Stay warm out there, Habichatters! Winter will pass soon!

In the meantime, enjoy the selection of cold weather reading we've assembled for you. First, Sarah has written a Native Animal Profile on the cold-weather loving bugs that live in Maryland, and why even the silence of winter is actually a time of lively transformation. And with Valentine's Day around the corner, what could be more apropos than a dive into love in the wild? Then, we turn our gaze to the return of spring, with a Native Plant Profile by Katy about the ever-serviceable serviceberry and its serene spring bearing. Finally we resolve to renew our efforts in conservation with an article on manageable environmental goals!

Sarah Witcher and Katy Gorsuch

Eastern Newt. Photo by Marta Fiscus

Native Animal Profile: Cold Weather-Loving Bugs

Photo by John Mullican

“Paying attention is a form of reciprocity with the living world, receiving the gifts with open eyes and open hearts.” - Robin Wall Kimmerer

A walk outside in the winter months always feels strikingly different from the summer, not just in the temperatures and the way the natural world looks, but in the way it *sounds* too. Other than the swish of your winter coat, the occasional bird chirp, and the crunch of dry leaves or freshly fallen snow, winter in Maryland can be a pretty quiet environment.

This silence is owed at least in part to the absence of active insects. The buzzing of busy bees and hungry mosquitoes, chirping crickets and shouting cicadas can really cause quite a ruckus, but most of our summer singers seem to disappear in winter. Some familiar invertebrates take advantage of our climate-controlled houses, living with us year-round, like spiders, roaches, cave crickets, and house centipedes. Others – like

the ladybugs and stink bugs that find refuge in our window casings and siding – prefer to cozy up just when they need us. Some bugs migrate, some hibernate, and a large number pass the cold season in an egg, larvae, or another immature form. A large number of Maryland's well-documented aquatic macroinvertebrates (animals with no backbone that you can see without a microscope) spend their winters in streams as larvae or nymphs. Many use unique adaptations like the production of a chemical similar to antifreeze in their bodies to survive winter conditions and happily live their lives in frigid waters. These winter swimmers are sampled and used by Department of Natural Resources scientists to assess the health of our waterways. One final category is one of the most specialized and interesting: those that somehow remain active in their adult forms, our cold weather-loving bugs.

Investigating Stream Health – MBSS

If you live near a freshwater stream, you are likely no stranger to the existence of very special kinds of insects called the winter stoneflies, sometimes named snowflies (order Plecoptera, families Capniidae and Taeniopterygidae). Named for their tenacious clinging on to rocks in fast moving streams, these flattened, leggy insects spend their egg and nymph stages in water, using feathery gills to breathe and producing an antifreeze chemical to stay thawed. They then go through a series of molts until they emerge from the water as adults, leaving behind their crunchy shed skin (called exuviae), often attached to the sides of bridge structures or rocks along the stream's edge. Winter stoneflies uniquely time this emergence with the cold, giving themselves

the advantage of less competition and fewer chances of being eaten by predators in the months when most other creatures are groggy. They are also fairly weak flyers; this means they spend more time running on land, making it much easier for our human eyes to spot, especially in contrast to snow. They spend just enough time in their adult form to find mates, lay eggs, and start the cycle over again. Not to be confused with midges, a teeny-tiny, gnat-like member of the true fly (Diptera) order that sometimes hatches on warm winter days, stoneflies are regarded as a very welcome mid-winter snack by our local freshwater fish.

Insects like snowflies aren't the only ones taking advantage of winter's peace. They have good company in a very little known and fascinating group of invertebrates named snow fleas, part of the group of invertebrates called springtails or Collembola. Collembola don't technically qualify as true insects, nor are they fleas - but they do have six legs and a tail-like structure that enables them to launch themselves vast distances. They are rarely noticed, but extremely common and live basically everywhere, including highly urban environments like Baltimore City. Most of them hang out in soil, leaf litter, and moist vegetation; they play a vital role in breaking down organic matter, munching on dead things as busy decomposers. Some species are adapted to aquatic life, frequently found near tidal areas and shorelines. Being so tiny and covered in a hydrophobic (water-repelling) outer layer, even land-dwelling species can be found in water, floating on the surface film; many terrarium pet owners can attest to this, as springtails are specifically bred and kept in "bioactive" captive reptile homes to aid in health and waste breakdown. Some of them could even be described as cute - take Symphypleona for example, globular springtails, which are very reminiscent of an animated character.

