworthy as the eastern end of the Holmes Run Gorge: a large, deep stream valley that is regionally significant for its massive bedrock exposures, sections of old-age forest, and uncommon to rare flora. Dora Kelley Nature Park and Holmes Run Scenic Easement, as well as the Rynex Natural Area tributary to a lesser extent, are the only locations in Alexandria with exposed bedrock representative of the fall line - a zone of transition where the massive bedrock of the piedmont becomes buried under vast sediments of the coastal plain (see “Bedrock Geology of Holmes Run Gorge” in *Plate 3: Bedrock Geology and Topography Expanded Explanation*, Fleming 2008, at <http://alexandriava.gov/22560>).

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>.

Natural areas that are actively managed by the Dept. Recreation, Parks, and Cultural Activities (RPCA), Natural Resources Division, are listed below, including other significant sites.

Lebanon Union Cemetery:

This small, historic cemetery (property class 792; Private Cemeteries) of nearly an acre in size (35,149 sq. ft.) is located at 100 N. Breckinridge Place at the western edge of the City in Lincolnia. Prior to the Civil War, Lincolnia was called Lebanon, which at the time was a small settlement on the south side of Duke Street (Little River Turnpike) opposite present-day Landmark Mall. Before the construction of Shirley Highway, Lincolnia Road once extended continuously from the east slope of Mt. Pleasant at Columbia Pike southeastward across Duke Street and south along present-day S. Whiting Street to S. Van Dorn Street and on to the Lincolnia Station in the Eisenhower Valley below. During the Civil War, Union troops changed the name of the settlement from Lebanon to Lincolnia.

A small grove of trees representative of the upland oak forest that once covered the Lincolnia terrace remain within the cemetery (Fig. 2), including a City co-champion Blackjack Oak (*Quercus marilandica*). Today, the Lebanon Union Cemetery, woodland areas at Stevenson Park, Rynex Natural Area, and the Turkeycock Run Stream Valley in Fairfax County (front cover photo) are mostly all that remain of the natural landscape of the Lincolnia area (see *Annals of the City of Alexandria Herbarium: Small Stream Forests of the Fall Line and Coastal Plain* at <http://alexandriava.gov/22560>).



Fig. 2. Historic Lebanon Union Cemetery with remnant flora of upland oak forest at the western end of Lincolnia (formerly Lebanon) in the City of Alexandria. City co-champion Blackjack Oak (*Quercus marilandica*) at far left of grove. Photo by R.H. Simmons.

Natural resource management at this site consists of annual hedge trimming and litter clean-up, as well as infrequent floristic inventories.

Rynex Natural Area:

This remote 9.36-acre City park (property class 731) is situated at the extreme western edge of the City along the Fairfax County border. This park is one of the City's few remaining high-quality natural areas and comprises a forested stream valley and steep slope of upland Oak-Heath Forest, numerous spring-fed seepage wetlands, and a perennial stream (Rynex Run). The entire park is forested and is accessed by a single trail that traverses the mid-slope above the seepage stream and wetlands.

On the steep, north-facing slope above the stream valley are approximately 4 acres of high-quality Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest: *Quercus montana* - (*Quercus coccinea*, *Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest (USNVC: CEG006299), predominately composed of old and large Chestnut Oak (*Quercus montana*), White Oak (*Quercus alba*), Scarlet Oak (*Quercus coccinea*), and colonies of Mountain Laurel (*Kalmia latifolia*). Locally rare American Chestnut (*Castanea dentata*), Chinquapin (*Castanea pumila*), and Pink Lady's-slipper (*Cypripedium acaule*) also occur sparingly in this section.



Fig. 3. Pristine woodland seep at Rynex Natural Area. Photo by R.H. Simmons.

A nearly continuous mosaic of mostly pristine, spring-fed seepage wetlands flank the lower slope above the stream (Fig. 3). Such groundwater seepage communities are regionally uncommon to rare and contain a characteristic and diverse assemblage of plants, many of which are highly rare in Alexandria.

Dominant understory trees and shrubs of the woodland seeps include Sweetbay Magnolia (*Magnolia virginiana*), Fringe Tree (*Chionanthus virginicus*), Eastern Serviceberry (*Amelanchier canadensis*), Winterberry (*Ilex verticillata*), Highbush Blueberry (*Vaccinium* spp.), Red Chokeberry (*Aronia arbutifolia*), Swamp Azalea (*Rhododendron viscosum*), Dangleberry (*Gaylussacia frondosa*), Fetterbush (*Eubotrys racemosus*), Maleberry (*Lyonia ligustrina*), Poison Sumac (*Toxicodendron vernix*), Swamp-haw (*Viburnum nudum*), and Common Alder (*Alnus serrulata*).

The herb layer is diverse and includes extensive colonies of Cinnamon Fern (*Osmundastrum cinnamomeum*), intermixed with Royal Fern (*Osmunda spectabilis*), New York Fern (*Parathelypteris noveboracensis*), Southern Lady Fern (*Athyrium asplenoides*), Skunk Cabbage (*Symplocarpus foetidus*), Indian Cucumber Root (*Medeola virginiana*), Wild Sarsaparilla (*Aralia nudicaulis*), Sessile-leaved Bellwort (*Uvularia sessilifolia*), Large Whorled Pogonia (*Isotria verticillata*), Bog Sedge (*Carex atlantica*) and numerous other carices, Turk's Cap Lily (*Lilium superbum*), Primrose-leaved Violet (*Viola primulifolia*), Cowbane (*Oxypolis rigidior*), and many other herbs.

The woodland seepages at Rynex Natural Area represent the only location in Alexandria for False Hellebore (*Veratrum viride*) and one of two locations in the City for Evergreen Wood Fern (*Dryopteris intermedia*), as well as the City champion Sweetbay Magnolia.

Mesic woodland along the lower end of Rynex Run is one of two locations in Alexandria for Dwarf Ginseng (*Panax trifolius*) and Wood Anemone (*Anemone quinquefolia*).

Natural resource management at this site consists of routine control of non-native invasive plants, litter and debris removal from the stream and wooded areas, and floristic inventories.

Dora Kelley Nature Park:

This large, mostly forested, 51.99-acre City park (property class 731) spans both sides of Holmes Run from N. Beauregard Street west to the border of Fairfax County, east to Sanger Avenue, and north to N. Chambliss Street. The park is composed of four contiguous parcels: the 19.87-acre parcel at 5700 Sanger Avenue that includes the Ford Nature Center, William Ramsay School and Recreation Center, tennis courts, playgrounds, and athletic fields, as well as sections of forest and Holmes Run (property class 740); the 6.52-acre parcel at 5850 Sanger Avenue (property class 731); the 21.05-acre parcel at 5900 Sanger Avenue (property class 731); and the 4.55-acre parcel at 1900 N. Chambliss Street (property class 731). Apparently, the primary property class of the 19.87-acre parcel is Ed. Public Schools (740). The Dept. Recreation, Parks, and Cultural Activities (RPCA) website lists the park as 46.61 acres.

In a statement before the Alexandria City Council in 1973, by Eugene Barnwell, then Director Dept. Recreation, Parks, and Cultural Activities, concerning the importance of preserving large forested areas in the City like the Rolf's Tract (a section of Dora Kelley Nature Park), Barnwell cited a "Preliminary Park and School Plan" of 1962 by the Dept. of City Planning: "Today in every nook and corner of all open space, the concern is for balance of plants with people. It is essential that enough area is maintained in open space and that the plants in these open spaces remain healthy to accommodate and transform the effects of air and noise pollution. Further, these plants are essential in preventing soil erosion. Unpleasant temperature variations in our urban deserts are modified by properly located and maintained plant materials. Finally, this particular parcel [Rolf's Tract] – once a part of a larger tract deeded to the Terrett family in colonial times – contains myriad varieties of wild flowers and plants. Its water area is large enough to accommodate some of the migrating birds. Its uneven terrain makes it an ideal hiking area...It is considered vital and essential in a pattern of parks for the City."

Today, Dora Kelley Nature Park remains Alexandria's largest and most important natural area, comprising a unique assemblage and diversity of flora, natural communities, geologic features, and wildlife.

The dominant vegetation type of the park, mostly occupying gravelly, acidic uplands and north-facing slopes, is Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest: *Quercus montana* - (*Quercus coccinea*, *Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest (USNVC: CEG006299). High-quality, spring-fed woodland seepage communities occur within this forest type along both sides of the Chambliss tributary and along a small seepage stream to the southeast. The flora of these sites is virtually identical to those at Rynex Natural Area.



