Bee City USA
An Initiative of The Xerces Society for Invertebrate Conservation
The Xerces Society

Protecting the life that sustains us

Since 1971, the Xerces Society has worked to protect wildlife through the conservation of invertebrates and their habitat.

Photo: Endangered Fender’s blue butterfly (Icaricia icarioides fenderi) by Dana Ross
Bee City USA

Bringing communities together to sustain pollinators, in particular the more than 3,600 species of native bees in this country, by increasing the abundance of native plants, providing nest sites, and reducing the use of pesticides.
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Beekeeping ≠ Bee Conservation
Bee Diversity

Number of species

USA & Canada: 3,600
Oregon: 600–800?
Portland: 80–100?
In a single garden: 20–30
Other Pollinators

<table>
<thead>
<tr>
<th>Butterflies</th>
<th>Moths</th>
<th>Beetles</th>
<th>Flies</th>
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Photos: Dennis Burnette, Stephanie McKnight, Whitney Cranshaw, Scott Horvath
Why Care About Pollinators?
Ecological Role

Pollinators are at the center of complex food webs.

They enable the fruits and seeds that make up a major part of the diet of many animals.

And sometimes they are the food themselves.

Photos: Wildreturn, Flickr; Colleen Prieto, Flickr; U.S. Forest Service; kansasphoto, Flickr.
Enrich our Lives, Define our Seasons

Photo: Molly Martin
The Science is Clear: Pollinators are in Peril

Parallel Declines in Pollinators and Insect-Pollinated Plants in Britain and the Netherlands

J. C. Bienenman, 1 S. P. M. Roberts, 1 M. Roemer, 1 A. P. Schaffers, 1 S. G. Potts, 2 R. Kleukers, 1 C. D.

Despite widespread concern about declines in pollinators and insect-pollinated plants, the evidence for such declines remains scanty. To adequately demonstrate a decline in pollinator abundance, one would need to document declines in overall abundance through time.

Plant-Pollinator Interactions over 120 Years: Loss of Species, Co-Occurrence, and Function

Lauren A. Swihart, 1 John C. Martin, 1 Tiffany R. Knight 1

Using historical data sets, we quantified the degree to which global change over the past 120 years is affecting plant-pollinator interactions in a temperate forest/wetland community. Despite significant declines in species richness, pollinator communities remain diverse and function as effective pollinators. However, the composition of species is changing, with some species becoming more abundant and others declining.

Patterns of widespread decline in North American bumble bees

Sydney A. Cameron, 1 Jeffrey D. Lozier, 2 James P. Strange, 3 Jonathan B. Korch, 1 Niki Correll, 2 Leaellen P. Soltz, 1

Bumble bees (Bombinae) are an important pollinator of wild plants and agricultural crops worldwide. Fragmented observations suggest that populations have declined in some North American species. While recent trends concern these observations, we highlight a recent Neotropical Academy of study in the United States of decline in genetic diversity and observed genetic differentiation (Fst) among U.S. populations of the polylectic declining D. pippini, relative to that of a congeneric species (W. rufiventris). Similar patterns have been observed in comparative studies of some European species (3), but

Long-Term Trends in Eastern North American Monarch Butterflies: A Collection of Studies Focusing on Spring, Summer, and Fall Dynamics

Andrew F. Davis, 1 and Lee A. Dyer 1

A historical review of managed honey bee populations in Europe and the United States and the factors that may affect them.
Pollinator Declines

Globally: Up to 40% of pollinator species may be at risk of extinction in the coming years.

North America: More than a quarter of bumble bee species are in decline.

Source: Assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination, and food production.
Drivers of Pollinator Declines

Habitat loss and degradation
Drivers of Pollinator Declines

Habitat loss and degradation

Pesticide use

Photos (L to R): Matthew Shepherd (2), Emily May, Pixabay
Drivers of Pollinator Declines

Habitat loss and degradation

Pesticide use

Diseases and pathogens
Drivers of Pollinator Declines

Habitat loss and degradation

Pesticide use

Diseases and pathogens

Climate change

Photos (L to R): Matthew Shepherd (2), Emily May, Pixabay
Good News: There are Solutions
Pollinator Conservation Principles

