WILD ONES JOURNAL
WINTER 2025 • VOL. 38, NO. 4

WILD ONES®

A VOICE FOR THE NATURAL LANDSCAPING MOVEMENT

Photo Credit: Michael Roth

Journaling to inspire, reflect

By Barbara A. Schmitz

Aldo Leopold, considered by many to be the father of wildlife ecology, is known for his observations about flora and fauna at his Sand County farm in south-central Wisconsin. For decades, he kept detailed journals noting when flowers bloomed, pollinators arrived and birds migrated.

The father of national parks, John Muir also used journaling to inspire, reflect and keep track of nature's wonders.

Sima Shah shares how you can do the same in "Nature journaling: Documenting what we see," on Page 8. As an illustrator, printmaker and nature journalist, Shah not only discusses the best tools to use for nature journaling, but she also gives tips on how to start and, most importantly, trust the process.

She writes: "It is easy to get caught up in the hustle and bustle. Nature journaling keeps me present to the sounds, the colors, the shapes, the movements. It allows me to appreciate the wonders of this world and remain open to the possibilities that exist."

Journals provide a history of nature and our part in it. In short, journaling inspires us to sit back and take notice. I hope Shah's beautiful sketches and notes will inspire you as it did me and persuade you to take the time to journal and appreciate nature's beauty.

Need more inspiration?

Read how noticing the life in one Wild Ones member's yard inspired a Denver, Colorado man to start a program to plant natives in hell strips, those strips of land between the sidewalk and the street. The program has already expanded to include front yards and is turning Denver neighborhoods into gigantic botanical gardens that are teeming with life. Read more on Page 23.

Two of the most important articles in this issue, however, are about rights of nature. The first article, "What are rights of nature?" looks at the worldwide trends to secure legal rights for ecosystems (Page 13), while the second story, "Manoomin: Wild Rice, Tribal sovereignty and the rights of nature in northern Minnesota," (Page 19) tells the story of the first court case to be brought with a plant — Wild Rice or Manoomin — as the plaintiff.

Be sure to page through the rest of the issue for our regular features on botanical gardens, Seeds for Education grant projects, book reviews and more.

I look forward to continuing to learn about all the ways Wild Ones chapters and members make an impact in our yards, states and nation in 2026. Happy New Year!

Wild Ones promotes native landscapes through education, advocacy and collaborative action. Native plants help protect and restore biodiversity, improve air and water quality and provide wildlife with food and shelter. Our vision is native plants and natural landscapes in every community.

Wild Ones' definition of a native plant: A native plant is a species that occurs naturally in a particular region, ecosystem and/or habitat and was present prior to European settlement.

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Learning About SOIL

FOURTH IN A 4-PART SERIES

Invasive plants may be just as disruptive to the ecosystem below ground as they are above ground

Photo: Tony Atkin/Wikimedia Commons

By Jeff Hoyer

Invasive species are organisms introduced outside of their natural range that establish and spread in ways that cause ecological, economic or health-related harm. The globalization of commerce and travel is accelerating the introduction of invasive species worldwide much faster than evolution can rebalance the ecosystems.

While the above-ground effects of invasive plants have been well studied, the underground impacts of invasive plants on the soil food web are just beginning to come to light. Invasive plants can lower the diversity of plant and animal life in an ecosystem. They often reproduce and grow faster than native plants, stealing space, water, light and nutrients from other plants.

In addition, invasive plants are often inedible to native animals, reducing the flow of nutrients and energy throughout the food web. Soil microbes play a crucial role in the food web aiding in decomposition, nutrient cycling and plant growth. For example, invasive autumn olive (*Elaeagnus umbellata*) uses dense foliage above ground to shade out other plants, but it owes its rapid growth to the fact it combines with certain soil bacteria to fix nitrogen and alter the composition of the bacterial community in the soil. Invasive garlic mustard (*Alliaria petiolata*) releases allelopathic glucosinolates, chemicals which suppress the mycorrhizal fungi essential for many native plants.

Recent research published by Gabriela Núñez -Mir and Matthew McCary suggests invasive plant species decrease the biodiversity of soil microbes (fungi, bacteria and archaea). If the mechanisms used by invasive plants to gain a competitive advantage could be learned, then their impact can be predicted and possibly countered.

Núñez-Mir and McCary studied many functional traits of roots such as root diameter, length, density, carbon/nitrogen content and mycorrhizal colonization. The results showed that the most significant characteristics leading to a higher density of invasive plants were the length of the root and its carbon to nitrogen ratio. More successful invasive plants had longer root lengths and lower root density than the competing native plants. The most successful invasive plants also had a lower ratio of carbon to nitrogen in the root tissue.

Because soil microbes are so small, they are exceedingly difficult to identify and quantify. Núñez-Mir and McCary use a sophisticated sampling technique called "phospholipid fatty acid analysis." Microbial biomarkers like this have been used to identify the unique signatures of different microbial groups. This study

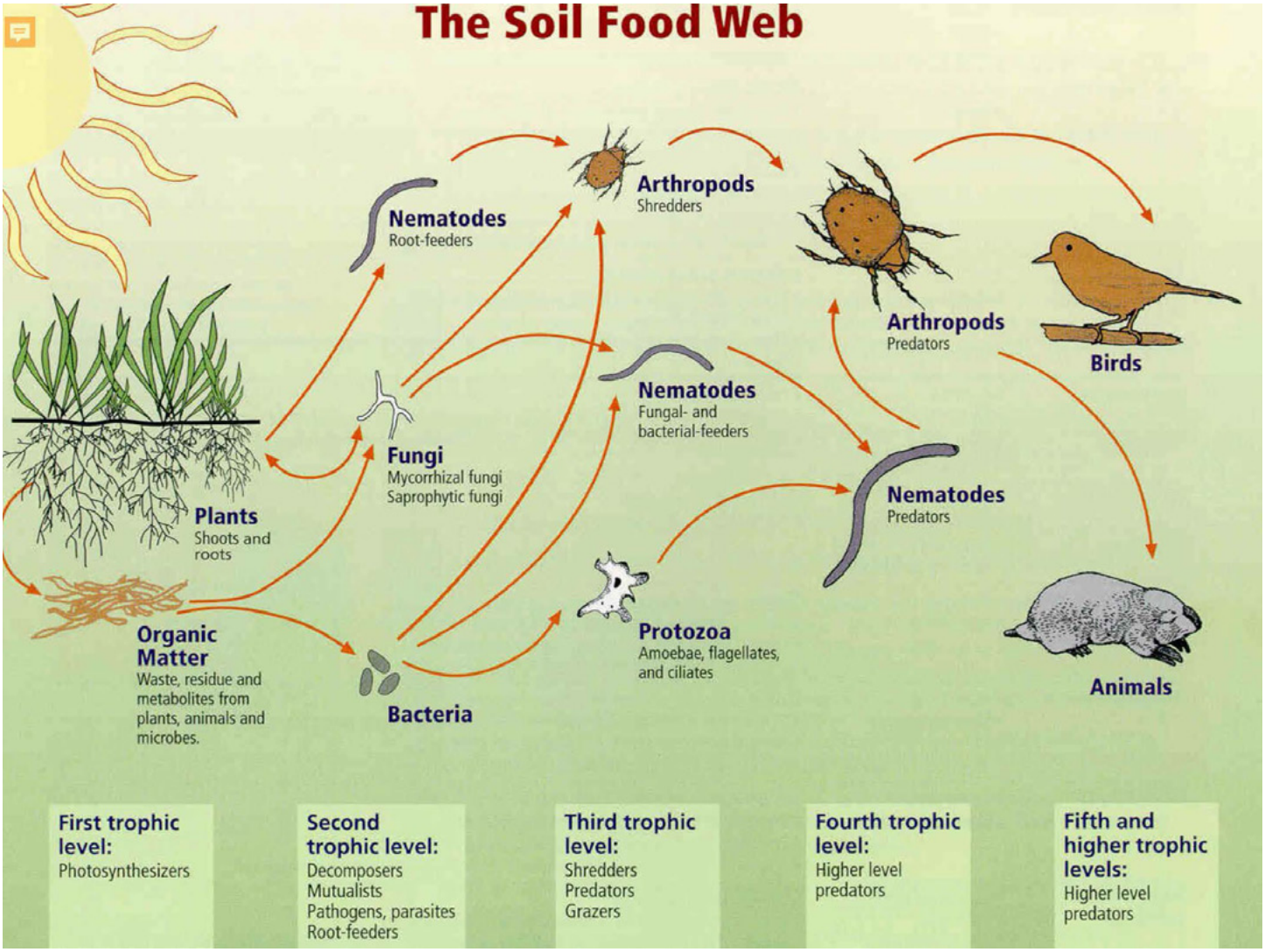
was a statistical analysis of soil data from the National Science Foundation's National Ecological Observatory Network (NEON). NEON is a continental-scale open-access network designed to collect long-term data to help understand how ecosystems are changing in the United States. The data was collected over 377 unique sites across the United States, comparing 693 native and 94 invasive species over 632 plots.

In this meta-analysis, the data on root length, carbon to nitrogen ratios and microbial composition came from different studies of these areas. Núñez-Mir and McCary acknowledge that the conclusions they reach have some limitations due to certain holes in how the different studies overlap. To fill in these gaps, they used an accepted process called "phylogenetic imputation." Essentially, the average values for closely related species were used to fill in missing data points, based on the principle that closely related species often share similar traits. Their findings were judged to be valid by other scientists, but further studies are needed to confirm and extend the results.

In general, you will find a greater density of invasive plants in areas where the invasive plants have lengthier roots and a lower carbon-to-nitrogen ratio. These characteristics correlate with lower diversity of the microbes in the soil where these invasive plants grow. Núñez-Mir and McCary also suggest a possible positive feedback mechanism whereby a lower soil microbe diversity could continue to favor invasive plants. Further study is needed to clarify which invasive plant species have these specific root traits and what can be done to reestablish the microbial diversity that favors native plants.

Jeff Hoyer is a 30-year veteran biology and environmental science teacher and member of the Wild Ones Lake to Prairie (Illinois) Chapter. He has been a member of the chapter board and a presenter at their area conferences. When not teaching, he enjoys volunteering with several prairie and woodland restoration projects and raising native plants for fundraising sales.

