

Protecting the Life That Sustains Us

The Xerces Society's 2021–2022 Annual Report



 XERCES
SOCIETY
for Invertebrate Conservation



(Photo: Debbie Roos, flickr.com.)

Our Big Picture Approach to Protecting the Little Things

The Xerces Society is dedicated to protecting the natural world through the conservation of invertebrates and their habitats. We work day in and day out to make our landscapes safer for these vital animals. To reverse the decline in insects, we need to protect nature that remains, restore nature that is degraded, and replicate nature (as best we can) in as many places as possible. In short, we need to repair and maintain the fabric of life.

Big issues we face like climate change and biodiversity loss may feel overwhelming. Yet we believe that everyone has the ability to create change, and that our collective action across landscapes—from gardens to parks to farms to wild areas—can make a big difference.

Xerces is known for providing achievable steps to protect the life we all depend on, including nature-based climate solutions that address the climate crisis as well as biodiversity loss. Our proven, holistic approach combines applied research and community science to identify the best conservation strategies; outreach, education, and technical assistance to support the efforts of others; and policy and advocacy to push for real protections for species and their habitats.

Over the last year, we remained committed to conserving pollinators, protecting endangered species, reducing pesticide use, and engaging communities using these proven strategies. We have expanded into new regions and developed novel approaches for conservation, including launching a nationwide Firefly Atlas initiative, a youth education program called X Kids, and wild bee and butterfly initiatives to protect at-risk species. We continue to explore how to best restore habitat with climate change in mind, integrating adaptation and mitigation methods into everything we do. Through all our programs, Xerces is working to practice reciprocity with our partners and grow inclusivity, so that diverse audiences feel included and valued in our work.

Making a Difference for Pollinators on Farms

The importance of pollinators in sustaining our food system is widely recognized. Less well known are the benefits invertebrate conservation has on mitigating climate change, sustaining soil health, improving the drought resilience of cropland, preventing erosion, improving water quality, and much more. Xerces is leading the way in advocating for farming that achieves these many benefits. Over the last two decades, our work has led to the restoration of over 1.8 million acres of beneficial insect habitat on farms.

Our Bee Better Certification program—the only third-party verified eco-label that certifies pollinator and biodiversity conservation on farms—ensures that farms are truly living up to a commitment to protect pollinators and allows companies to truthfully communicate those commitments to consumers. To date, 22 types of crops and nearly 14,000 acres of farmland are Bee Better Certified.

Native plants are known to support a greater abundance and diversity of bees, butterflies, and other wildlife. When used in habitat creation projects, they can also help mitigate climate change as part of nature-based climate solutions. Habitat planted on a farm in Minnesota (below) and a field day led by Xerces' staff on a farm in Washington state (right) showcase our efforts to bring these conservation efforts to ag lands throughout North America. (Photos L to R: Karin Jokela and WA NRCS / Peter McBride.)



263,000
ACRES
of pollinator habitat
restored on farms



341
PROJECTS
directly supported
conservation work on
agricultural lands



82,340
NATIVE PLANTS

for bees, butterflies, and
other pollinators were
planted

334
PROJECTS

were completed with
habitat kits

Partnering to Plant Habitat for Pollinators

Ensuring there is habitat in all landscapes is one of the most fundamental actions we can take to help pollinators. To support the increase of high-quality habitat, last year, we partnered with local residents and native-plant nurseries in California, New Jersey, New Mexico, and Pennsylvania through our Habitat Kit program. The kits provide our community partners with regionally appropriate native plants grown to order by local nurseries. Our partners provide the land, labor, and time—essential contributions that secure flowering habitats for years to come. These kits not only help people plant and nurture places that support monarchs and other pollinators; they also remove financial barriers for groups and individuals who want to help these animals. Last year, many of our projects supported underserved communities, such as schools and community gardens in areas where people lack resources. We also laid the groundwork to expand our habitat kit offerings in four additional states in 2023: Oregon, Colorado, Michigan, and Wisconsin.

