

Xerces Society Annual Report 2024



**Protecting
the Life that
Sustains Us**

A Holistic Approach to Conservation

To avoid the loss of biodiversity and the critical services it provides, society must act now—and we all have a role to play. There are many actions we can take to support insects, from planting flowers and avoiding pesticides to turning off lights at night.

All of Xerces' work is approached with the same questions in mind: How can we get a broad cross section of society to care about insects and other invertebrates? How can Xerces provide information and assistance to enable people to act?

To accomplish this Xerces uses a proven, holistic approach. We work with other scientists to conduct applied research and with volunteers of Xerces community science projects to crowdsource data. We use this information for outreach and to provide conservation guidance, as well as support people that are ready to step up and help. We work hand-in-hand with farmers, ranchers, natural area managers, schools, community gardens and more to create thriving natural habitats.

Science also informs our advocacy and policy efforts to protect species and their habitat. Governments at all levels need to adopt policies that preserve and restore habitat, protect the most vulnerable species, reduce pesticide risk to beneficial insects, and address climate change in a meaningful way.

With knowledge underpinning our work, it is vital that we implement conservation initiatives across all landscapes: wildlands, farmlands, rangelands, urban neighborhoods. No place can be ignored. Every place can be part of the solution. Together, we can protect the world we love.

Sincerely,
Scott Black, Director



Main: Xerces Society/Giovanni Di Franco
Right top: Xerces Society/Candace Fallon
Right middle: Xerces Society/Bernardo D. Niño
Right bottom: Mike Ferro
Left top, middle: Xerces Society/Kailee Slusser
Left bottom: Xerces Society/Katie Lamke

Applied Research: Advancing Conservation through Knowledge

11
certified farms
were studied
for conservation
benefits



24
volunteers helped
pesticide research
in 3 states

Xerces works with academic institutions, private landowners, agency staff, and others to conduct applied research because understanding the species upon which we work and the habitats they need is vital to our conservation efforts.

Farmers who have created pollinator habitat or who have earned Xerces' third-party verified Bee Better Certified® eco-label, want to know what other benefits this brings. To answer this question, we are conducting on-farm trials to document further conservation and farm production outcomes from pollinator habitat plantings, such as improvement to soil health, carbon sequestration, soil water holding capacity, and water infiltration. All of these details are important for sustainable farming in times of increased weather extremes. This nationwide project is looking at benefits to farms in California, the Pacific Northwest, Montana, and Maine.

Fear of mosquitoes prompts some people to have their yards sprayed with insecticides, even when disease carrying mosquitoes aren't in the area. These sprays put pollinators in harm's way. To understand that risk, Xerces volunteers set up monitoring stations to measure drift when private companies sprayed their yards or a neighbor's yard. All yards where companies sprayed had extremely high insecticide residues. Most neighboring yards were also contaminated, although the amount of contamination was much lower on average. These results suggest that residential mosquito sprays can harm pollinators and will guide our work with communities to make mosquito management more ecologically friendly.



Sometimes our research goals lead us to testing soil samples, analyzing pollinator data tracked by camera sensors, or measuring pesticide drift on silicone bands. Other times, we're tracking specimens of critically imperiled species or testing the latest technology for tracking flying insect movements. Every study, test, and survey helps shape our dynamic approach to protecting invertebrates and their habitats.



Main: Xerces Society/Nicole Spehn
Right top: Xerces Society/Aaron Anderson
Right middle: Xerces Society/Laura Rost
Right bottom: Xerces Society/Ashley Fisher
Left: Xerces Society/Erin Cocco

Community Science: Engaging People and Collecting Data

1,800+
participants
in community
science projects

31,000
bumble bee
records in 20
states

1,000
surveys of
monarch
overwintering
sites

Our community science efforts like the Bumble Bee Atlases, Bumble Bee Watch, Western Monarch Count, Western Monarch Milkweed Mapper, and the Firefly Atlas gather vital conservation information and engage tens of thousands of people, many of whom also become conservation advocates.

Bumble Bee Watch has gathered 208,000 observations of rare and common species from 47,500 community scientists since it was launched, greatly informing our understanding of bumble bee distributions in the US and Canada. Twenty states also have Bumble Bee Atlases, which take this data gathering to the next level, ensuring we have surveys across the landscapes to get presence and absence data as well as information on habitat use and threats. Thirty-one thousand bumble bee records were gathered by 1,429 participants in 2024.

