

Let Your Lawn Get in On the Act

Have you ever noticed that bees are attracted to the white clover that pops up in your lawn in early spring? Dandelions, too, are a favorite source of nectar for many types of pollinators, including bumble bees, solitary bees, honey bees, beetles, and hover flies. Although these familiar lawn plants are considered a nuisance by some homeowners, they can mean the difference between life and death for early emerging bumblebee queens, honeybees, and solitary bees.

- ✿ Allow dandelions (*Taraxacum officinale*), white clover (*Trifolium repens*), common selfheal (*Prunella vulgaris*), and other flowering lawn plants to bloom. They provide nectar and pollen for many types of pollinators in early spring when food is scarce.
- ✿ Mow dandelions before they set seed. This will encourage pollinators to seek out garden flowers.
- ✿ Avoid lawn insecticides and fungicides. They are often applied unnecessarily or at the wrong time. Thicken your lawn to reduce weed growth by over-seeding in late summer and fertilizing in fall.

Sources: Maryland Department of Agriculture Plant Protection and Weed Management Section, University of Maryland Extension, Maryland Department of Natural Resources, Maryland Pollinator Protection Plan, Pollinator Partnership, USDA Forest Service, USDA Natural Resources Conservation Service, and the Xerces Society.



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7 attract pollinators to your garden



Protect the Chesapeake Bay

Like farmers, homeowners play an important role in protecting our soil and water resources, especially the Chesapeake Bay. This series of fact sheets highlights various conservation measures—best management practices—that farmers use to produce healthy crops and protect water quality in the Chesapeake Bay and its tributaries. Homeowners can apply these same conservation measures to home, lawn, garden, and landscape projects. Working together, we can make a difference for the Bay. For more information on ways to improve your lawn or garden and protect the Bay, contact the organizations listed on the back panel.



The Importance of Pollinators

Most flowering plants depend on pollinators to reproduce. Birds, bees, butterflies, moths, beetles, flower flies, and other pollinators visit flowers in search of nectar, a sugary liquid, and pollen, a powdery, protein-rich food source. As they gather food, these animals transfer pollen from male flower parts to the female parts, and from flower to flower. This fertilization allows plants to produce seeds, fruits, and nuts.

Although some plants such as wheat and corn rely on the wind to transfer pollen, approximately one third of our food supply relies on pollinating birds, animals, and insects. You may be surprised to know that many of the fruits and vegetables grown by backyard gardeners need pollinators to set fruit and seeds. Examples include squash, cucumbers, apples, strawberries, eggplant, cabbage, and broccoli.

Threats to Pollinators

Worldwide, bees, butterflies, and other important insect pollinators are in decline due to many factors, but mainly loss of habitat. Maryland farmers understand the importance of pollinators to our food supply. They are planting wildflower habitats on their farms that support pollinators. You can help, too—regardless of where you live—by planting a pollinator garden that supplies food, shelter, and water for adult insects and their offspring.

Meet Your Friendly Neighborhood Pollinators

Bees, Wasps, and Ants—
Bees are our top pollinators. They are very efficient at getting to hard-to-reach pollen sources. The U.S. Department of Agriculture estimates that bees are responsible for pollinating 75 percent of the fruits, nuts, and vegetables grown in the United States. The European honey bee (*Apis mellifera*) is not native to the United States, but colonies of these much loved insects are used extensively by farmers to pollinate many crops, including almonds, blueberries, and cotton. Among the more than 400 species of bees found in Maryland are social bees like bumble bees (*Bombus* spp.), and solitary bees such as the large carpenter bee (*Xylocopa virginica*), leaf cutting bees (*Megachile* spp.), and mining bees (*Andrena* spp.).



Mason bee



Blue-winged wasp

Bees prefer blue, white, yellow, and purple flowers with sweet fragrances. They can see ultraviolet colors, which makes finding nectar easier. **Wasps** are accidental pollinators, spreading pollen while feeding on flowers. They can be social or solitary. Parasitic and predatory wasps vary in size and prey on a variety of garden pests, including aphids. They do not harm humans and few species are able to sting. **Ants** don't usually come to mind when discussing pollinators, but they visit plants to find nectar and in the process can help spread pollen. Ants prefer low growing plants with small flowers, like stonecrop (*Sedum* spp.).



