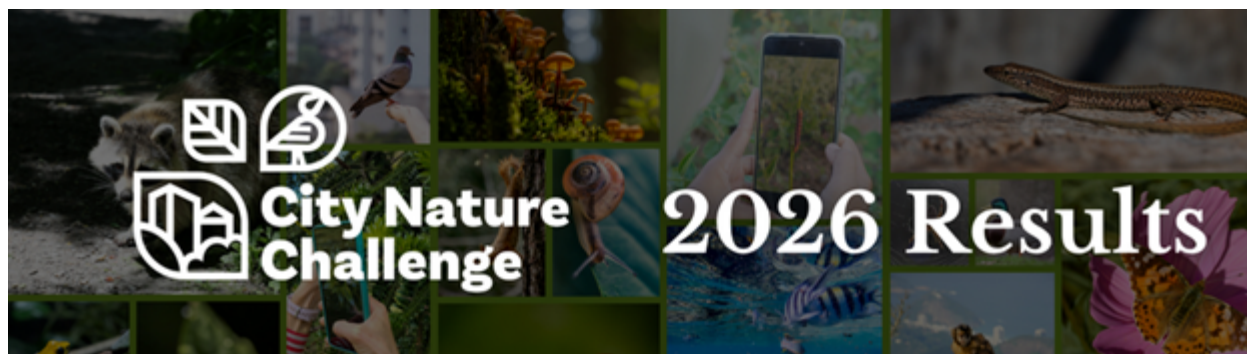


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Summer Quarterly 2026

Arlington Regional Master Naturalists

Notes on Nature



City Nature Challenge 2026: A Retrospective

The City Nature Challenge, a global bioblitz for measuring urban biodiversity, is now complete for 2026. The final results are impressive, showing solid increases over 2025 totals. This year, the CNC included 754 metropolitan areas in 61 countries

76,422 species, with the assistance of 27,642 individuals who helped identify observations.

The Washington, D.C., metropolitan area made an impressive showing in all four categories: CNC DC was #3 for observers (2,275), #4 for identifiers (1,614), #6 for observations (65,502), and #9 for species observed (3,719). Virginia creeper (shown at right) was [the most commonly observed species in our area](#). Data from the ARMN Observations Project, to which many ARMN members contribute, provide a more focused spotlight on what we accomplished locally. During the event, 79 project members identified 1,103 species and contributed 6,519 observations — an increase of more than 900 over last year. Complete results for the 2026 CNC and for previous years are available at <https://www.citynaturechallenge.org/2026-final-results>.



Thanks go to everyone who participated in the CNC this year and helped it achieve two important goals: not only providing a wealth of data for scientific research but also encouraging people to get outside to learn about and celebrate the wildlife that thrives around us, even in the heart of our cities.

Read the full story by Rosemary Jann [here](#). Photo from CNC 2026 final results webpage, [results for Washington, DC](#).

How to Control Mosquitoes Without Killing Pollinators

enjoy the outdoors without being pestered by those annoying — and sometimes disease-bearing — little biters, like the Asian tiger and common house mosquito (both shown at right). When outdoors, we can wear long sleeves and pants and/or use an effective repellent on exposed skin (DEET, Picaridin, IR-3535, or oil of lemon eucalyptus). Besides protecting ourselves, we need to eliminate mosquito habitat and control mosquito numbers.

Here are some recommendations:

1. Eliminate potential mosquito-breeding grounds with standing water. Even in tiny pools of stagnant water, mosquitoes can grow from eggs to adults within 7 days. Look for places where water can pool and reduce populations by:

- unclogging gutters;
- covering, turning over, or moving indoors any equipment, containers, or toys that might collect water;
- straightening sagging tarps or other covers;
- filling in areas under outdoor faucets or air conditioning drains;
- repairing damaged screens on rain barrels; and
- removing invasive plants like English ivy, Japanese barberry, and Japanese honeysuckle (which provide the humidity that mosquitoes like).

2. For uncovered pools like ponds and bird baths, reduce mosquitoes by:

- changing the water regularly (ideally, every 4-5 days);
- using Mosquito Dunks® (deadly to mosquito, black fly, and fungus gnat larvae but harmless to pets, wildlife, and other organisms); and
- keeping the water moving (for example, with a fountain, bubbler, or solar pump).

