NATURAL RESOURCE MANAGEMENT PLAN




Reston® ASSOCIATION
Together we make Reston great

2016
www.reston.org

Table of Contents

Purpose and Introduction

Vision for the Reston Association:
Leading the model community where all can Live, Work, Play and Get Involved.™

Mission for the Reston Association:
To preserve and enhance the Reston Association community through outstanding leadership, service, and stewardship of our resources

Natural beauty has been a priority throughout Reston's history. Reston is well-known as a treed community and many residents have said they chose to live in Reston because of the trees. A common phrase used to describe Reston is that it is "like living in a park". It is this abundance of green space that makes Reston a very unique community.

Two of the seven goals that Robert E. Simon Jr., founder of Reston, listed in his Reston Concept relate to the environment.

1. That the widest choice of opportunities be made available for the full use of leisure time. This means that the New Town should provide a wide range of cultural and recreational facilities as well as an environment for privacy.
2. That beauty-structural and natural-is a necessity of the good life and should be fostered.

It is the responsibility of the Reston Association (RA) to maintain Reston's natural areas. The purpose of this Natural Resource Management Plan is to give an overview of how we currently manage our natural areas and our vision for the future. This plan is also a resource for RA members' better understanding and enjoyment of our natural environment in Reston. Volunteer opportunities are highlighted in Section V.

Natural areas are defined as coevolved ecological communities or geologic features that represent the natural character, diversity and ecological processes of native landscapes. Reston Association enhances, protects and maintains more than 1,300 acres of open space, including the 72 acre Walker Nature Center, 4 lakes, 3 ponds, 19 miles of perennial streams, 800 acres of natural area and about 50 managed meadows. We also maintain over 55 miles of pathway and 8 miles of natural surface trail.

Aerial view of Lake Audubon. Photo courtesy of Jim Kirby.

RA's 800 acres of natural area are broken down into over 400 separate parcels of land. They are spread throughout Reston and range from 10-foot-wide buffer strips to the 72-acre Walker Nature Center, our largest natural area. RA also owns most of the stream valleys, roadside buffers and remote buffer strips between houses and clusters, some of which nearby homeowners mistake as their private property. Individual management plans have been developed for the majority of our properties. A Sample Parcel Inventory form for these parcels can be found in Appendix I and a Tree Inventory in Appendix II.

Reston Association does not own or manage all of the parkland in Reston. There are several parks that are owned and maintained by the Fairfax County Park Authority, namely, Reston North Park, Stuart Road Park, Baron Cameron Park, Reston Town Green in Town Center, Stratton Woods Park and South Lakes Drive Park. Fred Crabtree Park and Lake Fairfax Park are both adjacent to Reston open space.

In addition, there are 132 clusters in Reston. A cluster is a neighborhood where the housing has been grouped closely together to preserve the surrounding natural area. Clusters have varying amounts of natural area. For example: Hillcrest cluster has 19 acres, Waterview cluster has 11 acres, Brookshire cluster has 3.5 acres and Colts Neck cluster has 4 acres. Similarly, many condominium and apartment complexes have natural areas as part of their properties. Maintenance of cluster natural areas is the responsibility of each cluster association. RA does publish materials to help clusters with this task.

Nature, defined broadly, includes people. If you take people out, you take out the single driving force in our current ecological system. It is also difficult to describe a resource management plan without defining the word native. Native, as defined in "The Living Landscape" by Rick Durke and Doug Tallamy, is "a plant or animal that has evolved in a given place over a period of time sufficient to develop complex and essential relationships with the physical environment and other organisms in a given ecological community."

I. NATURAL AREAS MANAGEMENT

Goal: *Protect, maintain and enhance our natural areas with sound environmental practices. This is accomplished for the safety of our residents, for the health of the parkland and for the natural beauty of the forested and meadow habitats.*

Rules for the Care and Use of Reston Association Natural Areas have been developed and approved by the RA Board of Directors. This valuable tool is used extensively for maintaining our natural areas and is followed during our property "remote strip" inspections.

Pathway through pipeline easement meadow.

Remote strip inspections are what RA staff calls the yearly inspections of all the Reston Association owned natural areas. It is done in the winter when many of the species die back so it is easier to walk through the forests and see the boundary posts and look for any violations. It is also the season when the poison ivy loses its leaves, and there are fewer ticks.

During inspections, we are looking for any violations of the natural areas rules. These violations may include tree and understory clearing, installing structures on RA properties, including fences and sheds, and installation or infringement of landscaped areas. First, all risk trees are noted and mapped. Then other encroachments are photographed and logged. We notify residents of upcoming inspections with street signs in an effort to reduce violations and increase awareness about the management of the natural areas.

In addition, all invasive plant species and all violations are noted using GPS on the ArcCollector application from ESRI (an ArcGIS company). The invasive plants are also recorded on a nationally approved monitoring program called the Early Detection and Distribution Mapping System (EDDMapS). http://www.eddmaps.org/.

Walk through Reston's natural areas.

All tree and shrub maintenance practices follow the American National Standards Institute (ANSI) recommendations developed by the National Arborist Association. ANSI A300 standard describes the care and maintenance of trees and shrubs. Reston Association has four full-time certified Arborists and one seasonal employee who maintain all of the trees on Reston Association property. This certification is from the International Society of Arboriculture (ISA). Some are also Tree Risk Assessment Qualified (TRAQ).

Reston Association does not have a street tree inventory as

we are unlike many other communities that maintain street trees. We have many roadside buffers and in meetings with Virginia Department of Transportation (VDOT) authorities, it was determined that street trees are not recommended for our medians due to sight line issues. VDOT did agree to a linear meadow on Baron Cameron Avenue. We have a sample tree inventory that was performed by Wetland Studies and Solutions, Inc. (WSSI) during the work done for the Stream Restoration Project and can be found in the Appendix.

Trees are inspected for any potential risk situations during the remote strip inspections, pathway inspections, after resident calls and thunderstorms. Snags (a standing dead tree) provide valuable habitat and will be left if they do not create a problem. Unless a tree is dead or an immediate risk, RA must apply to remove trees through the Design Review Board process if the tree is over four (4) inches Diameter at Breast Height (DBH). However, in 2015 the RA Design Review Board modified the tree removal design guidelines for RA staff to be able to remove all invasive species without going through the application process.

Vegetation-Forests and Meadows

Forests

Background:

Reston is located in the Piedmont Region that runs from Maryland through Virginia and into the northern part of North Carolina. The Piedmont region's forest canopy consists of upland and lowland forests of maple, oak, hickory, black gum, pine, poplar, red cedar and beech trees.

White Oak tree leaves. Photo courtesy of Sean Bahrami.

In spite of the density of development in Reston, there are many intact and semi-intact natural soil profiles, which in turn support diverse plant species. The diversity of tree species or plant communities associated with those soil profiles allows for similar diversity in wildlife. Our continuous and discontinuous buffers and parcels give Reston and its watershed a unique natural community where nature includes our residents. Soil determines plants, plants determine wildlife.

Mayapples in forest understory near Sanibel Drive. Photo courtesy of Patricia Greenberg.

Value:

Reston's natural areas are one of the most desirable assets that Reston has to offer. They include woodland trails, meadows, and borders of native plants, naturalized buffer zones between commercial and residential areas, lakes, wetlands and streams. Over the years Reston Association has planted thousands of native trees, shrubs and wildflowers to ensure forest regeneration and enhance its natural areas. These activities are in keeping with the Association's philosophy of sound environmental management, and they provide excellent examples of a practice known as "naturescaping."

Naturescaping means conserving and preserving natural resources in the gardening and landscaping process. It means emulating nature rather than forcing a garden style that is unnatural.

Volunteers planting a Sweetbay Magnolia at Polo Club for Arbor Day. Photo courtesy of Claudia Thompson-Deahl.

The social, aesthetic, functional, economic, and recreational benefits of the urban forest are very important to the Reston community. The 2013 Reston Community Survey conducted by National Research Center, Inc. reported over 90% of respondents indicated preserving natural areas, habitats and open land and keeping the scenic beauty of Reston as "essential" or "very important." Based on formulas from the American Forests urban tree canopy studies, benefits based on stormwater management, pollution uptake and energy conservation were quantified. Recent Northern Virginia Urban Forestry Roundtable research has shown a dollar amount that could be applied to the loss of existing trees during residential development. They have reported figures ranging from $28,200-$56,000 per acre, depending on densities of 300-600 trees per acre.

Urban forest management is not a case of simply letting nature take its course, as there are many factors affecting the health of our forest. Our natural areas are diverse, discontinuous parcels of land and each is valued and contributes to our overall environmental health. Our trees provide wildlife habitat, clean and reduce the amount of stormwater runoff, reduce soil erosion, improve air quality, provide a sense of place, add to property values, provide calming health benefits and visual screening. Trees can reduce wind speed and conserve energy by providing shade and cooling benefits through transpiration.

RA Arborist using a spider-lift to prune trees. Photo courtesy of Claudia Thompson-Deahl

Dead trees or logs on the forest floor provide habitat and are a natural occurrence in a healthy forest. The majority of birds nest within the first 12 feet of the forest floor so "limbing up" the trees and removing the understory is not recommended. In addition, the understory supports healthy plant communities, which further support both trees and more diverse insect and wildlife communities. Wildlife uses deadwood for nesting, roosting, foraging, perching, and territorial displays. Salamanders and insects live under rotting logs. Although downed trees appear messy and unkempt to many people, this dead wood helps to regenerate the forest. The forest is capable of decomposing all its own leaves, just as it has evolved over time. However, it is important to note that dumping of additional brush and leaves can have the opposite effect. Too many leaves and excess yard debris can smother woodland wildflowers, ferns, shrubs and tree seedlings. It blocks sunlight and water from reaching the plants.

Planting native species within natural areas is performed as needed for restoration purposes. Most plantings are done in the late fall, except broad leafed evergreen where spring planting is recommended. Some plantings are replacement trees, resident requests, memorial trees, or are replanted to replace "holes" left after the removal of invasive plants, such as the removal of a large stand of multi-flora rose or bamboo. A sample Task list/Calendar for the environmental resource crew can be found in the Appendix.

Meadows

Background:

There are about 50 meadows spread throughout Reston Association land. All the meadows are mapped and vary greatly in size and composition. Typically, grasses make up 60-70% of the mix in meadows, while flowering plants like black-eyed Susan (*Rudbeckia hirta*), tick-seed sunflower (*Coreopsis tripteris*), goldenrod (*Solidago sp.*), Joe-pye-weed (*Eupatorium maculatum*) and other species make up the remainder for the seed mix. Meadows are usually adjacent to a wooded parcel and create excellent edge habitat. Meadows provide a place for sun-loving species to survive and a place to increase biodiversity. Meadows provide habitat for a variety of wildlife including butterflies, praying mantises, bluebirds, fireflies, and indigo buntings. The plants in the meadows depend on light, soil type, moisture, and the ultimate height of the grass or flower. Meadows that are next to a pathway have a mow strip separating the meadow from the path for aesthetics.

