Habitat Herald

A Publication of the Loudoun Wildlife Conservancy

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Eastern Spadefoots

Living – and Breeding – at JK Black Oak

by Jenny Erickson,
Amphibian Monitoring Coordinator

A tiny two-day old Eastern Spadefoot (left) clings to a human finger. The adult frog (right, in a separate photo) will grow to be 1 3/4 to 3 inches long. Photos by Jenny Erickson

The elusive Eastern Spadefoot, often referred to as a toad, is in fact a primitive fossorial frog. What does *fossorial* mean? It means that an animal is adapted for digging (from the Latin word *fossor* which means "digger"). The Eastern Spadefoot is adapted for a life spent mainly in underground burrows that they dig with specialized calcified tubercles or "spades" on their hind feet. This is one of the reasons these frogs are a challenge to locate and study.

Why all this talk about Eastern Spadefoots? Because members of Loudoun Wildlife Conservancy's new Herpetology Survey Team located the first verified Loudoun County sighting of them in over 10 years, as checked through historical records and organizations that track spadefoot populations. The first observation of five individuals occurred at the JK Black Oak Wildlife Sanctuary in early April. There was some calling from the Eastern Spadefoots, but as we would learn in the following days, that was not proof of breeding activity.

In early May, members of the team got the tip they had been waiting for. While out in the early morning for the Birdathon, a birder identified what would turn out to be hundreds of Eastern Spadefoots migrating to the vernal pools at Algonkian Park and actively engaging in breeding activity. After five hours of standing in the vernal pool areas there in the chilly rain, we were able to record breeding calls and gain photographic evidence of this explosive breeding event. Our Herpetology team decided to return to JK Black Oak to determine if there was also breeding activity there. Sure enough, the Eastern Spadefoot calls were so loud that we could hear them from the sanctuary's parking area when we arrived.

The Eastern Spadefoot (*Scaphiopus holbrookii*) engages in what is often referred to as an explosive breeding event. It is during this time when we have the best chance of finding them. The only problem is they do not have a consistent breeding period. It can occur anytime

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Executive Director's Message

First and foremost, I want to thank all our board members who retired from the Loudoun Wildlife Board as of our Annual Meeting. Our board members do a tremendous job as guides and stewards of our strategic vision. And I want to welcome our new board members; I look forward to working with each of them in their new leadership role within our organization. We have also hired a new staff member, so please take a moment to welcome Trinity Mills, our new conservation advocacy specialist. Additionally, I want to congratulate all our volunteers of the year, Peterson Young Naturalist Award winners, and everyone who received special recognition at our Annual Meeting. It is truly inspiring to share the hard work of everyone who helps Loudoun be a place where people and wildlife thrive together.

We have a lot to celebrate thanks to the hard work of our members and volunteers. We are pleased to share with everyone in this edition of the *Habitat Herald* the accomplishments of the Birdathon, not only for the dollars raised, but for the number of species identified. And, as was previewed at our Annual Meeting, we are excited to share more details about our discovery of breeding Eastern Spadefoot frogs in Loudoun County.

As we entered summer, we celebrated not only National Pollinator Week, but the number of butterflies in Loudoun, which becomes more and more noticeable as the season progresses. As always, we will be scouring the county on the first Saturday in August (August 6 this year) for our Annual Butterfly Count. We can always use more eyes in the field to count these charismatic flyers, so we encourage you to join us for this citizen science project.

As we all know, one of the best ways to protect pollinators is to provide habitat for them with native plants. We sold over 650 milkweed plugs at our annual Milkweed Sale with Northwest Federal Credit Union in June, and our Fall Native Plant Sale will be here before you know it on Saturday, September 10. We also have a special treat for everyone — we are co-hosting a virtual event with entomologist and author Doug Tallamy on September 25.

This fall we plan to reprise our popular fall fundraising event from last year, Walk for Wildlife. Stay tuned for more details on how you can get outside and participate in this fun and engaging event.

I'm constantly filled with gratitude for all of our members and volunteers who make Loudoun Wildlife such an amazing organization. I'm proud to lead all our efforts as we accomplish so much through our advocacy, education, citizen science, and habitat conservation programs (only a fraction of which I'm able to touch upon in this space). Thank you for making our success possible!

Happy trails,

Michael

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Loudoun Wildlife Conservancy is a nonprofit 501c3 nonprofit organization that inspires, motivates, and engages people to protect, preserve, and restore wildlife habitat in Loudoun County. Contributions are tax-deductible to the extent allowed by law.

The Loudoun Wildlife Conservancy Board meets bi-monthly. Board meetings are open to all current members. For more information, or to suggest topics for discussion at upcoming meetings, contact Jim McWalters.

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Meet Our New Conservation Advocacy Specialist

by Michael Myers, Executive Director


Trinity Mills

Nearly all of the advocacy items we have been following had late July deadlines/votes, and due to the printing schedule for this edition of the *Habitat Herald*, we direct you to our website, https://loudounwildlife.org/conservation-advocacy/, for updates on our ongoing Conservation Advocacy campaigns. We would like to note that although the most recent public comment period for the Zoning Ordinance Rewrite process has concluded, there will be future opportunities for the public to comment on the Zoning Ordinance before it is adopted.

We would like to take this opportunity to introduce our newest staff member, Conservation Advocacy Specialist Trinity Mills. Trinity will be leading our Conservation Advocacy program as we continue to advocate for the advancement of wildlife and habitat conservation. We can always use more volunteers to help spread the word and educate residents about important topics that impact our natural resources, so please reach out to Trinity if you are interested in participating in this vital work.

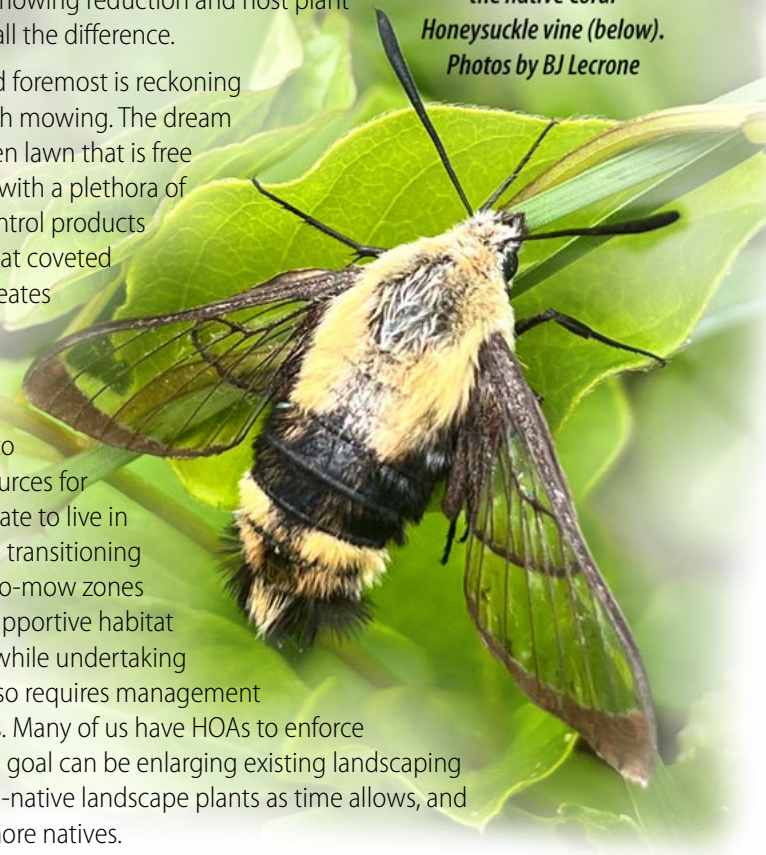
Trinity, a native of Virginia, is a recent graduate of Christopher Newport University. Before joining Loudoun Wildlife Conservancy, she served as a fellow with the Piedmont Environmental Council and worked on behalf of the Humane Society of the United States as a wildlife and animal welfare grassroots canvassing director. She is pursuing her master's degree in conservation science and policy from George Mason University alongside her work as Loudoun Wildlife's conservation advocacy specialist.