Click to watch video on YouTube

A few very special species of Collembola are considered true snow lovers, and may appear as hopping specks of dirt on a snowy landscape. Scientists still aren't sure

exactly why they congregate and become active on the snow, but some hypothesize it's a form of small-scale migration or a response to excess moisture. Homeowners will occasionally report springtails as pests when this happens even though their populations, no matter how large, do not actually cause any damage to homes. We should probably be thanking them for the ways they are useful to humans. Besides their services in soil health, their brand of anti-freezing chemical genius has been studied for possible human applications like preservation of organs.

Winter midge. Photo by Sarah Witcher

What can these tiny, hidden wonders of winter tell us? For starters, winter is not a time of death or silence for as many living things as we may have thought. Some invertebrates, in fact, wait every year for cold weather to perform some of the most vital functions in their life cycles. Not only are they predators for some and prey to other interconnected species, these creatures provide undeniable benefits to us as humans inhabiting their home ecosystems. Snow fleas, stoneflies, and countless other winter-active species are susceptible to damage from pesticides and other chemical use, so use pesticides sparingly or not at all, even in cold weather. Also, these species suggest that no effort to create habitat in our home landscapes is ever wasted. We may

not see immediate, large-scale results when we plant a native plant or tree, but the interconnected communities of wild things we support are there whether we see them or not. Our winters are undoubtedly changing as global climates change, altering the lives of all living species. Whether on a small scale in our gardens or a large scale in the rest of our world, we can all do our part to preserve and protect natural resources like these.

What can you do about climate change? Check out some ideas from the U.S. Environmental Protection Agency.

For more ideas for creating habitat in your backyard, visit the Wild Acres pages.

Love in the Maryland Wild

"In nature, nothing exists alone." - Rachel Carson

Damselflies. Photo by Christopher-Szumlanski

Now that many winter holiday celebrations have come and gone, the next on the horizon is Valentine's Day. Since this is a holiday rife with confusing human history and a variety of social traditions, let's turn to the animals for some Valentine's Day wisdom and explore some of the amazing relationships found within Maryland's wildlife communities.

Mating: For wild animals, is it just about making babies?

When we think about "romance" in the human world, our minds often turn to the concept of long-term monogamy; so, for non-human animals we envision lifetime pair bonds or at least long-term mated pairs. We understand the many benefits of monogamy well, especially when it comes to rearing young that take a long time to leave the nest. It turns out that true monogamy in the natural world is extremely rare, with only 3-5% of the 4,000-plus species of mammals on Earth practicing any form of it. After reading that statistic, monogamy optimists may say, "well, what about the birds?" Prior to advances in genetics, birds were often believed to be up to 90% monogamous, since their social

behavior showed that common pattern. Today, scientists can test the genetic makeup of each chick hatched in a female bird's nest, and for most species, the results show that each group of babies often have more than one daddy. While fish and amphibians generally prefer multiple mating partners, you may be surprised to learn that some insects participate in faithful, life-long mated relationships, including a few species of cockroach!

Regardless of how long animals stay with their mates, there is no doubt that some of them understand what a romantic gesture should look like. Take for example bluegills, a fish species well known for their artful nest building and elaborate swimming and grunting patterns designed to attract a female. Eastern newts love a good dancer too, with females choosing their mates based on the guy who both has the moves and smells the best. Not to leave out invertebrates, the males of some hangingfly species understand the love language of food, bringing their chosen female the largest prey item they can to ensure that she'll eat long enough for them to mate.

In contrast, it is fair to say that some wild animals skip much of the courtship when reproduction is the goal. Take wood frogs for example, with males so enthusiastic in their pursuits that they sometimes harm the females in the process. Or male damselflies, who despite the cute, heart-shaped body positioning, actually forcefully hold the female in a position to scrape out any sperm from the prior male and deposit his own (but then, with some damselfly species she eats him). Speaking of which, praying mantid females are well known mate eaters, perhaps the ultimate romantic sacrifice.