Meadow at Lake Audubon Boat ramp. Photo courtsey of Patricia Greenberg.

Management:

Meadows are mowed yearly to stop succession and to control invasive plant problems. Mowing occurs during the freezing period of the winter months to protect the soil, or after breeding season for ground nesting birds. Mowing mid-summer is the recommended practice, if a meadow is overrun with invasive species. The transcontinental gas pipeline, bisecting Reston, also provides a place for sun-loving species. The Williams Gas Company mows the pipeline once a year to control tree growth. More information is available in our maintenance standards, including seed mixes, meadow inventories, and mowing guidelines. Information on installing meadows can be found in our Naturescaping booklet available online: http://bit.ly/1lm68Pa . Periodically, RA staff may need to restore meadows for a number of reasons, including severe invasive plant growth, weeds, or to increase diversity.

Invasive Species-

Plant Species

Chinese Wisteria by Bennington Woods Road. Photo courtesy of Claudia Thompson-Deahl.

One of the biggest threats to the health of our natural areas is the tremendous increase of invasive plant species. Invasive species are plants from other countries with aggressive growth habits. It is a combination of characteristics that allow these plants to spread quickly, out-competing our native vegetation. These characteristics include: production of many seeds, rapid germination and accelerated growth, vegetative spread by creeping roots and stems, long-lived seed banks, and allelopathic chemicals, which are toxins that impede other plants' growth. The increased deer populations, which forage on mainly native species, also give an advantage to non-native species. On average, only one out of 1,000 non-native plants has the characteristics to make it invasive.

Bradford Pear tree by Twin Branches Nature trail. Photo courtesy of Patricia Greenberg.

In May 2008, the Reston Association Board adopted a ban on eight invasive species. They are: barberry (*Berberis thunbergii*), bamboo (*Bumbusa sp.*), Chinese and Japanese wisteria (*Wisteria sinensis/Wisteria floribunda*), oriental bittersweet (*Celastrus orbiculata*), English ivy (*Hedera helix*), flowering pear tree species (*Pyrus calleryana cultivars*), burning bush (*Euonymus alata*), and non-native Bush Honeysuckles. This action was a major step forward in combating the spread of invasive plants. There are plenty of other invasive plants such a mile-a-minute weed (*Persicaria* perfoliata) and Japanese stilt grass (*Microstegium vimineum*) in Reston, but the chosen eight species are the ones that spread most commonly from adjacent homeowners' yards into RA natural areas. On June 23, 2016, the RA Board voted to include all invasive plant species on the Virginia Department of Heritage's Invasive Plant Species List.

Our methods for controlling invasive plants are:

- Meeting/talking with residents about detrimental impacts of invasive plant species.
- Inspecting RA property.
- Removing invasive plants with hand tools by staff and volunteers, including our monthly Habitat Heroes program.
- Applying the chemical herbicide Glyphosate can also be used as an important tool. It is, however, used sparingly and by trained and certified staff.
- Installing fast-growing native plants that stabilize and restore invasive removal sites to prevent invasives from returning.

Insect species

Gypsy moths (*Lymantria dispar*) are an example of a non-native insect pest. Depending on the population levels, we are part of Fairfax County's Forest Pest Program and have had several spray blocks of *Bacillus thurengensis* (Bt) in the past. However, Bt is not host specific and kills all caterpillars. For bio control, wasps were released to attack only the gypsy moth eggs. Emerald ash borer (*Agrilus planipennis*), an Asian beetle, is well established and has killed hundreds of ash trees. Unfortunately, there are no known control measures for this insect at this time. Weevils (*Rhinoncomimus latipes*) have also been released in cooperation with Virginia Department of Agriculture and Consumer Services (VDACS) since 2013 to control Mile-a-Minute (*Persicaria perfoliatum*). WSSI has also released these weevils on their stream restoration sites.

Property Boundary Marking

RA boundary marking post. Photo courtesy of RA staff.

A tool that is used to define RA property is the post program. Posts are particularly important in determining who owns potential risk trees during storm events and where property lines are during remote strip inspections. About 3,000 posts have been installed at property corners throughout Reston. Initially, wooden posts were used, then concrete posts and now, post-consumer recycled plastic lumber. All new posts include RA contact information. Posts are a great tool to use for the numerous property questions that arise such as tree calls, encroachments, and boundary disputes. In general, property markers are placed at the corners (or turns) in the RA property line. Theoretically one could draw a straight line from one post to another and that would be the property line. However, not every corner is marked by a post, as some surveyor pins are either hard to locate or are missing. In some cases, more posts have been installed along a straight property line when there is a long distance, which makes it difficult to see post to post. Some pins are found underneath the asphalt of a pathway or in the street. In these situations, the pathway or curb is marked with spray paint or in other instances a utility box may be painted, if it was too dangerous to dig to install a post. Additional posts are installed each year as needed or replaced if damaged.

Natural Areas Management Strategies:

1. Continue to work with Fairfax County to monitor for any new insect pests, such as Spotted Lanternfly (*Lycorma delicatula**)*** and Asian Longhorn beetle (*Anoplophora glabripennis*).

2. Request that the part-time facility monitor interact with residents on open space violations. The facility monitor can help by talking with landscape contractors who violate our rules for the Use of Reston Association Common Areas, as dumping debris and tree removals frequently occurs on weekends.

3. Continue to discourage residents and contractors from dumping leaves and yard debris in the natural areas while encouraging residents to retain deadwood on their properties to foster diversity of birds, mammals, invertebrates, lichens/moss/fungi, and on waterfront properties, fish.

4. Focus on education and training of nature stewards, such as our Habitat Heroes, to remove invasive plants within Reston independently from our monthly work events.

5. Continue to enforce the plant ban of invasive species.

6. Continue to map the spread of invasive plants using the ArcCollector and EDDMapS technology.

7. Concentrate on removing invasive plants from RA property and continue to prioritize our work list through the natural areas assessment. Make information available for residents on the best method to remove the most common invasive plant problems.

8. Develop relationships with developers, businesses, apartments and clusters for more Memoranda of Understanding (MOUs), such as the agreement with USGS where they agree not to plant invasive species on their property.

9. Preserve existing wooded natural areas in their own right. Many of our active recreational areas have adjacent natural areas, which should be protected to the greatest extent possible.

10. Continue to monitor the "Green Industry" for best practices and sustainability. For example, working to ensure contractors are using ANSI standards for tree work throughout Reston.

11. Continue to locate and install property posts to assist in marking RA boundaries and maintaining natural areas. About 600 posts still need to be installed, but these are the ones that are difficult to find or non-existent and will require hiring a surveyor.

12. Monitor and maintain past restoration sites.

13. Utilize early detection, rapid response, (EDRR) for new plant problems such as Wavyleaf Basketgrass (*Oplismenus undulatifolius*) and Incised Fumewort (*Incisa corydalis*).

14. If homeowners are installing a fence along their property line that adjoins the RA property, we should encourage homeowners to install the fence three feet into their property to allow a maintenance strip, as RA will not mow the RA property

behind their lots. This will avoid the common situation where homeowners do not want vines and vegetation coming into their fences.

15. Encourage residents and businesses to landscape using native plants instead of lawn grass and to consider planting focus areas such as Monarch Waystation gardens and conjoining across properties areas that draw wildlife.

II. WILDLIFE

Goal: *Preserve and protect Reston's wildlife species.*

Reston is a Wildlife Habitat Community as certified by the National Wildlife Federation. We have many types of wildlife, such as reptiles, occasional river otters and beavers, bald eagles, red foxes, raptors, herons, amphibians, coyotes, and over 180 species of birds. Our policy is to protect and co-exist with wildlife to the greatest extent possible.

We have developed a Bird checklist that gives the status and occurrence of bird species in Reston, which can be found in the Appendix. Lists of dragonflies and butterflies found in Reston are also in the Appendix. We create habitat by creating meadows and brush piles where it is appropriate. When a snag can be left safely, it will be left for habitat. We have a bird box monitoring program and encourage nest boxes. Birds who utilize bird feeders are the only wildlife residents may feed. There are websites available to research how to deal with birds that may monopolize feeders.

Canada goose egg addling at the ponds of Reston Association Headquarters. Photo Sean Bahrami.

Human Interactions

Wildlife management can become complicated, especially when wildlife populations exceed the carrying capacity of an area. It is inevitable that conflicts will occur between wildlife and residents. *By state law, we are not allowed to relocate wildlife*. We provide education and tips that can be used to co-exist with wildlife. Each call that we receive about a particular species is considered on a case by case basis. We often refer to a popular book called *Wild Neighbors-The Humane Approach to Living with Wildlife*. We receive the most resident calls concerning the following wildlife species.

Wildlife Species

Canada Geese – Geese populations have increased due to the favorable habitat we have created for them including golf courses, storm water impoundments, office park ponds, and lakes. Conflicts arise when geese aggressively protect their nests and young, pull up and eat shoreline plants and deposit fecal matter. Droppings can accumulate at considerable rates and can affect water quality.

We have addled 1,637 eggs between 2002 and 2016 from 389 nests with our egg addling program. This includes both residential and commercial property. We have a Federal permit for egg addling and receive permission from every property owner before this work is done. Each staff member that is involved in this process is listed on our permit. We do not allow residents to feed geese.

Deer – White-tailed Deer are the largest and one of the most common and easily recognized wild animals in Reston. They are beautiful animals that are highly adaptive and are thriving in suburban landscapes with an abundant food supply we have provided with ornamental species, edge habitat and lack of predators. Humans can control deer herd numbers in hopes of preserving the greatest possible diversity and health of the remaining natural systems and communities in our region. There has been considerable debate on how many deer are too many and what methods of control should be used. Over-browsing by white-tailed deer is one of the primary contributing factors to the spread and success of non-native invasive plant species. We have four deer exclosures throughout Reston to study the impacts of deer on the native vegetation.

Piebald deer found in several areas of Reston.

Since 2014, the Fairfax County Park Authority has collected browse impact survey data from approximately 30 parks participating in the deer management program. Over-browsing by white-tailed deer is a significant impact of deer overpopulation on native ecosystems. Browse levels vary amongst parks, and are locally heavy in some locations. Plots are planned to be re-surveyed approximately every five years to determine if vegetation conditions improve.

