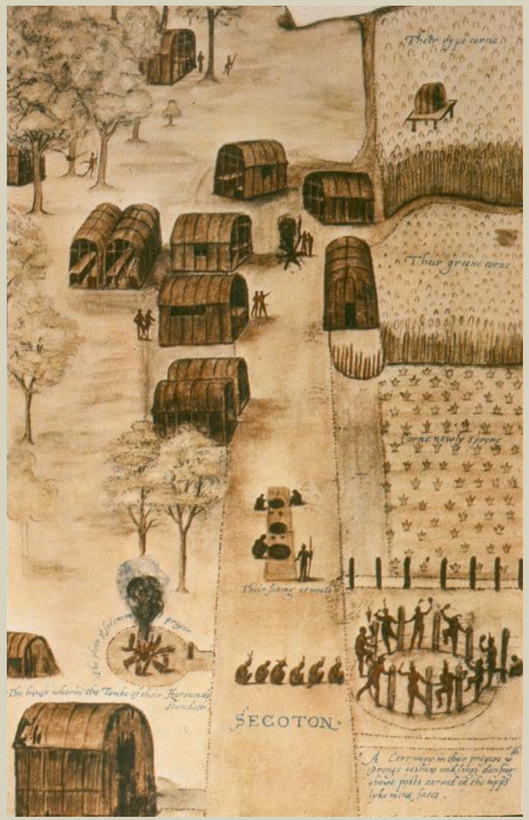
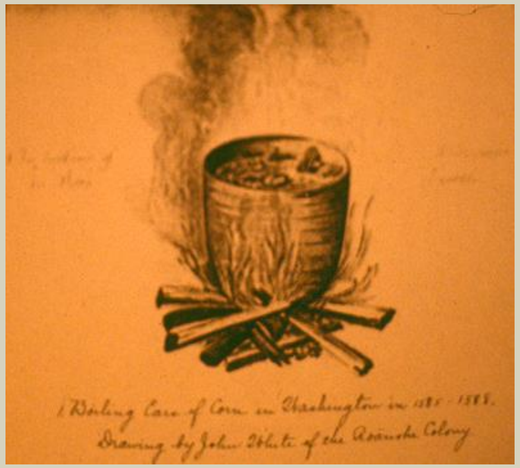
CULTURAL RESOURCES

NATIVE AMERICAN HISTORY

WHAT'S IN A NAME?

Accotink is an Algonquin name, reminding us of the first inhabitants of Northern Virginia. It is also the name of the creek that courses through Eakin Park, Mantua Park, Wakefield Park and Accotink Stream Valley. As was the custom with the English, the naming of a stream often corresponded to the name of the largest Indian village located along its shores. The village of Accotink has never been found.





ADAPTATION

Within the plan area of Lake Accotink Park, there is evidence of much earlier Indian groups, culturally unrelated to those Captain Smith and other early European explorers found. Native American occupation and land use began about 12,000 years ago. Essentially, these people were nomadic, moving across the area in response to movements of wild game herds and seasonal changes in the environment. Remains of their material culture is present in the form of stone tools dating from 10,000 years ago to 7,000 years ago. As the environment changed and large game herds were depleted, Native Americans adapted as well. They became more sedentary, residing at camps for longer time periods. Consequently, a larger portion of their food consisted of plants and their efforts to procure those plants became more systematic and intensive, leading to early forms of agriculture.

By the time of European contact most Native Americans had moved closer to the major rivers forming sedentary villages.

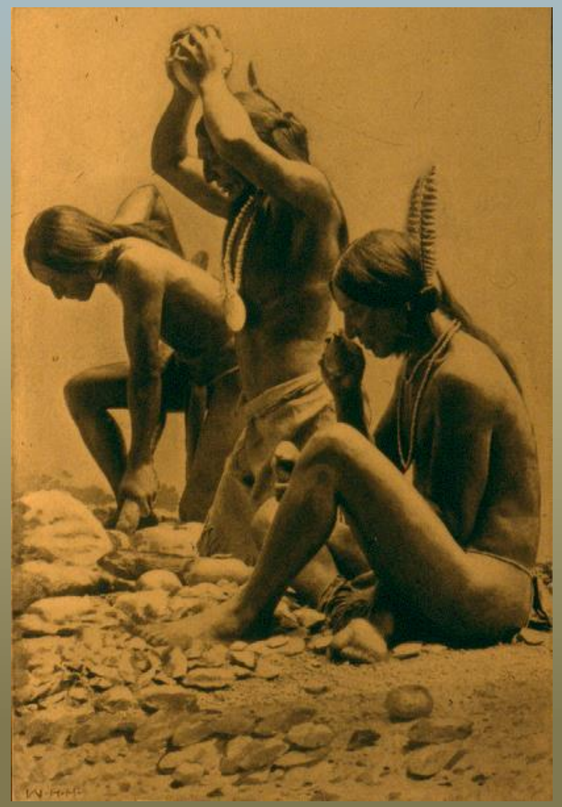
The original inhabitants of the lands around Lake Accotink Park lived as semi-sedentary hunters and gatherers who moved seasonally to follow game. The river system provided them with a wealth of resources as well as a means of transportation. The waters teemed with fish and deer and other animals were drawn to its banks that provided ample meat from hunting. Gathering and farming were also important lifeways. Early peoples were also drawn to the area due to the prolific amount of quartz and other materials from which they could make tools, including projectile points, knives and scrapers. Later peoples spoke varying forms of the Algonquin language and included members of the Dogue, Piscataway, and Patowomeke tribes. These tribes represented the most northern boundary of the Powhatan confederation. With European advancement along the waterways beginning in the early 17th century, the Native Americans were slowly pushed off their lands.

TOOLS

In addition to plant foods and wild game, prehistoric people also quarried raw materials for the manufacture of tools. Within the management area, there are two sources of lithic raw materials, rock outcrops and river cobbles. Both raw material sources were used to provide Native Americans a vast range of materials from which to fashion stone tools.

Stone workers, also known as flint knappers, preferred materials such as quartz and quartzite because their hardness made them ideal for sharp edged weapons like projectile points. When stone flakes are found in high concentrations in one area, it can imply that tool making activity occurred there. These concentrations help identify sites, or past places of human activity.

Turtle shell used by Native Americans, likely as a bowl or dipper.



CIVIL WAR

THE TRAIN PLAYS A PART IN THE WAR

Because the O & A Railroad was an important part of the Union army's supply line in Northern Virginia, it was a prominent target for Confederate raiders including JEB Stuart's cavalry and John S. Mosby's raiders. In addition to these attacks by organized soldiers, civilians participated in night-time guerilla raids tearing up tracks and attempting to derail trains.

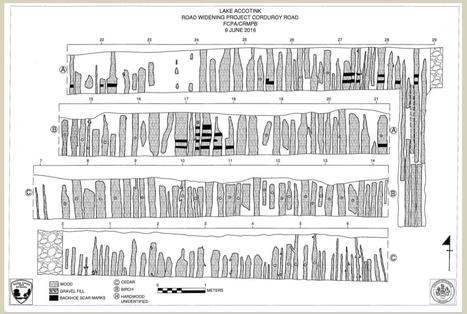
Culverts underneath the old rail bed provided shelter for soldiers and civilians waiting to sabotage passing trains. In response to a failed derailment attempt on July 26, 1863, Union General George G. Meade issued a proclamation calling for severe punishment to be levied against civilians interfering with railroad activity. Soldiers of the 155th New York and 4th Delaware camped on the south side of the railroad tracks in 1863 to combat these attacks on the railroad.

Brick and stone culverts constructed to allow water to flow beneath the rail bed provided shelter for soldiers and saboteurs waiting for passing trains.

The original railroad trestle that was built in 1851 as part of the Orange and Alexandria Railroad was made of wood – making it made a prime target for Confederate raiders seeking to disrupt the Union supply lines. At the end of December 1862, following the Battle of Fredericksburg, Confederate General J.E.B. Stuart assembled 1,800 cavalrymen and headed into northern Virginia to locate food and horses. During his 28 December 1862 raid on nearby Burke's Station, Confederate General J.E.B. Stuart dispatched 12 men under the command of Fitz Lee, Robert E. Lee's nephew, to burn the railroad bridge over Accotink Creek. Stuart also tore up the rails and cut telegraph lines near Burke Station before withdrawing. The trestle was later rebuilt and continued carrying Union supplies for the duration of the war. In 1917 it was rebuilt out of wrought iron and later a new bridge from concrete and steel. It should be noted that the current trestle is not in the location of the original 1851 trestle.

Brick from railroad culvert, carved by a Confederate soldier

CORDUROY ROAD



In June of 2016, the Archaeological & Collections Branch of the Fairfax County Park Authority was referred to a road construction project near the entrance to the park. A section approximately 90 feet long of corduroy road was discovered and documented. This road type was made by placing sand-covered logs perpendicular to the direction of the road over a low or swampy area. The result was an improvement over impassable mud or dirt roads, yet rough in the best of conditions and a hazard to horses due to loose logs. Based on the proximity of the corduroy road to other Civil War era sites and features, including the Orange and Alexandria Railroad, the feature was interpreted as middle 19th century in origin and likely of Civil War origin. After the feature was fully documented, it was left in place. The better protect the feature, it was capped by a layer of gravel prior to repaving the existing road. The feature was found to be intact and highly significant and likely eligible for inclusion onto the National Register of Historic Places.