Fig. 4. Pinxterbloom Azalea (*Rhododendron periclymenoides*) in Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest at Dora Kelley Nature Park. Photo by R.H. Simmons.

In a large woodland seep on the west side of the Chambliss tributary is the only known location in the City for Allegheny Blackberry (*Rubus allegheniensis*), as well as a City co-champion Shortleaf Pine (*Pinus echinata*). Along the main trail that follows the terrace ridge though Oak-Heath Forest is one of two populations in the City of Blackseed Needlegrass (*Piptochaetium avenaceum*).

At the north end of the park on the south-facing slope above the Chambliss path, as well as a small forested strip along N. Morgan Street, are sections of Piedmont Acidic Oak - Hickory Forest: *Quercus alba* - *Quercus rubra* - *Carya alba* / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum* Forest (USNVC: CEG008475). Good examples of this community type are often much more species rich than Oak-Heath Forest, with a diversity of upland oaks and hickories (*Carya* spp.) in the canopy, a fairly diverse understory, and a host of grasses, sedges, and wildflowers in the herb layer (forest floor). It typically occurs as a gradient between Oak-Heath Forest and Mesic Mixed Hardwood Forest, usually on dry to mesic, acidic, southwest facing slopes with high solar exposure.

Regionally rare flora associated with this community type at the park include Two-flowered Melic Grass (*Melica mutica*), Lined Sedge (*Carex striatula*), Virginia Snakeroot (*Aristolochia serpentaria*),

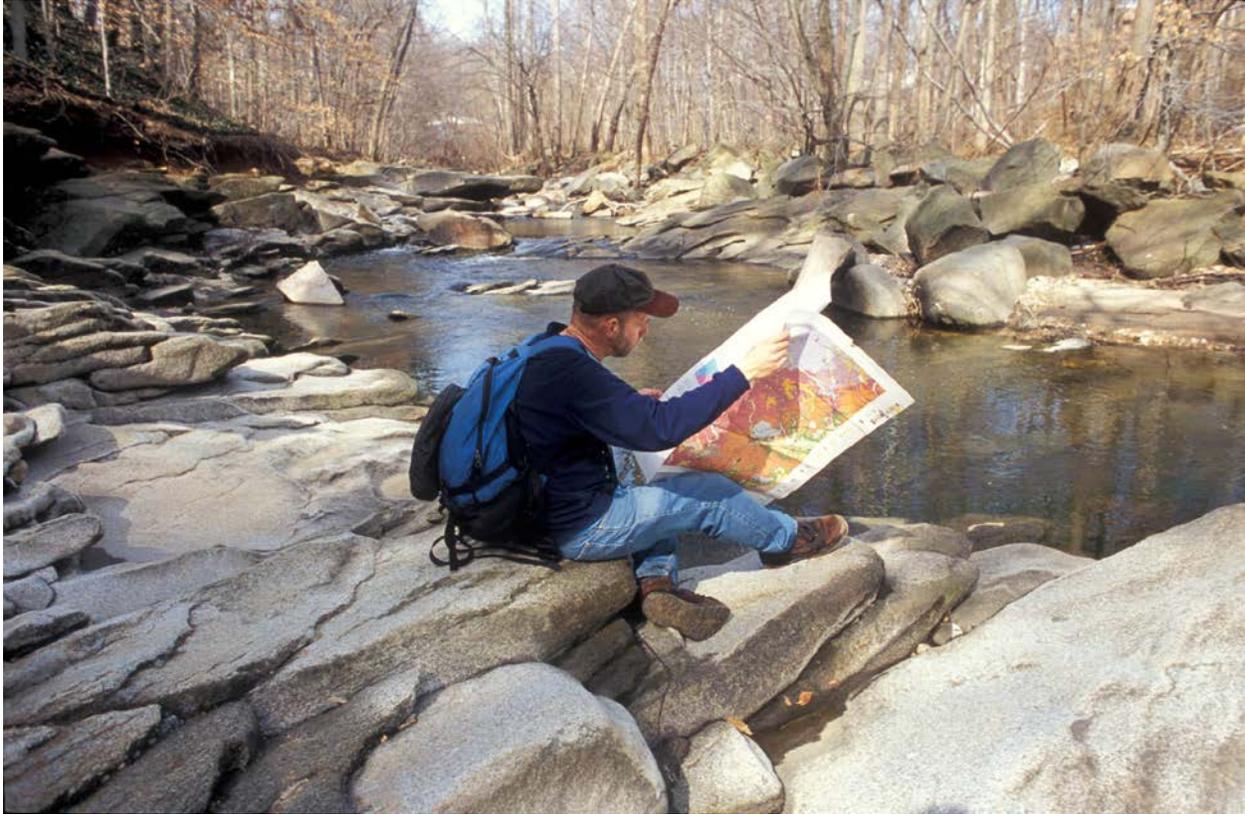


Fig. 5. Geologist Tony Fleming studying outcrops of Occoquan Granite along Holmes Run at Dora Kelley Nature Park. Photo by R.H. Simmons.

Butterfly Pea (*Clitoria mariana*), Yellow Pimpernel (*Taenidia integerrima*), White-topped Aster (*Doellingeria infirma*), Wavy-leaved Aster (*Symphyotrichum undulatum*), Upland Boneset (*Eupatorium sessilifolium*), Rough-leaved Sunflower (*Helianthus strumosus*), and Elm-leaved Goldenrod (*Solidago ulmifolia*).

Much of the vegetation of the lower slopes, ravines, and stream banks throughout the park is Northern Coastal Plain / Piedmont Mesic Mixed Hardwood Forest: *Fagus grandifolia* - *Quercus (alba, rubra)* - *Liriodendron tulipifera* / (*Ilex opaca* var. *opaca*) / *Polystichum acrostichoides* Forest (USNVC: C EGL006075). This regionally common forest type occurs on well-drained, relatively infertile, mesic soils. Dominant species include Tulip Tree (*Liriodendron tulipifera*), American Beech (*Fagus grandifolia*), White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), and Christmas Fern (*Polystichum acrostichoides*). Many of the oldest and largest trees in the City occur here, including American Beech and a City co-champion Northern Red Oak. Mesic woodland along the west bank of the lower end of the Chambliss tributary and the south side of Holmes Run support one of two locations in Alexandria for Dwarf Ginseng (*Panax trifolius*) and Wood Anemone (*Anemone quinquefolia*).

The rich, friable, basic pH soils of alluvial levees along abandoned oxbow channels of Holmes Run and narrow floodplain sections at the park support good examples of Coastal Plain / Outer Piedmont Basic Mesic Forest: *Fagus grandifolia* - *Liriodendron tulipifera* - *Carya cordiformis* / *Lindera benzoin* / *Podophyllum peltatum* Forest (USNVC: C EGL006055).

Northern Red Oak, American Beech (*Fagus grandifolia*), Bitternut Hickory (*Carya cordiformis*), and White Ash (*Fraxinus americana*) are the dominant canopy species. Paw Paw (*Asimina triloba*) is the typical understory species, with the stand on the broad alluvial levee at the western end of the park the largest and finest in the City. Spicebush (*Lindera benzoin*) is the dominant shrub. The herbaceous layer is characteristically lush and diverse in spring, including extensive carpets of Mayapple (*Podophyllum peltatum*), Trout Lily (*Erythronium americanum*), Cut-leaved Toothwort (*Cardamine concatenata*), Broad-leaved Toothwort (*Cardamine angustata*), Violet Wood Sorrel (*Oxalis violacea*), and numerous other spring wildflowers.

Toadshade (*Trillium sessile*), Puttyroot (*Aplectrum hyemale*), Early Saxifrage (*Saxifraga virginiensis*), One-flowered Cancer-root (*Orobanche uniflora*), Virginia Waterleaf (*Hydrophyllum virginianum*), and Golden Ragwort (*Packera aurea*) are wildflowers of the Holmes Run Gorge that reach their eastern limits here and represent the sole location in the City. This section of the park also includes one of two stations in Alexandria for Wild Ginger (*Asarum canadense*).

Several grass species are also only known in Alexandria from the rich alluvial floodplain and stream banks of Holmes Run at the park, including Woodland Brome (*Bromus pubescens*), Spotted-sheath Rosette Grass (*Dichanthelium yadkinense*), and Nodding Fescue (*Festuca subverticillata*). This area is also one of two locations in the City for Early Bluegrass (*Poa cuspidata*) and one of three Alexandria stations for Bottlebrush Grass (*Elymus hystrix*).

