

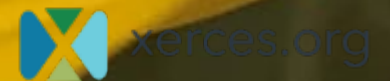
Great Plains Bumble Bee Atlas Update



Slides developed by Katie Lamke
Endangered Species Conservation Biologist
Midwest Bumble Bee Atlas

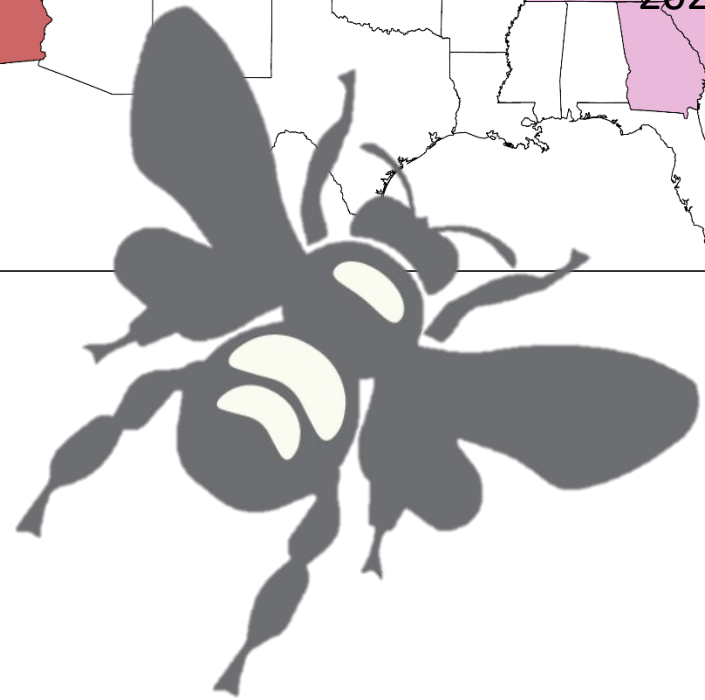
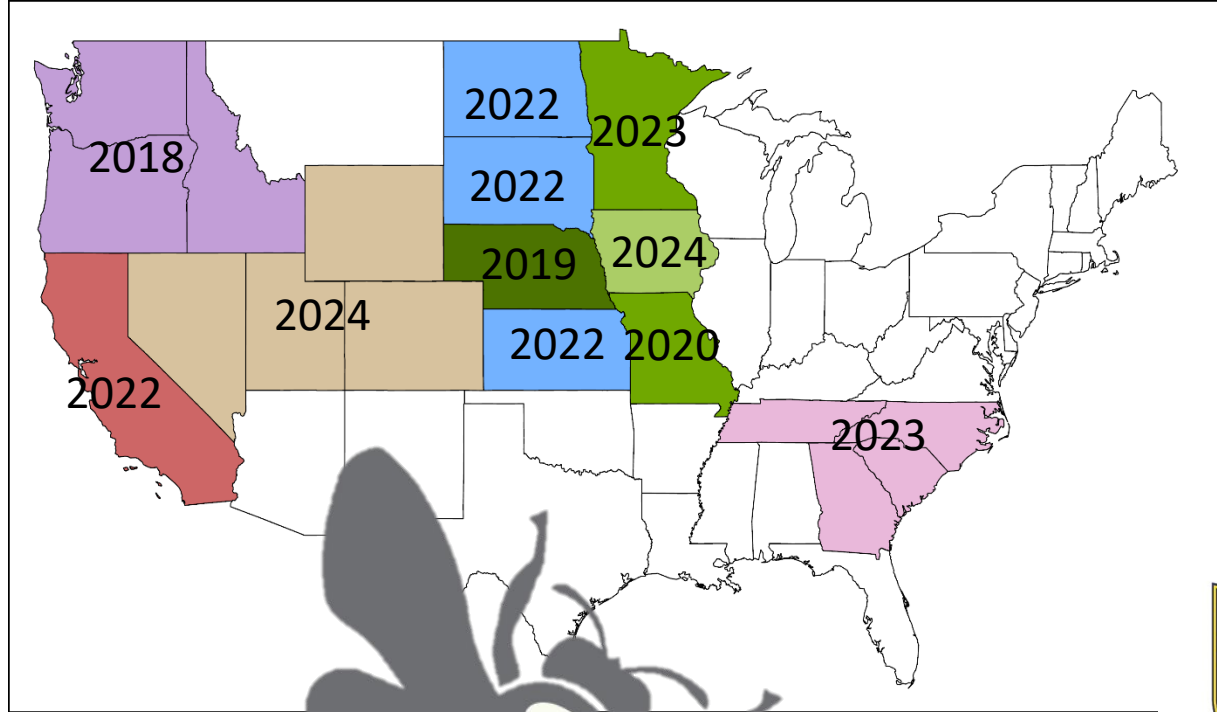


