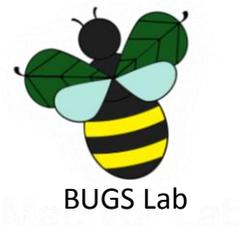


Native Bee Conservation and Diversity in The Meadoway



Dr. Scott MacIvor
Associate Professor
Sept 20th, 2023

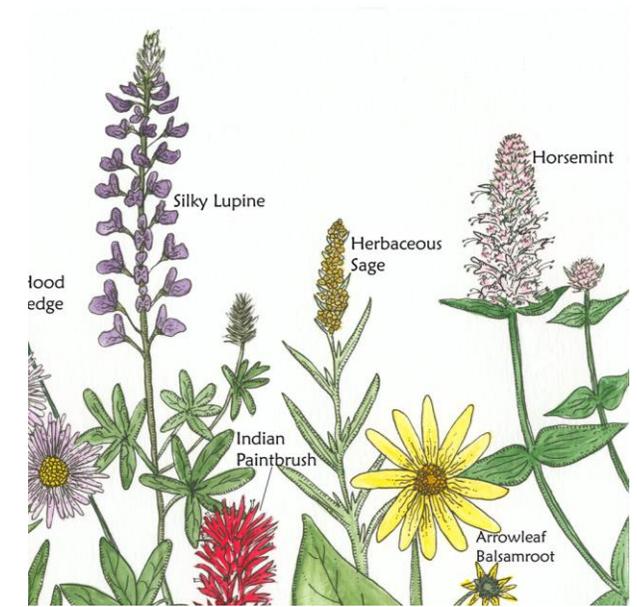
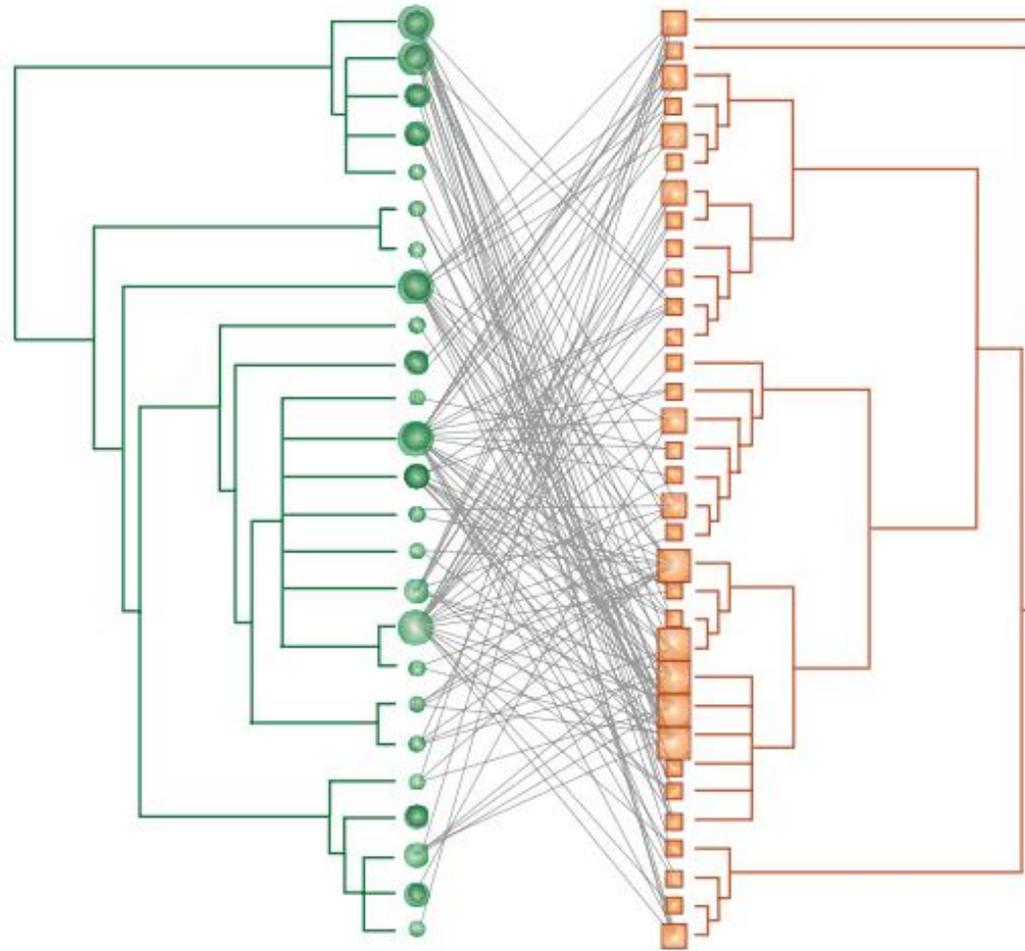


This talk..

