

Restoring Habitat for Pollinators and Other Beneficial Insects



for Invertebrate Conservation





Restoring Habitat

Pollinators and other insects are vital for the future of farming. Unfortunately, these vital animals are at risk.

The Xerces Society is the world's largest insect-focused conservation organization. With a team of conservation biologists located across the country, our conservation and restoration professionals have supported more than 1.5 million acres of habitat restoration for bees, butterflies, and other beneficial insects.

To ensure a future for these beneficial insects, the Xerces Society works with diverse partners like leading food companies, farmers and ranchers, landscape and maintenance managers, and other land stewards. Whether to support regenerative agriculture, promote pest management, build climate resilience, increase crop pollination, build soil health, or to protect rare or at-risk species, we can help you plan, install, and manage high-quality habitat to help conserve the pollinators on your landscape.

We are available for contract work, consultations, and technical assistance. To discuss which options best match your conservation goals, please contact our Pollinator Program Co-Director, Eric Lee- Mäder at eric.mader@xerces.org.



Recovering our native pollinators requires the participation of farmers, gardeners, government agencies, policy makers, land managers, food companies, teachers, and more. Through public talks, events, conference presentations, and collaborative workshops, we give people from all walks of life the knowledge they need to take actions that benefit pollinators. This workshop in California brought farmers together to see pollinator conservation techniques first hand. (Photo: Xerces Society / Liz Robertson.)



Biodiversity is the Heart of Regenerative Agriculture

Recent studies have shown alarming declines in insect populations, prompting news outlets to report on the apparent "insect apocalypse." An assessment conducted by the United Nations showed that up to 40 percent of all species of insect pollinators are declining and may be at risk of extinction. The implications of these declines are profound. Invertebrates are an essential part of all ecosystems, contributing to the survival of wildlife, the pollination of crops, healthy soils, water quality, and the overall health of our environment. Ninety-four percent of the world's animal species are invertebrates and their loss could trigger cascading effects on foodwebs and ecosystem functions.

Now more than ever, we need farm systems that restore habitat for these valuable animals.



This cover crop on an apple orchard in central Washington provides resources for the animals that are vital to pollinate these crops. (Photo: Xerces Society / Cameron Newell.)



Protecting Biodiversity Across Landscapes

Through positive collaborations with conservation-minded farming operations and with a shared vision of natural resources stewardship, we work to bring back functional pollinator and beneficial insect habitat to landscapes across North America and beyond. With staff located in field offices from Maine to California, we have supported habitat restoration for pollinators in nearly every kind of agricultural system: small grains, tree nuts, processing vegetables, rangelands, wild blueberry barrens, cranberry bogs, production hay fields, rotationally grazed pastures, orchard crops, vineyards, tropical agroforestry operations, berry crops, and more.



This beautiful field border habitat on a grain and oilseed farm in Montana supports a healthy pollinator population. (Photo: Xerces Society / Jennifer Hopwood.)



What We Are Doing

Responding to Climate Change

Many of the farms and communities we work with are increasingly impacted by extreme flooding, drought, fires, and other climatic changes. To respond to this challenge, we focus on establishing tough, highly-resilient native plants that can adapt to changing conditions.

Climate change considerations run through all of our work. Our core strategy is two-fold: 1) protect, restore and enhance quality beneficial insect habitat; and 2) increase habitat connectivity. Protecting, restoring, and enhancing habitat allows pollinator populations to be better able to survive climate change. Using climate-adapted plants and increasing habitat connectivity allows beneficial insect populations to move across landscapes as the climate changes.



This yellow-faced bumble bee visits a drought- tolerant pollinator garden Xerces planted in Sacramento, California and was one of many species found at the garden just six months after it was established. (Photo: Xerces Society / Angela Laws.)



Creating Large-Scale Habitat Corridors

To ensure a healthy future for pollinators, and biodiversity more broadly, we strive to create linkages between habitat areas and expansive corridors for wildlife movement. We achieve this by working on large-scale habitat corridors, many within the largest-scale farm systems in North America. These corridors are valuable for increasing habitat connectivity in agricultural landscapes, with some of our partners installing more than six-mile long stretches of habitat.



Using a pre-existing drainage basin on the almond farm shown here, we seeded a persistent low-cost mix of flowering plants and installed rows of hedgerow plants to create a mile-long hedgerow in California's Central Valley. Linear plants such as these provide habitat for pollinators and may allow them to move across the landscape when needed to find mates, new resources, or as the climate changes. (Photo: Woolf Farming / Peter Allbright.)



Leaders in Hedgerow Installation

Our team has years of experience designing and installing hedgerows on farms across the country. This concept has developed into one of the foundations of our work.

Pollinator hedgerows are diverse linear plantings of native flowering trees, shrubs, perennial wildflowers, and grasses designed to provide foraging and nesting habitat for pollinators and other beneficial insects. They are often a great way to incorporate larval host plants for butterflies, nest sites for above-ground nesting bees, and forage for a diversity of insects.