Community science has helped us understand the decline of the monarch butterfly, threats to it, and management activities that can help. The Western Monarch Milkweed Mapper has logged 70,000 observations of monarchs and milkweeds in recent years and has provided the information needed for habitat suitability models and recommendations for timing management actions. The Western Monarch Count has been monitoring overwintering monarchs in California for a quarter century, and is the only way in which the status of the entire western monarch population is tracked from year to year. In 2024 alone, we had over 400 volunteers perform counts at over 1,000 monarch overwintering sites.

The information from all of these efforts guides effective conservation for these species.



Our community science volunteers from across the United States and Canada are searching for bumble bees, monarch butterflies, and fireflies, as well as assessing the habitats used by each of these animals. Using survey methods that don't harm the insects, each observation contributes to growing collections of standardized data about species distribution and behavior, which is crucial for conservation.

Main: Xerces Society/Katie Lamke
Right top: Xerces Society/Kellie Hayden
Right middle: Xerces Society/Carly Voight
Right bottom: Xerces Society/Richard Joyce

New Connections: Changing Attitudes and Inspiring Conservation

742K
people engaged
via outreach

430
Bee City USA and
Bee Campus USA
affiliates

140+
trained and
active volunteer
ambassadors

To build a movement of diverse people who take action for invertebrate conservation, we need to reach a broad audience. We do that through staff and volunteer outreach. Our goal is to shift attitudes about insects and other invertebrates, and then provide tools so people can make positive changes for these animals. For many years Xerces has focused our outreach on a broad set of people—farmers and land managers, policy makers and elected officials, gardeners and individuals.

Our education efforts often provide comprehensive information through workshops and trainings. These include technical workshops for farmers and other agricultural professionals on how to restore habitat and protect pollinators from pesticides. We train federal and state land managers to identify important—often declining—species and understand their habitat needs and threats. We also give presentations at events as varied as neighborhood meetings and national conferences. In 2024, Xerces staff connected with over 52,000 people through a variety of events.

The Xerces volunteer ambassador program greatly expands our ability to connect with people. Ambassadors include insect enthusiasts, gardeners, teachers, graduate students, and others who table at community events and give talks. We provide training, materials, and support to the over 140 ambassadors who are active in 38 U.S. states and one Canadian province. In 2024, our ambassadors reached more than 45,000 people.

With 47 new affiliates, Bee City and Bee Campus grew to 430 communities. Together, they reached 644,000 people during the year.



Our staff and community’s efforts to rally invertebrate support range from informative presentations, presence at related events, and helpful resources all the way to pollinator appreciation parades and school wildlife days. The work of our ambassadors, Bee City and Bee Campus affiliates, and other partners amplifies our ability to grow and cultivate a connected network of invertebrate lovers and protectors.



Main: Janice Garry/Bee City USA Gainesville, FL
Right top: Elizabeth Jackson
Right middle: Jessica Hildreth
Right bottom: Kaelin Mackey

Helping Hands: Catalyzing On-the-Ground Change

540+
farmers
helped via NRCS
and farm
partnerships

150K+
acres of
new habitat
on farms

20+
plans for
monarch
overwintering
sites

Whether it is a farmer who wants to plant a hedgerow or move away from pesticides, a park manager planning habitat creation, state agencies working to protect some of the rarest insects on the planet, or a roadside manager looking to change practices for the benefit of pollinators, we provide the tools and knowledge for people to take action.

Xerces staff work closely with the USDA Natural Resource Conservation Service across the U.S. Twenty Xerces-NRCS Partner Biologists work in NRCS field, state, and regional offices providing guidance and support for USDA programs, practices, and special initiatives that expand conservation of pollinators and beneficial insects. In addition, our Living Farms team works directly with farmers and food companies to plan and plant habitat on farms. These two teams bring unique expertise to our farm and ranch partners, leading to 20 miles of hedgerows and over 153,000 acres of habitat that benefit pollinators, soil health, integrated pest and pollinator management pesticide reduction, regenerative agriculture, and nature-based solutions to the climate and biodiversity crises.

Our staff also provide support to other federal and state land managers and have written hundreds of guidance documents for agency staff. For instance, in 2024 we provided support for Hard Labor Creek State Park in Georgia and Kings Mountain State Park in South Carolina to become firefly sanctuaries, and we supported development of over 20 management plans for monarch butterfly overwintering sites in California.

We find this one-on-one assistance leads to successful conservation.



On-the-ground invertebrate conservation often involves changing what is literally in the ground. Planting and protecting habitat is essential. Our many partnerships help us influence habitat in a greater variety of landscapes, from People's Gardens and farms to campus roadsides, western monarch overwintering sites, and beyond.