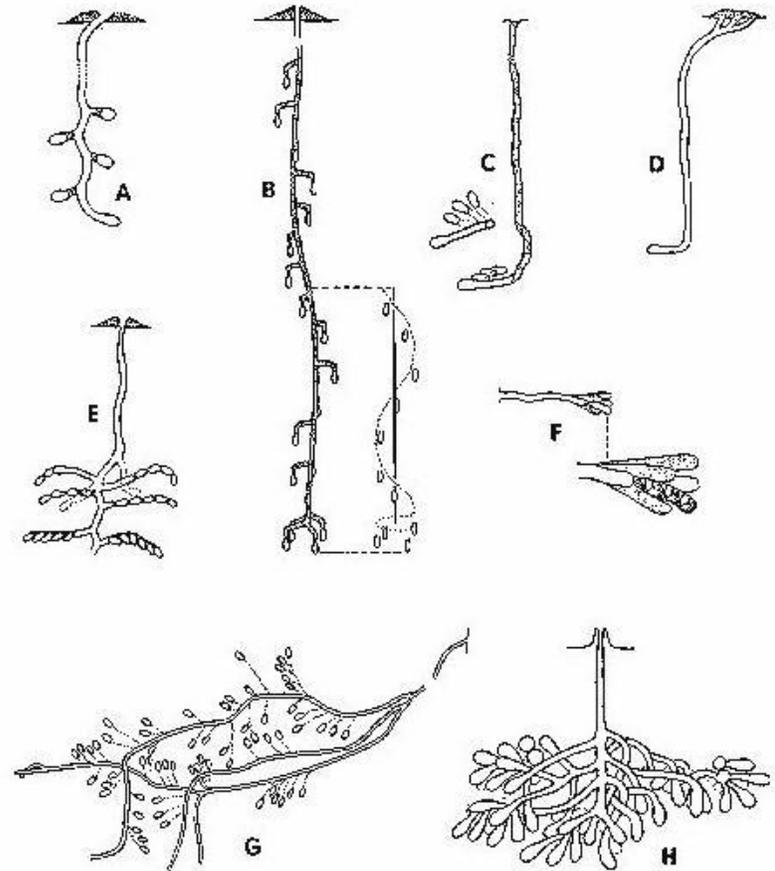
1. Bees in Toronto and why **wild bees** are important
2. **Research** findings from The Meadowway
3. Strategies to **support** native bees



Wild, native bees are **pollinators** and are **diverse**.



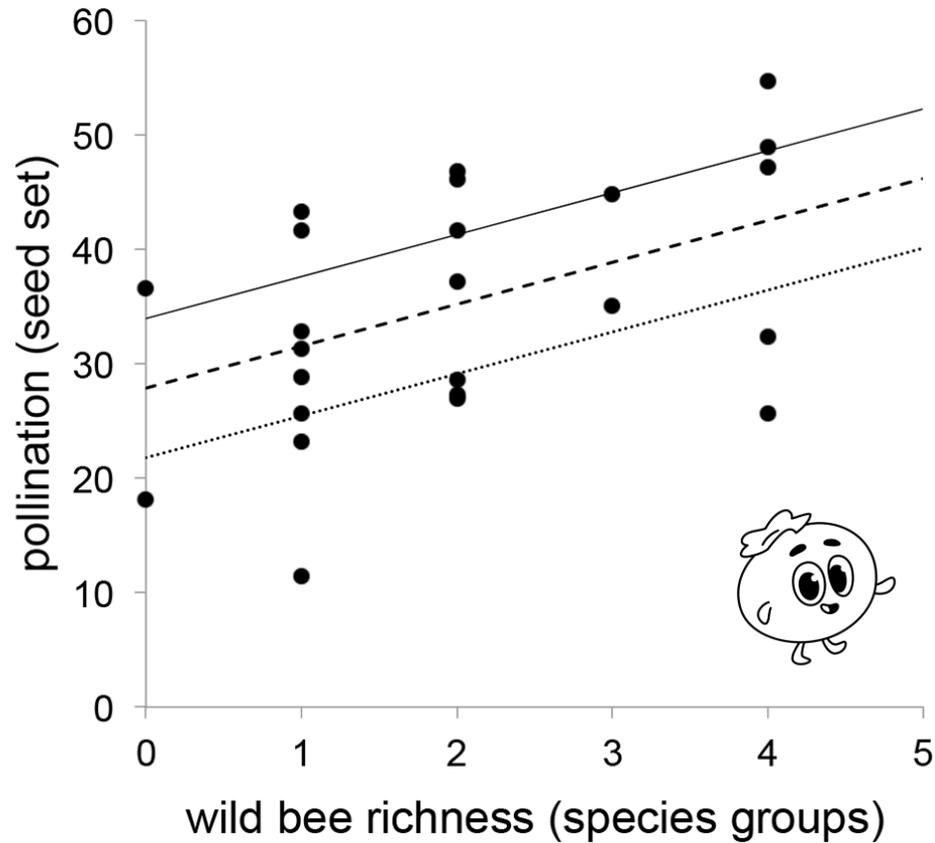
~75% of wild bee species nest **in the ground**



