

## Bee Conservation

To anyone who has ever been stung by a bee, the idea of actively attracting bees may raise hackles. But a closer look at bees proves that enhancing habitat for native species presents many benefits and poses no harm.

### Bees vs. Wasps

People are generally stung by wasps, like yellow jackets or hornets, or by honey bees, a non-native species brought to the New World by Spanish conquistadors. These species live in hives or colonies, so contact with them can create a swarm of trouble. In contrast, most of the more than 4000 species of native bees in the United States are solitary, non-threatening creatures. Our native bees play a critical role in pollinating the majority of flowering plants.

### Why Protect Bees?

About two-thirds of plants need insects or other animals to pollinate them, and bees are the most important pollinators. On a typical foraging trip, a female bee may visit hundreds of flowers. She will eat the energy-rich nectar to power her flight, and collect pollen and nectar to take back to her nest to provide food to her offspring. As the bees forage, pollen is moved between plants. Without this exchange of pollen female plant ovules will not be fertilized and neither seed nor fruit will develop.

Research evidence is overwhelming that wild pollinators are declining around the world. Chief causes include fragmentation and loss of habitat, pesticide use, and changes to plant communities from different land management or invasion by exotic species.

### Getting Started

To conserve native bees on your property, you must focus on providing two key aspects of bee habitat: native plants for nectar and pollen, and nesting sites. No special equipment or protective clothing is needed when working with native bees and encouraging native bees will not create any threat to people unlike the honey bee. Honey bees are a social species, therefore they create hives. Providing nesting sites for native bees, which are mostly solitary species will not attract non-native honey bees.

### Provide Food

Adding native plants that are rich in nectar and pollen is the best way to attract and sustain bees. Simply plant native flowers in existing gardens or borders. On golf courses, non-play areas are ideal sites for naturalizing and will provide larger foraging sites. As an added benefit, native plants will also attract wildlife like butterflies and birds, make your property more attractive, and reduce long-term maintenance.



*"If the bee disappears from the surface of the earth, man would have no more than four years to live." -Albert Einstein.*

Fortunately, there are simple things you can do to help bees thrive on your property. Not only will habitat enhancements benefit bee species themselves, they will add beauty and diversity to your landscape and provide a valuable ecological asset to your community.

### Tips:

- ❑ **Transplant.** In most situations, the best way to enrich habitat is by planting pre-grown transplants. Controlling weeds and watering during the first growing season are particularly important.
- ❑ **Diversify.** Bees need nectar and pollen from early spring through fall, so try to ensure that there is a diversity of local native plants with a range of flowering times in the habitat.
- ❑ **Choose native.** Some good bee plants include: yarrow, golden rod and wild mint. Shrubs to plant include; salmonberry, grape, and willow.



*This hoverfly is very similar to a bee, but notice it does not have any hairs or antenna and has very large eyes.*

### Provide Nest Sites

There are several simple ways in which nesting sites can be made for bees. Many of these mimic natural features that bees prefer, though not all will be suitable for your site. There are two primary types of nest that you can make: ground nests and wood nests.

The location of the nest sites is important. Bees like warm conditions, especially in the morning so that they can become active earlier. Shelter nests from the worst weather with the entrance facing east-southeast.

### Tips and Techniques:

- ❑ **Logs and Snags** - Get some logs or old stumps and place them in the wildlife garden or naturalized habitat patches you've created. Drill holes at least 4" deep and 3/32" to 3/8" diameter into the logs. Leave dead tree snags standing when they don't pose a safety hazard, to keep natural nest sites for bees.
- ❑ **Nesting Blocks** - Bee nesting blocks can be made from blocks of lumber at least 4" by 4" and 8" long. In one side of the block, drill lots of holes 3/32" to 3/8" diameter and almost all the way through the block. This block can be fixed to a stake or tree in a sunny, preferably eastward facing spot.
- ❑ **Bare Ground** - Simply clear the vegetation from a small area (about 6' by 6') and compact the soil. A few rocks placed in the cleared area will improve it by adding basing places and help warm the soil. Where possible create bare areas on south facing slopes or banks. Choose dry, well-drained ground for ground-nesting bees.
- ❑ **Sand Pits and Sand Piles** - If you have lots of room, dig a sand pit about 12' square and 4' deep and fill it with fine-grained white sand. Or build up a sand pile about the same size.



*Mounting bee boxes such as this mason bee box can provide valuable shelter.*

### BEES VS. WASPS AND FLIES

- Bees are furry, wasps are long and slender.
- Bees feed on nectar and pollen.
- Wasps are predatory and have taken a liking to human food.
- Native bees are not aggressive, wasps are.
- Bees have 4 wings, flies have 2.
- Bees have smaller eyes than flies.
- Bee antenna are thicker than the antenna of flies.