3. Treat mosquitoes like foes but treat bees and other beneficial insects like the friends they are! The pesticides used to kill mosquitoes also kill other invertebrates, including pollinators and insects that feed birds and eat mosquitoes



compared to pyrethroids and permethrins, including pyrethroids that are “nonselective” or “broad spectrum,” many of which kill not only mosquitoes but also honeybees and other beneficial insects as well as fish and small aquatic organisms.

4. Because mosquitoes have no trouble flying from yard to yard, work with neighbors to reduce mosquito populations. Urge your neighbors to eliminate standing water or treat it with Mosquito Dunks®, and encourage them to protect beneficial insects and other wildlife by forgoing the use of mosquito sprays.



Read the full story by Susan Gitlin [here](#). Find out more about mosquitoes [here](#).

Photos by Muhammad Mahdi Karim, Wikipedia (top); Ary Farajollaji, Bugwood, U.S. Forest Service (center); and Kasha Helget (bottom).

How to Protect Against Ticks ... and what to do if a tick does bite

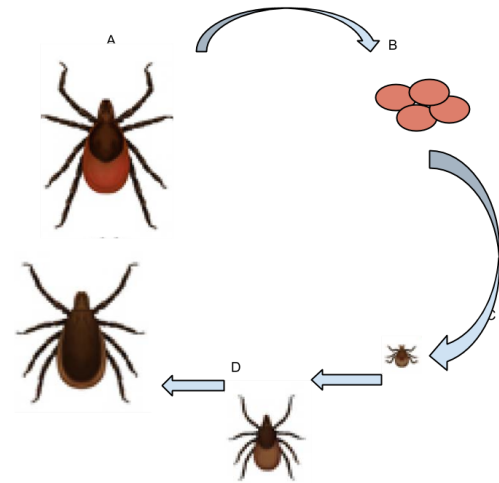
Does it seem in recent years like there are more ticks (such as the Lone Star tick shown at right, with its distinctive light-colored dot)? You’re not imagining things; there *are* more. The reasons include warmer winters and longer “tick seasons.” While most ticks may be active from March to October, the height of tick season is June to September. And more ticks are carrying diseases, including Lyme and other dangerous pathogens.



What should you know to protect yourself, your kids, and your pets?

Ticks are generally dark in color and can range in size from a piece of pepper (larva), to a poppy seed (nymph), to a sesame seed (adult) (see the tick life cycle at right).

But ticks can be even smaller. You may need a magnifying glass to know for sure that it's a tick! A good site for helping you identify particular ticks and life stages is the [Virginia Department of Health's tick identification page](#).



Where Ticks Hang Out

Ticks wait on the tips of grasses, leaves, and other vegetation to brush up against a passing animal (a host) and climb aboard. You can find ticks in:

- taller grasses (usually not in well-trimmed lawns);
- garden beds (on shrubs, perennials, and tree leaves); and
- woods, especially in heavy vegetation or along sidewalks or hiking trails where vegetation hangs over the path.

Note: Ticks don't jump, fly, or fall from trees. They climb aboard their host very quickly.

Preventing Tick Bites

First, try to avoid them.

- Keep grass cut and underbrush thinned in your yard.
- Walk in the center of a trail or sidewalk; don't brush up against vegetation where ticks are just waiting to climb aboard.
- Wear long pants and tuck them into socks (see the photo at right) so ticks stay on the outside of pants.
- Wear light-colored clothing so you can see any ticks on you.



scalp and back.

- ***Put clothes in a hot dryer for 20 minutes to kill any ticks.*** (Hot water doesn't kill them, but a hot dryer does.)

Second, repel any ticks that try to climb aboard.

- Use repellents containing Deet, Picaridin, or products with Nootkatone on your skin.
- Wear clothes, boots, and shoes treated with permethrin. ***Do NOT spray permethrin in the air or on your skin.***

Ticks in Your Yard

Because ticks wait for a host on leaves or in tall grasses and shrubby areas:

- Remove or isolate brush, keep lawns mowed, and clean up leaves from lawns.
- Install a mulch or gravel barrier between lawns and woody/vegetated areas and near patios and play equipment to separate tick areas from play/social areas.
- ***Note:*** Ticks don't like hot and dry spaces and will not crawl away from vegetation onto your decks or patios.
- Fence out wildlife (such as deer) that may carry ticks, although mice and birds may carry them into your yard, too.