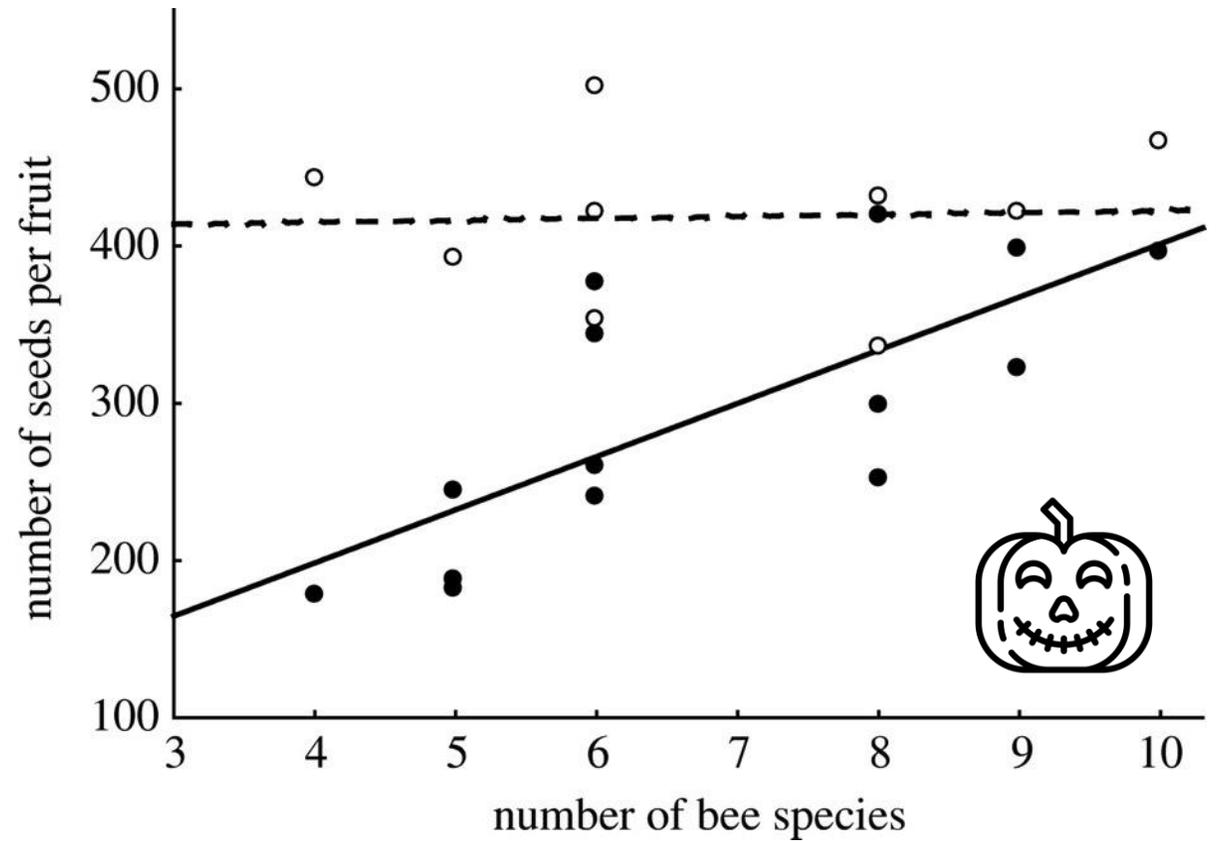
~25% of wild bee species nest **above the ground**



Wild bee diversity increases food production and quality

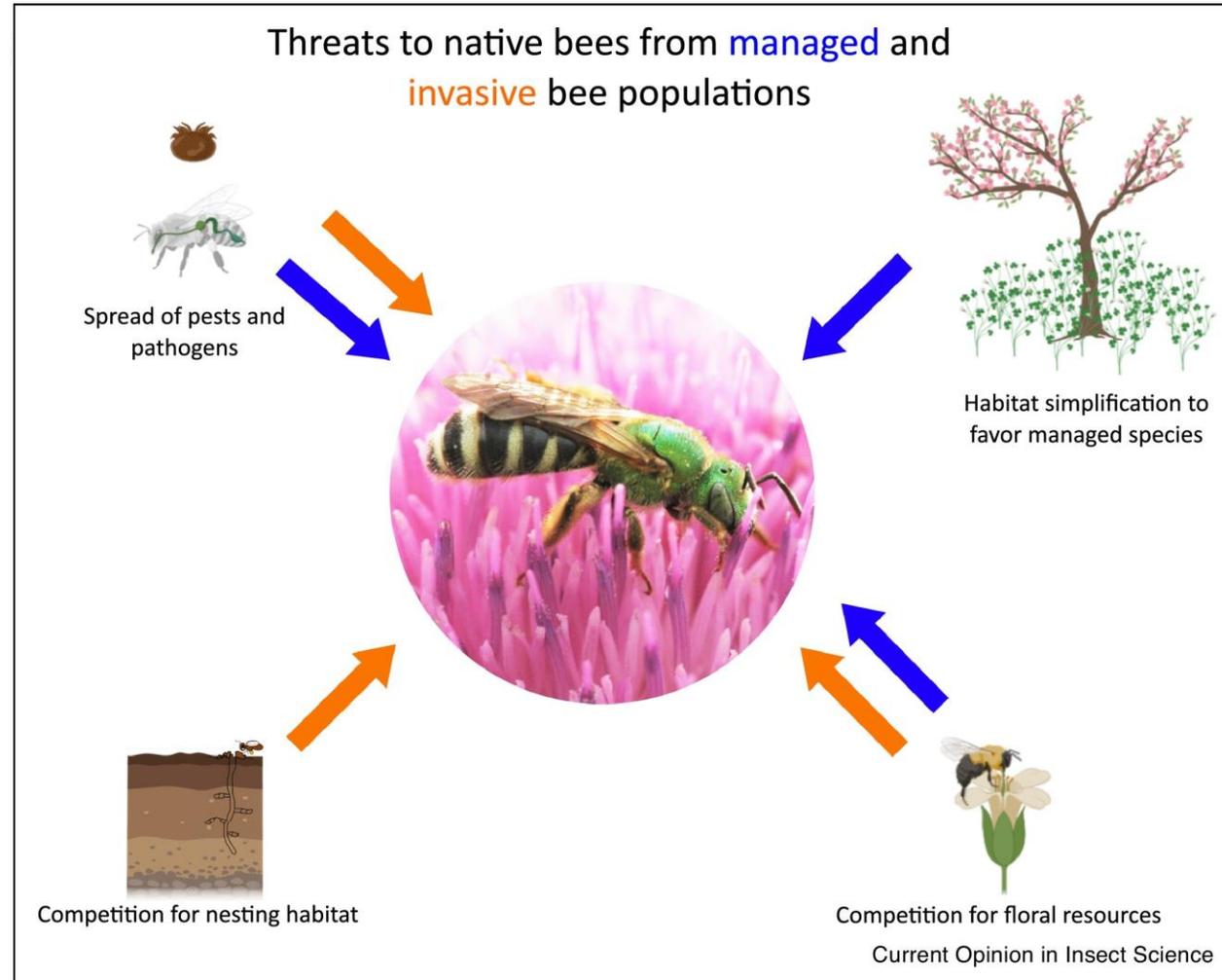
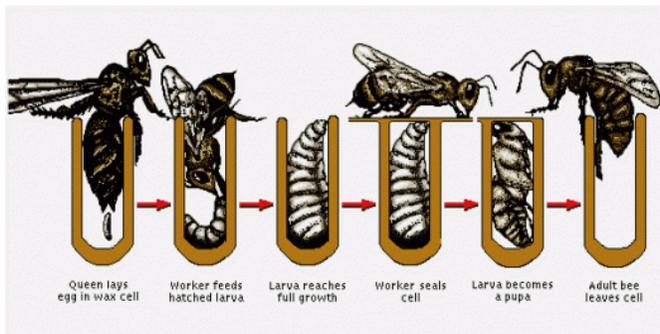