Through our Habitat Kit program, we've been able to work with wonderful people from all over California (below), New Mexico, and the Northeast US who are dedicated to the conservation of monarchs and other pollinators through planting habitat (left). (Photos L to R: Anna Victoria, Xerces Society / Angela Laws, and Xerces Society / Jess Kay Cruz.)



Saving the Monarch Migration

The monarch is a cherished butterfly threatened with extinction. Last year, however, we were motivated by a spark of hope. Xerces' 2021 Western Monarch Thanksgiving Count recorded nearly 250,000 overwintering monarchs along the Pacific coast—an exhilarating increase from an all-time low of only 2,000 the previous year and comparable to size of the monarch population about five years ago. This annual count is a key measurement of the state of the health of the western population.

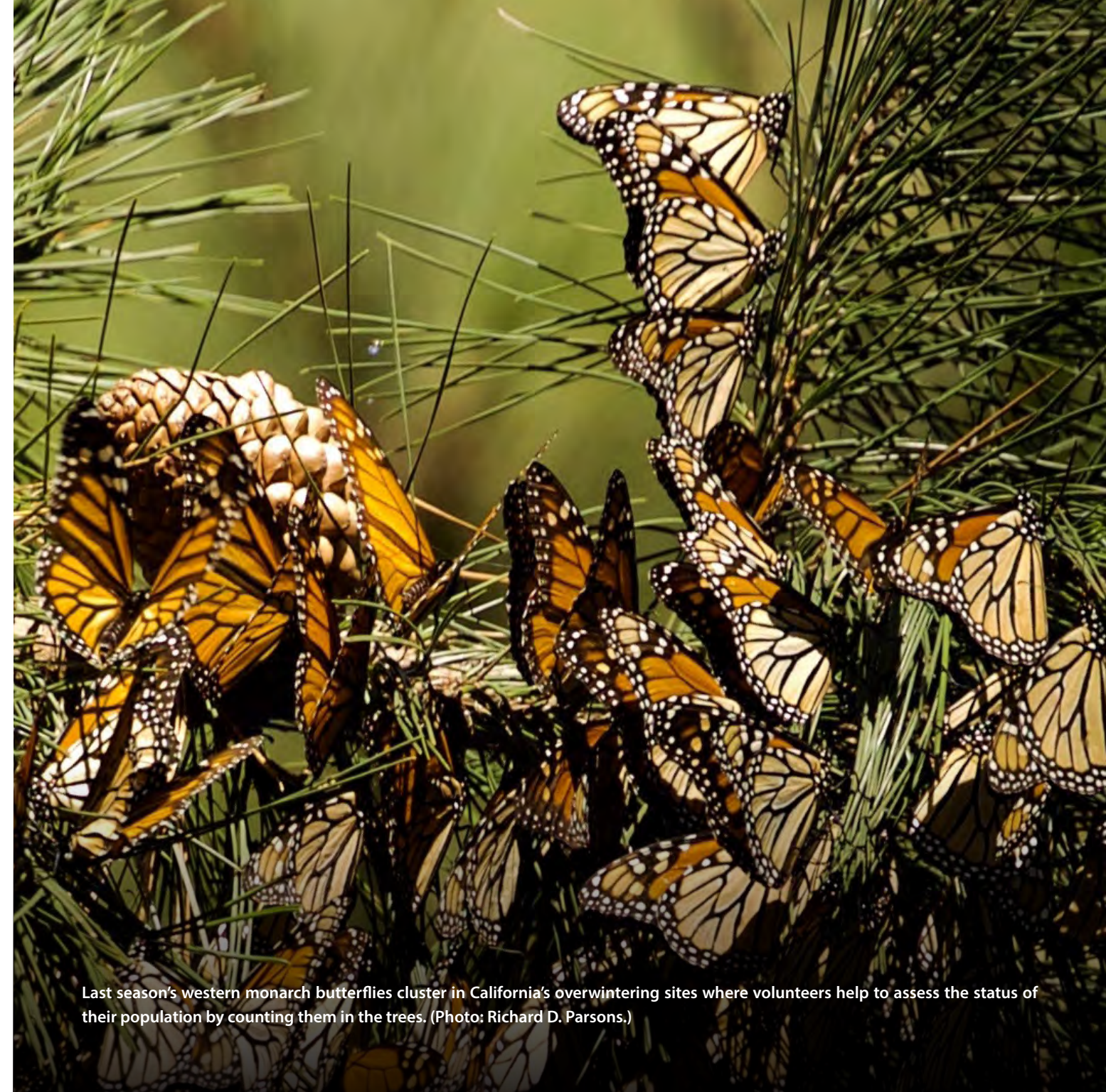
Xerces' specialists continued our work with farmers, land managers, and legislators across North America to protect the monarch's migratory habitat. To reduce barriers to conservation, we gave away thousands of milkweeds and native wildflowers in priority migration areas. In June 2022, our team worked with US Senator Jeff Merkley, the US Fish and Wildlife Service (USFWS), several other public agencies, and monarch scientists, on a two-day summit in Washington, D.C. focused on policy solutions to save the western monarch migration. The event included keynote addresses by Senator Merkley and Secretary of the Interior Deb Haaland, where the senator announced \$5 million for monarch conservation and the establishment of a USFWS pollinator conservation resource center.

