ConWatch

A publication of the GCA Conservation Committee • Spring 2026

FROM THE EDITORS

Welcome to the spring issue of *ConWatch*. In this issue we're featuring Darwin's Bee Dogs, an incredibly good-looking group of pointers that is helping improve our understanding of the important role that bees play in our world.

We also explore the "Grown Not Flown" movement that encourages moving away from carbon-intensive flower importers towards local environmentally friendly growers. This "slow flower" movement not only drastically reduces the carbon footprint of floral design, but it helps connect us with local farmers and florists and build a sense of community.

Lastly, we take an in-depth look at neonics, the Darth Vader of pesticides, that is threatening our nation's health and look at ways we can all urge our legislators to take a firmer stand.

Happy reading!

—Kathleen Rogers, GC of St. Louis, Zone XI, *ConWatch* Editor
Kim Frisbie, GC of Palm Beach, Zone XIII, *ConWatch* Assistant Editor

" Be a nuisance where it counts. Do your part to inform and stimulate the public to join your action. Be depressed, discouraged, and disappointed at failure and the disheartening effects of ignorance, greed, corruption, and bad politics—but never give up."

Marjory Stoneman Douglas
Conservationist and Everglades Activist
Recipient of the 1993 Presidential Medal of Freedom at age 103

ConWatch *is produced three times a year by the Conservation Committee of The Garden Club of America. It is available online in July, November, and April. Submissions and comments are encouraged and welcome. Use this* **link** *to submit, or contact* ***ConWatch@gcamerica.org***

The purpose of The Garden Club of America is to stimulate the knowledge and love of gardening, to share the advantages of association by means of educational meetings, conferences, correspondence, and publications, and to restore, improve, and protect the quality of the environment through educational programs and actions in the fields of conservation and civic improvement.

The Garden Club of America, 14 East 60th Street, New York, NY 10022, *GCAmerica.org*

***Banner photo**: The widespread use of neonicotinoid pesticides threatens bees and other pollinators essential to crops like these apples. Photo from Unsplash*

***On the cover:** Darwin, the hard-working shorthaired pointer and star of Darwin's Bee Dogs, takes to the field, lending his keen senses to conservation work that supports healthy pollinator ecosystems. Photo by Maegan Lanham*

FROM THE CONSERVATION AND NAL COMMITTEES

Advocate Everywhere, All at Once

With limited national leadership addressing sweeping environmental rollbacks, we've learned that effective conservation requires action at every level, at every opportunity. Throughout this issue of *ConWatch*, you'll see examples of work happening simultaneously at local, state, and national levels to protect our planet and human health.

Nationally, we continue to oppose rescissions to foundational environmental protections, including the Endangered Species Act, the Clean Air and Clean Water Acts, emissions and power plant standards, and the agencies that enforce them—EPA, Department of the Interior, NOAA, and NPS. At the same time, we advocate for bipartisan legislation that strengthens conservation.

Regionally, states and GCA clubs are rallying behind initiatives like the Ohio River Basin Restoration Act and the Great Lakes Restoration Act, building cooperation across state lines and political parties. Emerging issues such as PFAS contamination and neonicotinoid pesticides are gaining attention at the state level.

Local and backyard advocacy offer equally powerful opportunities. The "Grown, Not Flown" movement strengthens local ecosystems; planting native species supports pollinators; and the GCA Backyard Pledge reduces pesticide use.

Everything we do matters. Small steps lead to larger change, and success inspires success. Actions become movements. GCA initiatives show how local action scales: one state's native plant proclamation expanded to 48 states, led to permanent native plant laws in 11 states, and now to state bans on selling invasive plants. Actions become movements. Movements create change.

—Nancy Ylvisaker, GC of St. Louis, Zone XI, Conservation Committee Chair and Lydia Chambers, GC of Madison, Zone IV, NAL Committee Chair

Banner photo: *A majestic anhinga perches in a tree above the swampy waters of the Everglades National Park, its black and white feathers blending with the winter branches and brooding sky. Photo by Kathleen Rogers*

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WHAT WE ARE FOLLOWING

The Chesapeake Bay hosts the world's largest osprey population, but recent studies show alarming reproduction failures due to a reduction in the supply of menhaden,their primary food source. Photo from Wikimedia Commons.

The Menace to Menhadin

Almost everything in the Chesapeake Bay eats menhaden—a small, oily fish that rarely grows beyond 12 to 15 inches or weighs more than a pound. As filter feeders, menhaden consume microscopic plants and animals, helping to clarify the water while forming a critical link between the top and bottom of the food chain. Countless species depend on them, including striped bass, bluefish, and marine mammals. Ospreys rely on menhaden almost exclusively to feed their young. Menhaden are also harvested commercially and processed for industrial use.

So how did this modest fish become so controversial? Management of Atlantic menhaden falls to the Atlantic States Marine Fisheries Commission. At its October meeting, the Commission voted to reduce the 2026 commercial catch by 20 percent. Scientific advisors, including the Chesapeake Bay Foundation and the Theodore Roosevelt Conservation Partnership, urged a 50 percent cut, warning that anything less could jeopardize menhaden's ability to fulfill their essential role in the food web.

In Virginia, the vast majority of menhaden are harvested by Omega Protein, a Canadian-owned company that controls about 90 percent of the state's allocation. Virginia accounts for roughly 75 percent of the entire coastwide catch, allowing Omega to remove more than 100 million pounds of menhaden annually from the Bay alone. Spotter planes locate dense schools, which are encircled with massive purse nets. The fish are vacuumed aboard, along with unintended bycatch that is permanently removed from the ecosystem.

Once landed, menhaden are reduced to fishmeal, oil, and solubles for livestock feed and supplements. The Bay's living resources are exported out of the watershed, weakening the very food chain that sustains it. The challenge is not choosing between jobs and nature, but recognizing that without menhaden, both wildlife and watermen lose. This small fish carries enormous weight, and its future will help determine the future of the Chesapeake Bay itself.

—Jane Edwards, GC of Norfolk, Zone VII, First Vice Chair, NAL

Fog Loss and the Drying of Coastal Redwoods

Fog—by Carl Sandberg
The fog comes
on little cat feet.

It sits looking
over harbor and city
on silent haunches
and then moves on.

