Attracting Pollinators to Your Landscape

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Adapted from OSU, 10 Minute University Series and Dr. Gail Gail Langellotto, Oregon State University

Pollination & Pollinators

The National Academy of Sciences estimates one-third of human food and a greater portion of wildlife food comes from plants that require pollinators to produce fruits and seeds. Therefore, helping pollinators thrive yields tangible benefits for all of us.

Common pollinators include birds, bees, butterflies, moths, flies, and beetles. Around our gardens, honey bees and hummingbirds might be the most noticeable. However, native wild bees, including bumblebees, mining bees, mason bees, sweat bees, leafcutting bees, and carpenter bees make invaluable contributions. Native bees are prolific pollinators -- better able to tolerate colder and wetter weather compared to honey bees -- they become active earlier in the spring and work longer hours each day.

Recent Threats to Pollinators

Habitat Loss: As wildlife habitats are converted for other uses, it destroys pollinator's food sources and homes.

Pesticides: Bees, butterflies, and most other insects are susceptible to pesticides. Exposure can kill, or gradually weaken the ability to fly, forage, and produce young. Many organic and synthetic pesticides can harm pollinators and decrease pollen and nectar sources.

Invasive Species: Some introduced plants take over natural areas and displace native plants that provide a diversity of food resources and habitat types for native pollinators.

Ways to Help Pollinators

Provide Food with Flowering Plants Spring through Fall

Flowers provide nectar (sugar) and pollen (protein) for pollinators and their young. Because different pollinators may have different food preferences (see table below), variety is important. Recent research shows that areas that include 15 or more species of flowering plants increase bee diversity. Gardeners who want to conserve bees should strive to, as a general rule, provide a minimum of three species of blooming plants at any given time spring through fall. Place like flowers together to catch the attention of passing pollinators.

General Flower Characteristics for Pollinators

Flower	Bee	Butterfly	Bird	Fly
Color	Bright white, yellow, blue	Orange, red, purple	Orange, red, white	Pale, dull to darkbrown, purple
Shape	Shallow, landing platform, tubular	Wide landing pad, narrow tube	Large funnel-like, strong perch support	Shallow; funnel-like or trap-like
Odor	Fresh, mild, pleasant	Spicy, none	None	Putrid
Nectar	Usually present	Ample, deeply hidden	Ample, deeply hidden	Usually absent

Source: Gail Langellotto, Oregon State University.

Include spring-blooming plants so that early-season, native bees have an immediate food source upon emerging from winter dormancy. Plant late summer bloomers to fuel bees that over-winter as adults (i.e., bumblebees).

Provide Nesting Habitats for Native Bees

Many native bees nest in the ground. A patch of bare soil or a dry bed of sparsely planted ornamental grass clumps are ideal. Covering soil with plastic mulch or frequent rototilling can destroy nests. Other bees nest in abandoned beetle tunnels in dead tree trunks or brush piles. Ideal nesting areas are dry, warm, protected from predators, and are close to food sources.

Provide Host Plants for Butterflies and Moths

Adult butterflies and moths usually prefer to feed on nectar, but their young feed on plant leaves. This "host plant" is where the adult lays its eggs. Native, ornamental trees and shrubs often are great host plants for many species.

Use Native and Exotic Plants

Native plants are fantastic host plants for butterflies and moths and provide food for other pollinators. However, home gardeners who favor exotic plants, particularly floriferous annuals and smaller perennials, should not hesitate in using them to maintain a long-season of blooms in the garden.

Avoid Pesticides

At first sign of plant distress, collect evidence for a proper diagnosis. Understanding the problem is requisite to taking effective action. Many plant problems, when detected early, can be managed through non-chemical means. So be vigilant in the garden.

Before using systemic pesticides, particularly on plants visited by pollinators, think twice about the benefits relative to the drawbacks. Systemic pesticides protect plant leaves from pests, and can be transported in small doses to nectar and pollen. Plant-feeding caterpillars or nectar and pollen collecting bees can be harmed when feeding on plants protected by systemic pesticides. If pesticides must be used, follow label instructions so that it is applied at the right concentration, under suitable weather conditions, to the correct part of the plant, etc. To protect pollinators, don't treat blooming plants, including weeds; stay away from nesting areas; and spray in the cooler parts of the day, such as at dusk or in the evening, when most pollinators are less active.