Slides presented by Mace Vaughan
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Xerces Bumble Bee Atlas Projects



Collaborative efforts to track and conserve bumble bees



Supported with funding from:



Additional support is provided by The Hind Foundation, The New-Land Foundation, Inc., The Edward Gorey Charitable Trust, and Xerces Society Members





Photos: National Park Service; The Xerces Society/Katie Lamke

Community Science

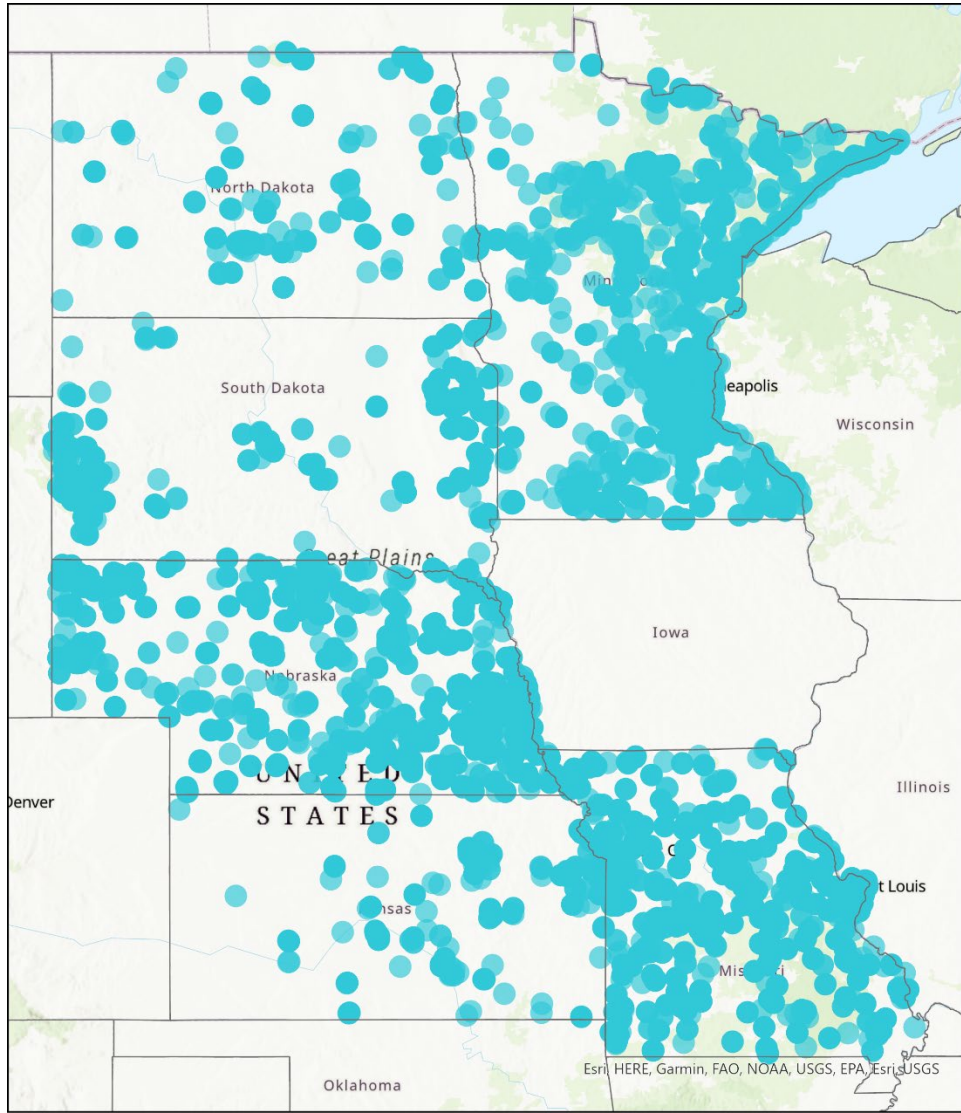
Establish Baseline datasets

- Monitor population changes
- Monitor distribution of species
- Fill knowledge gaps regarding habitat associations