Coastal redwoods evolved in a uniquely fog-rich and fire-rare environment. Historically, redwoods absorb up to 40 percent of their summer moisture from a beautiful atmospheric river of fog, delivering moisture drop by drop directly through their needles and bark. But the fog is disappearing. Analysis of long-term coastal weather records and ship logs reveal a 33 percent decline in

Giant sequoias rise into the mist at Sequoia National Park, where fog and mountain moisture have long helped sustain these ancient forests. Photo courtesy of Freepik.

summer fog frequency since the early 1900s. Satellite data confirms the trend: fewer fog days, shorter fog residence, and delayed seasonal onset.

Fog loss is caused in large part by warming temperatures. Coastal fog forms when warm, moist air moves over cold ocean water, cooling that air to the dew point. As ocean surface temperatures warm, this temperature difference shrinks, leading to reduced cooling of air, fewer fog droplets forming, and a shorter fog season. The result is drier air pulling more moisture out of leaves and soils, less summer hydration for young trees and understory, which causes lower growth rates, greater vulnerability to fire, and shifts in species composition, with drought-tolerant species creeping into redwood zones.

These beautiful giants have survived for millennia with a steady relationship with fog, an alarmingly diminishing resource.

—Mary Blodgett, Diggers GC, Zone XII, Vice Chair, Forests/Redwoods

Farming Labor Shortages

U.S. farms are facing a dwindling and aging workforce, leading to unpicked crops which contribute to food waste, higher prices, and economic hardship for farmers, especially small family farms. Worker shortages are on the rise as farmers are finding there are not enough domestic workers willing to take on the physically demanding, often seasonal jobs required for planting, tending, and harvesting crops. In addition, both farm operators and hired laborers are getting older, with fewer young people entering the profession. The average age of a U.S. farmer is now over 58, and the current labor pool is also trending older, signaling worsening shortages as current workers retire.

Uncertainty around immigration policies and enforcement actions is compounding the issue. An estimated 42 percent of the agricultural workforce is comprised of unauthorized immigrants, many of whom leave their jobs rather than face tightening immigration restrictions. In addition, there are challenges with the H-2A Visa program, which is criticized for being too costly, complex, and inflexible for many farmers.

In response to labor shortages, some farmers are investing in technology and automation, though this requires significant capital investment that can stress small-scale farmers. Policymakers and agricultural groups are advocating for comprehensive labor and immigration reform to provide stability for the agricultural workforce and ensure domestic food security. Taking action to address our agricultural labor shortage problem is critical to improving the security of our nation's food supply.

—Sandy Law, Saint Paul GC, Zone XI, Vice-Chair, Agriculture

An aging workforce combined with uncertain immigration policy is resulting in a serious labor shortage on U.S. farms. Photo courtesy of Unsplash.

Federal Funding for Water Infrastructure

Communities across the country are facing many threats due to inadequate water infrastructure—from lead contamination to leaky pipes to sewage backups. The longer we wait to address these problems, the harder and more expensive they will be to solve, and it is imperative that we support this critical work with needed federal funding now.

But in May 2025, the current administration proposed *reducing* federal funding levels for the Drinking Water and Clean Water State Revolving Funds (SRFs)—the primary federal program for funding and financing water infrastructure projects—by nearly 90 percent. At a time when needs are compounding due to aging water infrastructure and climate change, under this proposal, the EPA would have abdicated a large portion of its federal responsibility under the Clean Water Act and Safe Drinking Water Act.

According to Congressional Budget Office data, federal funding for water and wastewater utilities has decreased fourfold since 1980. Nationally, the U.S. already has a deferred water infrastructure need and funding gap estimated to be over $1.2 trillion combined for drinking water, wastewater, and stormwater systems over the next two decades. Projections indicate the total investment required for water infrastructure projects could reach $3.4 trillion by 2044.

This leaves state and local governments—and ultimately, residents—to pick up the tab for costly repairs and upgrades. Since 2017, water and sewer rates have increased 25 and 20 percent, respectively, across the country.

Thanks to bipartisan pushback in budget negotiations, Congress has not accepted the proposed slashing of the SRFs. But the Clean Water SRF must be reauthorized by the end of 2026, and both the Clean Water and Drinking Water SRFs require annual appropriations to fund the water infrastructure projects that states and communities depend on.

Water infrastructure projects across the country face serious federal funding challenges, pushing the responsibility for our aging infrastructure from the federal level down to states and local communities. Photo by Sophia Twichell

This presents an opportunity to boost federal investment, cement the EPA's role, and support proven, nature-based solutions like wetlands, rain gardens, and bioswales that prevent flooding by allowing rainwater to be absorbed by the landscape. It is also critical to strengthen programs by providing more grants, as opposed to loans, for low-income and disadvantaged communities that have a particularly hard time shouldering the cost of expensive repairs and upgrades. Clean water is a basic need. We need to ensure that it is available to everyone.

—Sophie Twichell, Lake Forest GC, Zone XI, Vice Chair, Water

WHAT WE ARE DOING

Now is the time to redouble our efforts to push for both national legislation and local grassroots efforts to protect our country's increasingly fragile ecosystem. Photo from Unsplash.

Raising Hare—Chevy Chase Book Club

The Garden Club of Chevy Chase recently established the Conservation Book Club with the goal of engaging all members more deeply in the Conservation Committee's mission. By focusing on how nature can shape and enrich our lives, the book club serves as a platform for thoughtful discussion and personal reflection on environmental stewardship.

At the inaugural meeting, members discussed *Raising Hare,* a memoir by Chloe Dalton. The book chronicles Dalton's move from the bustling city of London to the tranquil English countryside at the start of the Covid pandemic. Through her narrative, Dalton shares the transformative experience of finding a newborn leveret—an unguarded young hare—in a nearby field. Motivated by compassion, she decides to bring the leveret into her home, marking the beginning of her journey of discovery and care for the natural world.

Members of the Garden Club of Chevy Chase Book Club met to discuss Raising Hare, *Chloe Dalton's lyrical memoir of life in the English countryside, sharing insights on stewardship, companionship, and the enduring relationship between people and the natural world. Photo by Paula Gibson*

Dalton's memoir provides an engaging account of her transition from urban life to the English countryside, highlighting the actions she took to conserve and preserve her surroundings. Her story is a heartfelt meditation on the profound connections formed when we allow the natural world to teach and inspire us. Through her bond with the wild hare, Dalton illustrates the rewards of embracing nature and the responsibilities that come with stewardship.