289
FARMS

in 21 states
restored or managed
habitat for monarchs

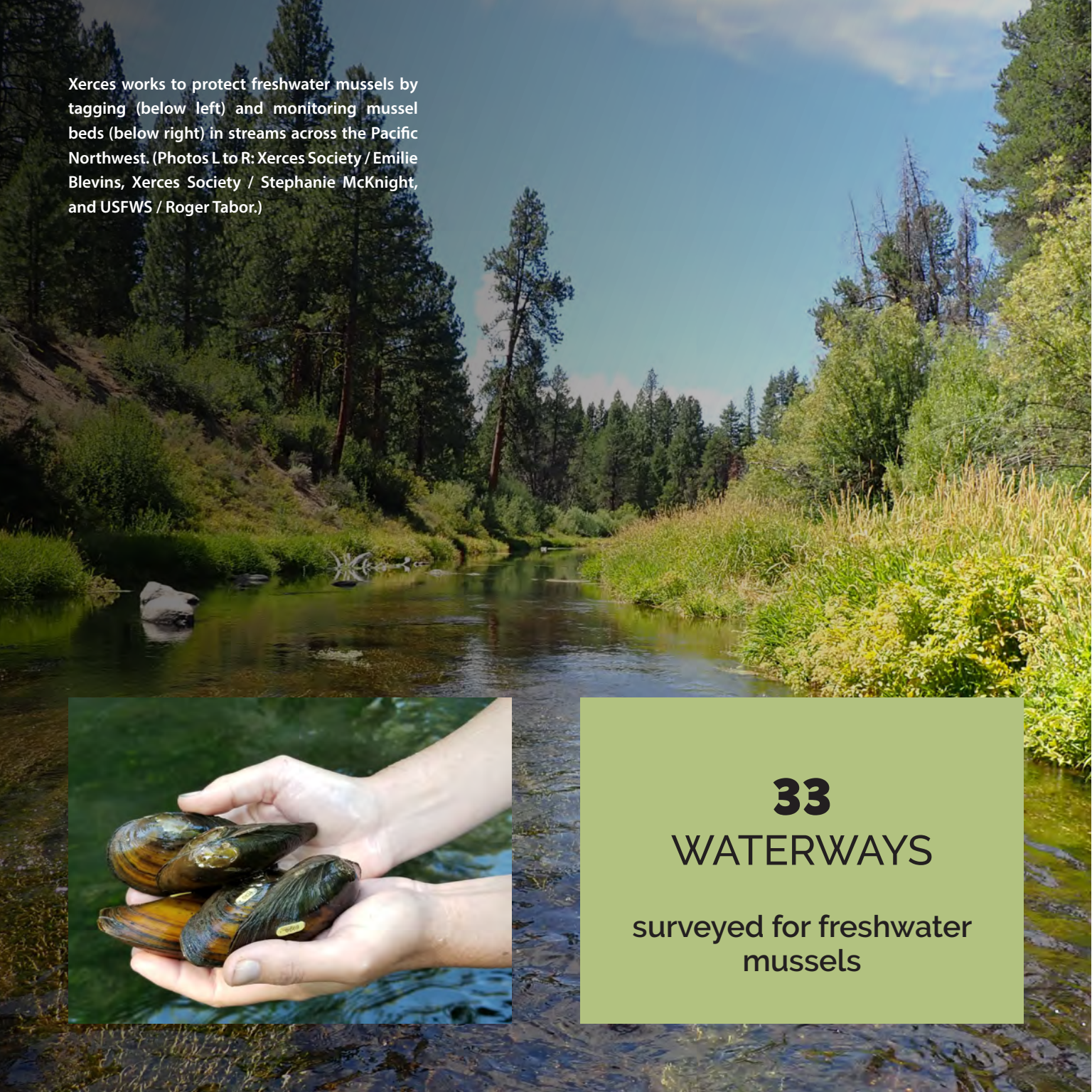
100-FOLD
INCREASE

of the western monarch
population was recorded
during the annual counts



Last season's western monarch butterflies cluster in California's overwintering sites where volunteers help to assess the status of their population by counting them in the trees. (Photo: Richard D. Parsons.)

Xerces works to protect freshwater mussels by tagging (below left) and monitoring mussel beds (below right) in streams across the Pacific Northwest. (Photos L to R: Xerces Society / Emilie Blevins, Xerces Society / Stephanie McKnight, and USFWS / Roger Tabor.)



33
WATERWAYS
surveyed for freshwater
mussels

Protecting Nature's Water Filters

Freshwater mussels keep streams clean, provide habitat for other invertebrates, and support fish populations. Despite these ecosystem contributions, freshwater mussels are among the most threatened group of animals in North America.

Amidst these ongoing threats, Xerces is working to ensure mussels are recognized, appreciated, and protected. We do this by documenting and monitoring mussel beds, collaborating with agency biologists, and conducting research. The results inform future conservation efforts and provide important guidance to biologists, land and water management agencies, and other organizations.

Over the last year, we conducted 76 surveys in 33 rivers, streams, and lakes. We partnered with state and federal agencies, other NGOs, tribes, and volunteers to tag and monitor over 6,000 mussels in order to protect them from impacts associated with habitat restoration. We engaged over 350 land managers in mussel conservation, providing 8 presentations and 3 workshops. We also conducted important research to understand mussel health in populations across three states with agency and academic partners. In short, we have been working to ensure that the incredible contributions of these mighty mussels are recognized, and that we as a society adequately account for their importance in our ecosystems.