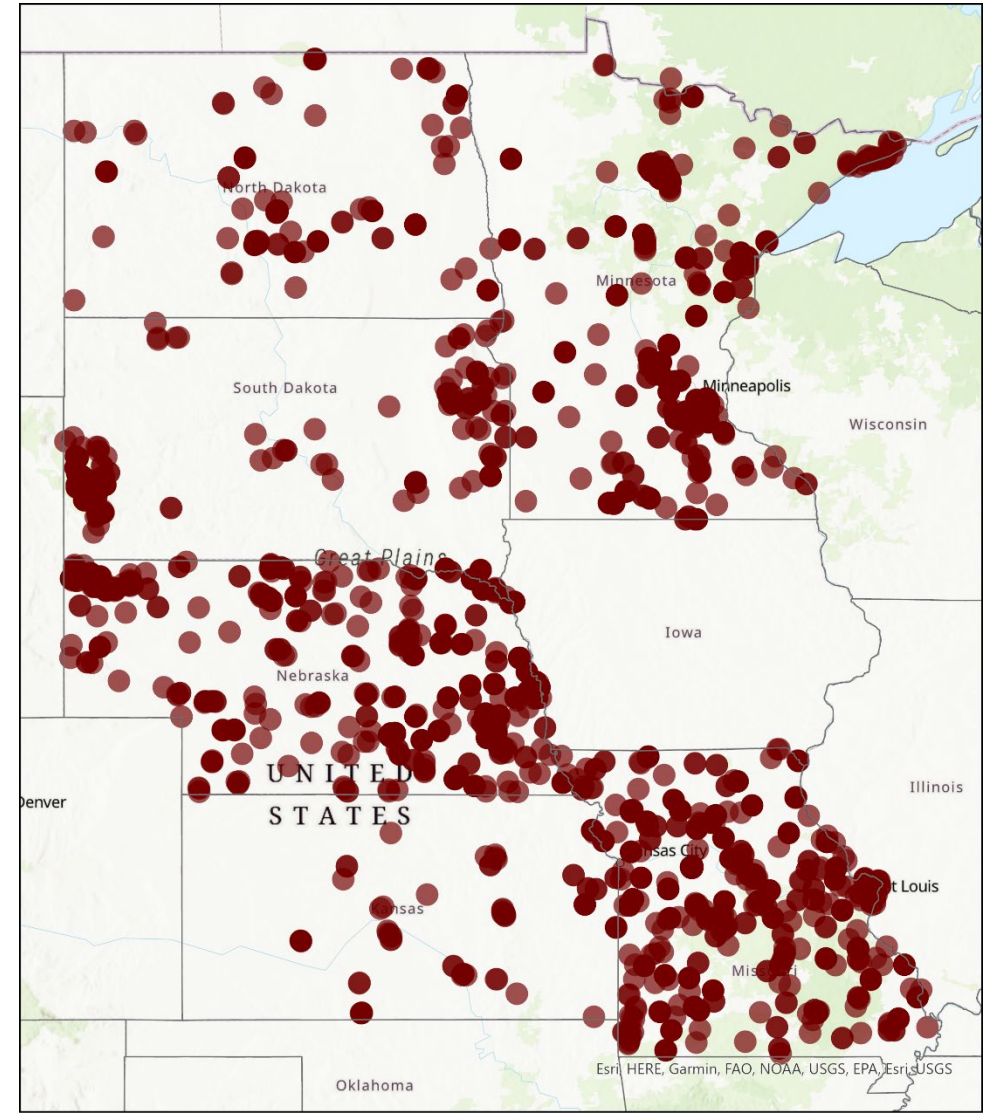
Form evidence-based recommendations

Effort to Date

31,000 Observations, 27 Species



1,800+ Surveys by 400 People



Launched:

