

# Prince William Forest Park

National Park Service  
U.S. Department of the Interior

Prince William Forest Park  
Triangle, Virginia



## Top Ten Wildflowers of Prince William Forest Park



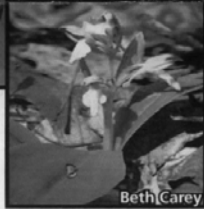
Lucy Olson



Alan Hahn



Beth Carey



Beth Carey



Lucy Olson

Clockwise from top left: Toad shade, showy orchis, meadow beauty, spiderwort, bleeding hearts

Everyone can appreciate flowers. They are easy to see since they don't flit around in trees or scamper behind bushes. Flowers just sit quietly, adding a touch of color to the green of the forest with their delicate beauty. But the life of a forest wildflower is a fleeting thing. These woodland gems only have a brief window of opportunity to accomplish their main goal of reproduction. The reason for this is simple; plants need sunlight to grow and this precious sunlight can only be obtained before the leaves of the forest canopy close in for the summer. Early spring is the best time to catch a glimpse of forest wildflowers. As the shade increases, the wildflowers decrease, making April and May the peak times to see our park flowers.

-Please do not pick any wildflowers, leave the forest as you found it!

-For your own safety, do not consume any plants found within the park. Mistaken identity can lead to illness or death.

### Bloodroot *Sanguinaria canadensis*



Alan Hahn

Bloodroot is a fairly common member of the poppy family that has many medicinal uses, but is also toxic. Many lobed palm shaped leaves wrap around the single, 8-12 petaled white flower. Both the common and the scientific name come from the juice in its roots that is a blood red color and was used as war paint and dye by native Americans.

### Pink lady's slipper *Cypripedium acaule*



Alan Hahn

This plant will catch your eye! Large and showy, pink lady's slipper is a favorite of many hikers. Flowering from May to July this flower is somewhat rare due to its need for a certain fungus to be present in the soil in order to germinate. For this reason transplanting it to a new location is rarely successful (please do not pick!). Bees pollinate *C. acaule* but the unique flower shape makes for a complicated pollination process that often leads to pollination not occurring at all. This process is needed for seeds to develop, adding to the reproductive problems this flower faces, and contributing to its rarity. Flowers can occasionally be white rather than pink.

### Jack in the pulpit *Arisaema triphyllum*



For not having a particularly showy flower, this plant has a strong following. "Jack" sits inside his "pulpit," which is actually a base shaped green flower sometimes with purple stripes that has a small stalk inside. The pulpit forms in April-May and sits on a stem with 3 leaflets. In fall, most of the plant dies, leaving a stalk with a spike of bright red berries that are very noticeable. Jack in the pulpit has some medicinal uses, but the fresh root is dangerous if consumed.

### Bluets *Houstonia caerulea*



Alan Hahn

Bluets are a delicate tiny flower that can go unnoticed unless growing in large groups. The four-petaled, light blue flowers have yellow centers that bloom from May-July. They possess long stems with leaves roughly the same size as the tiny flowers, and are often found in rocky locations. The flowers close up at night, causing the flower head to nod downward, but it perks up again upon opening the next morning. The delicate beauty of the flowers brought about another common name for this plant - quaker ladies.

**Mayapple**  
*Podophylum peltatum*



Alan Hahn

In some areas of the park, the forest floor may look like a sea of tiny umbrellas; if so, you have discovered the may-apple plant. Large, flat, deeply-lobed leaves sit parallel to the ground, covering the white flowers underneath. Only the plants with more than one leaf will produce a flower. Although the ripe fruit of this plant can sometimes be eaten all parts of the plant and unripe fruit are deadly. It is said to have been used by Native Americans to commit suicide, killing within 24 hours.

**Cardinal flower**  
*Lobelia cardinalis*



Alan Hahn

A large burst of color seen near water may indicate the presence of cardinal flowers. The common name originates from its red tubular flowers that are red as a revered cardinal's robes. Cardinal flower likes to grow in wet areas, often right at the sides of streams. It blooms at a time when most color has died down in the months of July-September, making it a very obvious plant. Hummingbirds in particular are attracted to the vibrant red spikes of blooms.

**Wild geranium**  
*Geranium maculatum*



Although similar in name, this plant is not related to our garden geraniums at all. The palm shaped leaves grow low on a hairy stem that supports the pink or purple flowers, blooming in April-June. The other common name of this plant is "crane's bill", which refers to the seed pods resemblance to the beak of a crane.

**Great flowered trillium**  
*Trillium grandiflorum*



Alan Hahn

There are 30 different species of trillium but all of them are easy to identify. The "trillium" name comes from the fact that all parts of the flower (usually) come in threes - three petals, three sepals, three leaves. This large white flower turns pink with age, and an older specimen could be mistaken for a different species. Trillium is a very slow growing plant and this trillium does not mature or produce a flower for at least 6 years. In late summer, ants often carry its sticky seeds to their nest, effectively dispersing them and enabling plant reproduction.