Trinity has a deep love of nature and enjoys spending time outdoors. Outside of wildlife and conservation, she enjoys traveling, hiking, and film photography.

Mow Less, Plant More to Help Pollinators

by BJ Lecrone, Audubon at Home Ambassador

The beautiful butterflies and moths have returned and very much need our help to create and protect their habitats. Two actions, mowing reduction and host plant installation, will make all the difference.


The Snowberry Clearwing Moth lays its eggs only on the native Coral Honeysuckle vine (below). Photos by BJ Lecrone

Mow less! First and foremost is reckoning with our obsession with mowing. The dream of a perfect, short, green lawn that is free of "weeds" comes true with a plethora of mowing and weed-control products that help us achieve that coveted look. But this dream creates a nightmare, turning a habitat into a food desert.

We need to mow less to preserve more food sources for pollinators. I am fortunate to live in a non-HOA area where transitioning sections of lawn into no-mow zones naturally increases a supportive habitat for wildlife. This worthwhile undertaking gives big results but also requires management of invasive non-natives. Many of us have HOAs to enforce lawn standards, so one goal can be enlarging existing landscaping borders, removing non-native landscape plants as time allows, and replacing them with more natives.

My current plan is to decrease the need to mow circles around tree after tree and shrub after shrub by creating safe zones, with mow-free areas enveloping stands of trees and shrubs rather than individual circles around trees and shrubs. I mix in native flowering plants for each season to provide food and shelter, creating a safe haven for insects and birds. Try it! In short order, you'll start noticing birds hopping among the plants searching for seeds and insects and butterflies and bees flying about.

Be a good host! Host plants support an abundance of pollinators. Don't be fooled by the multitude of plants sold at a nursery or big box store. Many of those plants are non-natives originally from other parts of the world. Shop at native plant nurseries that have an abundance of pesticide-free, interesting, and unique native choices. Native plants in our region co-evolved with native insects to be host plants for hungry caterpillars. Our native caterpillars have developed special relationships with particular plants that are viable food sources for butterflies or moths.

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Eastern Spadefoots, continued from page 1

An Eastern Spadefoot egg mass photographed in a vernal pool on Day 2 after the May breeding event at JK Black Oak. Photo by Jenny Erickson

between April and July. But what causes them to move to the vernal pools? Rainfall. During or after a heavy rain, spadefoots will migrate in large numbers for breeding in temporary pools, such as vernal pools, low-lying flooded fields, and even low-lying powerline easements.

The smaller males will gather in the water and call with their distinctive short "mwaaah" call (in our area, the call of the Pickerel Frog is often mistaken for the Eastern Spadefoot call). It is a single elongated call that is repeated every 5 to 10 seconds. The larger egg-bearing females will migrate to the water in response to the males' calls. Each female can lay an average of 2,000 eggs. Hundreds of individuals will breed in these pools and return to their burrows, often within 24 hours. Their egg masses are relatively small and nondescript, which means they're easily overlooked.

Another distinctive attribute of the Eastern Spadefoot is its vertically slit pupils, similar to a those of a domestic cat. As our team discovered, the eyes of the spadefoots shine when a flashlight passes by them. This made it far easier to count the populations in each pool, plus it allowed the team to safely walk around without stepping on the spadefoots that were migrating to and from the vernal pools. The team counted more than 300 individual spadefoots during our observations. After the short (approximately 18 hours) breeding session was over, and the adults had disappeared from the vernal pools, the work of collecting data and documenting the development of the spadefoots began.

A few members of the Herpetology Survey Team spent countless hours over the next month visiting the property twice a day to document the developing frogs' rapid changes. Air and water temperature readings were taken at each vernal pool, and comparisons of development were documented. The differing characteristics of Black Oak's vernal pools (some are in shaded woodland areas with the substrate covered in decaying leaves, others are in more open areas that are dominated by grasses) produced drastic changes in the growth rates of the developing eggs and tadpoles.

The warmer pools showed faster spadefoot development than the shaded pools, which could be almost 20 degrees cooler. These temperature differences each came with their own sets of challenges. The warmer water caused quicker development but had a higher chance of evaporation causing the pool to dry prematurely. The cooler water was slower to evaporate but resulted in slower egg and tadpole growth, which also meant the pool could dry up while the young spadefoots were still water-dependent. Sadly, we experienced both scenarios in the vernal pools, but as nature works, the developing tadpoles became food for the local birds and their young. Frog and toad tadpoles are an important food source for a wide variety of wildlife, so they lay copious amounts of eggs to compensate for this.

Exactly one month after the explosive breeding event occurred, the little froglets made their way onto land. They hung around the dried but still damp vernal pools for several days before starting to migrate into the woods. We will continue to monitor their progress as they develop in upland wood areas, and we will also continue to monitor for adult Eastern Spadefoots to determine how much time they are spending outside of their burrows.

Some of the interesting information we discovered:

- Contrary to popular opinion, these explosive breeding events were not during warmer temperatures or following thunderstorm activity. The temperature averaged around 45 degrees throughout the events. Heavy rains appeared to be the determining factor.
- The adults moved slowly both in and out of the water. When out, they would either flatten like a pancake or suck their legs towards their bodies, resembling an egg when they felt threatened. They would close their eyes and slowly open them to determine if the potential threat was gone.
- Developing tadpoles have transparent undersides that allow one to see their developing organs. This was helpful for monitoring their progress, since we could clearly observe the lung development over time.
- Playing dead? Possibly. On countless occasions, the team observed the developing tadpoles rolling on their sides or belly side up and remaining motionless for 5 to 10 seconds before quickly flipping back over and swimming away. This behavior occurred when we disturbed the water near them. It became far more frequent as they developed legs and would surface more often to take gulps of air.
- Preparation for exiting the water is a group event. Hundreds of tadpoles would gather and swim in circles, creating a whirlpool effect, while the tadpoles/froglets closest to the land would leave the water for a few minutes and then return while the next batch of tadpoles/froglets left the water for this continuous cycle. Even though they were now developed enough to no longer rely on the water for respiration (lungs were fully developed), their skin was still sensitive to drying out, and these short excursions helped them investigate the land while still having access to the water.

This unique opportunity to observe Eastern Spadefoots was only possible because the JK Black Oak Wildlife Sanctuary, with its vernal pools, had been preserved from previously planned development. The Eastern Spadefoot is one of the vernal pool indicator species — organisms that require temporary aquatic habitats for reproduction and development of their young — for the Mid-Atlantic. Other vernal pool indicator species identified at JK Black Oak during the first two years of amphibian surveys are Jefferson Salamanders, Wood Frogs, and Fairy Shrimp. Sadly, vernal pools are declining at a rapid rate, which has led to local extirpation of these amphibians in many areas.

The Eastern Spadefoot's name is derived from the spadelike projection (used for digging) on the inside of its foot. Photo by Jenny Erickson

How You Can Help

Since we have little information regarding potential Eastern Spadefoot populations in Loudoun County, you can help by **learning to identify their unique breeding calls** (there's a link at https://loudounwildlife.org/citizen-science/amphibian-monitoring/ where you can listen to the call). Then, record any call that sounds like an Eastern Spadefoot and email the recording to Amphibian Monitoring Coordinator Jenny Erickson (jerickson@loudounwildlife.org) for verification. This will help us attempt to locate other potential populations in the county.

