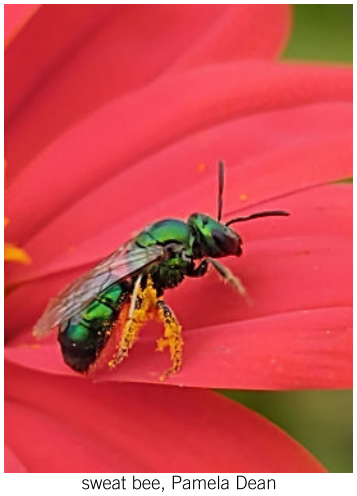
NATIVE BEE HABITAT

1. Learn
2. Create a flower-rich foraging area
3. Provide protection for nest sites
4. Eliminate pesticide use
5. Certify

1. LEARN

There are over 4,000 species of bees that are native to North America. To put that into perspective, there are four times as many bee species as there are birds north of Mexico, six times more bees than butterflies, and ten times more bees than mammals. Here in southern Arizona, we are fortunate enough to have one of the largest (if not the largest) diversity of native bees in the world!

Most commonly, when we think of a bee, we think of a European honey bee, whereas, in fact, honey bees are the minority. Rather than living in hives, almost all native bees live in the ground (~70%) or in cavities in wood (~30%), and instead of leading a social lifestyle with many individuals contributing to nest building, the majority of native bees work alone with the females building and provisioning their own nests, not making honey, and never meeting their offspring. Without a hive to defend, native bees are quite docile, rarely stinging unless truly provoked. They are the perfect guests to invite into your outdoor spaces.



sweat bee, Pamela Dean

2. CREATE A FLOWER-RICH FORAGING AREA

Native bees can be either generalist or specialist feeders. Specialist feeders will only visit the flowers of a certain family, whereas generalist feeders will visit many. To cater to both, plant a diversity of native plants.

CONSIDER DISTANCE:

The distance a bee is able to travel between its foraging and nesting sites is directly proportional to its body sizing:

- small bees = less than 200 yards
- medium bees = 400 - 500 yards
- large bees = 1 mile or more

Keep these distances in mind when creating your habitat. Most backyard gardens will suit all sizes of bees nicely.

PLANT A DIVERSITY OF FLOWERING PLANTS

In nature, flower-rich areas typically have 50 - 100 species of flowering plants. For smaller, urban gardens, as few as 10 carefully selected plants can provide ample forage opportunities for native bees.

PLANT FOR YEAR-ROUND BLOOMS

A diverse garden with native plants blooming throughout the year will provide food resources for bees through the seasons, which is especially important in times like winter and late summer when blooms can be sparse.

Take an inventory of the plants already in your garden and note when they are in bloom. This is a great way to catalog the months when your garden is providing forage and the months when blooms are absent or limited. With this information, you can now research and find native plants to add to your garden that fill any gaps in your bloom calendar.

SEINet[1] is a great resource for finding the bloom times of native plants.

3. PROTECTION OF NESTING SITES

For most native solitary bees, nesting sites are used as a place for both pupation and overwintering. About 70% of native bees nest in the ground where they need direct access to the surface of the soil to excavate and access their nests. The remaining 30% of native bees nest in cavities, which are typically in abandoned beetle tunnels, stumps, snags, and in the middles of woody stems and twigs.

[1] SEINet website: swbiodiversity.org/seinet

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GROUND-NESTING BEES:

Try your best not to disturb the ground near nests and by maintaining patches of bare ground. In your garden, don't cover all bare ground with bark chips or mulch, especially in sunny areas and south-facing slopes.

Ground-nesting bee nests, Jennie MacFarland

Agave stalk used by cavity-nesting bees, Jennie MacFarland

CAVITY-NESTING BEES:

Cavity-nesting bees prefer standing snags and dead wood. To protect these natural nesting sites, leave them as long as they don't pose a threat to people or structures.

4. ELIMINATE PESTICIDE USE

Pesticides, especially neonicotinoids (systemic insecticides) commonly used in nurseries, can be fatal to insects as well as the animals that feed on them. The systemic chemicals found in neonicotinoids are absorbed into the plant, thus contaminating the pollen, nectar, and soil. Neonicotinoids persist long after the initial application and are continually taken in by plants. Avoiding plants treated with pesticides is the best way to provide beneficial habitat and food for native bees.

TRY THESE NATURAL PEST CONTROL METHODS INSTEAD:

- Grow native plants that do well in our region. Healthy plants are less likely to attract pests and will likely survive an infestation.
- Create an environment that will promote healthy plants.
- Grow companion plants.
- Attract helpful garden predators.

5. CERTIFY YOUR NATIVE BEE-APPROVED HABITAT

Once you have completed your habitat, email habitat@tucsonaudubon.org to receive your certification sticker.

RESOURCES

Field guide to the common bees of Western North America:

- Common Bees of Western North America, Olivia Messinger Carril and Josepth S. Wilson

How to build your own native bee nesting block:

- tucsonaudubon.org/habitat/resources

Purchase a native bee nesting block at our Nature Shop:

- https://tucsonaudubonnatureshop.com/

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