

# Conservation Currents

Northern Virginia Soil & Water Conservation District  
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## Eastern Bluebirds A Story of Successful Conservation

by Sarah Vincent, NVSWCD Intern

The bluebird is a longtime symbol of happiness, good health and hope in North America. Native Americans displayed the bird in their art and told tales of its beauty and humility in their folklore. They hung hollowed gourds over their refuse piles and meat drying areas to house the bluebirds, which would eat pesky bugs attracted to such places.

The first settlers were mesmerized by the birds' brilliant color and sent back its feathers and skin to their royalty as a gift and representation of the wonders of the new world. Early American farmers built and hung boxes around the farm to encourage the presence of the bird that kept down insect populations harmful to crops.

In modern culture, the bluebird has made an appearance in "Zip-A-Dee-Doo-Dah," the Disney Song and in the Wizard of Oz in "Somewhere Over the Rainbow." The bird has inspired many, including Henry David Thoreau and Robert Frost. Given the bluebird's place in our art and culture, it is hard to believe that it was once a threatened species.

The Eastern Bluebird has the scientific name of *Sialia sialis*, *sialis* being the Greek word for "kind of bird" as it was one of the first birds named by Carl Linnaeus (the father of our taxonomical naming system) in the mid-1700s.



Eastern Bluebird. Credit: Kentthomas.us

For color photos, see [www.fairfaxcounty.gov/nvswcd](http://www.fairfaxcounty.gov/nvswcd)

The bluebird is a songbird in the Turdidae or Thrush family, along with the American Robin, Wood Thrush and Veery. Thrushes are round, cup-nesting insectivores. The bluebird diet consists of 70% insects (grasshoppers, crickets, katydids, beetles), and 30% invertebrates (worms, sowbugs, snails) and berries (pokeberries, juniper, hackberries, blackberries). They are platform feeders, meaning they only eat on flat surfaces, not from traditional birdfeeders. Bluebirds are migratory birds; their range extends all the way

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# What's Happening to Our Bats?

This article is excerpted from the newsletter and website of Bat World.  
Many thanks to the organization for allowing us to reprint!

In the five years since scientists first diagnosed White Nose Syndrome (WNS), the population of little brown bats in the northeast has plunged so dramatically (90 percent) that their very survival is now in question. Populations of the endangered Indiana bat are down 60 percent. Northern long-eared bat populations are down by a whopping 98 percent.

Since first being identified in New York state in 2006, it has spread to at least 18 states and three Canadian provinces in eastern North America, and has killed well over a million bats. Over 90% of the wintering bats in some New England caves and mines have died because of WNS. As the disease spreads into the Midwest and southeastern states, it threatens the federally endangered bats such as the Indiana bat, gray bat, Ozark big-eared bat, and our own Virginia big-eared bat.

*Geomyces destructans*, the fungus that is to blame, was thought to be a cold loving fungus. However, some scientists now believe that the assumption that southern caves were too warm for the fungus is wrong. Many southern caves are still cool enough for *G. destructans* to flourish, and in some regions may even be just warm enough for the fungus to spread even more quickly.



The Save Lucy (a little brown bat) Campaign is a Bat World NOVA initiative. Find it at [savelucythebat.org](http://savelucythebat.org)

As the disease sweeps across the US, the agricultural value of bats is being brought more and more into the forefront. For instance, a recent study in Ohio shows potential losses of \$23 million per county per year from increased insect damage. According to a recent study in the journal *Science*, Ohio farmers alone could suffer more than \$740 million a year in agricultural losses, and possibly as much as \$1.7 billion. These numbers are estimates based on crop acreage, the number of crop pests eaten by bats, the damage to crops that their feed-

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### Helping Bats in Northern Virginia

Bat World Northern Virginia organizes bat rescue and rehabilitation, as well as outreach and education. Leslie Sturges is a full-time volunteer who leads the group. The local chapter rehabilitates 50-80 bats each year, many of which end up in Leslie's basement. She uses 2-3 pairs of gloves to ensure that she doesn't get bit – wild bats don't like being handled! Here are her suggestions for how we all can help protect bats.

- Make sure that any pets have up-to-date rabies vaccinations, including indoor cats.
- If you find a bat in your home, do not touch it with bare hands!
- Why? If an errant bat finds its way into your home and touches your bare hands or your unvaccinated pet, the bat must be taken to be tested for rabies. Sadly, the test requires killing the bat.
- Speak truth about bats and other wildlife. Don't make up stories! We are the top predators in our world, and we are not victims. There is much cruelty inflicted out of fear.
- Homeowners are encouraged to be tolerant of bats if you find them in your house during maternity season, from May to August. It may be disturbing to have bats come and go for a few months, but the babies have just been born and cannot yet fly on their own. It's best to wait until September, then exclude them from the house humanely and seal off the entrance. Provide replacement habitat by putting up a bat box.
- A recommended resource for tips and information, including how to install a bat box: [http://dnr.maryland.gov/wildlife/Plants\\_Wildlife/bats/](http://dnr.maryland.gov/wildlife/Plants_Wildlife/bats/)
- If you are interested in learning more about how you can help as a volunteer or supporter, contact Leslie: [bnova@batworld.org](mailto:bnova@batworld.org) or 703-973-3157.

ing prevents, and the need, as a result, for farmers to spend less on pesticides.