In 2015, deer populations were estimated by the Fairfax County Wildlife Biologist using wildlife camera surveys in 13 parks. The average deer population estimate was 129 deer/square mile, with a median of 89 deer/square mile and a range of 30 – 340 deer/square mile. Estimates remain highly variable amongst parks, and parks with no hunting typically have higher initial population estimates. Ideal population densities for healthy forested systems are thought to be closer to 20 deer/square mile (Tilghman, 2014). During 2016, approximately 20 additional parks will be surveyed using the same camera survey technique.

At the November 2015 RA Board meeting, the following motions were passed:

Board Motion 1: The board moved to direct staff to participate with Fairfax County's controlled deer hunts on adjacent RA property, as approved by staff on a case-by-case basis and in accordance with agreements subject to review and approval by RA's Legal Counsel.
Board Motion 2: The board moved to direct staff to work with DRB to revise the Design Guidelines to consider options for individual lots for the purposes of excluding deer from individual member properties.
Board Motion 3: Move to approve amendments to Use & Maintenance Standards Resolution 12 on Hunting; this modifies requirements related to member notification and liability insurance coverages.

The resolution on the hunting requirements can be found in the Appendix. Currently, there is no hunting on RA property, but homeowners may request permission to bow hunt on their own property with RA Board approval.


Beaver Dam at Bright Pond Lane.

Beaver – Beavers are amazing engineers and create wonderful habitat that attracts a diversity of wildlife including wood ducks, herons, abundant amphibians and numerous birds. The trees that die from flooding also create wonderful habitat for numerous woodpeckers, hummingbirds and owls. Beavers come and go in Reston. Unfortunately, we do not have the space to accommodate them. The only area large enough to support beavers is in the Glade Stream Valley by Twin Branches Road, which was fenced to stop the beavers from moving downstream. The beaver area is 0.03% of our total natural area. Beavers come and go as their food source is available. Management strategies may include euthanizing beaver due to the state regulation prohibiting moving wildlife. Beavers that come into the lakes are trapped and killed due to the concern that they will make a bank den in an earthen dam, thereby weakening the structure.

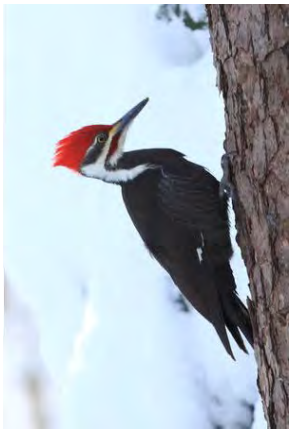
Mosquitoes – According to information from Fairfax County, "Because mosquito breeding areas are currently under scrutiny due to the spread of [mosquito borne illnesses], it is worth noting that in Fairfax County, the three types of mosquitoes known to transmit the virus are container breeders that are most likely to be found in discarded trash, clogged rain gutters or containers in homeowner yards, rather than in natural bodies of water. Ephemeral water bodies usually contain predator species that exert some control over mosquito populations."

Ticks – Ticks have become better known due to the increased number of Lyme disease cases. Residents encounter ticks in landscaped lawns, gardens, outdoor recreational activities and through contact with their pets. Pets should be treated monthly with a tick repellant. Less than half of all Northern deer ticks are carriers of Lyme disease. Usually ticks carrying Lyme disease must be attached for 24 hours before they can transmit the disease to people or pets. Check yourself daily to reduce your chance of infection.


Deer tick bull's eye.

Coyotes/Foxes – Coyotes and foxes are here to stay and it is best to learn how to co-exist. The best way to avoid having them living in your yard is to not provide habitat for them. Do not leave pet food outside, cover and secure garbage cans. Residents are concerned about cats becoming prey. For this reason and since they are one of the reasons

for the decline of our songbird populations, we encourage homeowners to keep their cats indoors.


Pileated Woodpecker

Woodpeckers – We receive the most resident calls when woodpeckers peck on wood-sided homes. Woodpeckers are federally protected and most repellents have not been proven to work or do not have EPA endorsement. Temporary Mylar balloons and streamers, as well as pest inspections have proven to be effective in deterring woodpeckers, since the woodpeckers are going after wood boring insects. In 2014, the Friends of Reston announced that the Pileated Woodpecker was voted by residents as the official bird mascot of Reston.

Copperhead snakes – Copperheads live naturally in Virginia and have been found in Reston. They are our only venomous snake. When we receive a call, we let other residents know that one has been seen in the area so they can exercise caution and keep an eye out for them. Juvenile Black Rat snakes and Northern Water snakes are often misidentified as Copperhead snakes.


Copperhead Snake


Northern Water Snake


Juvenile Black Rat Snake

Wildlife Strategies:

1. Deer reduction should be encouraged, as the deer are altering the plant community and eliminating habitat for numerous other species.

2. Continue to expand the Canada goose egg addling program to additional businesses in Reston. Continue to educate residents on the negative environmental impact of feeding wildlife.
3. Promote methods used to peacefully co-exist with wildlife.
4. Birds, butterflies and dragonflies are documented in Reston. Create a list of reptiles, amphibians, and mammals seen in Reston.
5. Encourage residents to leave a vegetated buffer to discourage shoreline activities of geese.
6. Maintain the beaver fence, as they come and go as the young from other areas disperse.
7. Continue to monitor wildlife complaints received by RA to identify and track trends and coordinate wildlife management actions.
8. Maintain and monitor the deer exclosures yearly.
9. Encourage residents to keep cats indoors. Cats kill one in ten wild birds in the United States yearly, as well as other desirable wildlife.

Snapping turtle laying eggs.

Cottontail rabbit.

III. WATER RESOURCES

Goal: *To maintain and improve the quality of Reston's water resources by expanding community education and volunteer involvement in watershed programs.*

Water bodies are prized for recreation and tourism, and improve adjoining property values. According to a study by the National Association of Home Builders, proximity to a beach, pond or stream raises the value of a home by up to 28%. It is the combination of natural areas and water that allow Reston a unique position for a built landscape in terms of support for wildlife habitat.

Lakes and Ponds

Reston has four man-made lakes – Anne, Audubon, Newport and Thoreau – and two ponds – Bright and Butler. In total, they cover 125 acres and provide recreation and stormwater management for the community. While swimming and ice skating are not permitted, fishing, boating, wildlife watching, and having a lakeside picnic are available to RA members and their guests.

Rainbow at Lake Audubon. Photo credit courtesy Austen Bander.

RA lakes are managed for multiple benefits. It is a delicate balance between ecological health, aesthetics and recreation, and the management actions required for each. We evaluate control methods of aquatic plants -from both a budget and ecological impact standpoint.

Aquatic plants can sometimes be beautiful, and at other times be unsightly, affect boat navigation, and be costly to manage. RA focuses on non-native invasive plants for management first, and then takes direction from residents and the RA Board of Directors for other aquatic plant infestations. RA plans to continue to stock and maintain populations of triploid grass carp (*Ctenopharyngodon idella*) to control hydrilla (*Hydrilla verticillata*) and other submerged aquatic plants. RA plans to continue herbicide treatment for lakes and ponds when necessary. Currently, Lake Anne is treated monthly in the summer with Copper Sulfate for algae control; Lake Thoreau is treated to control Eurasian Water Milfoil (*Myriophyllum spicatum*), Yellow Floating Heart (*Nymphoides peltata)* and Variable-leaf Pondweed (*Potamogeton diversifolius*); and Lake Newport water lilies have been treated in 2010 and 2013 and will be on a treatment schedule every August to diminish the overpopulated white water lilies (*Nymphaea odorata*).

Recreation

According to the 2007 Lake Fish Survey performed by Aquatic Environmental Consultants, Inc., each of the four lakes has an established fish population that has reached the carrying capacity for the water body. Our goal is to improve the largemouth bass (*Micropterus salmoides*) population and populations of other desirable species in the lake. Improvements are to be made in the growth rates, sizes, numbers and reproductive potential of each species. Recommendations include the following for Lakes Newport, Audubon and Thoreau: Aggressively remove largemouth bass 4"-12"; protect largemouth bass 13"-18"; catch and release for grass carp and catfish (*Ictalurus furcatus*). For Lake Anne the recommendation is to continue to catch and release all fish as there is not a problem with stunted largemouth bass at this lake.

Reston's four lakes are also available for boating. RA manages a free general access permit for hand-carried boats such as kayaks, canoes, paddleboards and rowboats and boats not currently moored on one of the lakes. There is a permanent mooring permit for boats kept on the water year-round. Lake Newport is the only lake where electric motored boats may not be permanently moored. RA maintains general access points for hand-carried boats and boat ramps for larger boats at each lake. Only electric powered boats are allowed and only lakefront owners may permanently moor a boat on Reston's lakes.

During the summer months, RA manages a small scale boat rental operation out of the Lake Anne Plaza which includes paddleboats, canoes, kayaks, and rowboats.

Management

Wind and boat-born wave action can severely erode the lakes' shorelines. Shoreline protection provides aesthetic qualities, dissipates wave energy, and maintains property lines. In many cases, hard conventional stabilization applications such as bulkhead and riprap are unnecessary. RA places strong emphasis on the use of soft engineering practices such as installing biologs and vegetative stabilization techniques whenever possible. As noted in Strategy 9 under Watershed Strategies, the phosphorous regulation prohibits the use of fertilizers with phosphorous, unless testing shows a need for it.

In addition to the four lakes and two ponds, RA also has maintenance responsibility for the Hickory Cluster Pond located upstream from the Lake Anne canal. Each lake or pond is dredged on a cycle depending on the size of the watershed and amount of sedimentation of the water body.

- Bright and Butler Ponds (every 20 years)
- Lake Anne (every 10 years)
- Lakes Thoreau and Newport (every 15 years)
- Lake Audubon (every 10 years)

Reston is a community of trees and aging landscapes and our natural areas are stormwater buffers. RA works with residents and cluster associations to develop erosion control solutions including low impact development techniques such as rock swales, rain gardens, permeable pavement, rain barrels, and vegetated buffers. A self-guided stormwater trail is installed at Browns Chapel Park as a demonstration for residents. The major problem with erosion is water discharge from downspouts and mowing areas without turf. Tree canopy doesn't cause erosion. However, tree canopy with mowing and no understory and no groundcover does cause erosion. A program of conversion to shaded layered gardens is needed to solve this problem.

Before stream restoration-Snakeden Branch at Reach 15. Photo courtesy Nicki Bellezza.

Watersheds

Reston's watersheds include 26 miles of streams, 19 of which have perennial flow. The stream watersheds in Reston are part of the Sugarland Run, Difficult Run and Horsepen Creek watersheds which are part of the large Potomac River basin and the even larger Chesapeake Bay watershed.