Zebra swallowtail

Butterflies and Moths—
Maryland has more than 150 different species of **butterflies** ranging in size from swallowtails (4" to 6" wingspan) to the tiny spring azure with a 1" wingspan. Some butterflies use camouflage to blend into

their surroundings and protect themselves from predators. Others, like the monarch, use their bright colors and unique patterns to advertise to predators that they are poisonous. Butterflies prefer orange, red, yellow, and purple flowers with narrow tubes and wide landing pads.

Most **moths** fly at night and are attracted to white or very pale colors that they can see in dim light. One exception is the hummingbird moth, which looks and acts like a small hummingbird. It even makes a buzzing sound as it travels from flower to flower in broad daylight. Most moths, however, are generally duller than butterflies. Moths have feathery or thread-like antennae, while butterfly antennae are long and thin with a ball at the end. Moths usually spread their wings when resting; butterflies mostly hold their wings upright and folded together when at rest.



Hover fly

Flower Flies—These hardworking pollinators are sometimes mistaken for bees or wasps. Also known as hover flies or syrphid flies, they often have yellow and black stripes and resemble small bees. The adults hover around nectar sources and their voracious larvae feed on aphids, mealybugs, and other small insects, providing an added benefit for gardeners.

Beetles—Most gardeners work hard to discourage beetles from visiting their gardens, but these ancient pollinators have been around for more than 200 million years and were among the first insects to visit flowers in search of nectar and pollen. Common beetle pollinators found in the garden include ground beetles, longhorn beetles, and carpet beetles. Beetles are attracted to magnolia, goldenrod, Queen Anne’s lace, and fennel.



Goldenrod soldier beetle



Ruby-throated hummingbird

Ruby-Throated Hummingbird—

This pollinator is the most common hummingbird found in the Eastern United States. These pint-sized birds are often mistaken for large insects as they hover in place, sipping nectar from their favorite flower.

Hummingbirds have excellent vision

and are attracted to red, trumpet-shaped flowers such as cardinal flower, red columbine, bee balm, and trumpet honeysuckle.



A SHORT LIST OF NATIVE AND BENEFICIAL PLANTS FOR POLLINATORS

Flowering plants and pollinators depend on each other for survival. Over time, flowers have adapted to become more attractive to certain types of pollinators. They use color, scent, and petal shape to lure just the right type of pollinator to get the job done. The following plants are favored by different types of pollinators.



Wild geranium



Green and gold



Wild blue indigo

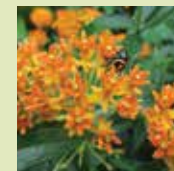


Foxglove beardtongue



Evening primrose

EARLY SPRING	ATTRACTS	HEIGHT
Phlox (<i>Phlox</i> spp.)	Bees, butterflies	0.5 in–20 in
Wild Geranium (<i>Geranium maculatum</i>)	Bees, butterflies	1–2 ft
Green and gold (<i>Chrysogonum virginianum</i>)	Bees	6 in–12 in
SPRING	ATTRACTS	HEIGHT
Eastern/wild columbine (<i>Aquilegia canadensis</i>)	Butterflies, hummingbirds	1.5–2 ft
Spiderwort (<i>Tradescantia virginiana</i>)	Bees, butterflies	1–3 ft
Wild blue indigo (<i>Baptisia australis</i>)	Bees	2–4 ft
LATE SPRING/EARLY SUMMER	ATTRACTS	HEIGHT
Butterfly weed (<i>Asclepias tuberosa</i>)	Bees, butterflies, moths	1–3 ft
Cardinal flower (<i>Lobelia cardinalis</i>)	Hummingbirds	3–4 ft
Common milkweed (<i>Asclepias syriaca</i>)	Butterflies	4–6 ft
Evening primrose (<i>Oenothera biennis</i>)	Hummingbirds, moths	6 ft
Foxglove beardtongue (<i>Penstemon digitalis</i>)	Bees, hummingbirds	3 ft
SUMMER	ATTRACTS	HEIGHT
Bee balm (<i>Monarda fistulosa</i>)	Butterflies, bees, hummingbirds	4–6 ft
Black-eyed Susan (<i>Rudbeckia</i> spp.)	Bees, beetles, butterflies	1–3 ft
Blazing star (<i>Liatris spicata</i>)	Butterflies	2–4 ft
Common sneezeweed (<i>Helenium autumnale</i>)	Butterflies, bees	1.5–6 ft
Sunflower (<i>Helianthus</i> spp.)	Bees, butterflies	1.5–6.5 ft
LATE SUMMER/EARLY FALL	ATTRACTS	HEIGHT
Goldenrod (<i>Solidago</i> spp.)	Bees, butterflies and moths	1–6 ft
Hollow Joe Pye weed (<i>Eutrochium fistulosum</i>)	Bees, butterflies	6–8 ft
New England aster (<i>Symphyotrichum novae-angliae</i>)	Bees, butterflies, moths	3–6 ft
New York ironweed (<i>Vernonia noveboracensis</i>)	Bees, butterflies, moths	5–8 ft
Threadleaf coreopsis (<i>Coreopsis verticillata</i>)	Bees, butterflies	2–3 ft