The total value of bats to U.S. agriculture—and the potential loss from white-nose syndrome—is estimated to range from \$3.7 billion to \$53 billion a year, according to the study.

No one knows exactly how the fungus was introduced into the first cave in New York state, but experts believe it was brought in by someone visiting from Europe. The fungus has been found on bats in Germany, Switzerland, and Hungary, but these bats are surviving the infection. Researchers theorize that the fungus coevolved with the bats in Europe and North American bats have yet to build immunity.

The fungus invades the dermal layer of the bat's skin and destroys healthy tissue, and in the process wipes out hair follicles and sweat glands involved in regulating body temperature, respiration, and hydration. Wing tissues die as oxygen supplies diminish, then dehydration and starvation occurs.

The disease appears to be spreading primarily from bat to bat, although there is a risk that humans also may be spreading the disease from one cave to another. Because bats are highly social, there is

a great potential for rapid devastation.

Meanwhile, scientists are looking for treatments. Of 1,900 different compounds tested, most had no effect, some actually promoted the growth of *G. destructans*, and a few did inhibit growth and some even killed it. Applying the treatments to caves, however, is another matter. Chemical treatments could negatively impact a non-target species.

It's hoped that—like the bats in Europe may have done—our North American bats will develop a way of dealing with the disease on their own, whether that comes from an immune-system response, behavioral changes, or a combination of the two. Survivors that are immune could produce offspring that are resistant, and, although it would take decades, bat populations may eventually rebound.

Another option is captive assurance and propagation, in which large numbers of bats would be kept in captivity, reproduce, and eventually be released into the wild. Bat World is working with bat care specialists throughout the U.S. to provide specialized training to others interested in maintaining captive assurance colonies, and to expand operations. ♠

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to Canada in the warmer months and south to Central America in the colder months. In Virginia, they can be seen year-round and will overwinter in thickets.

From a conservation standpoint, one of the more interesting things about the bluebird is the fact that it is a secondary cavity nester. This means that it creates its nests in cavities, but is not strong enough to peck out its own holes and is therefore dependent on woodpeckers and other natural cavity creators.

From 1920-1970 there was a major decline in the bluebird population. The bluebird went from being as common as the robin, to being so rare that birders were sure of its inevitable extinction. There were many reasons for the decline, including loss of habitat, pesticide use, weather changes, snag (dead tree) removal, and an influx of house cats. However, the main reason for the population decline was the introduction of the House Sparrow and the European Starling into America, both cavity nesters, both extremely competitive and aggressive.

In 1978 the North American Bluebird Society (NABS) was formed by citizen scientists and birders concerned about the drastic decline in the bluebird population. They optimized bluebird boxes and set up a network of trails in which to put up boxes and monitor the numbers and health of the population. They educated the public and trained volunteers as monitors. The result is almost fairy-tale. The bluebird population rebounded and stabilized, escaping extinction.

From March-August 2011, I monitored the bluebird trail at Environmental Studies on the Piedmont, a private environmental research, education and conservation center. Located just outside Warrenton, it is 900+ acres in the foothills of the Blue Ridge with a range of habitats including ponds, wetlands, old and new growth forests, and open fields. The bluebird trail stretches for almost two miles and contains 36 boxes. It serves as a “model trail” in accordance with Virginia Bluebird Society recommenda-



Newborn bluebirds and eggs  
Credit: Jonathan Morgan, NestWatch

tions. It has been well monitored and the data is submitted nationally every season.

The responsibility of a monitor is to open the boxes every week and fill out a data sheet including information such as species, nesting details, eggs (number/color), and fledgling age and health. The trail at Environmental Studies is evenly spread between three species common to nesting boxes across Virginia: the Carolina Chickadee, the Tree Swallow and, of course, the Eastern Bluebird.

Each species brings its own personality and joys. The chickadee has a leprechaun-esque nest made out of soft, green moss and the young are small and quiet. The swallow nest is a messy hodgepodge of goose feathers, straw and the occasional plastic; the babies chatter and rustle while the parents swoop down to scare away anyone who might approach. The bluebirds have a neat, deep-cupped nest made of grasses and straw where the shy mother lays blue eggs and watches over the box from afar. I could write a novel about the intricacies of these birds I watched and studied, but I prefer to simply encourage others to observe firsthand.