REMNANTS OF WAR

Brass sword scabbard chape, designed to prevent the sword blade tip from cutting through the end of the leather scabbard.

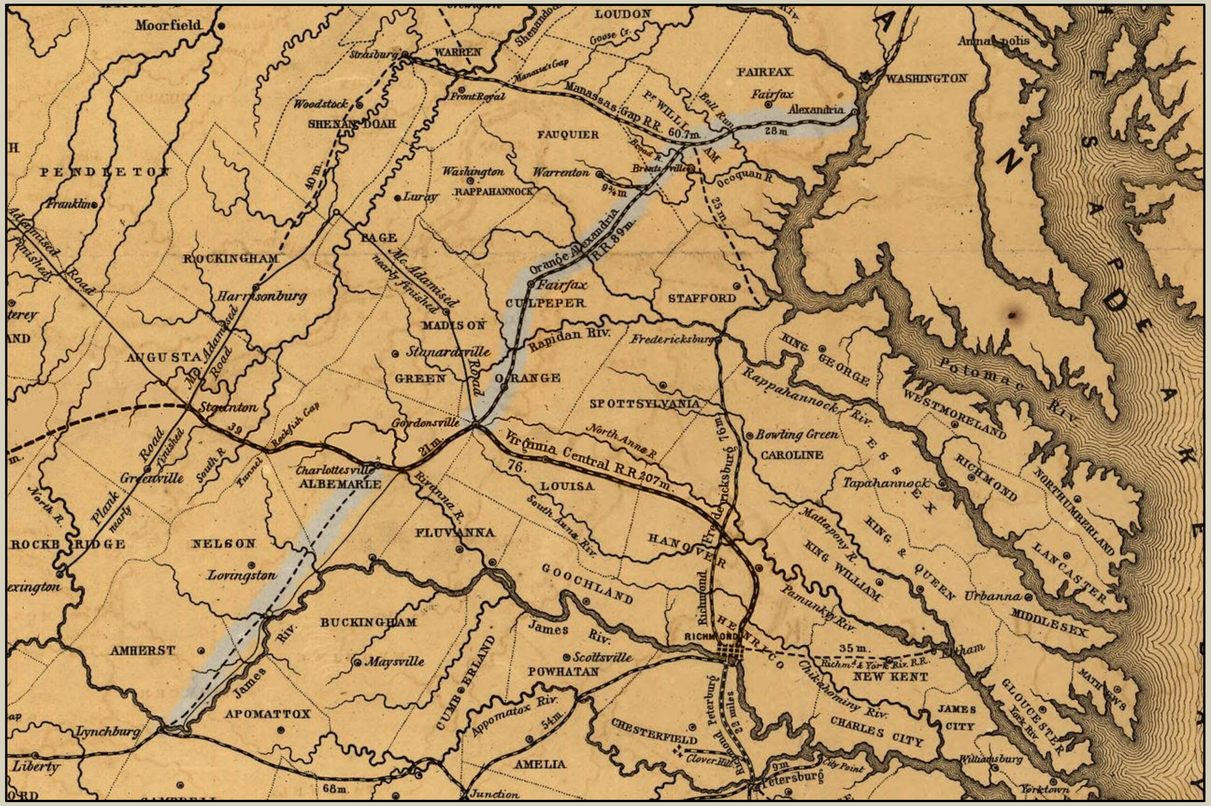
Ninety-four percent of battlefield casualties were attributable to the minie ball. Addinge grooves to the inside of the gun barrel imparted sspin on the bullet, adding accuracy and increased range of rifled weapons.

Three brass jacket buttons recovered from Lake Accotink Park, circa 1971

Grape shot was used primarily against massed assaults at close range. It was a projectile consisting of small iron or lead balls tied in canvas, which functioned much like a sawed-off shot gun. The canvas disintegrated when fired from the cannon, sending the balls in multiple directions.

CULTURAL RESOURCES

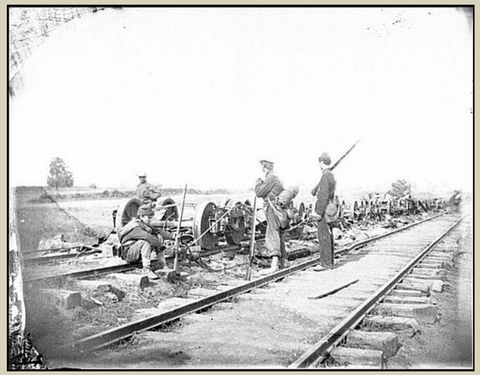
RAILROAD HISTORY



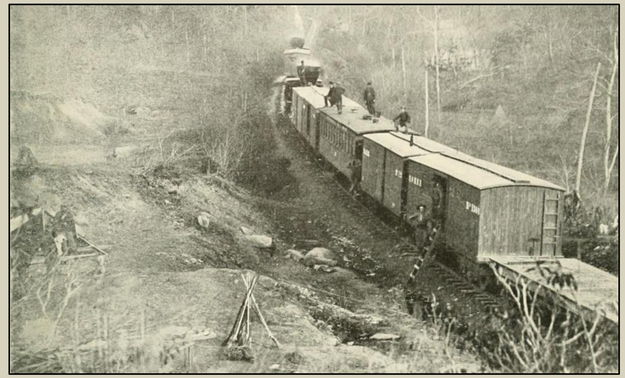
DETAIL FROM 1852 MAP OF THE VIRGINIA CENTRAL RAILROAD AND PLANNED CONSTRUCTION

THE O & A RAILROAD AND THE CIVIL WAR

When the Civil War broke out in 1861, railroads were also used to transport troops and war materials around the state. During the Civil War, the O & A was one of the most fought over railroads in Virginia. The Orange and Alexandria would serve as a main highway for the troops on both sides to march on and be supplied. The North pursued control of the railroad as its quickest route to Richmond while control also helped to cut Southern communications to the Shenandoah Valley. The South defended the railroad against the Northern invading force with the result that several major campaigns (First and Second Manassas, Bristoe) and dozens of battles and smaller engagements took place on or near the tracks of the O & A.

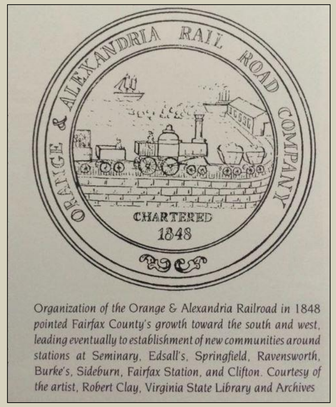


Union soldiers at the wreckage of the Orange & Alexandria Railroad at the time of the Second Battle of Bull Run.

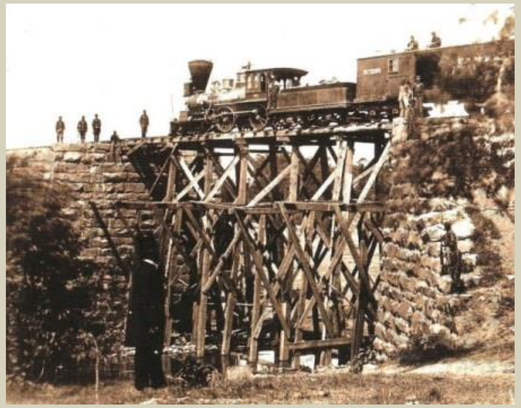


Union soldiers are guarding the Orange and Alexandria Railroad; rifles stacked in the foreground

The Lake Accotink Park access road was built on the original rail bed of the Orange and Alexandria Railroad (O & A) . The Orange & Alexandria Railroad was chartered by the Legislature of the Commonwealth of Virginia on March 27, 1848 and was authorized to run from Gordonsville through Orange Court House and Culpeper Court House to Alexandria. Construction on the mainline began in 1850. This made it easier to transport imported goods from the coast and raw materials from the interior around the state.



Organization of the Orange & Alexandria Railroad in 1848 pointed Fairfax County's growth toward the south and west, leading eventually to establishment of new communities around stations at Seminary, Edsall's, Springfield, Ravensworth, Burke's, Sideburn, Fairfax Station, and Clifton. Courtesy of the artist, Robert Clay, Virginia State Library and Archives

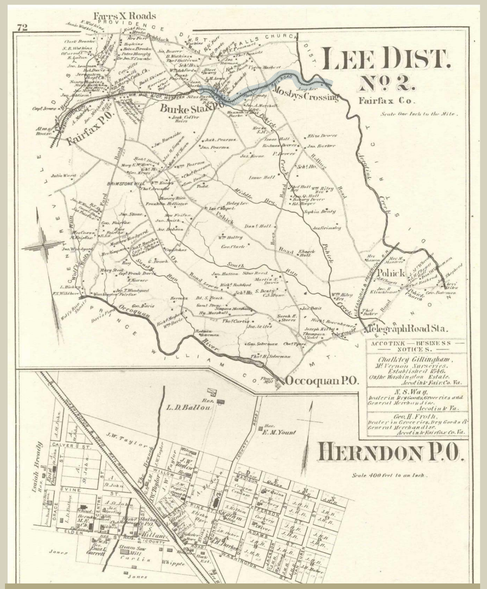


Bridge on Orange & Alexandria Railroad, as repaired by army engineers under Colonel Herman Haupt, between circa 1860 and circa 1865

Railroad spikes

Coupling pin used to connect two train cars

After the Civil War, the Baltimore and Ohio Railroad (B & O) began to purchase interest in the Orange and Alexandria which was significantly damaged by the war. The O & A was then merged with the newly bankrupt Manassas Gap to form the Virginia Midland Railway. By 1873 the B & O Railroad had gained a controlling interest in the company. In time, it would become part of the Richmond & Danville Railroad. In 1894, it was purchased by Southern Railways and eventually became part of the Norfolk Southern line in 1982.