Most people are familiar with the above-ground food web in which plants are eaten by herbivores which are eaten by carnivores and so on. But most plant matter is not eaten by herbivores; it is decomposed by the underground food web. All plants depend on the soil food web for their nutrition. *Graphic: USDA-NRCS.*



WHEN TO CUT BACK DORMANT PLANTS

Are you unsure about when to cut back dormant plants in your garden?

You're not alone. People often ask us about the best time to cut back perennials and grasses in preparation for the next growing season. Traditional garden practice was to cut back in the fall to "tidy up" for winter. But now, leaving dormant plants standing through winter is increasingly common. It adds unique beauty to the landscape, and crucially, provides vital support for wildlife, like stem-nesting bees and foraging songbirds.

Cutting back the garden is a familiar task to many, but the "best" timing is not always clear. © Jared Barnes, PhD

Even as attitudes toward garden "clean-up" are changing, having a landscape that appears cared for and intentional remains important. And we know sometimes gardeners have little choice about when to cut back. You get it done when you can get it done. The timing and how you cut back are directly related to your goals for your landscape. There are situations that call for cutting back early and cutting back later.

Whether you're dedicated to supporting wildlife or grabbing the one free weekend you have (or both!), proper timing and technique that fit your priorities will help you steward your garden with care.

Read our post:
When to Cut Back Dormant Plants.

All illustrations by Sima Shah

Nature journaling: Documenting what we see

By Sima Shah

Entry from Jasper-Pulaski during sandhill crane (*Antigone canadensis*) migration. Shah used dots and lines to convey distance and the sheer number of sandhill cranes.

During an evening walk, I came upon a patch of purple coneflowers (*Echinacea purpurea*). In full bloom, a purple coneflower is perfect. The petals are a deep magenta, rather than the purple its name would suggest, and the cone itself seems to change colors depending on the angle. From an aerial view, the disc florets reveal a golden-yellow Fibonacci sequence-style arrangement with a muted green center. A profile view reveals a rich, midnight black that slowly transitions to a vibrant, reddish orange.

I have made several attempts to capture this perfection in my nature journal, but I always come up short. The mix of phthalo blue and quinacridone rose, vibrant when first placed on the paper, soon fades when it dries, and the words escape me when I try to describe the beauty of the flower.

Further along, I see an eastern tiger swallowtail (*Papilio glaucus*) fluttering around a buttonbush (*Cephalanthus occidentalis*) flower. For a moment, I am mesmerized by the balancing act. A buttonbush is not the typical flower a child draws in school. It looks like a small white planet, suspended in air, surrounded by glowing spikes. If I look closer, I see that it is made up of many tubular, creamy flowers with a style protruding from the center of the four fused petals.

The butterfly, in comparison, is much larger. The pale yellow and black zigzag wings of the swallowtail range from 3 to 5 inches. To put it into perspective, the inflorescence is about 1 inch in diameter, yet, under the weight of the butterfly, it retains its shape and remains upright!

Nature's resilience, mechanics and beauty are inspiring, and I use nature journaling to translate what is going on in my head to something more meaningful. As a visual person, the pieces suddenly come together when I see them on paper.

In a time where climate change is hurling at us, coupled with biodiversity loss and habitat fragmentation, nature journals are important. Without us always realizing the impact, our nature journals are a quiet form of resistance, documenting what we see. Our pages have hidden maps,

Entry of Costa Rica's Arenal Volcano hike. The base of the volcano changes from deep forests to large rocks and is much more barren. To Sima Shah's surprise, she found orchids growing amongst the rocks, and tested out color glazes and mixes on the side of the page.

counts of monarchs (*Danaus plexippus*) and key observations. This spring, the white trout lily (*Erythronium albidum*) flowers by the river never bloomed. In past springs, they bloomed in unison with the common blue violets (*Viola sororia*) — miniature fields of sparkling white and blues. I know this because I can go to an old sketchbook to find those drawings. What happened this year? Was it too hot? Or maybe too wet?

Nature journaling can begin to explore those questions. So, what exactly is nature journaling?

Artist, naturalist, author and educator John Muir Laws is an expert on nature journaling. I refer folks to his website because it offers extensive nature-journaling resources. Note: Some content (such as workshops or materials) may require registration or payment. From my perspective, nature journaling is a place where I connect to the natural world through observations, curiosity and awe. I do this by taking the time to see. I mean to *really see*, by slowing down and paying attention to the world around me.

It does not take much work. Unlike meditation, where I keep reminding myself not to think about the dishes in the sink, my mind automatically pushes to the present when I am outdoors. After walking for a bit, I usually have burning questions (How do I replicate that incredible color of magenta?), some moments of joy (The red-breasted mergansers (*Mergus serrator*) are back in town!), or secrets that Mother Nature shared with me (Those are mine to keep). I express that in my journal through words, sketches, colors and/or numbers. It is really that simple.

You do not always need to know why you want to start a nature journal. The important part is to start. As they say, trust the process.

Every nature journalist has tools that they *must* take to the field. There are tons of blogs and books on this topic. My tools are listed below:

• Sketchbook: I like one that can handle watercolor, as well as larger formats so I am not cramming everything into a small space. I find cotton-based paper makes the paints more vibrant and hot press paper's smooth characteristic supports writing. Go to citizensketcher.com to learn how to make an accordion sketchbook that's great for

Entry of grasses and seeds at Horner and Clark Park. Shah plays with lettering in the title.

The red-breasted mergansers (*Mergus serrator*) are back in town! This entry does not have any writing, but Shah said she wanted to use the images to convey a sense of humor around the males who she observed to be over the top while the females were quite mellow. The blue Prismacolor Col-erase pencil marks are visible showing the initial planning of the page.

watercolor.

• Pouch: Mine is nothing fancy, and it never gets full. It may have once belonged to Mary Poppins!

• Prismacolor Col-erase 20028 (blue): I use this pencil to outline the initial shapes and composition when first starting an entry; I learned this technique from John Muir Laws.

• Sharpener: I keep a tiny sharpener to maintain the tip of the Prismacolor Col-erase.

• 0.005-Micron Ink pens (brown and black)

• Isbey retractable round travel brush size 6 for watercolor: I found the brush tip can hold water and is versatile in that it performs well with both fine detail and broad strokes.

• Watercolors: My standard is a primary based palette (three yellows, three blues, three reds and three additional "helper" colors). However, over the last year, to use up colors that otherwise would collect dust, I have added more palettes. I use either Daniel Smith or Winsor and Newton Professional watercolor paints.

• Two empty India ink bottles to carry water: I use one water bottle for cleaning and rinsing my brush and the other for wetting the brush. I found that this method allows the water to remain cleaner for a longer period of time, which is great when I am out in the field.

• Rags for the brush: I reuse paper towels; they can be stored once dried and are durable for multiple uses.

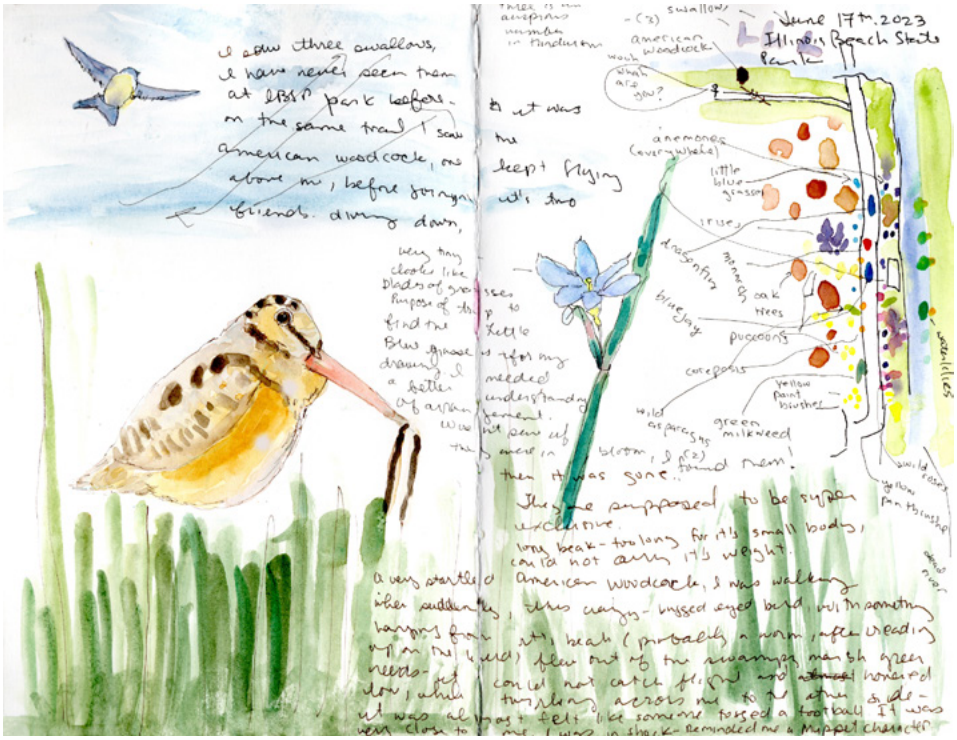
• Phone with drawing app/notes/camera: I use Notes for writing and Concept App for quick sketches and maps.

• DSLR camera: I bring my DSLR camera for longer trips.

• However, if I want to reduce this list to the essentials, then I would switch out all these tools for one blue ballpoint pen and sketchbook. I can achieve a lot with a ballpoint pen, and in times of need, when my equipment is not handy, I return to scrap pieces of paper and a pen.

The obvious tools missing from this list are a graphite pencil and eraser. That is intentional. Working directly on paper with ink has taught me to think about the placement of lines and provides a sense of freedom. These pages are not meant for perfection nor are they precious. They are a place to learn and reflect.

Entry of Dead River Trail at the Illinois Beach State Park. Shah uses mapping techniques to illustrate what she sees on the trail. She tends to switch between her black and brown micron inks to indicate distinct ideas.