It is also important to **speak up regarding development projects that could jeopardize vernal pools and their surrounding habitats**, including those at JK Black Oak. Preserving these areas is necessary to save our local Eastern Spadefoot populations.

Record Number of Teams Joins Annual Birdathon

by Joe Coleman, Birding Coordinator

Flying Kites (the Anderson family). Photo by Eric Anderson

More teams than ever, 13, participated in this year's Birdathon, raising nearly $22,000 and finding 153 species. Including the 11 walks and events that occurred April 23 through May 22, our birders observed a total of 157 species.

With the Raven Loonatics sitting out this year's Birdathon, the participating teams competed fiercely to find the most species. Gone Pishing, comprised of Bryan Henson, Allison Gallo, and Jane Yocom, won the "Most Species" award. "So ends another great Birdathon with one more species than last year for a total of 121 species! Not only did we get to see lots of birds, but we had beautiful weather in spite of the forecast, and we got to see many other critters as well," the team reported. (To see all Birdathon 2022 team reports and more great photos, visit https://loudounwildlife.org/2022/05/birdathon-team-summaries-2022/.)

Their effort was closely followed by the Fully Palmated Birders (Mike Sciortino, Christine Boeckel, Michael Myers, and Mike Scott) with 119 species, and Shrike Force (Joe Coleman, Mary Ann Good, and Laura and Liam McGranaghan) not far behind with 117. All three of these were team bests for the Birdathon.

In their 14th Birdathon, the Ligi Nestlings (Spring, Addison, and Catherine Ligi) won the "Most Species Observed by Fledgling Birders" award with 41 species. Their most exciting find was a Northern Harrier on Hibbler Road. The Fearsome Fledglings (Sarah and Henry Kabealo, Eloise and Madeline Coddington, and Elle Kho) were close behind. As Sarah, the only adult on that team wrote, "We ended up identifying 39 species of birds together, which is amazing for a group of pre-K to second graders! We explored fields, woods, wetlands, ponds, and a playground in search of our specimens.... Various team members also spotted and identified a Ruby-throated Hummingbird, a Belted Kingfisher, and an Eastern Wood Pewee, but it can be difficult to get consensus when your team is comprised mostly of kindergartners."

Snap, Grackle, Pop! (Linda Colucci, Karenna Awtry, and Adarra Riccuti) made one of the most exciting finds of the Birdathon, a Common Merganser with ducklings on the Potomac River — the first time this species has been found with young during the Birdathon. While there is a good chance that its nest was in a tree cavity in Loudoun, it was on Maryland waters so we still need to find a nest in the county before we can confirm it as a Loudoun County nester. This is difficult since the ducklings stay in their well-hidden cavity for only a short time.

A Fearsome Fledgling team member scans the area for birds. Photo by Sarah Whitlock Kabealo

The Andersons, Abigail (9), Rua (7), Sadie (5), Henry (2), and parents Kiersten and Eric, participating in their first Birdathon as the Flying Kites, won the "Most Species Observed by a Family" distinction with an amazing 91 species. In addition to three different Barred Owls, their favorite sighting was a beautiful male Wilson's Warbler. The Blue Ridge Center for Environmental Stewardship was the family's "favorite spot of the Birdathon due to its beautiful views, extensive forest trails and nature playground," they reported.

By raising $5,573, Shrike Force won the "Most Money Raised" award. Not only were the Whiskey Drinking Warbler Watchers (Scott Harris, Peter Lyttle, Linda Millington, and Robert Justin) not far behind in money raised, they won the prize for "Most Species Observed by First Timers" participating in the Birdathon with 104 species.

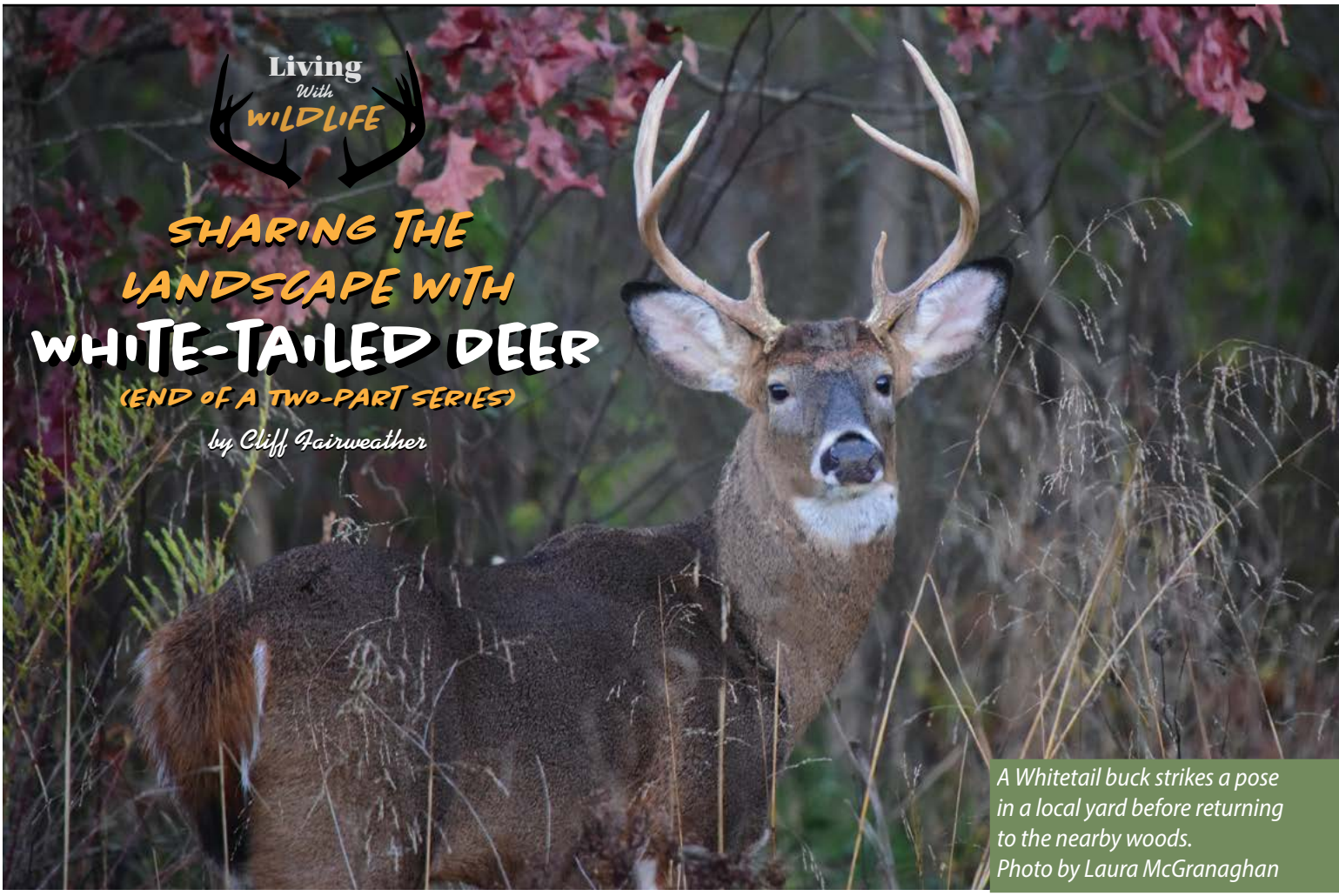
Other first-time teams were Birds Aren't Real (Jessie, Scarlett, and Michael Myers), who found 80 species, and Jay Fever (Ada, Ella, and Zach Stevenson, and Nancy Reaves) with 84 species. Other returning teams were the Grumpy Old Men (Phil Daley, David Van Tassel, Joseph Shankin, Bruce Johnson, Paul Miller, and Ernie Carnevale) with 79 species, Krazy4Birds (Marion Esposito, Katarina Miller, Dakota Brooks, and Christopher Esposito), and the Larkolinks (Sally Brenton, Zoe Sowers, Debra Gutenson, Laureen Megan, Dolores Goodson, and Nancy Norpel). Like some other teams, the Larkolinks had their personal best year, with 72 species.

