



Wild Pollinators at Bridgeport Industrial Park Pollinator Pasture

Nicola Rammell

Simon Fraser University, Department of Biological Sciences

Objectives

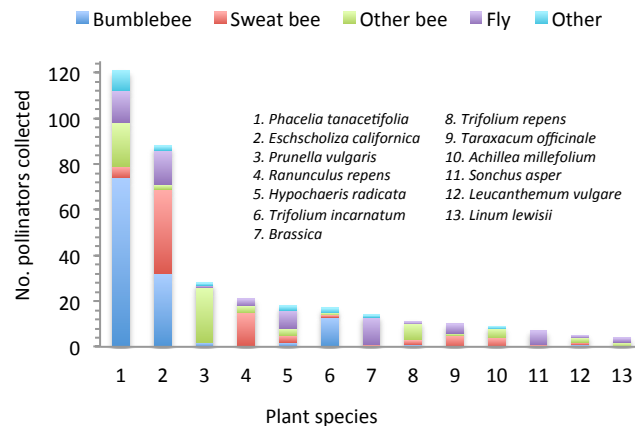
Recent declines in wild bee populations have been linked to habitat loss and fragmentation, which limit available nest sites and floral resources¹. Gardens and parks, shown to support a high diversity of pollinators², may provide these requirements. We investigated the following questions:

- (1) Which plants attract most pollinators?
- (2) Is relative abundance of plant species proportional to pollinators attracted?
- (3) Which plant-pollinator co-associations are present?

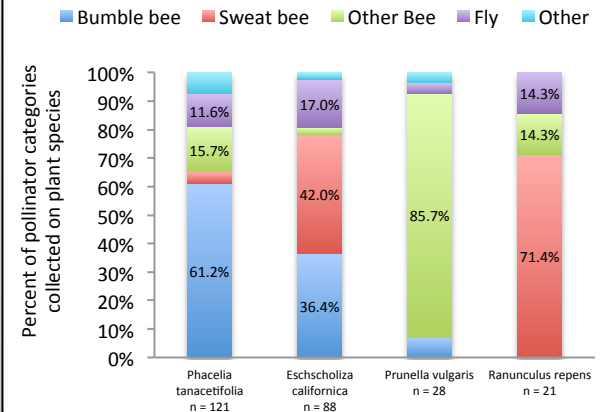
Methods

- We sampled wild pollinators at Bridgeport Industrial Park Pollinator Pasture established as part of the Bath Slough Revitalization Initiative
- Relative abundance of planted and volunteer flowers were estimated using log scale
- Two collectors surveyed pasture 7 times for a combined 1 hour per sample date, examining all plant species in bloom and catching floral visitors directly from flowers with hand nets
- With the exception of the managed honey bee, all netted pollinators were euthanized with cyanide tubes, pinned, and sorted

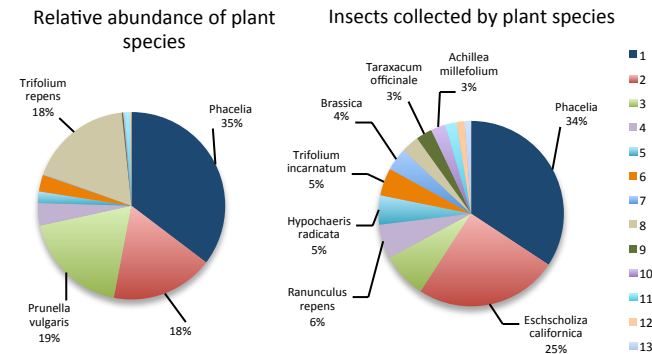
Plants differed in number of insects attracted



Plants differed in types of insects attracted



Insects attracted not proportional to relative abundance of plants species



Some species such as *R. repens*, *H. radicata*, and *T. incarnatum* attracted more insects than would be predicted by relative abundance while other species such as *P. vulgaris* and *T. repens* attracted less insects than would be predicted by relative abundance.

Conclusions

Planted species *P. tanacetifolia* and *E. californica* effectively attracted bumble bees and sweat bees, respectively. Many volunteer flowers attracted a proportionally large share of pollinators given their relatively low abundance, suggesting the presence of wild buttercups, clovers, and asters play a significant role in supporting pollinator communities. Plant-pollinator co-associations were observed between many species including *R. repens* and sweat bees; *T. incarnatum* and bumble bees; *T. repens* and other bees; and Brassica and flower flies. These results suggest that managers could choose specific plants to support specific components of pollinator communities.

References

- ¹ Wray, J. C., & Elle, E. (2014, November 26). Flowering phenology and nesting resources influence pollinator community composition in a fragmented ecosystem. *Landscape Ecology*, 30(2), 261-272.
- ² Winfree, R., Griswold, T., & Kremen, C. (2007, February). Effect of Human Disturbance on Bee Communities in a Forested Ecosystem. *Conservation Biology*, 21(1), 213-223.

