

As climate change accelerates, Americans increasingly turn to native plants

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A P.J.M. Elite rhododendron at Carolina Native Nursery in Burnsville, N.C. (Travis Dove for The Washington Post)

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The Rise — and Beauty — of the Native Plant

In an era of climate change, homeowners and landscapers are learning what ecologists have known for decades: It's time to shed the mighty American lawn in favor of native plants and perennials.

By Chris Moody

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One late summer day, a monarch butterfly crawled from its chrysalis in a suburban Maryland garden, stretched open two orange wings to dry in the sun and took flight. It tarried in the garden for a while, stopping to bask in the sunlight and slurp nectar from a row of inviting milkweed. Soon it was gone, joining millions of other monarchs on a long, perilous migration southward.

Thrust down the Atlantic coast by warm-air currents, the voyaging monarchs sought plants along the way for nourishment and rest, including nectar-producing perennials such as smooth blue asters or seaside goldenrods. With little refuge to be found among the stretches of seemingly endless suburban grass lawns and paved roads, many died. Survivors pressed on, fluttering over the Deep South and into Texas. By winter, they reached the cool, oyamel fir forests of central Mexico, an incredible transnational journey for a creature the size of a credit card.

The monarch's sojourn began in the front yard of Janet and Jeff Crouch in the Beech Creek neighborhood of Columbia, Md., a tidy planned community between Washington and Baltimore. It wasn't an accident that the butterfly began its life there: For more than 20 years, the Crouches have cultivated a garden full of plants native to the Mid-Atlantic that attract

wildlife, including the endangered monarchs and other pollinators. Many species of caterpillars exclusively eat milkweed leaves, and butterflies consume nectar from natives, including wild bergamots, yarrows and joe-pye weed.

The Crouches are part of a growing movement of homeowners who are forsaking traditional turf-grass yards in favor of native plants. Once derisively viewed as weeds deserving of human domination, native plants are now all the rage in gardening circles. Nurseries are stocking up on natives to meet demand, and a new generation of landscapers touts expertise in native plant design.

Plants and animals evolved over millions of years to survive in cooperation with one another. Replacing natives with foreign exotics such as turf grass or invasive vines can disrupt that delicate ecological balance, says Douglas Tallamy, a professor of entomology and wildlife ecology at the University of Delaware. At a time of anxiety over the effects of climate change and the mass extinction of wildlife, ecologists say that planting natives can provide an opportunity to make a difference.

“We have to expand beyond lawns,” says Tallamy, a native plant advocate and author of “Nature’s Best Hope: A New Approach to Conservation That Starts in Your Yard.” “It’s the low-hanging fruit because it’s the easiest one to fix and it’s the most detrimental.”

The focus on natives has come alongside growing enthusiasm for gardening nationwide, brought on by pandemic protocols that kept people home and looking for outdoor activities during the pandemic.

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“There has been an explosion in interest in gardening since covid,” says Amanda Bennett, vice president of horticulture and collections at

the Atlanta Botanical Garden. “Over the years we’ve really become more mindful of our impact on our world. In that has come that conversation of why we need natives.”

Bennett says visitors increasingly come to the garden to see its collection of native plants, and they arrive with an awareness of natives. “It’s unprecedented,” she adds. “It would not have happened 20 years ago.”

When the Crouches bought their home in 1999, a white two-story Colonial that backed up to a county park, it came with a yard covered with grass. They did not want their two children to play alongside a space sprayed with pesticides, so they began replacing sections of the yard with rows of natives, such as black-eyed Susans and coneflowers. As they talked with local nursery owners and read online gardening forums, they learned how native plants could be a more environmentally friendly alternative to turf grass.

Their garden soon came to life, and it wasn't long before it attracted wildlife in search of a haven in the rapidly developing Mid-Atlantic. Eastern tiger swallowtail butterflies flocked there to feast on echinacea flowers while nectar-hungry hummingbirds found relief in red cardinal flowers. Caterpillars thrived among the milkweeds, munching on the green leaves. A mowed path of grass ran through methodically tended rows of flowers and shrubs. In the backyard, the family planted deep-rooted native ferns, sedges and violets that acted as sponges to filter storm-water runoff.

Years passed; their children grew and the garden thrived. The Crouches kept a tally of the butterflies that came every year. Neighbors visited when the yard exploded with color in spring and grew lush in summer.

But everything changed one fall afternoon in 2017, when the Crouches received a certified letter from an attorney representing their homeowners association just before Thanksgiving. Their garden, which no longer resembled the trimmed yards of their neighbors, was out of compliance with standards set by the HOA, the letter stated.

They were ordered to destroy it.

It's no secret that Americans love lawns. Our grassy little fiefdoms of turf are, in the words of author Virginia Scott Jenkins, "[an American obsession](#)." For centuries, we have sustained an enduring and expensive love affair with them. We plant grasses around our homes, parks and schools. The ones we most adore — fescue, Kentucky blue, rye — are actually foreign species native to Europe or Eurasia. And we can't get enough of them.