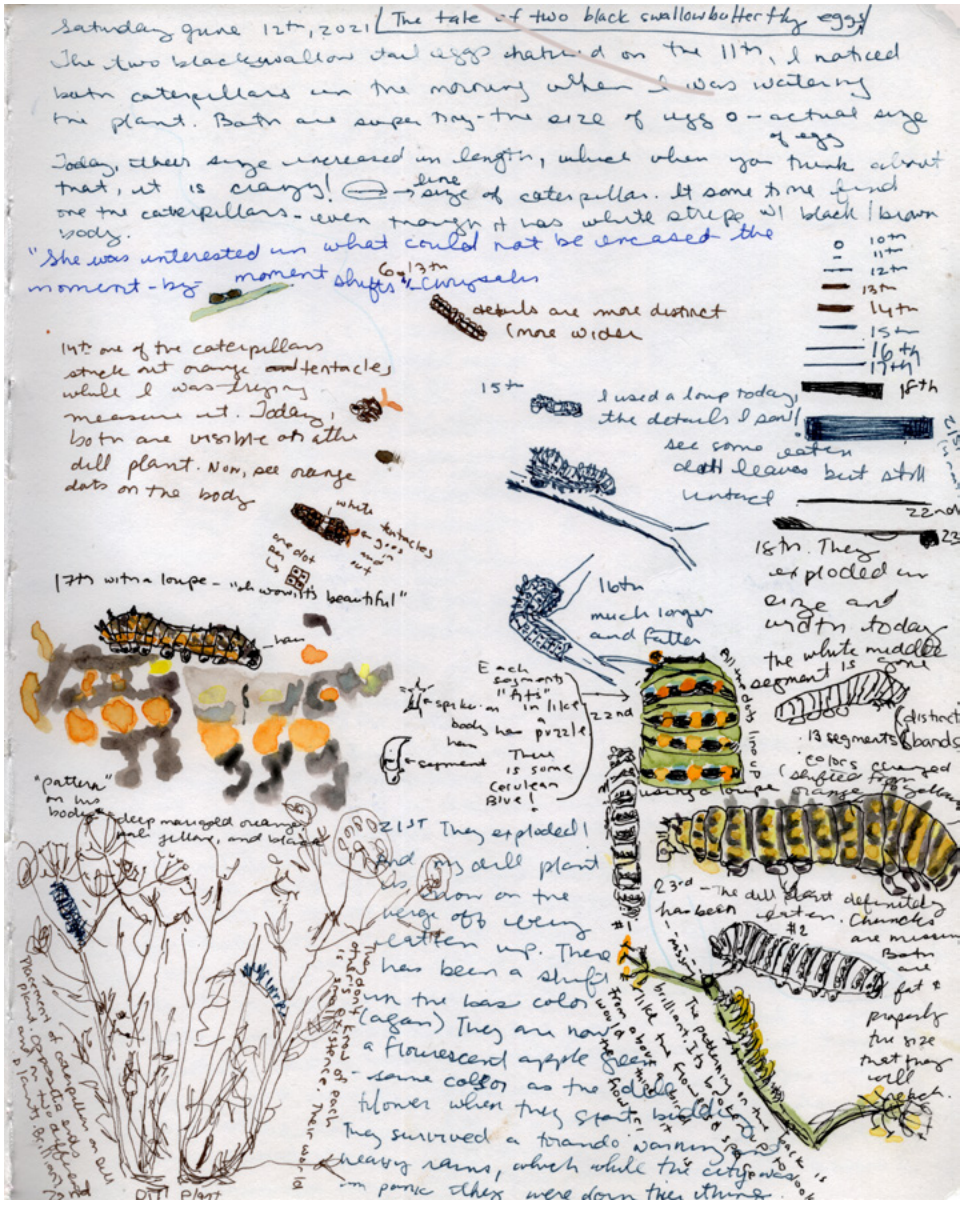


Above: The different critters that visit Shah's balcony during the summer. The blue Prismacolor Col-erase pencil marks are visible around the finch and sunflowers. Left: The female Great horned owl (*Bubo virginianus*) at Chicago's Lincoln Park. This was from Feb. 27, 2024 when the owl was nesting in a tree near the North Pond. The male was never too far away. That tree was always surrounded by folks, so the park had put fencing around the tree to maintain distance. The egg hatched very soon after. The female showed off the baby — it felt like a scene from the Lion King, Shah recalls. Unfortunately, in May, all three died due to rodenticide poisoning. This entry was done in one micron ink pen.

There are many ways to approach nature journaling. Be wary or you can fall through a rabbit hole learning about this topic.

In the beginning you do not need to know how to draw. This will come with practice. Go out, observe and make marks that are reflective of that moment. I find that my nature journals are a great place to experiment with ideas, techniques and storytelling.

For my own process, I begin every page with a date and place and any other relevant information, such as temperature. I plan the initial shapes and composition using the Prismacolor Col-erase pencil, mostly through rough circles and lines. From there I work out the drawing using micron pens.I do not worry about "mistakes." They happen all the time. I will rework them into the images, if



A study page of two swallowtail caterpillars that Shah found on a parsley plant.

possible. Otherwise, they are there as evidence that I was brave enough to start without knowing the outcome.

Then I add watercolor to the drawings and my thoughts to the pages. Sometimes, I have more to say and less to draw, while other times I have more to draw and less to say.

I do not spend too much time on any page. I honestly do not have the time.

In addition to drawing and writing, when appropriate, I also include maps, numbers and on rare occasions, poetry. Maps are a quick way to record a hike without going into every detail. Once, I drew a map to track the trail of chatty killdeer (*Charadrius vociferus*) that we encountered in northwestern Illinois. For my maps I use a color and acronym system. A blue dot with GBH, for instance, would represent a great blue heron, and show the location of the bird in relation to everything else. Graphs are great to record sound. During the summer of the cicadas, for instance, I used the x-axis for the length of sound and the y-axis for loudness. The cicadas drowned everything out except for an airplane.

I used to work a lot more directly in the field, but now, due to time constraints, I have had to change my process. Many times, I write my thoughts in a note app, draw a quick image on a drawing app, and take reference videos and photographs.

There is no one right way to nature journal. I went through various iterations of processes and tools until I found what worked for me. For those who are new and not sure how to begin, there are prompts such as "I notice, I wonder or It reminds me of," or "I see, I hear and I feel."

Nature journaling can occur anywhere. I spent a summer studying the black swallowtail caterpillars (*Papilio polyxenes*) that I found on my parsley plants. Every day, I would measure and track their growth, until, one by one, they disappeared. This is nature.

There is value beyond taking the time to slow down. My nature journals are also a source of ideas for future art projects. There is a lot of material locked into those pages. I can flip through them, have something catch my eye and it becomes the spark for a bigger idea.

It is easy to get caught up in the hustle and bustle. Nature journaling keeps me present to the sounds, the colors, the shapes, the movements. It allows me to appreciate the wonders of this world and remain open to the possibilities that exist. Living in Chicago, the relationship between the natural world and man is always a constant battle. Nature continuously has to adapt.

How does one capture the hard truths and the beauty of it all? I fill up blank pages to document those connections and relationships. I urge you to find your purple coneflower as a first step to start journaling.

Sima Dinesh Shah lives in Chicago, and is an illustrator, printmaker and nature journalist. She is a novice but avid birdwatcher, hiker and native plant enthusiast. To learn more, visit kiwiversusthepaintbrush.myportfolio.com.

Members of the International Rights of Nature Tribunal march in Belém, Brazil, during the 2022 Pan-Amazonian Social Forum. The Tribunal investigates alleged violations of nature's rights. *Credit: Katie Surma/Inside Climate News*

What are the rights of nature?

Here's what you need to know about one of the fastest-growing environmental and social movements worldwide — the effort to secure legal rights for ecosystems and other parts of the natural world

By Katie Surma

This article originally appeared on Inside Climate News, a nonprofit, non-partisan news organization that covers climate, energy and the environment. Sign up for their newsletter here.

"Rights of nature" is a movement aimed at advancing the understanding that ecosystems, wildlife and the Earth are living beings with inherent rights to exist, evolve and regenerate.

Legal rights are the highest form of protection in most governance systems. In the United States, humans and non-humans have enforceable legal rights, like corporations' right to freedom of speech.

At the same time, most legal systems treat nature as rightless property that humans can own, use and destroy. That means the law views sentient species like elephants and bald eagles, as well as life-supporting ecosystems like forests and coral reefs, no differently than objects like microwaves or cars.

For the people behind the rights of nature movement, that way of thinking is deeply flawed. It's also scientifically inaccurate.

Humans are part of nature and depend on ecosystems for survival — from the food we eat to the water we drink and air we breathe. Evolutionary biology shows that humans share a common ancestor with all other life on Earth. Forests, rivers and other biomes provide conditions for human life to thrive. And humans have always shaped the environment and have been shaped by it.

Understanding this interconnectedness is key to understanding that human flourishing ultimately depends on a healthy Earth. Rights of nature activists say most societies have forgotten that basic truth, harming their own wellbeing — and threatening their very survival — as a result.

When did this forgetting happen? Academics have traced the notion that humans are separate from, and superior to, nature back to Renaissance-era thinkers like René Descartes, who compared animals to machines. The idea is also woven into the Bible's book of Genesis, with

The Esmeraldas River flows through the Chocó Andino cloud forest in Mindo, Ecuador. *Credit: Kate Surma/Inside Climate News*

God giving man "dominion" over the Earth. Others point to the advent of cities, when masses of people lost regular contact with nature.

Modern legal systems have been shaped by these developments and ideas, thus institutionalizing the belief that nature is an object, or thing, beneath humans.

"Until the rightless thing receives its rights, we cannot see it as anything but a thing for the use of 'us' — those who are holding rights at the time," law professor Christopher Stone wrote in the seminal 1972 law review article, "Should trees have standing?" Stone noted that the law has always evolved to extend rights to new groups: moving from white, property-owning men to include women, people of color and children.

In 2006, a rural, conservative Pennsylvania town plagued by industrial pollution enacted the world's first rights of nature resolution. Since then, scores of countries — including Ecuador, Spain, Bolivia, Colombia, Panama, India, the United States and Uganda — have had court rulings or enacted laws at the national or subnational level recognizing nature's rights.

The advocates behind these laws argue that if nature's rights are respected, humans will benefit.

How do rights of nature laws differ from environmental regulations?

In the course of human history, environmental law is a relatively young field. In the United States, it largely developed in the late 1960s in response to mass pollution wrought by industrialization. Rivers caught fire, pervasive smog blanketed cities and chemicals like DDT were sprayed indiscriminately.