Main: Xerces Society/Kelly Gill
Right top: Xerces Society/Angie Orpet
Right middle: Bee Campus USA UC Davis
Right bottom: Xerces Society/Deedee Soto

Speaking Up: Protecting Invertebrates through Policy and Advocacy

2
species
proposed for ESA
protection

8,000
pounds of
neonicotinoid
use prevented

2.6M
acres protected
from spraying

If we hope to recover insect populations we must compel governments at all levels to act in the best interest of these animals.

Xerces develops evidence-based proposals to protect species under the Endangered Species Act, one of our most important tools for protecting species at the federal level. A decade ago, Xerces petitioned the U.S. Fish and Wildlife Service urging ESA protection for the monarch butterfly. USFWS finally proposed the monarch as “threatened” in late 2024. Additionally, it proposed protection for the Bethany Beach firefly, and agreed to review our petitions for the Southwest spring firefly and Florida intertidal firefly.

We also had success in our efforts to halt harmful pesticide uses. After Xerces provided technical information and testimony, the Vermont legislature passed the Pollinator Protection Act, which phases out the use of neonicotinoid treated seeds on field crops and restricts some additional outdoor uses of these insecticides in the state. In Arizona, after we raised alarms, alerting our supporters, Tribes, and multiple Arizona-based organizations, the federal government canceled a proposal to allow aerial spraying across 2.6 million acres of wildlands.

Many states do not consider insects to be wildlife, so agencies cannot work to conserve them. We are working to change that. In 2024, the Colorado legislature passed legislation giving Colorado Parks and Wildlife the authority (and staff) to conserve invertebrates—a direct result from our work on the *Colorado Native Pollinating Insects Health Study* released in early January.



Our policy and advocacy efforts include joining rallies to bolster support for change, witnessing bills we have contributed to being signed into law, or giving testimony in front of various committees. Behind the scenes, all of the phone calls, meetings, network building, research, and scientific proposals make our big-picture wins possible.



Main: Ben Hudson Photography
Right top: Kristin Poppleton/Trout Unlimited
Right middle: Xerces Society/Steve Armstead
Right bottom: Nick Dorian/Tufts Pollinator Initiative

Habitat Kits: Making Conservation Accessible to Everyone

543
community
projects
supported



145,326
native plants
distributed

One of our goals is to ensure long-term resilience of invertebrate populations through the protection, restoration, and management of habitats in both natural and human-altered environments.

But to accomplish our goal of habitat for all we need to overcome barriers that keep people from restoring and maintaining habitat, including cost of plant materials, uncertainty about which species to plant, lack of access to native plant nurseries, and inexperience with restoration. Xerces works to overcome these barriers with our habitat kit program.

The program provides free, climate-smart, native pollinator-friendly flowers to community partners who can provide the time, labor, and land to plant and care for them. Each kit contains a carefully selected collection of plants that support native pollinators and other beneficial insects. The plants are selected for changing climate conditions and are also “bee safe”: grown without harmful pesticides. Partners locate them in areas where pesticides are not used and are encouraged to create pollinator nesting and overwintering habitat. We also provide guidance, supporting projects from planning and site preparation to installation and follow-up management.

The habitat kit program started in California in 2019, and has expanded into six other regions across the U.S. In 2024, we supported more than 500 projects and gave away over 145,000 plants.



Our habitat kits enable more people to get their hands dirty to conserve pollinators. Our support for habitat kit partners ranges from picking up their professionally selected plant kits, to planting and establishing young gardens, to nurturing and optimizing fully mature and blooming pollinator habitat.

Main: Xerces Society/Micah Kloppenburg
Right top: Xerces Society
Right middle: Xerces Society/Stefanie Steele
Right bottom: Xerces Society/Jessa Kay Cruz
Left: Xerces Society/Angie Orpet

Stronger Together: Partnering to Protect Freshwater Mussels



12,000
mussels saved



Freshwater mussels are one of many aquatic invertebrate groups that are declining. These invertebrates are keystone species—filtering water and providing habitat for other invertebrates and juvenile fish—but tend to be overlooked in river management. However, that is starting to change.

Removal of dams that are dilapidated or that no longer serve a purpose is vital for the conservation of our rivers, restoring natural flow conditions and reestablishing connectivity for salmon and other fish. Although highly beneficial in the long term, dam removal can have significant short-term impacts on freshwater mussels that live downstream, because mussels cannot escape being suffocated under the sediment. One solution is to move mussels out of harm's way by relocating them before a dam is removed.