In the end, why am I doing this? Why set up boxes? Why monitor them? First, the case of the bluebird is a perfect example of a bottom-up,

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grassroots, successful conservation movement. Being a part of a movement like this and learning about its story is important at a time in our history when conservation (what it is and how to go about it) is a hot topic.

A second reason for taking part in bluebird monitoring and conservation is because the species has been so well-studied and documented. The continued monitoring of a species of which much is already known can provide data about other environmental shifts, including one contested issue, climate change. Scientists can use historical data about bluebird migration and breeding patterns to draw larger conclusions about climate and ecosystem changes.

A third reason to support bluebird conservation is that the bluebird is cute, fluffy and blue. This may sound flippant, but there is a deeper truth to it. Many conservationists forget that it is important to use figures or symbols that the general population can relate to, stand behind, and fight for. Conservation efforts for one species like the bluebird benefit others, including species considered by some to be "boring" like trees or insects. The bluebird,

as an icon of happiness, is a perfect figure for conservation efforts. Those efforts can and will have a positive effect on the entire ecosystem.

On a final, more personal note, my main reason (and the reason I believe the most appealing to anyone interested in such pursuits) is because so much can be learned about life, death and everything in between. Observing the circle of life, from the first appearance of a carefully constructed nest, through to the blind, bald, utterly helpless babies, onto the clamoring, beautiful, young fledglings, to the abandoned, waste-filled nestbox, has truly brought about revelations. The first time I found baby bluebirds had died was hard, but the beauty of new life balanced the grief of lost life. For me the bluebirds will always stand for this joy of new life.

To have a better understanding of life, to be a better conservationist, scientist, citizen - or even a better person - go outside and connect with nature. Who knows, maybe a lucky bluebird will brighten your day. Happy Trails. ♣

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Sarah Vincent is finishing her final semester at George Mason University with a degree in Earth Science.

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## Christmas Bird Count

When we think of the holiday season, the spirit of giving, being thankful for our many blessings, and getting together with family are the first things to come to mind. This year, you might consider adding another activity to your holiday schedule: the Christmas Bird Count. After all, there's nothing like waking up early in the morning on a crisp wintery day with your ears, eyes and binoculars alert and ready to take in any sign of the birds that spend the season in the region!

This is 112th year that people have been counting birds around Christmas-time. The data that comes back is invaluable. Scientists, researchers, and others use the numbers to look at the big picture of bird populations.

What kind of birds do you see in this area in the winter, you may ask? Just fly over to their website and check out the Washington, DC area current year or historical data to find all the species that have been found.

You can be of great help even if you're not an experienced birder. You can be matched up with more experienced folks, and you'll probably even learn a thing or two! There is a minimal \$5 cost to help fund the program.

Groups meet all over the metro DC area, giving those interested a number of options for those with tricky schedules around the holidays. To find a group or start your own, contact Larry Meade at 703-206-9030 or see the program's website at [www.christmasbirdcount.org](http://www.christmasbirdcount.org) ♣

# On the Ground!

## Changing the Landscape with Rain Gardens and Stream Restoration

The Conservation District has been busy this year! Three new projects have gone in on the ground as the result of NVSWCD’s hard work and partnerships.



At Marymount University (above), the landscape is changing using low impact development. A 600 square foot rain garden was installed to catch the first 1” of storm runoff from 1.2 acres, including the campus library building. The project partners were Arlington County, Marymount University, and NVSWCD. A post-construction rain garden workshop attracted over 30 people, training participants to site, design, and build a rain garden on their own property.

Two stream restoration projects were undertaken, one at Little Pimmit Run (above right) and



another in the Kingstowne community (below). At Little Pimmit Run, runoff from a drainage ditch and stream bank erosion threatened an exposed 21-inch sanitary sewer main. The restoration stabilized the stream bank and drainage channel (total 170 linear feet) using rock vanes, step pools, floodplain benching, and re-vegetation.

The Kingstowne II stream restoration built on the success of Kingstowne I, one of the first projects to use natural channel design in the region. The Kingstowne II \$1.2 million project restored another badly eroded section of the stream, which now features aquatic life, a gentle slope and a well-vegetated riparian buffer. The partnership included the Nature Conservancy, Army Corps of Engineers, Kingstowne HOA, & Fairfax County. Kingstowne Photo Credit: Stephanie Bianco



# 2012 Native Tree & Shrub Seedling Sale

## Incredible Edibles for Humans and Wildlife

Many of our native shrubs and trees have been in use for centuries by humans, as well as providing habitat benefits for wildlife. This year's seedling sale features native species that have fruits, berries, nuts, leaves or roots you can eat or use yourself and that birds and other wildlife will find delicious. Enjoy!