As Reston developed, there were no stormwater regulations in place and many of the stream channels have been dramatically degraded over time by stormwater runoff and erosion. Since the Reston Association owns entire stream valleys, we have the responsibility to protect these streams and the land adjacent by practicing good stewardship techniques and stream restoration.

Planning:

Reston's watershed management plan was developed in 2002 which indicated stream impairments and provided a framework for stream restoration and volunteer stream monitoring. Additionally, Reston's watersheds are included under the Fairfax County Difficult Run and Sugarland Run Watershed management plans.

Before stream restoration - Snakeden Branch at Reach 15. Photo courtesy Nicki Bellezza.

After stream restoration - Snakeden Branch at Reach 15. Photo courtesy Nicki Bellezza.

Stream Restoration:

In 2008, Reston commenced a multi-year stream restoration project focusing on 14 miles of degraded stream in the Difficult Run watershed fully funded through the Northern Virginia Stream

Restoration Bank. (Stream restoration banking is a technique that allows developers to contribute to the preservation of streams in one location as compensation for damage they cause to streams by developing land elsewhere.) Snakeden Branch and The Glade stream valleys were targeted first for restoration with construction completed in Snakeden Branch in 2009 and The Glade in 2010 with a repair completed in 2012. Forest Edge North and South sections of stream in the Colvin Run watershed were constructed next and completed in 2011. Restoration design plans for the remaining tributaries in the Colvin Run watershed were developed and as of 2014 are pending construction waiting for mitigation bank funding to accumulate.

The Northern Virginia Stream Restoration Bank practices natural channel design to recreate the characteristics of a natural stream valley. Natural stream banks are lined with trees and other vegetation that shade the stream, making it cooler and controlling stream bank erosion. Plants provide habitat for fish and other aquatic life and, by trapping sediments and pollutants, they also help maintain water quality. Healthy streams are at a state of equilibrium which can accommodate normal variation in stormwater volume without causing extensive damage.

Watershed Education and Advocacy:
Emphasis must be given to the role that homeowners play in protecting RA's water resources and natural areas. RA plans on continuing education for residents regarding homeowner landscape practices and pollutant prevention techniques.

Reston has an established stream monitoring volunteer program with 11 committed members and a distribution list of over 50 people. RA uses the Virginia Save Our Streams protocol under which participants commit to monitoring a local stream four times each year.

Watershed Strategies:

1. Continue to expand outreach for Stream and Lake Clean-ups and the Storm Drain Marking program.

2. Continue to expand the current partnership with the SLHS and U.S. Geological Survey to obtain data on the restored Snakeden Branch stream.

3. Maintain areas to prevent further degradation and implement measures to protect water resources.

4. Implement Low Impact Development projects that are not addressed through the stream restoration project.

5. Continue education for residents regarding homeowner landscape and stormwater discharge practices and pollutant prevention techniques.

6. Develop a brochure for lake users on RA's rules and regulations.

7. Work with the development community on projects that may impact RA land or water resources to gain a net improvement to current conditions.

8. Develop a brochure for erosion management that is a simple planting and discharge management approach for residents, apartments and clusters.

9. Encourage lawn care companies to test soils so they can show a phosphorus deficiency and only apply phosphorous (P) as needed. A resolution banning the nutrient phosphorous from lawn fertilizers was passed by the RA Board on June 23, 2011 and may only be applied if a need is shown. The state recognizes the role phosphorus plays in nutrient enrichment of our waterways and has passed a regulation to minimize its use in turf fertilizers. Soil test kits are available from all Fairfax County libraries and from the Master Gardeners at Farmers Markets.

10. Actively discourage littering.

IV. ENVIRONMENTAL EDUCATION

***Goal**: To educate Reston residents and guests about the natural environment in general and Reston's environment in particular.*

Education is the key to environmental stewardship of Reston's natural resources. Since Reston's founding, there has been a strong commitment to environmental education and natural history interpretation. Interpretation is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource.

Garden at Walker Nature Center. Photo courtesy of Katie Shaw.

Reston Association owns and operates the 72-acre Walker Nature Center, which serves as the home base for environmental education in Reston. The mission of the nature center is to foster good environmental stewardship through the use of direct experiences and interpretive media. The center enhances people's awareness, knowledge, appreciation, and enjoyment of the environment. Residents who are connected to and educated about the local environment take positive actions to conserve and protect our natural resources.

The nature center staff operates out of the year-round education building, known as Nature House. Nature House is LEED Gold certified by the U.S. Green Building Council. The staff conducts a variety of on-site programs, including field trips for school groups, preschool programs, scout and youth group programs, nature birthday parties, campfire programs, adult interpretive programs, workshops and special events. In addition, the staff:

Interpretive Naturalist with school group.

- Conducts outreach programs for groups such as schools, preschools, community centers, and non-profit organizations.
- Operates nature camps for children.
- Participates in citizen science projects.
- Conducts Reston wildlife counts with environmental resource staff and volunteers.
- Provides service learning opportunities for volunteer groups and individuals.
- Provides materials for independent learning, including: trail guides, interpretive signs, brochures, activity packs, traveling nature trunks, electronic media, resource books and periodicals.
- Answers member questions regarding plants, wildlife and the environment.

Program topics include watershed conservation, stream and lake life, ecology, native plants, wildlife, and sustainable living. Programs are advertised in RA's printed publications such as *Reston Magazine* and the nature center newsletter, *Branching Out*, as well as in electronic media such as the RA webpage, *RA News*, Facebook and Twitter. Some programs are conducted and promoted in partnership with other community organizations and environmental groups.

Trillium at Wildflower trail in the Glade Stream Valley.

Environmental Education Strategies:

1. Provide interpretation through interactive experiences whenever possible. The interpretive experience should hold a sense of discovery, of wonder and surprise. Interpretation should be fun and bring forth an emotional response in addition to providing information.

2. Provide a combination of changeable and static displays and exhibits, recognizing that users of the center will often be repeat visitors, seeking natural history and conservation information that is relevant to their lives in Reston.

3. Focus on an outdoors, hands-on approach to theme-oriented learning. The center's site and Reston's natural areas are extremely well suited to experiential learning in a "natural outdoor laboratory" where people can explore a diversity of habitats.

4. Serve as an educational forum for issues that affect residents of Reston on a local, national and global level such as conservation, biodiversity and sustainability. The Reston area offers a talented pool of guest speakers and program leaders.

5. Engage and inform new audiences through outreach efforts and social media.

Geology interpretive sign found at Walker Nature Center.

6. Capitalize on its ability to attract repeat visitors. Data shows that visitors from Reston return for programs and services again and again as long as they continue to be high quality experiences within easy access. Participation on a continuing basis is an essential characteristic of true stewardship.

7. Engage people not only as program participants but also as volunteers, helping with land and trail management, programs and special events, and visitor services.

V. VOLUNTEER OPPORTUNITIES – HOW CAN YOU HELP?

Goal: *To create partnerships with residents and businesses for assistance in maintaining and improving the health of our environment.*

There are several opportunities that residents can take to become stewards of our natural areas and to improve our water quality. Check the RA website or the Reston Magazine for more specific information on each of these events. Call our Volunteer Supervisor to sign up at 703-435-7986 or e-mail habrock@reston.org.

1. **Habitat Heroes –** Habitat Heroes (formerly Weed Warriors) meet monthly. This is an excellent opportunity for students, scouts, and businesses wishing to gain community service hours and improve the health of our forests. We remove invasive exotic plant species that are overwhelming the native vegetation on one of the many RA parcels throughout Reston. Sometimes we may be replanting a site with native vegetation.

Using a weed wrench to remove Doublefile Viburnum at Habitat Heroes event.

2. **Stream and Lake Clean-ups –** Each spring RA participates in the Alice Ferguson Foundation stream clean up and each fall in the Intercostal clean-up in our streams. During the summer we host a lake clean up that is in conjunction with the Chesapeake Bay Clean the Bay Day. We are often looking for site leaders at these important events that help remove an incredible amount of debris in our lakes and streams.

3. **Storm Drain Marking –** Over 2,289 storm drains have been marked that remind residents that everything that gets dumped into these drains goes into our lakes and eventually the Chesapeake Bay. We are looking for groups to help us reach our goal of marking 4,000 drains in Reston.

4. **Adopt-a-Spot –** This program is modeled after the Adopt-a-Highway program and supports volunteers that clean litter and report any problems to a section of RA property.

5. **Wildlife Counts –** Each year RA hosts a winter bird count, a summer breeding bird census, a butterfly count and a dragonfly count. We are aware that one cares more for the environment when one knows what lives there. It is a great opportunity to learn more

Adopt-a-Spot Volunteers.

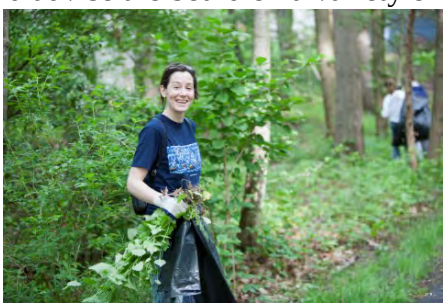
about Reston's birds, dragonflies and butterflies. We can also assess the environmental health of the habitats where these species are found.

6. **Stream Monitoring –** This is an important activity in assessing the health of our streams and is a good volunteer opportunity for someone that is willing to learn and enjoys data collection. Training is required and a two year commitment is encouraged. Assigned streams are monitored seasonally.

7. **Trail Maintenance –** Some volunteers enjoy working on improving our natural surface trails. We are glad to have assistance in a variety of tasks such as wood chipping, installing water bars for erosion prevention, or trail pruning.

8. **Environmental Advisory Committee –** Volunteers for this committee are approved by the RA board. We meet monthly and advise the board on a variety of environmental topics.

9. **Walker Nature Center Volunteers –** Assist with programs, visitor services and the care of the Nature Center.



Volunteer removing Garlic Mustard.

Volunteer Opportunities Strategies:

1. Stress the importance of removing non-native invasive plants to the Adopt-a-Spot volunteers and educate them on our problem species. Encourage these volunteers to alert staff of major infestation problems or have them expand the duties to include removing invasive plants at these sites.

2. Try to recruit volunteers to lead other invasive plant removal and native plant restoration programs on cluster or homeowner property. Habitat heroes are currently focused on RA property only and scheduled years in advance. There are clusters that would benefit from more assistance in identifying invasive plants and knowing how best to remove them.

3. Increase the number of stream monitor volunteers.

4. Encourage participation in the annual Garlic Mustard Challenge and procure prizes for the winners.

Sign to credit Adopt-a-Spot volunteers.

