Mid-Atlantic Region

White the state of the

New England aster, smooth penstemon, and wingstem.

The Mid-Atlantic Region encompasses North Carolina, Virginia, West Virginia, Maryland, Delaware, New Jersey, Pennsylvania, and Washington, D.C. High regional variation in topography, soils, and climate has resulted in tremendous ecological diversity, ranging from the salt marshes and wetlands of the eastern Coastal Plain, to the spectacularly species-rich deciduous forests and riparian communities of the Piedmont foothills and Appalachian Mountains.

Corresponding to this striking diversity of plant communities is an equally remarkable range of pollinators, including nineteen 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 Mid-Atlantic, several important pollinators, including the rusty-patched bumble bee (*B. terricola*), and the bronze copper butterfly (*Lycaena hyllus*), are threatened by habitat loss, including dramatic declines in native plant communities needed to support these animals.

Providing wildflower-rich habitat is the most significant action you can take to support pollinators. Adult bees, butterflies, and other pollinators require nectar as 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. Incorporating native wildflowers,

shrubs, and trees into any landscape promotes local biological diversity by providing shelter and food for wildlife. Native plants are better adapted to regional climate cycles, do not need fertilizers, and are less likely to become weedy.

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 greenspaces, and in farm field borders. In addition to supporting native bees and honey bees, many of these plants attract nectar-seeking butterflies, moths, and hummingbirds, and some are host plants for butterfly and moth caterpillars. With few exceptions, these species occur broadly across the region and can be purchased as seed or transplants. Please consult regional Floras, the Biota of North America's North American Plant Atlas (<a href="http://bonap.net/napa">http://bonap.net/napa</a>), or the USDA's PLANTS database (<a href="http://plants.usda.gov">http://plants.usda.gov</a>) for details on species's distributions in your area.



Our Bring Back the Pollinators campaign is based on four principles: grow pollinator-friendly flowers, protect bee nests and butterfly host plants, avoid pesticides, and spread the word. You can participate by taking the

Pollinator Protection Pledge and registering your habitat on our nationwide map of pollinator corridors.

