

Gardening For Native Bees

An Introduction

When most people think pollinators, they think bees. But you don't have to jump on the honeybee-keeping bandwagon in order to fill your garden with pollinators - instead, you can choose to **nurture our populations of native and naturalized bees**. It isn't hard to do, it's very affordable, and these bees are specifically adapted to our climate, so you'll be helping out animals that were here already and are well adapted to your yard.

Most people don't realize that there were no "*honey bees*" in the Americas until the European settlers brought queens and starter hives from Europe. These resourceful insects have managed to escape domestication, forming swarms and setting up in hollow trees, cavities or anywhere else they fancy. They still do this today, although where we live in northern Canada it is simply too cold for them to survive through the winter without help from people in a domestic situation.

But North America has its own native pollinators: not just many species of native bees, but also butterflies, flies, wasps, birds and bats. These animals have been doing all the pollination on this continent since well before the arrival of Europeans from the Old World. They continue to do a great deal of it, especially when it comes to native plants. However, they are under threat from a variety of the same dangers that affect all wildlife.

By choosing to help out the Native bees, you are making big steps to preserve our native ecology!

Facts about Native Bees

Native Bees are an unappreciated treasure, with around 4,000 species (from tiny striped *leafcutter bees* to large *carpenter bees* and *bumble bees*) native to North America. Here in Canada, we have about 2000 individual species! Native bees will be found literally anywhere where flowers bloom. You may think you have none - but trust us, they're there: many of the native species will look nothing like our idea of a traditional bee. Some are solid shiny black or green, some have no stripes or very little fur, and many are extremely tiny. Some look like wasps or flies. Most do not live in hives, but instead are solitary foragers. Bee diversity is huge! So always think twice before killing that unknown bug - it may just be a bee!

Specifically in Alberta, we have 5 different *families* of bees, in 30 different genera, totaling some **300 species**. Our bee groups include the familiar bumblebees (*bombus*), the colorful mining bees (*andrenid*), digger bees (*anthophorid*), sweat bees (*halictid* - so named because of their habit of landing on us to lick our sweat), the leafcutting bees (*megachilid*), and plasterer bees (*colletes*).

Why Native Bees?

A major advantage of native bees is that many are more efficient pollinators than the foreign honeybees. Honeybees won't forage when it's rainy or cloudy, while many native bees still will. Native bee species are active earlier in the morning than honeybees, and bumblebees even have a special trick: they use "buzz pollination," which is a practice of vibrating or buzzing against the stalk so that the pollen falls off more easily. This works great for plants like tomatoes! Ecosystems have different bees for different things: for instance, honey bees are not able to pollinate alfalfa - only leafcutter bees can. This specialization means that for certain periods of the year, plants rely exclusively on native bees instead of honey bees.

Regardless of their lifestyle, all bees need three things: access to undisturbed habitat for building nests and nurseries to raise young (such as deadfall, disturbed soil, shelter beds, compost and or debris piles), a place for the adults to hide (much the same), and flowers for pollen and nectar. Bees are incredibly resourceful at finding interesting places for nests; bumblebees for instance will often settle in rodent holes, while other species will nest under or around building foundations, and even inside dried up raspberry canes. The more your yard resembles a wild habitat, the more wildlife you will attract: and this includes bees.

Why You Should Care about Bees:

1/3 of the human diet is made up foods produced by insect pollination, and 80% of that is done by domesticated bees. Because we work so closely with honey bees and their hives, they are very well understood and researched: we know a lot more about the populations of honey bees than we do about native bees. We protect them from predators, pesticides, and habitat loss. However, we don't do this with wild bees: it's safe to theorize that they face more threats than their domestic counterparts.

Pesticides, spreading of parasites and disease, competition from invasive species (including honeybees), foreign predators, and loss of habitat are all contributing to the decline of our garden allies. Residential, industrial, and agricultural developments - even car windshields! - are all at fault. As gardeners, it's hard for us to accept that our beautiful groomed lawns and gardens may be less pollinator-friendly than a vacant lot or an unkempt ditch down the street. But it's the hard truth: exotic species, grass lawns, manicured yards, and uniform plantings may please our eyes, but they are a wasteland for bees and native butterflies. If you have the privilege of green space in your life, please consider some gardening practices for native bees!

Simple Steps You Can Take:

There are 2 big tips for aspiring bee keepers:

1. Stop using chemicals. Bottom line! Encourage beneficial insects such as isopods and worms, and use compost or manure instead. *Pesticides and herbicides cannot be used in or near your bee habitat.*

2. Diversify your yard and garden. Pollinators need variety! Log piles, debris or compost heaps, and unkempt shrubbery all attract pollinating insects. Building a "pollinator lodge" or "bee hotel" is a great and attractive way to simulate this (there is tons of inspiration on google!)

Enhancing life for native bees (and other pollinators):

1. Plant some flowers. Consider focusing on native species - our bees are most happy with the flowers they have co-evolved with over millions of years. Some **native plants** you could include:

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| -prairie crocuses | -prairie aster, smooth blue aster |
| -fireweed | -great flowered gaillardia |
| -black-eyed susans | -buffalo bean |
| -giant hyssop | -clematis |
| -bee balm | -lemon mint |
| -western wood lily | -pearl or white/bridal veil yarrow |
| -wild Alberta rose! | -wild raspberry, saskatoon, or other berries |
| -although introduced, dandelions are widespread and an important early food source. | |

2. Plant a broad range of blooms that last throughout the whole growing season - especially in the early spring when not a lot of other blossoms are out. Some examples of early spring flowers:

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| -lupines | -clover |
| -prairie crocus | -tall larkspur |
| -buffalo bean | |

3. Maintain wet, muddy spots in your garden. Bees need moisture.

4. Offer more than just food: your yard could be their home too. Many native species nest in tunnels in rotten wood or in the ground. Consider losing your lawn and planting a variety of plants in disturbed soil. Provide debris like logs, stumps, branches or compost piles in corners of your yard, or go upscale and build a "Pollinator Lodge."

The most common bees for people to see in the garden are mason bees, leafcutter bees, and bumble bees.

You can purchase mason & leafcutter bee cocoons which will hatch and can be released into your yard, and tube nurseries for them to raise the next generation from our website or others, but bumble bees are wild and will nest in disturbed soil in your yard. None of these bees are likely to sting as long as you don't harass them, and the longer you spend among the garden guardians outside the more you'll realize how gentle these creatures are as they can go peacefully about their business.

Enjoy nurturing the bees!

There are loads of great resources for pollinator gardening online. Just make sure to filter for our specific climate: we have a very long, cold winter in Alberta, with a comparably short growing season. The information you read from a gardener in say, California or New York, will not necessarily apply to us.

Butterfly Wings N' Wishes respectfully acknowledges that we operate on Treaty 6 territory, a traditional gathering place for diverse Indigenous peoples whose histories, languages, and cultures continue to influence our business, our way of life, and our community.

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