To keep all that greenery looking "neat," we collectively spend about \$105 billion a year landscaping, cutting and trimming it, according to [Statista](#), a market research company. "Americans," wrote humorist Dave Barry, "would rather live next to a pervert heroin addict Communist pornographer than a person with an unkempt lawn."

A native plant guru's radical vision for the American yard

We amass an arsenal of heavy machinery in our garages — mowers, weed whackers, hedge trimmers, leaf blowers — to tame our lawns. Using a gasoline-powered lawn mower for an hour is the pollution equivalent of driving from Los Angeles to Boise, Idaho, according to Tallamy. And as Americans have learned while working from home during the pandemic, the noise pollution caused by these tools can be unbearable. Washington, D.C., [recently banned](#) gas-powered leaf blowers after outcry from residents who'd had enough of the constant racket.

Grass, while pleasing to the eye and inviting for a picnic or a ballgame on a summer's day, is misleading. Lawns fail to support much diversity of life. To most nonhuman species, they are a wasteland. In places where it does not grow naturally, turf grass is little more than an

ecological Potemkin village. Lawns are also voracious drinkers. According to the U.S. Department of Agriculture, nearly half of the water used in the average household goes to irrigating a lawn. And to retain their luster, they often require regular use of chemicals.

“People don’t realize that their two acres of lawn have just wrecked the watershed, killed all the pollinators, not sequestered enough carbon and destroyed the food web,” Tallamy says.

In the 1970s, the ecologist John Falk embarked on studies to better understand our attraction to lawns. In interviews and tests with people from around the world, Falk found that people shared a propensity toward open grasslands like those of the African savanna — where *Homo sapiens* first evolved. Our preference for low-cut grasses that allow us to spot predators could be buried in our genetic code, he suggested.

For generations, Americans have also been conditioned, through advertising and tribal peer pressure, to long for lawns. In Europe hundreds of years ago, when food was not nearly as ubiquitous and accessible as it is today, a lawn used exclusively for pleasure was a sign of immense prosperity. The landowner was presumably so rich, he could afford to devote precious space to mere leisure, instead of employing it for production. Immigrants brought those notions of wealth with them to their new home country, along with seeds to plant those foreign turf grasses.

By the 19th century, American demand for grass skyrocketed. Companies began developing lightweight lawn mowers for personal use. Lawn sprinklers followed in the 1870s. In little time, a tidy lawn became a standard practice of a good citizen. Nonconformists were looked upon with suspicion. “The example of the majority will soon shame them into decency,” sniffed gardener Peter Henderson in his 1875 book “Gardening for Pleasure.” As more Americans demanded single-family homes in the economic boom after World War II, grass lawns became one of the cultural signs of the American Dream achieved.

This narrow focus on the lawn at the expense of native plants, however, brought drastic ecological consequences, Tallamy says. Roads, developments and housing landscaped mostly with nonnative species reduced habitat for wildlife — whether for the humble bee or the grizzly bear.

“We have two crises on this planet,” Tallamy says. “One is climate change and one is biodiversity loss. And if we didn’t have climate change, we would still have a biodiversity crisis, because we are not sharing our spaces with the world that supports us.”

Some scientists have pushed back against Tallamy’s emphasis on the value of native plant restoration. Arthur Shapiro, a distinguished professor of evolution and ecology at the University of California at Davis, is skeptical of the impact that large native-plant restoration projects can have. “It’s a gardening project,” he says, “It’s not restoration.”

“It is silly to try to re-create conditions obtained in the past, when the boundary conditions have changed irrevocably,” Shapiro explains. “We should be studying the ‘novel ecosystems’ that are arising spontaneously under our noses to see what we can learn for conservation and management.”

Shapiro says that climate change is “by far” the biggest driver of biodiversity loss. Ecosystems, he adds, aren’t meant to remain in one state, anyway, and never have been.

“It’s the history of the world: Change is the normal condition. Stasis is abnormal,” Shapiro says. “Just think about the fact that restoration ecology has to be grounded on a subjective choice of what to use as the baseline you’re trying to restore to. Do you want to go back to 1491? Do you want to go back to before human beings colonized the Americas at the end of the Pleistocene? What’s your starting point?”

Converting a suburban yard into a wildlife oasis, one plant at a time

Regardless of conclusions about how to solve these problems, scientists do agree that the rate of biodiversity decline is worrying. In the past 50 years, bird populations in North America have plummeted. There are nearly 3 billion fewer birds in the United States and Canada than there were in 1970, according to a 2019 study published in the journal Science.

Insects, which serve as food for birds and other animals, are suffering a similar fate, with declining rates worldwide. Scientists predict that 40 percent of the globe’s insect population could be extinct in a few decades, prompting headlines warning of a human-caused “insect apocalypse” that, left unchecked, could have catastrophic consequences for the rest of us. Healthy and diverse plant and insect life is integral to maintaining human access to sources of food.

In North America alone, monarch butterfly populations are heading precariously close to extinction levels. Bumble bees, essential pollinators for plants that sustain human life, are in sharp decline.

“Insects, particularly caterpillars, are the primary means by which energy is transferred from plants to other animals,” Tallamy says. “And we kill insects every chance we get.”