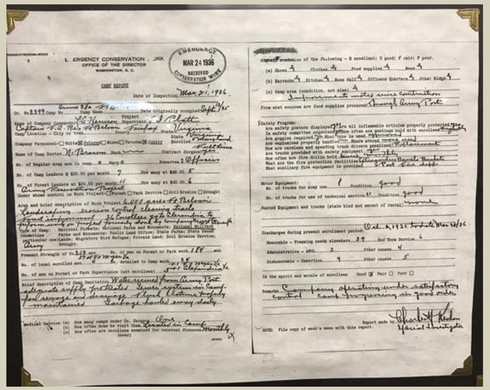
From G. M. Hopkins' 1879 Atlas of Fifteen Miles Around Washington

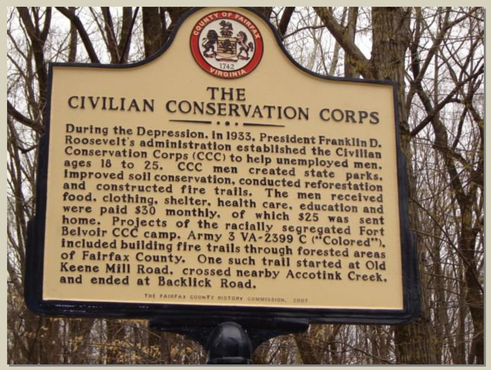
CULTURAL RESOURCES

CONTEMPORARY HISTORY

THE DAM

In 1912, the War Department purchased a large plot of land that had once been part of the Belvoir estate built by William Fairfax in 1741. The land was meant to serve as a summer camp and rifle range for the engineering corps stationed at nearby Washington Barracks in Washington, DC. With the outbreak of World War I, the camp was turned into a more permanent establishment and named Camp A. A. Humphreys, after Union General Andrew Atkinson Humphreys, a distinguished Civil War engineer. With plans to permanently move the Army Corps of Engineers there in 1919, a water source was needed. Originally known as the Springfield Dam when it was first built in 1918, the structure created Lake Accotink as a safe, stable water source. The dam originally cost $100,000 to build and was contracted to the Ambursen Construction Company. The reservoir it created covered 110 acres and was 23 feet deep. Because the dam threatened the integrity of the railroad bridge, the first dam was dismantled in 1922. In 1943, the Army Corps of Engineers rebuilt the dam for $19,000. Today Camp A. A. Humphreys is known as Fort Belvoir.





CIVILIAN CONSERVATION CORPS

During the Depression, in 1933, President Franklin D. Roosevelt's administration established the Civilian Conservation Corps (CCC) to help unemployed men, ages 18 to 25. CCC men created state parks, improved soil conservation, conducted reforestation and constructed fire trails. The men received food, clothing, shelter, health care, education and were paid $30 monthly, of which $25 was sent home. Projects of the racially segregated Fort Belvoir CCC camp, Army 3 VA-2399 C (Colored), included building fire trails through forested areas of Fairfax County. One such trail started at Old Keene Mill Road, crossed nearby Accotink Creek, and then intersected with several old logging roads.

JOVITE

An explosive manufacturing plant within Accotink Lake Park and its explosion in 1900 remains somewhat shrouded in mystery. Apparently it was built and located near Ditchley Station (off Reservoir Road) in 1884 or 1885. The Jovite Powder Works factory was located on property originally owned by the Lee family, who owned Ravensworth.

Newspaper reports at the time that the plant was fully operational in 1885. It manufactured an explosive called Jovite which may have been a relatively new explosive mixture at the time. Indications are the military wanted an explosive to put in artillery shells that did not blow up the artillery pieces. A newspaper article mentions that Jovite was still being reviewed by Lt. Douglas MacArthur in 1908, several years after the explosion that destroyed the plant.

LAKE ACCOTINK BECOMES A PARK

In 1960, al the lake was no longer needed by the U.S. Government as a supply of safe drinking water, much of what is Lake Accotink Park today was leased to the Park Authority. Boating and picnic facilities were established and enjoyed by Springfield residents. Shortly thereafter, the Park Authority purchased 242 acres of land from the federal government for $88,250.

CAROUSEL

The Lake Accotink carousel is the oldest carousel currently in use in Fairfax County. It is a 36-foot carousel built by the Allan Herschell Company sometime between 1937 and 1945. Originally it had three rows of ten horses, each half carved wood and cast aluminum made earlier, sometime between 1926 and 1931. Today, missing horses have been replaced by wooden chariots. The carousel was originally part of a traveling carnival. The Fairfax County Park Authority purchased it from Fairhill Farm Antiques in 1978. Most carousels at parks today are made from aluminum or fiberglass. Many of these have been modeled from the original hand carved horses of the golden age of carousels. Hand carved horses declined in popularity throughout the 1930s and 1940s because new mechanized processes made it possible to “carve” horses faster than they could be made by hand. Lake Accotink Park’s carousel is an example of a carousel made during this transition period as new mechanical processes became available.

CULTURAL RESOURCES

TIMELINE

1701
William Fitzhugh died. Control of amassed land holdings of 54,000 acres property shifted to his heirs.

Circa 1796
The Ravensworth Mansion was constructed

April 1874
The property was passed to Mary Custis Lee who died shortly thereafter. The property was divided among her five children.

May 1830
William Henry Fitzhugh died. 8,000 acres willed to his wife, A. M. Fitzhugh.

1926
The Ravensworth Mansion burned down

1918
The Springfield Dam was built for $100,000. The dam on Accotink Creek resulted in creating the reservoir lake of 110 acres, 23 feet deep.

1913
G. W. Custis Lee died and the property was willed to Robert E. Lee Jr. and George Bolling Lee

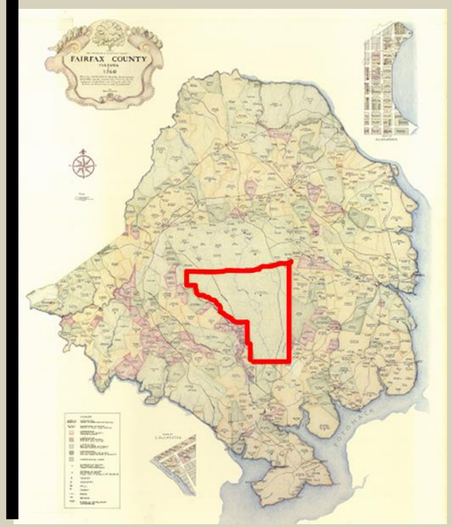
1943
The dam was rebuilt by the US Army Corps of Engineers from Fort Belvoir.

April 1960
The County Park Authority leased the park land from the federal government for 25 years. Boating rental and a concession stand were established.

April 1965
The Park Authority purchased 242 acres of Lake Accotink property from the federal government for $88,250

700 | 1800 | 1900 | 2000

October 1694
Land first granted to William Fitzhugh for 21,996 acres



Property willed to William Henry Fitzhugh, great-great grandson of William Fitzhugh, when he was an infant

After the Civil War, A. M. Fitzhugh filesd a claim for $375,000 in wartime damages done to the Ravensworth Estate

1875
Property listed as owned by G. W. Custis Lee
2,397 acres

1922
Robert E. Lee Jr. passed away, and willed 300 acres to wife, Mary M. Lee

1922
The dam was dismantled when engineers felt it threatened the safety of the railroad bridge.

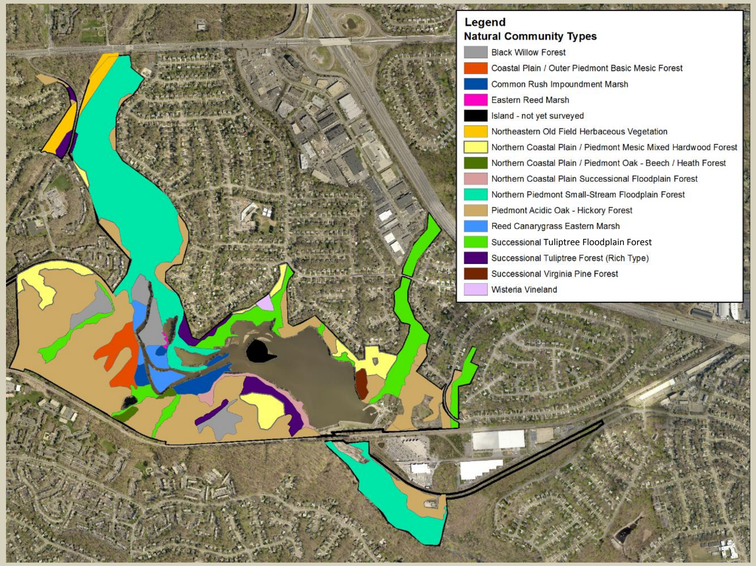
1944
Mary M. Lee and James Bolling Lee sold 248 acres to the United States through eminent domain for the Springfield Dam Project

March 1968
Fairfax County got a grant to assist in the purchase of 265 additional acres of park land.