NE: 2019

MO: 2020

MN: 2020

ND: 2022

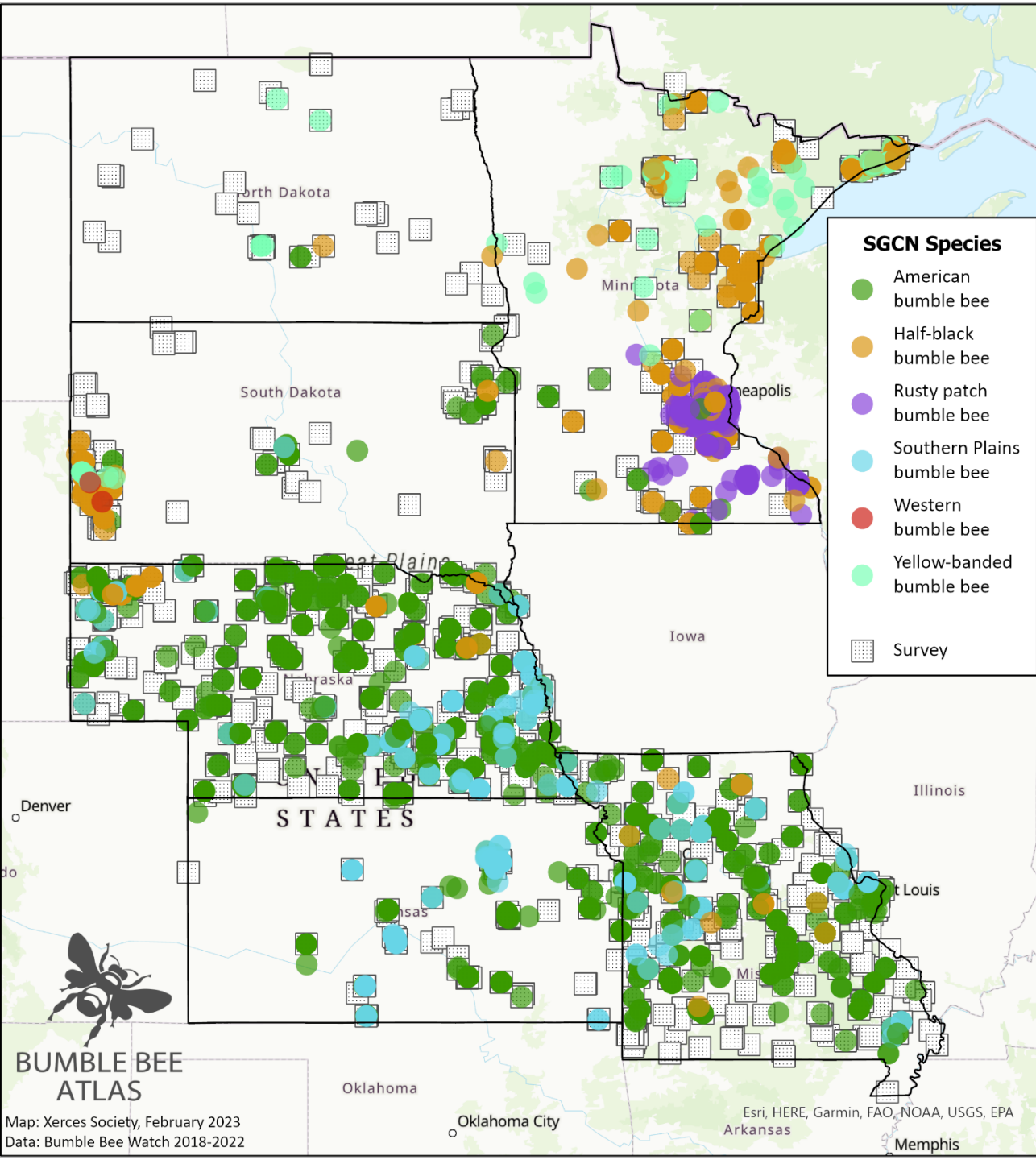
SD: 2022

KS: 2022

SGCNs (2018-2022)

Species of Greatest Conservation Need

1. **Rusty patch (*B. affinis*)** – Federally endangered as of 2017
2. **Western (*B. occidentalis*)** – Petitioned 2015; listed in NE SWAP
3. **American (*B. pensylvanicus*)** – Petitioned 2021
4. **Southern Plains (*B. fraternus*)** – Petitioned 2022; listed in NE and MO SWAP
5. **Yellow-banded (*B. terricola*)** – Petitioned, Not Warranted 2019
6. **Half-black (*B. vagans*)** – Listed in MO SWAP (assumed extirpated prior to Atlas)