With the letter from the HOA demanding that they return their yard to turf grass, Janet and Jeff Crouch had to make a decision. They had spent nearly two decades cultivating the garden. It was where their children grew up and played. The plants they cared for provided sustenance and shelter to countless species. They chose to push back.

“We never agreed when we moved into our home to have an all-turf-grass lawn. I was fighting for native plants, but I was also fighting for our family and our property rights,” Janet says. “I couldn’t move forward in my life if I didn’t stand up and fight for my family.”

After reviewing the HOA rules and regulations, the Crouches felt confident that they were in the right and that their garden was in compliance with neighborhood guidelines. “Very few people fight. They’re scared. They don’t have the money to hire an attorney or they don’t have the time. They comply,” Janet says. “That’s what these HOAs and these attorneys do. They rely on that.”

For two years, the HOA and the Crouches exchanged letters over the matter. The HOA persisted and fined them for noncompliance. The law firm representing the HOA did not return a request for comment.

The Crouches started seeing strangers taking pictures of their yard. The stress and pressure took a toll. “You feel very vulnerable,” Janet says. “You feel like you’re being attacked in your own home. Your space is no longer safe. It just was horrific.”

In hopes of rallying neighbors to her cause, Janet started a newsletter that described their battle with the HOA. She dispersed copies at community events and emailed it to neighbors. She contacted nonprofit groups that advocate for native plants but struggled to garner meaningful support.

The Crouches hired a lawyer.

While pondering the millions of acres of native landscape repurposed for alien turf grass, Tallamy had an idea. Despite federal conservation efforts like the system of national parks that protects natural spaces, government action would never create enough space for habitat renewal. But small private action, if accomplished on a collective scale, could make a difference. He launched an initiative to persuade Americans to plant natives on their property instead of grass, one household at a time. He called it Homegrown National Park.

In the United States, there’s already a lively infrastructure of activists who could be the ones to help move ideas like Tallamy’s forward. Advocacy groups such as the Native Plant Society and Wild Ones have chapters nearly in every state. They hold educational seminars and workshops and organize “plant rescues” on land where developers are primed to build over natural areas.

With so many people grounded during the pandemic, the groups saw a huge uptick in interest. “That’s when native plant gardening really took off,” says Sally Wencel, the national board president of Wild Ones and the founder of the group’s Tennessee Valley chapter. “All of a sudden you have time on your hands.”

As cultural awareness of the benefits for native plants grows, government initiatives have followed. In Pennsylvania, where 2 million acres are covered in lawn, the state reimburses residents for the cost of converting turf grass to native plants. In drought-plagued California, incentives such as Los Angeles County’s Cash for Grass program offers rebates to families

that replace turf grass with drought-tolerant landscaping. Colorado state legislators are considering a proposal to pay a dollar for every square foot of turf grass a person removes from their property.

The growth in native plant interest has also influenced the horticulture market, and nurseries increasingly offer native options. Tucked in a picturesque Appalachian hollow near Burnsville in western North Carolina, [Carolina Native Nursery](#) is one of the largest growers of exclusively native plants. Here, business partners Bill Jones and Shelby Jackson plant and raise a cornucopia of natives that they supply to nurseries and gardening centers from Georgia to Maine. In their little valley lined with creaking wooden barns and former tobacco farms, they grow some 72,000 plants, specializing in native azaleas, hydrangeas, blueberries, cranberries, elderberries and serviceberries. They collect seeds from secret spots in the hillsides and trade with locals. “Plant lovers love to share,” Jackson says.

When Jones started visiting horticulture trade shows in the late 1990s, he noticed that there was an open market for specializing in the sale of native plants. “Nobody was doing this,” he says. But in the past few years, sales have skyrocketed: “We can’t grow enough.” The demand for native plants was so great that he and Jackson started a retail business in 2017, selling to customers who braved the mountain roads to find them. Their retail sales have risen from \$50,000 that year to nearly \$158,000 in 2021. Carolina Native Nursery products are part of the landscaping for Central Park in New York City and Thomas Jefferson’s Monticello estate in Virginia, and they are outside homes owned by such celebrities as Taylor Swift and Tom Brady.

Jones and Jackson know that they’re the small fish in an ocean-size horticulture market that earns billions of dollars selling patented seeds and products. But they envision a future when lawns lose their luster as a status symbol. “I think we’re working toward that,” Jackson says. “A lawn is just a garden under totalitarian rule.”

In 2020, three years after receiving the first letters from the HOA, the Crouches were still defending their garden. They had spent more than \$60,000 on attorney fees. Their unpaid fines to the HOA tallied into the thousands. Beleaguered after three years, the parties moved to settle: The couple could keep their garden if they agreed to a few small changes. The Crouches saw it as a victory.

During the fight, Janet had sent a letter to Maryland state legislators seeking help with their case. To her surprise, an aide to Del. Terri Hill (D-Howard) responded and listened to her story. Hill drafted a bill to restrict HOAs from forcing residents to plant turf grass on their property. The bill became law and went into effect in October 2021.

This summer, when the monarch butterflies return from the oyamel forests of Mexico, the Crouches will be waiting — with a row of milkweeds to welcome the new generation.

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