1957
The last Lee relative, who lived on a portion of the Ravensworth Tract sold the property to create the subdivision Ravensworth Farm, next to the lake.

NATURAL RESOURCES

VEGETATIVE COMMUNITIES



NATURAL COMMUNITY TYPES AT LAKE ACCOTINK PARK

NORTHERN PIEDMONT SMALL STREAM FLOODPLAIN FOREST

- sycamore (Platanus occidentalis)
- eastern boxelder (Acer negundo var. negundo)
- American elm (Ulmus americana)
- green ash (Fraxinus pennsylvanica)
- river birch (Betula nigra)
- red maple (Acer rubrum)
- black walnut (Juglans nigra)
- tulip-tree (Liriodendron tulipifera)
- black willow (Salix nigra)
- spicebush (Lindera benzoin var. benzoin)
- black haw (Viburnum prunifolium)
- American hornbeam (Carpinus caroliniana)
- American hazelnut (Corylus americana)
- white avens (Geum canadense)
- Cardinal flower (Lobelia cardinalis)
- Virginia bugleweed (Lycopus virginicus)
- sensitive fern (Onoclea sensibilis var. sensibilis)
- wingstem (Verbesina alternifolia)
- spotted jewelweed (Impatiens capensis)


AMERICAN ELM


CARDINAL FLOWER


AMERICAN HAZELNUT


SENSITIVE FERN

NORTHERN COASTAL PLAIN / PIEDMONT OAK - BEECH / HEATH FOREST

- white oak (Quercus alba)
- northern red oak (Quercus rubra)
- American beech (Fagus grandifolia)
- red maple (Acer rubrum)
- American holly (Ilex opaca var. opaca)
- witch hazel (Hamamelis virginiana)
- mountain laurel (Kalmia latifolia)
- black huckleberry (Gaylussacia baccata)
- lowbush blueberry (Vaccinium pallidum)


BLACKGUM


MOUNTAIN LAUREL


BLACK HUCKLEBERRY

NORTHERN COASTAL PLAIN-PIEDMONT BASIC MESIC HARDWOOD FOREST

- American beech (Fagus grandifolia)
- tulip tree (Liriodendron tulipifera)
- red oak (Quercus rubra)
- white ash (Fraxinus americana)
- black walnut (Juglans nigra)
- pawpaw (Asimina triloba)
- wild hydrangea (Hydrangea arborescens)
- northern maidenhair fern (Adiantum pedatum)
- hog-peanut (Amphicarpaea bracteata)
- puttyroot (Aplectrum hyemale)
- common jack-in-the-pulpit (Arisaema triphyllum)
- common wild ginger (Asarum canadense)
- round-lobed hepatica (Hepatica americana)
- aniseroot (Osmorhiza longistylis)
- mayapple (Podophyllum peltatum)
- bloodroot (Sanguinaria canadensis)
- spring beauty (Claytonia virginica)
- trout lily (Erythronium americanum)


TULIP-TREE


PAWPAW


TROUT LILY


JACK-IN-THE-PULPIT


BLOODROOT

PIEDMONT DRY - MESIC ACIDIC OAK - HICKORY FOREST

- white oak (Quercus alba)
- black oak (Quercus velutina)
- scarlet oak (Quercus coccinea)
- southern red oak (Quercus falcata)
- chestnut oak (Quercus montana)
- flowering dogwood (Cornus florida)
- lowbush blueberry (Vaccinium pallidum)
- deerberry (Vaccinium stamineum)
- maple-leaved viburnum (Viburnum acerifolium)
- Pennsylvania sedge (Carex pensylvanica)
- poverty oatgrass (Danthonia spicata)
- naked tick-trefoil (Hylodesmum nudiflorum)
- large summer bluets (Houstonia purpurea)
- solomon's-seal (Polygonatum biflorum var. biflorum)
- lion's foot (Nabalus serpentarius)


MAPLE-LEAVED VIBURNUM


SOLOMON'S-SEAL


BLACK OAK


DEERBERRY

MID-ATLANTIC MESIC MIXED HARDWOOD FOREST

- American beech (Fagus grandifolia)
- oaks (Quercus spp., varying by region)
- tulip-tree (Liriodendron tulipifera)
- hickories (Carya spp.)
- American hornbeam (Carpinus caroliniana)
- flowering dogwood (Cornus florida)
- American strawberry-bush (Euonymus americanus)
- American holly (Ilex opaca var. opaca)
- Christmas fern (Polystichum acrostichoides)
- New York fern (Parathelypteris noveboracensis)
- white wood aster (Eurybia divaricata)
- downy rattlesnake-plantain (Goodyera pubescens)
- Partridge-berry (Mitchella repens)


WHITE WOOD ASTER


AMERICAN BEECH


AMERICAN HORNBEAM


CHRISTMAS FERN

NATURAL RESOURCES

WILDLIFE

e-BIRD INVENTORY

eBird is an online method for the birding community to report and access information about birds worldwide. Launched in 2002 by the Cornell Lab of Ornithology and National Audubon Society, eBird provides rich data sources for basic information on bird abundance and distribution at a variety of spatial and temporal scales.
eBird's goal is to maximize the utility and accessibility of the vast numbers of bird observations made each year by recreational and professional bird watchers. It is amassing one of the largest and fastest growing biodiversity data resources in existence. For example, in May 2015, participants reported more than 9.5 million bird observations across the world!

The following list of bird species have been spotted at Lake Accotink Park at least once since the first addition to the list in July 1996.

Acadian Flycatcher	Eastern Phoebe	Peregrine Falcon
American Bittern	Eastern Towhee	Pied-billed Grebe
American Black Duck	Eastern Wood-Pewee	Pileated Woodpecker
American Coot	European Starling	Pine Warbler
American Crow	Field Sparrow	Prairie Warbler
American Goldfinch	Fish Crow	Prothonotary Warbler
American Redstart	Forster's Tern	Purple Finch
American Robin	Gadwall	Purple Martin
Bald Eagle	Golden-crowned Kinglet	Red-bellied Woodpecker
Baltimore Oriole	Gray Catbird	Red-breasted Merganser
Barn Swallow	Gray-cheeked Thrush	Red-eyed Vireo
Barred Owl	Great Blue Heron	Red-shouldered Hawk
Belted Kingfisher	Great Crested Flycatcher	Red-tailed Hawk
Black Vulture	Great Egret	Red-winged Blackbird
Black-and-white Warbler	Greater Yellowlegs	Ring-billed Gull
Black-billed Cuckoo	Greater/Lesser Yellowlegs	Ring-necked Duck
blackbird sp.	Green Heron	Rock Pigeon
Black-crowned Night-Heron	Green-winged Teal	Ruby-crowned Kinglet
Blackpoll Warbler	gull sp.	Ruby-throated Hummingbird
Black-throated Blue Warbler	Hairy Woodpecker	Ruddy Duck
Black-throated Green Warbler	Hermit Thrush	Rusty Blackbird
Blue Jay	Herring Gull	Scarlet Tanager
Blue-gray Gnatcatcher	Hooded Merganser	Semipalmated Plover
Blue-headed Vireo	House Finch	Sharp-shinned Hawk
Blue-winged Teal	House Sparrow	Snowy Egret
Broad-winged Hawk	House Wren	Solitary Sandpiper
Brown Creeper	Indigo Bunting	Song Sparrow
Brown Thrasher	Kentucky Warbler	Spotted Sandpiper
Brown-headed Cowbird	Killdeer	Swainson's Thrush
Buteo sp.	Laughing Gull	Swamp Sparrow
Canada Goose	Least Flycatcher	Tennessee Warbler
Canada Warbler	Least Sandpiper	Tree Swallow
Cape May Warbler	Lesser Scaup	Tufted Titmouse
Carolina Chickadee	Lesser Yellowlegs	Turkey Vulture
Carolina Wren	Louisiana Waterthrush	Veery
Caspian Tern	Louisiana/Northern Waterthrush	Vesper Sparrow
Cedar Waxwing	Magnolia Warbler	warbler sp. (Parulidae sp.)
Chestnut-sided Warbler	Mallard	Warbling Vireo
Chimney Swift	Mallard (Domestic type)	White-breasted Nuthatch
Chipping Sparrow	Marsh Wren	White-eyed Vireo
Common Grackle	Mississippi Kite	White-throated Sparrow
Common Merganser	Mourning Dove	Willow Flycatcher
Common Raven	Nashville Warbler	Wilson's Snipe
Common Yellowthroat	Northern Cardinal	Wilson's Warbler
Cooper's Hawk	Northern Flicker	Winter Wren
crow sp.	Northern Mockingbird	Wood Duck
Dark-eyed Junco	Northern Parula	Wood Thrush
Double-crested Cormorant	Northern Rough-winged Swallow	Yellow Warbler
Downy Woodpecker	Northern Waterthrush	Yellow-bellied Sapsucker
Downy/Hairy Woodpecker	Orchard Oriole	Yellow-billed Cuckoo
Dunlin	Osprey	Yellow-crowned Night-Heron
Eastern Bluebird	Ovenbird	Yellow-rumped Warbler
Eastern Kingbird	Palm Warbler	Yellow-throated Vireo
		Yellow-throated Warbler