—Susan Dixon, GC of Chevy Chase, Zone VI

Green Heart Project

The Conservation Committee of The Tuckahoe Garden Club of Westhampton in Richmond, VA, hosted Dr. Aruni Bhatnagar, world-renowned cardiologist and director of the Christina Lee Brown Environment Institute, to share the groundbreaking Green Heart Louisville Project he leads in Louisville, Kentucky. They were joined by City of Richmond officials, forestry and urban park managers, and GCA friends from neighboring James River Garden Club.

Dr. Bhatnagar has led a $15-million research initiative to determine whether trees can measurably improve human cardiovascular health. More than 8,000 trees were planted in a previously barren neighborhood in

Tuckahoe GC members with Dr. Aruni Bhatnagar (L), the leader of the Green Heart Louisville Project, who spoke about his work on the restorative effect of trees on cardiovascular health. Photo by Donna Cornish

South Louisville, and the health of over 750 residents was studied. The results showed—scientifically and quantitatively—that increasing tree canopy and greening neighborhoods does indeed improve cardiovascular health. Trees are now understood as medicine for human well-being.

To show Dr. Bhatnagar how Tuckahoe is supporting this work in Richmond, he toured the "Low Line," a local project inspired by New York City's "High Line." The Low Line was founded in 2015 when Tuckahoe and three other garden clubs joined forces to create *Capital Trees*, a nonprofit promoting public greenspaces. One of many Capital Trees projects, the Low Line transformed five neglected acres beneath active train trestles into a beautiful riverside urban oasis enjoyed by cyclists, pedestrians, and visitors. The meeting and tour with Dr. Bhatnagar also served as a launching pad for Tuckahoe GC's mission to plant 100 trees throughout Richmond over the next three years to commemorate our nation's 250th anniversary.

Tuckahoe GC member Anne Poarch, director of advancement at Capital Trees, summed up the work of Dr. Bhatnagar this way: "Dr. Bhatnagar, in addition to being a delightful person who immediately felt like a dear friend, inspires each of us to become advocates who can speak for the trees, recognizing our deep-rooted connection and our mutual need for their sheltering shade and graceful power."

—Betty Jenkins, Tuckahoe GC, Zone

Zone VI Freedom Gardening

In celebration of our nation's 250th birthday, clubs in Zone VI are joining forces to "free" native trees from "foreign" invasives, a fitting way for gardeners to honor such a momentous occasion.

In many places across the zone, invasive vines have attacked native trees, tearing down habitats for hundreds of species, and thinning the plant diversity in critical stretches of our urban, suburban, and rural gardens and wilds. Club members are gearing up with gloves, clippers, and saws in pursuit of a bold and ambitious project with a simple mission: to "Free A Tree." Echoing our country's founding principles around freedom, the goal for each club is to liberate 250 trees from the "tyranny" of strangling invasive vines—including bittersweet, English

To mark the nation's upcoming anniversary, Zone VI clubs took to the woods to remove harmful invasives to free up space for native growth. Photo by Cathy Kerkam

ivy, euonymus, and other opportunistic clingers—by June 30, 2026.

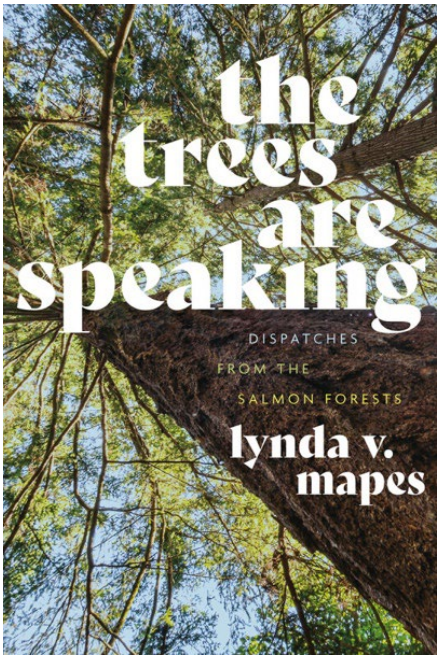
Perennial and Georgetown GCs are taking advantage of proximity and collaboration by getting outside in the winter months to photo-document their work and the resulting improvements. Several conservation groups in the D.C. and Baltimore areas have hosted organized outings for volunteers to cut and remove vines. The collective result will be more beautiful, diverse, and alive vistas of thriving trees and undergrowth. We all have experienced the satisfaction of a tree or bush seeming to say thank you for letting it breathe and grow again. Now will be a time in the coming months for our Zone VI clubs to show the way and let natural freedom ring again!

—Liz Evans, Georgetown GC, Zone VI

The Trees are Speaking—Seattle GC

Author and journalist Lynda Mapes spoke to the Seattle Garden Club about her book, *The Trees Are Speaking; Dispatches from the Salmon Forests*, which is a cry to protect old-growth forests and an explanation of their connection to critical fish habitat from the Pacific Northwest to Maine. She describes the deep connection between forests and salmon and explains how shrinking salmon runs break the cycle of nutrients coming from rivers back into land where they are absorbed into forests.

Likewise, cutting old growth trees has endangered



salmon runs as returning fish spawn in nutrient-rich, forested streams. Nitrogen from the spawned-out salmon offers a boost to the growth of the old trees, as does the excrement from bears, wolves and other critters who eat the salmon after dragging them into the trees, carrying the nutrition even farther into the forest.

Mapes has reported on Northwest forests for decades and recently compared her findings with timber stands along Maine's Penobscot River. There, the destruction of forests and salmon streams has long prevailed, yet a $64 million restoration project is underway in concert with the Penobscot Nation, five nonprofits, plus state and federal agencies. The agreement provides for improved fish passage while increasing the amount of hydropower generated on the river.

—Shelly Rolfe, Seattle GC, Zone XII

Grown Not Flown

Exploring the Slow Flower Movement

Orange Emperor tulips are widely grown on U.S. domestic flower farms; they are a seasonal early-spring favorite and a great alternative to their counterparts imported from massive growers in places like the Netherlands. Photo by Praswin Prakashan from Unsplash

It's hard to find anyone who doesn't love to give or receive flowers. Whether adding a touch of color to your hallway or kitchen table or sending well wishes to a friend, flowers are always a welcome gift. They provide a universal tribute to joy: celebrating all of life's momentous occasions from birth to death and every important or trivial event in between. The global cut flower trade is worth over $29 billion, and we in the U.S. import 82 percent of our flowers. But while we're all immersed in arranging cut flowers for party or centerpiece displays, we rarely stop to consider the underlying environmental impacts of these beautiful, exotic imports.