Whether courtship behaviors meet our romantic approval or not, it's clear that mating relationships are perhaps some of the most important in the animal world, just as they can be in ours. Some readers may wonder: is there evidence of queer (LGBTQIA+) relationships in nature? The answer is decidedly *yes,* and stay tuned for another article about that in a future HabiChat issue. For now, let's not forget to celebrate the countless other forms of love and connectedness in the wild!

Black Vultures. Photo by Michael Dwyer

Family: In the wild, do blood relations matter?

For many of us in the human world, our families – whether related by blood or chosen – are our greatest source of love and connectedness. Long-term familial bonds are not as common in Maryland's wild animals, but some creatures do show that behavior pattern. Black vultures are known to long-term pair bond, and second-year chicks often come back to help parents with the next year's brood, working as teams to locate carrion snacks. Red fox siblings have also been shown to hang around for more than a year and help with the next year's pups.

Some species are better at parental care than others, with a few mammals spending years looking after their young – like us, with offspring in our care for 18 or many more years! Juxtaposed to that, some egg-layers may cut and run as soon as they've finished, like most frogs and toads. Seahorse males are famous for carrying the young (definitely the exception), but the unsung heroes are perhaps the invertebrates that

show careful parental care. Wolf spiders, patent leather beetles, and giant water bugs are all Maryland species that care for their eggs or young.

Symbiosis: When it comes to animal relationships, it's complicated!

Here is a reminder of some terminology for types of symbiotic relationships:

- Mutualism: both species in the relationship benefit. A Maryland example would be Allegheny mound ants and Edward's hairstreak butterflies. The ants tend to the butterfly larvae and receive a sweet treat from them, while the butterflies benefit from the ants' fierce protection.
- Commensalism: one species benefits, while the other is neither helped nor harmed. Whales and barnacles provide an example, with the whale unbothered by a freeloading crustacean that enjoys easy transportation and access to plentiful food.
- Parasitism: the parasite benefits while the host is harmed. Our most loathed example has to be ticks, which hungrily latch on and consume blood from their host, often transmitting disease in the process. Remember, ticks aren't all bad; they provide an important food source for a variety of other animals as well.
- Competition: species struggle to compete for the same limited resources. Competition is seen widely in animal communities, especially over food and space in declining habitats.

These terms paint a clear picture: there is rarely such a thing as a simple, two-way or binary relationship in nature. They are instead often complex and nuanced in ways science may not even yet understand. If we pull plants, fungi, and other organisms into the mix, the intertangled webs of dependencies and population dynamics can be mind-boggling to consider. This perhaps is one of the strongest arguments for the conservation of biodiversity; for every species we lose, we have no idea how many other species its ripples could affect. Take the Osage orange tree (not native to Maryland, but considered naturalized here), a plant that for some time mystified science as we observed that *nothing eats the fruit*. Paleontologists have concluded that this unique tree evolved along with several extinct Ice Age mega-mammals like giant sloths and mastodons; when they disappeared, their tree of tasty treats carried on alone and uneaten.

Crow. Photo by Tony Quinn

Friendship: Do wild animals make friends like we do?