www.bringbackthepollinators.org

# THE XERCES SOCIETY

	2			5	6	
Bloom Period	Common Name	Scientific Name	Flower Color	Max. Height	Water Needs	Notes
	Forbs			(Feet)	L: low; M: medium; H: high	All species are perennials, unless otherwise noted. Max. Height is an average, individual plants may vary.
Early 2	Lanceleaf coreopsis	Coreopsis lanceolata	yellow	2	M	This early bloomer can hold its own among grasses and taller species; bees and syrphid flies are common visitors
	Smooth penstemon	Penstemon digitalis	white	2	M	Semi-evergreen; prolific nectar producer; visited by many butterflies, moths, and bees, including honey bees
Early–Mid 3	Wild indigo	Baptisia tinctoria	yellow	3	L	Fixes nitrogen that can be used by other plants; attracts a wide diversity of pollinators, including the beautiful Io moth (Automeris io)
4 5 <b>Mid</b> 7 8 9	Butterfly milkweed	Asclepias tuberosa	orange	3	L	Host plant for monarchs and a nectar source for many bees; swamp and common milkweed are also recommended
	Great blue lobelia	Lobelia siphilitica	blue	3	Н	An exceptional bumble bee plant; excellent for rain gardens; tolerates heavy shade
	Joe Pye weed	Eutrochium fistulosum	pink	7	Н	Both E. maculatum and E. fistulosum (pictured above) attract butterflies and bees, prefer moist soils, and tolerate partial shade
	Mountain mint	Pycnanthemum spp.	white	3	M	Mountain mints have fragrant foliage, and are visited by blue and copper butterflies, bees, and more
	Purple coneflower	Echinacea purpurea	purple	4	M	Visitors include bees in the genera Bombus, Melissodes, and Svastra, and the leafcutter bee (Megachile pugnata)
	Wild bergamot	Monarda fistulosa	purple	4	M	Hawk moths, hummingbirds, and long-tongued bumble bees (such as <i>Bombus pensylvanicus</i> ) are common visitors
10 <b>Mid–Late</b> 11 12	Field thistle	Cirsium discolor	purple	6	M	Not to be confused with non-native thistles; a now uncommon but important plant for butterflies and bumble bees
	Marsh blazing star	Liatris spicata	purple	4	M	Blazing stars support a broad community of butterflies; including monarchs, swallowtails, skippers, and sulfurs
	Wingstem	Verbesina alternifolia	yellow	6	Н	A major honey producer and great as a shade-tolerant rain garden or wetland edge plant; may be hard to find in nurseries
13 14 15 <b>Late</b> 16 17	Bottle gentian	Gentiana andrewsii	blue	2	M	Pollinated almost exclusively by bumble bees, which pry open the closed flowers and climb inside to collect pollen
	New England aster	Symphyotrichum novae-angliae	purple	6	M	One of the latest fall-blooming plants; frequented by honey bees and pre-hibernation bumble bee queens
	New York ironweed	Vernonia noveboracensis	purple	7	Н	Tall, upright plant, great for back borders; attracts many butterflies and bees, including some specialist long-horned bees
	Seaside goldenrod	Solidago sempervirens	yellow	6	L	Highly attractive to bumble bees, monarchs, and other butterflies, especially when planted in large clumps; tolerates high salinity
	Sneezeweed	Helenium autumnale	yellow	2	Н	Striking flowers with domed centers and distinctive tri-lobed rays; attracts leafcutter bees, bumble bees, and honey bees
	Wrinkleleaf goldenrod	Solidago rugosa	yellow	4	M	Goldenrods are frequented by beneficial solitary wasps, pollen-eating soldier beetles, hover flies, and much more
	Shrubs and Trees					
19 20 <b>Early</b> 21 22	Cockspur hawthorn	Crataegus crus-galli	white	20	L	Tough native tree that attracts bumble bees, honey bees, and mining bees (Andrena spp.), as well as songbirds
	Eastern redbud	Cercis canadensis	pink	30	M	Showy flowers create a dramatic display in spring; pollinated primarily by long-tongued bees
	Highbush blueberry	Vaccinium corymbosum	white/ pink	12	М-Н	Well-loved by humans, and also provides food for mining bees, mason bees, and long-tongued bumble bees
	Pussy willow	Salix discolor	yellow/ green	15	М-Н	Silky gray catkins open into flowers that provide spring forage for bees; also a host plant for mourning cloak butterflies
Early–Mid 23	Basswood	Tilia americana	cream	60	M	Also called "bee tree" for its abundance of very fragrant, nectar-rich flowers that are extremely attractive to bees
Mid 24	New Jersey tea	Ceanothus americanus	white	4	M	Pollinator magnet that attracts many species of flies, wasps, bees, and butterflies; slow growing and prone to deer browsing
13	14	15		17	18	19 20 21 22 23 23 24

## **Planting for Success**

## **Sun Exposure**

Most pollinator-friendly plants prefer sites that receive full sun throughout most of the day and are mostly open, with few large trees. A southern exposure can provide the warmest habitat, but is not required.

### **Plant Diversity**

Choosing a variety of plants with overlapping and sequential bloom periods will provide food for pollinators throughout the seasons.

## **Habitat Size and Shape**

Habitat patches that are bigger and closer to other patches are generally better than those that are smaller and more isolated from one another. However, even a small container garden can attract and support pollinators!

### **Planting Layout**

Flowers clustered into clumps of one species will attract more pollinators than individual plants scattered through a habitat patch. Where space allows, plant clumps of the same species within a few feet of one another.

### **Seeds or Transplants**

It is usually cheaper to establish large habitat areas from seed; however, seeding native wildflowers on a large-scale is an art unto itself. For step-by-step instructions, see *Establishing Pollinator Meadows from Seed* and the Pollinator Habitat Installation Guides listed in the Additional Resources section. For smaller areas like gardens, transplants are usually easier to use and will bloom faster than plants started from seed.