VI. LIST OF APPENDICES

RA OPEN SPACE HABITAT INVENTORY

Parcel Surveyed _____ Date_____
(Section, Block, Parcel #)

Acreage_____ Signature_____

Limiting Features:	Slight	Moderate	Severe
Topography & Slope			
Erosion Susceptibility			
Flooding			
Drainage, Water Table			
Condition of Soils			

Surrounding Land Use (Existing & Future)_____

	REMARKS
Open Space	
Recreation Facilities	
Residential Development	
Commercial	
Other (Specify)	
Aesthetic & Human Interest	
Unique Features, Habitats	
Scenic/Open Space Quality	
Health & Safety	
Access	

PARCEL DESCRIPTION:

Abundance of Wildlife Food, Plant Species				
	% of Entire Parcel	Poor	Moderate	Good
Wooded				
Open Field, Meadow				
March, Wetland				
Disturbed Ground				
Recreational Fac.				

	None	Partial	Complete
Connective Corridors (Hedgerows, Fencerows, Woodlots)			
	None	Moderate	Heavy
Trash & Litter			

WOODLOT ANALYSIS

Tree Size	%	Canopy Closure (Select One)
>10" DBH		70 – 100%
2 – 10" DBH		40 – 70%
<2" DBH		10 – 40%

Mast Sp. Present _____ % of Entire Woodlot_____

Available Den Sites #/.25 Acre
(Tree Cavities, Fallen Trees, Brush Piles, Burrows) _____

Dead or Partially Dead Trees	<20" DBH
	>20" DBH

Wildlife Security Cover (Select one) (Dense Brush, Briars, Evergreens)	>60%	30 – 60%	<30%

REMARKS:_____
_____
_____

OPEN FIELD, MEADOW, UTILITY ROW ANALYSIS

Ave. Height of Herbaceous Vegetation: _____

Diversity of Vegetation Height: >50% Same Height_____ <50% Same Height_____

Shade Producing Woody Invaders (Select One): Few Some Many

Ave. Height of Woody Invaders (ft.) _____ Ave. Depth of Leaf Litter (in.) _____

Wildlife Security Cover (Select One): > 60% 30-60% <30%

REMARKS:

_____

_____

WETLAND, STREAM ANALYSIS

Size: _____ Ave. Water Depth _____

	Mild	Moderate	Severe
Bank Slope			
Bank Condition (Erosion)			

Vegetation along Banks (Describe: Shrubs, Grasses, Trees, Etc.):

_____

_____

Barriers to Fish & Water Movement (Blocked culvert, log jams, debris, rip-rap):

_____

_____

Visible Pollutants (Foam, oil, etc.):

_____

_____

_____

AQUATIC LIFE:

	Scarce	Moderate	Abundant
Fish			
Crustaceans			
Insects			

Colvin Run Sample Tree Inventory

SYMBOL	GENUS_SPEC	COMMON_NAM	COMMON_ABB	TAG	DBH	SYM	GSP	CMN	NORTH	EAST
9" LITU	9" Liriodendron tulipifera	9" Yellow Poplar	9" POP	t10501	9	LITU	Liriodendron tulipifera	Yellow Poplar	7038467.15	11815983.14
8" LITU	8" Liriodendron tulipifera	8" Yellow Poplar	8" POP	t10502	8	LITU	Liriodendron tulipifera	Yellow Poplar	7038464.74	11815981.24
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10503	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038459.47	11815982.5
7" LITU	7" Liriodendron tulipifera	7" Yellow Poplar	7" POP	t10504	7	LITU	Liriodendron tulipifera	Yellow Poplar	7038459.02	11815985.3
15" QUVE	15" Quercus velutina	15" Black Oak	15" B OAK	t10505	15	QUVE	Quercus velutina	Black Oak	7038459.91	11815996.75
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10506	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038467.31	11816009.84
21" QUAL	21" Quercus alba	21" White Oak	21" W OAK	t10507	21	QUAL	Quercus alba	White Oak	7038461.94	11816012.44
8" LITU	8" Liriodendron tulipifera	8" Yellow Poplar	8" POP	t10508	8	LITU	Liriodendron tulipifera	Yellow Poplar	7038450.69	11815990.24
8" LITU	8" Liriodendron tulipifera	8" Yellow Poplar	8" POP	t10509	8	LITU	Liriodendron tulipifera	Yellow Poplar	7038440.82	11815991.74
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10510	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038434.59	11816007.67
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10511	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038426.53	11816008.9
11" QUPR	11" Quercus prinus	11" Chestnut Oak	11" CHT OAK	t10512	11	QUPR	Quercus prinus	Chestnut Oak	7038422.57	11816002.21
21" QUAL	21" Quercus alba	21" White Oak	21" W OAK	t10513	21	QUAL	Quercus alba	White Oak	7038414.77	11815991.22

Colvin Run Sample Tree Inventory

SYMBOL	GENUS_SPEC	COMMON_NAM	COMMON_ABB	TAG	DBH	SYM	GSP	CMN	NORTH	EAST
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10514	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038444.30	11816021.24
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10515	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038405.61	11816016.17
26" LITU	26" Liriodendron tulipifera	26" Yellow Poplar	26" POP	t10516	26	LITU	Liriodendron tulipifera	Yellow Poplar	7038393.78	11815993.14
13" QUPR	13" Quercus prinus	13" Chestnut Oak	13" CHT OAK	t10517	13	QUPR	Quercus prinus	Chestnut Oak	7038388.50	11815987.13
19" NYSY	19" Nyssa sylvatica	19" Black Gum	19" B GUM	t10518	19	NYSY	Nyssa sylvatica	Black Gum	7038378.53	11816000.31
10" QUPR	10" Quercus prinus	10" Chestnut Oak	10" CHT OAK	t10519	10	QUPR	Quercus prinus	Chestnut Oak	7038388.49	11816008.92
12" QUAL	12" Quercus alba	12" White Oak	12" W OAK	t10520	12	QUAL	Quercus alba	White Oak	7038370.55	11816014.98
14" QURU	14" Quercus rubra	14" Northern Red Oak	14" NR OAK	t10521	14	QURU	Quercus rubra	Northern Red Oak	7038357.27	11816011
10" NYSY	10" Nyssa sylvatica	10" Black Gum	10" B GUM	t10522	10	NYSY	Nyssa sylvatica	Black Gum	7038349.46	11816012.37
16" QUPR	16" Quercus prinus	16" Chestnut Oak	16" CHT OAK	t10523	16	QUPR	Quercus prinus	Chestnut Oak	7038338.70	11816029.81
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10524	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038379.83	11816040.23
10" LITU	10" Liriodendron tulipifera	10" Yellow Poplar	10" POP	t10525	10	LITU	Liriodendron tulipifera	Yellow Poplar	7038368.03	11816047.31
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10526	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038353.07	11816046.63

SYMBOL	GENUS_SPEC	COMMON_NAM	COMMON_ABB	TAG	DBH	SYM	GSP	CMN	NORTH	EAST
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10527	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038336.97	11816051.23
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10528	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038327.08	11816054.59
4" LITU	4" Liriodendron tulipifera	4" Yellow Poplar	4" POP	t10529	4	LITU	Liriodendron tulipifera	Yellow Poplar	7038328.89	11816057.79
4" LITU	4" Liriodendron tulipifera	4" Yellow Poplar	4" POP	t10530	4	LITU	Liriodendron tulipifera	Yellow Poplar	7038319.93	11816058.9
11" LITU	11" Liriodendron tulipifera	11" Yellow Poplar	11" POP	t10531	11	LITU	Liriodendron tulipifera	Yellow Poplar	7038310.85	11816064.66
4" ACRU	4" Acer rubrum	4" Red Maple	4" R MAP	t10532	4	ACRU	Acer rubrum	Red Maple	7038306.85	11816042.85
19" QUAL	19" Quercus alba	19" White Oak	19" W OAK	t10533	19	QUAL	Quercus alba	White Oak	7038312.84	11816032.04
35" LITU	35" Liriodendron tulipifera	35" Yellow Poplar	35" POP	t10534	35	LITU	Liriodendron tulipifera	Yellow Poplar	7038319.10	11816028.74
14" LITU	14" Liriodendron tulipifera	14" Yellow Poplar	14" POP	t10535	14	LITU	Liriodendron tulipifera	Yellow Poplar	7038276.92	11816055.1
13" LITU	13" Liriodendron tulipifera	13" Yellow Poplar	13" POP	t10536	13	LITU	Liriodendron tulipifera	Yellow Poplar	7038273.60	11816054.71
5" ACRU	5" Acer rubrum	5" Red Maple	5" R MAP	t10537	5	ACRU	Acer rubrum	Red Maple	7038263.27	11816070.15
11" ACRU	11" Acer rubrum	11" Red Maple	11" R MAP	t10538	11	ACRU	Acer rubrum	Red Maple	7038264.65	11816072.72
10" ACRU	10" Acer rubrum	10" Red Maple	10" R MAP	t10539	10	ACRU	Acer rubrum	Red Maple	7038266.43	11816071.13
6" LITU	6" Liriodendron tulipifera	6" Yellow Poplar	6" POP	t10540	6	LITU	Liriodendron tulipifera	Yellow Poplar	7038269.66	11816070.36

