



Pollinators

...what's the Buzz?

'The process of pollination keeps the verdant world, that delicate film of life around us known as the biosphere, running with endless cycles, feedback loops, and checks and balances...This intrafloral commerce by the birds and the bees is what makes the living world go round on its reproductive cycle.'

-Stephen Buchman and Gary Nabhan, The Forgotten Pollinators

Our home and native bees

What is the first thing that you think of when you think of a bee? Black and yellow stripes? Big stingers? Purveyors of honey?

What you may not know is that the honey bee is imported from Europe. Bees native to Canada do not produce honey like honey bees. But native bees, which live in both rural areas and big cities, provide something that is invaluable--the service of pollination.

'Intrafloral commerce' in the city

Pollination is the movement of pollen grains between flowers that leads to plant reproduction. Worldwide, 88 per cent of plants depend on pollinators for fertilization. With the help of friendly pollinators, plants are the cornerstones of ecosystems. They form the base of the food chain, anchor soil to prevent erosion, and fuel the nutrient cycle by decomposing and absorbing nutrients. In essence, our planet is supported on the wings of bees and other pollinators.

Food security

Native pollinators are as essential to wild flowering plants as they are to cultivated crops. In fact, one-third of what we eat – things like apples, chocolate, coffee and almonds – depends upon pollinators.

In economic terms, the value of pollination for Canadian food crops has been conservatively estimated at \$1.2 billion a year. Research has shown reduced crop yields as pollinator diversity declines. This suggests that a robust community including numerous bee species and other pollinators is necessary for sustaining local agricultural production and ensuring local food security.

Native Bees

There are many different types of pollinators, from butterflies to hummingbirds to bats. In Canada, native bees are the most common pollinators and have striking differences from the European honey bee.



European Honey Bees	Majority of Canadian Bees
<i>Black and yellow</i>	<i>Come in a wide range of colours</i>
<i>Live in hives</i>	<i>Live in the ground</i>
<i>Live in colonies</i>	<i>Are Solitary</i>
<i>Sting</i>	<i>Don't sting</i>

Pollinator Decline

The decline of European honey bees has been widely documented in recent years around the world. Lesser known is the fact that native bees in North America are also thought to be declining. The primary threats that they face are habitat loss and degradation, such as the conversion of natural areas to subdivisions, big-box stores and sterile lawns. Pesticide use also contributes to the decline of bees and other pollinating insects. The rusty-tinged bumblebee and the yellow-banded bumblebee are two native bee populations known to be declining in Canada.

Ecosystem Services—a new way of seeing things

Healthy ecosystems provide Canadians and their environment with ecological services that are often invaluable and hard to replicate through artificial methods. Examples of ecosystem services include: water purification, carbon sequestration, climate regulation and nutrient cycling. In Canada, many of these services are in jeopardy due to the degradation of ecosystems. Pollination is one of these services. Our lives depend upon the successful regeneration of plants, and the majority of plant regeneration in turn depends upon pollinators (primarily bees). If sufficient habitat is not maintained and restored to support native bee populations, Canada could face a biodiversity crisis.

The good news is that bees and other pollinators don't require much area for nesting and foraging. This means actions you take can make a huge difference.

What can you do?

- Create your own pollinator-friendly garden using a wide variety of native flowering plants.
- Eliminate pesticide use.
- Encourage your local council to implement pollinator-friendly policies and to maintain and enhance pollinator habitat.
- Encourage local clubs or school groups to build pollinator habitats such as butterfly gardens and bee blocks.
- Support agriculture enterprises with pollinator-friendly practices such as farms that avoid or minimize pesticide use.
- Encourage government agencies to take into account the full economic benefits of wild pollinators and their habitat when formulating policies for agriculture and other land uses.

“The evidence is overwhelming that wild pollinators are declining...Their ranks are being thinned not just by habitat reduction and other familiar agents of impoverishment, but also by the disruption of the delicate ‘biofabric’ of interactions that bind ecosystems together.”

- E.O. Wilson.

For more info visit:

www.davidsuzuki.org/conservation/pollinators



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Foundation

DID YOU KNOW?

Even low levels of pesticides CAN affect bee longevity, memory, navigation and foraging abilities.

More than 800 types of native bees call Canada home.

Bees that nest in the ground improve soil quality. Their tunneling improves soil texture, increases water movement around roots, and mixes nutrients into the soil.

*BEE Sure to thank
Pollinators for:*

Apples

Peaches

Melons

Pumpkins

Cucumbers

Mustard

Canola

Alfalfa

Coffee