Transportation inefficiencies: First, there's the extended travel time. Most of the cut flowers imported to the U.S. arrive in refrigerated airplane holds from Columbia, Ecuador, and Kenya. Colombia alone generates about 360,000 metric tons of CO_2 each year just to export flowers. Upon arrival, flowers are transported in fleets of refrigerated trucks to destinations across the country, burning fuel and releasing hydrofluorocarbons (HFCs) consisting of hydrogen, fluorine, and carbon. HFCs are considered super-pollutants, with heat trapping potential hundreds to thousands of times greater than carbon dioxide.

Water Requirements: Second is the massive water consumption. Production of a single rose requires 3.43 gallons of water. Multiply that by billions of stems grown and exported each year, and the water footprint becomes staggering, especially in drought-prone countries. Kenya's Lake Naivasha's water reserves have dropped by nearly 40 percent due to the recent boom in flower production.

Chemical Residue: The industry's use of toxic chemicals adds yet another layer of damage. To maximize yields, greenhouses are packed tightly with plants and saturated with chemical "bombs" to kill pests, disease, and

Ranunculus burst into bloom in early spring, their densely layered petals a hallmark of seasonal beauty. Often grown by local flower farms rather than imported, these cool-weather favorites exemplify the Slow Flower movement's emphasis on regional sourcing and reduced transport. Photo from Unsplash

weeds. Workers labor in these environments with little protection, exposed daily to dangerous residues. These chemicals leach into surrounding soil and waterways, poisoning nearby aquifers and aquatic life. Consumers are impacted, too: tests have found more than 100 active pesticide substances lingering on imported flowers, many far exceeding their Acceptable Operator Exposure Level (AOEL), the toxicological safety limit for handlers. Clofentezine, classified by the EPA as a possible human carcinogen, has been recorded at nearly four times its allowable limit. Since flowers aren't sold as food, there is no regulation on pesticide use in their production, and imported blooms can carry up to 50 times more pesticide residue than is permitted on fruits or vegetables. You might want to think twice before inhaling those lovely roses you just received!

Buy Local

There is, however, a better way. Buying from local flower farmers shifts the entire equation. These blooms typically travel fewer than a hundred miles and reach the market within a day or two of being cut. They're fresher, longer lasting, and often include native or adapted varieties that nourish pollinators and other wildlife. Most small growers avoid synthetic chemicals, making their flowers safer for homes and far gentler on the planet. Buying local also creates something the global flower trade never will: relationships. Farmers and customers become partners in sustaining beauty that doesn't harm the earth. Growers share their love for the bees, butterflies, and beneficial insects that make their work possible, and customers begin to value not only the flowers but the living world that supports them.

Water use changes dramatically as well when you buy

This centerpiece celebrates the relaxed, garden-gathered style characteristic of the Slow Flower movement. Composed of locally grown seasonal blooms and foliage, its airy structure and varied textures embrace abundance, imperfection and timeless elegance. Photo by Kim Frisbie

locally grown flowers. Smaller farms carefully monitor rainfall and use efficient methods like drip irrigation, which delivers moisture directly to roots rather than spraying it into the air. Not a drop is wasted.

Most local growers are passionate environmental stewards. They cultivate soil health and lean on natural systems instead of chemical shortcuts. Living pathways and biodegradable mulches suppress weeds without herbicides. Diverse insect populations keep pests in check. Healthy soil builds strong plants capable of resisting disease without fungicides. A vibrant garden, like any healthy body, thrives when its immune system is strong.

Grown Not Flown

The Grown Not Flown movement was born in July 2021 as a simple hashtag—*#GNFsupportlocal*—aimed at celebrating small-scale flower farmers. It quickly grew into a digital platform, linking growers with people who value seasonal, sustainably raised flowers. Behind every bouquet lies a story of dedication, stewardship, and deep respect for the land. These growers do not chase profit or volume. They grow slowly, intentionally, with love and purpose, offering an antidote to an industry built on speed, profit, and chemical dependence.

Many of these farmers expand their operations through diversification, building resilient businesses that support their land and their communities. They are farmers first, driven by care for their soil and their neighbors. The Grown Not Flown team understands the struggles and rewards of small-scale agriculture because they live it. Their mission is to put seasonal, local flowers at everyone's fingertips, making it easy for consumers to choose responsibly.

Most local flower farmers mirror the beekeepers, vegetable growers, and artisans who are redefining sustainability in their own fields. They are not simply producing a commodity; they are cultivating hope. Their work strengthens biodiversity, local economies, and the ties between people and place. Grown Not Flown exists to help consumers find these growers and choose local first.

Choosing local flowers won't topple the global industry overnight, but every single purchase matters. Small shifts in consumer behavior create ripples that nurture healthier ecosystems and more resilient communities. Visit your farmers' market. Meet the people who grow your food and your flowers. Support those who tend the soil with care. Each bouquet, each conversation, each act of choosing local helps heal the world, one stem at a time.

—Kim Frisbie, GC of Palm Beach, Zone VIII

MEET DARWIN'S BEE DOGS

"These dogs give us and other collaborating scientists access to wild nests like we've never had before, allowing us to conduct groundbreaking research on these imperiled pollinators."

– Jacqueline Staab

Above: *Bumblebees and other pollinators help sustain landscapes like this rural Texas grassland—without them, scenes like this could slowly disappear. Photo by Maegan Lanham*

Photo on previous page: *Jacqueline Staab and Darwin on one of their many afternoon walks through untamed Texas grasslands on the hunt for bumblebee nests. Photo by Maegan Lanham*

With wet noses, wagging tails, and a home in North Carolina, Darwin's Bee Dogs aren't your typical Texas Parks and Wildlife Foundation (TPWF) ambassadors, but these talented German Shorthaired Pointers are best in show for their groundbreaking work with bumblebees.

Founder Jacqueline Staab, an ecologist and bee advocate, has created a buzz with her innovative detection dogs, trained to find bumblebee nests. Darwin's Bee Dogs are blazing trails that humans and technology have yet to replicate. "These dogs give us and other collaborating scientists access to wild nests like we've never had before, allowing us to conduct groundbreaking research on these imperiled pollinators," says Staab.