SYMBOL	GENUS_SPEC	COMMON_NAM	COMMON_ABB	TAG	DBH	SYM	GSP	CMN	NORTH	EAST
21" LITU	21" Liriodendron tulipifera	21" Yellow Poplar	21" POP	t10541	21	LITU	Liriodendron tulipifera	Yellow Poplar	7038271.86	11816073.69
4" ACRU	4" Acer rubrum	4" Red Maple	4" R MAP	t10542	4	ACRU	Acer rubrum	Red Maple	7038299.26	11816069.34
6" ACRU	6" Acer rubrum	6" Red Maple	6" R MAP	t10543	6	ACRU	Acer rubrum	Red Maple	7038300.19	11816073.14
5" ACRU	5" Acer rubrum	5" Red Maple	5" R MAP	t10544	5	ACRU	Acer rubrum	Red Maple	7038302.48	11816074.28
10" LITU	10" Liriodendron tulipifera	10" Yellow Poplar	10" POP	t10545	10	LITU	Liriodendron tulipifera	Yellow Poplar	7038300.84	11816083.31
17" LITU	17" Liriodendron tulipifera	17" Yellow Poplar	17" POP	t10546	17	LITU	Liriodendron tulipifera	Yellow Poplar	7038272.07	11816111.19
21" LITU	21" Liriodendron tulipifera	21" Yellow Poplar	21" POP	t10547	21	LITU	Liriodendron tulipifera	Yellow Poplar	7038260.76	11816119.04
8" QUAL	8" Quercus alba	8" White Oak	8" W OAK	t10548	8	QUAL	Quercus alba	White Oak	7038244.67	11816118.68
8" CATO	8" Carya tomentosa	8" White Hickory	8" W HIC	t10549	8	CATO	Carya tomentosa	White Hickory	7038242.62	11816126.38
7" ACRU	7" Acer rubrum	7" Red Maple	7" R MAP	t10550	7	ACRU	Acer rubrum	Red Maple	7038229.09	11816108.97
13" ACRU	13" Acer rubrum	13" Red Maple	13" R MAP	t10551	13	ACRU	Acer rubrum	Red Maple	7038303.70	11816112.88
21" ACRU	21" Acer rubrum	21" Red Maple	21" R MAP	t10552	21	ACRU	Acer rubrum	Red Maple	7038303.90	11816115.84
10" ACRU	10" Acer rubrum	10" Red Maple	10" R MAP	t10553	10	ACRU	Acer rubrum	Red Maple	7038313.01	11816131.33
4" LITU	4" Liriodendron tulipifera	4" Yellow Poplar	4" POP	t10554	4	LITU	Liriodendron tulipifera	Yellow Poplar	7038306.19	11816132.58
15" LITU	15" Liriodendron tulipifera	15" Yellow Poplar	15" POP	t10555	15	LITU	Liriodendron tulipifera	Yellow Poplar	7038266.10	11816137.34
10" QUAL	10" Quercus alba	10" White Oak	10" W OAK	t10556	10	QUAL	Quercus alba	White Oak	7038264.94	11816140.24

SYMBOL	GENUS_SPEC	COMMON_NAM	COMMON_ABB	TAG	DBH	SYM	GSP	CMN	NORTH	EAST
19" QURU	19" Quercus rubra	19" Northern Red Oak	19" NR OAK	t10557	19	QURU	Quercus rubra	Northern Red Oak	7038264.13	11816150.47
15" LITU	15" Liriodendron tulipifera	15" Yellow Poplar	15" POP	t10558	15	LITU	Liriodendron tulipifera	Yellow Poplar	7038274.80	11816155.38
15" LITU	15" Liriodendron tulipifera	15" Yellow Poplar	15" POP	t10559	15	LITU	Liriodendron tulipifera	Yellow Poplar	7038275.73	11816156.84
7" UNK/SP	7" Unknown species	7" Unknown species	7" UNKNOWN	t10560	7	UNK/SP	Unknown species	Unknown species	7038268.79	11816160.15
15" LITU	15" Liriodendron tulipifera	15" Yellow Poplar	15" POP	t10561	15	LITU	Liriodendron tulipifera	Yellow Poplar	7038276.04	11816167.12
5" LITU	5" Liriodendron tulipifera	5" Yellow Poplar	5" POP	t10562	5	LITU	Liriodendron tulipifera	Yellow Poplar	7038282.23	11816173.75
4" LITU	4" Liriodendron tulipifera	4" Yellow Poplar	4" POP	t10563	4	LITU	Liriodendron tulipifera	Yellow Poplar	7038301.05	11816155.91

Sample Task List/Weekly Calendar
Natural Areas Crew

	Monday 5/12/2014	Tuesday 5/13/2014	Wednesday 5/14/2014	Thursday 5/15/2014	Friday 5/16/2014
					Rain
Morning Maintenance	•Clean up Eagle project –woodchip debris*postponed till Keith can assist •Garden Plot run –pick up extra debris next to trash can(may be pushed back •Plant shrubs at Lake Anne garden plot (5 ink berry 2 clethora and 3 chokeberry) Monday at 10 am	• Garlic Mustard •Dan- assist arborist crew for wood chip eagle site •Chris help Keith with pins •Put out spray signs for West hills, Lima, check bamboo sites	• Garlic Mustard • Fencing trees at Longwood grove • Fencing trees at Fieldview entrance • Tree protector inspection of old watering sites •Chris to help Brian in am to pick up rain barrels	•Garlic Mustard •Put in property posts at Cabots Point • 1800 Cranberry Lane –invasive plant control along hillside – previous planting site. Lots of poison ivy.	• Bush hog Nashua Ct. • Spray Bamboo at lawyers, Beaver gate • Spray PI at Lima Lane • Pick up Rain Barrells • MAM Weevil search*postponed until next week
Watering	**Water lathe house plants**	**N/A**	**Water lathe house plants**	**Watering sites**	**Watering sites**
Afternoon Maintenance	• Garden plot run • Chris- help Brian with boats • Garlic Mustard	• **Habitat Hero sign at Wainwright** • Chris- with Brian stream monitoring • **Truck Checks** – *please take the time to sweep/ vacuum out trucks and remove trash and debris from bed and inside cabin*.*postponed • **Wash trucks**	• Follow-up removal of creeping euonymus and EI at the hillside by Lake Anne Canal next to the pool. *postponed • Chris measure Owl's Cove • Garlic Mustard	• Garlic mustard • Nashua Ct – chain saw or bush hog and remove bamboo • Place marker at GCI 5B, string trim plots if needed – 79A, 80A, 86, 79B, 5B	• Garlic Mustard • Assist Keith with tree removal
Other					
Total Daily Invasive Hours					

Dragonflies of Reston

37 species - each seen on Reston Association parkland, or nearby if noted with an asterisk

Darners (Aeshnidae)

1. Common Green Darner
2. Comet Darner
3. Swamp Darner
4. Cyrano Darner
5. Fawn Darner
6. Springtime Darner
7. Shadow Darner

Clubtails (Gomphidae)

1. Dragonhunter
2. Ashy Clubtail
3. Black-shouldered Spinyleg
4. Unicorn Clubtail
5. Eastern Least Clubtail

Cruisers (Macromiidae)

1. Swift River Cruiser (previously Illinois River Cruiser)

Emeralds (Corduliidae)

1. Prince Baskettail
2. Common Baskettail
3. Mocha Emerald
4. Clamp-tipped Emerald

Skimmers (Libellulidae)

1. Widow Skimmer
2. Common Whitetail
3. Twelve-spotted Skimmer
4. Painted Skimmer
5. Blue Corporal
6. Spangled Skimmer
7. Needham's Skimmer *
8. Great Blue Skimmer
9. Slaty Skimmer
10. Autumn Meadowhawk (previously Yellow-legged Meadowhawk)
11. Eastern Amberwing
12. Blue Dasher
13. Common Pondhawk (previously Eastern Pondhawk)
14. Wandering Glider

15. Spot-winged Glider
16. Black Saddlebags
17. Carolina Saddlebags *
18. Halloween Pennant
19. Banded Pennant
20. Calico Pennant

Damselflies

1. Ebony Jewelwing
2. Bluet
3. Violet Dancer

Compiled by Kevin Munroe and Ken Rosenthal

TO COMMON SUMMER BUTTERFLIES OF RESTON, VA
(Reston Association)

I) Large Butterflies

A) Dark wings:

1) Black Swallowtail - 2 rows of yellow spots along wing edges, blue splash on hind wing, tails

2) Tiger Swallowtail (dark phase) – 1 row of small yellow spots along wing edges, blue splash on hind wing, tails

3) Spicebush Swallowtail – 1 row of large whitish spots along wing edges, blue splash on hind wing, tails

4) Red-Spotted Purple – no tails, large orange spots underneath hind wing, iridescent blue splash on hind wing noticeably larger than on swallowtails

B) Orange or yellow colored wings:

1) Eastern Tiger Swallowtail – very large, yellow w/ black stripes, tails (often high-flying)

2) Monarch – burnt orange w/ black stripes and black wing borders, black body, no thin horizontal stripe thru hind wings, no tails (often near milkweeds),

3) Great Spangled Fritillary – orange checkered w/ black spots, orange body, no black wing borders, no tails

II) Medium Butterflies

A) Dark wings with bright markings:

1) Silver Spotted Skipper – large white spot under hind wing, thick fuzzy body (erratic flight)

2) Common Wood Nymph – large yellow patch w/ black dots on tip of front wing, many black dots underneath both wings (low flying butterfly of woodland edges)

3) Red Admiral – bright orange stripes on top, bright pink stripe underneath

II) Med. Butterflies, cont.

B) Tan/Beige wings with dark spots:
1) Northern Pearly Eye – strong darting flight, many black spots along wing edges (4+ on each wing), woodlands

2) Little Wood Satyr – weak bouncy flight, very few black spots along wing edges (2 on each wing), woodlands

C) Orange wings with markings:
1) Orange Sulphur – bright, light orange w/ dark wing margins and rounded wing tips

2) Meadow Fritillary – rich, burnt orange coloring w/ black spotted pattern

3) Variegated Fritillary – faded, burnt yellow coloring w/ black spot and line pattern and black wing borders

4) Question Mark – rich orange w/ beautifully scalloped/angled wings w/black spots and strongly hooked front wing tip, small white "question mark" under hind wing

5) Eastern Comma – rich orange w/ scalloped/angled wings w/ black dots and front wing tips not strongly hooked, small white "comma" under hind wing

6) Painted Lady – orange and black pattern w/ white spots on tip of front wing, 4 small eye spots under hind wing

7) American Lady – orange and black pattern w/ white spots on tip of front wing, 2 larger eye spots under hind wing

8) Viceroy – looks like small monarch w/ thin black horizontal stripes through each wing

D) White or yellow wings:
1) European Cabbage White – white w/ spot and black wing tip (very common)

2) Clouded Sulphur – bright yellow w/ spot and dark wing margins

III) Small Butterflies

A) Dark Wings:
1) Horace's Duskeywing – hind wing below lacks pale spots along margin

2) Wild Indigo Duskeywing – hind wing below has several pale spots along margin

B) Orange Wings:
1) Pearl Crescent – looks like a tiny fritillary, complicated orange and black-checkered pattern

2) American Copper – front wings have bright orange patches w/ black spots and black borders, underwings are bright orange and silver w/ many small black spots.

3) Least Skipper – tiny butterfly, no spots or patterns, dark orange w/ black above – dark yellow below (flies low in grassy areas)

4) Peck's Skipper, ***Sachem Skipper***, ***Fiery Skipper –*** 3 common and very similar orange brown skippers w/ various dots/patterns w/ relatively thick, fuzzy bodies and jerky erratic flight.

Consult field guide text/photos for exact placement of underwing dot patterns. (Peck's and Sachem more common in Reston than Fiery.)