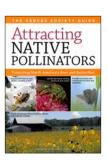
## **Protect Pollinators from Insecticides**

Although dependent on timing, rate, and method of application, all insecticides have the potential to poison or kill pollinators. Systemic insecticides in particular have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout plant tissues and are sometimes present in pollen and nectar. You can help protect pollinators by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with insecticides. To read more about threats to pollinators from pesticides, please visit: <a href="https://www.xerces.org/pesticides">www.xerces.org/pesticides</a>.

## **Additional Resources**

## **Attracting Native Pollinators**

Our best-selling book highlights the role of native pollinators in natural ecosystems, gardens, and farms. This comprehensive guide includes information about pollinator ecology, detailed profiles of over 30 common bee genera, and habitat designs for multiple landscapes with over 50 pages of fully illustrated regional plant lists. Available in bookstores everywhere, and through <a href="https://www.xerces.org/books">www.xerces.org/books</a>.



#### The Xerces Pollinator Conservation Resource Center

Our Pollinator Conservation Resource Center includes regional information on pollinator plants, habitat conservation guides, nest management instructions, bee identification and monitoring resources, and directories of native pollinator plant nurseries.

www.xerces.org/pollinator-resource-center

## Lady Bird Johnson Wildflower Center

The Xerces Society has collaborated with the Lady Bird Johnson Wildflower Center to create lists of plants that are attractive to native bees, bumble bees, honey bees, and other beneficial insects, as well as plant lists with value as nesting materials for native bees. These lists can be narrowed down with additional criteria such as state, soil moisture, bloom time, and sunlight requirements. The Center's website also features image galleries, how-to articles on native plant gardening, and more.

www.wildflower.org/conservation\_pollinators/

## **Establishing Pollinator Meadows from Seed**

These guidelines provide step-by-step instructions for establishing pollinator meadows from seed in areas that range in size from a small backyard garden up to an acre. Topics include: site selection, site preparation, plant selection, planting techniques, and ongoing management.

www.xerces.org/establishing-pollinator-meadows-from-seed

## **Pollinator Habitat Installation Guides**

These regional guidelines, developed in collaboration with the USDA's Natural Resources Conservation Service, provide in-depth practical guidance on how to install nectar and pollen habitat for bees in the form of wildflower meadow plantings or linear rows of native flowering shrubs. Region-specific seed mixes and plant recommendations are included in the appendices of each guide.

 $\underline{www.xerces.org/pollinator-conservation/agriculture/pollinator-habitat-installation-guides}$ 

## **Acknowledgements**

Support, background information, and other contributions to this publication were generously provided by Rachael Winfree's lab at Rutgers University, Dave Biddinger's lab at Penn State University, Jim Gillis with the Pennsylvania NRCS, Ernst Conservation Seeds, The Ceres Foundation, CS Fund, Disney Worldwide Conservation Fund, Turner Foundation, Inc., Northeast Sustainable Agriculture Research and Education, and the USDA's Natural Resources Conservation Service.

Written by Nancy Lee Adamson, Brianna Borders, Jessa Kay Cruz, Sarah Foltz Jordan, Kelly Gill, Jennifer Hopwood, Eric Lee-Mäder, Ashley Minnerath, and Mace Vaughan. Designed by Kaitlyn Rich. Formatted by Sara Morris. PHOTO CREDITS: Nancy Lee Adamson, The Xerces Society: 1, 2, 6, 7, 11, 12 (cover), 18, 20, 21. Valérie Chansigaud: 3. Chesapeake Conservation Landscaping Council\*: 15. Dendroica cerulea\*: 16. Chris Evans, Illinois Wildlife Action Plan, Bugwood.org: 10. Kelly Gill, The Xerces Society: 8, 17. Peter Gorman\*: 13, 14 (inside), 24. Tom Koerner, U.S. Fish and Wildlife Service\*: 14 (cover). Eric Lee-Mäder, The Xerces Society: 9. Dan Mullen\*: 23. Nadiatalent, Wikimedia Commons: 19. Tom Potterfield\*: 2 (cover), 4, 5, 12 (inside). Kristin Shoemaker\*: 22. \*Via www.flickr.com. Photographs remain under the copyright of the photographer.

The Xerces Society is an equal opportunity employer and provider. © 2015 by The Xerces Society for Invertebrate Conservation.