In 2024, working with the Columbia Land Trust and the Cowlitz Tribe, Xerces staff relocated thirty-seven hundred mussels—collecting each by hand and placing them in a protected location—as part of the removal of the Kwoneesum Dam from Wildboy Creek, a tributary of the Washougal River in Washington state. Xerces staff also worked closely with the U.S. Fish and Wildlife Service, the Burns Paiute Tribe, and volunteers from High Desert Partnership, Ducks Unlimited, and Friends of Malheur National Wildlife Refuge in August 2024 to protect an important population of the western ridged mussel within Oregon's Malheur National Wildlife Refuge. Together, we relocated more than eight thousand mussels at the refuge during dewatering associated with the removal of the Dunn Dam.



Finding freshwater mussels to relocate out of harm's way is seldom simple. Depending on the location, it may involve snorkeling in water, crouching and sifting through muddy banks, or wading through water with various floating, clear containers that enable visibility underwater. After collection mussels are held in mesh bags and ultimately transported in coolers to their final destination.



Main: Columbia Land Trust/Sanoe Kellinoi
Right top: USFWS/Alexa Martinez
Right middle: USFWS/C. Newlon
Right bottom: USFWS/Alexa Martinez
Left top: ODFW/Jerry George
Left bottom: USFWS/Alexa Martinez

Make Invertebrates Your Legacy

Your Opportunity for a Lasting Impact

Xerces Society uses credible science to enact solutions that save and improve invertebrate lives—as well as our own. As you can see by the accomplishments in this report, our work is effective.

When you make invertebrates your legacy, you ensure that future generations will enjoy butterflies fluttering across blooming wildflower prairies, discover caddisfly cases among rocks in cold mountain streams, and see fireflies glowing synchronously in lush green forests. You have several smart options:

- Put Xerces in your will
- Give a gift of appreciated stock
- Make Xerces a beneficiary of your retirement account or life insurance policy
- Give a qualified charitable distribution (QCD) directly from your individual retirement account (IRA)

Contact Us to Learn More

It's never too early to start planning your legacy. For more information, contact us at engagement@xerces.org.



Invertebrates are nature's gifts of wonder and joy. Your bequest will help us recover shrinking populations for the long term, so that future generations can inherit the awe of monarch butterflies dancing in the garden.

Main: Brett Billings/USFWS
Right top: Nancy Lee Adamson
Right middle: Bob Henricks (CC BY-SA 2.0)
Right bottom: Brandon Keim (CC BY-NC-ND)
Left: Bryan E. Reynolds

Thank You

Protecting invertebrates is essential. These cleaning, filtering, burrowing, pollinating creatures are the tiny engineers that keep Earth as we know it humming along. It's also a big job, and we couldn't do it without all of you. We would like to thank:

- Xerces Society members and donors around the globe.
- Thousands of farmers, ranchers, landscapers, gardeners, land managers, Tribes, and nurseries who partner with us to create and maintain habitat.
- Thousands of community and professional scientists around the world who help inform our conservation strategies.
- Hundreds of Bee City USA and Bee Campus USA affiliates that are improving habitat for pollinators and increasing awareness.
- Over 140 Xerces Ambassadors who help people learn about invertebrates and how they can make a difference in their own communities.
- Over 50 companies working with us to make our world a better place.
- Dozens of organizations and agencies partnering with us to advance wildlife conservation and sustainable agriculture.
- Our board of directors.
- Everyone who goes out of their way to help invertebrates!



Board of Directors

- Sacha H. Spector, president
- Casey Sclar, vice president
- Linda Craig, treasurer
- Jay Withgott, secretary
- Betsy López-Wagner
- Flora Lu
- Rachael Winfree, Ph.D.



Main: Xerces Society/Raven Larcom
Right: Xerces Society/Raven Larcom
Left top: Jasmin Velez
Left middle: Bee City USA Gastonia, NC
Left bottom: PPRI/Sarah Bailey

Financial Report



Revenue

Individual donations	\$3,975,463	33.5%
Foundation and corporate giving	\$2,198,775	18.5%
Government contracts	\$4,403,610	37.1%
Program revenue	\$769,348	6.5%
Net other revenue & unrealized gain	\$530,081	4.4%
Total revenue	\$11,877,277	100.0%

Expenses

Programs	\$9,044,006	80.7%
Development & membership	\$1,219,287	10.9%
Management & general administration	\$941,981	8.4%
Total expenses	\$11,205,274	100.0%

Program Expense Breakdown



\$672,003
net operating results

\$14,236,359
end of year net assets



Main: Julie Michaelson
Right top: Xerces Society/Raven Larcom
Right middle: Xerces Society/ Kailee Slusser
Right bottom: Julie Michaelson
Left top, middle: Xerces Society/Raven Larcom
Left bottom: Xerces Society/ Genevieve Pugesek



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