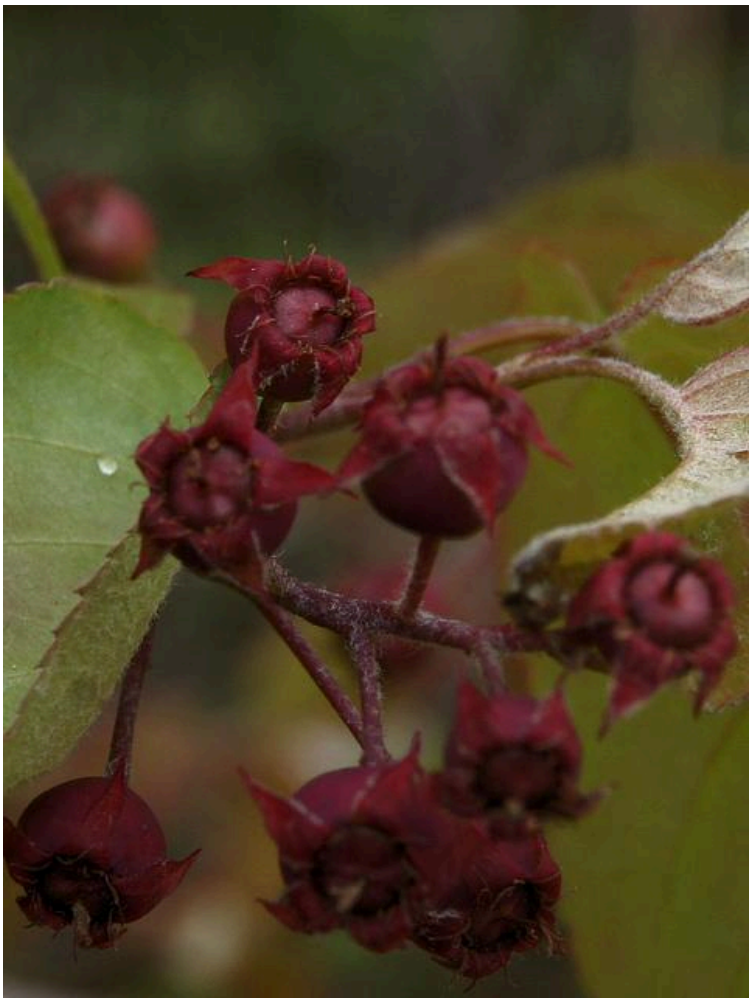
Defining friendship in the animal world is tricky, as so many relationships can be described as symbiotic without really showing the same qualities as our human friendships. Unsurprisingly, several highly intelligent animals *do* seem to make friends the way we do, like our trusty canines. In Maryland, the best example of this is in coyotes, who have been documented making friends not only with each other, but with other species like badgers (notably, not found in Maryland). Dolphins are also shown by multiple studies to love hanging out with their besties, playing and hunting together and forming friendships based on common interests. Corvids, specifically crows and ravens, have advanced communication and problem solving skills; as such, it's no surprise that they form friendships with each other that appear very human-like, sharing food and remaining loyal over many years.

So, what messages can we take away about relationships in the Maryland wild? In the words of the great author and environmentalist, Rachel Carson, truly nothing in nature exists alone. As wild animals and plants are deeply dependent upon one another, so are we intertwined with the natural world that surrounds us. This Valentine's Day, remember

to show some love to Maryland wildlife! For more ideas on how to do that, visit HabiChat archives or the Wild Acres family of websites.

Native Plant Profile: Serviceberry

When spring approaches, one of the first vivid colors to pierce our sleepy winter eyes is often the stark magenta of Eastern Redbud. One may be forgiven, then, in overlooking the explosion of white blooms that appear at the same time, though they signal the awakening of a similarly important species: the versatile serviceberry!



Common Serviceberry during the early ripening process, by Bill Harms via Maryland Biodiversity Project