C) Gray or Blue Wings:
1) Eastern Tailed Blue – pale blue w/ tails (often missing) and many tiny black dots underneath

2) Gray Hairstreak – grayish brown above w/ orange dots under hind wing, tails

3) Red-banded Hairstreak – grayish brown above w/ orange bands under both wings, tails

Use and Maintenance Standards Resolution 12
Hunting

WHEREAS, Section III.2(a) of the First Amendment to the Deed of Amendment to the Deeds of Dedication of Reston ("Amended Reston Deed") delineates that it is a purpose of the Association to interpret, administer, and enforce the protective covenants and restrictions of the Deed in such a manner as to conserve, protect, and enhance the value of all real property subject to the Deed; and

WHEREAS, Section III.3(2)(a) of the Amended Reston Deed delineates that it is a purpose of the Association to interpret, administer, and enforce the protective covenants and restrictions of the Amended Reston Deed in such a manner as to conserve, protect, and enhance the value of all real property subject to the Amended Reston Deed; and

WHEREAS, Section VI.2 of the Amended Reston Deed set forth certain protective covenants regarding use of Property within Reston; and

WHEREAS, Section VI.2(b)(16) of the Amended Reston Deed regarding Hunting and Firearms, stipulates that except in any emergency situations related to life, safety, or personal welfare, no hunting of any kind or discharge of any firearm or other weapon, including without limitation a bow and arrow or crossbow, shall be permitted without the prior written approval of the Board of Directors or its designated committee.

NOW, THEREFORE, BE IT RESOLVED, that the RA Board of Directors shall adhere to the following standards in considering requests seeking Board approval for permission to Hunt consistent with Section VI. 2 (b)(16) :

1. **Submitting Requests to Hunt**

   a. Prior to conducting any hunting on their Lots, Members shall submit, in writing, a formal request to the Board of Directors for review and consideration.

   b. In such written request, Members shall include the reason for the request; actual or perceived damage or injury to the property or persons caused by the deer or animal, if any; explanation of other remedies attempted; explanation of how hunting will correct or alleviate the current concerns complained of; proposed duration and times of the hunt; name of persons or entity proposed to be engaged in the hunting; proof that the person to conduct the hunt has a valid hunting license or has successfully completed hunter education classes; a plat map delineating the size of the Member's Lot on which the hunting is to take place and identifying the proposed orientation of the shooter; and proof of notice to other Lot owners within a ¼ mile circumference of the Member's Lot.

   c. Members are to send their written request to the following address:

Reston Association
Hunting Request
Attn: Larry Butler, Director of Parks & Recreation
12001 Sunrise Valley Drive
Reston, Virginia 20191-3404

Requests may also be submitted electronically via the Association's website www.reston.org.

2. Acknowledgement and Notification of Requests

Once received, the Association shall:

a. Acknowledge receipt of the request within seven business days and will advise the Member of the next steps in the review process.

b. The Reston Association shall provide notice to Lot Owners within ¼ mile circumference within the requesting Member's Lot that such request was made and that the request will be considered by the Board of Directors on a date certain. Such notice will be sent by regular mail to the address of record of Owners of adjacent Lots.

3. Process for Considering Requests.

a. The Reston Association shall consider the following conditions related to Member requests to hunt:

   i. The Member's Lot ("Requestor") is at least ½ acre; or if two adjoining Lot owners make a hunting request then the total size of both Lots shall be taken together to determine whether the ½ acre minimum has been met.
   ii. The hunting request is proposed to take place only during the Fairfax County Urban Archery Season; from ½ hour before sunrise to 1:00 pm or at such other times as specified in the Board approval, and shall not take place on weekends, holidays, and non-school days.
   iii. The proposed hunt is to be held no less than 50 yards away from an occupied residence, with the exception of the requesting Lot owner's residence, dwelling, or building; and 75 yards away from any street, alley, sidewalk, natural surface trail, paved pathway, bus stop (school or otherwise), tot lot/playground, roadway, highway, public land or public place.
   iv. The Requestor or his/her agent can furnish proof that they hold a valid hunting license or proof of attending hunter education classes.
   v. The Board of Directors, within in its discretion for good cause shown, may waive any of these requirements as it deems appropriate for the circumstances.

b. If it is determined by the Board Administration Committee ("BAC") that the conditions outlined section 3.a of this Resolution have been met (subject to any waivers or modifications suggested), then the BAC shall forward the request to the next Regular meeting of the Board of Directors.

c. In its review, the Board of Directors shall:

i. Consider other relevant information, provided by Association Staff, related to the Lot and surrounding area which may include topographic and vegetative characteristics; adjacent Lots and proximity of pathways, Common Area, facilities, or another community's property to the area of the proposed hunt.

ii. Provide time on the agenda during the Regular Board Meeting for neighboring, adjacent, and/or other Lots owners/Members to be heard regarding the proposed hunt.

4. **Execution of Agreement for Approved Requests.** If the Board of Directors approves a hunting request, such decision shall be contingent on the execution of an agreement by which the applicant, among other things:

a. indemnifies the Association;
b. acknowledges existence of liability insurance on his or her property and that the applicant has notified his or her personal carrier of intent of hunting on Lot;
c. adds the Association as an additional insured on his or her liability coverage with a certificate of insurance being provided to the Association in this regard prior to the conduct of the hunt;
d. that any person or entity actually hunting on the property will be insured and provide proof of insurance to the Association naming Reston Association as an additional insured;
e. time duration and cessation date of hunting on Lot;
f. that any hunting performed on Lot shall be in compliance with all County, State and Federal laws, ordinances, statutes, codes or regulations and all hunting laws, rules and regulations, as well as meeting the criteria placed upon such hunt by the Association;
g. provides assurance that archery equipment shall only be discharged from a tree stand which is at least 15 feet above the ground on the Lot owner's property;
h. delineates on a plat map of the Lot owner's property the location of the warning signs that will be posted on all sides of the property and shall include the hunting date range, and
i. acknowledgement that if a deer runs on to and dies on Reston Association Common Area, the Lot owner or his/her agent will be responsible for the removal of the deer to the Lot owner's property for field dressing.

ATTEST: This Resolution was adopted at a Regular Meeting of the Reston Association Board of Directors held on September 28, 2006; October 23, 2008; and amended on October 28, 2010.

Cate L. Fulkerson

_____

Assistant Secretary


Northern Cardinal


Grackle


American Goldfinch

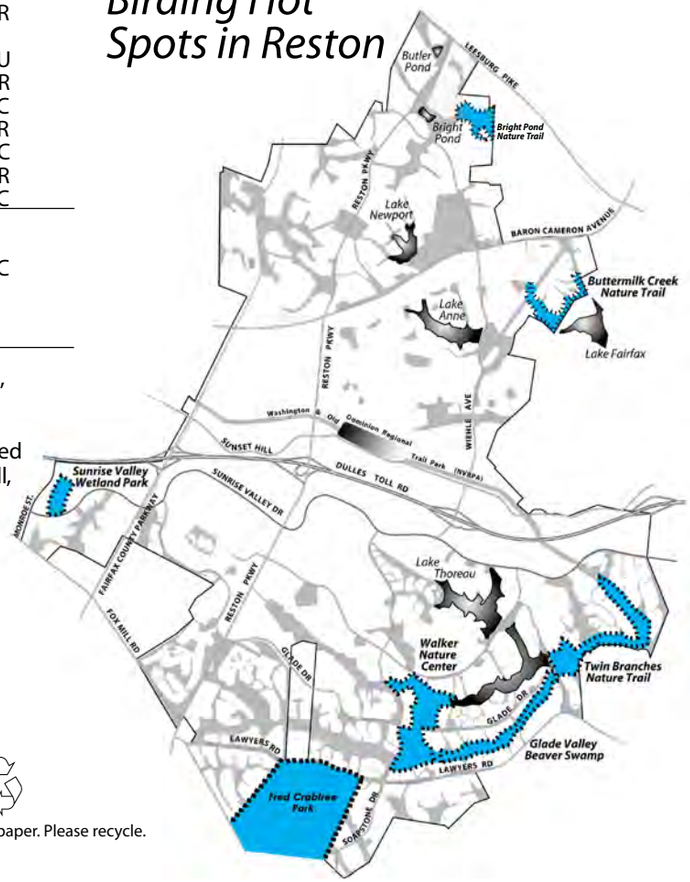

House Sparrow

		Sp	Su	F	W
wo◊	Prothonotary Warbler	U	R	U	
w◊	Worm-eating Warbler	U	R	U	
w◊	Ovenbird	U	R	U	
	Northern Waterthrush	R		R	
*	Louisiana Waterthrush	U	R	U	
	Kentucky Warbler	U		U	
	Mourning Warbler	R		R	
*	Common Yellowthroat	C	U	C	
	Hooded Warbler	R		R	
	Wilson's Warbler	R		R	
	Canada Warbler	U		U	
w	Yellow-breasted Chat	R	I	R	
TANAGERS					
w	Scarlet Tanager	U	R	U	
TOWHEES & SPARROWS					
*	Eastern Towhee	C	C	C	R
	American Tree Sparrow				R
*	Chipping Sparrow	C	U	C	
w◊	Field Sparrow	U	U	U	U
	Fox Sparrow	U		U	R
*	Song Sparrow	C	C	C	C
	Swamp Sparrow	U		U	R
	White-throated Sparrow	U			C
	White-crowned Sparrow				R
	Dark-eyed Junco	U		C	C
CARDINALS, GROSBEAKS & BUNTINGS					
*	Northern Cardinal	C	C	C	C
	Rose-breasted Grosbeak	U		U	
w	Blue Grosbeak	R		R	
*	Indigo Bunting	C	U	C	

		Sp	Su	F	W
BLACKBIRDS & ORIOLES					
*	Red-winged Blackbird	U	C	U	U
*	Common Grackle	U	C	U	
	Rusty Blackbird	R		R	
*	Brown-headed Cowbird	U	U	U	
w*	Orchard Oriole	U	U	U	
w*	Baltimore Oriole	U	U	U	
FINCHES & ALLIES					
	Purple Finch	U		U	R
*	House Finch (i)	C	C	C	C
	Pine Siskin	R			R
*	American Goldfinch	C	C	C	C
OLD WORLD SPARROWS					
o*	House Sparrow (i)	C	C	C	C

Other Reston rarities: Yellow-crowned Night Heron, American Bittern, Northern Bobwhite, Northern Harrier, Virginia Rail, Bonaparte's Gull, Caspian Tern, Black-billed Cuckoo, Rufous Hummingbird, Olive-sided Flycatcher, Yellow-bellied Flycatcher, Common Redpoll, Evening Grosbeak

Birding Hot Spots in Reston



Birdwatching Hot Spots

Lakes & Ponds

Natural Areas

Printed on 30% recycled paper. Please recycle.