PLANTS FOR POLLINATORS

Bees – Attracted to white, yellow, or blue flowers that are open, shallow or tubular (at different lengths), full of nectar, moderate pollen, cannot see red colored flowers

Butterflies – Attracted to flowers that form wide landing pads in orange, red, purple, deeply hidden nectar source They need host plants (for caterpillars) and nectar plants for adults. See University of Idaho Kootenai County Extension Handout "Butterflies of Kootenai County"

Hummingbirds – attracted to tubular-shaped red flowers, strong support for perching, abundant nectar source, moderate pollen

Beetles – White, yellow to pale green colored flowers, bowl-shaped flowers, open during the day, fruity scented flowers

Moths – Want flowers open during the evening and nighttime hours, dull in color and clustered, tubular-shaped flowers

Flies – Putrid smelling flowers, flowers are funnel-like or complex-type traps

Wasps – Many beneficial wasps are incredible pollinators and have needs similar to bees. Yellow Jackets and Hornets are usually secondary pollinators since they are predators and meat-eaters. They are considered beneficial due to the amount of insects they control in our landscapes.
Ants – Low growing plants with inconspicuous flowers, the flower must be close to the stem
Bats – Flowers open at night, large in size, pale or white in color, very fragrant, copious amounts of nectar
Unusual pollinators around the world: Lemurs, possums, lizards, geckos

TREES AND SHRUBS

Genus	Common Name	Bloom Season
Acer circinatum	Vine maple	Spring
Amelanchier	Serviceberry	Spring
Arbutus	Madrone	Spring
Ceanothus	California lilac	Spring, Summer
Holodiscus discolor	Ocean spray	Summer, Fall
Mahonia	Oregon grape	Spring
Malus	Apple	Spring
Physocarpus capitatus	Pacific ninebark	Spring
Pyrus	Pear	Spring
Rhododendron	Rhododendron/azalea	Spring
Ribes	Flowering currant	Spring
Rubus	Thimbleberry	Spring
Sambucus	Elderberry	Spring
Spiraea douglasii	Douglas spiraea	Spring, Summer
Vaccinium	Huckleberry	Spring

PERIENNIAL PLANTS

Genus	Common Name	Bloom Season
Achillea	Yarrow	Summer, Fall

Camassia quamash	Camas	Spring
Delphinium	Larkspur	Spring, Summer
Echinacea	Echinacea	Summer, Fall
Eriogonum	Buckwheat	Summer
Erysimum	Wallflower	Summer
Helianthus	Sunflower	Summer, Fall
Hyssopus	Hyssop	Summer
Lavandula	Lavender	Summer
Lupinus polyphyllus	Lupine	Spring, Summer
Origanum	Oregano, Marjoram	Summer
Nepeta	Catnip	Summer, Fall
Penstemon	Penstemon	Spring, Summer, Fall
Perovskia atriplicifolia	Russian sage	Summer, Fall
Prunella vulgaris ssp lanceolata	Self-heal	Spring, Summer, Fall
Rosmarinus	Rosemary	Spring
Salidago canadenses	Goldenrod	Summer, Fall
Sedum	Sedum	Summer
Symphyotrichum subspicatum	Douglas aster	Fall

ANNUAL PLANTS

Genus	**Common Name**	**Bloom Season**
Borago	Borage	Spring, Summer
Clarkia gracilis	Clarkia	Spring, Summer
Eschscholzia	California poppy	Spring, Summer
Limnanthes douglasii	Douglas' meadowfoam	Summer
Ocimum	Basil	Summer

Phacelia	Phacelia	Spring

SHRUBS, ANNUAL AND PERENNIAL PLANTS

Genus	Common Name	Bloom Season
Aquilegia	Columbine	Spring
Dianthus barbatus	Sweet William	Spring, Summer
Dicentra	Bleeding Heart	Spring
Fuchsia	Fuchsia	Spring, Summer, Fall
Lobelia cardinalis	Cardinal Flower	Summer, Fall
Penstemon	Beard Tongue	Spring, Summer
Ribes	Flowering Currant	Spring
Salvia	Salvia or Sage	Summer, Fall

VINES

Genus	Common Name	Bloom Season
Campsis	Trumpet Vine	Summer
Lonicera	Honeysuckle	Spring, Summer
Phaseolus spp.	Scarlet Runner Bean	Summer

Sources:

Selecting Plants for Pollinators;
http://www.pollinator.org/PDFs/Guides/NorthRockyMtForestStepperx4FINAL.pdf
Adapted from Oregon State University 10 Minute University Handouts “Attracting Pollinators to Your Garden” and “Plants for Pollinators”
https://www.fs.fed.us/wildflowers/pollinators/animals/ants.shtml

OSU and Other Resources

Xerces Society Pollinator Conservation Resource Center, www.xerces.org/pollinator-resource-center/#
How to Reduce Bee Poisoning from Pesticides, PNW 591, www.extension.oregonstate.edu/catalog
National Pesticide Information Center, 1-800-858-7378, http://npic.orst.edu/contactus.html
Plants for Pollinators, 10-Minute University™ publication, www.cmastergardeners.org
Your Idaho Master Gardeners of Kootenai County 208-446-1680

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