Policymakers enacted legislation like the Clean Water Act and Toxic Substances Control Act to regulate human activity and limit impacts of industry on human health. Those laws did curtail pollution. But rights of nature advocates argue that those conventional laws haven't stopped the severe environmental problems we face today, like climate change, biodiversity loss and mass pollution.

Advocates say conventional environmental laws have a central flaw: They're designed to permit pollution. They only control how much.

Rights of nature laws start from an entirely different place. Ecosystems, wildlife and Earth itself are treated as living beings with inherent rights deserving of the highest form of legal protection. The central concern of rights of nature laws is to maintain and preserve the integrity of ecosystems, requiring governments to take a preventative, rather than a reactionary, approach.

Ecuador's Constitutional Court has said this mandates government officials to respect what is known as the "precautionary principle," or the idea that, absent adequate scientific evidence, it is better to avoid certain risks that could lead to irreversible damage of ecosystems.

How do these laws work in practice?

The laws do not give nature's rights absolute primacy over all other

rights and interests.

No legal right is absolute. A right to free speech ends when that speech is defamatory or incites violence. Judges balance competing rights in the decisions they make every day. Nature's rights are no different.

Rights of nature jurisprudence is still a young field. Most countries with such laws on the books haven't had lawsuits attempting to enforce them. It's also important to note that not all rights of nature laws are the same — there is wide variation in how the laws are written and what rights are recognized.

But Ecuador, which constitutionalized nature's rights in 2008, has seen dozens of cases. There, Mother Earth, or Pachamama, has a right to "integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes."

The Ecuadorian Constitution also requires the government to prevent the "extinction of species, the destruction of ecosystems and the permanent alteration of natural cycles."

Not all cases have been favorable for ecosystems. Ecuador's economy is still largely dependent on oil revenues and other extractive industries.

But Ecuadorian courts have ruled in favor of mangroves, cloud forests, rivers, endangered frogs and coastal marine ecosystems, thwarting mining operations, industrial fishing and other nature-damaging activities. In some cases, courts have ordered the government to restore damaged ecosystems. Cases decided in favor of nature usually have a compelling reason for why nature's rights ought to prevail over competing interests, like a high risk of extinction for certain species.

In the cloud forest case, the Ecuadorian Constitutional Court explained the importance of protecting a sensitive ecosystem from mining impacts, saying: "[T]he risk in this case is not necessarily related to human beings … but to the extinction of species, the destruction of ecosystems or the permanent alteration of natural cycles."

In deciding these cases, Ecuadorian courts have depended heavily on scientific experts and evidence. Judges have also looked holistically at the health of ecosystems, rather than at piecemeal levels of pollution — a departure from the way courts tend to evaluate conventional environmental laws.

Scientists have come to the forefront of the movement in other ways. In Panama, for instance, marine biologists were instrumental in the passage of that country's national rights of nature law.

How are rights of nature laws enforced?

Trees and wild animals can't walk into a courtroom and make their case. But rights of nature laws give ecosystems and species the ability to act in their own capacity under the law with help from people, similar to other non-human entities like corporations, business partnerships and nonprofits.

This is done through a long-standing concept called legal personhood. That legal construct is most commonly used to allow businesses to enter into contracts, sue, be sued, own property and, in the case of corporations, limit the liability of its shareholders.

Each of those nonhuman entities is represented by a human guardian. Similar arrangements are used for minors and incapacitated people in court proceedings.

Who is behind this movement?

Indigenous peoples have been at the forefront of the movement in several ways. The worldviews of many Indigenous cultures — that humans are part of nature and owe responsibilities to other living beings — are foundational for the movement.

Honoring and preserving those worldviews and related knowledge for centuries has been no small thing. Indigenous communities have faced a long, dark history of colonization and other attempts aimed at eradicating their culture and separating them from their territories. Today, people in many Indigenous communities are still harassed, attacked and sometimes killed for defending water and land.

Indigenous peoples have also been behind many of the laws and court rulings advancing the movement. In New Zealand, Māori people fought for a settlement with the national government, resulting in legal personhood for a river, national park and mountains.

It was Ecuador's strong Indigenous movements that led to the country becoming the first in the world in 2008 to constitutionally recognize Mother Earth's rights. Ecuador's Constitutional Court has also drawn on Indigenous knowledge in deciding rights of nature cases.

Bolivia's Indigenous movements were behind that country's 2010 and 2012 laws recognizing the rights of Mother Earth. Enforcement of nature's rights in Bolivia has proved difficult, however.

Across North America, many Indigenous nations have passed rights of nature laws.

And in Peru, a coalition of Indigenous women won rights for the Marañón River ecosystem, a place the oil industry has heavily polluted for decades. The fight for the Marañón River came at great personal cost for Mariluz Canaquiri Murayari, president of Huaynakana Kamatahuara Kana, and other wom-

...Ecuadorian courts have ruled in favor of mangroves, cloud forests, rivers, endangered frogs and coastal marine ecosystems, thwarting mining operations, industrial fishing and other nature-damaging activities. In some cases, courts have ordered the government to restore damaged ecosystems. Cases decided in favor of nature usually have a compelling reason for why nature's rights ought to prevail over competing interests, like a high risk of extinction...

en in the organization, who were harassed and threatened for their advocacy.

What are the criticisms of rights of nature laws?

The biggest opposition to the movement has come from industry groups — developers, the industrial agricultural sector and other polluting industries — and politicians aligned with those interests. Those opponents argue that giving nature a higher level of protection will impede development and lead to an explosion of litigation. In practice, that hasn't happened. Barriers to pursuing lawsuits, like the high cost of attorney fees, are substantial.

But the laws do threaten the interests of industries and businesses that have made money off extracting from and monetizing the natural world in unsustainable ways.

Some critics of the movement have questioned whether, if nature has rights, it also has duties: Can a river be sued if it floods and harms humans? Rights of nature advocates respond to this by saying that legal rights, duties and liability are always tailored to the entity they are assigned to.

Corporations, for instance, don't have a right to family. Nature doesn't have the capacity to act with intent and therefore should not have legal liability for harm it causes, advocates argue.

Another prevalent charge is that the rights of nature movement is an attempt to force human societies to surrender modern comforts and technology. In practice, though, advocates have sought to rebalance human interests with the health of ecosystems by placing better guardrails around human activity, ensuring the integrity and sustainability of Earth is maintained now and into the future. Advocates argue that humanity isn't harmed by that but benefits instead.

They also say nothing so quickly forces people to surrender modern comforts as a disaster that destroys their homes and communities, and mega disasters are far more common in a warming world.

Is the rights of nature just a legal movement?

No. Beyond the legal realm, the movement has seeped into mainstream culture, religious discourse, the arts, corporate governance, education and cultural revival.

Pope Francis' encyclical Laudato Si', and papal exhortation Laudate Deum, said humans have a moral duty to protect the Earth. "For 'we are part of nature, included in it and thus in constant interaction with it,'" Francis wrote in Laudate Deum before his death earlier this year. Pope Leo XIV, officially installed in May 2025, quoted extensively from Pope Francis' encyclical Laudato si', noting that God's creation is not intended to be a battleground for vital resources in his Message for the 10th World Day of Prayer for the Care of Creation. He wrote: "Injustice, violations of international law and the rights of peoples, grave inequalities, and the greed that fuels them are spawning deforestation, pollution and the loss of biodiversity."

Ecuadorian activists say the country's constitutional recognition of nature's rights has made their country more pluralistic by incorporating the worldviews of Indigenous peoples and is changing the way everyday people think about the Earth, their home.

"We now have a whole generation of young people who have grown up only knowing that nature has rights," Ecuadorian political scientist Natalia Greene told Inside Climate News. "The law has influenced peoples' understanding of nature and that is very powerful."

Katie Surma is a reporter at Inside Climate News focusing on international environmental law and justice. Before joining ICN, she practiced law, specializing in commercial litigation. She also wrote for a number of publications and her stories have appeared in the Washington Post, USA Today, Chicago Tribune, Seattle Times and The Associated Press, among others.

Photos courtesy Frank Bibeau

Manoomin: Wild Rice, Tribal sovereignty and the rights of nature in northern Minnesota

Frank Bibeau's father gathers rice from his father's canoe at Mud Lake on Leech Lake Reservation. The photo was given to Bibeau by his grandfather.

By Tim Lovett

The rights-of-nature movement exists across the United States in myriad forms, and the first court case to be brought by a plant as the plaintiff was 2021's *Manoomin v. Minnesota Department of Natural Resources* (DNR). Manoomin (*Zizania palustris*), along with the White Earth Band of Ojibwe and other individuals, brought a lawsuit in the White Earth Band of Ojibwe Tribal Court in northwestern Minnesota alleging that the DNR's issuance of a dewatering permit to Enbridge Energy infringed on the rights of Manoomin and those of the White Earth Band.

While ultimately unsuccessful in preventing the issuance of the DNR's permit or preventing Enbridge's construction of the Line 3 pipeline, *Manoomin v. Minnesota DNR* is a test balloon for other rights-of-nature cases, particularly those involving Tribal nations' powers and sovereignty on and off Tribal land.

At its core, *Manoomin v. Minnesota DNR* is about the confluence of many different tensions: state versus Tribal sovereignty, external interests versus the protection of local environments, and the rights and power of someone, or something, to protect itself in court. It is also, of course, about Manoomin.

"The food that grows on water"

There are many names for *Zizania palustris*, a grass which thrives in the clean, slow-moving rivers and lakes that pattern the vastness of the Great Lakes region. In English, it is most often called Wild Rice, but it is also known as Canada rice, marsh oats or blackbird oats. The French call it riz sauvage. In Dakota, it is Psíŋ. To the members of the Ojibwe Tribes of northern Minnesota, and across other parts of the broader Anishinaabe cultural region, it is Manoomin, roughly translated as "the good berry" or "the good seed."

A fundamental part of Ojibwe identity, Manoomin is directly linked to the migration story of the Ojibwe, which began with the Tribe inhabiting the north Atlantic coast several centuries ago. The Ojibwe left this region guided by the Seven Fires prophecy's foretelling that their journey would end once they came to the place of "the food that grows on water." As the Ojibwe arrived in what is now northern Minnesota in the

Knocking sticks, also known as flailing sticks, are used for gathering Wild Rice.