Staab's journey started while running her own farm in Richlands, North Carolina. "I became a certified beekeeper and couldn't learn enough about these astounding little insects keeping the world afloat. Bees became my passion," she says. "That's when it hit me. If I can help save the bees, I could help protect the entire ecosystem, safeguarding not only the environment but all the creatures that depend on it."

Staab bee-lined her way to Appalachian State University in Boone, North Carolina, where she pursued her bachelor's degree in ecology, evolution, and environmental biology. As part of her studies, she joined an ecology lab focused on bumblebees, where she immediately felt called to action. While pouring over existing bumblebee research, Staab noticed a wide gap of knowledge as it relates to bumblebee nesting and overwintering site ecology.

"I wanted to help fill in these knowledge gaps about nesting and overwintering" she says. "After trying several time-consuming and unsuccessful detection methods,

Darwin Bee Dogs founder Jacqueline Staab is a certified beekeeper and ecologist, and the brains behind the bee dog training program that has received international accolades. Photo by Maegan Lanham

"I became a certified beekeeper and couldn't learn enough about these astounding little insects keeping the world afloat. Bees became my passion. That's when it hit me. If I can help save the bees, I could help protect the entire ecosystem, safeguarding not only the environment but all the creatures that depend on it."

I came across a paper where the British Department of Defense trained a bee-seeking dog in 2011 with some success. I jumped at the opportunity and decided to make training and deploying detection K-9s to conserve and research bees my masters project, and, ultimately, my career and life's mission."

Staab developed a novel detection K-9 training program specific to *Bombus* (bumblebee) species detection, and she found her perfect K-9 trainee in a German Shorthaired Pointer puppy with a real nose for science. She named him and her namesake company Darwin's Bee Dogs after famed biologist Charles Darwin.

Darwin's evolution from precocious pup to America's first bumblebee nest detection dog has been nothing short of scintillating, and Staab's pioneering work with Darwin has garnered international buzz. Darwin's Bee Dogs has been featured on national news outlets, including The Weather Channel, NPR, NBC, and even China Global Television Network, and interest in this promising new approach has taken the conservation detection duo far from their home in North Carolina. While on the hunt in the mountains of Colorado, Staab was an integral part of an international team of researchers who identified *Bombus incognitus*, a newly documented bumblebee species.

Sadly, just as Darwin was gaining his bumblebee-finding footing, he passed away unexpectedly, but his curious spirit lives on through the important conservation detection work of two new Darwin's Bee Dogs recruits and German shorthaired pointers, Jane and Gerty—named after scientists Jane Goodall and Gerty Cori.

"In two short years, Darwin accomplished more than most dogs do in a lifetime," says Staab. "In addition to helping us gain invaluable new information about

A trained detection dog from Darwin's Bee Dogs wears a high-visibility harness while searching for wild bees by scent, helping to gather critical data for pollinator conservation. Photo by Maegan Lanham

Jane and Gerty—named for another pair of pioneering scientists—have taken up where Darwin left off, helping researchers continue to identify and catalog native bee species to advance our understanding of pollinators. Photo by Maegan Lanham.

bumblebee nesting ecology, he also served as an ambassador for native bees and brought a lot of attention to their cause. With Darwin's amazing work as a foundation, there's no telling how much more we can accomplish towards saving our precious pollinators."

Darwin's Bee Dogs are busy running the untamed fields of Texas to detect the nests of a bumblebee in decline, the American bumblebee, and potentially the rarer variable cuckoo bumblebee, which also uses these nests. Texas Parks and Wildlife Foundation is proud to fund this critical research in collaboration with Texas Parks and Wildlife Department and bee experts across the state. This project will help determine the population status of several pollinator species of greatest conservation need in Texas to inform conservation planning efforts.

It's all part of TPWF's new Pollinators & Prairies program, which is dedicated to conserving Texas's vital native pollinators and iconic grasslands through research, outreach, and on-the-ground conservation action. The program is generously supported by presenting sponsor H-E-B, with additional funding from Phillips 66.

According to Staab, "This research is so critically important because our pollinators and prairies sustain us. Without the health of our pollinators, we risk losing the plants that define our local landscapes, weakening our ability to protect ecosystems, threatening our food supply, and a cascade of other negative consequences. They are critical to our health. My goal is to help people to realize just how connected everything is, how these little creatures are carrying us, and how we can do our part to help them, too."

This article was originally published by the Texas Parks and Wildlife Foundation and is reprinted here with permission.

Worker bees on honeycomb, taking care of the business of making honey and maintaining the hive. Photo from Unsplash

Neonicotinoids 101: The Effects on Humans and Bees

What you need to know about the toxic insecticide that's decimating populations of pollinators.

Across the country, bees and other pollinators are dying off in droves, with potential long-term impacts to our ecosystems and food security. Last year was particularly lethal, with beekeepers losing upward of 60 percent of their hives, potentially topping the previous year's record losses. That's also well above the 40 to 50 percent losses that have become the new normal in the last two decades.

Science increasingly points to a highly toxic and widely used family of pesticides known as neonicotinoids (neonics) as a primary culprit. Here's what you need to know.

What are neonicotinoids?

Neonics are a class of synthetic, neurotoxic insecticides that are used on agricultural crops, lawns, gardens, golf courses, and in flea and tick pet treatments. Developed in the mid-1990s, they are now the single-most popular insecticide class in the United States.

Neonics work by permanently binding to insects' nerves, overstimulating and destroying them. Exposed insects often exhibit uncontrollable shaking and twitching, followed by paralysis and, eventually, death. Even at nonlethal doses, neonics can weaken critical functions, such as an insect's immune system, navigation, stamina, memory, and fertility.

Why are neonicotinoids so bad?

The reason neonics are bad is the same reason they're used in the first place: To insects, they're some of the deadliest pesticides ever created. They kill indiscriminately, exterminating not only "pests" but also countless butterflies, bees, and earthworms, too.