CEDAR WAXWING


RED-BREASTED MERGANSER


CANADA GOOSE


YELLOW-RUMPED WARBLER


BLUE-WINGED TEAL


EASTERN WOOD PEEWEE


NORTHERN ROUGH-WINGED SWALLOW

MAMMALS

- WHITE-TAILED DEER
- COYOTE
- BEAVER
- MUSKRAT
- WOODCHUCK
- RED FOX
- EASTERN GRAY SQUIRREL
- VIRGINIA OPOSSUM
- EASTERN CHIPMUNK
- EASTERN COTTONTAIL RABBIT
- RED FOX
- BATS


MUSKRAT


WOODCHUCK


EASTERN COTTONTAIL RABBIT


RED FOX

REPTILES

- NORTHERN WATERSNAKE
- NORTHERN COPPERHEAD
- EASTERN GARTERSNAKE
- EASTERN RATSNAKE
- EASTERN BOX TURTLE
- PAINTED TURTLE
- SNAPPING TURTLE
- RED-EARED SLIDER
- COMMON FIVE-LINED SKINK


EASTERN BOX TURTLE

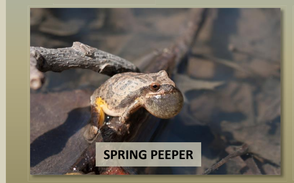

NORTHERN COPPERHEAD


RED-EARED SLIDER


NORTHERN WATERSNAKE

AMPHIBIANS

- BULLFROG
- WOOD FROG
- GREEN FROG
- SPRING PEEPER
- UPLAND CHORUS FROG
- PICKEREL FROG
- AMERICAN TOAD


SPRING PEEPER


PICKEREL FROG


WOOD FROG


UPLAND CHORUS FROG

AQUATIC SPECIES

- FRESHWATER MUSSELS
- AQUATIC INSECTS
- FISH


FRESHWATER MUSSELS


SPINY CRAWLER


HELLGRAMMITE


BLUEGILL

NATURAL RESOURCES

LAND MANAGEMENT

Why manage wildlife in Fairfax County?

It is the responsibility of wildlife managers, natural resource managers and environmental stewards, to preserve wildlife and to protect natural habitats in as many ways as possible.

It is a *chosen* responsibility to address Human Health & Public Safety issues, mitigate wildlife conflicts, and protect property from actual and potential damage.

RESIDENT CANADA GOOSE MANAGEMENT PROGRAM

What concerns are associated with large populations of Canada geese?

Public Health

- Goose droppings and molted feathers can litter public walkways, athletic fields, golf courses and park benches.
- Goose droppings can be tracked inside of homes, offices and vehicles.

Public Safety

- Geese crossing roads can interfere with traffic or cause goose-vehicle collisions.
- Nesting geese can become aggressive and territorial. Injuries to humans by nesting geese are not common, but have been reported in Fairfax County.

Environmental Impact

- Geese damage vegetation along water shorelines and adjacent grassy areas. New vegetation growth is inhibited.
- Bare spots lead to soil erosion and sedimentation of ponds and streams.
- Water runoff carries away nutrient-rich droppings which causes algae growth and adverse effects on natural vegetation and aquatic life.
- Geese can drive away or kill smaller waterfowl from ponds or waterways.

What are some management tools for Canada Geese?

Addling (Oiling)

Addling (oiling) is an important tool to humanely reduce a goose population over time.
Oiling is a technique that prevents embryos from developing by coating eggs with 100% corn oil. The oil traps heat inside the egg and prevents it from further development. Eggs should be addled within 14 days of being laid in the nest. Canada geese are a federally protected species under the Migratory Bird Treaty Act. A federal depredation permit can be obtained online for landowners at no cost.

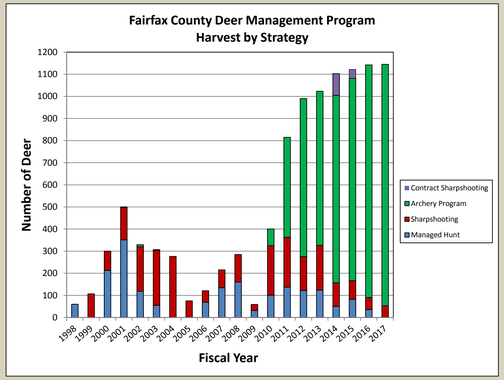
Landscape Modification

Identify and eliminate or minimize goose attractants in the immediate area:

- Water (pond, fountain, lake)
- Food sources (vegetation, turf grass)
- Nesting areas

Prevent easy access to bodies of water using barriers, grids, or other physical deterrents. Grassy areas can be landscaped with plants that provide physical and visual barriers to deter geese from entering the water. Railings can be installed along a pond or fountain and nearby walkways to provide barrier protection for plants.

DEER MANAGEMENT PROGRAM



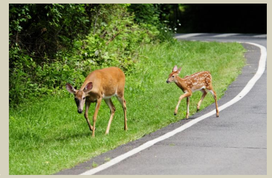
What is the Deer Management Program?

The Fairfax County Deer Management Program is implemented each year to manage the abundant local white-tailed deer population (*Odocoileus virginianus*).

The primary objective of the Fairfax County Deer Management Program is deer population control on public parklands. Management actions reflect a variety of interests: protecting human health and safety, reducing environmental damage, conserving biodiversity and maintaining healthy deer herds.
The first fatal deer-vehicle collision in Fairfax County occurred in October 1997. This tragic accident highlighted the concern of many residents that, without natural predators and sufficient hunting pressures, the local deer population had become overabundant.

In January 1998, the Fairfax County Board of Supervisors mandated development of the Fairfax County Deer Management Program in response to concerns of county residents about the growing number and conflicts posed by overabundant deer. The program is implemented by the Fairfax County Police Department in collaboration with the Fairfax County Park Authority and Northern Virginia Regional Park Authority.

An integrated deer management plan was developed using wildlife management program models in other jurisdictions, deer census data, deer behavioral research and ecological impact studies. Each year, an operational plan is developed to implement sustainable hunting pressures at selected parks based on these approved strategies.



INVASIVE MANAGEMENT AREA PROGRAM

The Invasive Management Area (IMA) Volunteer Program is a community-based project designed to reduce invasive plants on our parklands. This unique, volunteer-led program gives residents an opportunity to connect with people while taking care of the natural resources around us. IMA enables community members to help protect the plants and wildlife of Fairfax County's forests while spending time outdoors, meeting new people and restoring natural habitats.
IMA is more than just pulling weeds. Key components of this program are habitat restoration and a long-term commitment to the park. Invasive plant species are difficult to remove and control, but with the help of IMA volunteers, undesirable non-native, invasive plants are removed manually and native plants returned to the habitat. The job of volunteers doesn't end once the invasive plants are removed, often it is necessary to plant native species. Native plantings take place in the spring and fall.

The IMA project began in 2006 with just 20 sites. Since then, over 35 acres have come under IMA management and there are 40 active IMA sites. Many more acres have been treated and restored by contractors and staff.

The goals of IMA are:

- Focus community support and momentum to do something about non- native, invasive plants
- Garner more community involvement and support
- Educate the public about the effects of non-native, invasive plants
- Participate in outreach opportunities regarding non-native, invasive plants
- Develop healthy habitats such as meadows and forests that are free of invasive plant species

Currently, funding is provided by the Fairfax County Board of Supervisors in support of the Environmental Agenda. Grants were provided by REI in 2012, 2013, 2014, 2015, and 2016. The IMA program is supported in part by the Fairfax County Park Foundation. To learn more about how private and corporate donations help restore parkland habitat, please visit http://fairfaxparkfoundation.org/our-projects/invasive-management-area-program-ima/.

NATURAL RESOURCES

TOPOGRAPHY AND SOILS

Why is it important to understand the soil types?

- Soil type influences the plant communities that are present for example, the amount of moisture available to plants (wetland to desert, upland to streamside).
- Moisture availability is related to the permeability of the soil and pore size. Soil pH can also affect what plant species can grow (acidic, neutral or basic).
- The plants present in the site typically dictate the insects and animals that are present on a site, and so on up the food chain. The basis of most ecosystems can be traced back to the soil qualities.