17th century, they encountered Manoomin and adapted to this abundant and nutritious plant.

Traditionally gathered by the Ojibwe and neighboring Indigenous nations using canoes and wooden knocking sticks, Manoomin is an annual aquatic grass that grows best in the soft, muddy beds of inlets and outlets of lakes and connected rivers and streams. Growing in thick stands in ideal conditions, it often grows to 9 feet in height but can occasionally reach as high as 14 feet. High in protein and complex carbohydrates, and full of other nutrients including B vitamins, magnesium and zinc, Manoomin was and remains a staple component of the diets of many cultures of the Great Lakes region.

A robust but fragile plant, it is a bellwether for changes to water quality and environmental shifts. Manoomin is susceptible to the vagaries of weather, water pollution and human disturbance. Fluctuations in water quality, level and flow rate can greatly reduce or destroy the plant's reproduction. These characteristics came to a head in the late 2010s when Enbridge Energy sought permits from Minnesota governmental agencies for the reconstruction and relocation of its aging Line 3 oil pipeline, which would impact Manoomin's established habitat within the land set aside by treaty for Ojibwe hunting, fishing and gathering rights.

In light of the impending Line 3 redevelopment, a 2019 White Earth Tribal resolution noted that it had become "necessary to provide a legal basis to protect Wild Rice and freshwater resources as part of our primary treaty foods for future generations." Subsequently, the White Earth Band passed a Tribal law titled "The Rights of Manoomin," which holds that Manoomin has "inherent rights to exist, flourish, regenerate and evolve, as well as inherent rights to restoration, recovery and preservation."

As a cornerstone of Ojibwe culture, a nutritious and unique plant, and as an indicator species, Manoomin was ideally suited to the role of environmental plaintiff.

Up and down in Tribal and federal court

While *Manoomin v Minnesota DNR* is best known as the case where a plant sued the state of Minnesota, it fundamentally hinged on the issue of Tribal sovereignty to enforce laws and rights outside of reservation lands.

The genesis of the case was that in 2021 the Minnesota DNR issued a permit to Enbridge Energy that allowed Enbridge to access and use close to 5 billion gallons of surface and ground water as part of the construction of the Line 3 pipeline. This 'dewatering' permit allowed Enbridge to use water located in Ojibwe treaty lands that had been designated in the 19th century as areas where White Earth Band members could gather Manoomin and hunt and fish. In August 2021, the White Earth Band, along with Manoomin, sued the DNR on the grounds that Manoomin would be harmed by Enbridge's permitted actions and infringed on

Left: Boys & Girls Club members learn to hand parch Manoomin in a kettle over a fire. The paddle keeps the seed heads moving and turning as they dry while loosening the hull from the kernel. Below: Ricers at White Oak Landing finish their work for the day.

Tribal treaty rights. There were many other parties alleging other claims, but a foundational issue was the enforceability of the Rights of Manoomin Ordinance to prevent harm to Manoomin on land that Tribal members were legally allowed to gather from, but which were not Tribal property.

The DNR responded by seeking to have the White Earth Tribal Court dismiss the case, citing that the permit only pertained to off-reservation land and that Minnesota had sovereign immunity from the suit. The Tribal Court rejected this argument, and the DNR appealed to the White Earth Band of Ojibwe Tribal Court of Appeals to have the *Manoomin* case dismissed. Meanwhile, the Minnesota DNR brought a separate, but related lawsuit in U.S. District Court of Minnesota, the first level of the federal court system. The DNR requested that the federal court rule that the White Earth Band did not have the power to sue the DNR in White Earth Tribal Court. The federal court determined that the federal court did not have the power to prevent the White Earth Band from bringing its lawsuit, at least not at that early stage of the Tribal Court case. The DNR appealed *that* ruling to the Federal Court of Appeals, but before that issue could be heard, the White Earth Court of Appeals decided that the White Earth Band did *not* have the authority to try and regulate off-reservation activities as it related to the DNR permits.

There were no grand arguments about the rights of nature or whether or not a plant could be a plaintiff. Instead, it hinged on whether or not the White Earth Band had the right to regulate off-reservation land.

Members of the White Earth Band of Ojibwe gather Manoomin, or Wild Rice (*Zizania palustris*).

White Earth Band elected to not keep pursuing the issue, and with that, the *Manoomin v. Minnesota DNR* case was over.

The catchy mystique of Manoomin

Frank Bibeau, one of the attorneys representing Manoomin in *Manoomin v. Minnesota DNR*, said he thinks the White Earth Court of Appeals got it wrong. However, he isn't too concerned about it because in the grand scheme of things, he thinks Manoomin, the rights of nature and Tribal sovereignty are going to come out on top. A former Tribal attorney for the White Earth Band and a drafter of The Rights of Manoomin ordinance, Bibeaau said he feels vindicated by everything that has happened after *Manoomin v. Minnesota DNR*. "It doesn't matter whether we won or lost," he said in a recent conversation, "because it's the notoriety and the continuation that's important."

Bibeau understands the cultural power of having a plant bring a lawsuit. Manoomin as a plaintiff represented both a response to and an incorporation of what he describes as "colonized legal training." Manoomin acts as a flare, illuminating new methods for Tribal nations to enforce their sovereign rights from within a system that has so often disregarded them. Bibeau's hope is that cases like *Manoomin* will eventually force developers and state agencies to work more frequently with Tribes through emboldened Tribal sovereignty in an effort to protect shared lands, resources and ecosystems.

As Bibeau sees it, Manoomin going to court did and will continue to draw attention to the causes of Tribal rights because of its sheer unconventionality. He described Manoomin's role as a plaintiff as "logical for many reasons" because "it would have this weird kind of catchy mystique" while also validly arising out of the cultural truth and jurisprudence of the White Earth Band's history and law. It represented both a novel legal ideal, but also a reflection that Tribal sovereignty rests not in a government or a people, but is drawn directly from the land as the ultimate sovereign and power. Eventually, he hopes cases like *Manoomin* could redefine what is possible in Tribal and state courts and ideally reenforce the understanding that "to be effective, states and other [parties] are going to realize that they're either going to have to deal with [the Tribes] or decide not to" pursue a project that may interfere with Tribal rights and laws.

Conclusion

While Manoomin ultimately did not prevail in preventing the construction and operation of the Line 3 pipeline, the case advanced awareness of the rights of nature as a novel form of jurisprudence, and Manoomin continues to hold rights and protection on the White Earth Band's Tribal Lands. The legal system is a codification of human understanding and values and, like any other natural system, is constantly adapting and shifting. Even though Manoomin does best in clear and gentle waters, it may still have a future in the turbulence of the rights of nature movement.

Tim Lovett is an attorney, educator and writer living in Minneapolis, Minnesota.

Photos courtesy of Avi Stopper

Neighborhood program replaces grass with native plants

By Avi Stopper and Deborah Lebow Aal

In early 2022, Avi Stopper was walking his dog in the central Denver neighborhood known as West Wash Park when he stopped to admire Deb Lebow Aal's mostly native plant garden. Aal's yard is a very public garden, with many plants in a "hell strip," that 6-foot or so space between the sidewalk and the street also called a boulevard or parking or curb strip.

He noticed bird sounds in Aal's yard, in contrast to many of the other yards. Stopper asked, "Why doesn't everyone do this?"

Aal responded, "Because they don't know how."

Shortly after, Stopper launched Oasis West Wash Park, a volunteer project helping neighbors to replace grass in what he now calls "heaven strips" with Colorado native plants. His hope was to turn the neighborhood into a gigantic botanical garden bursting with life. And he and his team are succeeding.

First, he signed people up for a mostly free re-do of their front heaven strips. He got many takers — more than he could handle with the help of only a few neighborhood volunteers. To keep up with demand, he tapped into the African Community Center to assemble a paid crew of Afghani refugees who now replace Kentucky bluegrass (*Poa pratensis*) with all types of Colorado Front Range native plants.

At first, the cost to residents was just labor and plants. But Stopper has obsessively refined the process to make Oasis affordable and easier to maintain, even though the majority of the work is done by his paid crew.

The Oasis project has also expanded and now landscapes front yards with native plants, too. With the help of 192 volunteers (not everyone shows up for each project; in fact, usually just a handful or two will help at a time), and the paid crew, the project has redone more than 100 yards.

But just as importantly, the Oasis project has helped to engage the community and neighborhood. These volunteers socialize while helping remove sod, reconfiguring planted areas to create swales for water or planting the native plants. All while learning about the benefits of using Colorado native plants.

The volunteer crew smiles for the camera as they work on a heaven strip.

The Oasis project has also expanded beyond West Wash Park and is now operating across Denver. It has provided jobs and opportunities to run businesses like this for these Afghani workers. Challenges remain, but their work is transforming how homeowners think about native plants.

How to replicate this program in your neighborhood

First of all, look at your municipality's ordinance to see what is allowed as some cities, towns or villages have ordinances that limit plant height, for example, in the heaven strip. After that is determined, the most important thing is to find an "Avi Stopper" in your neighborhood — a person with vision and energy, and a dedication to the cause – to identify easy ways to bring native plants into yards.

Short of that, find a few neighbors who understand the importance of taking out lawns and putting in native plants, and put together a volunteer crew, Aal said. Pick a lucky winner to have their front yard converted — you will have many who want this, given the price. And keep it to front yards. You want this to be visible and connect neighbors, which is hard to do with a back yard.

Remember that many hands make light work. Do small, manageable projects that can be completed in two hours. Break it down to one or two of the following jobs at a time: removing sod, making swales or other water harvesting techniques, putting down cardboard or another natural weed barrier that will break down over time; putting down mulch, and then, later, maybe much later, planting. In Colorado, we unfortunately need to consider irrigation systems. Maybe where you are, you don't. That would certainly simplify things.

And, most importantly, put up signs by your projects explaining what is happening and inviting others to join you. Be sure to provide contact information on how to volunteer or get on the list of people who want their front lawns or heaven strips converted. Oasis's list of who wants their yard converted is very, very long.

We found this project to be inspirational on many levels. The neighborhood camaraderie has been great to watch. While we have no scientific data yet, I am sure we have more insects and birds in our neighborhood, and, as an added bonus, we have gained Wild Ones members through this process. It has been a win-win-win project.

For more information, contact Stopper at avi@planttheoasis.org.