**Two Packages, Back By Popular Demand! Order Now!**

### 10 Bare-root Shrubs & Small Trees \$15.95

- 4 **American Hazelnut.** Multi-stemmed shrub valued for its distinctive catkins, copper-red to yellow fall color, edible nuts and naturalistic form. Ideal for dry sites with poor soil. Prefers partial shade. 10-15 feet.
- 2 **Elderberry.** Large heads of fragrant white flowers in mid-summer are followed by clusters of deep purple or black berries, edible for humans and at least 48 species of birds! Flourishes in shade or sun, tolerates dry or wet sites. 6-12 feet. Great rain garden plant!
- 2 **Serviceberry's** attractive white flowers are among the first to bloom in early spring. Berry-like summer fruits are a food source for songbirds and edible for us! Prefers moist and sun to part-shade conditions. Height 25 to 30 feet, fast-growing shrubby structure.
- 2 **Cranberrybush Viburnum.** Grows 8-12 feet with white clusters of flowers in May. Bright red berries can be used to make jelly, and provide food for birds through the winter. Good wetland plant.

### 7 Bare-root Trees for \$11.95

- 2 **American Plum.** Bright red, one-inch plums provide excellent food for wildlife. Fruit is eaten fresh and processed as preserves and jellies. Grows best on rich, moist bottomland soils. Small tree: up to 30-35 feet.
- 2 **Persimmon.** Deciduous tree, slow grower. Typically 20-40 feet in height, up to 75 feet in moist sites. Distinctive bark, fragrant white flowers in spring. Edible orange fruits on female plants ripen in late fall and attract wildlife! Sun to partial shade.
- 2 **Chokecherry** fruits, turning from red to dark purple, were frequently used by Native Americans. Great for jams and jellies! Chokecherry provides excellent food and shelter for wildlife. Fast growing to 20-30 ft.

**Bonus! 1 Allegheny Chinkapin** is the closest native relative of the American Chestnut. Chinkapin nuts are smaller but just as sweet! Mature size 15-30 feet. Often forms thickets and is generally found in drier soils.

A full, nonrefundable payment must accompany your order by **Monday, April 16, 2012**, or until supplies run out. You will receive a confirmation receipt and a map to the pickup site (in Fairfax County, off of Braddock Road, two miles outside the Beltway). Orders may be picked up on **Friday, April 20, 9:00 a.m.-4:00 p.m., or Saturday, April 21, 9:00 a.m.-noon.**

To see images and scientific names for this year's plants, visit [www.fairfaxcounty.gov/nvswcd/seedlingsale.htm](http://www.fairfaxcounty.gov/nvswcd/seedlingsale.htm)

## 2012 Seedling Order Form

Name: \_\_\_\_\_

Where did you hear/read about our seedling sale?  
\_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Daytime Phone: \_\_\_\_\_ Fax (if available): \_\_\_\_\_

E-mail: \_\_\_\_\_

**Make your check payable to NVSWCD and mail it to:  
NVSWCD Seedling Sale  
12055 Government Center Pkwy, Suite 905  
Fairfax, VA 22035**

\_\_\_\_\_ Tree Package(s) @ \$11.95 each    \_\_\_\_\_ Shrub & Small Tree Package(s) @ \$15.95 each

**Total \$** \_\_\_\_\_ (Sales tax is included in all listed prices)

## Reforest Fairfax Tree Gifting Program

When you want to say thank you, consider a gift that will last a lifetime: the gift of trees. Through **Reforest Fairfax**, a new partnership between Fairfax County Restoration Project and Fairfax ReLeaf, five native trees will be planted for each gift you give, and a beautiful card and certificate will be sent to your recipient.

By giving trees, you will be helping to ensure a beautiful and healthy place to live and work long into the future. Trees clean our air and water, protect our streams, prevent soil erosion, lower city temperatures, and boost property values. When you give the gift of trees, you're not just saying thank you; you're helping to plant our future.

To learn more or to give a gift, visit Reforest Fairfax at [www.fcrpp3.org/reforestfairfax/](http://www.fcrpp3.org/reforestfairfax/) ♦

## Soil Survey Adopted & Available Online

An effort that began in 2003 with a 5 year re-mapping of Fairfax County soils has finally come to a close. In June 2011, the updated soil survey was adopted by the Fairfax County Board of Supervisors and is now the official soil survey. Access it on the county's digital map viewer through <http://go.usa.gov/8hJ> ♦

## Fairfax Master Naturalists Named Cooperator of the Year

The Fairfax Master Naturalists were named the NVSWCD 2011 Cooperator of Year in recognition of their partnership and the many ways they help conserve and protect our natural resources, in the Watershed Friendly Garden Tour and as science fair judges, stream monitors, and storm drain education project leaders. Thank you Fairfax Master Naturalists! ♦

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