Increase the availability of native flowering species
Pollinator Conservation Principles

Increase the availability of native flowering species

Provide appropriate nesting substrates

Photos (L to R): Sara Morris, Sara Morris, Jennifer Hopwood, Rachel Dunham
Pollinator Conservation Principles

1. Increase the availability of native flowering species
2. Provide appropriate nesting substrates
3. Find alternatives to harmful pesticides
Pollinator Conservation Principles

- Increase the availability of native flowering species
- Provide appropriate nesting substrates
- Find alternatives to harmful pesticides
- Educate and spread awareness

Photos (L to R): Sara Morris, Sara Morris, Jennifer Hopwood, Rachel Dunham
Bee City USA Commitments

RESOLUTION NO. __
A RESOLUTION of [your city council or county commission of your city and state] designating [your city or county] as a Bee City USA affiliate.

WHEREAS, the mission of Bee City USA is to galvanize communities to sustain pollinators, responsible for the reproduction of about 90% of the world’s flowering plants, by providing them with healthy habitat, rich in a variety of native plants and free of free of pesticides and

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WHEREAS, thanks to the more than 3,600 species of native bees in the United States, along with introduced honey bees, we have a diverse diet of rich in nectar, protein, and vegetable; and

WHEREAS, bees and other pollinators have experienced population declines due to a combination of habitat loss, poor nutrition, pesticides (including neonicotinoids, fungicides, and herbicides), parasites, diseases, and climate change; and

WHEREAS, pollinator-friendly communities can benefit local and regional economies through healthy ecosystems, increased vegetable and fruit crop yields, and increased demand for pollinator-friendly plant materials from local growers; and

WHEREAS, pollinator-friendly habitat (A) is comprised of mostly native wildflowers, grasses, vines, shrubs, and trees; and (B) is free of free of pesticides, as many pesticides can harm pollinators and/or their habitat; (C) comprises undisturbed spaces (less and bush, large, small, field and road margins, fallen trees and other dead wood) for nesting and overwintering; and (D) provides connectivity between habitat areas to support pollinator movement and reproduction; and

WHEREAS, Integrated Pest Management (IPM) is a long-term approach to maintaining healthy landscapes and facilitating that minimizes risks to people and the environment by identifying and removing the causes of pest problems rather than only attacking the symptoms (pollinators); employing pests natural enemies along with cultural, mechanical, and physical controls when prevention is not enough; and using pesticides only when no other method is feasible or effective; and

WHEREAS, supporting pollinators fosters broad-based community engagement in environmental awareness and sustainability; and

WHEREAS, [your city or county] could be a Bee City USA community because this is an option for you to highlight anything your community has already done or plans to do to conserve pollinators.

NOW, THEREFORE, in order to enhance understanding among local government staff and the public about the vital role that pollinators play and what each of us can do to sustain them, [your city or county] chooses to support and encourage healthy pollinator habitat creation and enhancement, resolving as follows:

1. The [your city or county] [appropriate department name] Department is hereby designated as the Bee City USA sponsor.
2. The [appropriate position title] of [department above] is designated as the Bee City USA liaison.
3. Notification of [your city or county]’s Bee City USA program is assigned to the [committee name] Committee.
4. The [committee name] Committee is authorized to and shall:
   a. Celebration: No at least one educational event or pollinator habitat planting or restoration each year to showcase [your city or county]’s commitment to raising awareness of pollinator conservation and expanding pollinator health and habitat.

b. Publicity & Information: Install and maintain at least one authorized Bee City USA street sign in a prominent location, and create and maintain a webpage on the [your city or county] website which includes, at minimum a copy of this resolution and links to the national Bee City USA website; contact information for your Bee City USA liaison and Committee; reports of the pollinator-friendly activities the community has accomplished the previous year; and your recommended native plant species list and integrated pest management plan (explained below).

c. Habitats: Develop and implement a program to create and expand pollinator-friendly habitat on public and private land, which includes, but is not limited to, identifying and inventorying [your city or county]’s real property that can be enhanced with pollinator-friendly plantings, creating a comprehensive list of local plant species; and tracking (via issuance of a purchase order and/or a voucher) annual area of pollinator habitat created or enhanced.