These time-honored conservation systems, which were first developed in Europe, can last for centuries, providing contiguous wildlife corridors in landscapes where no other habitat exists. Once established, native flowering hedgerows do not require any supplemental irrigation, and need only minimal maintenance. Because hedges can be located along fencelines and irrigation ditches, they also do not interfere with normal farm operations.



This hedgerow is providing a safe home for bees, butterflies, and other beneficial insects along an almond orchard in California. (Photo: Xerces Society / Jessa Kay Cruz.)



Creating Flowering Field Borders

Where sufficient pollen and nectar resources are available, many pollinator-dependent crops can get all of the bee visitation they need from the wild bees that live in the surrounding landscape—making it unnecessary for farmers to rent managed honey bees for crop pollination. Planting native wildflower field borders provide a functional resource to sustain and increase those wild bee populations. They are also beautiful.



Habitat, like pictured here on a blueberry farm in New Hampshire, supports populations of “free” pollinators for farmers. (Photo: Xerces Society / Eric Lee-Mäder.)



Designing Flowering Cover Crops for Beneficial Insects

We routinely design, evaluate, and improve flowering cover crop seed mixes for many kinds of farm systems. In addition to pollinator habitat, we are actively evaluating cover crop mixes for carbon sequestration, soil health, water-holding capacity, and natural pest suppression. Xerces is also one of the only organizations conducting research and development on native wildflower cover crops.



Cover crops, like this habitat on an almond orchard in California, provides resources for bees and other beneficial insects between crop rows. (Photo: Xerces Society / Cameron Newell.)



Working Beyond the Farm Border: Roadsides and Power Line Corridors, Airports and More

Beyond farms, to conserve pollinators in all landscapes, we routinely work with rights-of-way agencies such as departments of transportation, utility providers, energy generators, as well as other land managers to plan, install, and manage habitat for invertebrates.



We work with rights-of-way managers across the country to provide guidance around how to best manage these spaces to conserve pollinators and other beneficial insects. These stretches of land represent a large opportunity to create linear habitat corridors through simple management techniques. (Photo: Xerces Society / Kelly Gill.)



Securing a Future for Rare Species

As the single largest land use on the planet, agriculture creates pressure on the rarest species. Xerces works to find, restore, and protect habitat for rare pollinators within the agricultural land matrix. Rare species often have very specific habitat requirements, to support them, our conservation biologists develop site-specific plans, and help implement habitat enhancements that promote conservation and recovery of the most vulnerable species on the planet.



Xerces designs habitat installations specifically for at-risk species, such as the rare Karner blue butterfly, the endangered rusty patch bumble bee (pictured above), and imperiled monarch butterfly (pictured in the header). (Photo: Christy M. Stewart.)



Incorporating Ecological Pest Management into Farming

Wild beneficial insects contribute billions of dollars a year to agriculture through natural pest suppression. Working with researchers and farmers, Xerces has pioneered the development of practical, effective, and measurable systems to increase the abundance of beneficial insects on farms. We also hold workshops for thousands of farmers each year to learn how to put these practices into place on their farms.



In addition to supporting pollinators and other beneficial insects, insectary strips, like this one on a farm in Minnesota, attract, feed, and shelter insect pests and their predators to naturally protect crops. (Photo: Xerces Society / Karin Jokela.)



Native Plant Research & Development for Wildlife Conservation

The Xerces team includes agronomists and native plant materials specialists with multiple decades of collective experience working in the native plant nursery industry. We maintain research and development collaborations to overcome technical barriers, reduce production costs, and increase the commercial availability of these raw materials that are necessary for conservation. Through our partnerships, we have helped bring nearly two dozen ecologically-important wildflowers into production, creating a steady supply chain for ongoing habitat restoration efforts by ourselves, government agencies, and the broader public.



The ability to source native milkweed, like this variety planted in California, is critical to our conservation goals, since they support a variety of pollinators in addition to being the host plant for monarch populations. (Photo: Xerces Society / Eric Lee-Mäder.)



Creating a Better Food System with Bee Better Certified™

To take pollinator protection on farmland one step further, in 2017, we launched Bee Better Certified™, the first pollinator-focused farm and food product eco-label. Backed by a robust set of habitat and pesticide risk-reduction criteria, Bee Better Certified is independently verified by a third-party certifying agency. The distinctive Bee Better Certified seal now appears on food products nationwide, in retailers such as Costco, Walmart, Trader Joes, Kroger's, and more; reflecting evidence from recent studies that consumers strongly support brands focused on conserving bees and biodiversity. For more information go to beebettercertified.org.



Häagen-Dazs launched their first Bee Better Certified products at the beginning of 2020. For them, achieving the certification status meant working with their largest almond supplier in California to plant over six miles of flowering native shrub hedgerows and wildflower strips, as well as working to minimize pesticide impacts on pollinators. (Photo: Xerces Society / Cameron Newell.)



Protecting the life that sustains us

628 NE Broadway, Suite 200, Portland, OR 97232
Tel (855) 232-6639 Fax (503) 233-6794
www.xerces.org