Deborah Lebow Aal is vice president of the Wild Ones Front Range (Colorado) Chapter. Avi Stopper is the founder of Oasis and a number of other civically oriented entrepreneurial ventures, including Bike Streets, which is dedicated to making Denver the best bike city in America, and Poll Hero, a pandemic-era election security initiative that helped nearly 30,000 high school and college students become poll workers.

Winter's wake-up call: The science of seed stratification

NEW to NATIVES

By Wild Ones Staff

For many native plants, germination doesn't happen the moment a seed is planted. Seeds rest through winter in a state of dormancy, waiting for the seasonal cues that tell them it's safe to grow. One of the most important of those cues is **stratification** — a period of cold or cold and moist conditions that breaks dormancy and sets the stage for spring growth. For many native plants, winter is not a pause; it's the cue to begin again.

Why do seeds need stratification?

Dormancy is a built-in survival mechanism that prevents seeds from sprouting during unfavorable conditions, such as an unseasonably warm spell before frost. OPN Seed explains: "If a plant drops seed in the spring, the seed goes through summer, fall and winter and wakes up the next spring when it's time to make a new plant. This particular seed follows a natural stratification pattern of warm and dry (summer), followed by cool and moist (fall and winter). Due to varying weather patterns, stratification in nature can vary radically from year to year and increase variability with these processes."

While several types of stratification occur in nature (see below), cold moist stratification is by far the most common type, especially for temperate species in North America. Cold moist conditions address both physical and physiological dormancy. The moisture softens the seed coat (helping water and gases move in) while the cold period alters hormone balances.

A variety of native seeds just waiting to be stratified and planted. *Photo by Barbara A. Schmitz*

What is seed stratification?

Stratification is a process of exposing seeds to specific combinations of temperature and moisture to simulate natural conditions that seeds would experience in the soil over winter. For many temperate plants, this process is essential to trigger the physiological and biochemical changes required for germination. If you live in a cold climate, you can often simply plant your seeds directly in the ground or in a pot and let nature do its work. Stratification times will vary due to sunlight, soil temperature, hydrology and weather patterns.

To better control timing and improve germination rates, many gardeners stratify their seeds. Even in regions with naturally cold winters, this controlled process allows seeds to be started indoors or outdoors in containers, ensuring they receive the consistent cold, moist period they need before planting, while also protecting them from birds and other wildlife that might eat or disturb them.

Types of stratification

There are four types of stratification:

Cold Moist: Mimics winter conditions where seeds rest in cool, damp soil. Moisture softens the seed coat and activates internal changes that allow germination once temperatures rise. Can be achieved naturally through fall or winter seeding, or artificially in refrigeration (typically 34–41°F) using a damp medium like sand or vermiculite for several weeks or months. Examples include blue false indigo (*Baptisia australis*), trillium (*Trillium grandiflorum*), New Jersey tea (*Ceanothus americanus*) and wild ginger (*Asarum canadense*).

Cold Dry: Simulates cold, low-moisture storage conditions similar to a seed lying in frozen or dry winter ground. Many prairie grasses and forbs respond well to 30–90 days of cold dry stratification. This can be done by refrigerating seed in a sealed container at ~32–40°F. Examples include little bluestem (*Schizachyrium scoparium*), Indiangrass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*) and blue grama (*Bouteloua gracilis*).

Warm Moist: Replicates late-summer conditions when soils are warm and rain begins to fall. Some species require this phase before a cold period, especially those adapted to warm-season climates. Keep seeds in a moist medium around 75–80°F for several weeks. Examples include wild lupine (*Lupinus perennis*), white

Photo by Marlene Smith, president, Wild Ones Chesapeake Bay Chapter

NEW to NATIVES

Stratification in action

Wild Ones Chesapeake Bay and the USGS Bee Lab

By Marlene Smith

When members of the Wild Ones Chesapeake Bay Chapter joined a winter sowing 2024 workshop at the U.S. Geological Survey's Bee Lab in Laurel, Maryland, they didn't expect it to spark a multi-season propagation project. Under the guidance of Sam Droege and Sydney Shumar, the team has learned to cold-moist stratify native seeds by mixing them with damp sand, carefully labeling them and storing them in a refrigerator to mimic winter's chill. Now, chapter members and local volunteers follow a full-year propagation cycle: stratifying seeds in winter, sowing in spring and transplanting through summer and fall.

In their inaugural 2024 season, chapter volunteers stratified, sowed and grew more than 2,200 native plants representing 35 species. The plants were distributed through community swaps, giveaways and restoration projects in partnership with local partners.

The 2025 season began in early February with a "Stratification-o-rama" event, where volunteers cold-stratified 48 native species using sand and baggies stored in the Bee Lab refrigerator.

"Our primary focus is on plants that are little known, hard to find and/or under-appreciated in the nursery trade," reports chapter president Marlene Smith. "Selections include plants that are native to our local Chesapeake Rolling Coastal Plain ecoregion that have recognized faunal associations. In addition, we have included plants with high pollinator value."

Volunteers returned in early April to sow the stratified seeds into milk jugs. It is a common method chosen to protect seeds from weather fluctuations, wildlife and airborne weed seeds while maintaining stable moisture and temperature conditions. The jugs were then placed outdoors in growing pens once used for whooping crane breeding — a program that helped rescue the species from near extinction.

The chapter's work continued through summer and fall as seedlings emerged and were transplanted into plug trays and pots. The chapter began distributing plants in the fall at local swaps and giveaways, including their 3rd Annual Native Plant Swap at the St. Mary's County Public Library in Leonardtown and their 2nd Annual Make a Difference Day in Anne Arundel County. Hundreds of plants found new homes in public gardens, schoolyards and residential landscapes across the Chesapeake Bay region. Altogether, the chapter transplanted and grew more than 2,770 native plants of 43 species in 2025.

Story adapted from chapter blogs by Marlene Smith, president of the Wild Ones Chesapeake Bay Chapter.

Below: Wild Ones members Miranda Yourick, left, and Marlene Smith returned to the USGS Bee Lab in April 2025 to sow the chapter's stratified seeds into milk jugs. *Right:* In May 2024, these seedlings were separated from their seed trays and transplanted to plug trays so they could continue to grow throughout the summer. This represents just a small sample of the more than 2,200 plants of 35 species that chapter grew in its first year.

wild indigo (*Baptisia leucantha*) and prairie larkspur (*Delphinium carolinianum*).

Warm Dry: Mimics the hot, dry period following late-spring dispersal when seeds rest in warm soil. Useful for species that naturally experience summer dormancy before germinating the following season. Seeds are held in a warm, dry environment (70–85°F) for several weeks to months. Examples include prairie smoke (*Geum triflorum*), spiderwort (*Tradescantia ohiensis*) and pasque flower (*Anemone patens*).

Tip: For the most reliable results, always check species-specific germination requirements. Many native plant nurseries like Prairie Moon and OPN Seed list recommended stratification times, and regionally focused guides such as Jan Midgley's "*Native Plant Propagation*" or Neil Diboll's "*Propagation of Herbaceous Native Perennials*" offer detailed methods.

Students fill the new raised flower beds with soil.

Westwood High School grows its native plant garden

A little ingenuity and hard work allowed Westwood High School, in Austin, Texas to expand its original plans for a native garden.

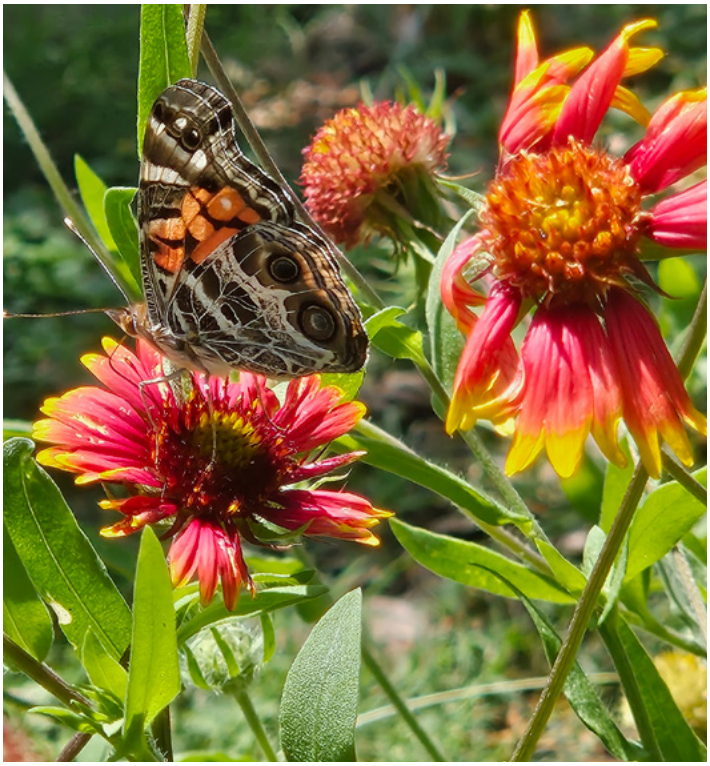
Project Coordinator Drake Clapp said they initially only spent a small portion of the Wild Ones Seeds for Education grant on live plants, thanks to students gathering or receiving free seeds and plants from other sources. For example, the Plant Club from nearby Round Rock High School donated Alamo vine (*Merremia dissecta*) and lanceleaf coreopsis (*Coreopsis lanceolata*).

The school also used non-grant money to purchase soil and edging materials in an effort to delineate the garden and reduce trampling by students and visitors. But the group saved money here, too, building two additional beds using old cedar fence pickets donated by a student, Clapp said, and obtaining mulch for free from the city's brush recycling programs or from teacher donations.

About 45 students participated in the project from various groups, including the Westwood High School International Baccalaureate program, Environmental Club, ARC club, National Honor Society and Special Education. The students planted 24 perennials, grasses or sedges such as milkweeds (*Asclepias Asperula*, *oenotheroides* and *viridis*), palm leaf mistflower (*Conoclinium greggii*), prairie bundleflower (*Desmanthus illinoensis*) and Texas bluebonnet or lupine (*Lupinus texensis*); one tree, littleleaf leadtree (*Leucaena retusa*) and seven shrubs including autumn sage (*Salvia greggii*).