6,339
MUSSELS
protected in Pacific
Northwest rivers and
streams

Expanding Bumble Bee Research Through Community Science

The fuzzy, friendly bumble bee needs no introduction. These charming pollinators are easily recognized, and for good reason. They are found in gardens big and small, and the rapid population decline of some species has been used to draw attention to the effects of climate change.

Despite their ample visibility, we need more research into where bumble bees occur so that we can best target conservation efforts. Xerces' Bumble Bee Atlas projects are providing this needed information. Beginning with three states in 2018, Xerces atlas projects are now established in ten states, leveraging the dedication of thousands of community-science volunteers to track bumble bees. Our volunteers are supporting research to understand where species are found across landscapes, population decline and possible threats, and the relationship between regional climate change and bumble bee health. For example, this year in Nebraska, volunteers detected the at-risk southern plains bumble bee in 13 counties where it had never been seen before!

By engaging volunteers, we can gather high-quality information beyond what is possible working only with professional scientists. Our community scientists are directly involved in conservation solutions, and we thank them for their hard work and dedication.

35
SPECIES

observed by community
scientists

14,520
SIGHTINGS

contributed after training
1,685 volunteers

10
STATES

with Bumble Bee Atlases

A group called Young Nebraska Ecologists climbs a hill in Gjerloff Prairie for Bumble Bee Atlas surveys. (Photo: Britton Bailey.)