**Yellow wood sorrel**  
*Oxalis stricta*



Lucy Olson

The long hairy stem and clover-like green-greenish/red leaves will make this woodland species easy to identify. The five petaled yellow flowers, as well as the leaves, close up at night. This is one of the hardier of the forest wildflowers, blooming from late spring through early fall. Its hardiness causes some to suspect it is an invasive species, but it is in fact native to our area. Yellow wood sorrel also makes a tangy addition to a salad.

**Spotted wintergreen**  
*Chimaphila maculate*



Jason Hollinger

Don't confuse this spotted variety with the non-spotted variety; they are not even in the same genus. Spotted wintergreen is an evergreen species; in fact, its scientific name translates to "love winter". This plant has thick, serrated, lance-shaped leaves that have a white line down the center. In mid-summer you will notice a 5 petaled white flower nodding towards the ground with a pleasant scent. Spotted wintergreen is rare in many places but common here in the park.

**Unwanted Beauties!**

Why would someone not want a gorgeous flower? Some flowers grow in areas where they were not originally meant to grow and they can become highly aggressive, out-competing other plants. These plant or animal species are often called 'introduced', 'exotic', 'invasive' or 'non-native' species. These species are often difficult to get rid of, and can take over a small area in no time at all. Other plants on this invasive list, just to name a few are crab grass, kudzo, tree-of-heaven, English plantain, purple loosestrife, and garlic mustard.

In Prince William Forest Park, there are several species 'introduced' species that are both beautiful and of historic interest. A beautiful, but highly-invasive purple-flowered vine grows along Taylor Farm Road. This Chinese wisteria (top right) was planted by the Taylor Family in the 1920's for ornamental purposes around their farmhouse, the foundation of which is still visible today. Each summer park staff battle back the wysteria.



In early spring, daffodils (bottom right) are scattered along road and trails. These are also remnants of ornamental plantings by the park's prior residents. Daffodils have become naturalized, which is a term used when the introduced species finds a niche and becomes established without causing as much harm as the invasives. Since they are not threatening native species, they are not eradicated.





## Top 10 Salamanders of Prince William Forest Park



Clockwise from left- Spotted salamander, red-backed salamander, mud salamander, two-lined salamander, white-spotted slimy salamander All photos courtesy of Andrew Hoffman

### Overview

Salamanders are considered by some to be one of the 'creepy crawlies', but many people simply don't consider them at all. Small, quiet, and often nocturnal, they aren't on the radar of even the most observant nature lovers. But if you look under fragrant leaf litter, rotting logs, or by a rippling stream, you may find one peaking out at you hoping you aren't a predator.

### What's In a Name?

The word "salamander" translates from greek meaning "fire lizard". The origin of this name probably goes back to the observation of a salamander emerging from a fire after a fresh log was thrown in. They sleep in such places and are forcibly evicted by the flames. However, it was mistakenly believed that since this

animal crawled from the fire that it was born of fire, or perhaps fire resistant. It's a rather ironic title for an animal that isn't a lizard at all, but an amphibian who must stay cool and moist in order to survive. Hence the name "fire lizard" was originated, and still persists today.

### An Indicator Species

Salamanders are amphibians, living part of their lives on land and part in water. Worldwide there are over 400 different species. You will only find them in moist habitats because they need to keep their skin wet to survive. Many of them also lay their eggs in water, having a larval stage that looks more like a tadpole than a baby salamander. The diversity and fragility of these creatures makes them a challenge

to study. Salamanders are an indicator species. A decrease in their numbers often indicate to scientists a decrease in watershed health. This can be caused by 'point-source' pollution such as a drainage pipe or leaky oil pan from a car; or 'non-point source' pollution such as acid rain. Prince William Forest Park protects a majority of the Quantico Creek watershed and is often looked at as a high water quality area.

### Identity Crisis

The terrestrial salamanders generally have rounded tails, and aquatic salamanders have a more laterally compressed tail that acts as a ruder and for propulsion. As with most wildlife, when looking to identify a species there are certain characteristics one must observe for the sake of accuracy.

The number of toes, eye striping, ventral coloration, and habitat are just a few examples of what to look for to correctly identifying an animal. The number of costal grooves (the lines seen on the animal's sides) show the position of the ribs and can also be a distinguishing characteristic.

### Variety Abounds!

You will see the term "migration" occur frequently in salamander field guides. This refers to the movements that occur to the breeding ponds. There is a lot of variation in salamanders that isn't present with other groups of animals. Most lay eggs in water, but some on land. Some hatch as juveniles (skipping larval stage) and some as larvae.

Most juvenile and adult stages are terrestrial, but some are aquatic. Larvae are called tadpoles and look very similar to frog tadpoles, except salamander larvae also possess fluffy external gills that are very obvious. Keep in mind that not all salamanders even within a species will look alike. Variation in the darkness of patterns, or amount of striping is common within all amphibians.