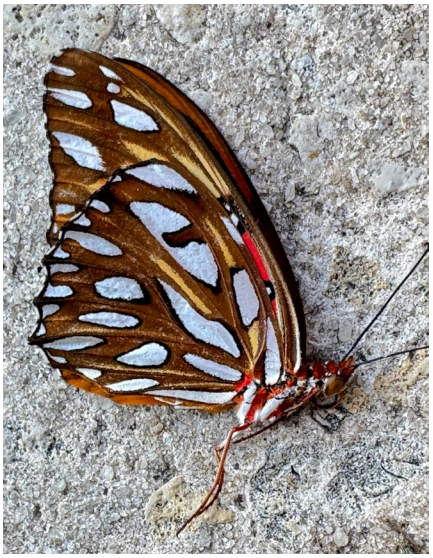
In addition, neonics are considered "systemic" pesticides. This means they can be applied directly to the soil (as a "drench") around a plant's roots or as a coating on

a plant seed, which the plant then soaks up as it grows. That makes the plant itself—including its nectar, pollen, leaves, stems, and fruit—toxic. The problem is that only a small portion of the neonics make it into the target plant, leaving the vast majority in the soil.

Once in the soil, neonics remain there for years, and rain or irrigation water can easily carry them long distances to contaminate new soil, plant life, and water supplies. Given neonics' widespread use, the result has been enormous ecosystem contamination. A 2015 study by the U.S. Geological Survey found neonic pollution in more than half of the streams it sampled nationwide.

The reality is that neonics easily work their way up the food chain, too. Studies now link neonics to mass losses of birds and the collapse of fisheries. And in 2023, the U.S. Environmental Protection Agency (EPA) made the astounding finding that neonics are driving *more than 200* threatened or endangered species toward extinction.

Despite the threat to our environment, the agriculture industry continues to apply neonics to hundreds of millions of acres every year—in particular, to corn, soybean, and other crop seeds. But science shows these preventative applications are unnecessary, treating pest problems that don't exist. Worse yet, they can set farmers back by encouraging pest resistance; killing off pollinators, pest predators, and other beneficial bugs; and harming soil health.



Pollinators like this Gulf Fritillary butterfly—sprayed with imidacloprid*, a neonic used on Ficus hedges in downtown Palm Beach—are dying off in droves, with potential long-term impacts to our ecosystems and food security. Photo by Kim Frisbie*

What do neonics do to bees?

Hundreds of studies, several comprehensive academic assessments, extensive Cornell University research, and even a major pesticide industry–funded field study all point to neonics as a leading cause of massive bee and pollinator die-offs.

Neonicotinoid pesticides can travel through water and soil and leave residues in fruits, vegetables, and even honey—highlighting how pollinator-harming chemicals can enter the food we eat. Photo by Kathleen Rogers

Honeybees, specifically, are likely the "canaries in the coal mine" for the 4,000-plus species of native bees nationwide, such as the rusty-patched bumblebee. In 2017, it became the first bee in the continental United States to be added to the endangered species list. Wild bee loss should matter to everyone because they are also essential crop pollinators. News that apples, blueberries, and cherry crops are now pollinator-limited nationwide will mean less of these favorite fruits.

What health risks do neonics pose to people?

Neonics mimic nicotine in the nervous system. In fact, just like for the insects they're designed to target, they impact the same portions of our brains and nervous system as mammals. And these systems in animals and people are critical for healthy brain development, growth, and function. Research links neonic exposures in the womb to birth defects of the heart and brain, autism-like symptoms, and reduced cognitive abilities. Adult exposures are also associated with lower testosterone and sperm quality and count, altered insulin regulation, and changes to fat metabolism.

Worryingly, neonic exposure may be hard for many

Many common vegetables are grown from seeds treated with neonicotinoid pesticides, which are absorbed by the plant as it grows. The chemicals can move into leaves, flowers, and edible crops, exposing pollinators and people to harm. Photo by Tom Paolini from Unsplash.

to avoid. Human biomonitoring studies detected neonics in the bodies of about half the U.S. population on any given day. In biomonitoring of pregnant women, researchers reported neonics in more than 95 percent of those tested, with levels rising.

How do we encounter these dangerous pesticides? Unfortunately, neonics regularly pollute water sources, and traditional chlorination treatment typically fails to remove them from tap water and may even make the tap water more toxic. These pesticides also contaminate our food. Neonic residues are found in 86 percent of U.S. honey, and they show up in fruits and vegetables, including many kids' favorites like apples, cherries, strawberries, potatoes, and leafy greens. Because neonics are systemic, they are actually *in* the fruit and vegetables themselves, so they can't be rinsed off or peeled away.

How are neonics regulated in the United States—and what is National Resources Defense Council (NRDC) doing to push for change?

While Europe has banned outdoor uses of the major neonic chemicals since 2018, and Canada has moved to significantly restrict some of their most widespread uses, little has changed in the United States. The EPA has long been asleep at the wheel, allowing widespread and business as usual neonic use, even as alarming new science rolls in. NRDC successfully sued the agency to consider neonics' impacts to endangered pollinators and other species and has petitioned regulators to reign in neonic use to protect children's health. But meaningful change continues to be pushed back.

That's left the work to the states, which have been leading the way in the last several years, including with the support of NRDC and our activists. States like Maine, Nevada, and New Jersey led the way with bans on neonic lawn and garden products; more recently, New York and Vermont have enacted nation-leading programs to reign in neonic coatings on corn, soybean, and wheat seeds. With states like California, Connecticut, and Minnesota taking action too, the nation is charting a path toward commonsense curbs on reckless use of these dangerous pesticides.

Update: Neonics Legislative Progress

Despite the well-documented harms of neonicotinoid pesticides to pollinators, birds, and aquatic ecosystems, there are encouraging signs of progress at the state level. In recent years, a growing number of states have taken legislative or regulatory steps to limit neonic use, particularly in residential, ornamental, and non-essential applications.

New York passed the landmark *Birds and Bees Protection Act*, signed by Governor Kathy Hochul in late 2023. This first-in-the-nation law significantly restricts neonic use by banning neonic-treated ornamental plants and turf by 2027, and phasing out neonic-treated corn, soybean, and wheat seeds by 2029. While the law includes limited exemptions for farmers facing demonstrated pest pressure or emergency conditions, its intent is clear: to protect pollinators, birds, and water quality by sharply reducing widespread, preventative, and routine use.

Other states have enacted meaningful protections as well. Maryland, Connecticut, and Massachusetts restrict neonic sales to certified applicators, effectively removing them from most consumer lawn and garden use. Vermont has banned neonic pesticides for cosmetic lawn care altogether. Minnesota requires verification of pest presence before neonic-treated seeds can be used and has invested heavily in pollinator habitat restoration. New Jersey and Washington have adopted tighter controls on neonic applications and seed treatments, while California and Colorado have strengthened pollinator protection frameworks through pesticide regulation, labeling, and integrated pest management requirements. Rhode Island and Nevada have also enacted limits aimed at reducing unnecessary exposure in urban and environmentally sensitive areas.