13
PRIORITY SPECIES
are being searched for and
tracked through our new
Firefly Atlas

Tracking the Magic of Fireflies

The light shows of fireflies are arguably among the most magical sights in the natural world, enchanting viewers of all ages. Fireflies are cherished, but many species are also declining. At Xerces, we are working hard to prevent this loss, crafting a program to conserve these iconic and beautiful creatures by engaging hundreds of land managers, agency staff, and community scientists.

This year, inspired by our successful Bumble Bee Atlas model, we launched a Firefly Atlas. Through the atlas, participants are gathering critical information on the distribution, life cycle, and habitat associations of species that we know are threatened, as well as species that we don't yet know enough about. This allows us to make informed conservation decisions. To fill the information gap, we have created new publications, including a guide outlining the current state of fireflies in the US and Canada for policy makers, conservation guidelines for site managers, and an etiquette guide for visitors to firefly tourist sites in the US. Beyond this, we are reaching millions of people with our conservation message through social and traditional media.

Fireflies are a dazzling sight (left) and an important part of ecosystems. Through the launch of our Firefly Atlas and performing surveys ourselves (below right), we are tracking where species occur and how best to protect those at risk. With a keen eye, they are spotted also during the daytime (below left). (Photos L to R: Ryan Atkinson, Flickr.com, CC BY-NC 2.0; Xerces Society / Candace Fallon; and Xerces Society / Sarina Jepsen.)



Investing in Pollinator Conservation in Cities and Towns

During the past year, we have fulfilled a long-held desire to add staff dedicated to supporting conservation in urban environments. We hired pollinator conservation specialists in Detroit, Michigan and Boulder, Colorado, as well as a pesticide program specialist who is focusing on habitat creation and pesticide reduction in towns and cities throughout the US. In Detroit, we are helping establish and expand habitat for pollinators and other beneficial insects in spaces that are being revitalized in order to produce healthy local food. Xerces is forming partnerships with historically underserved communities to build flower-rich habitat in their neighborhoods.

Xerces is working closely with the US Department of Agriculture's new Office of Urban Agriculture and Innovative Production and the People's Garden Initiative (PGI), a federal community garden program, to support the creation of demonstration habitats with PGI urban farm partners across the US. In the last year, we've supported 11 gardens in nine cities.

3

NEW STAFF

members focused on
conservation in cities

11

PEOPLE'S GARDENS

in 9 US cities received
native plants and technical
support

Our new Pollinator Conservation Specialist based in Detroit, Michigan worked with interns to build pollinator habitat on an urban farm. (Photo: Xerces Society / Stefanie Steele.)





Celebrating 10 Years of Bee City USA

This year, our Bee City and Bee Campus USA network surpassed 300 affiliates, a remarkable growth since bee enthusiast Phyllis Stiles approached the city council of her hometown of Asheville, North Carolina, about making the city safer for pollinators and secured a unanimous vote to form the very first Bee City USA in 2012. Today, we are celebrating an incredible ten years of conserving invertebrates through this program!

These affiliates galvanize their communities to protect pollinators in their town, city, or campus by leading conservation and educational campaigns, and Xerces supports these efforts by providing resources and support. For example, our web page for the No Mow May campaign, which encourages residents to skip mowing their lawn for one month, was visited by 121,000 new people this year. Leveraging the success of this campaign, we've added new online promotional kits for Earth Week, Leave the Leaves, and Pollinator Week to encourage our affiliates to inspire change year-round.

Over one million people have gotten involved in our Bee City and Bee Campus USA programs. We hear so many inspiring stories of planting habitat, pictured left in Talent, Oregon, and creative ways to raise awareness of the importance of pollinators, such as with a parade float in Beaumont, Texas (below). (Photos L to R: Bee City USA - Talent, OR and Bee City USA - Beaumont, TX.)

