

# BARNYARDS & BACKYARDS



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## Lives of Wyoming's native bees might surprise you

### Jennifer Thompson delivers “the buzz”

I am working with a team to develop a pollinator guide for Wyoming. As an author and editor, I've been searching out scientific papers and other publications on pollinators – especially native bees. After reading about 100, I have learned a lot about this sometimes confusing, occasionally controversial, subject. Here is some of what I have discovered.

There's a lot we don't know! Especially about native bees in Wyoming. With increased interest and funding, however, we are gaining knowledge at light speed (perhaps not about native bees in Wyoming, but bees in general). In our region, there are folks at the University of Wyoming looking into various bee topics, and there is a very active bee research group with the U.S. Department of Agriculture Agricultural Research Service (USDA-ARS) in Logan, Utah. As is the nature of science, it will take a while for a clear picture to emerge on a variety of issues involving bees.

### Who's Out There?

The Wyoming Natural Diversity Database reports there are probably around 700 to 800 bee species in Wyoming (4,000 or more in North America). One recent study from southern Wyoming identified 34 genera of bees. Another reported

collecting more than 30 bee species from the flowers of one penstemon species (a wildflower) near Ten Sleep over 3 days from late May to mid June. That's a lot of bees!

### How do Bees Live and What are They Doing?

Our native bees tend to be classified by how they nest. Some nest in cavities. You can imagine honeybees (which are not native to North America) gone wild, nesting in tree trunks while other bees nest in hollowed plant stems with pithy centers, such as sumac. Probably the majority of Wyoming's native bees nest underground. Bumble bees sometimes nest above-ground but more typically create nests in abandoned rodent holes.

Most of our native bees are “solitary” ground nesters. Alkali bees are an often-noted example of solitary nesters. Because of their preference for hard-packed bare soil for nest sites, many females may crowd into a small area of ideal habitat. Each, however, builds her own nest. A single female bee emerges, mates, then digs an underground tunnel with “cells” (little oval rooms).

She forages on flowers and places a ball of pollen mixed with nectar or



*Indian Paintbrush*

other substances in each cell and lays one egg on it. She then seals off the cell. After she finishes the cells in her tunnel, mother time is over!

The eggs of solitary ground-nesting bees are left on their own to hatch, grow into grub-like larvae and feed on the pollen ball. When they are done growing, they pupate into adults that will emerge the next year. If you keep your eyes open and look closely at areas of bare soil, you may find the entrances to these tunnels – holes surrounded by small piles of excavated dirt.

The adults we see flying around don't live long. It seems most of these bees have an adult lifespan of only a month

or two above ground before they perish. Most of their lives are spent underground.

Again, these bees are solitary, unlike honeybees, which are highly social with a queen and thousands of bee workers of various types living in a hive, and bumble bees, which have a queen and 50 to maybe a couple hundred workers that perish at the end of the season. (Only new queen bumble bees survive the winter to create new nests the following year.)

Taking a “bee’s-eye” view helps us better understand the world of native solitary ground-nesting bees. They tend to be smallish – around the same size or smaller than honeybees. (Native bees in the U.S. generally

range from less than 1/4-inch long to more than 1 inch.) These smaller bees don’t appear to travel far when searching for nectar and pollen; average distances range from 50 feet to half a mile. They live in a micro-world compared with humans.

Our human values for ideas such as the “nativeness” or “non-nativeness” of a plant may not be of as much concern to them as pollen and nectar volume and quality. We’re still finding out!

**Pollinators are Fascinating**  
Go out when flowers are in bloom and take a look. (I find that snapping a pic with a camera or phone allows me to get an up-close view of who’s out there.) The solitary ground-nesters

are often hard to identify as to species, even by entomologists, so don’t get bummed if you can’t tell exactly who’s who when you are looking around – the looking is darned fun anyway!

And please look for our upcoming Wyoming pollinator guide for more great information on these amazing creatures.

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