



Bee-Friendly Backyards

Over 430 species of bees can be found in Maryland, and many need our help! Native bee populations have been on the decline across the United States. You can help native bees by making your backyard more bee-friendly with the following tips.

1. Plant Natives. Native plants have co-evolved with native pollinators. For maximum diversity, you should plant a bee buffet that offers nectar and pollen throughout the year. Some early blooming plants that are excellent choices for bees include black willow (*Salix nigra*), Canada serviceberry (*Amelanchier canadensis*), golden Alexanders (*Zizia aurea*), high bush blueberry (*Vaccinium corymbosum*), and wild columbine (*Aquilegia canadensis*). The most attractive mid-season blooming plants are sweet pepperbush (*Clethra alnifolia*), swamp milkweed (*Asclepias incarnata*), early goldenrod (*Solidago juncea*), and culver's root (*Veronicastrum virginicum*). Attractive late-season plants include Canada goldenrod (*Solidago canadensis*), white meadowsweet (*Spirea alba*), and asters (*Symphyotrichum* spp.).

2. Don't Plant a Zoo. While it is tempting to plant lots of different flowering plants in your backyard, you may not attract bees if you only have 1 or 2 of each type of plant. It is best to plant in batches, so bees and other pollinators can visit multiple plants offering their favorite foods.

3. Maintain Habitat. Did you know that many native bees nest in open, sandy soils? Or that some bees use dead trees? Open, sandy soil, brush piles, old stumps, and dead flower stalks all can be important nursery habitat for nesting bees. Consider leaving these elements in your wildscape to entice future bees. You can also supplement these sites by building bee houses.

4. Limit Pesticide Use. Pesticides are often harmful to non-target critters like bees and butterflies. By limiting or eliminating pesticide use in your backyard, you too can help the bees! If pesticides have to be used, then try to select pesticides without neonicotinoids (like imadiclopid) for use on flowering plants. Be sure to properly apply pesticides and to target application to limit spread.

5. Support Research. There is still a lot to learn about our pollinators. You can help by supporting bee research initiatives and participating in citizen science projects. One project to note is Bumblebee Watch, a collaborative effort to track and conserve North America's bumble bees. You can take pictures of local bumble bees and upload them to the **Bumblebee Watch** website. For more information, check out the website: <http://bumblebeewatch.org/> Another great citizen science site is The **Great Sunflower Project** which has citizens documenting pollinators that visit their gardens. More information can be found here: <https://www.greatsunflower.org/>



Golden Alexanders (top; © Derek Ramsey, Wikimedia Commons) are great early nectar plants for bees!

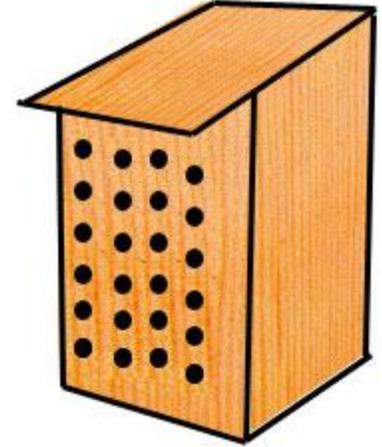
Ground-nesting bees like polyester bees require open, sandy soil for nesting (middle; Kerry Wixted)

Bumblebee Watch is a citizen science project focused on bumblebees (bottom; Richard Orr)

Build a Mason Bee House!

Mason bees (*Osmia* spp.) are also known as orchard bees. Unlike the European honeybee, native mason bees carry pollen on their bellies and nest in holes. These bees get their common name from using clay soil to make chambers in their nest holes. Mason bees are usually metallic green or blue in color, though many also are blackish.

Naturally, mason bees would nest in holes such as beetle tunnels in dying or dead trees and logs, rock crevices, and/or hollow centers of plant stems. However, you can also create this important nursery habitat in your own backyard by making bee nesting boxes. Mason bees are relatively docile and rarely sting unless significantly provoked.



Materials:

- Block of untreated wood or an old log
- Drill
- Roof (optional)
- Cardboard tubes w/ paper inserts (optional)

When creating a bee house, you should avoid using treated wood or cedar as both types can kill nesting bees. Drill holes 5/16" in diameter several inches apart in the wood block. The hole depth should go back at least 4-6", and the hole should not go through the back side of the block. Female mason bees will lay female eggs furthest back in the hole. A box that is too shallow will only produce male mason bees.

Make sure bores are smooth inside as rough holes will discourage nesting. Cardboard tubes with paper liners can be inserted in the holes as one nesting option. The advantage to using removable tubes is that they can be removed every season and replaced to limit possible parasites that may linger in the box.

Tips:

- Avoid purchasing and releasing mason bees- there are many natives in need of a home, and captive raised bees may accidentally spread disease
- Avoid spraying insecticides near box
- Install boxes in mid-March
- Keep a small, open patch of mud near the box for the female to use
- Place box at least 8" off the ground, in a sunny area with an east or southeast-facing entrance
- Place box near early-flowering plants
- Sometimes, other species of bees and wasps will use the nest boxes- this is okay- they need habitat too!
- Retire the box after 2 years to prevent heavy parasite loads or use removable paper liners



A female mason bee peers from a hole. The plugged hole on the right is a result of her handiwork. By Kerry Wixted