Prince William Forest Park has wonderful salamander habitat. Two major streams run through the park, providing the moisture that is so vital to their survival. The mature deciduous trees produce a deep layer of detritus, or dead decomposing plant matter, that shelters the salamanders from the drying sun and wind. The life span of salamanders can vary greatly, but they have been known to live up to 20 years in captivity. Some of the representative species we have in the park will be discussed here.

**Red-backed**  
*Plethodon cinereus*



These common terrestrial salamanders are 2.5-4" and have relatively short legs. There are three possible color morphs; a base gray color with a red stripe or orange stripe down back, or a third "lead back" phase that is solid gray. We think elevation determines coloration, but more research needs to be done. "Red backs" are found in less damp woods, are fairly common, and will climb shrubs for food. These salamanders lay eggs under rotten logs in early summer which the female will defend. Their larvae are terrestrial.

**Northern Dusky**  
*Desmognathus fuscus*



Duskies are a rather non-descript light brown with worm-like markings, and faint blotchy stripes on their sides. They can reach 2.5-4.5", and may be the most common salamander in the US. They are strongly terrestrial but are never far from running water.

**Marbled**  
*Ambystoma opacum*



Marbled salamanders have a black background with gorgeous gray bands down the body. In females its more of a silvery gray and in males its nearly white. They can reach 3.5-4.5" and have a stocky appearance. Their eggs are laid in leaf litter in the fall, and are among the first to hatch, often eating other salamander larvae. The aquatic larvae are easy to see since they are the only ones active in winter. Juveniles are terrestrial and are found in drier areas.

**Spotted**  
*Ambystoma maculatum*



A large salamander reaching 4.5-7.5" They are solid gray to blue with large yellow spots, but the clear belly with no markings is also a great identifying characteristic. They breed in late winter and are distributed throughout most of Virginia. Their larvae is aquatic and they can eat larger prey items, including other salamanders.

**Eastern red-spotted newt**  
*Notophthalmus viridescens*



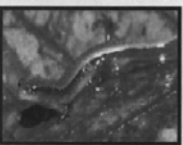
These adaptable newts as adults are aquatic to semi-aquatic depending on their available resources. Adults are greenish with red spots on their sides and are easily caught with a dip net. Their aquatic larval stage lasts 2-5 months, but it is the terrestrial juvenile stage that gets the most attention. They are bright red with darker red spots, toxic to most predators, and live for 2-7 years. They are called "red efts" but despite the drastic difference in appearance, are in fact the same species as the more drab adults.

**White-spotted slimy**  
*Plethodon cylindraceus*



The common name aptly describes these salamanders, with a base color of dark black with scattered white spots. They possess a robust rounded tail, and can reach 4.5-6". They secrete a slime that is very hard to remove from hands and does well at warding off predators. The eggs are laid on land in moist dark areas in the summertime, and young hatch as juveniles, skipping the larval stage entirely. They have an advantage in that they can survive in both aquatic and terrestrial habitats, depending on what is available.

**Two-lined**  
*Eurycea sp.*



Both the northern and southern varieties of this salamander can occur in the park. Indistinguishable by sight, for our purposes we won't worry about differentiating them. The two-lined is 2.5-4.5" in length, and is yellow-orange with dark stripes down the back and sides, belly is yellow as well. Eggs are laid under rocks in the water, hatching into an aquatic larvae lasting 1-3 years.

**Eastern mud**  
*Pseudotriton montanus sp.*



Adults reach 3-6" and are stocky with a muddy red background color with darker red on their back. Juveniles are brighter red, but very similar, both having black spots. Eggs are laid every other year, hatching into aquatic larvae around February.

**Northern red**  
*Pseudotriton ruber ruber*



4-6" long. Another red-orange salamander with small black dots, but no flecks around the snout. They have a yellow iris and a clear unmarked belly. Their coloration seems to mimic the toxic red eft, however they are not toxic. They can be found near cold streams, but further away from water than some other salamanders. The aquatic young hatch in winter, and become terrestrial adults in 2 1/2 years.

**Four-toed**  
*Hemidactylum scutatum*



2-3.5" long. Gray above with distinctive white belly with dark spots. Egg are laid in late winter in moist spagnum moss as this is a requirement within their habitat. They have an aquatic larval stage that drop into water when they hatch. The adults are terrestrial and are usually found under leaf litter. As their name implies, there are only four toes on the hind feet instead of the more typical five toes.

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## Top Ten Trees of Prince William Forest Park

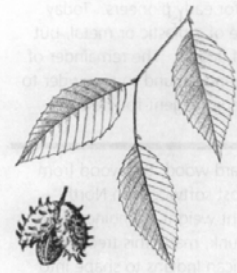


This aerial photo shows Cabin Camp 4. The cabins of Prince William Forest Park were built using onsite materials such as oak and pine.