While all 13 teams had a great time, the Birdathon also reminded us how important it is to protect natural habitats, especially in areas subject to intensive development pressure. Many of the most productive birding areas, like Algonkian Regional Park, Bles Park, and the Broad Run Stream Valley Park, are in the most rapidly developing parts of the county. Since the Birdathon began over 15 years ago, we've confirmed how rich the county's wildlife habitat is and how important it is to preserve. With your support, Loudoun Wildlife will continue working to protect it.

The Birdathon is both an important fundraiser for Loudoun Wildlife and one of its citizen science tools, helping us evaluate the health of local bird populations and their habitat. We thank the generous donors for supporting Loudoun Wildlife's efforts, the members of the 13 teams, and the leaders of the 11 birding walks and events who made it possible.


Virginia Rail
Photo by Karen Pinckard


The Ligi Nestlings
Photo by Spring Ligi



Living With WILDLIFE

SHARING THE LANDSCAPE WITH WHITE-TAILED DEER

(END OF A TWO-PART SERIES)

by Cliff Fairweather

A Whitetail buck strikes a pose in a local yard before returning to the nearby woods. Photo by Laura McGranaghan

In the last 50 years or so, White-tailed Deer have gone from scarce to abundant. This is undoubtedly a conservation success story, but do we now have too much of a good thing? Whitetails have adapted to human-dominated landscapes remarkably well, and their success often puts them into conflict with us over landscape and garden plantings, collisions with vehicles, spread of disease, and impairment of forest ecosystems. None of these conflicts is easy to resolve, and we just might need to do some adapting ourselves in a landscape we share with deer.

People are often thrilled when they first see deer in their yard, but the thrill usually disappears along with the hostas and azaleas. Costs for damage to residential plantings by deer probably range into at least the tens of millions of dollars, though precise numbers are hard to find. Choosing deer-resistant plants, preferably natives, can help (see Julie Borneman's article in the Spring 2022 *Habitat Herald* for recommendations). Fencing, tree tubes and cages, and other physical barriers are the most certain way to keep deer from devouring plants, but these can be expensive and unsightly. Instructions for do-it-yourself barriers, using materials such as paracord or monofilament, are readily available on the internet. Avoid using plastic netting, though, as it can ensnare birds, snakes, and other small animals.

Deer repellent sprays, either commercial or homemade, provide short-term protection. However, these need to be re-applied frequently, especially after rain, and deer eventually tolerate them. Various scare devices employing electric shock, flashing lights, or sprinklers can provide some protection, at least until the deer get used to them. The Piedmont Master Gardeners has a good article that addresses physical barriers, sprays, and other measures, as does Plant Virginia Natives (see Resources below).

The Virginia Department of Transportation reports an average annual cost of deer-vehicle collisions at $533 million; the annual nationwide human death toll averages 200. States and communities can take measures to reduce collisions, such as signage, electronic roadside deer detection and warning systems, and wildlife over/underpasses. Still, drivers need to take responsibility. To reduce the chances of collision, obey the speed limit and be especially careful at dawn and dusk, when deer are most active. The fall rut, when bucks are pursuing does, is a particularly dangerous time.

Whitetails often move in groups, so if one crosses the road, more will likely follow. If a collision is imminent, don't swerve to avoid the deer, as you could lose control of your vehicle. Just before impact, let your foot off the brake to reduce the chance of the

A fawn joins other members of her herd in the dappled light of a field near Snickersville Turnpike. Photo by Laura McGranaghan

deer going through the windshield. Finally, pay attention to deer crossing signs and be especially vigilant on those stretches of road. Research on devices attached to cars that supposedly repel deer with an ultrasonic whistle indicates that they are ineffective.

Loudoun County, like many jurisdictions where residential development is expanding into previously rural landscapes, has seen an increase in the incidence of Lyme disease. Deer often get the blame, but their role in both the incidence of Lyme and tick abundance is uncertain. They are a host for adult Black-legged Ticks, which transmit the disease. Deer, however, do not carry the *Borrelia burgdorferi* bacteria that causes Lyme. Ticks get the bacteria in their larval and nymph stages from birds and small mammals, especially White-footed Mice. Research indicates a strong link between reduced small animal diversity and increased incidence of Lyme.

Lyme is a serious disease and just one of several carried by ticks, but focusing on deer is unlikely to reduce the incidence in humans. The best thing you can do is to protect yourself by wearing long-sleeves and long-pants in tick-prone areas and tucking the hems of your pants into your socks. Use insect repellent and check yourself thoroughly for ticks after being in tick-prone areas. The Centers for Disease Control website has guidance on how to remove and dispose of ticks (see Resources below).

In recent months, coronavirus has been detected in White-tailed Deer in Virginia and other states. This is an evolving story, but the virus has passed from humans to deer, though exactly how is unclear. More concerning, it has also passed back to humans, and deer have become a reservoir for the disease. Mutations of coronavirus within this reservoir have unknown implications for public health. Transmission from deer to humans is likely to be rare, but people who have regular, close contact with deer should be cautious. This situation will require ongoing monitoring by public health authorities.

Chronic Wasting Disease (CWD) has been found in whitetails in Loudoun County. Caused by proteins called prions, rather than a bacteria or virus, CWD affects the central nervous system. Deer initially appear asymptomatic, but eventually CWD causes loss of coordination, droopy head or ears, lack of fear of humans, excessive drooling, and extreme emaciation. CWD is always fatal, and there is no treatment. There is currently no evidence that CWD is transmissible to humans, but the Centers for Disease Control recommend not eating deer meat from symptomatic animals. Transmission of CWD appears to be enhanced by higher deer densities, so encouraging deer to congregate with feeding stations or salt licks can help spread the disease. The Virginia Department of Wildlife Resources (DWR) asks that people report deer showing symptoms of CWD to the Wildlife Conflict Line at 1-855-571-9003.

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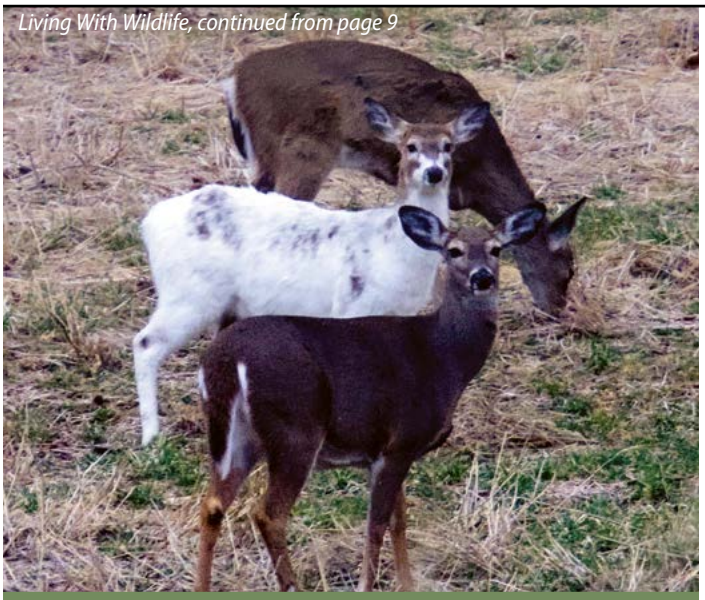
Living With Wildlife, continued from page 9



Three White-tailed does, including one with a piebald coat, are caught grazing in a field on a Round Hill farm. Photo by Kathy Durand

As early as the 1940s, Aldo Leopold and other wildlife professionals began warning about the ecological consequences of an unconstrained rebound of deer populations. A large body of research indicates that browsing by high-density deer populations has serious adverse effects on forest ecosystems. These include the loss of diversity and abundance of herbaceous plants and shrubs, alteration of plant communities, the loss of bird and other animal species dependent on those communities, spread of non-native invasive plants, and impaired forest succession and regeneration. Severely affected forests show a distinct browse line where much of the vegetation under 5 feet, about the height of a whitetail, has been consumed.