Appalachian Plateaus province
AP: Appalachian Plateaus

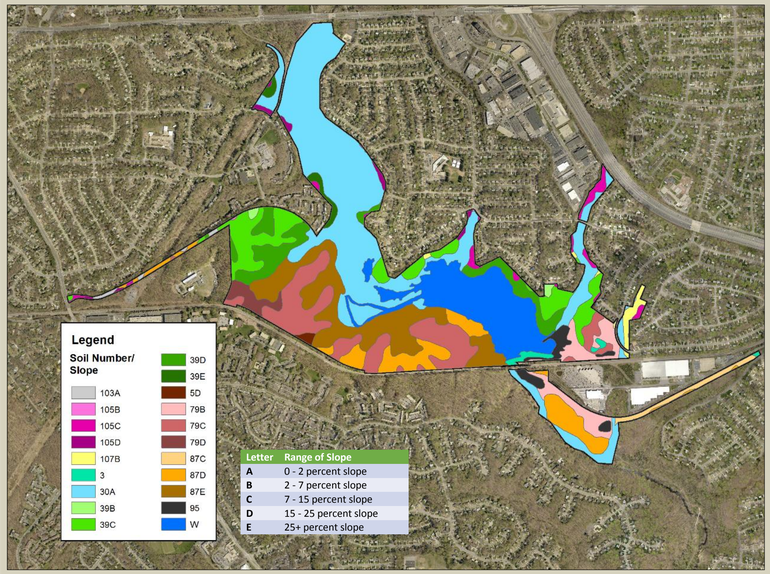
Valley and Ridge province
RV: Ridge and Valley subprovince
GV: Great Valley subprovince
M: Masanutten Mountain

Blue Ridge province
nBR: northern Blue Ridge subprovince
sBR - southern Blue Ridge subprovince

Piedmont province
F: Foothills subprovince
ML: Mesozoic Lowlands subprovince
OP: Outer Piedmont subprovince

Coastal Plain province
CU: Upland subprovince
CL: Lowland subprovince
BM: Barrier Islands and Salt Marshes

PHYSIOGRAPHIC MAP OF VIRGINIA



LAKE ACCOTINK SOILS MAP

- Soil affects a site's hydrology, for example, how groundwater moves through the site, how stormwater runoff is captured and/dispersed, where water pools and where it drains away from.
- Soil helps keep water clean by filtering pollutants.
- Soil type may constrain the types of development that can occur on a site, due to soil stability and foundation support, whether it can be compacted or not, the particle size, steepness, drainage characteristics etc.).
- Soil can store a seed bank for many years.
- Soils contain microbes/fungi that decompose organic material and recycle nutrients.

SOIL TYPES AT LAKE ACCOTINK PARK

(3) Barkers Crossroads – This soil consists of sand, silt and clay weathered from granite bedrock that has been mixed, graded and compacted during development and construction. Characteristics of the soil can be quite variable depending on what materials were mixed in during construction. The subsoil is generally loam but can range from sandy loam to clay. The soil has been compacted resulting in high strength and slow permeability. The soil is well drained and bedrock is found at depths greater than 5 feet. In most cases, foundation support is suitable assuming that the soil is well compacted and contains few clays. Because of the slow permeability, suitability for septic drainfields is poor and marginal for infiltration trenches. Grading and subsurface drains may be needed to eliminate wet yards caused by the slow permeability. This soil is found in developed areas of the Piedmont with granite bedrock.

(5) Barkers Crossroads-Rhodhiss Complex – This complex is a mixture of the development-disturbed Barkers Crossroads soil and the natural Rhodhiss soil. The complex occurs in areas of the Piedmont with granite bedrock that have been developed but retain a good portion of undisturbed soil. 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. For a description of the two soils that make up this map unit, please see (3) Barkers Crossroads and (87) Rhodhiss.

(30) Codorus and Hatboro - This channel-dissected soil grouping occurs in floodplains and drainageways 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 between 0 and 2 feet below the surface. Depth to hard bedrock ranges from 6 to 30 feet below the surface. Permeability is variable. Foundation support is poor because of soft soil, seasonal saturation and flooding. Septic drainfields and infiltration trenches are poorly suited because of wetness and flooding potential. Stream bank 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 between 5 and 100 feet below the surface. Permeability is generally adequate for all purposes. Foundation support for small buildings (i.e., 3 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 drainfields and infiltration trenches. Glenelg is highly susceptible to erosion.

(79) Nathalie - This soil, derived from granite, occurs on hilltops and sideslopes of the Piedmont. Loams and clays overlie sandy and clayey decomposed rock. Sticky clays may occur within the subsoil. Quartz gravels are common throughout. The soil is well drained. Depth to hard bedrock ranges between 10 and 75 feet. The soil typically provides favorable support for small buildings (i.e., 3 stories or less), but it is best to sink the footer below the clay layer. The clay subsoil is difficult to compact and move when wet. Nathalie is generally well suited for septic drainfields and infiltration trenches, but deep installation (i.e., greater than 6 feet) may be required because of sticky clay in the subsoil. Nathalie is highly susceptible to erosion.

(87) Rhodhiss – This soil consists of sandy and clayey soil over sandy decomposed granite bedrock. It occurs in the Piedmont on gentle to steep side slopes. Rhodhiss is well drained and bedrock is greater than 6 feet from the surface. Gravels of quartz are common throughout. Foundation support is generally good. Suitability for both septic drainfields and infiltration trenches is also good.

(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. Ratings for this unit are not provided.

(103) Wheaton-Codorus Complex - This complex is a mixture of the developmentdisturbed 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. For a description of the two soils that make up this map unit, please see (102) Wheaton and (29) Codorus.

(105) Wheaton-Glenelg Complex - This complex is a mixture of the developmentdisturbed 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. For a description of the two soils that make up this map unit, please see (102) Wheaton and (39) Glenelg.

(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. For a description of the two soils that make up this map unit, please see (102) Wheaton and (78) Meadowville.

WATER RESOURCES

WATERSHED MONITORING

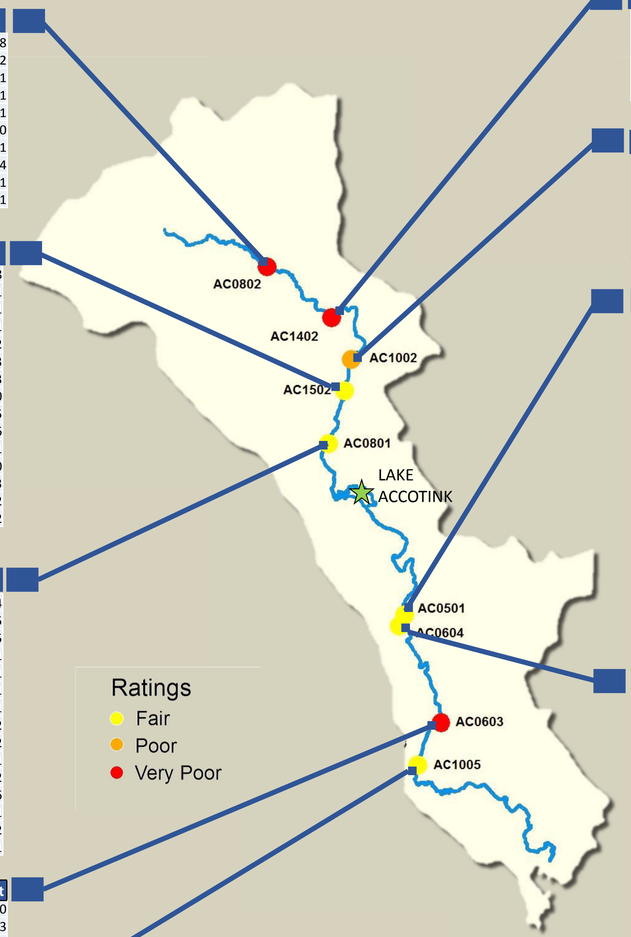
SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC0802	Accotink Creek	Piedmont	2008	Annelida	Oligochaeta				158
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Crustacea	Amphipoda	Gammaridae	Gammarus	2
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Crustacea	Isopoda	Asellidae	Lirceus	1
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	1
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Coleoptera	Elmidae	Stenelmis	1
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Chironomidae		30
AC0802	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Stratiomyidae		1
AC0802	Accotink Creek	Piedmont	2008	Mollusca	Bivalvia	Pelecypoda	Corbiculidae	Corbicula	4
AC0802	Accotink Creek	Piedmont	2008	Mollusca	Gastropoda	Limnophila	Ancylidae		1
AC0802	Accotink Creek	Piedmont	2008	Mollusca	Gastropoda	Limnophila	Lymnaeidae	Fossaria	1

SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC1502	Accotink Creek	Piedmont	2015	Annelida	Oligochaeta				18
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	11
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Coleoptera	Elmidae	Stenelmis	1
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Diptera	Chironomidae		91
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Diptera	Empididae	Hemerodromia	2
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Diptera	Tipulidae	Antocha	3
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Diptera	Tipulidae	Tipula	3
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx	10
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Odonata	Coenagrionidae	Argia	5
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma	6
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Trichoptera	Hydropsychidae		1
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	50
AC1502	Accotink Creek	Piedmont	2015	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	3
AC1502	Accotink Creek	Piedmont	2015	Mollusca	Bivalvia	Pelecypoda	Corbiculidae	Corbicula	2
AC1502	Accotink Creek	Piedmont	2015	Mollusca	Gastropoda	Limnophila	Physidae		2

SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC0801	Accotink Creek	Piedmont	2008	Annelida	Oligochaeta				34
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Crustacea	Amphipoda	Crangonyctidae	Crangonyx	5
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	5
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Ceratopogonidae	Culicoides	1
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Chironomidae		131
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Empididae	Chelifera	1
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Empididae	Hemerodromia	1
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Diptera	Tipulidae	Tipula	2
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Megaloptera	Corydalidae	Corydalus	2
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Odonata	Coenagrionidae	Argia	1
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma	2
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	6
AC0801	Accotink Creek	Piedmont	2008	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	1
AC0801	Accotink Creek	Piedmont	2008	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae		2
AC0801	Accotink Creek	Piedmont	2008	Mollusca	Gastropoda	Limnophila	Planorbidae	Menetus	1

SiteID	Watershed	Physiographic Province	Year	Phylum	Class	Order	Family	Genus	Count
AC0603	Accotink Creek	Piedmont	2006	Annelida	Oligochaeta				190
AC0603	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Diptera	Chironomidae		33
AC0603	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	1

SiteID	Watershed	Physiographic Province	Year	Phylum	Class	Order	Family	Genus	Count
AC1005	Accotink Creek	Coastal Plain	2010	Annelida	Oligochaeta				32
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Crustacea	Amphipoda	Crangonyctidae	Crangonyx	12
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	22
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Coleoptera	Hydrophilidae	Berosus	4
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Diptera			1
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Diptera	Chironomidae		122
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Diptera	Simuliidae	Simulium	3
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx	1
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Odonata	Coenagrionidae	Argia	1
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma	2
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	5
AC1005	Accotink Creek	Coastal Plain	2010	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	1
AC1005	Accotink Creek	Coastal Plain	2010	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae	Musculium	1
AC1005	Accotink Creek	Coastal Plain	2010	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae	Pisidium	1
AC1005	Accotink Creek	Coastal Plain	2010	Mollusca	Gastropoda	Limnophila	Physidae		1



ACCOTINK CREEK WATERSHED
BENTHIC MACROINVERTEBRATES

SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC1402	Accotink Creek	Piedmont	2014	Annelida	Oligochaeta				13
AC1402	Accotink Creek	Piedmont	2014	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	4
AC1402	Accotink Creek	Piedmont	2014	Arthropoda	Insecta	Coleoptera	Elmidae	Stenelmis	1
AC1402	Accotink Creek	Piedmont	2014	Arthropoda	Insecta	Diptera	Chironomidae		203
AC1402	Accotink Creek	Piedmont	2014	Mollusca	Bivalvia	Pelecypoda	Corbiculidae	Corbicula	1

SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC1002	Accotink Creek	Piedmont	2010	Annelida	Oligochaeta				161
AC1002	Accotink Creek	Piedmont	2010	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	5
AC1002	Accotink Creek	Piedmont	2010	Arthropoda	Insecta	Diptera	Chironomidae		51
AC1002	Accotink Creek	Piedmont	2010	Arthropoda	Insecta	Diptera	Tipulidae	Antocha	1
AC1002	Accotink Creek	Piedmont	2010	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	5
AC1002	Accotink Creek	Piedmont	2010	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	4

SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC0501	Accotink Creek	Piedmont	2005	Annelida	Hirudinea	Rhynchobdellida	Glossiphoniidae		2
AC0501	Accotink Creek	Piedmont	2005	Annelida	Oligochaeta				13
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Crustacea	Amphipoda	Gammaridae	Gammarus	1
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	3
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Diptera			1
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Diptera	Chironomidae		119
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Diptera	Tipulidae	Antocha	1
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Diptera	Tipulidae	Tipula	1
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenacron	2
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Ephemeroptera	Heptageniidae	Stenonema	1
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Megaloptera	Corydalidae	Corydalus	2
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Odonata	Calopterygidae	Calopteryx	9
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Odonata	Coenagrionidae	Argia	4
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma	4
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	24
AC0501	Accotink Creek	Piedmont	2005	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	2
AC0501	Accotink Creek	Piedmont	2005	Mollusca	Bivalvia	Pelecypoda	Corbiculidae	Corbicula	2
AC0501	Accotink Creek	Piedmont	2005	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae	Sphaerium	1
AC0501	Accotink Creek	Piedmont	2005	Platyhelminthes	Turbellaria	Tricladida	Planariidae		1

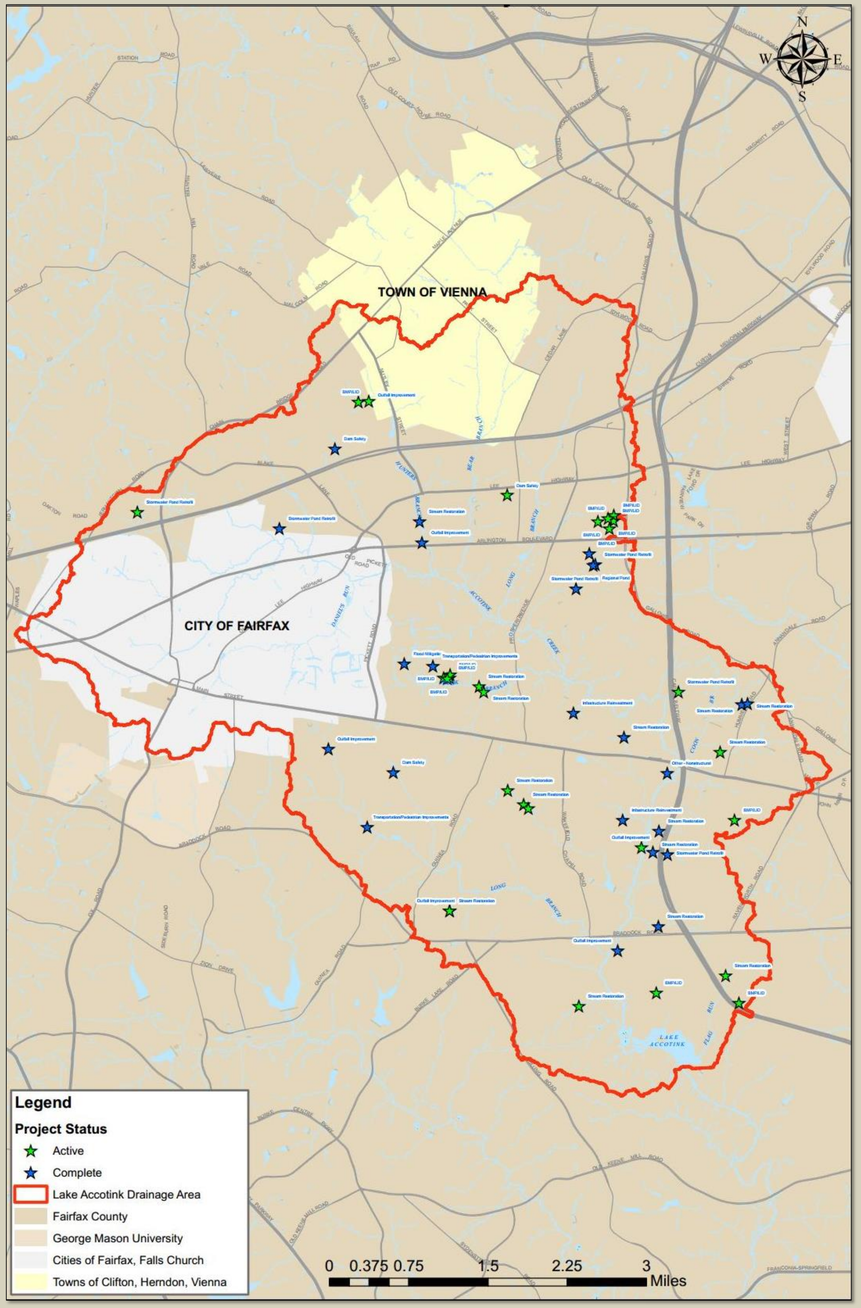
SiteID	Watershed	Province	Year	Phylum	Class	Order	Family	Genus	Count
AC0604	Accotink Creek	Piedmont	2006	Annelida	Oligochaeta				81
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Crustacea	Amphipoda	Crangonyctidae	Crangonyx	4
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Coleoptera	Elmidae	Ancyronyx	3
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Coleoptera	Hydrophilidae	Berosus	1
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Diptera	Chironomidae		113
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Diptera	Tipulidae	Antocha	1
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Ephemeroptera	Heptageniidae		1
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Odonata	Coenagrionidae	Argia	4
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Odonata	Coenagrionidae	Enallagma	11
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Plecoptera	Nemouridae	Amphinemura	1
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	7
AC0604	Accotink Creek	Piedmont	2006	Arthropoda	Insecta	Trichoptera	Hydropsychidae	Hydropsyche	1
AC0604	Accotink Creek	Piedmont	2006	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae	Musculium	1
AC0604	Accotink Creek	Piedmont	2006	Mollusca	Bivalvia	Pelecypoda	Sphaeriidae	Sphaerium	9
AC0604	Accotink Creek	Piedmont	2006	Mollusca	Gastropoda	Limnophila	Physidae	Physa	1
AC0604	Accotink Creek	Piedmont	2006	Mollusca	Gastropoda	Limnophila	Planorbidae	Menetus	1
AC0604	Accotink Creek	Piedmont	2006	Mollusca	Gastropoda	Mesogastropoda	Valvatidae	Valvata	12