While these laws vary in scope and strength—and many still allow exemptions—they signal a growing recognition that protecting pollinators and ecosystems requires rethinking how and when pesticides are used. Collectively, they offer a roadmap for other states and for future federal action.

The agriculture industry continues to apply neonics to hundreds of millions of acres every year, like this wheat field in Virginia. Photo by Bryce McHose from Unsplash

This article was originally published by NRDC.org in June 2025 and is reprinted here with permission. Courtney Lindwall, Contributor. Link to the original article is here: **https://www.nrdc.org/stories/neonicotinoids-101-effects-humans-and-bees**

NATIONAL ADVOCACY

Congress overturned four Resource Management Plans (RMPs), reopening millions of acres of public lands for new coal production. Photo by Kimberly McMorrow

What is Happening with Our Public Lands?

If you've ever hiked a national forest trail, camped in a national park, or simply appreciated the open spaces of the American West, you've benefited from our country's public lands. The United States owns about 640 million acres—roughly 28 percent of the nation's total area—with most of it concentrated in 10 western states.

These lands are managed by several federal agencies: the National Park Service (80 million acres), the Bureau of Land Management (244 million acres), the U.S. Fish and Wildlife Service (89.2 million acres), and the U.S. Forest Service (193 million acres). Over the past several months, several policy and legislative changes have reshaped how these federal lands are managed and protected.

he Buckskin Coal Mine is in Wyoming's Powder River Basin, a region that spans into Montana and accounts for roughly 40 percent of U.S. coal production. Repealing the Resource Management Plan (RMP) would reopen more than 400,000 acres of public land to new coal mining. Photo by Kimberly McMorrow

Executive Orders and the Big Beautiful Bill

This year, the Trump administration has issued multiple executive orders directing federal agencies to expand logging, coal mining, oil and gas production, and mineral extraction on federal lands:

- Executive Order 14225, issued in March, calls for full "exploitation" of domestic timber, instructing agencies to use emergency provisions of the Endangered Species Act to streamline environmental reviews.
- Executive Order 14261 declares coal "essential to our national and economic security" and "a national priority," requiring agencies to lift barriers to coal mining, prioritize coal leasing, and rescind policies discouraging coal production.
- Executive Order 14241, citing national security threats from reliance on foreign mineral production, requires "immediate actions to facilitate mineral production to the maximum possible extent," including mining and processing copper, gold, silver, and uranium.

The One Big Beautiful Bill (BBB), signed into law earlier this year, further promotes fossil fuel production on federal lands. The BBB directs the Department of the Interior to expand coal leases—an additional 13 million acres have since been opened. To boost coal production, make coal more competitive, and reduce extraction costs, the bill reduced the coal royalty rate from 12.5 percent to as low as 7 percent through 2034. For oil and gas, the BBB requires quarterly lease sales across nine major producing

states, reduces royalty rates from 16.67 to 12.5 percent, and repeals methane-flaring penalties established in previous administrations.

Proposed Conservation Rollbacks

Several conservation rules are facing repeal:

- The Bureau of Land Management (BLM) has proposed rescinding the Public Lands Rule, which had placed conservation on equal footing with uses like grazing, mining, and recreation.
- The U.S. Forest Service has announced plans to repeal the 2001 Roadless Rule. If finalized, this could open 44.7 million acres to road construction and logging—including portions of Alaska's Tongass National Forest, the world's largest intact temperate rainforest.

Meanwhile, Congress used the seldom-invoked Congressional Review Act to overturn four BLM Resource Management Plans in Montana, Alaska, North Dakota, and Wyoming. These land management plans, developed over years of local input and public engagement, govern recreation, energy development, conservation, and other land uses. Using this unusual maneuver, Congress effectively nullified state and local land-use planning decisions and threw into question the validity of existing federal leases.

Great American Outdoors Act: A Bright Spot

Amid these changes, the Great American Outdoors Act (GAOA) remains an important conservation success story. Enacted in 2020 with bipartisan support, GAOA created the Legacy Restoration Fund (LRF), which provided up to $1.9 billion annually from energy revenues to repair aging federal infrastructure on public lands, such as wastewater facilities, roads, and trails.

Between 2021 and 2025, the LRF financed $9.5 billion in projects across all 50 states and U.S. territories. That said, the overall deferred maintenance backlog has continued to grow, now reaching $41 billion—with $23 billion in the National Park System alone. The LRF expired in 2025, but efforts are underway to extend the legislation. The bipartisan "America the Beautiful Act," introduced in the Senate in May 2025, would extend the LRF through 2033 and increase annual funding to $2 billion.

GAOA also made funding under the Land and Water Conservation Fund (LWCF) (established in 1965) of up to $900 million annually from offshore oil and gas leases permanent. Revenue from the LWCF goes toward federal land acquisitions (primarily private inholdings) and state and local recreation and conservation grants. However, a September 2025 Order issued by Secretary of the Interior Burgum has added new restrictions on how LWCF funds can be used, including limiting land purchases outside existing boundaries and requiring new state and local approvals for any federal acquisitions within the state.

Your Advocacy is Important!

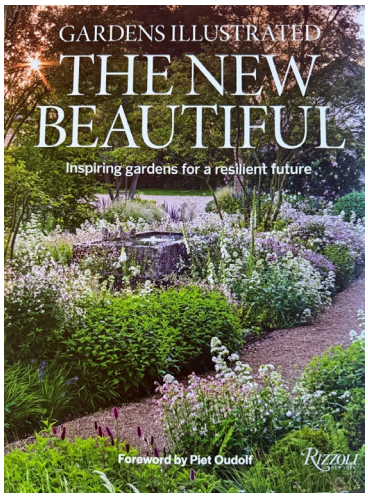
Public participation is critical to ensuring policy and legislation protect our public lands. When Senator Lee (UT) proposed selling off federal lands for housing development a few months ago, millions of Americans protested, forcing the withdrawal of the provision from the BBB. Several additional bills have been proposed, which would further degrade our federal lands, including Senate Bill 2967, the Border Lands Conservation Act (introduced by Sen. Lee), which would allow the Department of Homeland Security expanded authority on federal lands along both the US-Mexico and US-Canada borders, including the ability to build roads, install "tactical infrastructure" and deploy motorized patrols, even in federal wilderness areas, which do not allow roads except under certain emergency situations.