Between the Sanger Avenue path and the lower path along the floodplain is a large, semi-natural impoundment wetland that is mainly fed by the Chambliss tributary and two small seepage streams to the southeast. The wetland is important as a refuge for many species of wildlife, as well as a focal point for numerous visitors and nature study activities conducted by the Ford Nature Center. It is also the only known location in Alexandria for Greater Water Starwort (*Callitriche heterophylla*) and Spring Cress (*Cardamine bulbosa*), which grows in a shaded seepage swamp braid at the southeast edge of the wetland.

Spectacular outcrops of metasedimentary and intrusive rocks characterize the stream valley of the eastern end of the Holmes Run Gorge at Dora Kelley Nature Park. The principal metasedimentary rock unit is the Indian Run Formation, with Lake Barcroft Metasandstone and Accotink Schist to a much lesser extent. Occoquan Granite is the principal intrusive rock, with a small body of Falls Church Tonalite near the convergence of Rynex Run and Holmes Run (Fleming 2008). The Chambliss tributary is significant as perhaps the region's finest and largest exposed saprolite flume – soft, decomposed bedrock of the Indian Run Formation resulting from millions of years of chemical weathering.

A well-developed trail system allows easy access throughout the park, without intruding into sensitive areas. The abundant natural amenities and features of the park also serve as the “outdoor classroom” of the Ford Nature Center, the City's sole nature center, and are integral components of their numerous environmental education activities.

Natural resource management at the park consists of routine control of non-native invasive plants, litter and debris removal from the stream and wooded areas, and floristic inventories.



Fig. 6. American Elm (*Ulmus americana*) overhanging the stream at Holmes Run Scenic Easement. Photo by R.H. Simmons.

Holmes Run Scenic Easement:

This narrow, 9.35-acre (RPCA lists site as 8.02 acres) forested stream valley park (property class 731) spans both sides of Holmes Run from N. Beauregard Street east to Shirley Highway (395). The park is composed of five contiguous parcels: the 2.97-acre parcel at 1221 N. Beauregard Street (property class 731); the 2.86-acre parcel at 1201 N. Beauregard Street (property class 731); the 1-acre parcel at 5515 N. Morgan Street (property class 731); the 10,003 sq. ft. parcel at 5498 N. Morgan Street (property class 731); and the 2.28-acre parcel at 5499 N. Morgan Street (property class 731).

The rich alluvial soils of the narrow floodplain of the park support a nearly continuous stand of Coastal Plain / Outer Piedmont Basic Mesic Forest: *Fagus grandifolia* - *Liriodendron tulipifera* - *Carya cordiformis* / *Lindera benzoin* / *Podophyllum peltatum* Forest (USNVC: C EGL006055), with several small sections of forested wetlands and waterways spanned by a boardwalk.

Dominant canopy species are similar to those of rich soils along Holmes Run upstream and include numerous, old-age Bitternut Hickory (*Carya cordiformis*), Northern Red Oak (*Quercus rubra*), White Oak (*Quercus alba*), American Beech (*Fagus grandifolia*), and White Ash (*Fraxinus americana*), including the City champion White Ash and Bitternut Hickory.

Extensive vine thickets along the rich, sandy stream banks of both sides of Holmes Run at the eastern end of the park represent the only location in Alexandria for Bristly Greenbrier (*Smilax hispida*). This park and the edge of an unnamed seepage stream along the south edge of Bennington Crossings Apartments to the southwest above the park also represent the only locations in the City for Creeping Cucumber (*Melothria pendula* var. *pendula*).

Natural resource management at this site consists of routine control of non-native invasive plants, litter and debris removal from the stream and wooded areas, and floristic inventories.

Chambliss Park:

This semi-open, 8.07-acre park comprises a mosaic of open grassy areas; a small section of woodland at the headwaters of the Chambliss tributary that runs through adjoining Dora Kelley Nature Park to Holmes Run; groves of old oaks and other trees; tennis courts; and a ball field. The park is composed of three contiguous parcels: the 50,094 sq. ft. parcel at 2505 N. Chambliss Street (property class 731); the 2.87-acre parcel at 2323 N. Chambliss Street (property class 731); and the 4.05-acre parcel at 2500 N. Scott Street (property class 731).

The groves of old-age White Oak (*Quercus alba*); small section of woodland; and small seepage are the most significant natural features remaining at the park. Also important are the extensive groundwater recharge areas, including the natural turf athletic field, that generate and sustain the Chambliss tributary.

According to a long-time Alexandria resident neighboring the park, the area of the tennis courts and parking lot along N. Chambliss Street was the location of a former feedlot of a large pig farm that once occupied much of Dowden Terrace northward to Bailey's Crossroads in Fairfax County (pers. comm., Sam Adams).

Much of the woodland is highly degraded with thick infestations of numerous species of non-native invasive plants. Nonetheless, small sections of relatively clean, intact woodland remain, including a remnant of Piedmont Acidic Oak - Hickory Forest: *Quercus alba* - *Quercus rubra* - *Carya alba* / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum* Forest (USNVC: CEG008475) on a south-facing knoll near N. Scott Street.

The flora of this site is diverse, and includes Southern Red Oak (*Quercus falcata*), White Oak, Black Oak (*Quercus velutina*), Mockernut Hickory (*Carya alba*), Sweet Pignut Hickory (*Carya ovalis*), and Shortleaf Pine (*Pinus echinata*) in the canopy; Black-haw (*Viburnum prunifolium*), Deerberry (*Vaccinium stamineum*), Lowbush Blueberry (*Vaccinium pallidum*), and Summer Grape (*Vitis aestivalis* var. *aestivalis*) in the shrub layer; and Solomon's Plume (*Maianthemum racemosum*), Solomon's Seal (*Polygonatum biflorum*), Bosc's Rosette Grass (*Dichanthelium boscii*), and others in the herb layer. Two large, old Red Mulberry (*Morus rubra*) trees in the understory along the west bank of the Chambliss tributary are City co-champions.

A small, semi-open seep occurs at the northeastern edge of the woodland at the headwaters of the Chambliss tributary.

Natural resource management at this site consists of infrequent floristic inventories and non-native invasive plant control efforts.



Fig. 7. Aerial photo from the late 1980s of Mark Center, including the Winkler Botanical Preserve (center), showing extensive forested areas before storm water pond construction and massive development of three of the four upland terraces in the 1990s, as well as construction of the BRAC-133 building, associated infrastructure, and stream valley alteration in the 2000s.

Winkler Botanical Preserve:

This large, 44.63-acre, mostly forested natural area at 1397 N. Beauregard Street is privately-owned and managed (property class 780; Private Ed. Insts.). Up until the mid-1990s when the Mark Winkler Company developed much of the property and surrounding forest, this site and the three adjoining terraces comprised the largest, finest, and most undisturbed interior forest in the City (Fig. 7).

The dominant vegetation of the site is Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest: *Quercus montana* - (*Quercus coccinea*, *Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest (USNVC: C EGL006299), which largely occupies gravelly, acidic uplands and north-facing slopes. The steep forested slope and ridge at the south corner of the Winkler Botanical Preserve along Shirley Highway (395) is the largest and best example of Oak-Heath Forest remaining in the City of Alexandria, including the lower slope variant intermixed with Northern Red Oak (*Quercus rubra*) and dense stands of Witch-hazel (*Hamamelis virginiana*).



Fig. 8. The aptly-named “Fern Belt” at the northeastern edge of the former Winkler Botanical Preserve as it appeared in the early 1990s. This pristine wetlands was regionally famous as one of the best remaining examples of the globally rare Fall Line Magnolia Bog community (*Nyssa sylvatica* - *Magnolia virginiana* - (*Pinus rigida*) / *Rhododendron viscosum* - *Toxicodendron vernix* / *Smilax pseudochina* Woodland; USNVC: CEG006219). Photo by R.H. Simmons.

Edges and openings of Oak-Heath Forest throughout the site represent the only known stations in the City for Downy Rattlesnake Plantain (*Goodyera pubescens*), Bastard Toadflax (*Comandra umbellata*), and Pipsissewa (*Chimaphila umbellata*), and one of two locations in Alexandria for Grass-leaved Blazing Star (*Liatris pilosa*), Blackseed Needlegrass (*Piptochaetium avenaceum*), and Wild Pink (*Silene caroliniana* var. *pensylvanica*). Downy Rattlesnake Plantain and Pipsissewa are considered extirpated from the property resulting from development.