### Overview

Prince William Forest Park protects 15,000 acres of piedmont forest - the largest section of piedmont forest in the National Parks System. Over 700 species of trees, shrubs and ferns exist inside the park boundaries. This land was not always bountiful with spring buds and autumn colors. If you listen, the trees will tell you stories dating back thousands of years. From Daniel Boone to the development of our cabin camps, the trees are speaking. Listed below are ten of the many species of trees of Prince William Forest Park.

### American Beech *Fagus grandifolia*



The American beech tree is characterized by gray bark that grows as fast as the tree itself giving it the smooth texture, unlike the flaky bark of the sycamore tree. The beech is easily identified along trails as it tends to bear the engravings of young love and glory.

Daniel Boone took part in this form of writing when he inscribed his hunter's triumph upon a beech tree of already two centuries old in the eastern mountains of Tennessee:

D. Boone  
Cilled A Bar  
On Tree  
In Year 1760

The English word 'book' dates to the Anglo-Saxon word of 'boc', meaning letter or character in turn derived from the Anglo-Saxon 'beece' for beech.

The wood of the American Beech has been popular for its ability to bend when steamed. This quality was highly sought out when wooden snowshoes were a necessary method of travel.

The American beech may be seen along many trails, but especially along the High Meadows trail. With your help the park can maintain its beautifully large American Beech trees. We ask that you respect these trees and do not mark them in any way - engravings make the trees susceptible to fungi and disease.

### American Holly *Ilex opaca*



Best known as the "Christmas Holly", this broadleaved tree is a rarity in that it is also an evergreen. This unique character makes it a favorite among birds. During the winter the leaves of the American holly offer birds protection from avian predators and its berries are a last food source.

The holly was a favorite of George Washington as he wrote about it in his diary fairly often. He once wrote of transplanting many 'little hollies' to his Mount Vernon home, only to write again a year later that

they had all died. Washington often received small holly trees as gifts.

The American holly comes in a male and a female form, with only the female plant growing the berries. The male plant pollinates multiple females through bees.

Picking berries are harmful to the trees and harmful to humans if eaten. The American holly can be spotted along the North Valley Trail.

### Black Tupelo *Nyssa sylvatica*



Detested by lumberman for its interbraided and crosswoven grain, the black tupelo could not easily be downed by ax, wedge, or sledge. However, this unique quality made it a superb wood for the handles of heavy-duty tools that needed to absorb shock such as the ax used for splitting wood.

The wood from black tupelo was also used in railroad ties. It is possible they were used in the railroad system that came through the park to support the old Pyrite Mine. The wood would have been strong and

durable enough to sustain the strains of the heavy loads of pyrite.

You may be able to identify the black tupelo through its characteristic of growing shorter as it grows older. This tree actually begins to decay from the top down and when its strength can no longer bear its weight, the tops fall off. This species has also been referred to as sourgum or black gum and the latin name means "water nymph of the forest". See if you can find this tree along the Birch Bluff trail.

**Mountain Laurel**  
*Kalmia latifolia*



Mountain laurel is a spring time favorite for its beautiful pink and white flowers with its bright evergreen leaves that line the banks of the Quantico Creek and its tributaries. A walk along any part of the North or South Valley trails during May or June will expose you to this brilliant display.

The wood from this tree was used by the American Indians to make spoons giving this species another common name of "spoonwood". It is not

recommended to try carving your own utensils out of this wood as every part of this tree is poisonous.

This tree does not grow large, but it does sprout a lot of extremities that fill in the area around it. In 2006, a 318 acre forest fire occurred in the park and this particular plant played a significant role in providing fuel for the fire as its many branches are small and grow near the ground.

**Red Maple**  
*Acer rubrum*



In spring, the red maple will show off shades of red in its buds, petioles, twigs, flowers and seeds. It shows its brilliant scarlet foliage throughout the autumn season as the leaves change back to the color of which they were derived as buds. All year long this is a species worth seeing.

The red maple is very valuable to the natural ecosystem as a source of food for a diverse species

of wildlife including the white tailed deer. If the area was ever over-populated with white tailed deer, then the park could have a significant decline in red maple. Although hunting is not allowed inside Prince William Forest Park, it is allowed on neighboring lands keeping the deer population in check, and in turn maintaining a healthy level of red maple in the park. See for yourself its spectacular colors along the Farms to Forest trail.

**Virginia Pine**  
*Pinus virginiana*



The most common species in Prince William Forest Park is the Virginia pine. This species has seen the development of the park from the beginning. In the 1930s, in addition to oak, this species was lumbered to provide the necessary materials to construct the five cabin camps in Prince William Forest Park.