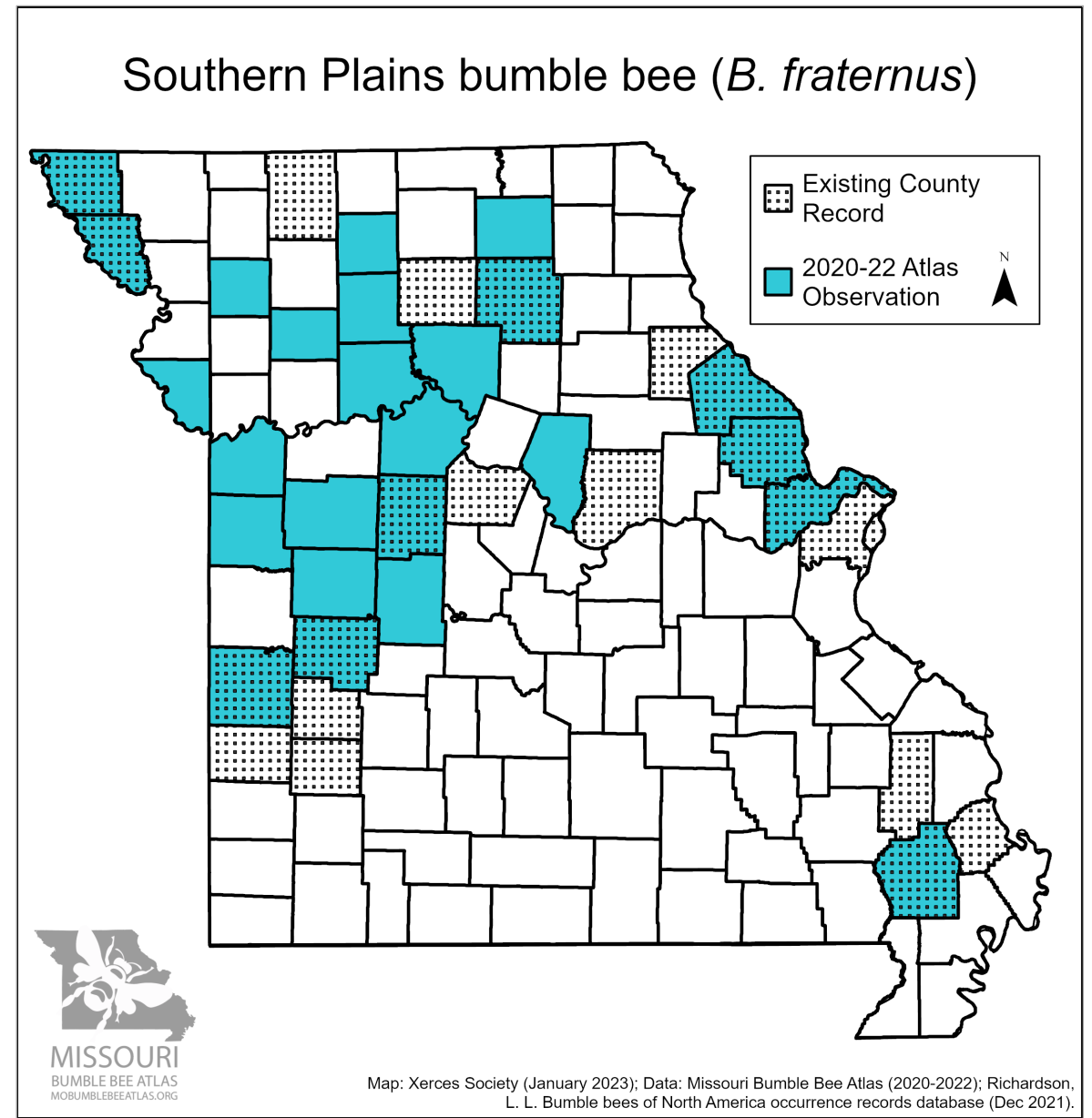
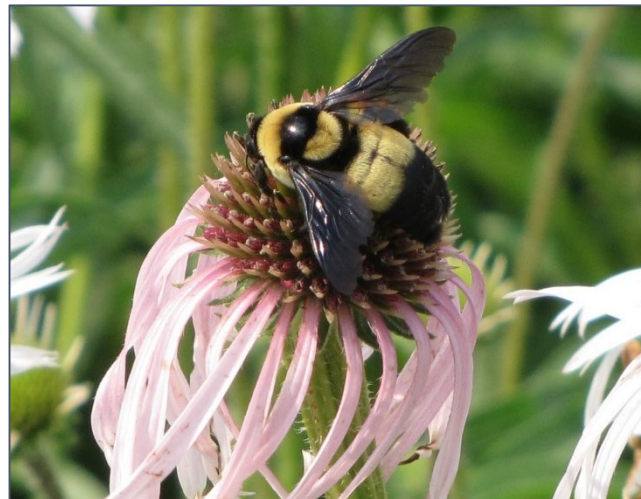


New County Records



Southern Plains bumble bee (*B. fraternus*)

- 67 observations by 24 people
- 15 new county records
 - 5 in 2020
 - 5 in 2021
 - 5 in 2022



Native Plants

In Missouri, 80% of visited plants were native!

Southern Plains Bumble Bee:

- 67 individuals documented
- All recorded on a native plant
- Only found where a diversity of native plants were present
- Partridge pea, Gray-headed coneflower, Field thistle



Photo: Xerces Society/Jennifer Hopwood

Native Plants

In Missouri, 80% of visited plants were native!

American Bumble Bee:

- 481 individuals documented
- 78% recorded on a native plant
 - 60% of non-natives were red clover
- ~100% found where at least 3 other native plant species in bloom
- 24% of individuals were observed on thistle



Photo: Bumble Bee Watch/Allyson Frank

Native Plants

In Missouri, 80% of visited plants were native!

