Finding the Endangered Rusty Patched Bumblebee

By: Andrea Gruver

Over the summer of 2018, I had been conducting bee research around the City of Chicago to help us understand how cities may be impacting bees. I spent 32 days outside observing bees but there is one day in particular that will always stand out to me.

Bees today face a multitude of threats and have been declining around the world. This is what led me to do my research; I wanted to know exactly what bees we find in the city and what it is about those bees that allows them to survive in such harsh urban environments. When I was creating my research project, I heard about the rusty patched bumble bee (*Bombus affinis*), a bee that has been declining dramatically in recent years. Historically, the rusty patched bumble bee was abundant across the eastern United States, but due to habitat loss, pesticides, and disease, the rusty patched bumble bee is only found in 0.1% of its historical range. Many think the rusty patched may be near extinction. In 2015, the rusty patched bumble bee was the first bee species to be listed as federally endangered in the United States. I had been told that the chances of me finding a rusty patched bumble bee during my research were extremely slim, but I always thought about how amazing it would be if for some spectacular reason I came across one.

It was August 19th 2018, and my very last day of field work. Up to this point I had observed over 2,000 bees of 77 different species around Chicago, more than I ever imagined. I had one field site left to visit, Rogers Park. It was a perfect day for observing bees, the sun was out and there wasn't a cloud in the sky.

Between the Rogers Park Metra train station and the road, sits a small patch of lush green plants; this was my field site. It was not a beautiful pristine garden or prairie, yet I always saw lots of bees here. The bees always managed to find plants even when surrounded by the bustling city. After my field intern and I prepared our data sheets, I took my butterfly net out and began to net bees. I swooped my net over some blooming sweet clover and looked into my net. I caught a bumble bee, I suspected it would be a common eastern bumble bee—I always caught tons of those at Rogers Park. But as I looked in my net, I took a double take. There was a rusty orange patch on its abdomen. I paused in shock. It couldn't be a rusty patched, could it?

I called my intern over to take a look, he agreed, it had the famous rusty patch on its abdomen. I let the bee go, and it quickly returned to foraging for nectar on some nearby plants. I followed it taking photos in awe. It was what everyone said I wouldn't find, especially in the



city, but here it was. When I didn't think it could get any better, I saw another rusty patched bumble bee foraging on nearby sunflowers. Against all of the odds and all of the threats, these rusty patched bumble bees found everything they needed in this small weedy patch of flowers next to the train, and to me that was incredible. I left on that last day of field work with hope that maybe, just maybe, the rusty patched bumble bee might be able to make it in the big city.

If you would like to help the rusty patched bumble, you can plant native plants such as milkweeds, prairie clovers, coneflowers, bee balm, and blazing stars. If you think you see a rusty patched bumble bee you can report your sighting at <u>bumblebeewatch.org</u>.



Note: The above firsthand account provides a locally generated positive storyline for Illinois schools about the disappearing rusty patched bumble bee, its interdependence to prairie plants, and how its population is dramatically impacted from extreme habitat loss. There may be similar stories that can be found online for different areas of the country. If you are not in Illinois, consider choosing a local story about how a group or community has banded together to make a difference as 'community scientists' in order to save endangered or threatened plant and/or animal species for specific habitats.