But is Bambi entirely to blame? More recent research into the history of deer populations and forest health suggest a more complex story (see Resources below). Pollen studies and other evidence shows that, prior to European colonization, substantial portions of the East were covered by open forests dominated by widely spaced, fire-resistant, shade-intolerant mature oaks and/or pines. Below the canopy was a very sparse mid-story and a dense, diverse herbaceous layer of wildflowers, grasses, and sedges.

This savanna-like open forest structure was maintained by frequent, low-intensity ground fires that allowed abundant sunlight to reach the forest floor and promote herbaceous growth. White-tailed Deer numbers were then likely similar to those today, and these forests had experienced millennia of herbivory without ill effects. Deer may have helped maintain the open structure and enhanced the diversity of the herbaceous layer by selectively browsing fast-growing woody species, especially shade-tolerant ones, that would otherwise outcompete herbaceous species for space and sunlight.

Fire exclusion efforts from the 1930s — placing a priority on completely preventing, as opposed to controlling, forest fires — resulted in closed forests with dense, woody plant growth that included more fire-sensitive species, such as Red Maple. The near elimination of whitetails probably added to the effects of fire exclusion by removing a major herbivore. The resulting high density of woody plants left little space or sunlight at the forest floor for herbaceous species. The result: denser, darker, moister forests and a decline of herbaceous plants and their associated animal species, such as Bobwhite Quail, Blue-winged Warbler, and Yellow-breasted Chat.

This is not to say that deer don't cause considerable ecological harm at high deer population densities, at least in localized areas. Many problems in Eastern forests today, however, can be attributed to other causes, such as fire exclusion, forest fragmentation, other forestry practices, and climate change. Whitetails might actually be a valuable ally in efforts to restore open forests; we need much more research on the role of deer in forest ecology.

Our primary tool for managing deer populations is hunting, but hunters historically have wanted more deer, especially bucks, not fewer. Wildlife agencies in many states now encourage hunters to take more does through programs such as Quality Deer Management to reduce the population. Even if these programs are successful, however, the number of hunters is declining, putting the long-term effectiveness of hunting as a management strategy in doubt. Also, more communities and property owners are restricting or banning hunting due to safety and other concerns.

Reintroducing Gray Wolves and other predators to the East is unlikely to be a politically viable option. Coyotes opportunistically take fawns, but not enough to reduce deer populations. Hired sharpshooters and police SWAT teams have been used successfully to reduce deer numbers in individual communities and properties, such as parks. Deer sterilization and birth control efforts are expensive and have had limited success at best. Given the limited management options, White-tailed Deer will continue to be a significant presence on the landscape — one to which we will need to adapt.

Cliff Fairweather *is a naturalist who recently retired from Arlington County's Long Branch Nature Center.*

Resources:

"Deer, Deer, Deer!", Piedmont Master Gardeners: https://piedmontmastergardeners.org/article/deer-deer-deer/

"Deer, Rabbits, Dogs," Plant Virginia Natives: https://www.plantnovanatives.org/deer-and-native-plants

"Tick Removal and Testing," Centers for Disease Control: https://www.cdc.gov/lyme/removal/index.html

Hanberry et al., "Reviewing Fire, Climate, Deer, and Foundation Species as Drivers of Historically Open Oak and Pine Forests and Transition to Closed Forests," Frontiers, 12 May, 2020: https://www.frontiersin.org/articles/10.3389/ffgc.2020.00056/full

Mow Less, Plant More to Help Pollinators, continued from page 3

Once you identify some host plants, search for chewed leaves. A leaf that is munched on likely indicates a caterpillar is enjoying it for food or shelter. One example of the host relationship is our beloved Monarch butterflies. They lay their eggs on milkweed, and the caterpillars eat only milkweed before turning into a chrysalis. About two weeks later a new Monarch emerges.

Be the agent of change! This is key to helping butterflies and moths. After five years of research and education, I have developed a passion for creating a sustainable habitat at our homes. I hope you will join me on this journey to learn and experience the native transition in our yards and communities. You will naturally demand more wildlife protections from your landscaper, mowing service, HOA board, neighbors, and plants stores. I hope you'll follow my example and use your voice for change on behalf of all living things.

I encourage you to learn about the plants that support caterpillars and to establish more mow-free zones that include native plants. You'll support wildlife and save gas by NOT mowing as much of your lawn. Embrace the freedom; join me on the wild side.

Resources:
Our Planting for Wildlife publication and web tool, https://www.novawildlifegarden.net/
Audubon at Home Ambassadors certification
Inspiration from our YouTube recordings
Co-sponsored library events — recorded Gardening to Welcome Wildlife and Life in the Flowerbed on July 7 and the Magical Monarch on September 7.
Events and plant information from our partner Plant NOVA Natives

A bee (above) enjoys the flowers of a False Indigo bush -- which is also the host plant for this Silver-spotted Skipper butterfly caterpillar. Photos by BJ Lecrone

Many butterflies and moths have more than one host plant. Here are just a few natives to consider planting if you want to host more pollinators' caterpillars:

- Coral Honeysuckle (*Lonicera sempervirens*) vine is a host plant for many moths and butterflies, including the Snowberry Clearwing Moth and Spring Azure butterfly.
- False Indigo (*Amorpha fruticosa*) bush is a host plant to butterflies (including the Silver-spotted Skipper and Gray Hairstreak) and moth species.
- Black Cherry (*Prunus serotina*) tree is a host plant for the Red-spotted Purple and many other butterflies.
- Wild Indigo (*Baptisia spp.*) plants may host caterpillars of a number of butterflies, including the Wild Indigo Duskywing and Clouded Sulphur.

Vegetable gardeners, please note: Hornworms, which quickly feast on nightshade family plants, including tomatoes, are actually the caterpillar of the Five-spotted Hawk moth! Please forgive these soon-to-be beautiful pollinators and plant a few additional plants to share with them.

Loudoun Wildlife Supporters Come Together for Annual Meeting

by Kim Strader, Volunteer Coordinator

Loudoun Wildlife Conservancy's annual meetings offer a great opportunity to celebrate our volunteers and accomplishments. This year was no exception, with 90 people in attendance on June 5 at Ida Lee Park in Leesburg. We kicked off the late-afternoon event with a social half-hour where people browsed merchandise, learned about how the Route 15 expansion proposal could potentially impact JK Black Oak Wildlife Sanctuary, and celebrated news of the newest species found there — Eastern Spadefoots!

The business portion of the meeting included approving meeting notes, reviewing the state of the organization, and hearing the treasurer's report. Additionally, we elected and welcomed new Board members Jay Frankenfield, Scott Harris, and Pat Whittle.

It is no secret that volunteers are the lifeblood of our organization. We always set aside time at the Annual Meeting to acknowledge our volunteers and present awards. The 2021 recipients are:

The Joe Coleman Award: Michael Sciortino

This award recognizes a Board member for exemplary contributions and achievements. Michael has served since 2019, and in 2021 stepped into the treasurer position. He is on the Black Oak Committee and always volunteers to take meeting notes — and he does an awesome job. Michael is learning to use the drone and taking lots of pictures at Black Oak, regularly leads (or co-leads) monthly bird walks, participates in the Birdathon, and is a Bluebird monitor.