Garden construction and expansion remained an ongoing project throughout the 2023-24 and 2024-25 school years with individuals and smaller groups of students coming to the school on weekends and breaks to expand the garden or to water the establishing plants during long dry spells, said Clapp, an environmentalist and native plant enthusiast who teaches International Baccalaureate English at the school.

"We had a lot of fun doing the actual physical work of digging and planting things," he said. "Getting to put pretty plants in the ground after having planned or participated



Left: A seedling sprouts in the soil. The students purchased native plants to start their garden, but also collected seeds to supplement the variety of plants in their school garden. *Right:* An American painted lady butterfly (*Vanessa virginiensis*) gathers nectar from Indian blanket flower (*Gaillardia pulchella*) at the new Westwood High School native garden.

in workdays consisting only of prep work (such as building wood borders, laying down pavers, digging, etc.) was very rewarding. We sowed a lot of seeds in addition to transplanting live plants, so seeing those come up after staring at bare soil over fall and winter as the seeds were undergoing cold stratification was exciting."

Clapp said that in addition to being home to a considerable number of native plant enthusiasts, Texas is fortunate to have programs like the Department of Transportation's highway wildflower program.

"These kids drive past rich ecosystems without paying them much mind," he said. "Learning the names of the things they planted themselves, as well as learning about the equally ubiquitous invasive plants that came up by themselves, was an important aspect of this project. They also got to see the positive impact that even a small native plant garden has on wildlife, as many animals visited the garden that likely wouldn't have stopped by without it."

A handful of the more frequent student volunteers expressed an increased interest in gardening and a desire to either start their own home gardens or play a more active part in maintaining their parent's or grandparent's gardens, Clapp said, adding that the quantity and diversity of the wildlife attracted to the garden were also surprising and exciting to observe given the school's location since it is surrounded by roads, parking lots and a residential monoculture.

Students and school staff saw a variety of birds and insects feeding on their plants, including lesser goldfinches (*Spinus psaltria*), which enjoyed picking seeds out of the Indian blanket flowers (*Gaillardia pulchella*) after they had flowered and gone to seed, at least four distinct bee species, bush katydids (*Scudderia* spp.), hoverflies (*Syrphidae* spp.), crescent butterflies (*Phyciodes* spp.) and more.

Since the original garden was planted, the area has already been expanded with students collecting seeds to sow in the fall and then propagating live plants like passion flowers (*Passiflora incarnata*, *P. tenuiloba*, and *P. affinis*) and transplanting them to the garden, he said.

In the future, Clapp said they also plan to add a few native trees, such as honey mesquite (*Prosopis glandulosa*) and palo verde (*Parkinsonia aculeata*).

Clapp's has two pieces of advice to other groups planting native gardens. First, make sure plants are well delineated.

"From our experience, vandalism wasn't a significant issue, but people can accidentally step over plants if they aren't paying attention or if the plants themselves are inconspicuous," he said.

And secondly, take the time to learn what weed and native plant seedlings look like. "If you sow a variety of seeds, it will be difficult to tell them apart and pull out the broadleaf weeds before they crowd out the natives," he said.

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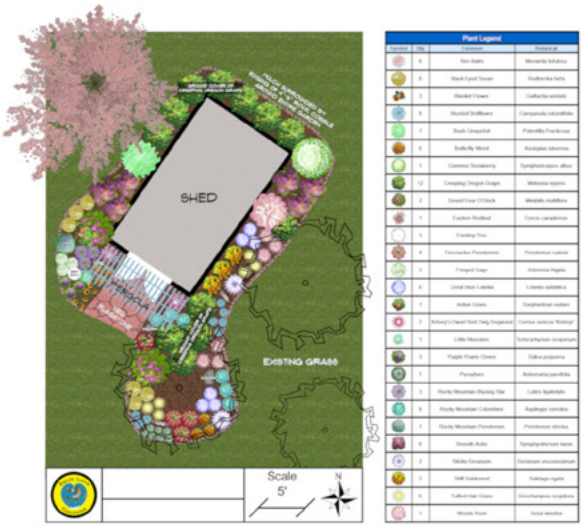

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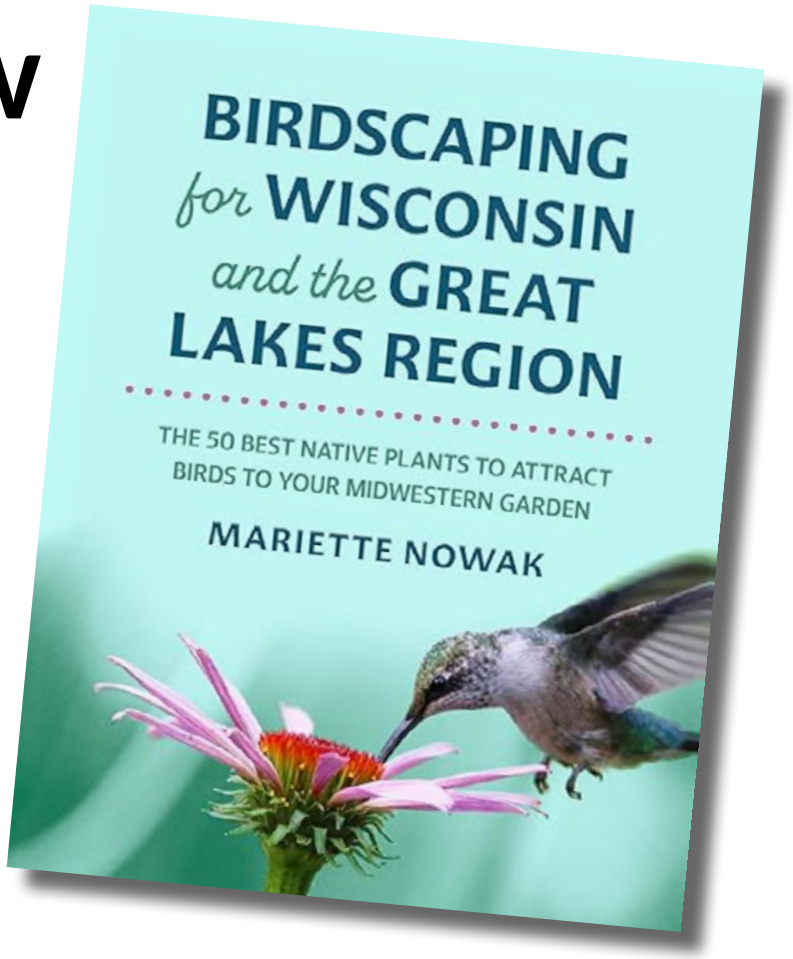
Book Review

Title: "Birdscaping for Wisconsin and the Great Lakes Region: The 50 Best Native Plants to Attract Birds to your Midwestern Garden"

Author: Mariette Nowak

Published: June 2025

Rating: ★★★★★



By Wendy Gochenaur

"Birdscaping for Wisconsin and the Great Lakes Region" is a treat in its physical form with beautiful, glossy pages showcasing 150 colorful photographs of birds and various flora. At 7 x 9 inches, it's a good-sized book: not too small or too large. In the past, I have had native plant books that were so large I had to rest them on a surface to read them. But you didn't come here to read about the book's physical form; you came to read about the spirit of this book.

And what a spirit this book has! Its 352 pages are packed with information. If you live in the Midwest, this book is a must-have for those interested in birding and beyond. Author Mariette Nowak, an active leader and volunteer for Wild Ones and the former director of Milwaukee's Wehr Nature Center, takes us on a tour through the garden (her own on many occasions) and personally introduces us to 50 different native plants. First, the reader learns their name, both common and taxonomic. Then, Nowak takes the reader on a deeper dive (what she calls "a closer look") and shares the plant's secrets with us including little tidbits like how a plant smells, or other aspects of the plant that might be overshadowed by its showier features. She invites us to slow down, to lean in and get to know the plant in question. Get to know the insects, the birds and the soul of the plant; stop and smell the roses, so to speak.

Nowak lovingly encourages the reader to transform their land from a sterile lawn to a luscious native paradise. After all, we are just stewards of the land we occupy, and as such, we owe it to the wild to care for it. This book is a shining light that will guide you on your journey of land stewardship. It doesn't matter how large or small your property is as there are many plants in this book that will attract countless beautiful birds to your yard.

Want to attract ruby-throated hummingbirds (*Archilochus colubris*)? Plant some trumpet creeper (*Campsis radicans*). Interested in having the summery, yellow flash of goldfinches (*Spinus tristis*) visit your space? Plant some native thistle such as field thistle (*Cirsium discolor*). Plant serviceberries (*Amelanchier* spp.) for forest birds like the wood thrush (*Hylocichla mustelina*), while cedar waxwings (*Bombycilla cedrorum*) are partial to junipers (*Juniperus* spp.).

Don't have time to read the entire book? That's OK! The index can help you find just the information you're looking for, whether it is about specific plant species or the birds that you want to visit your space. If you don't know what you have to offer or what sort of plants are a match for your landscape, visit the table of contents, which is helpfully laid out by landscape type.

Overall, I give this book 5 out of 5 stars for the wisdom, beauty and soul that Nowak poured onto these pages. The world is a better place with this book in it.

Wendy Gochenaur is a Wild Ones member, artist and mother to three lovely cats who can't get enough of native gardening, but who here can?