Pesticide sprays are generally ineffective against ticks but are deadly to pollinators and other beneficial insects. Avoid spraying pesticides in your yard to protect these crucial animals.

Protecting Pets From Ticks

- Check your pets for ticks after they have been outside (see the diagram at right).
- ***Always*** ask your veterinarian about collars, sprays, and so on to protect your pet from tick bites.
- Ticks can live on a pet's (and person's) bedding indoors. Look for ticks when cleaning bedding and put items in a hot dryer for at least 20 minutes to kill ticks.

Tick Bite

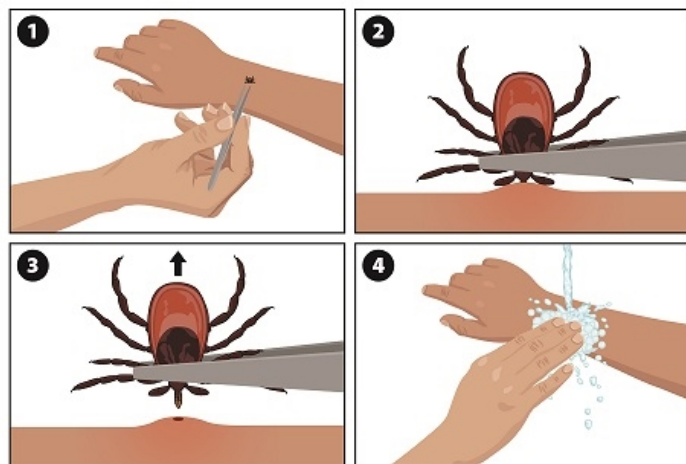
As soon as you find it, **remove the tick** like this:

- Try not to touch the tick with bare hands, and don't crush the tick or use alcohol or fire on the tick when it is attached.
- With tweezers, grasp the tick mouth parts close to the skin and gently pull in a steady upward motion, as shown in the diagram at right.
- After removing the tick, **thoroughly clean the bite area and your hands** with rubbing alcohol, an iodine scrub, or soap and water.
- Submerge the live tick in alcohol and place it in a sealed bag or container, wrap it tightly in tape, or flush it down toilet.



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After removing it, **identify the tick**. Identification is important in case you develop symptoms of a disease, which can occur within several weeks of a tick removal. Different ticks can carry distinct pathogens. **Note: Not every tick carries disease**, so not every attachment transmits disease.

- Use a Tick ID app or contact [Arlington Virginia Cooperative Extension](#) or [Fairfax County Division of Environmental Health](#) for instructions.
- Take a photo of the tick **and/or** place it in a ziplock bag covered with rubbing alcohol. Note the date/location where the tick attached and the approximate length of the attachment.
- If you develop a rash, fever, or other unusual symptoms, tell your doctor when and where you most likely were bitten and which tick bit you, if you know.

Further Information About Ticks

For national information about ticks, check out [TickSafety.com](https://www.tick-safety.com/). You can find information about ticks in Virginia at [Virginia Department of Health — Tick Identification](#); [Types of Ticks in Virginia](#); and [Virginia Department of Health — Ticks](#).

The ARMN “Learn About” link [Mosquitoes and Ticks](#) provides additional information on managing ticks and mosquitoes without harming pollinators. One particularly useful link is [Virginia’s Most Common Ticks — ID and Disease Info](#), which includes images of ticks you may encounter locally, times when they’re active, and diseases that they can transmit.

Story by Kasha Helget, mainly based on [CDC — Ticks](#); [Virginia Department of Health — Ticks](#); and [Virginia Cooperative Extension — Common Ticks of Virginia](#). Photo of Lone Star tick by Elizabeth Nicodemus (CC BY-SA 2.0); photo of pants tucked into socks by vdh.virginia.gov. Illustrations of deer tick life cycle by Cfhand15 (CC BY-SA 4.0); where to check pets for ticks by tlcpetfood.com/the-tlc-scoop/tick-talk-protecting-your-dog-from-ticks; and removing a tick by [CDC—What to do after a tick bite](#).