An extensive network of pristine springs, seepage wetlands, and spring-fed streams are also associated with Oak-Heath Forest at this site, including Alexandria’s largest seepage communities and last remaining, undisturbed Magnolia Bog (Fig. 8). The process that begins with rainwater infiltration into the porous, sandy-gravelly soils of the terraces gives rise to the formation of seeps, springs, and bogs as groundwater comes in contact with impermeable clays of the underlying Potomac Formation. The massive upland aquifers and springs at this site largely form the headwaters of Winkler Run, which flows south to Holmes Run. The section of Seminary Road from Bailey’s Crossroads to the Episcopal Seminary, which more or less follows the highest elevations of the terrace, is the drainage divide between Holmes Run and Four Mile Run.

The floras of the woodland seeps at this site are virtually identical to those at Rynex Natural Area and Dora Kelley Nature Park. Many of these species are also characteristic components of the closely related Fall Line Magnolia Bog: *Nyssa sylvatica* - *Magnolia virginiana* - (*Pinus rigida*) / *Rhododendron viscosum* - *Toxicodendron vernix* / *Smilax pseudochina* Woodland (USNVC: CEGLO06219) that were once fairly common along the fall line of northern Virginia, Washington, D.C., and Maryland, but are now globally rare.

The large, north-facing seep at the northeastern edge of the property contains the largest remaining colonies of locally rare Ground Pine (*Dendrolycopodium obscurum*), Cinnamon Fern (*Osmundastrum cinnamomeum*), and Dangleberry (*Gaylussacia frondosa*) in Alexandria (Fig. 9).

Unfortunately, most of the springs and seepage wetlands at this site, including the Magnolia Bog, have largely been destroyed by development occurring over the last several decades. Some of the once-extensive seepage wetlands at the northeast edge of the property remain relatively intact, but appear to be drying up as a result of development of the groundwater recharge area of the adjoining upland terrace.

Running more or less continuously along much of the mid to lower, south and west facing slopes of the site are the largest and best remaining examples in Alexandria of Piedmont Acidic Oak - Hickory Forest: *Quercus alba* - *Quercus rubra* - *Carya alba* / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum* Forest (USNVC: CEGLO08475). This community type is especially well developed locally on ancient colluvial slopes and benches, with soils of clay-loam derived from underlying lenses of montmorillonite clay of the Potomac Formation.

Regionally and locally rare flora associated with this community type at the site include Variable Rosette Grass (*Dichanthelium commutatum* var. *commutatum*), Two-flowered Melic Grass (*Melica mutica*), Lined Sedge (*Carex striatula*), Butterfly Pea (*Clitoria mariana*), Hairy Bush Clover (*Lespedeza hirta*), Low Pasture Rose (*Rosa carolina*), Cream Avens (*Geum virginianum*), Hairy Angelica (*Angelica venenosa*), Wild Dittany (*Cunila origanoides*), Narrow-leaved Mountain Mint (*Pycnanthemum tenuifolium*), Hairy Skullcap (*Scutellaria elliptica*), Stiff Yellow Flax (*Linum medium* var. *texanum*), Three-lobed Violet (*Viola palmata*), Virginia Ground Cherry (*Physalis virginiana*), White-topped Aster (*Doellingeria infirma*), Wavy-leaved Aster (*Symphotrichum undulatum*), Inland Round-leaved Thoroughwort (*Eupatorium pubescens*), Woodland Sunflower (*Helianthus divaricatus*), Rough-leaved Sunflower (*Helianthus strumosus*), Upland Ironweed (*Vernonia glauca*), and Elm-leaved Goldenrod (*Solidago ulmifolia*).

The sections of Acidic Oak-Hickory Forest at the Winkler Botanical Preserve and the south and west facing colluvial slopes of the now-developed adjoining terraces represent the only locations in Alexandria for Bashful Bulrush (*Trichophorum planifolium*), Devil's Bit (*Chamaelirium luteum*), Lily-leaved Twayblade (*Liparis liliifolia*), Round-lobed Hepatica (*Hepatica nobilis* var. *obtusata*), Smooth Tick Trefoil (*Desmodium laevigatum*), Striped Gentian (*Gentiana villosa*), Round-leaved Tick Trefoil (*Desmodium rotundifolium*), Hairy-jointed Meadow Parsnip (*Thaspium barbinode*), New Jersey Tea (*Ceanothus americanus*), Fanleaf Hawthorne (*Crataegus macrosperma*), Wild Bergamot (*Monarda fistulosa*), Smooth False Foxglove (*Aureolaria flava*), Fern-leaved False Foxglove (*Aureolaria pedicularia*), Arrow-leaved Violet (*Viola sagittata*), Southern Wood Violet (*Viola hirsutula*), Aromatic Boneset (*Ageratina aromatica*), and Whorled Rosinweed (*Silphium trifoliatum*). Resulting from extensive development at the site, Devil's Bit, Lily-leaved Twayblade, and Striped Gentian are considered extirpated from Alexandria.



Fig. 9. Unfurling Cinnamon Fern (*Osmundastrum cinnamomeum*) fronds amidst extensive colony of Ground Pine (*Dendrolycopodium obscurum*) in large, pristine groundwater seep at the northeastern edge of the Winkler Botanical Preserve. Photo by R.H. Simmons.

The main threats to the natural features of this site are ongoing, major storm water mitigation and stream bank stabilization projects that replace native, existing vegetation, soils, and topography with artificial, engineered stream corridors and storm water retention ponds; the clearing of sections of native forest for plantings of meadow species and other activities; and the unchecked spread of non-native invasive plants from disturbed areas into relatively pristine forest.

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

Alexandria Campus of Northern Virginia Community College (NOVA Woods):

This site preserves several acres of remnant forest at 3100 N. Beauregard Street and between W. Campus Drive and E. Campus Drive on the grounds of the Alexandria Campus of the Northern Virginia Community College. Both parcels are owned by the Commonwealth of Virginia (property class 712; State Bd. Comm. Colleges).

The app. 2-acre section of forest behind the Donald L. Bisdorf Building between W. Campus Drive and



Fig. 10. Small remnant of Oak-Heath Forest on the characteristically flat Bailey's Crossroads terrace (Dowden terrace) behind the Donald L. Bisdorf Building on the Alexandria Campus of Northern Virginia Community College. Photo by R.H. Simmons.

E. Campus Drive is one of the last undeveloped remnants of Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest: *Quercus montana* - (*Quercus coccinea*, *Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest (USNVC: CEG006299) that once covered the broad terrace in the Bailey's Crossroads area (Fig. 10).

The canopy here is largely composed of Chestnut Oak (*Quercus montana*), with lesser amounts of White Oak (*Quercus alba*) and Scarlet Oak (*Quercus coccinea*). The naturally sparse understory, shrub, and herb layers are mainly composed of Black Gum (*Nyssa sylvatica*), Downy Serviceberry (*Amelanchier arborea*), Black Huckleberry (*Gaylussacia baccata*), Lowbush Blueberry (*Vaccinium pallidum*), Deerberry (*Vaccinium stamineum*), Pinxterbloom Azalea (*Rhododendron periclymenoides*), Poverty Oatgrass (*Danthonia spicata*), Striped Wintergreen (*Chimaphila maculata*), and Pin Cushion (*Leucobryum albidum*) and Hair Cap (*Polytrichum commune*) mosses. Patchy, remnant stands of Mountain Laurel (*Kalmia latifolia*) grow on the north-facing slope of a large ravine at the northeastern edge of the woods.



Fig. 11. Small remnant of diverse Acidic Oak-Hickory Forest on a colluvial slope above the old channel of Lucky Run along N. Beauregard Street at the northeastern edge of the Alexandria Campus of Northern Virginia Community College. Photo by R.H. Simmons.

On a south-facing colluvial slope along N. Beauregard Street at the northeastern edge of the campus below the Schlesinger Center is an app. 2-acre section of Piedmont Acidic Oak - Hickory Forest: *Quercus alba* - *Quercus rubra* - *Carya alba* / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum* Forest (USNVC: CEG008475) (Fig. 11). Much of this site is overrun with English Ivy (*Hedera* sp.), Periwinkle (*Vinca minor*), Bush Honeysuckle (*Lonicera maackii*), and other non-native invasive plants, but is nonetheless significant for its mature forest canopy, floristic diversity, and rare species.