Rogers et al. (2014)



Hoehn et al. (2008)

Honey bees are not wild, native bees and impact conservation



Bees in Toronto: Research, Outreach, Arts and Science



Range expansions of invasive bees *Osmia taurus* (MacIvor et al. 2022)

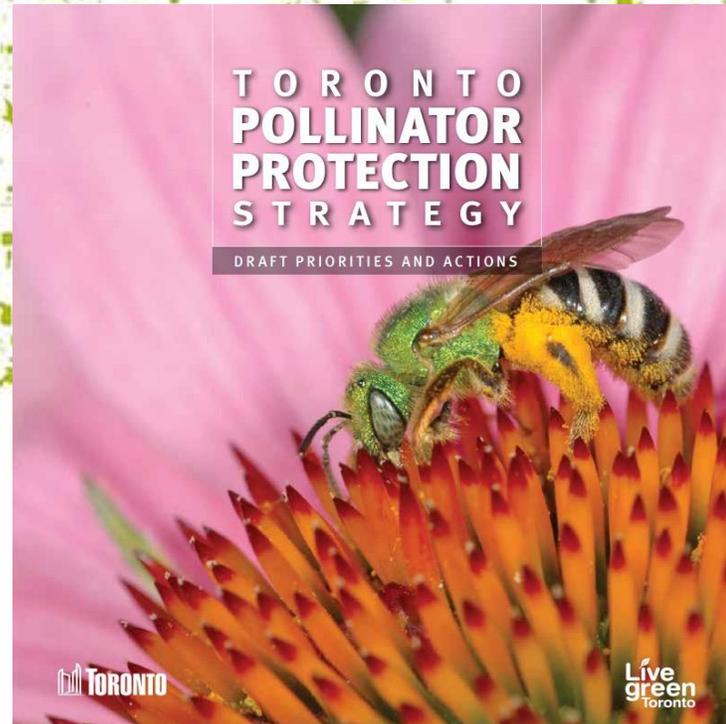


New species discovered *Lasioglossum ephialtum* (Gibbs, 2010)