WATER RESOURCES

STORMWATER PROJECTS



MAP OF WATERSHED PROJECTS THAT WILL BENEFIT LAKE ACCOTINK

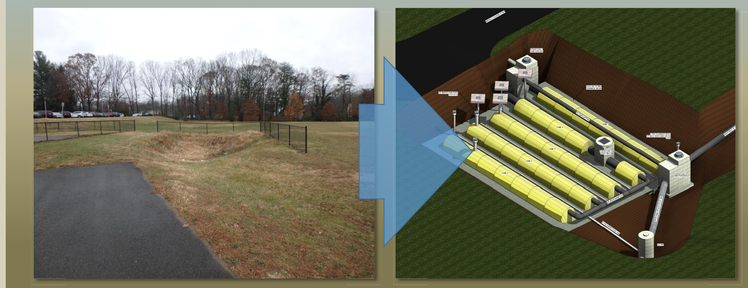
STREAM RESTORATION EXAMPLE

Streams that have been degraded may need to be restored in order for the stream and its riparian habitat to maintain its ecosystem functionality. While it is natural for streams to move and erode over time, urban streams respond to increases of volume and intensity of storm flows by quickly eroding into oversized channels. Restoring channels reconnects the streams to the floodplain, protects trees and other vegetation and reduces the erosion potential.

STORMWATER MANAGEMENT POND RETROFIT EXAMPLE

Stormwater ponds are designed to detain stormwater runoff during rain events and slowly let the runoff out over a long period of time to the nearest waterway. A pond retrofit consists of changes or improvements made to an existing stormwater pond to provide additional water quantity and/or water quality benefits. One goal of this type of project is to promote infiltration into the ground and use native vegetation to take up excess nutrients in the runoff.

BEST MANAGEMENT PRACTICE (BMP) EXAMPLE



Best Management Practices (BMP)s include a variety of small practice types which are installed as close to possible to where the stormwater runoff is being generated. Depending on the exact type of project, they may be designed to provide water quality treatment, some reduction in stormwater and detention to retain peak flows. Because of their small size, BMPs are ideal practices to be used when retrofitting an existing land use high up in the watershed.

WATER RESOURCES

MONITORING RESULTS

Why do we monitor?

Scientists look at what is living in the streams to help tell us how healthy our watersheds are.

Results from our monitoring program helps identify projects for restoration and protection.

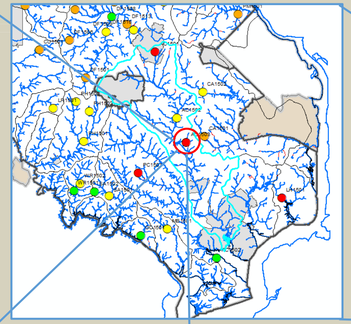
Watershed	Number of Benthic Sites	Average IBI	Rating	Number of Fish Sites	Average IBI	Rating
Accotink Creek	35	24.4	Poor	23	31.5	Poor
Belle Haven	4	24.4	Poor	1	7.1	Very Poor
Bull Run	3	50.8	Fair			
Cameron Run	31	28	Poor	18	16.7	Very Poor
Cub Run	30	32.1	Poor	22	40.9	Fair
Dead Run	6	30.4	Poor	3	7.1	Very Poor
Difficult Run	111	39.6	Poor	53	49.9	Fair
Dogue Creek	8	30.8	Poor	5	42.9	Fair
Horsepen Creek	8	32.1	Poor	4	21.4	Poor
Johnny Moore Creek	6	49.4	Fair	3	42.9	Fair
Kane Creek	6	67.8	Good	1	42.9	Fair
Little Hunting Creek	9	31.1	Poor	7	24.5	Poor
Little Rocky Run	12	27.4	Poor	7	60.2	Good
Mill Branch	10	51.2	Fair	4	23.2	Poor
Nichol Run	11	57.3	Fair	1	57.1	Fair
Occoquan	7	80.9	Excellent	1	21.4	Poor
Old Mill Branch	3	74.7	Good			
Pimmit Run	12	19.5	Very Poor	5	5.7	Very Poor
Pohick Creek	65	31.5	Poor	24	55.9	Fair
Pond Branch	10	66.2	Good	3	42.9	Fair
Popes Head Creek	31	58.5	Fair	14	67.8	Good
Ryans Dam	3	77.2	Good			
Sandy Run	14	67.7	Good	2	67.8	Good
Scotts Run	5	32.1	Poor	3	0	Very Poor
Sugarland Run	12	44.8	Fair	6	47.6	Fair
Turkey Run	2	35.7	Poor			
Wolf Run	15	79.1	Good	5	35.7	Poor
Fairfax County	469	41.1	Fair	215	41.7	Fair

Fairfax County has an extensive monitoring program.
Between 2004-2016, more than 400 sites have been assessed.

Sampling Year	Very Poor	Poor	Fair	Good	Excellent	Index Value
2004	40	30	17	13	0	**2**
2005	15	32.5	35	7.5	10	**2.7**
2006	38.6	36.4	11.4	11.4	2.3	**2**
2007	17.5	35	12.5	20	15	**2.8**
2008	27.5	30	20	15	7.5	**2.4**
2009	37.5	37.5	12.5	7.5	5	**2.1**
2010	17.5	37.5	22.5	15	7.5	**2.6**
2011	12.5	35	20	20	12.5	**2.9**
2012	33.3	30.8	20.5	5.1	10.3	**2.3**
2013	22.5	27.5	17.5	15	17.5	**2.8**
2014	27.5	25	15	27.5	5	**2.6**
2015	10	30	40	17.5	2.5	**2.7**

The Stream Quality Index is used to measure watershed and stream quality. In this system, a 5 would be "excellent" and a 1 would correspond with "very poor"

EXAMPLE



BENTHIC MACROINVERTEBRATES

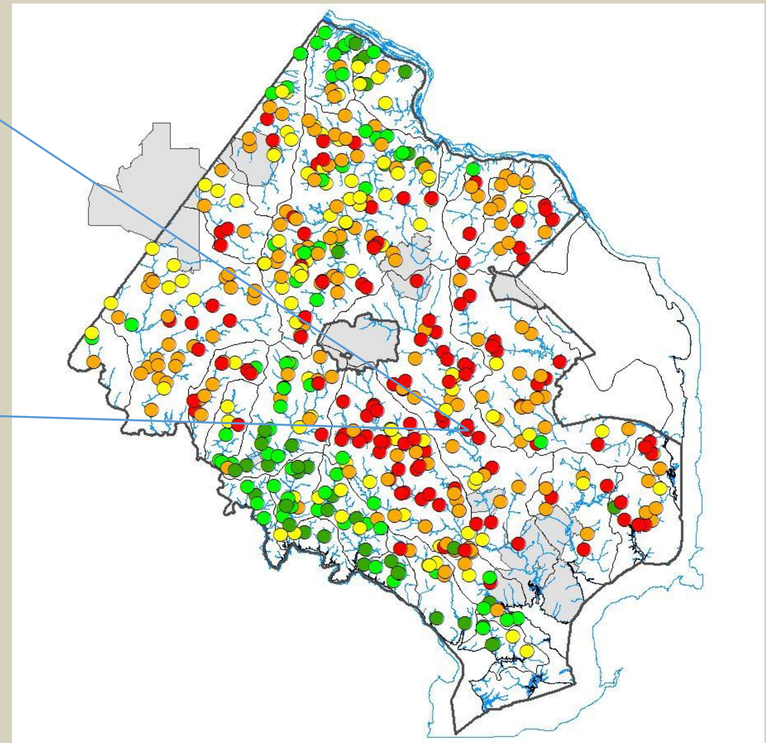
Oligochaeta				8
Insecta	Coleoptera	Hydrophilidae	Helophorus	1
Insecta	Diptera	Chironomidae		36
Insecta	Diptera	Tipulidae	Tipula	1
Insecta	Trichoptera	Hydropsychidae	Cheumatopsyche	8
Insecta	Trichoptera	Hydropsychidae	Hydropsyche	2
Gastropoda	Limnophila	Physidae		6

FISH

Ameiurus natalis	2
Catostomus commersoni	1
Gambusia holbrooki	1
Lepomis cyanellus	19
Lepomis microlophus	2
Micropterus salmoides	2
Rhinichthys atratulus	201
Semotilus atromaculatus	23

DID YOU KNOW?
The Blacknose Dase (*Rhinichthys atratulus*) is the most common fish found in Fairfax County.

DID YOU KNOW?
There are 60 different species of fish that are found in Fairfax County.



MAP OF FAIRFAX COUNTY MONITORING SITES

Sites are color coded to represent their rating: green (good) to red (very poor).

Abiotic Monitoring

Biotic Monitoring