The Chesapeake & Ohio Canal: An Ecological Comeback Story

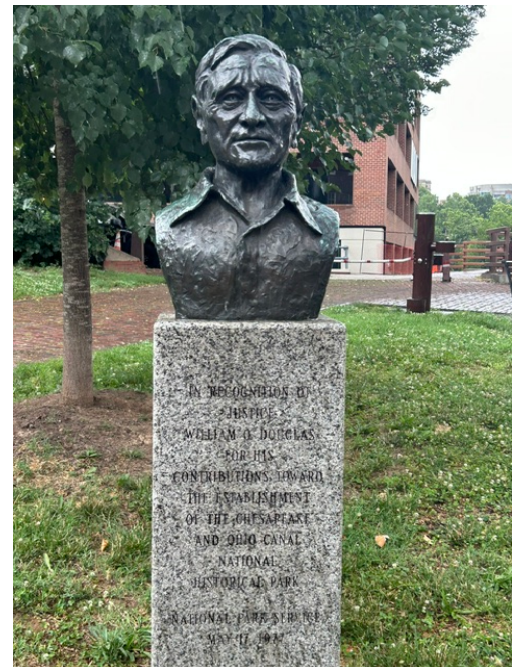
The Chesapeake & Ohio Canal (shown at right during its operational heyday) might have been a commercial disappointment over time, but it is an ecological comeback story. The canal runs 184.5 miles along the northern bank of the Potomac River, from Cumberland, Md., to Georgetown in Washington, D.C. The original plan was to connect the Chesapeake Bay all the way to the Ohio River near Pittsburgh, which would have been about 300 miles (nearly twice as long). Ground was broken in 1828 during a frenzy of U.S. canal building. Construction of the canal employed thousands of immigrants during the 25 years it took to build.

thriving commercial waterway. Barges pulled by mules transported raw materials from mines and farms in West Virginia and western Maryland to Washington, D.C., from where boats moved the goods on to ports on Chesapeake Bay. Some finished goods were also carried back upriver to rural communities.



The canal was doomed from the start by the rapid expansion of railroads, a more efficient means of transportation. But flooding also played a role: the canal was hit by at least 17 floods, with the final blow coming in 1924, when the flood damage was deemed too costly to repair. The C&O Canal lay dormant for the next 25 years. That's when things got exciting! As always, Mother Nature moved back in as human activity subsided. The towpath grew over with forest, the wetlands expanded, and the canal prism — the actual water-filled trench — became a thriving aquatic system.

In the 1950s, some tried to turn the towpath into a scenic highway. Fortunately, Supreme Court Justice William O. Douglas, the hero of our comeback story, intervened. (Douglas is commemorated with the bust shown at right.) He challenged newspaper editors to walk the length of the canal with him to show them what would be lost, and he was so convincing that the C&O Canal National Historical Park was established in 1971. Today, the canal is maintained as a public-private partnership, with the National Park Service working with the C&O Canal Trust to maintain the park as a vibrant ecosystem and tourist attraction.



Five key features make the C&O Canal such an exciting place to visit:

1. **Diverse ecosystems:** The canal and nearby lands are primarily riparian and aquatic systems along with upland forests, but there is also a rare shale barren in western Maryland. The canal (dry in places, especially during

reaches the Potomac River and Chesapeake Bay.

2. **Plants:** The canal is home to over 1,500 species of plants, many of which are rare, threatened, or endangered. The NPS is using a process called solarization to kill nonnative invasive plants and prepare the ground for restoring native grasslands. The process involves covering a patch of moist soil with clear plastic sheets for several weeks during the hot months of the year.
3. **Wildlife:** The canal hosts over 300 species of birds, ranging from wood duck and blue heron to raptors like bald eagle and broad-winged hawk, along with rarer birds like limpkin and American golden plover. The canal also serves as a migratory corridor for hundreds of bird species as part of the Atlantic Flyway. Additionally, a wide range of mammals, reptiles, and amphibians are found in and along the canal, including white-tailed deer, muskrats, painted turtles, eastern spadefoot toads, spotted salamanders, eastern redback salamanders, and the occasional black bear. As you would expect, the canal also has fish such as smallmouth bass, sunfish, catfish, and muskellunge, as well as the invasive northern snakehead.
4. **Recreation:** The C&O Canal and its towpath provide opportunities for hiking, biking, fishing, camping, kayaking, and bird watching. However, there is no swimming in the canal.
5. **Historical interest:** Visitors to the canal can see engineering feats like the PawPaw Tunnel, the Monocacy Aqueduct, and locks and lockhouses (which