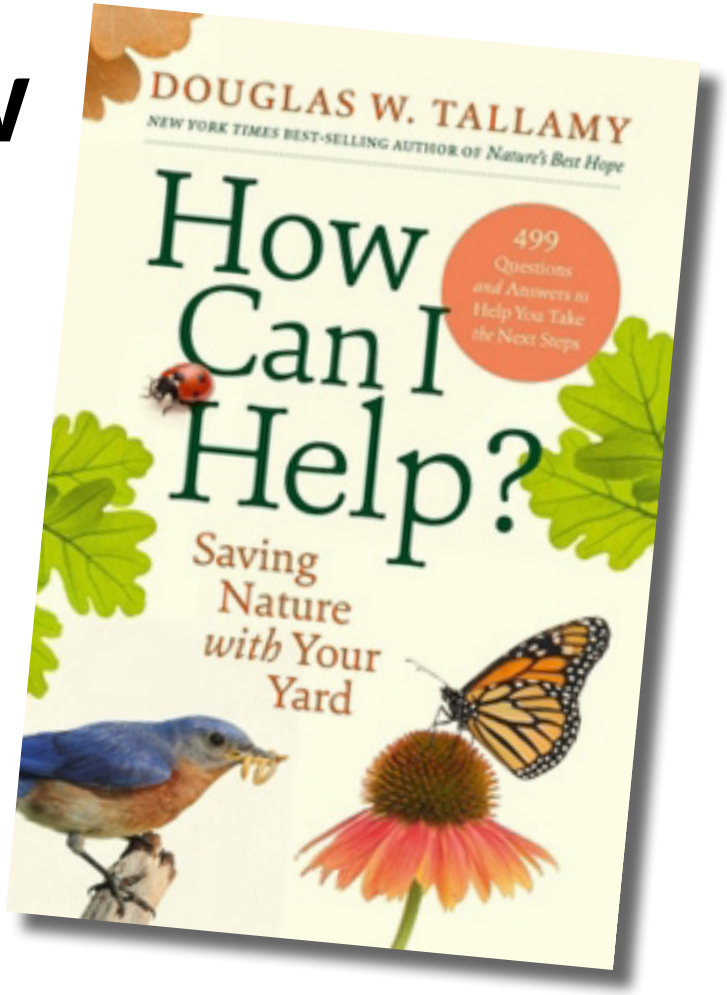
Book Review

Title: "How Can I Help? Saving Nature With Your Yard"

Author: Douglas W. Tallamy

Published: 2025

Rating: ★★★★★



By Sara Ressing

If you've been part of the native plant movement for any length of time, chances are you have already read one (or several) of Doug Tallamy's books. Tallamy is an entomologist and longtime advocate for restoring biodiversity through native plants. He has shaped much of the public conversation about ecological gardening over the last two decades.

"How Can I Help? Saving Nature with Your Yard" feels like a practical companion to his earlier work. It's less about the "why" of ecological gardening (he's already given us that in "Bringing Nature Home" and "Nature's Best Hope") and more about the "how."

Framed as 499 questions *and* answers to help you take the next steps, it reads like a long, thoughtful Q&A session with the author; the kind you might wish you could have after hearing one of his talks. In fact, I read this book while preparing for Tallamy's recent national webinar with Wild Ones, *Next Steps for Nature*, which was based on the same topic. We joked with Doug that the questions we received for his webinar from Wild Ones members alone could easily fill a second volume. Indeed, he says his original manuscript was much longer, and the final count of 499 questions was a publisher's decision.

As the Wild Ones staff reader of webinar registrant questions, I can appreciate how much effort went into selecting the ones that made it into print. The Q&A format breaks big, sometimes intimidating concepts, into manageable pieces. Questions range from "What exactly makes a plant native?" to "How can I convince my neighbors to stop spraying pesticides?" You won't find answers to your hyper-specific questions here— save those for your local Wild Ones chapter, where troubleshooting and regional expertise shine.

The questions are organized into broad topic areas ranging from ecology and biodiversity to invasive species, home landscapes and wildlife support. Readers can easily find guidance on both the science behind native plants and the practical steps for restoring nature at home. The book is easy to pick up and dip into, rather than reading it cover to cover. The nearly 20-page index is a lifesaver, making it easy to flip through and see "what Doug has to say" on any topic.

Tallamy answers each question in his typical way: directly, honestly and with deep knowledge. Like his other books and talks, the book offers hope and empowerment. Despite the scale of the ecological issues we face, "How Can I Help?" emphasizes what each of us can do, right where we are. It's the kind of book that reminds you that progress is possible: one yard, one question, one answer at a time.

Sara Ressing is the education and program coordinator at Wild Ones, where she blends her love of native plants, learning and storytelling to support community-based conservation. She holds master's degrees in both zoology and education. She's also a parent of two, a cat enthusiast and a big fan of muddy hikes and good books.

All photos by Matthew Ross

A forgotten chapter: How Polly Hill Arboretum is cultivating change with native plants

The MV Native Plant Program actively grows and sources a large quantity of native plugs at the Polly Hill nursery.

By Matthew Ross

This summer brought a massive influx of tourists hitting the beaches of Martha's Vineyard to catch the sights and celebrate the 50th anniversary of the movie "JAWS." Among the hysteria, pandemonium and waves of painfully blue hydrangeas, I found myself deep within the heart of the Vineyard in a humble, yet impactful garden. I was honored to spend a week at Polly Hill Arboretum, where all of my preconceived notions of the Vineyard's plant life were blown out of the water higher than a depth charge shot by the late, great Roy Scheider!

A 60-acre botanical garden and nursery in West Tisbury, Polly Hill Arboreum is a charming farming community on Martha's Vineyard. It was the homestead and farm of Polly Hill, who started a seed nursery in 1958 and then transitioned it into a public garden in 1998. Polly Hill (1907-2007) was a world-class horticulturist and nursery professional who reached legendary status as the woman who grew a phenomenal diversity of plants, all from seed. She is known for introducing a wide range of species from around the world, cultivating the foundation of the national Stewartia collection and breeding a cold-hardy bigleaf magnolia (*Magnolia macrophylla* 'Julian'). However, her work in the conservation community is often overlooked.

In addition to being a pioneer of zone-pushing with a variety of supposed non-hardy species, Hill found respite among the hickories, hollies, oaks and magnolias native to the mid-Atlantic. She found beauty in growing the impossible. At her nursery, she developed her niche by trialing several strains, many of which were from her own collection. Dedicated to preserving the land around her and creating the perfect, living laboratory for future leaders at the arboretum, her reputation for exotic plants far overshadows her many contributions to the native plant movement. The dichotomy of her career in horticulture is mirrored by the Arboretum's ongoing commitment to showing the juxtaposition of native and exotic plantings that provide the perfect forum to inform landscape decisions.

During several days of exploring the expansive plant collection, I was humbled as I walked through many of her accessions and original plantings. But I was equally impressed by the diversity of the meadows and forests that anchor the property. I had the pleasure of finding several populations of ragged fringed orchid (*Platanthera lacera*) tucked under the thick cover of yellow false indigo (*Baptisia sphaerocarpa*) and shining sumac (*Rhus copallinum*). I spent a few evenings traversing the expansive native conservation lands that include a broad array of native oaks from white (*Quercus alba*) and black (*Q. velutina*) to scrub (*Q. ilicifolia*) and post (*Q. stellata*).

A stately oak (*Quercus* sp.) tree stands just outside the Quansoo Farm Trailhead.

Polly Hill is a beacon not just for land conservation, but also for native plant propagation. It actively sources and grows large quantities of native plugs through programs like MV Wild Type and Biodiversity Works, offering gardening kits featuring local genotypes such as Sun Seekers, Waterless Wonders and Shady Stunners. Additionally, Polly Hill supports a wide range of plant collection trips where their staff conduct domestic collections to evaluate the landscape value of both woody and herbaceous plant materials. With the support of the Martha's Vineyard Commission, they have developed a searchable plant selection guide to help locals source great landscape plants. The impact of their advocacy is apparent throughout the region as they have created an influx of available local germplasm through their incredible nursery. Executive Director Tim Boland is a champion for these projects and is a legend himself having led the team at Polly Hill for close to a quarter century. His contributions to the native plant movement in public gardens are unparalleled. He has also mentored a long list of professionals who have worked at Polly Hill and who now are creating positive change in gardens across the globe.

During my time on the island, Tim took me around to highlight some of the nearby conservation lands and dispel my notion that Martha's Vineyard was dominated by


Tim Boland and Laura Coit pose along the sandy coastline of Martha's Vineyard.

A selection of gorgeous, deep-orange blooms of butterfly milkweed (*Asclepias tuberosa*) is stunning at Polly Hill Arboretum.

salt marshes and grasslands. It was a professional thrill to walk beside one of the nation's top hybrids of horticulturist and botanist. Throughout our expeditions, I was intrigued by the broad spectrum of butterfly weed (*Asclepias tuberosa*), which varied from a diminutive population with dark blue-green foliage with deep orange inflorescences, to pale green taller specimens with pale yellow flowers. In addition to the butterfly milkweed, Tim shared his encyclopedic knowledge of the hybridization of oaks, the phenological differences of hazelnut (*Corylus*) and we even spotted a massive population of wood lily (*Lilium philadelphicum*) in peak bloom. My view of Martha's Vineyard was completely transformed, giving me a new respect for the diversity of the 57,000-acre island, 22,000 acres of which are under conservation.

We also took a moment to explore the plantings at West Tisbury Library, where Tim's wife, Laura Coit, a fellow horticulturist, designed a landscape with an assortment of resilient plants. Oakleaf hydrangea (*Hydrangea quericifolia*), sweetfern (*Comptonia peregrina*) and groundsel bush (*Baccharis halimifolia*) are strategically designed to create a pollinator haven at the library while also providing green stormwater mitigation and shade from the blistering summer sun. The plantings have been in place for over a decade; they are a testament to the durability of plants like blazing star (*Liatris*) and St. John's wort (*Hypericum perforatum*), both a highlight of the summer landscape.

This winter, as you plan your 2026 travels, I hope you consider making a trip to Polly Hill, the West Tisbury Library and the gorgeous preserves of Martha's Vineyard. Make sure to allow enough time to fully explore this expansive gem of a public garden, and don't forget to browse the nursery to see which plants are recommended to gardeners in the region. If not Polly Hill, I hope that you take the time to stop by one of the hundreds of public gardens across the nation and pair it with a hike to see the parallels between the native and cultivated landscape.

The Polly Hill Arboretum won't be the same after Tim retires in September 2026, but there's no doubt that his work has made a lasting impact and inspired a new generation of plant collectors who share the founder Polly Hill's enthusiasm and curiosity.

Wild Ones member Matthew Ross is executive director of the Botanic Garden at Historic Barns Park in Traverse City, Michigan.

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Rudbeckia laciniata, commonly known as ***cutleaf coneflower***, is a tall, clump-forming perennial native to moist meadows, streambanks, and open woodlands across eastern North America. It features deeply lobed, pinnately divided leaves and produces bright yellow, daisy-like flowers with drooping petals and prominent greenish-yellow central cones from midsummer to early fall. This showy wildflower attracts a wide variety of pollinators, including bees, butterflies, and beetles, and adds height and color to native plant gardens and rain gardens.

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