Although this species was heavily logged, it was also heavily planted. When the Cabin Branch Pyrite Mine was found to be highly-contaminated long after its

closure, the National Park Service reclaimed this site to its natural setting. 5,000 Virginia pine saplings were planted along the hillside of the failed mine. It was believed that this was one tree that could tolerate the high levels of sulfur that remained in the soil and water. Today trees continue to be planted in an attempt to reclaim the area and bring the Quantico Creek water quality back to its natural standards. This site can be seen from the Cabin Branch Mine trail.

**Chestnut Oak**  
*Quercus prinus*



One of the oldest living chestnut oaks is called the "Washington Oak" located on the Hudson River. It is believed to be 800 to 1,000 years old. Can you imagine how many sweetly tasting acorns a tree like this would have provided as food for wildlife? As you hike the Turkey Run Ridge trail, can you spot any wildlife eating the acorns?

It is through this species that the saying "she threatened to tan our hides" originated. You may

have heard this while growing up and misbehaving. A chemical called "tannin" is found in the bark, leaves, and wood of this tree. It is commonly used to tan raw hides (i.e. animal skin) to make leather.

Acorns had several uses for early pioneers. Today the classic button is made of a plastic or metal, but pioneers used the caps of acorns. The remainder of the acorn could be dried and ground to a powder to be used as a sweet thickening agent for stew.

**Yellow Poplar**  
*Liriodendron tulipifera*



The yellow poplar, commonly referred to as the "Tulip Tree", has a leaf and yellow flower that mimic the shape of a tulip. This flower is best seen through April and May, and may be viewed along the Mary Bird Branch trail. The tulip tree is often mistaken as part of the maple or even the poplar families, but it is truly part of the magnolia family, representing the tallest of all hardwood trees in North America.

Although considered a hard wood, the wood from this tree is softer than most softwoods in North America. Its bulk and light weight, combined with the straightness of the trunk, made this tree a favored species for American Indians to shape into canoes as large as 16 feet. Daniel Boone used such a canoe to move his family down the Ohio River.

**White Oak**  
*Quercus alba*



Oaks are said to be the king of trees, and white oak is said to be the king of oaks. Its height does not give it this claim for the yellow poplar grows taller, but the branches spread reaches out like no other tree. Walk along the Oak Ridge trail to view this beautiful tree.

Oaks had a dual purpose during the early farm years. A favorite by loggers they were heavily logged for the construction of farm houses. White oak was also used for the construction of the many cabins

throughout the park. However, some oaks were too large to be worth the time to be cut. Rather than fussing with their size, these oaks were kept standing to provide shade for the newly-erected farm homes.

The durable and high-quality wood of the white oak makes great uses when cut into narrow strips which can be used for such things as wine or whiskey barrels. The larger trees were used to deck many of America's great wooden ships.

**Sycamore**  
*Platanus occidentalis*



Sycamore is one of the most massive trees of Virginia with a fast growing characteristic. In the 1960s and 1970s the coastal plains of Virginia saw large establishments of Sycamore plantations. The wood is primarily used for furniture.

It is a very messy tree unable to take care of itself. You will find this tree to have bark that flakes off in rather large sections. The flakes are due to the tree growing faster than the bark tissue can expand.

In some areas you will find that this species is a tree of choice as a street tree for its ability to provide shade and endure the harsh environment of compact soil and car pollution. In the urban setting however, it continues to require looking after with its habit of dropping bark, leaves, and seeds. Often times the root system of this tree can lift up sidewalks and the fallen foliage releases a chemical that can kill off grass. Can you spot this tree as you drive along the Prince William Forest Park scenic drive?

# Prince William Forest Park

National Park Service  
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## Top Ten Frogs and Toads of Prince William Forest Park



Clockwise from upper left: American toad, eastern gray treefrog, green treefrog, pickerel frog, wood frog

### Walk one of our trails after a summer rain and meet a "hop toad"

Aquatic, terrestrial, or arboreal; frogs and toads can be found in almost any habitat. From the driest deserts to the wettest rainforests these adaptable amphibians make their presence known with constant nighttime song in the spring and summer. "Anurans", another name for our frogs and toads, love the rain; they come out in force to greet the first hikers to venture onto the trails after a storm. So watch where you step, and keep your ears open and you may get to know your anuran neighbors.

### Life as a frog...

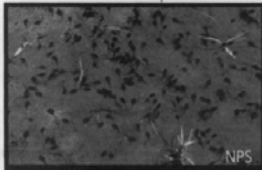
Imagine breathing with gills, giving birth to 20,000 young, transforming your entire body shape in about a month, constantly traveling great distances in search of water, sleeping underground all winter and re-emerging in warm weather with the all-consuming drive to find a mate. The calling of thousands of your species rings through the air every night, creating a noisy yet musical interlude. If you were a frog this would be your life.

Simple in a way, yet unlike anything we humans could understand; therefore its mystery can make it seem rather complex.

Many frog and toad species are most active at night further complicating the study of these animals. This bulletin will briefly address their life cycle and discuss some of the most common species that can be encountered in the park.