Northern Red Oak (*Quercus rubra*) is the dominant canopy species at this site, intermixed to a lesser extent with White Oak, Chestnut Oak, Pignut Hickory (*Carya glabra*), and Mockernut Hickory (*Carya alba*). The understory and shrub layers are diverse, with Fringe Tree (*Chionanthus virginicus*), Flowering Dogwood (*Cornus florida*), and Black-haw (*Viburnum prunifolium*) dominant. Regionally and locally rare flora at the site include Few-flowered Nutrush (*Scleria pauciflora*), Mattamuskeet Rosette Grass (*Dichanthelium mattamuskeetense*), Low Pasture Rose (*Rosa carolina*), Hairy Angelica (*Angelica venenosa*), White-topped Aster (*Doellingeria infirma*), Inland Round-leaved Thoroughwort (*Eupatorium pubescens*), Upland Boneset (*Eupatorium sessilifolium*), Rough-leaved Sunflower (*Helianthus strumosus*), and Upland Ironweed (*Vernonia glauca*).

This woodland represents the only known location in Alexandria for Few-flowered Nutrush (*Scleria pauciflora*) and Mattamuskeet Rosette Grass (*Dichantheium mattamuskeetense*), and one of two locations in the City for Hairy Angelica (*Angelica venenosa*) and Upland Ironweed (*Vernonia glauca*).

The greatest threats to these sites are potential expansion of campus facilities into woodland areas, including the construction of roadways and utility easements; non-native invasive plants; and dumping landscape debris into wooded areas.

Natural resource management at these sites consists of infrequent floristic inventories. Developing a non-native invasive plant management plan for both sites would be beneficial.

James Mulligan Park:

This remote, 3.50-acre upland park (property class 731) at 3000 S. 28th Street includes a picnic area, playground, and small section of woodland. The park also unofficially includes a small, mostly open area of the adjoining property at 3102 S. 28th Street that is owned by the Alexandria Redevelopment and Housing Authority (property class 743; Alex. Redv. Hous. Auth.).

Little remains of the natural forest at this site, with much of the wooded area completely overrun with a myriad of non-native invasive species. A narrow grove of old and large White Oak (*Quercus alba*), Pignut Hickory (*Carya glabra*), Southern Red Oak (*Quercus falcata*), and Virginia Pine (*Pinus virginiana*) grow along the western edge of the park.

At the northwest corner of the park near the Bolling Brook Condominium swimming pool is a large, City co-champion Sweet Crabapple (*Malus coronaria*). Prior to the Stonegate development, Alexandria's largest population of Sweet Crabapple flourished along the edge of W. Braddock Road near present-day N. Hampton Drive. The occurrence at the park is the sole surviving remnant of that colony and is one of two stations in the City for this plant.

Natural resource management at this site consists of infrequent floristic inventories and non-native invasive plant control efforts.

Stonegate Scenic Easement:

This diverse, several-acre, forested easement (property class 980; Vacant Land Com. Area) on the east side of W. Braddock Road includes most of the deep ravine and stream valley of the south branch of Lucky Run. The site is owned by Hamptons at Stonegate Owners Association, Inc. and is composed of three contiguous parcels: the 41,644 sq. ft. Parcel B-2 Stonegate at 2509 Gadsby Place (property class 980); the 34,368 sq. ft. Parcel B-3 Stonegate at 2555 Gadsby Place (property class 980); and the 65,712 sq. ft. Parcel B-4 Stonegate at 2599 Gadsby Place (property class 980). Small sections of the stream and adjoining floodplain forest outside the easement to the southeast are owned by SBAF Park Center Apartments, LLC (The Aventine of Alexandria Apartments).

The perennial stream through the easement is the southern braid of the two main branches of Lucky Run that drain the upland terrace now occupied by Southern Towers and Stonegate. The northern branch of Lucky Run also originates at this area and just to the west near the intersection of Seminary Road and N. Beauregard Street, where it flows northward along present-day N. Beauregard Street to its convergence



Fig. 12. Diverse vegetation along the stream bank of the south branch of Lucky Run at Stonegate Scenic Easement, with Northern Red Oak (*Quercus rubra*), left, Tulip Tree (*Liriodendron tulipifera*), center and right, and Witch-hazel (*Hamamelis virginiana*), foreground. Photo by R.H. Simmons.

with Four Mile Run. The modern channel of Lucky Run is highly channelized and exposed for a short distance in the median of lower N. Beauregard Street and once again along Walter Reed Drive in Arlington County. Remnant groves of old Sweetgum (*Liquidambar styraciflua*) and other bottomland trees in lowland areas near the intersection of King Street and S. 28th Street and northward to Walter Reed Drive mark the location of a once-vast seepage swamp at the convergence of both branches of Lucky Run.

Most of the present and historic channels of not-so-lucky Lucky Run are buried underground or otherwise obscured by development and pavement, with the southern branch at Stonegate Scenic Easement all that remains of the natural channel and vegetation of the stream. The “U-shaped” stream was perhaps named for its resemblance to a horseshoe, a symbol of good luck.

The small scenic easement and stream are the only natural features that remain of the 35-acre Stone Tract that was cleared in the early 1990s for the Stonegate development. Prior to housing construction, the site was notable for its extensive forest that spanned both sides of W. Braddock Road and an abundance of regionally important prehistoric and historic sites. (For further information on the history

and archaeological importance of the site, see *Archaeological Investigations of the Stonegate Development (Including Sites 44AX31, AX166 and 167), City of Alexandria, Virginia*; Adams 1993.)

Old-age Central Appalachian / Inner Piedmont Low-Elevation Chestnut Oak Forest: *Quercus montana* - (*Quercus coccinea*, *Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest (USNVC: C EGL006299) once covered all of the Stone Tract site on the west side of W. Braddock Road.

Acidic Oak-Hickory Forest once covered much of the uplands of the Stone Tract on the east side of W. Braddock Road, with Mesic Mixed Hardwood Forest along the lower slopes and stream bank on the north side of Lucky Run.

A sandy section of Oak-Heath Forest on the southwest side of W. Braddock Road was once the sole occurrence in the City for the regionally rare Fragrant Goldenrod (*Solidago odora*). This species is now considered extirpated from Alexandria.

The small stream valley that comprises the easement is characterized by a main channel, old abandoned ox-bow channels, a flat, alluvial bench on the south side of the stream, and a network of seepage braids emanating from the steep, gravelly slope of the adjacent Aventine of Alexandria Apartments property to the southeast. A sewer line follows the south bank of the stream and the stream banks are armored with old, discarded slabs of concrete in many places. A set of stairs descends the steep grade from W. Braddock Road and connects to an asphalt path that follows the north side of the stream past the large storm water retention pond to Ford Avenue. The remains of an ancient trail wind through the forest on the south side of the stream.

The sandy-gravelly soils of the stream banks and alluvial floodplain support a lush and diverse flora that is a combination of the Northern Red Oak (*Quercus rubra*) and Witch-hazel (*Hamamelis virginiana*) dominated lower slope variant of Oak-Heath Forest that extends across the stream valley from the steep slope to the southeast; Mesic Mixed Hardwood Forest; and acidic woodland seeps (Fig. 12). Numerous old and large canopy trees occur throughout, with Tulip Tree (*Liriodendron tulipifera*), Northern Red Oak, White Oak (*Quercus alba*), and Red Maple (*Acer rubrum*) dominant. The diverse understory and shrub layer includes Fringe Tree (*Chionanthus virginicus*), Witch-hazel, Spicebush (*Lindera benzoin*), American Hazelnut (*Corylus americana*), Pinxterbloom Azalea (*Rhododendron periclymenoides*), Smooth Arrow-wood (*Viburnum dentatum* var. *lucidum*), Strawberry Bush (*Euonymus americana*), and many others. Much of the forest floor is overrun with a variety of non-native invasive plants and Poison Ivy (*Toxicodendron radicans*), both indicative of past soil disturbance.

Several, small woodland seeps occur along seepage braids that are mostly situated along the toe slope bordering the narrow floodplain on the south side of the stream. The flora is similar to woodland seeps at Rynex Natural Area, Dora Kelley Nature Park, and the Winkler Botanical Preserve, though is not as diverse, and includes Sweetbay Magnolia (*Magnolia virginiana*), Fringe Tree (*Chionanthus virginicus*), Eastern Serviceberry (*Amelanchier canadensis*), Winterberry (*Ilex verticillata*), Highbush Blueberry (*Vaccinium* spp.), Common Alder (*Alnus serrulata*), Cinnamon Fern (*Osmundastrum cinnamomeum*), Royal Fern (*Osmunda spectabilis*), Southern Lady Fern (*Athyrium asplenoides*), Wild Sarsaparilla (*Aralia nudicaulis*), Sessile-leaved Bellwort (*Uvularia sessilifolia*), White Edge Sedge (*Carex debilis*), and Slender Wood Oats (*Chasmanthium laxum*).