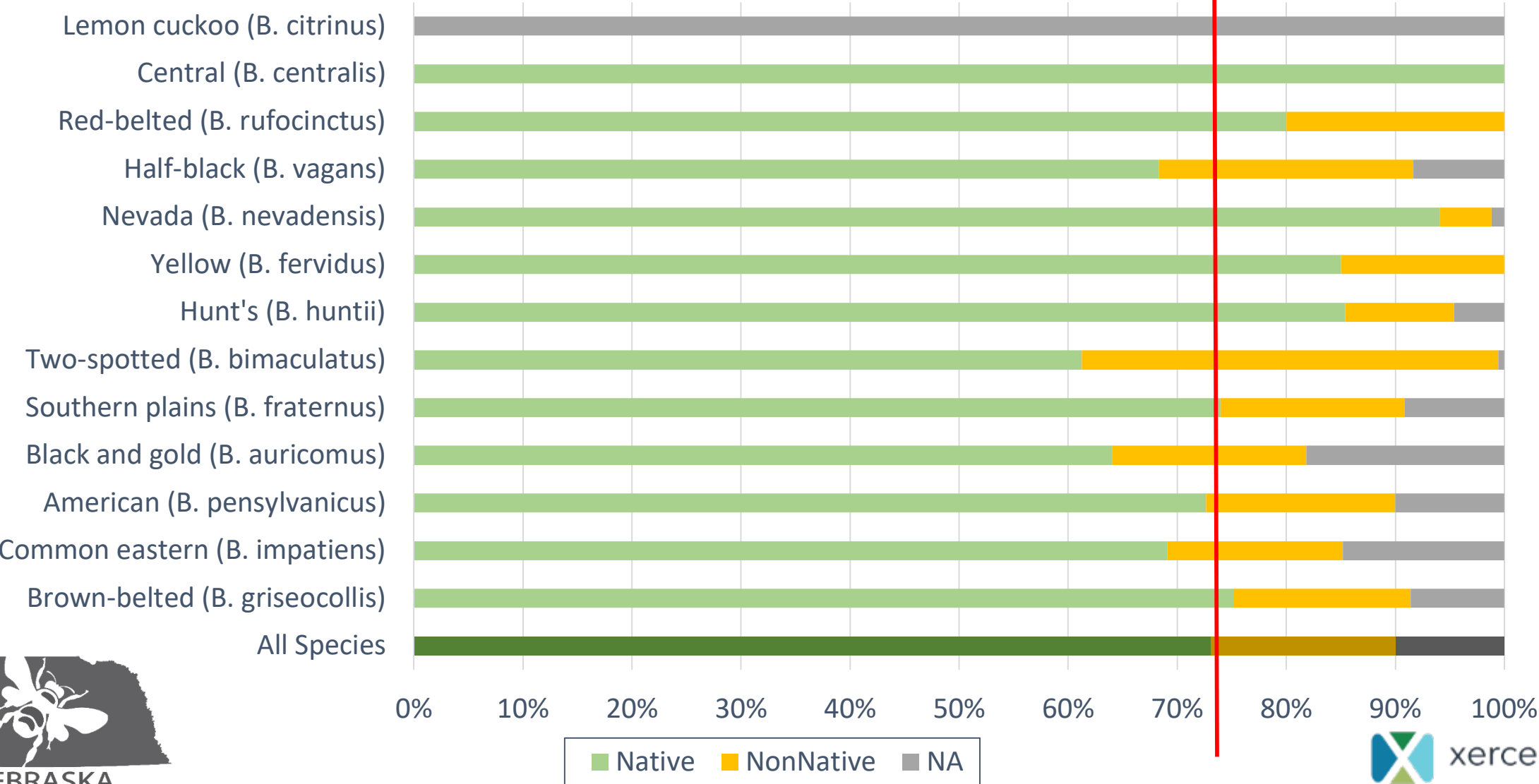
Black and Gold Bumble Bee:

- 228 individuals documented
- 89% recorded on a native plant
- 100% found where at least 3 other native plant species in bloom
- Bee Balm, Wild Indigo, Field Thistle



Observations by Plant Status (2019-2022)

73% visits to native plants on average



Data to Conservation Tools