312
AFFILIATES
in 45 states, with more communities joining each month!

1 MILLION
PEOPLE
engaged in Bee City and Bee Campus activities since 2012

1,152
ACRES
of pollinator habitat enhanced or created in 2021



Engaging the Next Generation with X Kids

The X Kids program uses storytelling and science-based activities to help children discover the environment around them. Led by Blue, a lovable butterfly, children learn about the invertebrates in their own neighborhood and their “superpowers,” including buzz pollination, water filtration, predation, and communication. Children also learn about their own superpowers and how they can be used to help protect nature. When they have completed all activities, children can receive a wooden badge to proudly wear or display. Designed for children in grades three through five (although it can be adapted for any age), the activity booklet is available in English and Spanish and can be easily completed individually or in a group, at home or in a classroom.

Since its release this year, PDF versions of the booklet have been downloaded more than two thousand times from our website and thousands more printed copies have reached the hands of children at events and through partner organizations. There are currently 425 official X Kids and counting!

X Kids is inspiring the next generation of conservationists to care for invertebrates. Kids work through an activity book (cover pictured right) to learn how various animals play a vital role in the stability of ecosystems. (Illustration: Jessica Hildreth.)

3,613
EDUCATIONAL
BOOKS

were downloaded

425
X KIDS

have officially joined in 13
states/provinces across
the US and Canada

xerces Society presents X KIDS AND THE Incredible Invertebrates





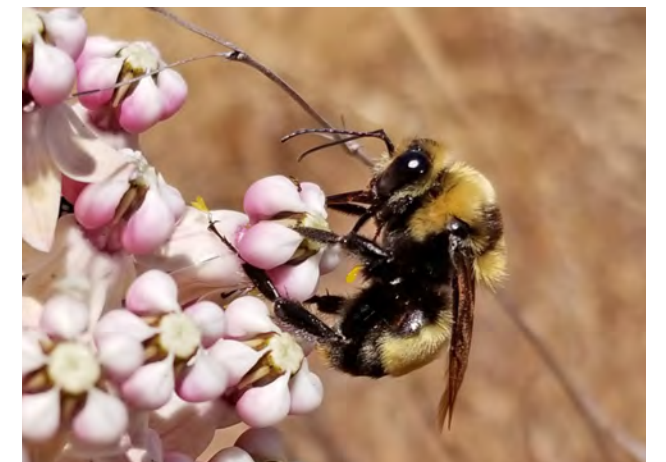
Successfully Protecting Insects and other Invertebrates

As a science-based organization, we spend lots of time deep in the weeds. Recently, years of photographing bees, testing individual plants for contamination, and building personal relationships bloomed into expansive conservation gains!

Through fact-based advocacy and community support, Xerces secured a diverse range of legal protection for invertebrates in 2022. Our Pesticide Reduction team supported multiple state efforts to conserve pollinators, including passing a law in Maine that will halt most home garden use of bee-toxic neonicotinoid insecticides. The work of Xerces and our partners also led to a major victory for California's native bees and all other imperiled insects in the state: Following years of advocacy and a petition, a lawsuit, and an appeal, bumble bees and other insects, which make up 80% of California's animal species, are now eligible for protection under the California Endangered Species Act (CESA).

The ruling that insects are protected under CESA, which Xerces helped make possible, is an amazing victory for protecting these animals. Bumble bee species, including the western bumble bee (left) and the Crotch's bumble bee (below), have declined extensively from their historic ranges and urgently need the protection that CESA can provide in order to stave off extinction. (Photos L to R: Xerces Society / Rich Hatfield and Xerces Society / Stephanie McKnight.)

**ALL
INSECTS**
are now eligible for
protection under CESA



Protecting Biodiversity in Western Rangelands

Xerces staff work in all landscapes to educate the public, land managers, farmers and policy-makers about the negative consequences of pesticide use and to provide the science and technical assistance to reduce the use of these chemicals. One area where we need to see improvement is in how we manage rangelands for native grasshoppers. For decades, some land managers have suppressed these animals by spraying highly toxic insecticides throughout the West, from New Mexico to Washington state. In any given year, hundreds of thousands to millions of acres can be sprayed. These sprays not only kill native grasshoppers, which are a very important food source for birds, they also threaten butterflies, other pollinators, and aquatic invertebrates, as well as the fish and wildlife that depend on them.

