



# Yellowknife's Project Plan Bee

## Observing Bees and Pollinators in Canada's Northern Region

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*Aurora borealis over Yellowknife Back Bay*

Yellowknife is located in Canada's beautiful Northwest Territories, known for incredible views of the aurora borealis, rugged boreal landscape, and extremely cold winter temperatures. But what a lot of folks might not realize traveling so far north is how amazing the bee world is up here. There are approximately 110 bee species native to the territory. Various species of bumble bees are a common sight, as they are particularly good at surviving cooler temperatures and demonstrate their incredible resilience by hibernating for over 9 months of the year when temperatures dip down to  $-50^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$ ).

Unfortunately, there are currently three bumble bee species at risk in the Northwest Territories, including the western bumble bee (*Bombus occidentalis*), the yellow-banded bumble bee (*Bombus terricola*), and the gypsy cuckoo bumble bee (*Bombus bohemicus*).

There is also a general need for more research on northern bees and pollinators. This is where Project Plan Bee comes into play. At Pollinator Partnership Canada, our work in Yellowknife started in 2021 with federal grant funding from Environment and Climate Change Canada's (ECCC) Habitat Stewardship Program.

**The goal of our project is to learn more about the native flowers and bumble bees, specifically at-risk species, and other native pollinators that are around Yellowknife, through community science.** Our main objectives are to gain an understanding of 1) the critical food resources needed for survival by at-risk bumble bees, 2) the current local occurrences of these bee species, 3) the stewardship capacity to protect



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these listed species and their ecosystems, and 4) to increase community engagement and knowledge about bees and pollinators.

One of the special aspects of this project is being able to conduct summer field work in Yellowknife. With almost 24 hours of sunlight in the summer months and the welcoming sight of the midnight sun, bees and flowers take over the landscape, maximizing their time in the warmth and abundance of light.



Perplexing Bumble Bee  
(*Bombus perplexus*)



Frigid Bumble Bee  
(*Bombus frigidus*)



Yellow-Banded Bumble Bee  
(*Bombus terricola*)



Cryptic Bumble Bee  
(*Bombus cryptarum*)



Fuzzy-Horned Bumble Bee  
(*Bombus mixtus*)



Heath Bumble Bee  
(*Bombus jonellus*)



Orange-Rumped Bumble Bee  
(*Bombus melanopygus*)



Yellow-Fronted Bumble Bee  
(*Bombus flavifrons*)



Yellowish Cuckoo Bumble Bee  
(*Bombus flavidus*)

Field work involves observing patches of wildflowers around town, recording all bee and pollinator occurrences on those patches of flowers, and then uploading each observation to iNaturalist for species identification and location data. The great thing about our community science approach to field work is that it makes it easy for anyone to participate. Every picture uploaded to our iNaturalist page helps improve our data all while helping us better understand specific plant-pollinator interactions and the diversity of bee species each type of native flower attracts.

**After two field seasons, we are currently up to over 800 documented bee and pollinator observations with 72 different species identified.** Seen in the pictures to the left are some of the main bumble bee species

recorded in our project so far, including important observations of the at-risk yellow-banded bumble bee. Other pollinators observed include many species of native solitary bees, butterflies such as the striking Canadian tiger swallowtail, energetic hummingbird moths, and flower flies that act as excellent bee mimics.

**Popular native flowers that attracted the most bee diversity included fireweed, prickly wild rose, shrubby cinquefoil, boreal sweet vetch, and common yarrow.** The great thing about Yellowknife is that the city keeps large patches of wildflowers blooming around town along roads and sidewalks all summer long, and therefore almost everyone intentionally, or unintentionally, has patches of flowers on their property that provide essential resources to the local pollinator populations. One of the coolest plants observed this summer was showy locoweed (*Oxytropis splendens*). This plant looks as if it should belong in a desert landscape

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but is in fact native to Canada. Going forward, we will be expanding our project to Yukon and Nunavut. We will be continuing with our community science work to increase the number of pollinator observations in Canada's north, as well as increasing awareness for these vital creatures and their ecosystems.

Thanks for reading about our work! **If you are interested in learning more about Project Plan Bee, visit our [website](#) or send our Project Lead Anthony Colangelo an email at [ac@pollinator.org](mailto:ac@pollinator.org).**



*Showy locoweed with leafcutter bee*

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