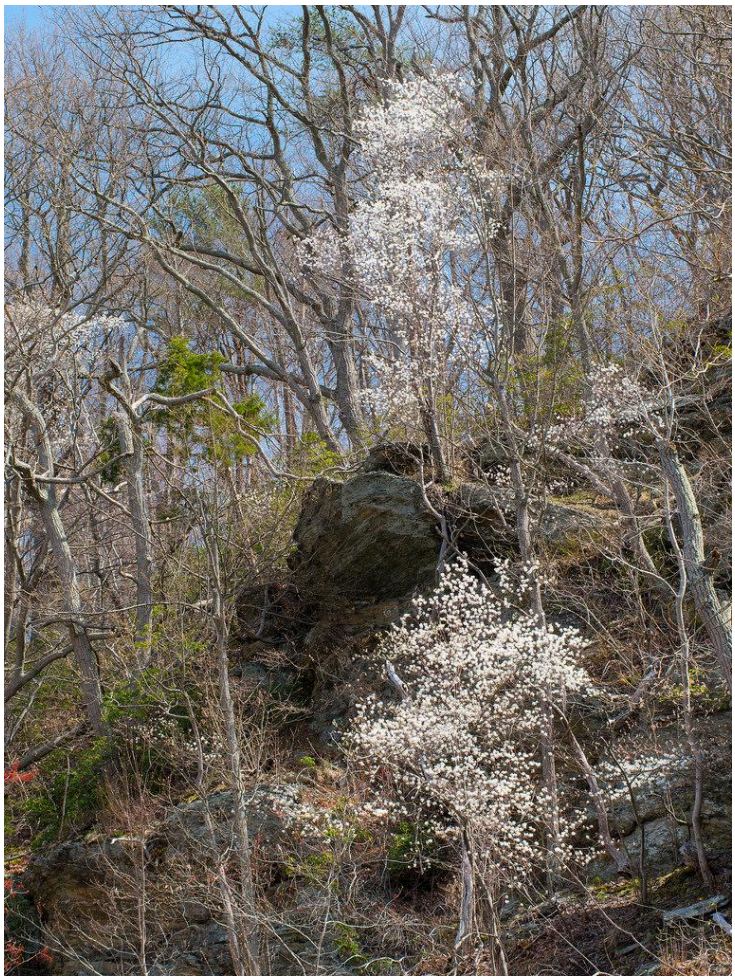
An *Amelanchier* by any other name

Serviceberry is a member of the Rose family (Rosaceae), along with many fruits such as plums, almonds, raspberries, strawberries, and peaches, although serviceberry is more closely related to apples. Rosaceae is a relatively large plant family, containing close to five thousand known species, many of which are present in our everyday lives.

True to the family it belongs to, serviceberry is an adaptable group of plants. In fact, serviceberry comes in as many (or even more) names as it does species! The common

name “serviceberry” actually refers to an entire genus of plants, nearly all of which belong to the Americas. In Maryland alone, there are eight species, and there are 20-some species total throughout the world. Most species are native to North America, with only three occurring naturally on other continents!

Other names for the various species in the genus include shadbush, juneberry, saskatoon, junebush, shadwood, sugarplum, and sarvis, among other derivations. The name of the plant may be for any of many reasons; ‘shadbush’ may come from the fact that the plant is in bloom during shad migration in the spring, and ‘juneberry’ for the fact that berries are common in June. Rumors say the name “service-berry” may come from their blooming coinciding with the time of year in which roads were passable so families could resume traveling for religious services.



Common Serviceberry by Janice Browne via Maryland Biodiversity Project

The name may be much older than this legend, however. When Europeans colonized North America, they were already familiar with “service-tree” (*Cormus domestica)*, another member of the Rosaceae family. English sources refer to its uses as a medicinal plant as far back as 1597. Much like the serviceberry later would bear innumerable names, the word "sorbus" is associated both with this species as well as many, many other members of the Rosaceae family,

When Europeans colonized North America, it is no wonder that they would see the resemblance to any one of many distantly-related fruits that were already familiar to them, and may have applied the name "sorbus." The Latin word “*sorbus*” has been long associated with many related members of the Rose family, going back as far as ancient Greece. This name may have even come far later, as early settlers are found to have compared the fruit to stone-fruits, yet another group within the Rose family. Other common names such as "wild plum" and "wild pear" could easily have been amongst the first names European settlers had for the Amelanchier species.

Native American tribes had long used the serviceberry in a wide variety of foods, including jams, wines, pies, and ciders. In fact, the name of the city of Saskatoon comes from the Cree word misâskwatômina, for the serviceberry fruit.

Take time to smell the serviceberry

Most species of serviceberry begin to gain foliage early in the season, with historic accounts mostly indicating April to be reliable and late March at the earliest, roughly at the same time as redbud trees. The flowers of serviceberry may look familiar; as they are members of Rosaceae, serviceberry trees and bushes have blooms that resemble apples, pears, or even cherries.

Canadian Serviceberry (flower cluster) by Jane Hill via Maryland Biodiversity Project

Fruit is generally ready in June through August when the berries are a deep purple color, and their taste is often compared to that of a blueberry.

The most common species of serviceberry in Maryland are the common serviceberry (*Amelanchier arborea,* also called downy serviceberry), Canadian serviceberry (*Amelanchier canadensis*), and the Allegheny serviceberry (*Amelanchier laevis*). Common names like shadbush and juneberry are often used interchangeably among the different species of serviceberry.