Volunteer of the Year: Rich Wailes

Rich stepped up to manage and coordinate a variety of tasks for the Bluebird Monitoring Program's new leadership team. He collated and reported the 2021 Bluebird monitoring results on 51 trails and proactively researched 2022 reporting requirements to update the data collection form used by the monitors. Rich is a trail leader on one of the Brambleton Trails, mentors new trail leaders, and led a group at our first-ever season kick-off meeting specifically for trail leaders and monitors. He is also on the Stream Monitoring Committee and leads our efforts on Broad Run in the Willowsford Community.

Youth Conservation Award: Anthony Santos

Anthony began volunteering with us in 2020 as a 10th-grade student with an interest in exploring and aiding local conservation efforts. He has volunteered regularly for Black Oak workdays, native plant sales, butterfly counts, and habitat restoration plantings. He is a certified stream monitor with our Stream Monitoring Program. Anthony is a pleasure to work with. He is highly motivated, eager to learn, and happy to help with Loudoun Wildlife projects wherever and whenever he can fit them into his already busy schedule.

Special Recognition: Miriam Westervelt

Since 2010, Miriam has facilitated Loudoun Wildlife's partnerships with Loudoun County school teachers to equip students with the skills they need to get outside and record the local plants and animals they see. The Peterson Young Naturalist Program she created trains classroom teachers to deliver fun nature education activities that meet student learning objectives from science to language arts. The program also recognizes and awards students from kindergarten through 12th grade whose nature journals are exceptional in observation, drawing, and writing. Over 100 students have received Loudoun Wildlife's Peterson Young Naturalist Award.

Loudoun Cares Award: Gerco Hoogeweg

Loudoun Cares' Outstanding Adult Volunteer Award was presented to Gerco Hoogeweg. Gerco was unable to attend that organization's ceremony earlier in the year, so Executive Director Michael Myers accepted the award on his behalf and then presented it to Gerco during the Annual Meeting.

Michael Myers presents a special award to volunteer Miriam Westervelt, creator of the Peterson Young Naturalist Program.

Additional awards were presented to Loudoun County Public Schools Regional Science Fair winners and to students for their Peterson Young Naturalist journals. Congratulations to the winners and to all our volunteers for your dedication to Loudoun Wildlife.

Advocacy Pleas

Following the awards, Gerco, who co-chairs the JK Black Oak Wildlife Sanctuary Committee, presented an update on all the habitat restoration activities and wildlife discoveries there. Michael Myers' advocacy update was an impassioned plea for us all to do our part to help protect Black Oak from the potential construction of a Route 15 bypass.

The meeting ended with an informative keynote address from Dr. Eric Kershner, chief of the Division of Bird Conservation, Permits and Regulations for the U.S. Fish and Wildlife Service at its Falls Church, Va., Headquarters Office. His topic was "Bird Collisions with Towers and Glass: What We Are Doing to Reduce the Risks and How You Can Join the Fun!"

Congratulations to the Loudoun Wildlife Board's new slate of officers, elected during a June 21 board meeting. Jim McWalters moved from vice president to president, as Julie Borneman's term ended; Christine Boeckel became vice president; Brian Magurn, secretary (a position that had been vacant); and Michael Sciortino remains as treasurer.

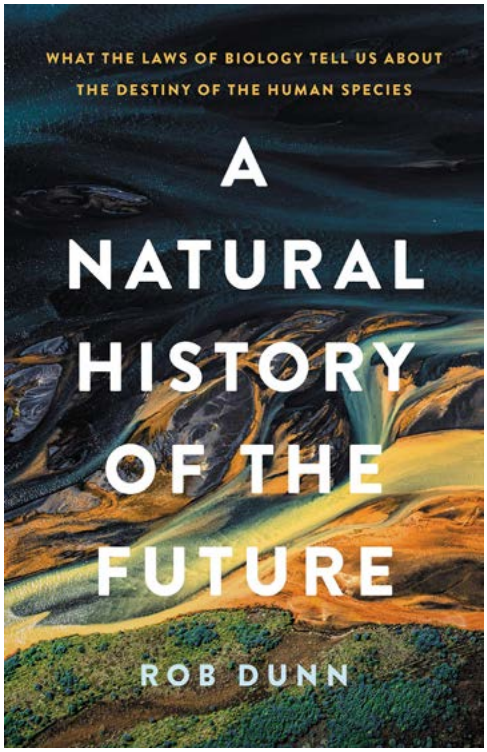
Book Review: A Natural History of the Future by Rob Dunn

Review by Steve Allen

Are humans on a path to destroy nature?

Conventional wisdom says yes, that through climate change, destruction of natural habitat, overuse of herbicides and pesticides, and a long series of other sins, human action could lead to the demise of nature.

Rob Dunn, professor of applied ecology and author of *A Natural History of the Future*, disagrees. He believes that we've got it backwards: people are not going to destroy nature but instead are setting the stage for nature to destroy us. While humans and some larger life forms may go extinct — all species do eventually — microscopic parasites and insects like *Aedes* mosquitos will survive long after we are gone.



Dunn returns over and over again to a scientific experiment now known as the *megaplate*. Scientists set up a large Petri dish (2 ft. x 4 ft.), divided the plate like a football field with two end zones and seven strips between them, and filled it with agar, a favorite food of bacteria. In the two strips next to the end zones, a mild solution of an antibiotic was applied, then a 10x stronger solution in the next strips, 100x stronger in the next two, and 1000x stronger in the center. A small colony of *E. coli* was then placed in each end zone.

The *E. coli* was expected to spread across the end zones and try to cross into the first strips only to be killed by the antibiotic, eventually starving when all of the agar in the end zone was consumed. That didn't happen. Instead, one or a few bacteria mutated to become resistant to the mild antibiotic, then multiplied to fill the first strip. Mutations occurred repeatedly at the edge of each strip until *E. coli* filled the entire plate. This process took 12 days.

Shocked at this outcome, the scientists repeated the experiment multiple times, all with the same result. A newer, more powerful, antibiotic slowed the process to 14 days. The conclusion drawn from this experiment is that faced with the prospect of extinction, a dangerous parasite can evolve in a few weeks* to become resistant to the most powerful weapon humans have created to combat it.

The megaplate is both an example of how fast the law of natural selection can work in a closed system, and a metaphor for how human attempts to destroy what we perceive as an enemy can go horribly wrong. As Dunn points out, the corn monoculture of the American Midwest is a megaplate. If a Roundup-resistant corn fungus were to evolve and take hold, it could destroy the crop and the economy with it in very short order.

There is a lot of conjecture about how an increase in temperature due to climate change will affect us. In Dunn's view, this is a simple problem: if our average daily temperature increases by five degrees, our living conditions will come to resemble places where that climate exists now. Southern Florida will be like the rainforests of Central America.

This brings into play another natural law that will come to haunt us. The law of escape holds that species will benefit when they can evade their natural predators. The wildlife of the Central American rainforest, like jaguars and howler monkeys, may not be able to escape to Miami because there is not a clear pathway for them to get there. However, the parasites of the rainforest have many routes, and will have no trouble bringing north the diseases of the rainforest like malaria, dengue fever, and yellow fever.

Although the laws of nature all point to a future where parasites continue to flourish as humans and larger wildlife decline, Dunn tells us that we should not lose hope as long as we take steps to reverse the process. "Our best bet for extending our stay on this planet is a humble one: to pay attention to the laws of life and work with them rather than against them."