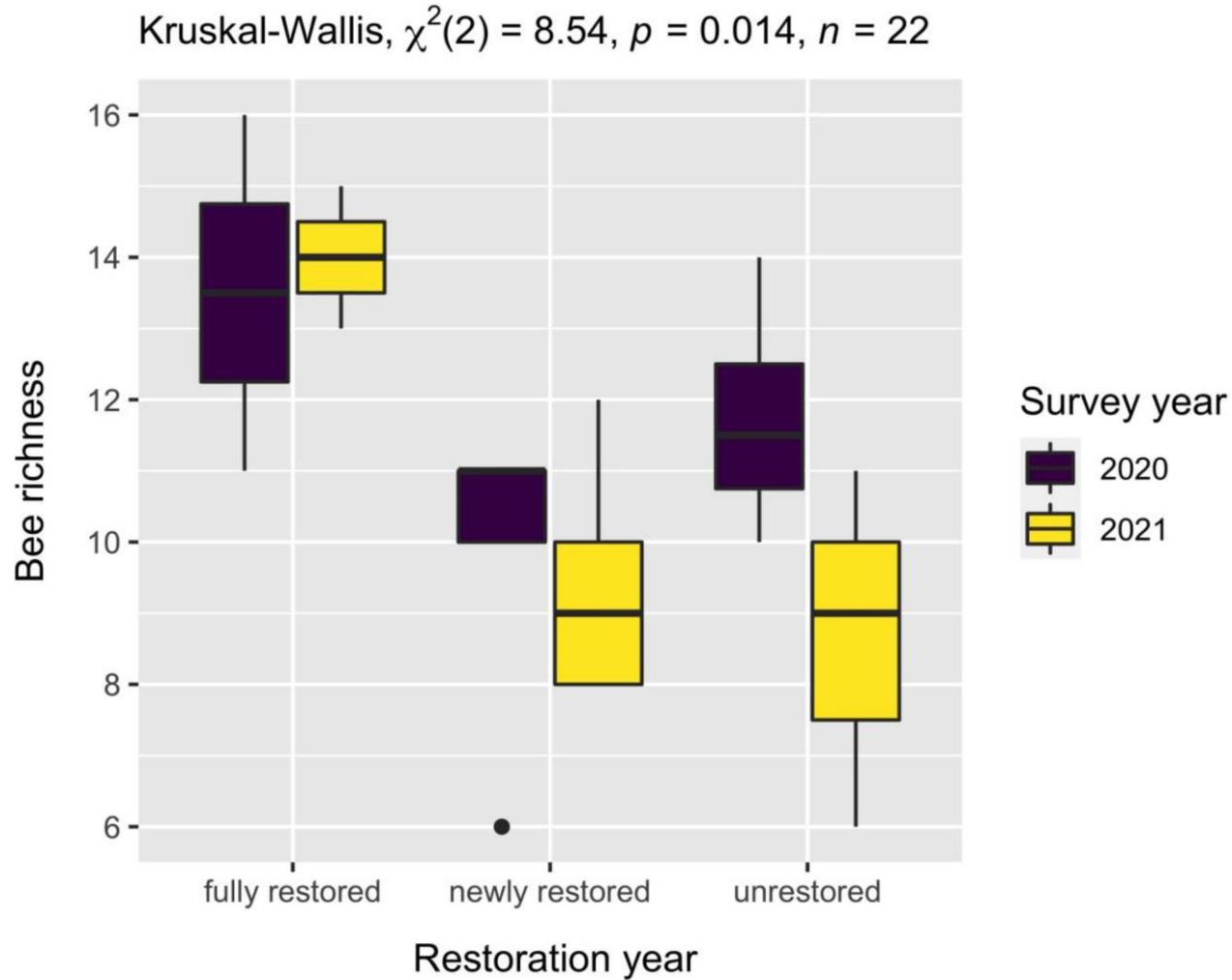


Public Art, Nick Sweetman

Bees in Toronto: Support is top down and bottom up



Bee research in The Meadowway



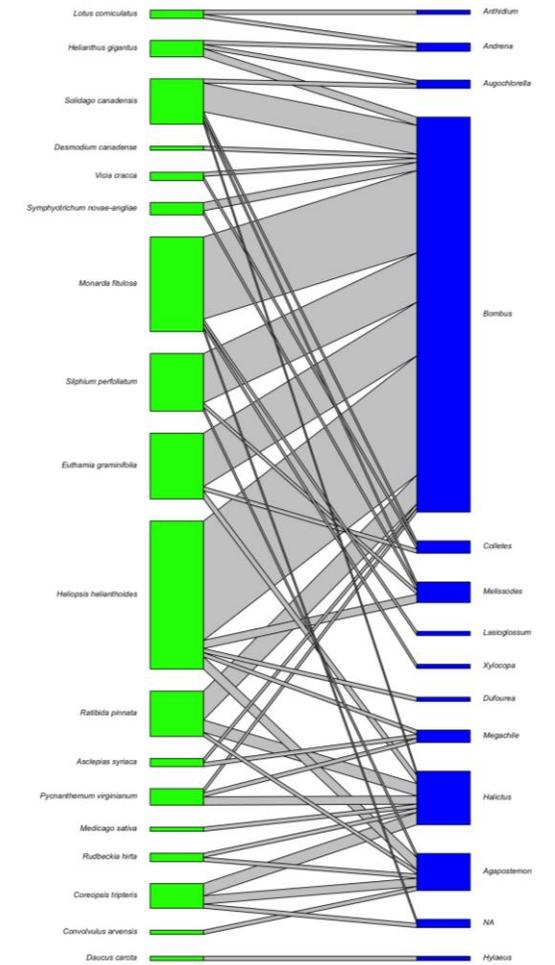
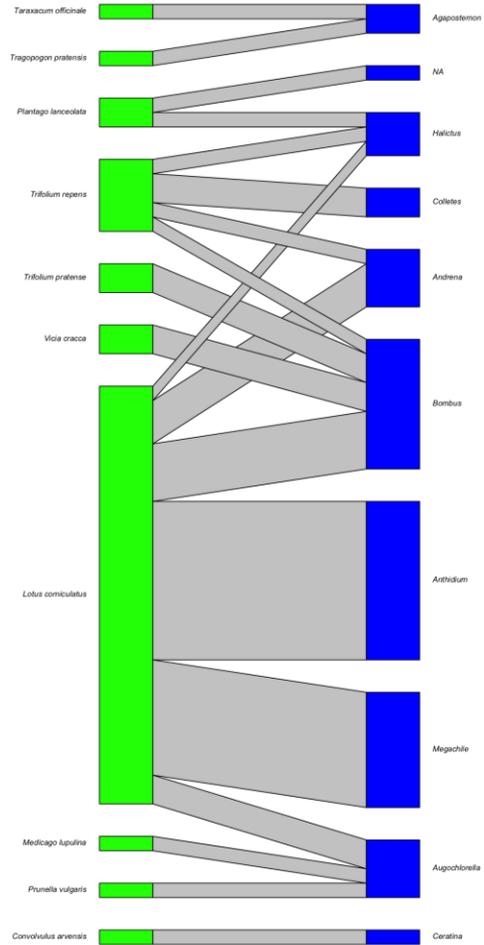
Most abundant bee genera:
Bombus, Halictus, Melissodes, Agapostemon