That said, it is not at all unusual to find a serviceberry hybrid occurring naturally. The U.S. Department of Agriculture notes that “many individuals within Amelanchier arise through hybridization and species boundaries are often not clear.” It is perhaps this adaptability that lends itself to the many, many variations of the serviceberry that occur across North America.

In Your Garden, At Your Service!

Serviceberry generally resides comfortably as a shrub, but in the right conditions may grow to tree proportions, reaching heights of 15-20 feet. It’s able to tolerate a variety of soil types, and may be found in soils of varying moisture levels. Serviceberry is relatively drought tolerant, and host to many species of butterflies and moths, including tiger swallowtails and striped hairstreaks. More unusual-looking species that call some

of the main species home during their larval stages include the white-spotted prominent moth and monkey slug moth.

The serviceberry provides fruit to native wildlife throughout the year, being one of the early flowers to bloom and provide pollen and nectar for bees and butterflies, and fruits produced starting in June may last through late summer depending on the availability of other native plants. The fruits are known to be eaten by at least 40 bird species (including the Baltimore oriole) and several dozen mammals species, including chipmunks, foxes, and even bears. Gardeners may be relieved to find that the serviceberry is not of significant interest to deer, another mark in its favor as a native garden plant.

Amelanchier sp berries by Simon Pierre Barrette via wikimedia commons (license: CC-BY SA 4.0)

Besides the benefits to wildlife, the serviceberry also acts as a harmonious member of a garden chorus, or as a lovely focal point. After the initial riotous burst of white blooms in the spring, and the vivid red berries turning to purple in the summer, the tree closes the third act of their year with an explosion of orange and red fall foliage. The lifespan of a serviceberry may last up to 50 years, making it a durable member of any garden community.

Amelanchier lamarckii, showing its autumn coloration by Agnieszka Kwiecień via wikimedia commons (license: CC-BY SA 4.0)

So as we look forward to the first blush of spring, consider adding the serviceberry to your list of favorite plants. And if its myriad services are not for you, then see some of our resources below to find a native plant to add to your home garden.

Article by Katy Gorsuch, Natural Resources Biologist with the Wildlife and Heritage Service.

For more information about serviceberries and landscaping with native plants:
Maryland's Wild Acres: Creating Backyard Habitat
Serviceberry: An Early-Flowering Maryland Native Tree
Visit the DNR Nursery to find native Maryland plants for your garden or yard
Less Common Fruits for a Home Garden
List of Recommended Trees

Refresh, Renew, Revitalize: Brushing off the Cobwebs and Rolling Up Our Sleeves

Bloodroot Emerging by Robert Severynse

As spring approaches, animals stir in their winter dens, and we as humans tend to throw open our windows to the returning sun. What a time for shaking off the dust of winter! And what a time to stretch our stiff limbs to new life - to refresh, renew, and revitalize!

The idea of changing your lifestyle can be daunting, and it's something many of us hope to do every New Year. But what we've learned over time is that the changes that tend to stick are the ones you make gradually. So if you're looking to make a positive environmental change in your life this year, consider choosing just one of the goals below to make your life, and our world, a little greener!

Clear the Clutter: Reduce Plastic Bags

Many of us across Maryland in the past few years have experienced the new county laws on single-use plastics, implemented to curb the plastics flowing into our biggest

local watershed, the Chesapeake Bay. Even if you haven't, moving towards reusable bags is an achievable goal, and one that will reduce the clutter in your life.

While many of us reuse plastic grocery bags as trash bags for kitchen waste, what do you do with the ones with holes in them? Many grocery stores now accept clean, dry plastic bags and plastic film in receptacles at the front of the store. Collecting plastic bags you can't use to bring back the next time you go for groceries reduces the amount of plastic in landfills, as well as the amount of plastic bags that end up impacting wildlife by accident. One way to save space with these is to knot them; this removes volume, and makes them less likely to either blow away or get caught.

In choosing reusable bags, pick something suited to your needs. Cloth bags can be thrown in the washing machine, but reusable bags made of recycled plastic can be wiped down easily, and may be more convenient for grocery items that are frozen or refrigerated. The most important thing is to choose something that you know *you* will want to use, and will be the most comfortable to adopt into your life.