To do this, we need to reduce greenhouse gas emissions to preserve the viability of the niches that are best suited for human habitation. We must also do all that we can to save the ecosystems on which we depend, or might depend upon for food. We have to provide corridors for beneficial species to travel to new homes when their current homes become uninhabitable. And finally, we need to manage our own ecosystems to keep the parasites at bay.

If we can do all of that, Dunn assures us, we have a good chance of surviving here on megaplate Earth.

* *E. coli* reproduce every 20 minutes, or about 70 times a day. That means that over 12 days, there were 840 generations. In human terms, this would take 16,000-20,000 years, or back to the middle of the last Ice Age.

Programs and Field Trips

Unless otherwise specified, contact *info@loudounwildlife.org* with questions.

Birding Banshee

Whether you're a beginning birder or an expert, you'll be dazzled by the many bird species you'll find at the **Banshee Reeks Nature Preserve** south of Leesburg. Join Loudoun Wildlife Conservancy and the Friends of Banshee Reeks for the monthly bird walk at this birding hotspot. Bring binoculars if you have them. ***Registration required. Sign Up Online.*** ***Questions:*** *Contact Joe Coleman at 540-554-2542 or jcoleman@loudounwildlife.org.*

Second Saturdays: August 13, September 10, October 8, 8:00 am

Birding Bles Park

Loudoun Wildlife Conservancy is excited to offer a regular bird walk at **Bles Park**, located along the Potomac in eastern Loudoun. More than 175 different species of birds have been observed here in a great mix of habitat. Everyone is welcome, whether you are an experienced or beginning birder. Bring binoculars if you have them. ***Registration required. Sign Up Online.*** ***Questions:*** *Contact Bryan Henson at bhenson@loudounwildlife.org.*

Sunday, August 21; Saturday, September 17; & Sunday, October 16, 8:00 am

Birding BRCES

The **Blue Ridge Center for Environmental Stewardship** (BRCES) is a beautiful 900-acre preserve in northwestern Loudoun. With its diverse wildlife habitats, including meadows, streams, and heavily forested slopes, BRCES draws a wide variety of birds and other creatures. Join Loudoun Wildlife Conservancy on our monthly walk and see what's there! Meet at the Education Center; bring binoculars if you have them. BRCES is located just north of Neersville at 11661 Harpers Ferry Road (Rte 671); detailed directions at www.blueridgecenter.org. ***Registration required. Sign Up Online.*** ***Questions:*** *Contact Joe Coleman at jcoleman@loudounwildlife.org.*

Fourth Saturdays: August 27, September 24, October 22, 8:00 am

Loudoun Wildlife Conservancy Board Meeting — The Board typically meets the second Tuesday of the month at 7:00 pm. All Loudoun Wildlife members are welcome. *Contact Jim McWalters at jmcwalters@loudounwildlife.org for additional information.*

Writing in Nature — First Thursdays: August 4, September 1, October 6, 11:00 am – 12:30 pm, Gate House at Morven Park. Join Nancy Morgan, director emeritus, Georgetown Lombardi Arts and Humanities Program, for this monthly opportunity presented by Loudoun Wildlife Conservancy to enjoy the combined health benefits of time spent in nature and writing thoughts and feelings. Writing is often considered a solo, reflective practice, but writing in the company of others can be a supportive, community-building activity that encourages regular practice. Each session is a stand-alone event – come when you are able. Registration is open through the morning of the workshop. ***Registration required:*** *Sign Up Online.*

Let's Count Butterflies! — Saturday, August 6, 9:00 am – 4:00 pm. In a recent *National Geographic* newsletter, Jason Bittel reported that Monarch butterflies may be doing better than we thought. This is based on a study of the data collected for the North American Butterfly Association (NABA) by citizen scientists all over the U.S. The study is controversial but seems to show that in some areas, such as here in Loudoun, planting milkweed, which Monarch caterpillars need to survive, has truly helped these insects. Of course, the Monarch is just one of over 50 different butterfly species the Loudoun Wildlife Conservancy annual butterfly count records each year. Since 1997 our data has been submitted to NABA and made available to entomologists who study butterflies. Find out more about the count, previous years' data, and how you can be a part of this year's event at https://loudounwildlife.org/citizen-science/butterfly-count/. Beginners and experts are welcome. ***Registration required:*** *Sign Up Online.*

A Planet Full of Insects and Spiders: Friends and Foes — Saturday, August 6, 8:00 – 10:00 pm, Izaak Walton League. Arthropods, which include spiders and insects, are the most common animals on the planet. A day cannot go by without a live specimen getting your attention by walking in front of you or flying around your body wanting to land on it. Join Dr. David Adamski, member of the Department of Entomology for the National Museum of Natural History, for this Loudoun Wildlife Conservancy presentation on these most abundant of all animals. Learn why they are so successful in all types of environments. From camouflage, warning coloration, and mimicry to sound production, predation, cannibalism, and metamorphosis, all will be explained in family-friendly language. ***Registration required and limited to 50:*** *Sign Up Online.*

Bat Night — Saturday, August 13, 7:30 – 9:30 pm, Blue Ridge Center for Environmental Stewardship. Loudoun Wildlife Conservancy is excited to present Bat Night, led by "The Bat Lady," Dr. Susanne Sterbing. This world-renowned bat expert and Johns Hopkins University research professor's fascinating audio-visual presentation will be followed by a question-and-answer period. You don't want to miss Dr. Sterbing's description of the strange feeding rituals of vampire bats! The lecture will be followed by a live bat viewing (hopefully) down at the pond. Family friendly; wear good walking shoes and bring flashlights and bug repellant. ***Registration required and limited to 50:*** *Sign Up Online.*

Creek Critters Count and Catch Program — Sunday, August 28, 1:00 pm, Chapman DeMary Trail, Purcellville. Join the Purcellville Parks and Recreation Advisory Board, Purcellville Tree and Environment Sustainability Committee, and Loudoun Wildlife Conservancy to get up close and personal with the creek critters living in the South Fork of the Catoctin Creek at the Chapman DeMary Trail. Loudoun Wildlife Stream Team members will discuss the natural history of these critters, help participants learn how to identify them, and explain how they can help us determine the health of a stream. ***Registration required*** through the Purcellville Parks and Recreation website.

Magical Monarchs — Wednesday, September 7, 7:00 – 9:00 pm, Cascades Library. Environmental education specialist and naturalist Clare Walker will share photos and video from a trip to the Monarch butterfly's overwintering areas in Michoacan, Mexico, and share stories of their amazing migration, the dangers they face, and what we can do to protect them. This talk is co-sponsored by Loudoun Wildlife Conservancy and the Loudoun County Public Library.