The C&O Canal is a reminder that even when humanity moves on, Mother Nature is always ready to reclaim what was hers.

Story by Mary Jo Coiro, based mostly on National Park Service, [C&O Canal National Historical Park](#). Photo of historical canal by National Park Service; photos of Douglas bust and canal bed by Mary Jo Coiro; photo of bald eagle by Kay White, National Park Service.



Birding Hotspot: Monticello Park

As occasional birders, my son Alex and I decided to check out this spring's songbird migration in Alexandria's Monticello Park, a 6.25-acre city plot of public land at 320 Beverley Drive in Alexandria. The park is open year-round from 6 a.m. to 9 p.m., with street parking available.

Drained by a small creek in the Four Mile Run watershed, the park is at the head of a valley with steep slopes covered by mature oak/hickory forest. The stream is deeply incised into its floodplain despite protective measures such as riprap, the concrete ruins of ancient retaining walls, and weirlike structures to control stormwater runoff. The structures form riffles and pools sheltered by shrubs on eroded streambanks, inviting birds that normally stay high in the trees to come down to drink and bathe. (We didn't see any birds in the creek this time, but I have before.)

the middle of suburbia as an ideal place to land and feed. Larger forested landscapes nearby, such as Barcroft Park on Four Mile Run and Dora Kelley Nature Park on Holmes Run, might get as many or more migrating visitors, but the concentration of songbirds at Monticello Park is unmatched.

The best time to go is in late April through May, when many birds are clearly identifiable by their bright breeding plumage, like the American redstart shown at right. Early morning is best, but you can see and hear birds all day long. More than 30 species of warblers have been spotted in Monticello Park, along with thrushes, orioles, finches, wrens, and more. The park's small size lets you traverse the mile or so of interlocking trails in an hour or two, even as you stop — as you invariably will — to watch and listen to so many birds of various kinds.

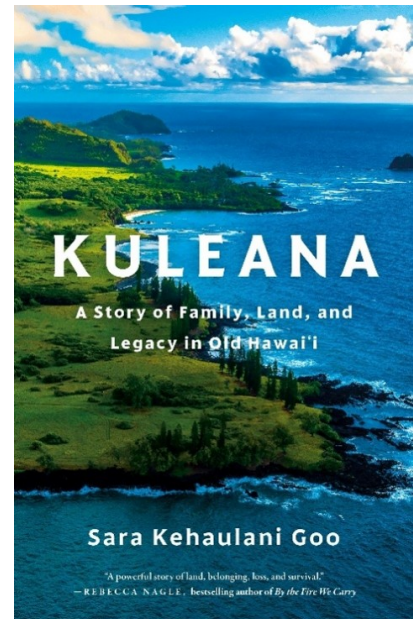


Alex and I walked the trails early one morning in mid-May. We used binoculars and an iPhone birding app called Merlin, which you can get for free. Merlin picked up about 40 different bird species on my cell, mostly warblers, including the American redstart. The birds were flitting about high in the trees and hidden by foliage, so I couldn't identify many by sight, which is where birding by ear comes in. But we heard so many different songs on one particular hillside that they blended together in a single chorus, with nothing clearly identifiable. I'd never experienced anything like it before, and I will definitely go back next year.

Story by Hutch Brown, based in part on William Young and Ashley Bradford, "[Monticello Park](#)" (Birding Virginia, Blog, 22 February 2021), and John Kelly, "[Alexandria's Tiny Monticello Park Gains a Big Honor](#)" (Washington Post, 5 July 2022). Graphic (magnolia warbler) from [MPNature](#) by William Higgins. Photo of American redstart by Rhododendrites, Wikipedia.