Natural resource management of these areas consists of infrequent floristic inventories. Developing a non-native invasive plant management plan for the site would be beneficial.

Shirley Highway (395) edges:

These sites comprise open, grassy interchanges, gravelly road edges and banks, and woodland knolls along both sides of Shirley Highway (395) from Duke Street (Rt. 236) north to King Street (Rt. 7), especially along the east side of the highway.

These areas are important refugia for native grass species, such as Indian Grass (*Sorghastrum nutans*), Prairie Three-awn (*Aristida oligantha*), Purpletop Grass (*Tridens flavus*), and others, as well as many species of native wildflowers. Some areas contain locally rare species, such as Yellow Wild Indigo (*Baptisia tinctoria*), which grows along the fence between N. Van Dorn Street and 395 along the northbound access lane to 395 from Seminary Road.

The sandy-gravelly soils and open conditions along the highway also create good opportunities for the reintroduction of certain native species that require such conditions and are rare or extirpated from Alexandria and vicinity, such as Glade Rushfoil (*Croton willdenowii*), which was known historically from gravelly road edges near Bailey's Crossroads.

Additional Remnant Forest Areas, Undeveloped Sites, and Natural Features of the Beauregard Street Corridor

The following sites are not actively stewarded by natural resource management staff, but are important considerations for open space acquisition and preservation. Some sites may already be in some form of protective easement.

Numerous old canopy trees of the pre-development forest remain throughout the Beauregard Street corridor, especially at Mark Center, Lincolnia Hills, and Dowden Terrace. In addition to the aforementioned sites, the following areas represent significant concentrations of natural features and forest canopy. All of these sites together are critical in maintaining forest connectivity and sustainability in Alexandria and vicinity.

Beauregard Heights forested ridge:

This several-acre forest remnant occupies a steep, gravelly ridge between N. Morgan Street and N. Beauregard Street mostly on the grounds of the Beauregard Heights Condominium Association, with a small edge along N. Beauregard Street. Oak-Heath Forest is the dominant vegetation at this site, with numerous, old-age Chestnut Oak (*Quercus montana*), White Oak (*Quercus alba*), and other trees throughout.

A degraded remnant of a small woodland seep covered over by English Ivy (*Hedera* sp.) occurs at the toe slope of the ridge near N. Morgan Street. Locally rare flora persisting at the seep include Winterberry (*Ilex verticillata*), Highbush Blueberry (*Vaccinium* sp.), Cinnamon Fern (*Osmundastrum cinnamomeum*), and Skunk Cabbage (*Symplocarpus foetidus*).

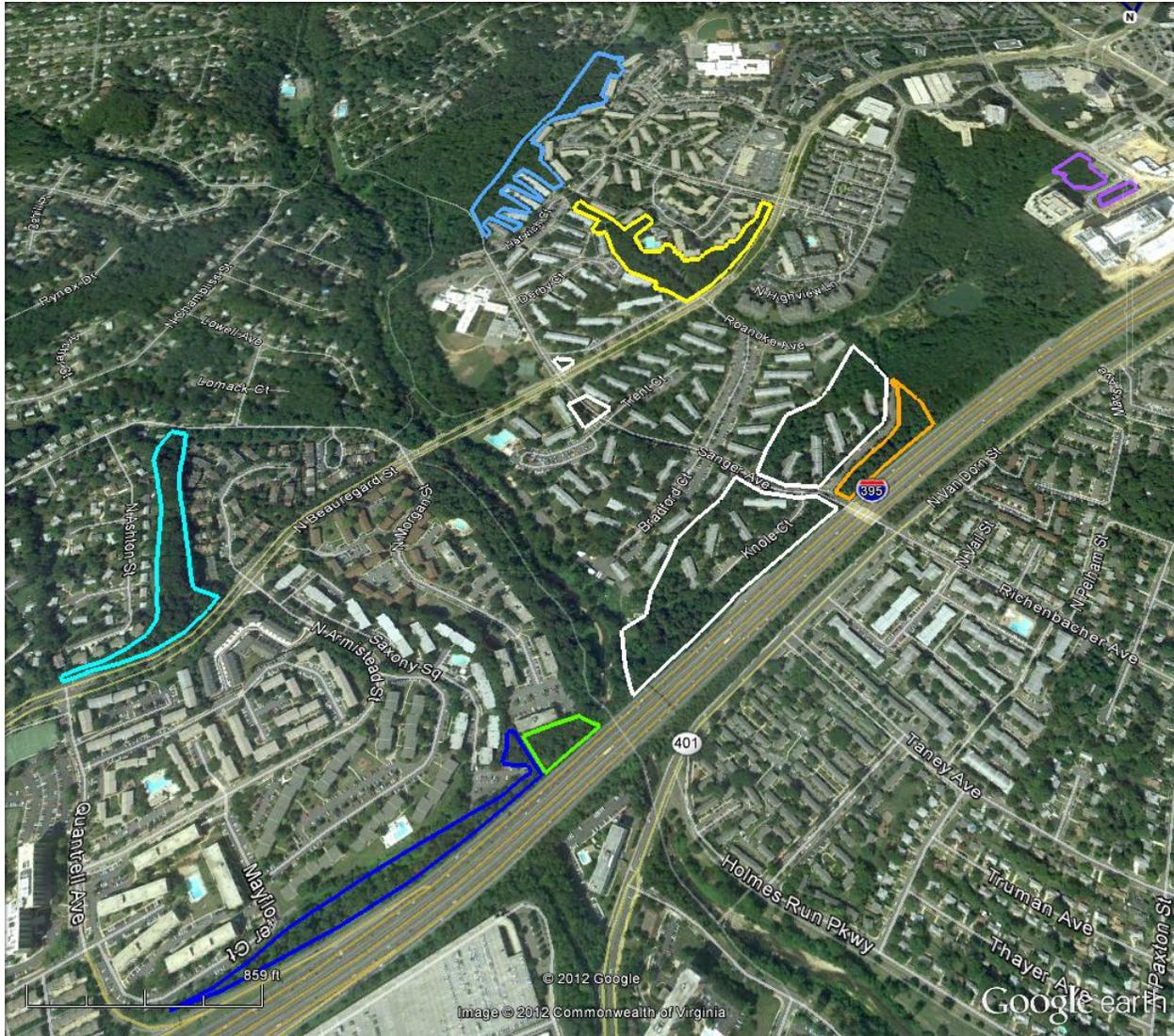


Fig. 13. Important remaining forest areas, undeveloped sites, and natural features (outlined in color) of the N. Beauregard Street corridor in the City of Alexandria, Virginia from Duke Street (Rt. 236) north to Seminary Road that are not actively stewarded by City natural resource management staff: Beauregard Heights forested ridge (turquoise), Bennington Crossings Apartments buffer (dark blue), Woodmont Park Apartments buffer (green), Brookdale Residential, LLC forest adjoining Dora Kelley Nature Park (light blue), JBG Mark Center, LLC forest opposite Roanoke Avenue (yellow), Brookdale Residential, LLC and Meadowcreek Lynbrook Residential, LLC lands including the lower reaches of Winkler Run (white), Meadowcreek Lynbrook Residential, LLC forested ridge on the southeast side of Essex Court (orange), and Institute For Defense Analyses (IDA) forest remnants adjoining the northeast edge of the Winkler Botanical Preserve (violet).

Bennington Crossings Apartments buffer:

This thin section of remnant forest along Shirley Highway (395) comprises mature oaks and other canopy trees and an unnamed, perennial seepage swale that drains a portion of the Lincolnia terrace to the southwest. The area along the seepage is highly degraded, but represents one of two locations in the City for Creeping Cucumber (*Melothria pendula* var. *pendula*).

Woodmont Park Apartments forested ridge:

This small, high-quality remnant of Oak-Heath Forest is situated on a gravelly, forested ridge on the southeast side of Woodmont Park Apartments along Shirley Highway (395), between Holmes Run Scenic Easement and Bennington Crossings Apartments.

