

Chester Woods Park 2021 Bumble Bee Survey Summary

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Study objectives: Conduct state-wide bumble bee surveys to catalog imperiled species, including the rusty-patched bumble bee. We will use this data to generate habitat associations for bumble bees at the species level.

Survey dates: June 17, June 30, July 21, August 6, August 20, 2021

Methods: On our first two survey dates (June 17 and June 30), we surveyed the seed production area for 40 minutes and the remnant bluff prairie for 20 minutes. For the remaining survey dates, we only surveyed the seed production area for 60 minutes. We conducted visual surveys and recorded the species of every individual bumble bee we observed. We took photographs for species verification. No bees were harmed during our surveys. We captured individuals with a net, placed them in a plastic vial and cooled them down on ice for ~10 minutes to photograph them. We then warmed them back up in the sun and released them.

Survey results: We identified 10 bumble bee species throughout our surveys.

<i>Bombus</i> species	Common name	Count
<i>auricomus_pensylvanicus*</i>	Black and gold bumble bee, American bumble bee	15
<i>bimaculatus</i>	Two-spotted bumble bee	65
<i>borealis</i>	Northern amber bumble bee	3
<i>citrinus</i>	Lemon cuckoo bumble bee	2
<i>griseocollis</i>	Brown-belted bumble bee	55
<i>impatiens</i>	Common eastern bumble bee	32
<i>rufocinctus</i>	Red-belted bumble bee	67
<i>ternarius</i>	Tri-colored bumble bee	4
<i>vagans</i>	Half-black bumble bee	39
Total		282

**Bombus auricomus* and *B. pensylvanicus* are difficult to distinguish from one another in the field, so we grouped these two species together. Both species were present. Bumble bee species identifications were confirmed by taxonomist Zach Portman, University of Minnesota Entomology Department.

Species:

***Bombus auricomus* & *Bombus pensylvanicus* group**



Plant list:

- *Dalea purpurea*
- *Securigera varia*
- *Baptisia alba*

Bombus bimaculatus



Plant list:

- *Dalea purpurea*
- *Eryngium yuccifolium*
- *Monarda fistulosa*
- *Baptisia alba*
- *Lotus corniculatus*
- *Trifolium pratense*

Bombus borealis



Plant list:

- *Dalea purpurea*
- *Trifolium pratense*

Bombus citrinus



Plant list:

- *Solidago canadensis*
- *Trifolium pratense*

Bombus griseocollis



Plant list:

- *Dalea purpurea*
- *Eryngium yuccifolium*
- *Securigera varia*
- *Dalea candida*
- *Solidago canadensis*
- *Eupatorium altissimum*
- *Baptisia alba*
- *Lotus corniculatus*
- *Asclepias tuberosa*

Bombus impatiens



Plant list:

- *Dalea purpurea*
- *Securigera varia*
- *Solidago canadensis*
- *Trifolium pratense*

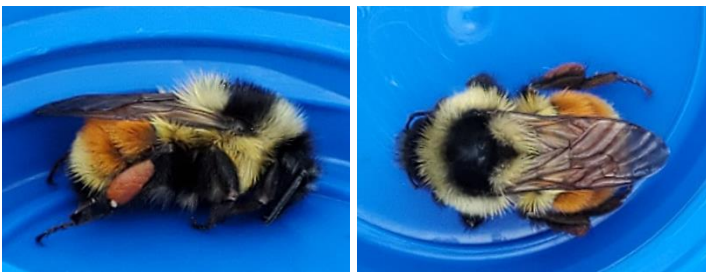
Bombus rufocinctus



Plant list:

- *Dalea purpurea*
- *Heliopsis helianthoides*

Bombus ternarius



Plant list:

- *Dalea purpurea*
- *Solidago canadensis*

Bombus vagans



Plant list:

- *Dalea purpurea*
- *Monarda fistulosa*
- *Eupatorium altissimum*
- *Solidago canadensis*
- *Cirsium discolor*
- *Baptisia alba*
- *Trifolium pratense*
- *Securigera varia*

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