Up Your Fashion Game: Choose Sustainable Clothes

Garlanded Beaver by James Pekar

It can feel these days like everything you see in the stores or online is polyester. If you'd like to reduce your use of plastic, a great place to start is to reduce the amount of polyester, nylon, or spandex you buy. All clothing releases small fibers in the washer,

meaning clothes made of plastics like these release plastics into the wastewater from our homes. Wastewater treatment plants treat for bacteria, viruses, and an assortment of pollutants, but microplastics are unfortunately beyond the scope of modern wastewater management.

Try to choose clothes that are made of natural fibers like cotton, wool, linen, or rayon (a semi synthetic fabric made of cellulose). Even if it's just making sure an item is blended with cotton instead of being 100% polyester, every little bit helps!

Make New Friends: Forgo Pesticides

Emerald Jumper by Madhuri Shenker

How do you increase the number of butterflies, help native bees, and ensure the future of fireflies? It's simpler than you think – don't spray!

Pesticides by design have a tendency to be very general; this causes problems because they wipe out beneficial insects as well as the ones humans are targeting. Not

only that, but on occasion the bugs that *can* survive on poisoned ground may be less desirable as well (for example, leeches thrive in polluted waters).

When problems arise with “pests” in your garden, there are a variety of least toxic pest products that can be used instead of pesticides, many of which specifically target insects you’re seeking to remove while encouraging biodiversity in your yard.

Additionally listed on our above resource are common beneficial insects and how to encourage them. You may even make some new friends! We have a tendency to shun the friendship of wasps, but some species like *Cotesia congregatus,* may prove your ally when it comes to hornworms in your garden!

Get More Greens: Plant Native Plants

Groundhogs Do Not Stay on the Ground by Ekaterina Ivleva

One of the most common questions received by the Maryland DNR Wildlife and Heritage Service is how to best help native animals, and the answer is nearly always to plant more native plants! Native plants provide food all through the year for animals at different stages of their development, where often ornamental, non-native plants do not.

Often, boxwood bushes are used to create plant barriers between lawns, or to cover unsightly utility items, but native deciduous shrubs can serve the same function while

also acting as habitat and food sources for native birds. Late winter and early spring are ideal times for replacing bushes in your yard with more wildlife-friendly alternatives.

Deer-tolerant ferns are wonderful to provide habitat as well- while they do not supply food to animals, they act to cool areas, absorb excess moisture in the soil, and are wonderfully shade tolerant. In fact, ferns are nearly never a food source for animals, although their structure makes them perfect foraging locations for birds looking for bugs!

If you have a lawn, have you considered how much time you may regain by not mowing? While such a proposition in many places may put you on the wrong side of an homeowners association, groundcover plants can replace grass lawns, allowing you free time back without your lawn growing out of control.

So where do you get native plants? DNR maintains a native plant nursery, and that's as good a place to begin as any!

Commit to Good Sleep Hygiene: Turn Out The Lights

Frog Camouflage by Danielle DeWitt

How blue light and screentime can affect our ability to fall asleep deeply has been a subject of much discussion in recent years, but did you know that the same things apply to wildlife?

When streetlights stay on all night, the light can confuse nocturnal animals, and may mean animals awake in the daylight don't get the restful sleep they need. Lights on at night in particular during the fall and spring migration can cause building strikes from birds making their way north or south when traveling at night. Curbing these negative effects are easier than you may think though! Changing floodlights to motion censored, or positioning them so they shine less light into the sky and are directed to where they need to be, are both great ways to reduce light pollution and help your local wildlife!

Check out Lights Out Baltimore for more tips on reducing light pollution for wildlife around you!