Brookdale Residential, LLC forest adjoining Dora Kelley Nature Park:

This site comprises several acres of high-quality Oak-Heath Forest owned by Brookdale Residential, LLC adjoining Dora Kelley Nature Park. The preservation of these forested areas is critical to maintaining the quality and future sustainability of adjacent forested areas in Dora Kelley Nature Park, including the pristine, interior woodland seep and seepage stream.

One of the City's last remaining large colonies of the locally rare Large Whorled Pogonia (*Isotria verticillata*) grows on a southwest knoll within this area.

JBG Mark Center, LLC (Stoneridge) forest opposite Roanoke Avenue:

This site preserves several acres of Acidic Oak-Hickory Forest on a steep, south-facing slope opposite Roanoke Avenue, between Reading Avenue and Derby Court. Contiguous forest extends within this area to the northwest, with numerous old and large trees throughout.

Brookdale Residential, LLC and Meadowcreek Lynbrook Residential, LLC floodplain forest along lower Winkler Run and Holmes Run:

This relatively large area includes a diversity of remnant canopy trees of the original small stream floodplain forest that characterizes the section of lower Winkler Run from the Winkler Botanical Preserve to its convergence with Holmes Run, as well as the north side of Holmes Run from N. Beauregard Street to Shirley Highway and some of the watershed along Sanger Avenue to the northwest.

The State Champion Mockernut Hickory (*Carya tomentosa*) [= *Carya alba*] grows along the ancestral stream bank of Holmes Run near the southeast end of Ascot Court, along with the City champion Sycamore (*Platanus occidentalis*). Old and large Pin Oak (*Quercus palustris*) and Swamp White Oak (*Quercus bicolor*) represent the remains of an old floodplain backswamp along Sanger Avenue near the intersection with N. Beauregard Street.

A woodland seep along Winkler Run below the Winkler Botanical Preserve is one of two locations in Alexandria for the locally rare Netted Chain Fern (*Woodwardia areolata*). A small seepage swamp along Winkler Run below Sanger Avenue is one of two locations in the City for Greenish-white Sedge (*Carex albolutescens*).

Meadowcreek Lynbrook Residential, LLC forested ridge at Essex Court:

This small remnant of Oak-Heath Forest occupies a steep, north-facing ridge along the southeast side of Essex Court and Shirley Highway (395). This site is also one of two stations in Alexandria for Ribbed Sedge (*Carex virescens*), Variable Rosette Grass (*Dichanthelium commutatum* var. *commutatum*), and Roundleaf Thoroughwort (*Eupatorium rotundifolium*), as well as one of three locations in the City for Fragrant Sumac (*Rhus aromatica* var. *aromatica*).

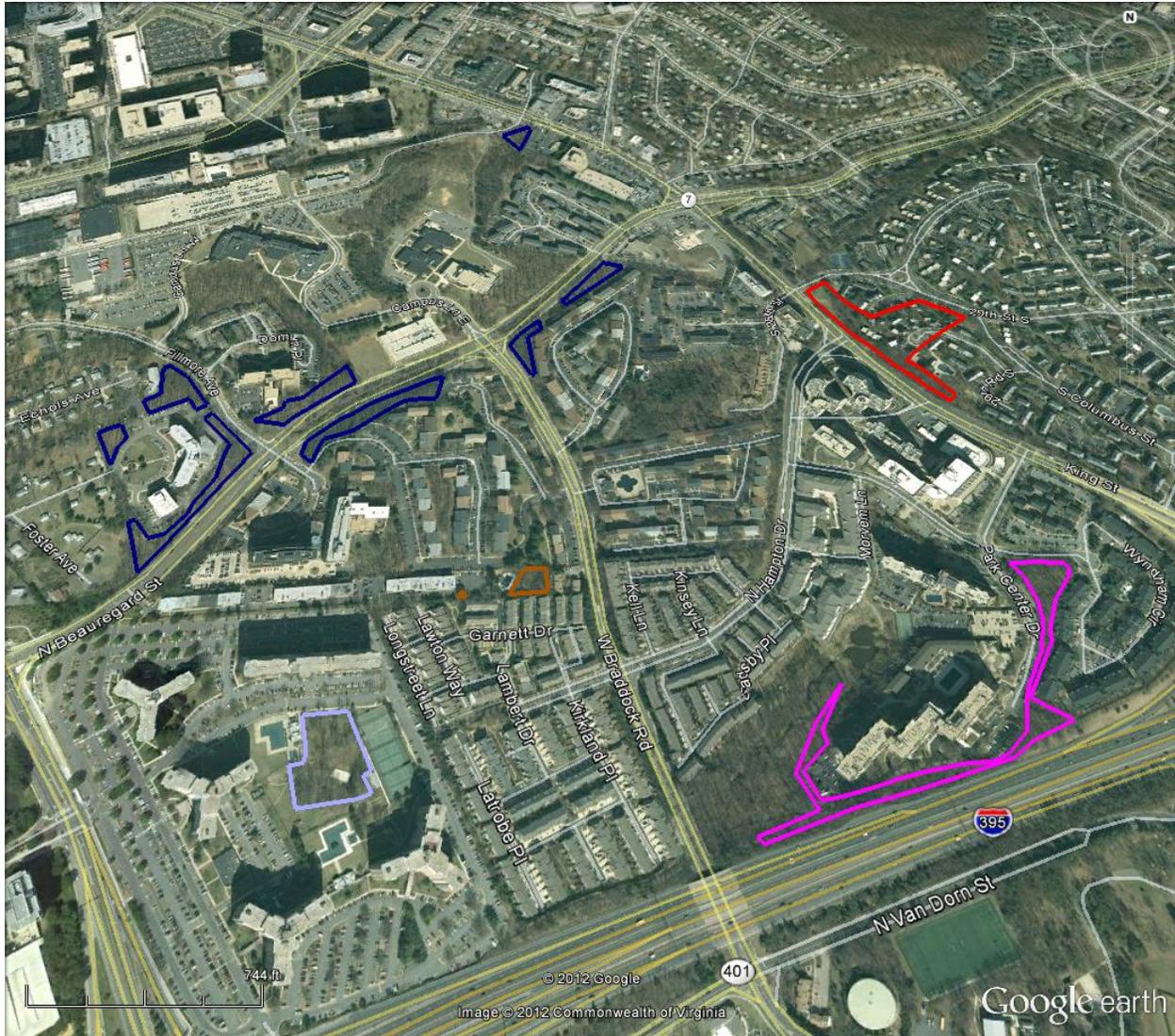


Fig. 14. Important remaining forest areas, undeveloped sites, and natural features (outlined in color) of the N. Beauregard Street corridor in the City of Alexandria, Virginia from Seminary Road north to King Street (Rt. 7), S. 28th Street, and S. Columbus Street that are not actively stewarded by City natural resource management staff: Southern Towers Park (lavender), Beauregard Woods (purple), Hermitage Hill Apartments forest remnant (brown), Washington Forest remnant (red), and Park Center Woods (magenta).

Institute For Defense Analyses (IDA) forest remnant:

This site comprises app. 4 acres of remnant, high-quality Oak-Heath Forest that once extended northeast across the upper slopes and terrace from the Winkler Botanical Preserve to Seminary Road (Fig. 7). As a result of extensive recent development, this site is the only natural remaining feature of the terrace. Its preservation is critical to maintaining some degree of groundwater infiltration and seepage flow to the large seep and forest below; however, vegetation clearing and replacement with impervious surface continues at the site.

Beauregard Woods:

This collection of small forested sites is situated along N. Beauregard Street north of Seminary Road, including scattered groves on the interior grounds of Goodwin House and Newport Village Apartments.

The largest of these is a several-acre Oak-Heath Forest remnant along a steep, gravelly, north-facing slope on the south side of N. Beauregard Street between Fillmore Avenue and W. Braddock Road. The vegetation of this site is mainly comprised of Chestnut Oak (*Quercus montana*), Scarlet Oak (*Quercus coccinea*), and thick stands of Mountain Laurel (*Kalmia latifolia*), with Northern Red Oak (*Quercus rubra*) co-dominant along the mid to lower slope.

A small remnant of west-facing Acidic Oak-Hickory Forest occupies a steep, gravelly slope at the east corner of the intersection of W. Braddock Road and N. Beauregard Street. Locally rare Low Pasture Rose (*Rosa carolina*) occurs here with a variety of woodland wildflowers. Another nearly contiguous small forest remnant along the south side of N. Beauregard Street to the north contains one of the largest populations in the City of the locally uncommon Starry Campion (*Silene stellata*).