This past year, Xerces made significant progress engaging with the Bureau of Land Management (BLM) and USFWS—federal agencies involved with the APHIS pesticides program. Most notably, the Idaho BLM office halted insecticide applications except within one mile of croplands at risk from severe grasshopper or Mormon cricket pressure. This action protected 4.6 million acres of public lands.

Protecting biologically diverse rangelands (right) from largescale pesticide use supports people and wildlife. Native grasshoppers (below) are an important part of these systems that comprise about 30% of US landcover. (Photo L to R: Xerces Society / Stephanie McKnight and BLM / Greg Shine.)

**4.6 MILLION
ACRES**

of Western rangelands
protected from large-scale
insecticide use





16,034
PEOPLE

signed the pledge to date,
restoring a reported
130,376 acres

(Photo: Xerces Society / Alina Cypher.)

Everyone Can Help Bring Back the Pollinators!

Although pollinator conservation is a big task, it all begins with each of us adopting four simple steps below.

1. Grow Pollinator-Friendly Flowers: Flowers provide the nectar and pollen resources that pollinators feed on. Growing the right flowers, shrubs, and trees with overlapping bloom times will support pollinators, spring through fall.

2. Provide Nest Sites: It is important to support all pollinator life stages, including eggs and larvae! For bees, you can leave patches of bare ground and brush piles or install nesting blocks, and for butterflies and moths, plant caterpillar host plants.

3. Avoid Pesticides: Pesticides, especially insecticides, are harmful to pollinators. Herbicides reduce food sources by removing flowers from the landscape. Fungicides can also have synergistic effects on bees. The good news is that there are alternatives!

4. Spread the Word: Make your commitment both official and visible by signing the Pollinator Protection Pledge! You can also share information about pollinators on social media, or spread the word with a pollinator habitat sign.

With these core values, pollinator conservation can be adapted to any location, whether you tend an urban community garden or a suburban yard, work in a city park or on a farm. Make your commitment to these four principles official by signing our Pollinator Protection Pledge today at **[BringBackThePollinators.org](https://bringbackthepollinators.org)**.

Thank You to Our Partners, Volunteers, and Supporters

Protecting the animals that comprise the foundation of our ecosystems is a big job, and we couldn't do it without all of you. We would like to thank:

- Our numerous Xerces Society members and donors around the globe.
- Hundreds of farmers who partner with us to create and maintain habitat.
- Thousands of community scientists and over 100 scientists from around the world who help inform our conservation strategy.
- Over 310 Bee City USA and Bee Campus USA affiliates that are improving habitat for pollinators and increasing awareness.
- Volunteers who helped with webinars and presentations, supported the development of a new youth program, and worked on other essential projects.
- Xerces Ambassadors who help people learn about invertebrates and how they can make a difference in their own communities.
- Over 40 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—by putting native habitat in the ground and reducing the use of pesticides, then encouraging others to do the same.

(Photo: Molly Martin.)



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Director

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Director

2021 Financial Report

Financial Activities January to December 2021 (Audited)

REVENUE

Individual donations	\$4,016,067	44%
Foundation & corporate giving	\$2,719,741	30%
Government contracts	\$1,223,122	14%
Program revenue	\$1,008,931	11%
Net other revenue & unrealized gain	\$75,339	1%
Total revenue	\$9,043,200	

EXPENSES

Pollinator conservation	\$2,140,705	
Endangered species	\$1,217,222	
Community engagement	\$331,777	
Pesticide reduction	\$352,160	
Other conservation	\$215,260	
Total programs	\$4,257,124	75%
Development & membership	\$870,955	15%
Management & general administration	\$538,196	10%
Total expense	\$5,666,275	
<i>Net operating results</i>	<i>\$3,376,925</i>	
<i>End of year net assets</i>	<i>\$11,893,814</i>	

Please stay in touch!
(855) 232-6639
membership@xerces.org

Visit [xerces.org](https://www.xerces.org)

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