Your engagement makes a difference. Consider contacting your congressional representatives about pending legislation you are concerned about or connect with conservation organizations to stay informed and make your voice heard.

—Kimberly McMorrow, Woodside-Atherton GC, Zone XII, Vice Chair, NAL

BOOKSHELF

The exuberant and resilient gardens of the Great Dixter house include this celebrated long border of richly layered planting that continues to evolve to this day, blending bold design with ecological care. Photo from Wikimedia Commons



The New Beautiful: Inspiring Gardens For A Resilient Future, published in 2025 by Rizzoli for *Gardens Illustrated* and edited by Stephanie Mahon, shows us how gardens can inspire, adapt, and even thrive in a changing landscape. As Mahon writes, "These gardens don't just appear to sit easy in their surroundings but are actually tailored to the conditions of their sites, meaning they are resilient and more likely to successfully adapt to and survive the uncertainties of a changing climate." The book is filled with gardens created by designers and gardeners who are willing to observe, experiment, and embrace change.

Pier Oudolf echoes this approach in his foreword: "I want to bring people into the future, where we will have to be more aware of habitats and biodiversity, and of where plants like to grow." The volume is organized into five sections—A Twist on Tradition, Urban Sanctuary, Modern Country, Common Ground, and Innovative Spaces—and features more than 50 gardens, each paired with essays illustrating a fresh mindset.

Among the gardens featured is Great Dixter, the historic East Sussex garden famously developed by Christopher Lloyd. Fergus Garrett, the property's current chief executive and head gardener, implemented a number of strategies, including reducing sprayng practices, limiting and phasing out inorganic fertilizers, and softening boundaries. Combined, these initiatives have enhanced the garden's ecological health. This has produced measurable gains including a discovery of rare and nationally scarce pollinators found through a comprehensive biodiversity audit. Great Dixter shows that even a celebrated garden can continue to flourish when gardeners adopt new practices and consider the garden as a complete, living environment.

This beautiful and inspirational book reminds us that modern gardeners do not need to have all the answers—only the willingness to remain curious and respond as advocates to what the land is telling us.

—Alex McNett, GC of St. Louis, Zone XI

The red-gabled roofs of Great Dixter—Christopher Lloyd's horticultural masterpiece—rise above the yellows and oranges of the surrounding garden. Photo from Wikimedia Commons.

WHAT'S BEEN AND WHAT'S COMING

A flock of shorebirds skims the water in the Florida Everglades, a vivid backdrop to the January conference. Photo by Polly Jones

2026 Conservation Study Conference | Odyssey in the Everglades | January 25–28, 2026

The first national park specifically created to protect a fragile ecosystem, Everglades National Park spans 1.5 million acres and is the largest tropical wilderness in the United States as well as the largest wilderness of any kind east of the Mississippi River. January's Conservation Study Conference gave attendees a better understanding of the history of the Everglades, and a close-up tour of the Everglades' sub-tropical wilderness, complete with pythons, alligators, and a myriad of bird species, including anhingas, egrets, gallinules, roseate spoonbills, and herons.

The overarching theme of the conference speakers was water management—both the historical drainage of critical water to help irrigate Florida's interior farmland and coastal development and the ongoing work to restore the flow of fresh water to rebuild lost habitat. Michael Grunwald, the author of *The Swamp: The Everglades, Florida and the Politics of Paradise,* reviewed the history of human intrusion in the Everglades and the disastrous practice of draining millions of acres of central wetlands to create farmland and speculative housing along the coast. The historic tensions between science, politics, and economic interests created a perfect environmental storm, encompassing legal issues, the effects of manure waste from cattle and phosphorous fertilizer runoff from the sugarcane industry, and the impact of rising saltwater levels pushing into the freshwater aquifer that serves millions of Florida residents.

Dr. Eric Stabenau, Senior Restoration Scientist of

An American alligator displays its powerful jaws and generous gullet in the Florida Everglades, a striking reminder of the wild beauty and fragile balance of this iconic ecosystem. Photo by Lydia Chambers.

The Everglades Foundation, focused on the hydrology of the Everglades and the positive effects of work being done with federal and state funding to restore the wetlands. His message was "get the water right," and plants, birds, and other wildlife will come back to the ecosystem. For instance, parts of the Tamiami Trail spanning the width of the state have been elevated, allowing the slow flow of water from the north to reach its ultimate southern destination in Florida Bay, helping re-establish lost habitats. But much work remains. After hearing from other speakers and panelists, attendees gained renewed appreciation for the dedicated scientists and environmental advocates who are protecting and restoring this "river of grass," as Marjorie Stoneman Douglas famously coined the Everglades.

—Susan Smathers, Late Bloomers GC, Zone VIII, Vice Chair, Conservation Study Conference

GCA members Lyn McMillin, Hollidae Morrison, Elizabeth Waddill, and Nancy Ylvisaker tour the Fairchild Tropical Botanic Garden by tram as part of the "Odyssey of the Everglades" conference in Miami in January. Photo by Lyn McMillan

2026 NAL Conference Washington DC | March 15–18, 2026

Almost 300 GCA members gather at the capital steps at the conclusion of the 2026 NAL conference. Photo by Jill Moran

The Garden Club of America recently concluded its 43rd annual National Affairs & Legislation (NAL) Conference in Washington DC. GCA delegates from around the country heard from environmental leaders and policymakers on a wide range of urgent issues, including national parks funding, climate action, native seed supply, rare plant conservation, and the growing threat of PFAS contamination.

The program also highlighted the power of coordinated regional advocacy. Inspiring presentations showcased how state and regional coalitions are driving meaningful progress in Georgia's Okefenokee Swamp and the Ohio River Basin.

Following the briefings, delegates met with lawmakers to advocate for the reauthorization of the Great American Outdoors Act and to urge Congress to defend the foundational environmental laws that safeguard our nation's air, water, land, and wildlife —laws that faced significant challenges in 2025.

Delegates returned home energized and newly equipped with ideas for local, state, and regional action, as well as a clearer understanding of the environmental legislation with the strongest prospects in the 119th Congress.

—Lydia Chambers, GC of Madison, Zone IV, NAL Committee Chair