>80 species identified, including rare and uncommon groups (e.g., *Triepeolus, Perdita*)



Surveyed 2020 and 2021. Resume in 2023 to evaluate impacts of invasive plant management.

Restoration age and key flowers increase network size/structure



Productivity of our collaborations at The Meadoway

- Two  Accelerate awards, three in preparation
- 1x MSc graduated (Sisley Irwin), 1x PhD, 2x MSc students active in The Meadoway

Irwin SG*, Dumesh S, **Maclvor JS** (in prep) Restoration in urban meadows and effects on plant-pollinator network size and structure. *Urban Ecosystems*.

Grewal DU, Xie GG, Cormack C*, & **Maclvor JS** (in prep*) Effects of restoration and management on urban meadow seedbank composition and diversity in spring and fall. *Restoration Ecology*.

Xie GG, Grewal DU, Marshall MG, & **Maclvor JS** (in prep) Drivers of invisibility in urban meadow restoration. *Journal of Applied Ecology*.

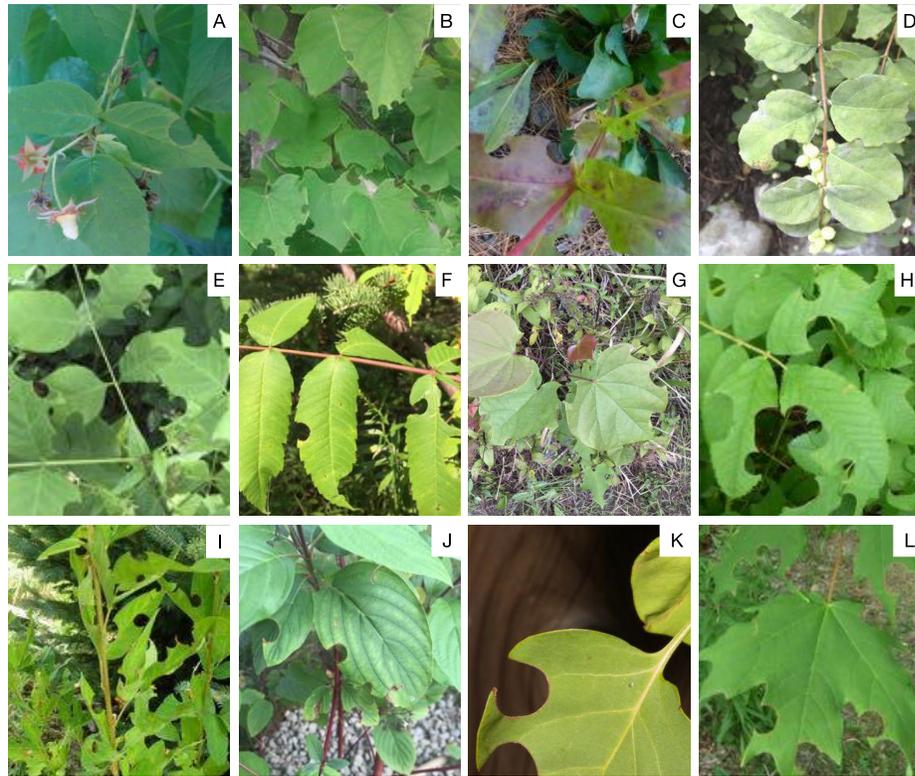
Beda S, Sookhan NG, & **Maclvor JS** (in prep) The effects of vegetation management within powerline rights of way on biodiversity. *Ecological Solutions and Evidence*.

*Presentation was presented to Toronto and Region Conservation Foundation in February 2023. Presenter has noted for September 20 that in prep has been now labelled as accepted.