Native Plant Sale — Saturday, September 10, 9:00 am – 3:00 pm, Morven Park, main parking lot. Native plants add beauty and interest to your garden year-round and provide important habitat for wildlife. Autumn is an optimal time for planting trees and shrubs. These, plus flowers, vines, and ferns, will be available for purchase from local nurseries. The sale, sponsored by Loudoun Wildlife Conservancy, will be staffed by volunteers knowledgeable about native plants. ***Questions:*** *Contact Janet Locklear at jlocklear@loudounwildlife.org.*

Bluemont Fair — Saturday and Sunday, September 17 and 18. Join us at the Bluemont Fair to help promote Loudoun Wildlife Conservancy and all our programs. No experience or prior knowledge is necessary. Volunteer shift options include: morning shift, 9:00 am – 12:00 pm; afternoon shift, 12:00 – 3:00 pm; and evening shift, 3:00 – 5:30 pm. 8–10 volunteers needed each day. ***Volunteer registration required:*** *Sign Up Online.* ***Questions about volunteering:*** *Contact Volunteer Coordinator Kim Strader at kstrader@loudounwildlife.org.*

Hawk Watch — Saturday, September 17, 10:00 am, Snickers Gap, Bluemont. Each autumn, hawks migrate south along the Blue Ridge. Join Loudoun Wildlife Conservancy at the Snickers Gap Hawkwatch, one of the best hawk-watching sites in our area. If the weather cooperates, we should see a wide diversity of birds of prey. ***Registration required:*** *Sign Up Online.* ***Questions:*** *Contact Joe Coleman at jcoleman@loudounwildlife.org.*

JK Black Oak Wildlife Sanctuary Open House — Sunday, September 18, 10:00 am – 2:00 pm. Visit the Sanctuary during its first "open house." Loudoun Wildlife Conservancy has invited our JK Black Oak partners — The Nature Conservancy, Land Trust of Virginia, and Lucketts Ruritans — to showcase their organizations and contributions to JK Black Oak. This will give you an opportunity to learn more about the wetlands mitigation project, conservation easements, and community involvement. During the open house we will lead short nature walks so you can experience the property firsthand, enjoy its beauty, and learn more about the vernal pools and the creatures they support. ***Questions:*** *Contact Gerco Hoogeweg at ghoogeweg@loudounwildlife.org or Allison Gallo at agallo@loudounwildlife.org.* ***Additional details will be provided on our website. To protect the environmentally sensitive habitat and rare species, the Sanctuary is not open for general public access, and can only be visited during events such as this.***

Birding at Izaak Walton League — Sunday, September 25, 8:00 am. The Loudoun County Chapter of the Izaak Walton League manages a rich natural property south of Hamilton that contains a wide variety of habitats and as a result supports a lot of birds, especially during migration. In partnership with the Chapter, Loudoun Wildlife Conservancy's Allison Gallo and Bryan Henson will lead a bird walk there. *Limit 8.* ***Registration required:*** *Sign Up Online.* ***Questions:*** *Contact Allison Gallo at agallo@loudounwildlife.org.*

Restoring the Little Things that Run the World with Doug Tallamy — Sunday, September 25, 3:00 – 5:00 pm, Virtual. Learn about the importance of insects from renowned author Doug Tallamy, followed by a panel of local experts with resources and tips. Gardeners, wildlife enthusiasts, and backyard birdwatchers will benefit from this lecture. Dr. Tallamy is an entomologist, ecologist, professor, and conservationist well known for his books, *Nature's Last Hope: A New Approach to Conservation that Starts in Your Yard* and Bringing Nature Home: How You Can Sustain Wildlife with Native Plants. A recent UN report predicts that as many as **1 million** species will disappear from planet earth because of human activities. Many of these are insects, and nearly all species at risk rely on insects. Insects have already declined 45% since 1974. The alarming part of this statistic is that most people don't appear to have noticed, despite the fact that a world without insects will be a world without humans! Tallamy will remind us of the essential roles insects play, and describe the simple changes we must make in our landscapes and our attitudes to keep insects on the ground, in the air, and on our plants. This program is presented by the Audubon Society of Northern Virginia, co-sponsored by Loudoun Wildlife Conservancy, Prince William Conservation Alliance, and Plant NoVA Natives. After Tallamy's presentation, stay with us for a panel of local experts who will share resources and information for applying Tallamy's teachings in Northern Virginia. ***Registration required*** through the Audubon Society of Northern Virginia website, https://www.audubonva.org/asnv-events/doug-tallamy-220925.

Walk for Wildlife Fundraiser — October 1–31. Walk for Wildlife is a month-long event in which you see how many wildlife places you can visit and how many species in nature (plant/animal) you can identify, using and posting them to the iNaturalist app. This Loudoun Wildlife Conservancy event is a fun way to get outside and observe, and you can help support our programs that benefit wildlife and healthy habitats. Information on how to register, participate, and/or donate will be forthcoming.

Willowsford Riparian Plantings — Saturday, October 8, 9:00 am – 1:00 pm (rain date: October 15). Join Loudoun Wildlife Conservancy for a riparian buffer planting at the Willowsford Conservancy. Riparian buffers are instrumental in filtering pollutants from rainwater runoff before it enters local streams and waterways. We will plant approximately 200 native trees/shrubs and install guards to protect them from deer browse. *50 volunteers needed.* ***Volunteer registration required:*** *Sign Up Online.* ***Questions about volunteering:*** *Contact Volunteer Coordinator Kim Strader at kstrader@loudounwildlife.org.*

Dig Native Plants for Your Garden — Saturday, October 22, 9:00 am – 2:00 pm (rain date October 23), JK Black Oak Wildlife Sanctuary, members-only event. In preparation for the wetlands mitigation project in the east meadow at JK Black Oak, plants from the project area are being relocated on the property. During this one-time event, Loudoun Wildlife Conservancy members are invited to dig plants for their gardens. The east meadow is full of attractive native plants, including many not sold by nurseries. A list of available species will be provided on the website, and volunteers will be on hand to help you identify the plants. You'll need to bring your own shovel as well as pots, bags, or boxes to hold the plants you dig. Ticks and poison ivy are present in the meadow so long pants and sleeves, gardening gloves, and insect repellant are recommended. ***Registration required and limited:*** *Sign Up Online.* ***To protect the environmentally sensitive habitat and rare species, the Sanctuary is not open for general public access, and can only be visited during events such as this.***

Fall Color Walk — Saturday, October 22, 2:00 – 4:00 pm, Hill School, Middleburg (tentative). As the days get cooler and frost is in the air, deciduous trees and shrubs put on an autumn show in all shades of red, yellow, orange, and purple. Join Emily Southgate and Loudoun Wildlife Conservancy for a walk in the woods to enjoy all the colors that Mother Nature provides this time of year. We'll discuss various tree species and why trees change their color in the fall. *Limit 20.* ***Registration required:*** *Sign Up Online.*

Hail to the Trail — Sunday, October 23, 1:00 – 4:00 pm. Hail to the Trail celebrates environmental recreation, exploration, and education. Hail to the Trail – the annual Purcellville Green Expo – is hosted by the Town of Purcellville's Tree and Environmental Sustainability Committee. This event is free and open to the public, and is great for families, students, and scouts. Loudoun Wildlife Conservancy will lead a hands-on activity about the environment. Come for guided nature walks, tree planting, the town's annual Arbor Day celebration, live animals, plastic bag collection, live music, nature art projects and games, displays, energy activities, and more. Visit https://purcellvilleva.gov/999/Hail-to-the-Trail---Purcellville-Green-E for more information.

A Year in the Life of an Owl — Wednesday, November 2, 7:00 pm, Rust Library. "A Year in the Life of an Owl" follows our region's four resident owl species from winter through fall. We'll learn what makes owls instantly recognizable and find a few surprises hidden under all those feathers! We'll get a peek into their romantic courtships, the challenges of raising young, and the difficult transition from nestling to fledgling. And finally, we'll see the quiet time when the young seek out their place in the world and the adults can (almost) relax. Our four Owl Ambassadors will help us tell the story. You'll meet Scarlett (Barred Owl), Hodor (Great Horned Owl), Phantom (Barn Owl), and Kvosir (Eastern Screech-Owl) in person, learn about each species and a little about their personal lives in captivity. You might even get to take a few selfies! This program is co-sponsored by Loudoun Wildlife Conservancy and the Loudoun County Public Library.

Dates and locations are subject to change. For up-to-date information on our programs or to register, visit our website at www.loudounwildlife.org ***or contact*** info@loudounwildlife.org**.**

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Walk for Wildlife!

SAVE THE DATE(S)

October 1-31

*** Visit Loudoun's wildlife places!**
*** Record the plant/animal species you see!**
*** Raise funds for Loudoun Wildlife!**

For details, email: contact@loudounwildlife.org