These sites are owned by Home Properties Newport Village, LLC and are part of the grounds of Newport Village Apartments. In the spring of 2012, all of these wooded areas were heavily thinned of canopy trees and understory vegetation, with many trees also limbed and forest floor vegetation in areas indiscriminately sprayed with herbicide. Non-native invasive plants are now opportunistically spreading into undisturbed forest areas.

On the north side of N. Beauregard Street and northeast of Fillmore Avenue is a long, thin section of woodland on the grounds of The Fountains at Washington House. This woodland preserves an old seepage braid of Lucky Run that emanates near the intersection of Fillmore Avenue and N. Beauregard Street and continues app. 150' northeast along the forest edge. Locally uncommon Eastern Bracken Fern (*Pteridium aquilinum* var. *latiusculum*) grows on the forested slope above the seepage wetlands. A small woodland seep forms the headwaters of the braid and includes Sweetbay Magnolia (*Magnolia virginiana*), Red Chokeberry (*Aronia arbutifolia*), Swamp-haw (*Viburnum nudum*), Black Highbush Blueberry (*Vaccinium fuscatum*), Common Alder (*Alnus serrulata*), and Cinnamon Fern (*Osmundastrum cinnamomeum*). Kudzu (*Pueraria montana*) and other non-native invasive vines are spreading into this area from infestations along the rip-rapped, channelized section of Lucky Run in the median of N. Beauregard Street below. Dumping of landscape waste into the wooded area is also a threat to this site.

Groves of old oaks extend southeast from Fillmore Avenue along N. Beauregard Street on the grounds of The Hermitage, including a degraded forested ravine at the headwaters of Lucky Run. A very small remnant of relatively undisturbed oak forest on the edge of the Dowden terrace is located at the northwest corner of the property.

On the grounds of St. James United Methodist Church between the church and The Hermitage is a small section of fairly undisturbed oak forest with a large glade of Eastern Bracken Fern (*Pteridium aquilinum* var. *latiusculum*).

Along the south side of Dawes Avenue, at the corner of the intersection of Dawes Avenue and King Street (Rt. 7), is a very small oak forest remnant on the grounds of the Alexandria Campus of Northern Virginia Community College.



Fig. 15. Ancient Chestnut Oak (*Quercus montana*) on a steep, forested ridge along King Street (Rt. 7) in the City of Alexandria near the border of Arlington County. It and other old-age trees nearby are remnants of historic Washington Forest. Photo by R.H. Simmons.

Southern Towers Park:

This fenced, app. 1.5-acre remnant forest grove on the flat, silty Dowden terrace is comprised mostly of White Oak (*Quercus alba*) and Scarlet Oak (*Quercus coccinea*), intermixed with Southern Red Oak (*Quercus falcata*), Post Oak (*Quercus stellata*), Blackjack Oak (*Quercus marilandica*), Bush's Oak (*Quercus x bushii*), Pignut Hickory (*Carya glabra*), and Willow Oak (*Quercus phellos*) and Pin Oak (*Quercus palustris*) in poorly drained areas. Bush's Oak is a fairly common, natural hybrid between Blackjack Oak and Black Oak (*Quercus velutina*).

The flat summit of the terrace at the park on the east side of Mark Center Avenue is more or less the drainage divide between the north and south branches of Lucky Run.

Hermitage Hill Apartments forest remnant:

This app. 0.5-acre Oak-Heath Forest remnant occupies a steep, gravelly, north-facing slope at the far eastern end of Hermitage Hill Apartments at 2240 N. Beauregard Street. The dominant vegetation of the site is Chestnut Oak (*Quercus montana*), Scarlet Oak (*Quercus coccinea*), and Mountain Laurel (*Kalmia*



Fig. 16. Regionally rare Fragrant Sumac (*Rhus aromatica* var. *aromatica*) in old remnant of Oak-Heath Forest on a steep, gravelly ridge along Park Center Drive and Shirley Highway (395). Photo by R.H. Simmons.

latifolia), with Lowbush Blueberry (*Vaccinium pallidum*), Pinxterbloom Azalea (*Rhododendron periclymenoides*), Eastern Bracken Fern (*Pteridium aquilinum* var. *latiusculum*), and others in the naturally sparse low shrub and herb layer. Litter and dumping from the adjacent Alexandria Redevelopment and Housing Authority (ARHA) and Stonegate residences is a problem.

A giant, old-age Shortleaf Pine (*Pinus echinata*) growing at the south edge of the parking area to the west of the forest remnant is a City co-champion.

Washington Forest remnant:

This several-acre, semi-wooded section of North Fairlington is bordered by King Street (Rt. 7) on the south; S. 28th Street on the west; S. 28th Street and S. Columbus Street on the north; and S. 29th Road on the east. This site contains numerous old-age remnant trees of historic “Washington Forest” - a large forested tract purchased by George Washington in the late 1700s and later part of grounds of the once-vast Arlington estate owned by the Custis-Lee families (Rose 1976, ABCTF 2001).

During the Civil War, Battery Garesche was constructed app. 2,000 ft. to the east of this area at the summit of the terrace. (See www.civilwartraveler.com/.../CWDW-Interpretive-Brochure-2010.pd... and

www.nps.gov/cwdw/historyculture/places.htm for more information on the Civil War Defenses of Washington, including historic maps of the fort locations and surrounding lands.)

Much of the site comprises an extremely steep, west-facing slope of gravelly colluvium dominated by remnant, old-age Chestnut Oak (*Quercus montana*), Black Oak (*Quercus velutina*), White Oak (*Quercus alba*), Southern Red Oak (*Quercus falcata*), and Pignut Hickory (*Carya glabra*). Old and large Tulip Tree (*Liriodendron tulipifera*) occur along the lower slopes, with Northern Red Oak (*Quercus rubra*), Red Mulberry (*Morus rubra*), and other trees. Old Sweetgum (*Liquidambar styraciflua*) grow in the remnants of an old seepage swamp at the outflow of the south branch of Lucky Run southeast of the intersection of S. 28th Street and King Street.

The City champion and state co-champion Chestnut Oak grows on an old forested ridge above King Street below the end of S. Dinwiddie Street (Fig. 15). This oak was probably cut as a fairly large tree during the Civil War to allow unobstructed cannon fire from nearby Battery Garesche. Chestnut Oak was the dominant tree of the forested heights at most of the fortifications, which were typically cut at about 5' above the ground (Gernand 2002). Chestnut Oak readily re-sprouts from stump cuts and can easily live for centuries. Similar-aged, multi-trunked Chestnut Oak are also present on the upper slopes near the summits of the fort sites at nearby Fort Reynolds in Arlington County, Virginia; Fort Buffalo near Seven Corners in Falls Church, Virginia; and Battery Kemble in Washington, D.C., as well as other Civil War fortifications of the area.

A City co-champion Chestnut Oak grows along S. Dinwiddie Street directly above the champion tree.

Park Center Woods:

This site comprises several acres of Oak-Heath Forest and an open slope along a steep, gravelly ridge along Shirley Highway (395) and the southeast boundary of The Aventine of Alexandria Apartments (formerly Park Center Apartments) and is owned by SBAF Park Center Apartments, LLC.

The section of Oak-Heath Forest at the south corner of the intersection of Ford Avenue and Park Center Drive is diverse and once included locally rare species, such as Large Whorled Pogonia (*Isotria verticillata*). In recent years, however, non-native invasive plants have spread into the woodland and seriously degraded the site. The dumping of landscape debris into the woodland is also a concern.

South of this area along Park Center Drive is an open, steep, gravelly bank vegetated with a variety of native wildflowers, sedges, and grasses common to upland forest edges. This site also represents the only location in Alexandria for Margaret's Hawthorne (*Crataegus margarettiae*), a regionally rare species.

Also growing along the open bank and an Oak-Heath Forest remnant on a high, gravelly ridge and slope along 395 to the south is the regionally and locally rare Fragrant Sumac (*Rhus aromatica* var. *aromatica*). This is the largest of the three remaining occurrences in the City for this species.

The majority of the narrow floodplain forest and woodland seeps at the toe slope below the Aventine of Alexandria Apartments appear to be within the boundaries of the SBAF Park Center Apartments, LLC property. Exploring the possibility of officially adding this area to the adjacent Stonegate Scenic Easement, as circumscribed in Figure 1, would be valuable. Developing a non-native invasive plant management plan for the entire site would also be beneficial.

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