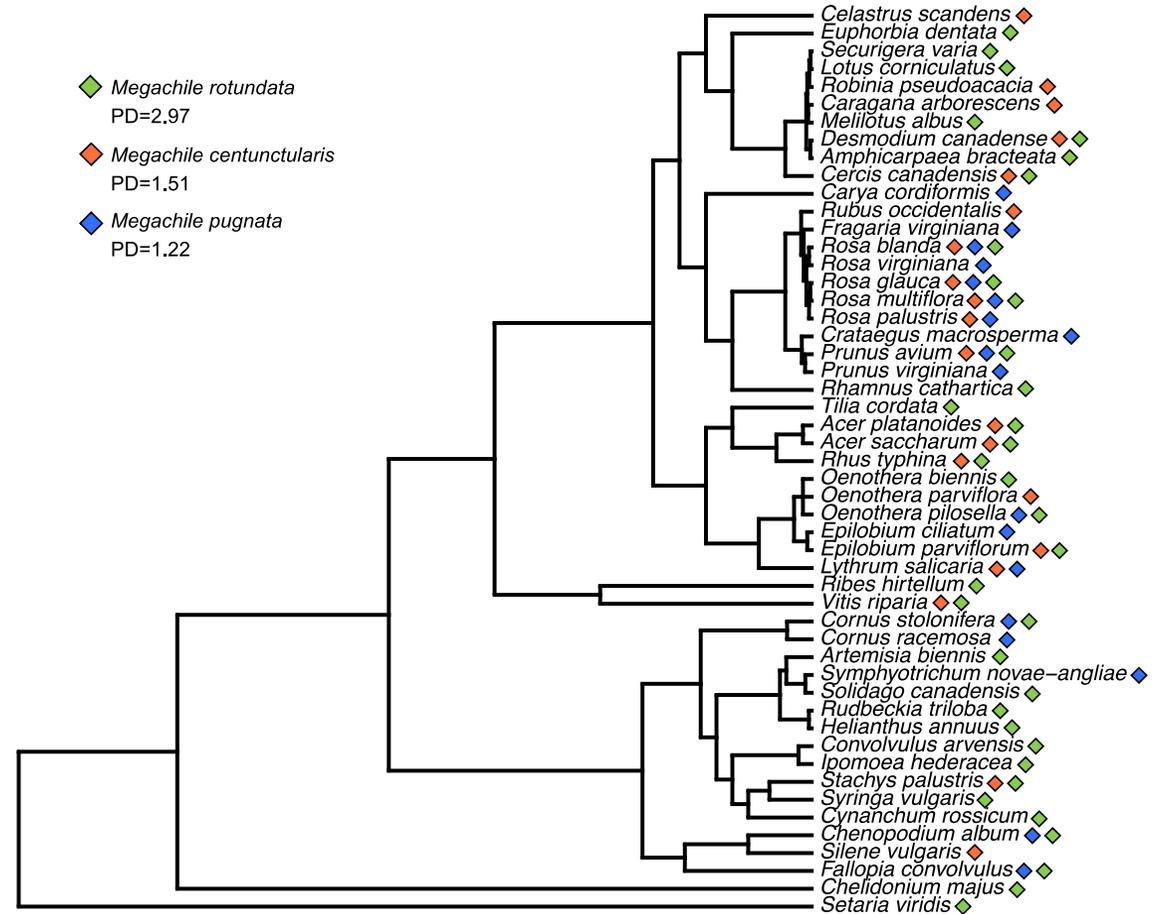
Focusing on land stewardship, restoration, planting native species



Nesting and overwintering requirements for native bees



- ◆ *Megachile rotundata*
PD=2.97
- ◆ *Megachile centuncularis*
PD=1.51
- ◆ *Megachile pugnata*
PD=1.22



