

Native Bees in Your Garden

By Kathryn Lindsay
June 10, 2016

Putting the most effective pollinators to work

What images come to mind when you hear the word “bee”? Honey bees? Bumblebees? For most of us, our primary bee experience is with honey bees (*Apis mellifera*) that were introduced to North America by European colonists about 400 years ago. They have been an important economic concern over the years, providing honey, beeswax and, more recently, pollination for many commercial crops. Long before the arrival of honey bees, however, there were already many native bees here doing a good job pollinating.

Worldwide, there are about 20,000 native bee species on every continent except Antarctica. In North America, there are some 4,000 species of native bees; of those, nearly 870 species are found in the Pacific Northwest.

In addition to pollinating native plants, native bees are recognized as important pollinators for specific agricultural crops. The alkali bee pollinates alfalfa, the blue orchard bee pollinates fruit trees, and bumblebees are used in greenhouses to pollinate tomatoes. Native bees contribute greatly to healthy ecosystems, helping to sustain and balance the interdependency of plants and animals.

More than 200,000 plant species worldwide depend on animals for pollination. About 75% of these animals are insects, including ants, bees, butterflies, moths and wasps. Pollination is needed by plants for developing uniform, well-shaped fruits and vegetables and producing seeds to grow more plants. About a third of the food we eat depends on pollination from insects.

Bees are the best pollinators. For millennia bees have developed mutually beneficial relationships with flowering plants within their individual ecosystems. Flowers invite bees to visit them with specific enticements such as colors, scents and shapes. Bees deliberately visit flowers to gather both pollen and nectar to feed their offspring. Their hairy bodies are built to collect and carry pollen. Some bees have pollen baskets on their hind legs (*corbiculae*); others have special hairs on their abdomens (*scopae*) that carry pollen. To help bees effectively and efficiently transfer pollen between flowers, they generate an electric charge that helps hold the pollen as they travel.

Most native bees are considered “solitary” bees. They are not “social,” like honey bees that live in large colonies. Each solitary female builds and provides for her own nest without help from other members of her species. Groups of solitary bees, called aggregates, are like a bunch of single moms living in an apartment building.

About 70% of our native bees are ground nesters who look for a patch of bare soil in a dry, warm, sunny location where they can tunnel in to build their nests. Others are wood nesters, making homes in dead snags, hollow stems or tunnels left by beetles.



PHOTOS COURTESY OF VIRGENE LINK

Honeybees are one of the many types of bees vital to pollination.

Bumblebees look for abandoned rodent nests or clumps of grass for nesting. Some of our natives, like the mason bees, are visible for only a few weeks while they pollinate specific crops. The rest of the year they are hibernating.

As we know from the news media, honey bees are in trouble. This translates to all of our pollinators, including native bees. Among the many threats to pollinators is loss of habitat. It is estimated that in Washington State 35,000 acres of wildlife habitat is lost to housing developments each year.

Big Agriculture with its practices of mono-cropping and heavy pesticide use has added to the demise of many species. Diseases and parasites are problems, but scientists warn that climate change also affects insects negatively. Any effort we make to slow or reverse these situations is vital for the future of bees.

Providing flowering plants for bees is a good place to start. Choose nectar- and pollen-rich trees, shrubs and flowers. Native plants are an excellent choice; heirloom flowers and herbs are also good. Select a wide diversity of plants, overlapping blooms from late winter until frost. Many native bees, especially bumblebees, are active long before honey bees emerge in the spring and remain busy until cooler weather arrives.

Winter-blooming heather is a good start for bumblebees. Have at least three different species blooming at all times. Group three to five of the same species together rather than planting single plants here and there. Include different shapes and colors of flowers. Bees are generally attracted to yellow, white, pink and purple flowers.

Bee species have different tongue lengths, so providing open, flat flowers like daisies and asters will allow those with short tongues easy access. Bees with longer tongues can feed from more complex flowers like lupines, penstemon and lobelia. Consider leaving some dandelions and clover for forage. Hybridized ornamentals with layers of petals won't provide much food for pollinators. Many resources are available online or at your local library for lists of plants suitable for your area.



A yellow-fronted bumblebee brings pollen to flowers and other plants.

It is advantageous to have nesting and foraging opportunities close together. Bigger bees might fly a mile for food or nesting materials, medium sized bees 400 to 500 yards and smaller bees no more than 200 yards. Tolerating a bit of scruffiness can also benefit your bee environment. Leave some bare soil without mulch, dead branches and hollow stems to accommodate different nesting styles. Bumblebees often nest in a clump of dead grass over the winter. As with other wildlife, bees appreciate a source of clean water.

Finally, remember that pesticides are very harmful to bees—use them only as a last resort. Learn more about integrated pest management (IPM) to enhance your stewardship of bee habitat. Bees benefit us in a variety of ways. We need to do our part to ensure that they can continue to contribute to a healthy ecosystem.

RESOURCES:

- “Pollination and Protecting Bees and Other Pollinators,” Home Garden Series Bulletin FS174E (ext.wsu.edu) written by Timothy Lawrence, Island County WSU Extension.
- Attracting Native Pollinators Protecting North America’s Bees and Butterflies, The Xerces Society Guide. Edited by Deborah Burns, Story Publishing, 2011.

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