Bird Watching
Over 180 species of birds have had confirmed sightings in Reston. Learning to identify the incredible variety of birds that live here is an exciting and eye-opening experience. Whether you're boating on Lake Audubon, exploring the Bright Pond Nature Trail, hiking Twin Branches Nature Trail or simply looking in your own yard, Reston has a lot to offer anyone who enjoys birds.

In Reston, birds and people enjoy over 1,300 acres of protected open space, 800 of which are managed as natural areas. The variety of habitats combined with 55 miles of pathways and trails provide excellent opportunities to observe birds. Reston's natural areas include:

4 Lakes
4 Wetlands
20 Miles of Stream
3 Ponds
50 Meadows
700+ Acres of Forest

Help Reston's Birds
Your backyard can become a sanctuary for birds with a few simple additions such as: a bird bath, nest box, feeders, berry-producing native plants, and a few well-placed shrubs and evergreens for cover and nesting spaces. Cats and collisions with windows kill thousands of birds in Reston every year. Keeping your cat indoors and placing hawk silhouettes or other decals on windows saves birds' lives.

Get Connected
Reston Association provides many avenues to further your knowledge and enjoyment of birds. Participate in one of our bird counts (winter or summer), get trained as a bird box monitor, attend a program at the Walker Nature Center, or join us at one of our annual nature festivals.

To report bird sightings or get program information, email naturecenter@reston.org or call 703-476-9689. For volunteer opportunities, contact the RA Volunteer Specialist at 703-435-7986. For environmental resource questions, contact 703-437-7658.

(7th edition)
Original edition compiled by David B. Stewart and Odette James. Updated based on observations by Reston birders and RA staff through June 2015.

BIRDS OF RESTON


Pileated Woodpecker
Official Bird of Reston

Checklist

Reston Association
Together we make Reston great

www.reston.org

CHECKLIST

RELATIVE ABUNDANCE

The likelihood of encountering a species depends on several factors including habitat, season, time of day, and weather conditions. The categories indicate the probability of a species in the proper habitat at the appropriate time of year.

STATUS

- * — Known to breed in Reston (66 species)
- ◊ — Possibly breed in Reston. Report nestings.
- (i) — Introduced, not native to Virginia
- o — Nests in tree cavities
- w — Watch list (species of concern). Report sightings.

OCCURRENCE

- A — ABUNDANT: always found, sometimes in large numbers
- C — COMMON: usually found
- U — UNCOMMON: not found most days, but observed in the area every year
- R — RARE: low probability of encountering the species, not observed every year
- I — IRREGULAR: very unusual, often connected with severe weather

SEASON

- Sp — Spring: March–May
- Su — Summer: June–August
- F — Fall: September–November
- W — Winter: December–February

			Sp	Su	F	W
DUCKS, GEESE & SWANS						
	Tundra Swan	❑	I		I	
	Snow Goose	❑	I		I	
*	Canada Goose	❑	A	A	A	A
w o*	Wood Duck	❑	U	U	U	R
	American Black Duck	❑				U
*	Mallard	❑	A	A	A	A
	American Wigeon	❑				R
	Blue-winged Teal	❑	R		R	
	Northern Shoveler	❑	I			
	Canvasback	❑	R			R
	Redhead	❑	I			I
	Ring-necked Duck	❑	U		U	U
	Lesser Scaup	❑	R		R	
	Long-tailed Duck *(Oldsquaw)*	❑				R
	Common Goldeneye	❑				R
	Bufflehead	❑	R		R	U
	Common Merganser	❑				R
	Red-breasted Merganser	❑	I			R
	Hooded Merganser	❑	U		U	R
	Ruddy Duck	❑	U	R	U	U


American Kestrel


Mourning Dove


Kingfisher

			Sp	Su	F	W
LOONS & GREBES						
	Common Loon	❑	R		R	R
	Horned Grebe	❑	I			R
w	Pied-billed Grebe	❑	U		U	U
	Red-necked Grebe	❑	R			R
CORMORANTS, HERONS & BITTERNS						
	Double-crested Cormorant	❑	U		U	
	Black-crowned Night Heron	❑		R		
*	Green Heron	❑	U	U	R	
	Great Egret	❑	R		R	
	Great Blue Heron	❑	C	C	C	C
TURKEYS & QUAIL						
◊	Wild Turkey	❑	R	R	R	R
VULTURES, HAWKS & ALLIES						
o ◊	Turkey Vulture	❑	C	C	C	C
*	Black Vulture	❑	U	C	U	U
	Osprey	❑	U	R	U	
	Bald Eagle	❑	U	U	U	U
	Sharp-shinned Hawk	❑	U		U	U
*	Cooper's Hawk	❑	U	U	U	U
	Broad-winged Hawk	❑	U	R	U	
*	Red-shouldered Hawk	❑	C	C	C	C
*	Red-tailed Hawk	❑	C	C	C	C
w o	American Kestrel	❑	I		I	I
	Merlin	❑	I		I	I
w ◊	Peregrine Falcon	❑	U	U		
RAILS & COOTS						
	American Coot	❑	U		U	U
PLOVERS & SANDPIPERS						
*	Killdeer	❑	R	R	R	R
	Lesser Yellowlegs	❑	R		R	
	Solitary Sandpiper	❑	U	R	U	
w ◊	Spotted Sandpiper	❑	U	U	U	
	Semipalmated Sandpiper	❑	R		R	
	Least Sandpiper	❑	R		R	
	Wilson's Snipe	❑	R		R	
w*	American Woodcock	❑	R		R	
GULLS & TERNS						
	Ring-billed Gull	❑	U		R	C
	Herring Gull	❑	R			
	Great Black-backed Gull	❑				R
PIGEONS & DOVES						
*	Rock Pigeon (i)	❑	C	C	C	C
*	Mourning Dove	❑	C	C	C	C
CUCKOOS						
*	Yellow-billed Cuckoo	❑	U	U	U	


Chimney Swift


Blue jay


Crow

			Sp	Su	F	W
OWLS						
w*	Great Horned Owl	❑	R	R	R	R
o *	Barred Owl	❑	U	U	U	U
o *	Eastern Screech Owl	❑	R	R	R	R
GOATSUCKERS & SWIFTS						
	Common Nighthawk	❑	C		C	
o *	Chimney Swift	❑	U	C	R	
HUMMINGBIRDS						
*	Ruby-throated Hummingbird	❑	U	U	U	
KINGFISHERS						
*	Belted Kingfisher	❑	U	U	U	U
WOODPECKERS						
w o ◊	Red-headed Woodpecker	❑	I	I	I	I
o *	Red-bellied Woodpecker	❑	C	C	C	C
o *	Northern Flicker	❑	C	C	C	U
o	Yellow-bellied Sapsucker	❑	U		U	U
o *	Downy Woodpecker	❑	C	C	C	C
o *	Hairy Woodpecker	❑	U	U	U	U
o *	Pileated Woodpecker	❑	U	U	U	U
FLYCATCHERS						
*	Eastern Wood Pewee	❑	U	U	U	
*	Willow Flycatcher	❑	R	R		
*	Acadian Flycatcher	❑	U	U		
*	Eastern Phoebe	❑	U	C	U	
o *	Great Crested Flycatcher	❑	C	C	U	
*	Eastern Kingbird	❑	U	U	U	
VIREOS						
	White-eyed Vireo	❑	U	R	U	
	Yellow-throated Vireo	❑	R		R	
	Blue-headed Vireo	❑	R		R	
*	Red-eyed Vireo	❑	C	C		
	Warbling Vireo	❑	R		R	
JAYS & CROWS						
*	Blue Jay	❑	C	C	C	C
*	American Crow	❑	A	A	A	A
*	Fish Crow	❑	U	U	U	U
	Common Raven	❑	R	R	R	R
SWALLOWS						
*	Purple Martin	❑	R	R	R	
o *	Tree Swallow	❑	C	C	U	
*	Northern Rough-winged Swallow	❑	U	U	U	
*	Barn Swallow	❑	C	C	C	
CHICKADEES &TITMICE						
o *	Carolina Chickadee	❑	C	C	C	C
o *	Tufted Titmouse	❑	A	A	A	A


Barn Swallow


Carolina Wren


Mockingbird

			Sp	Su	F	W
NUTHATCHES & CREEPERS						
o	Red-breasted Nuthatch	❑	R		R	R
o *	White-breasted Nuthatch	❑	C	C	C	C
	Brown Creeper	❑	R		R	U
WRENS						
o *	Carolina Wren	❑	C	C	C	C
o *	House Wren	❑	U	C		
o	Winter Wren	❑	R		R	R
KINGLETS & GNATCATCHERS						
	Golden-crowned Kinglet	❑	R		R	U
	Ruby-crowned Kinglet	❑	U		U	U
*	Blue-gray Gnatcatcher	❑	U	U	U	
THRUSHES						
o *	Eastern Bluebird	❑	U	U	U	U
	Veery	❑	U		U	
	Gray-cheeked Thrush	❑	R			
	Hermit Thrush	❑	U		U	U
w*	Wood Thrush	❑	U	U	U	
	Swainson's Thrush	❑	U		U	
*	American Robin	❑	C	A	C	C
MOCKINGBIRDS & THRASHERS						
*	Gray Catbird	❑	U	C	U	
*	Northern Mockingbird	❑	C	C	C	C
*	Brown Thrasher	❑	U	U	R	R
STARLINGS & WAXWINGS						
o *	European Starling (i)	❑	A	A	A	A
◊	Cedar Waxwing	❑	U	U	U	U
WARBLERS						
	Blue-winged Warbler	❑	R		R	
	Golden-winged Warbler	❑	R		R	
	Tennessee Warbler	❑	U		U	
	Nashville Warbler	❑	R		R	
w ◊	Northern Parula	❑	U	R	U	
w ◊	Yellow Warbler	❑	U	R	U	
	Chestnut-sided Warbler	❑	U		U	
	Magnolia Warbler	❑	U		U	
	Cape May Warbler	❑	R		R	
	Black-throated Blue Warbler	❑	C		C	
	Yellow-rumped Warbler	❑	C		C	U
	Black-throated Green Warbler	❑	C		C	
	Blackburnian Warbler	❑	U		U	
	Yellow-throated Warbler	❑	R		R	
	Pine Warbler	❑	U		U	R
w ◊	Prairie Warbler	❑	U	R	U	
	Palm Warbler	❑	U		C	
	Bay-breasted Warbler	❑	U		U	
	Blackpoll Warbler	❑	U		U	
	Cerulean Warbler	❑	R		R	
	Black-and-white Warbler	❑	C	R	C	
w ◊	American Redstart	❑	U		U	