Create habitat, don't *introduce* non-native bees



31 reviews ★★★★★

Reviews for this item 5

Reviews for this shop 31

Sort by: Recommended ▼



Brian Clark 27 May, 2020

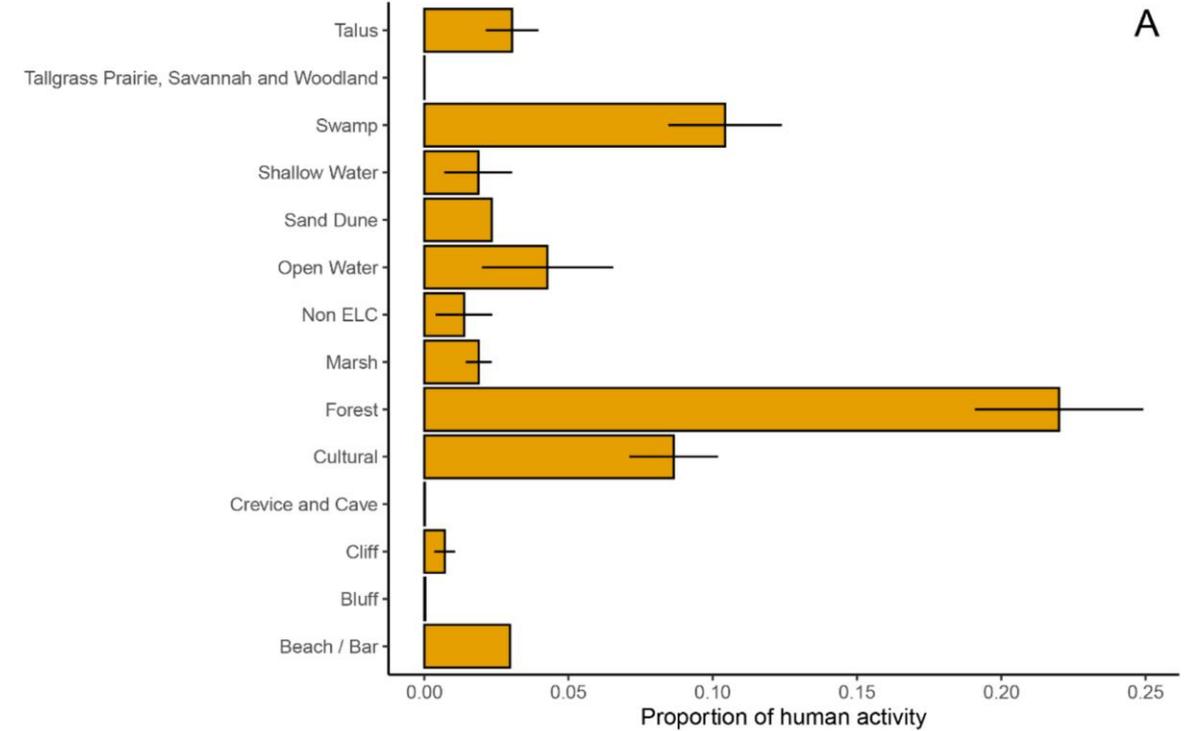
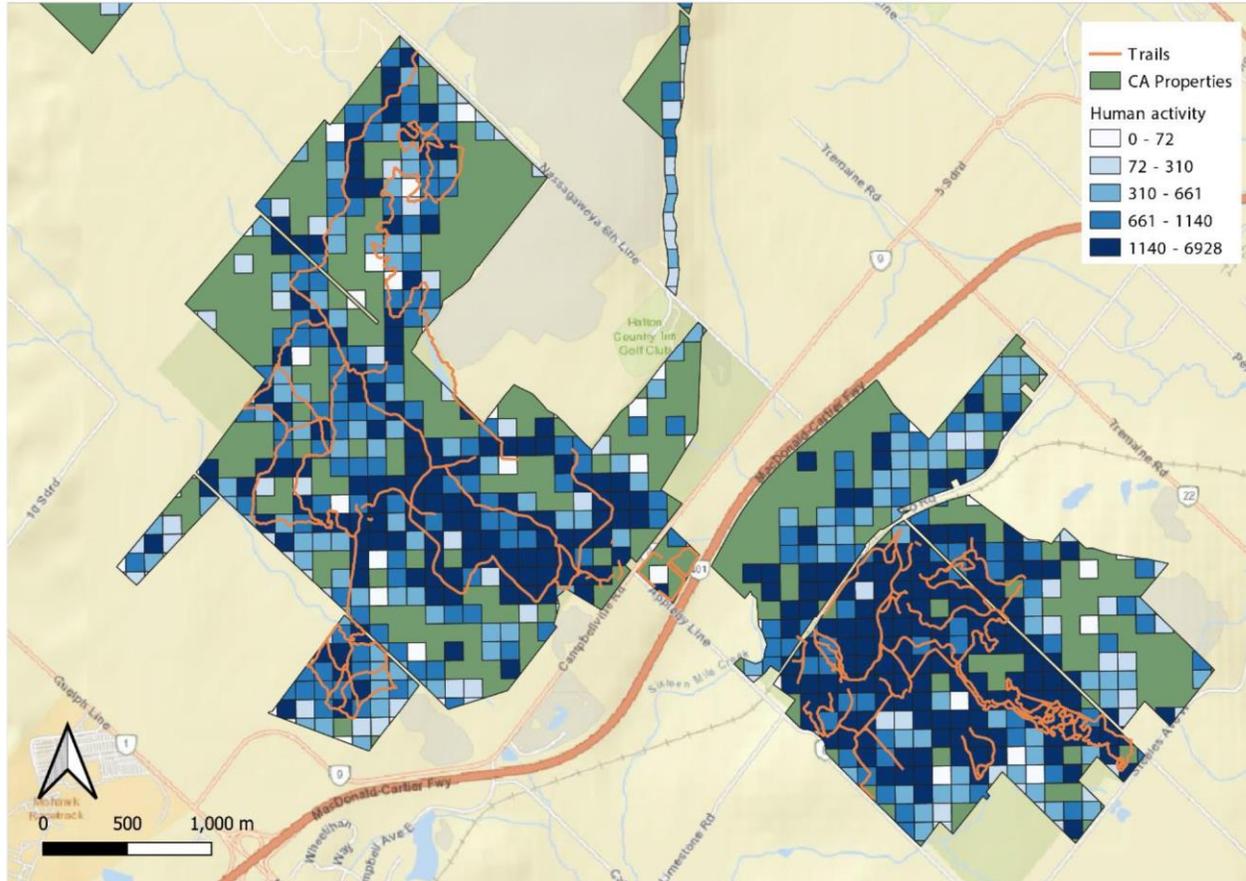
★★★★★

I don't typically leave reviews simply because I don't take the time to do so. In this case it was important to me to spend a few minutes to review MidasBees. I placed an order for bees from MidasBees. This is my first time ordering bees of any kind and so I had some... ⋮

Purchased item:



Balancing tradeoffs between humans and wildlife



Anonymous mobility data for managing urban biodiversity

Public Outreach and science-informed evidence-based messaging

Leo's Pollinators



Bees in the Meadow

We're off to the Meadoway in Toronto, Ontario. The PollinHeads are on the hunt for Toronto's official Bee - the Bicoloured Agapostemon. But they also want to know if more plants equals more pollinators. It's a study being done by Scott and Sisley from the University of Toronto, to answer the question - if there's a greater variety of plants will there be a greater variety of pollinators? Will Chloe and Scott find more pollinators in the restored area of the Meadoway? Or will Houston and Sisley find just as many in their unrestored area? Leo is pretty sure she knows the answer!

<https://www.tvokids.com/school-age/leos-pollinators/videos/bees-meadow>

Thank you! Questions?

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