### Oh, what a complex life it is!

tadpoles in stream



Adults emerge from hibernation in spring; when the males start calling out with their various trills chirps and croaks, with the goal of attracting a female. Fertilization takes place externally with the female laying 200-20,000 eggs that the male then fertilizes. Some eggs are laid in water, some on land or on vegetation. Many predators love the eggs and even surviving this stage is an accomplishment. After a few weeks, omnivorous tadpoles emerge from the eggs that will stay at this stage from several weeks to several

years. Gradually the tail and gills are absorbed and a carnivorous adult has formed. Adult frogs and toads will eat anything they can catch and swallow; they will cannibalize if they have the chance. There are many predators of frogs and toads. Raccoons, wading birds, snakes, and hawks just to name a few. None of our frogs are venomous or dangerous to humans unless ingested or handled without hand washing.

### Northern Cricket Frog *Acris crepitans*



A small frog reaching 5/8-1 3/8" with females being larger. Their base color can vary greatly but a dark triangle between the eyes will always be visible as well as dark stripes on the rear surface of their thighs. They possess a fair amount of warts for a non-toad species, and have a lot of webbing between the toes.

They are also more aquatic than toads, preferring permanent bodies of water in shallow sunny areas. Their song sounds like two pebbles being hit together getting faster and faster. They breed in April to July, when singing is most frequent.

### Spring Peeper *Pseudacris crucifer*



Another tiny frog, but with a big voice. Many consider the peepers to be the first sign of spring, their breeding season starting in late winter after a cool rain. Their loud peeps echo through any area with temporary water and brushy areas. The base color of a spring peeper can vary greatly; from a brown to

**American Toad**  
*Bufo Americanus*



The famous "hop toad", American toads are encountered by many hikers while on our trails. Size ranging from 2-3.5" they are definitely large enough to notice and hop quickly if their excellent camouflage doesn't conceal their presence. "Americans" can be differentiated from the similar Fowler's toad by the presence of 1-2 warts per spot on their body.

They can be any color ranging from dark red to brown or green, but they are also unique in that their paratoid gland is separated from their post orbital ridge or only connected by a spur. To make matters more confusing, they will hybridize with the other species as well. Contrary to popular belief, humans cannot get warts from a toad.

**Cope's Gray Treefrog**  
*Hyla chrysoscelis*



Excellent camouflage hides this 1.3-2" frog from view. When sitting on a lichen covered tree, it is all but invisible. Cope's are the same in appearance as the gray treefrog, with voice being the only possible way to practically differentiate between the species. In addition to the distinctive overall coloring, these frogs can change their color to a green or brown as

needed, and they have an orange wash on the inner thigh. A light spot with a dark border is also found under the eyes. All treefrogs have discs on their toes to assist in climbing, and the Cope's uses this ability to find its food up off the ground in the relative safety of the understory.

**Green Treefrog**  
*Hyla cinerea*



You won't mistake this frog for any other species. They are 1.3-2.3" but retain a bright green color and always have a light stripe beneath their eye and down their side. Some will have gold flecks on their back as well. This is sometimes referred to as the "rain frog"; thousands being heard singing at once after a rain. Green treefrogs can be found in or around brackish

water, and breed April- August. This is when the singing is the most prominent. Greens are often found near lights at night, perhaps stuck to a window, taking advantage of the insect population. Swampy areas with emergent vegetation are also a favorite resting spot.

**Wood Frog**  
*Rana sylvatica*



Another easily identified species, the wood frog is 1.5-2.75" and is usually a reddish brown with a dark mask through the eye. The base color can vary dramatically, but the mask is always present. They are most often found in moist woods, but can be far from water.

The wood frog's voice is similar to that of the leopard frog; a hoarse clacking that doesn't carry as far as other frog calls. Breeding is March-May, making them one of the earlier species to start calling; even when there is still ice on the ponds.

**Bull Frog**  
*Rana catesbeiana*



Our last few species can be difficult to tell apart. Bullfrogs are our largest native frog reaching 3.5-6" and do not have dorsolateral ridges at all; instead they have a ridge that starts at the eye and goes down to front foot after the tympanum. The fourth toe on the hind foot extends well beyond webbing. They prefer larger bodies of water as opposed to other species.

The bullfrogs voice is the easiest way to identify them. No other species has the distinctive "jug o rum" call like they do. Its a very deep resonating call that people associate with summer. They breed May through August, and the males tympanums larger than their eye while the female's is smaller than the eye.

**Pickrel Frog**  
*Rana palustris*



A handsome frog, well known for its habit of wandering far from water and showing up in odd places. Pickerels grow to 1.5-3" and have two rows of squarish spots that run mostly parallel down their body. They have a dorsolateral ridge that goes down to the groin, but its the yellow-orange wash under the back legs that is the most distinctive.