d. Pollinator-friendly Pest Management: Create and adopt an Integrated Pest Management (IPM) plan designed to prevent pest problems, reduce pesticide use, and expand the use of non-chemical pest control methods.

e. Policy & Plans: Implement, through the [your city or county], a policy in the [plan name] Plan of [your city or county] [name]. This Plan of [your city or county] [name] Plan will include such measures as [your city or county]’s commitment to pollinator conservation, identify appropriate locations for pollinator-friendly plantings, and consider other appropriate measures.

f. Renewal: After completing the first calendar year as a Bee City USA affiliate, each February, apply for renewal of [your city or county]’s Bee City USA designation following the format provided by Bee City USA and the report of the previous year’s Bee City USA activities, and paying the renewal fee based on [your city or county]’s population.

ADOPTED by the [your city or county] Commission at the [your city or county], ___ day of ___ 20__.
Bee City USA Commitments

Establish a Bee City USA committee to advocate for pollinators.
Bee City Committee

- City Staff
- Parks & Rec Staff
- Engaged citizens
- Local Experts
Bee City USA Commitments

Create and enhance pollinator habitat on public and private land.
Integrated Pest Management (IPM) Plan
Recommended Native Plant List

The Northeast Region encompasses southern Quebec, New Brunswick, New Scotia, the New England states, and eastern New York. High regional variation in topography, soils, and climate transitions to tremendous ecological diversity, ranging from the coastal forests and salt marsh ecosystems along the Atlantic shoreline, to the spectacularly species-rich deciduous forests of the north. The dominant tree species are maple and birch.

Corresponding to this striking diversity of plant communities is an equally remarkable range of pollinators, including twenty bumble bee species and thousands of other species of native bees, butterflies, hover flies, flower visiting beetles, wasps, and moths. As a group, these and other pollinators maintain healthy, productive plant communities, provide food that sustains wildlife, and play an essential role in crop production. In the Northeast, several important pollinators, including the yellow-banded bumble bee (Bombus fervidus) and endangered rusty-patched bumble bee (U. rufus), are being lost due to declines in native plant communities that support them.

Raising yellow-banded bee habitat is the most significant action you can take to help pollinators. Adult bumble bees, butterflies, and other pollinators require nectar in their primary food source. Female bees also collect pollen as food for their offspring. Native plants, which are adapted to local soils and climates, are usually the best sources of nectar and pollen for native pollinators. In addition, native plants often require less water than non-native counterparts, do not need fertilizers, and are less likely to become weeds.

This guide features regional native plants that are highly attractive to pollinators and are well-suited for small-scale plantings in gardens, on business and school campuses, in urban greenways, and as low input landscapes. In addition to supporting native pollinators, these plants provide beneficial habitat for birds and other wildlife. For additional information on growing native species, visit the Northeast Native Plant Society (www.nnps.org) or contact your local cooperative extension service.

Note: This list of pollinators for the Northeastern Region was produced by the Xerces Society in cooperation with the Northeast Native Plant Society and the Northeast Chapter of the Native Plant Society of America.
Bee City USA Commitments

Make city or county policies and plans pollinator-conscious.
Bee City USA Commitments

Host pollinator awareness events.
Bee City USA Commitments

Publicly acknowledge Bee City USA affiliation with signs and an online presence.
Bee City USA Commitments

Annually apply for renewal and report on last year’s activities.
Bee City USA Commitments

Pay initial application and annual renewal fees.

Fee Based on Population:

- <9,999  ($100)
- 10,000 - 24,999  ($200)
- 25,000 - 49,999  ($300)
- 50,000 - 99,999  ($400)
- >100,000  ($500)
Benefits of Affiliation

- Ensure survival of vital animal species including bees and other pollinators.
- Build community locally and nationally.
- Improve local food production and raise community awareness of how our food grows.
- Support small local businesses.
- Address pest problems with fewer pesticides using integrated pest management.
- Heighten awareness of biological diversity.

Photo: Jim Cairns / USDA-NRCS
Apply

www.beecityusa.org/application-city

Application Process
• Form Committee
• Complete online application
• City council adopts resolution (following template), receive approval of highest elected official
• Pay application fee (scaled to population)
Thank You

Questions?