Pollinators

By Alix Foster
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Who they are and their importance

Pollinators are more than bees, butterflies and hummingbirds. They are all of the animals that move pollen between flowers, including moths, wasps, flies, beetles, and some bats. In fact, beetles were among the first insects to visit flowers. Some of our local pollinators will be familiar to you, others may not.

- Birds: Anna's hummingbird, Rufous hummingbird
- Bees and wasps: Bumble bees, mason bees, leaf-cutter bees, honey bees, wasps
- Butterflies: Puget blue butterfly, western tiger swallowtail, spring azure butterfly
- Flies: Hover fly, mosquito, house fly, dance fly, small-headed fly
- Beetles: Soldier beetle, soft-winged flower beetle, tumbling flower beetle, long-horned beetle, false blister beetle, some click beetles

For a more complete list of local butterflies and moths, go to https://www.butterfliesandmoths.org/checklists where you can search for Skagit County local species.

Why are pollinators important?
Pollinators are almost as important as sunlight, soil and water to the reproductive success of more than 75% of the world's flowering plants. They play a key role in our ecosystem and are an essential link in agriculture. They are critical to the production of many of our food crops, including most fruits and vegetables. According to the Farm Service Agency, "Animal pollinators, especially bees, are critical for producing more than one-third of our food products. In fact, bee-pollinated commodities account for $20 billion in annual U.S. agricultural production …" They also provide nutrition in the form of seeds and fruits for many wild animals, both large and small.

What is pollination?
Pollination is the means by which plants reproduce. It generally occurs when pollen grains from a flower's male parts (anthers) are transported to the female part (stigma) of the same species. After landing on the stigma, the pollen grain grows a tube that runs down the part of the flower called a style to the ovary, where fertilization occurs and seeds are produced. Most plants cannot set seed without being pollinated. While wind and water can also move pollen, most plants depend on pollinators to transport pollen.

Plants produce nectar to attract pollinators. As pollinators collect nectar from one flower, some of the pollen grains attach to their legs, abdomen, and/or other body parts. When the pollinator

moves to the next flower, the pollen grains are likewise transported, some of which are then deposited in that flower.

Other plants produce scents that attract pollinators. For example, scents associated with beetle pollination are often spicy, sweet, or fermented.

Longhorn beetles are one of many species that can help in the pollination process. *Photo by Virgene Link-New / WSU Skagit County Extension Master Gardeners.*

What can you do for pollinators?

Providing wildflower-rich habitat is the most significant action you can take to support pollinators. Sunny spots are best for most pollinator-friendly plants.

- Native plants are often the best sources of nectar and pollen for native pollinators and can serve as larval host plants for some species of pollinators.
    - Choose a variety of colors and shapes to attract a range of pollinators.
    - Choose plants with bloom times from early spring to late fall.
    - Plant in clumps rather than single plants.
    - Encourage combinations of annuals and perennials.
- Habitat for nesting, resting, egg-laying and larval food is important to keep pollinators around.
    - Choose a diversity of plants from shrubs, tall grasses, to low-growing plants.

    - Keep some fallen branches and brush in places in your garden.
    - Provide small patches of bare ground.
    - Tolerate damage to leaves and flowers caused by the pollinators.
- Avoid pesticides and herbicides. Chemicals in these products can kill butterflies and beneficial insects in both their adult and larval stages—either directly through exposure or indirectly through foraging pollen and nectar and taken back to the hive. Systemic insecticides are suspected of playing a role in pollinator declines. Herbicides, while normally not directly lethal to insects, can reduce plant diversity and thus essential pollen and nectar for pollinators.
- Provide a water source. Butterflies often congregate on wet sand or mud to drink water and extract minerals from the damp puddles. Many people are familiar with birdbaths, but remember to give birds, as well as bees and other insects, a landing pad so that they can drink the water from the bath.

Where can I go for additional information?

- "Hummingbirds and How to Attract Them": https://www.nwf.org/Garden-for-Wildlife/Wildlife/Attracting-Birds
- "Butterflies and How to Attract Them": https://www.nwf.org/en/Garden-for-Wildlife/Wildlife/Attracting-Butterflies
- "Native Plants for the Lively Garden in Puget Sound Country", Seattle Audubon Society: http://www.birdweb.org/sas/Portals/0/Conservation/Urban_Habitat/Neighborhood_Greening/Seattle%20Audubon%20Native%20Plant%20list.pdf
- "Encouraging Beneficial Insects in Your Garden", Gail Gredler, Oregon State Extension: https://catalog.extension.oregonstate.edu/pnw550
- "Beneficial Insects, Spiders, and Other Mini-Creatures in Your Garden: Who They Are and How to Get Them to Stay", Washington State University Extension, at https://pubs.extension.wsu.edu/beneficial-insects-spiders-and-mites-in-your-garden-who-they-are-and-how-to-get-them-to-stay-home-garden-series
- "Farming for Pollinators", Xerces Society for Invertebrate Conservation and USDA-NRCS (2005): https://www.xerces.org/publications/brochures/farming-for-pollinators

Soldier beetles are one of several beetle varieties that aid in pollination. *Photo by Virgene Link-New / WSU Skagit County Extension Master Gardeners.*

RESOURCES:

- *"Beetle Pollination",* U.S. Forest Service, U.S. Department of Agriculture, at https://www.fs.fed.us/wildflowers/pollinators/animals/beetles.shtml

- *"Attracting Pollinators to Your Garden"*, U.S. Fish and Wildlife Service (August 2011), at https://www.doi.gov/sites/doi.gov/files/fws-attracting-pollinator-to-your-garden.pdf

- *"Pollinator Plants: Maritime Northwest Region,"* Xerces Society for Invertebrate Conservation (2014) at https://xerces.org/publications/plant-lists/pollinator-plants-maritime-northwest-region.

- *"Agroecological Strategies to Enhance On-Farm Insect Pollinators"*, adapted from Nicholls and Altieri (2013) at https://www.sare.org/Learning-Center/Books/Manage-Insects-on-Your-Farm/Text-Version/Recent-Advances-in-Ecological-Pest-Management/Agroecological-Strategies-to-Enhance-On-Farm-Insect-Pollinators.

- Park, Mia G. *et al*., "*Negative effects of pesticides on wild bee communities can be buffered by landscape context*," Proc Biol Sci. 2015 Jun 22; 282(1809): 20150299, at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4590442/

- "*Four Principles to Help Bees and Butterflies: Pollinator Conservation*", Xerces Society for Invertebrate Conservation (2016).

- "*Attracting Butterflies*", National Wildlife Federation, at https://www.nwf.org/en/Garden-for-Wildlife/Wildlife/Attracting-Butterflies.

Note: some hyperlinks in this article have been updated since its initial publication.