Let Go of Little Things: Leave the Leaves

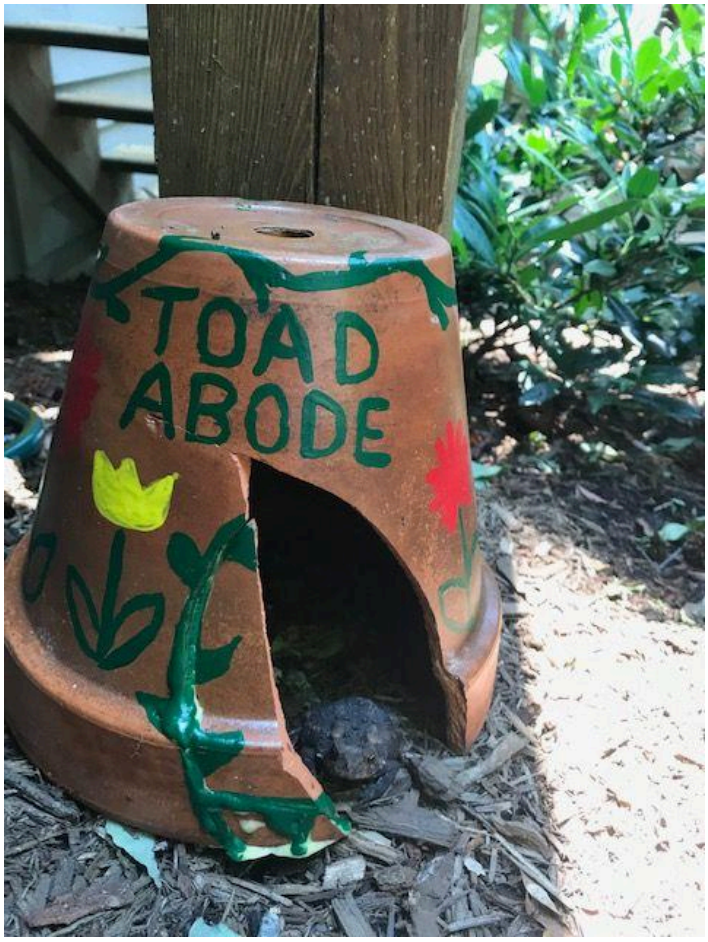
Mammal enjoying fallen leaves. Maryland Department of Natural Resources photo

You may have seen posts this fall about how leaves provide important winter habitat for animals in hibernation, and that is absolutely true. But what about what to do with them

in the spring? First, before you get to raking, try to let your yard wake up at its own pace- most insects haven't finished waking up until daytime temperatures are consistently in the 50s. This includes many of our native North American bees.

Leaves can also provide important nutrients to the soil bed, so consider leaving them where you can to decompose naturally.

Refresh Your Space: Providing Habitat



Toad Abode. Maryland DNR photo

Are you ready to turn a big piece of land into habitat, but don't know where to start? We have a guide for that! What about a meadow? We have a guide for that too! Have a pond and want to make it more wildlife friendly? You're not going to believe this, but we have a guide for that too!

So what about those of us with cramped quarters and dreams of grandeur? The fact is, nature is all around us. That means urban nature-scaping is just as important, and you can make your small spaces an oasis in the sea of concrete!

Wild-scaping townhouses and condos can be tricky due to the limited space available, so see our guide on how to select native plant species to make the most of your small corner of habitat. Do you have even *more* limited space? We have guidance for porches, decks, and balconies too!

Something as small as water drips can have a significant impact on the wildlife that visits your space. See our other Wild Acres and backyard wildlife resources to

Give Back: Teaching Others
Those who can do more teach!

If you're in a position to do so, consider joining a Project WILD training to learn a wide variety of methods to teach conservation and biology to a class, scout group, youth group, or even kindergarten group! The lessons have been vetted and refined by environmental educators, and are interdisciplinary and aligned to state standards. Moreover, the courses apply towards continuing education credits. To check out upcoming Project WILD and Project WET courses, visit the DNR website.

If that doesn't sound appealing to you, DNR has many other educational resources that may spark inspiration. We loan out education trunks full of activities centered around different topics free of charge, or you may find something interesting in our many Wildlife Education Resources.

Deep Breath!
It's easy to get overwhelmed by all the possibilities, so again, start small. Pick *one* thing to work at. The fact is that every little thing you do helps, and even if it doesn't feel like much, others seeing what you're doing matters too.

Talk about it. Reach out to others if you think something isn't working, and ask for help when you need it. And above all else, remember that learning is part of the process!

Article by Katy Gorsuch, Natural Resources Biologist with the Wildlife and Heritage Service.