The young have an attractive metallic luster to their skin tone. These frogs prefer cool water, and their call is a snore-like sound that doesn't carry well. Pickerels breed March-May.

**Southern Leopard Frog**  
*Rana utricularia*



Larger than the pickrel, the southern leopard Frog reaches 2-3.5" and has a more pointed snout, as well as rounder spots. They lack a wash of color the back legs entirely. A light spot can often be seen on they tympanum, but the light line running along their upper jaw is usually noticeable.

To make matters more confusing, leopards also have dorsolateral ridges that go all the way down and breed in the early spring as well. The call of Leopard frogs is a guttural trill.

**Green Frog**  
*Rana clamitans*



2.2-3.5" green frogs are one of our most commonly seen and heard species. If you hear a tiny but loud chirp sound and then see something move at water's edge, it was probably a green frog. Their regular call is similar to the pluck of banjo string. The name of "green frog" can be misleading since they can be brown more than green in color

Males have a yellowish throat while the females have white. Spotting on the belly is seen in both sexes. Green frogs prefer more shallow or temporary pools than the larger bull frogs



# Prince William Forest Park

National Park Service  
 U.S. Department of the Interior

Prince William Forest Park  
 Triangle, Virginia



## Birds of the Piedmont

The piedmont offers rocky rolling streams and mature deciduous forests for both nature lovers and its abundant wildlife. The diversity of avian species to be found in this geophysical zone is extensive, and Prince William Forest Park provides a last bastion of this rapidly decreasing habitat. Many of the bird species found in the park are very sensitive to forest fragmentation and are no longer found in the suburban areas around the park anymore. Small woodlots and backyards are not adequate for these deep woods species, and a morning hike along one of the park's 37 miles of wooded trails is an excellent opportunity to see some of these increasingly rare forest birds.



The best time to hit the trails is during breeding season; when singing, coloration, and sheer numbers, are at their peak. In this park, that also means that a very thick dark green canopy is going to obscure your vision of many of the birds you are trying to see. Patience is key, but another weapon in the effective birder's arsenal is the ability to "bird by ear". This is simply the ability to identify birds solely by their song. This is more difficult to learn than visual identification, but audio discs and online software have made it a less tedious process. You will find it is very similar to learning a foreign language, but a lot more fun!



### The Park's Definitive Bird List



**Pileated Woodpecker - *Dryocopus pileatus* 16 1/2"**

- \*Crow sized stunning bird, almost entirely black, dark bill, white facial stripes on female at eye, chin, and nares extending down body. On male this stripe is red and stops on face.
- \*Both sexes have prominent red crest, large golden eye.
- \*Prefers dense mature forests.
- \*Makes large rectangular verticle holes in trees.
- \*Loud slow drumming on tree, and mad laughing "kak-kak-kak-kak" announce its presence nearby. When you notice a lot of dead trees, look for pileateds.
- \*Ants are preferred diet, also eats acorns and sap. Likes suet and oil sunflower.



**Scarlet Tanager - *Piranga olivace* 7"**

- \*Male: brilliant red, black wings. Female: olive color; both sexes olive in winter.
- \*Song is musical "up down" like robin, ending "chick burr" is distinctive.
- \*Population declining due to forest fragmentation, also a cowbird host.
- \*Eats wasps, bees, caterpillars, moths and will come to feeders for fruit.
- \*Female gets food from foliage high in trees while male hawks for food from perch; reduces competition between mates.
- \*Saucer like nest is built near end of horizontal branch.
- \*1 clutch/yr, female sings while gathering nesting material.
- \*Neotropical migrant, heads south in August, arrives back north in April.
- \*Despite brilliant coloration, this bird is not often seen since it prefers to be high up in canopy. Listen for song, then sit and look for the red!



**Hooded warbler- *Wilsonia citrina* 5 1/4"**

- \*A golden gem of mature woodlands with its bright yellow color with black hood, female duller version of male.
- \*Also likes to stay hidden in dense understory and low branches.
- \*Prefers ravines and moist habitats, especially along streamside trails. South Valley Trail is especially good. Only eats insects.
- \*Song is a soft "tawit-tawit-tawitteyo". Often tough for new birders to learn but worth it to find this gorgeous tiny bird.
- \*Male feeds by hawking; bird sits at perch and swoops out to retrieve flying insect then returns. Female gets insects from ground; this reduces competition.
- \*Very common cowbird host, especially those birds nesting at edges of it's habitat.
- \*Forest fragmentation is causing this species to decline in many areas



**Northern parula - *Parula americana* 4 1/2"**

- \*Our tiniest wood warbler, gray/blue head and wings with green/yellow back. Throat and chest are bright yellow, male has distinct rusty band across chest
- \*Two bright white wing bars are easy to see.
- \*Voice is buzzy rising trill with abrupt "zip" at end.
- \*Likes cuddery habitat, often found in the park near stream-side Virginia pines.
- \*In our area, uses pine needles or flood rubbish to make pendulous nests that overhang the creek.
- \*Active forager, hangs upside down from branch tips similar to our common chickadee as it searches for food.