This story is about Hawai'i (pronounced ha-VYE-ee in Hawaiian), but it's also a story about what happened worldwide when European newcomers disrupted traditional cultures and severed people's ties to land and family. The author has decades of professional experience as a journalist, so she tells the story well.

Sara Goo, like many “local” Hawaiians, has what she calls a “tangled East-West heritage” that is both Asian and Caucasian: her last name, for example, is Chinese. But the part of her heritage that she focuses on most in her book comes from her grandmother, whose ancestor Kahanu (ka-HA-noo) was a 19th-century member of the Hawaiian ruling class on the island of Maui near the town of Hana. As a local chief, Kahanu served a community living on a landscape called an ahupua'a (ah-hoo-poo-AH-ah).



Maui's traditional communities depended on ahupua'as — triangular watersheds reaching from the high-elevation headwaters of streams on volcanic slopes down to broad ocean fronts, separated from neighboring ahupua'as by low ridgelines with boundary markers. The marker was an ahu — a stone cairn — with a pua'a — a sacrificial pig — placed on it in ceremonial tribute. Each self-sustaining ahupua'a supported various economic activities, from upland harvesting of forest foods, to tending crop fields along streams, to building and maintaining coastal fish ponds, and so on. When you came of age, you chose your own trade in consultation with the chief and other community members.

The kuleana (koo-leh-AH-na), or responsibility, of each community member was to serve the whole by producing goods and services within the ahupua'a, from mountain to ocean and from ridge to ridge. The chief's kuleana was to oversee relations within the community and with neighboring communities. The kuleana of the community as a whole was to conserve the lands and waters that sustained communal livelihoods for passing on to future generations. Kuleana was thus a precious gift from one generation to another, with an obligation to pass it on to the next. Kuleana is at the heart of Hawaiian history and culture; as the author explains, the song, dance, and music of traditional hula are about celebrating and transmitting kuleana.

haoles (HOW-lees), or foreigners — in the 1770s. The author touches on the story of whalers and missionaries; of epidemics wiping out native families and communities; of land, water, and power grabs by haoles; and of Great Power rivalries undermining Hawaiian independence. As a cash economy based on global trade took hold, the self-sustaining ahupua‘as were doomed.

In 1848, to give his people a chance to survive in the coming system of free enterprise, the Hawaiian king turned the ahupua‘as into private property, a concept utterly foreign to a culture of lands and waters managed through collective kuleana. Kahanu, the author’s ancestor, got title to 990 acres, but his heirs lacked the resources, infrastructure, and knowledge to turn a profit from landownership, so they gradually sold or otherwise lost most of their lands to sugar plantations and cattle ranches owned by haoles. In search of jobs and affordable housing, many Kahanu descendants emigrated to the mainland, where the author was raised in southern California and now works in the Washington metropolitan area.

Sara Goo’s story begins in 2019 with her extended family’s remaining land near Hana threatened with loss due to rising land taxes. But the heart of her story is actually her backstory beginning as a small child on family trips back to Maui, where her Uncle Take (TAH-keh) introduced her to the beauty and historicity of their family land,



which contained Hawai‘i’s largest heiau (HAY-ow) (shown above). Built from black lava for ceremonial purposes, the heiau was rich in artifacts and Native Hawaiian lore. In the process of discovering the heiau and her family land and history, the author rediscovered herself through her kuleana to her beloved grandmother, to her Uncle Take and her entire extended family, and to her Native Hawaiian heritage and the heritage of her own children. (Through an arrangement with her extended family, you can see the Pi‘ilanihale Heiau while visiting Kahanu National Tropical Garden near Hana.)

For me, Sara Goo’s *Kuleana* resonates as a story not only about Native Hawaiians

languages, cultural practices, and stories from the past. On a more personal level, *Kuleana* is a way of reflecting on and perhaps even reimagining our own collective stewardship obligation as Americans to care for the land, both now and for generations to come.

Book review and photo by Hutch Brown.



Questions? Comments? Email us at newsletter@armn.org

ARMN is a chapter of the [Virginia Master Naturalists](#), a network of 30 volunteer-run chapters that span the state.
