

How to Help Our Native Bees

Save the Bees has become a rallying cry to help declining bee populations but although the sentiment is well-intentioned it often leads to misunderstanding about where and what the real problem is.

Despite what the phrase may suggest, there are many more types of bees than the ones that spend all summer filling their hives with honey. In fact, social bees such as the **European honeybee and the Nevada Bumblebee make up only about 25% of all bee species.**

Most bee species are solitary bees who spend their days collecting pollen and nectar for their own young. These are **the bees that are responsible for most pollination**, ensuring the reproduction of thousands of flowering plant species and crops.



Solitary Leafcutter Bee on Fireweed / Sally Banks

A complete loss of native solitary bees could be devastating to our ecosystems and plant biodiversity. Because they are not widely used for honey and agriculture and much less well known, many assume “save the bees” refers to social honeybees who have a very stable population due to their use as livestock and adaptations to the introduced European crop species.

What are the challenges and issues facing native bees?

Although many different factors can contribute to population declines among a wide variety of bee species in Alberta, there are **several main contributors**—perhaps the largest of which is **the loss of biodiversity in flowering plants.**

Agriculture has converted most large sections of land into **monocultures**, many of which do not flower. **Flowering crops such as canola** are extremely abundant in Alberta but they have a **limited blooming period** and many solitary bees are active beyond this window. Additionally, native solitary bees often prefer and depend on certain flowers so monocultures often leave them struggling.



Bumblebee on Twining Honeysuckle / Sally Banks

Habitat loss is another challenge native bees are facing. In contrast to honeybees and bumblebees, solitary bees do not build hives. Instead, **they live in tunnels in the ground or trees** in which they lay their eggs with a ration of pollen and nectar for when their young hatch the next spring.

As more land has become cultivated and developed, the spaces these bees used to rely on are disappearing. With no place to live, native bees' range has become more and more restricted. Other factors like **pesticides, climate change, and competition with non-native bees** also have their part in the declines of native solitary bee populations. All these challenges are what we must help solitary bees overcome.

This recent increase in awareness and motivation to help has led many people to search for ways they can aid solitary bees in their own homes and gardens.

One of the most popular ideas is a **bee hotel or bee house**. A bee hotel is a box with a collection of wooden tubes of different sizes that bees can use as nesting holes, laying their eggs and storing their pollen and nectar. They are easy to construct, take up very little space, and can make for pleasant decorations around the yard and garden.



Solitary Sweat Bee on Dandelion / Sally Banks

However, **recent science has come to question the effectiveness of these hotels**. Despite their widespread promotion as a very positive thing for bees, no formal research had been done on how these bee hotels actually affect solitary bee populations.

A group of researchers in Toronto performed a study in which they placed bee hotels throughout Toronto and collected data on their residents over the course of 3 years. Their results showed that **wasps and non-native bees made up most of the occupancy of these hotels**, with the wasps being the only category that increased in population over the study period.

Additionally, the researchers hypothesized that the **bees were at a greater risk of parasites and novel disease crossovers due to the unnaturally high density of nests**, as well as the unique species making up of these hotels.

This study has brought into question what was widely considered a very safe and key part of the strategy to help native solitary bees.



Bee Hotel in Paris / Wikipedia Commons /Sailko

However, **this study is not definitive, and it leaves many questions unanswered** such as the possibilities of constructing the hotels with size constraints on the tubes to select for specific species, or alternative designs that mitigate some of the issues uncovered by this study. This does not necessarily mean it's time to tear down a bee hotel if you have one, but it may be worthwhile to take a closer look to see if it's doing what you intend it to do.

So, what *is* the best way to help?

One way is by ***naturalizing* a portion of your yard or garden**. Naturalizing means attempting to **mimic a natural environment** that favours solitary bees. It could mean planting **native wildflowers**, leaving **stumps or dead logs** for nesting sites, and leaving some **bare dirt** so bees can burrow into the ground.

By **having a diversity of wildflowers**, you ensure that food will be available for the entire active season and for multiple species of bees as they do have preferences. Ultimately the goal is to **give native bees a low-stress environment** where the resources they need are readily available.



Bumblebee Carrying Pollen / Sally Banks

There's plenty of room for our understanding of native bees to grow. If you'd like to help, I encourage you to research organizations such as the [Alberta Native Bee Council](#) and the [Native Pollinator Initiative](#). You'll find information here on [how to create a native bee sanctuary](#).

Growing awareness and diligent research—together with the efforts we make as individuals—will help ensure native bees have a future in Alberta.

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