Butterfly weed



Blazing star



Black-eyed Susan



New England aster



Goldenrod

DON'T FORGET THE HUNGRY CATERpillARS

If you want to attract butterflies and moths to your garden, you'll need to feed their caterpillars. Be prepared for some munching, but the end result will be well worth the sacrifice. Keep in mind, too, that birds need caterpillars to feed their young.

BUTTERFLY/MOTH	CATERPILLAR FOOD PLANT
Hummingbird moth	Weigela, honeysuckle, viburnum, black cherry, hawthorn
Black swallowtail	Fennel, parsley, cilantro
Monarch	Milkweeds
Baltimore checkerspot (<i>rare</i>)	Turtlehead, beardtongues
Tiger swallowtail	Black cherry, ash, common lilac, tulip poplar
Luna moth	Walnut, hickory, sweet gum, paper birch
Cecropia moth	Maple, birch, apple, boxelder, plum, lilac
Zebra swallowtail	Paw paw
Eastern tailed blue	White clover, redbud
American copper	Common sorrel, sheep sorrel



Cecropia moth



Black swallowtail



Monarch



Luna moth

PLANT TREES AND SHRUBS FOR BEES (AND OTHER POLLINATORS, TOO)

Trees and shrubs are an important source of food and habitat for bees and other pollinators. The next time you choose a shrub or tree to plant in your yard, try one of these flowering beauties.

SHRUBS
Blueberry (<i>Vaccinium</i> spp.)
Chokeberry (<i>Aronia</i> spp.)
Elderberry (<i>Sambucus</i> spp.)
New Jersey tea (<i>Ceanothus americanus</i>)
Pinxterbloom, pink azalea (<i>Rhododendron periclymenoides</i>)
SMALL/MEDIUM TREES
Eastern redbud (<i>Cercis canadensis</i>)
Red buckeye (<i>Aesculus pavia</i>)
Serviceberry (<i>Amelanchier</i> spp.)
LARGE TREES
Black cherry (<i>Prunus serotina</i>)
Oak (<i>Quercus</i> spp.)
Red maple (<i>Acer rubrum</i>)
Tulip poplar (<i>Liriodendron tulipifera</i>)



Blueberry



Red buckeye



Black cherry

Planning a Pollinator Garden

- ✿ Get your soil tested. Go to extension.umd.edu/hgic and click on soil testing information.
- ✿ Choose plants that are naturally adapted to your garden's soil conditions. Other factors to consider include light, moisture, and drainage.
- ✿ Most flowering plants need lots of sunlight, and many pollinators need the warmth of the sun to become active. Plant your garden where it can get at least six hours of sunlight a day.
- ✿ Plant a wide selection of native flowering trees, shrubs, and plants with different heights and growth habits. Include at least one species of native grass.
- ✿ Choose flowers in different colors, shapes, and sizes to attract different pollinators.

- ✿ Aim to have at least three different species of flowering plants in bloom from early spring to late fall.
- ✿ It's okay to mix some annuals with perennials when establishing your garden, but don't plant flowers that have been bred for their showy blossoms. Plants with double flowers and fancy petals often have less nectar and pollen.
- ✿ Plant a variety of herbs including rosemary, mint, basil, parsley, sage, and lavender.
- ✿ Allow crops such as broccoli, mustard, and kale to bloom.
- ✿ Avoid fertilizers—most native plants are hearty and do not require additional nutrients.

- ✿ Pesticides and herbicides are dangerous to pollinators and should only be used with extreme caution. Never spray pesticides when plants are in bloom and pollinators are present.
- ✿ Use straw mulch to provide hiding places for pollinators.
- ✿ Place rocks and untreated dried logs drilled with holes in the garden to provide nesting sites for bees and other pollinators.
- ✿ Provide water for pollinators. Place a small, flat butterfly dish in the garden with several small stones for perching. Mud puddles, too, provide important minerals for butterflies and bees.
- ✿ Plant a cover crop in the fall.