acquired 8/09



Anthony Jackson

**Ovenbird - *Seiurus aurocapilla* 6"**

- \* Robust brown/olive body, white belly with dark streaks, rusty stripe on head is bordered by black. Obvious white eye ring.
- \* Walks along forest floor with tail cocked or wagging; does not hop.
- \* This warbler is easy to hear but difficult to spot, the ovenbird is behind the emphatic "teacher teacher teacher" song that blasts through all other bird song.
- \* Fairly common in deep woods this bird is still only found in continuous tracts of mature forests. Does succumb to forest fragmentation.
- \* Eats worms, spiders, snails, some seeds. All food obtained from ground gleaning.
- \* Name comes from its nest which resembles an old dutch oven. Its built upon the ground of leaves, grass, and hair and has a domed top with only a small slit as an opening.
- \* An interesting fact about ovenbirds is that as their prey increases, the size of their individual territory decreases.



Paula Sullivan

**Acadian flycatcher - *Empidonax vireescens* 5 3/4"**

- \* All the flycatchers can be very difficult to tell apart. Voice may be the easiest way for many to differentiate between them.
- \* Olive with a dull eye ring, and 2 dull wing bars.
- \* Long primary feathers may help with ID, greyish throat, yellow wash on belly and under tail.
- \* Voice is a harsh two note scolding "zurp zip".
- \* Watch for them at Pine Grove sitting on exposed branch "flycatching" or hawking to get their food. Also eat berries in addition to flying insects.
- \* Prefers heavily wooded forests, has strong bond to breeding territory.
- \* Common cowbird host.
- \* Nest is a shallow cup of bark, stems, and hair built on tip of branches between twigs.



Paula Sullivan

**Wood thrush - *Hylocichla mustelina* 7 1/2"**

- \* Almost robin sized bird; red/brown above and bright white below with brown spots. White eye ring on spotted face.
- \* Voice is musical, fluid, and beautiful five note song given loudly and frequently. many people say this is their all time favorite bird song.
- \* Any trail in the park will present the song if not a visual of this deep woods bird.
- \* Makes a cup nest that is compact with a leafy base and a middle layer of mud. Will use white paper or rags if offered in nest construction, possibly to break up outline of nest.
- \* Eggs are green/blue and unmarked.
- \* Eats spiders, fruit; feeds on both ground and in foliage.
- \* Frequent cowbird host.



Mark Wilson

**Whip-poor-will - *Caprimulgus vociferus* 9 1/2"**

- \* If a bird kept you awake while camping last night, this was probably the guilty party.
- \* Splendid camouflage of a mottled grey brown similar to that of an owl makes this bird nearly impossible to see day or night. The female has a darker buffy colored tail, the male has large white patches at the outer edges.
- \* At first glance it seems the mouth is tiny, but its actually huge; only the tip is visible, the rest is hidden by bristly feathers that assist with catching insects in mid-flight.
- \* Makes no nest, simply lays its two eggs directly on ground in leaf litter.
- \* The common name comes from the song, said over and over again. From late at night to the wee hours of morning whip-poor-wills can sing and awaken the forest.
- \* Oddly tame during daylight hours, its vital not to disturb this bird if discovered.
- \* Rapidly declining population due to deforestation.



Anthony Jackson

**Red-eyed vireo - *Vireo olivaceus* 7"**

- \* Blue/grey crown, olive back, white belly, no wing bars or streaking.
- \* White eye stripe bordered with black, prominent red eye visible at close range gives this species its name. Very tough to see, likes to stay high up in canopy.
- \* Very common Eastern US deciduous forest species.
- \* Song is given all day long, even when its too hot for other birds. Speed of song varies, as does length of pause between phrases. "Here I am...look at me...here I am look at me..".
- \* Can be difficult to hear songs of other birds due to the non stop calling over and over of their song.
- \* Nest is deep cup of bark, grapevine and grass in fork of a branch.
- \* Eats insects and fruit
- \* Often parasitized by brown-headed cowbird



Paula Sullivan

**Yellow-billed cuckoo - *Coccyzus americanus* 12"**

- \* Large slender bird, grey/brown above, white below, rufous primary feathers.
- \* Lower mandible is yellow, upper is black.
- \* Underside of tail has large white circles that are very noticeable.
- \* Juvenile is same as adult but more subtle.
- \* "kuk-kuk-kuk-kuk" is a part of their unique song that can sound more like a distressed mammal than a bird.
- \* Likes open woods with dense undergrowth.
- \* Favored food are hairy caterpillars, gypsy moths being no exception. Heavy infestations of this prey species seem to change their behavior. When their food supply increases dramatically, this normally shy bird, boldly feeds near humans.
- \* Nest is messy laying of twigs roots, and pine needles.