

# Lakeshore Nature Preserve Pollinator Conservation Project

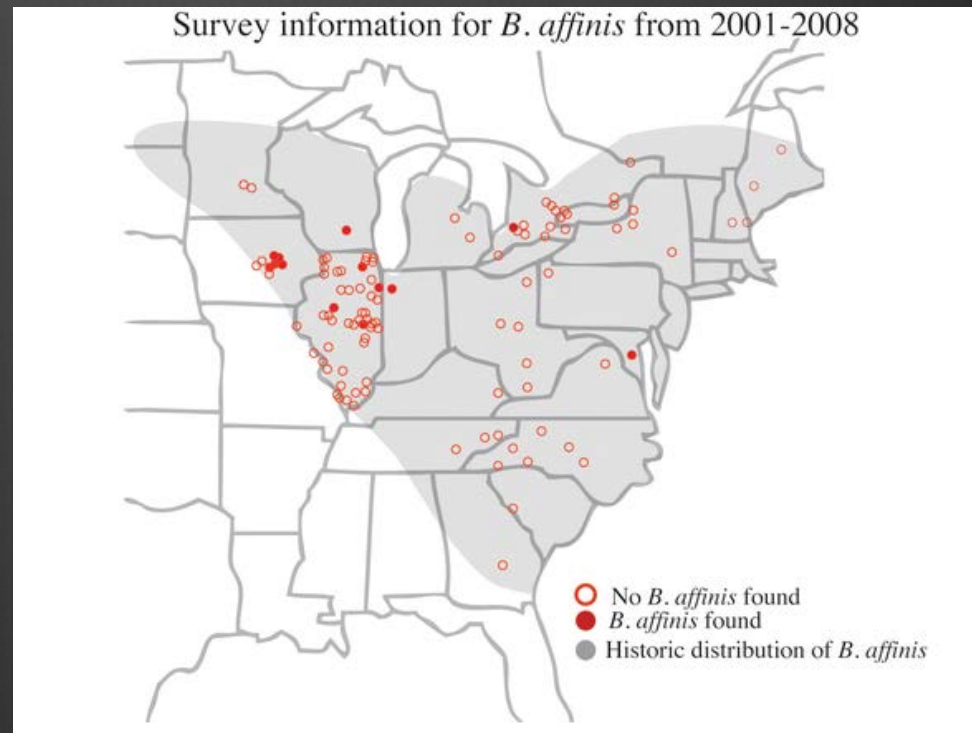
Student Director: Emily  
Greinwald

Mentor: Susan Carpenter



# So why is this project important?

- ⌘ Pollinators
  - ⌘ Agriculture and Wild Ecosystems
  - ⌘ Decline since the 1990's
    - ⌘ Why?



# What is a native pollinator?

- ⊗ A pollinator that has coevolved with the local ecosystem and is best at pollinating the local angiosperms
  - ⊗ Bumble bees
  - ⊗ Solitary bees
  - ⊗ Lepidoptera
- ⊗ So what is not a native pollinator?
  - ⊗ Honey bees (*Apis mellifera*) and Japanese beetles (*Popillia japonica*)
  - ⊗ While important for the production of our food, honey bees are not necessarily the best pollinators for native plants (Though they do help out!)

# Project Goals

- ⌘ Provide baseline data on the biodiversity and pollinator specific preferences within the Lakeshore Nature Preserve
- ⌘ Conservation methods based on these baseline findings
- ⌘ Provide student opportunity





# Methods

- ⌘ Student Volunteers
  - ⌘ Recruited from Flyers and Announcements
  - ⌘ Geoscience 376
- ⌘ Weekly Photo Surveys
- ⌘ Flickr and Excel



# Results: Biodiversity

Order	Sightings
Coleoptera	65
Diptera	120
Hemiptera	24
Hymenoptera	301
Lepidoptera	14
Orthoptera	1

# Results: Biodiversity

Adrenidae	7
Apidae	216
Bombyliidae	1
Calliphoridae	12
Carabidae	2
Cerambycidae	1
Chrysomelidae	5
Coccinellidae	7
Coreidae	2
Culicidae	1
Curculionidae	2
Dolichopodidae	5
Faniidae	1
Formicidae	10
Geometridae	1
Halictidae	43
Hesperiidae	3
Histeridae	1
Ichneumonidae	2
Lonchopteridae	2
Lygaeidae	3
Miridae	3
Nymphalidae	4
Papilionidae	1
Pieridae	3

Pyrochroidae	1
Reduviidae	10
Rhyparochromidae	4
Sacrophagidae	2
Scarabaeidae	8
Scenopinidae	3
Siricidae	1
Sphecidae	1
Staphylinidae	21
Syrphidae	68
Tanypezidae	2
Tettigoniidae	1
Tipulidae	1
Vespidae	3

# Results: Biodiversity

Genus	Sightings
Adrena	5
Agapostemon	5
Ancyloxpha	3
Bombus	211
Ceratina	4
Criorhina	3
Cycloneda	1
Danaus	2
Eristalis	1
Euodynerus	1
Eusphalerum	21
Formica	1

Genus	Sightings
Halictus	12
Lassioglossum	17
Oncopeltus	2
Papilio	1
Phymata	10
Pieris	3
Polistes	2
Pyrochroa	1
Sphex	1
Tetraopes	1
Trichoceridae	1
Typocerus	1
Vanessa	2



# Results: Biodiversity

Bombus species	Sightings
affinis	1
auricomus	4
bimaculatus	10
griseocollis	26
impatiens	83
rufocinctus	18
vagans	36

# Results: Flower Choice

- ⌘ Hymenoptera are the most prevalent flower visitors  
Except in the cases of:

- ⌘ Canada Thistle
- ⌘ Common Cinquefoil
- ⌘ Common Milkweed
- ⌘ Cup plant
- ⌘ Daisy Fleabane
- ⌘ Yarrow
- ⌘ Sorrel



# Flower Choice: Bombus

Bombus Species	Number of Different Plants
affinis	1
auricomus	3
griseocollis	13
rufocinctus	15

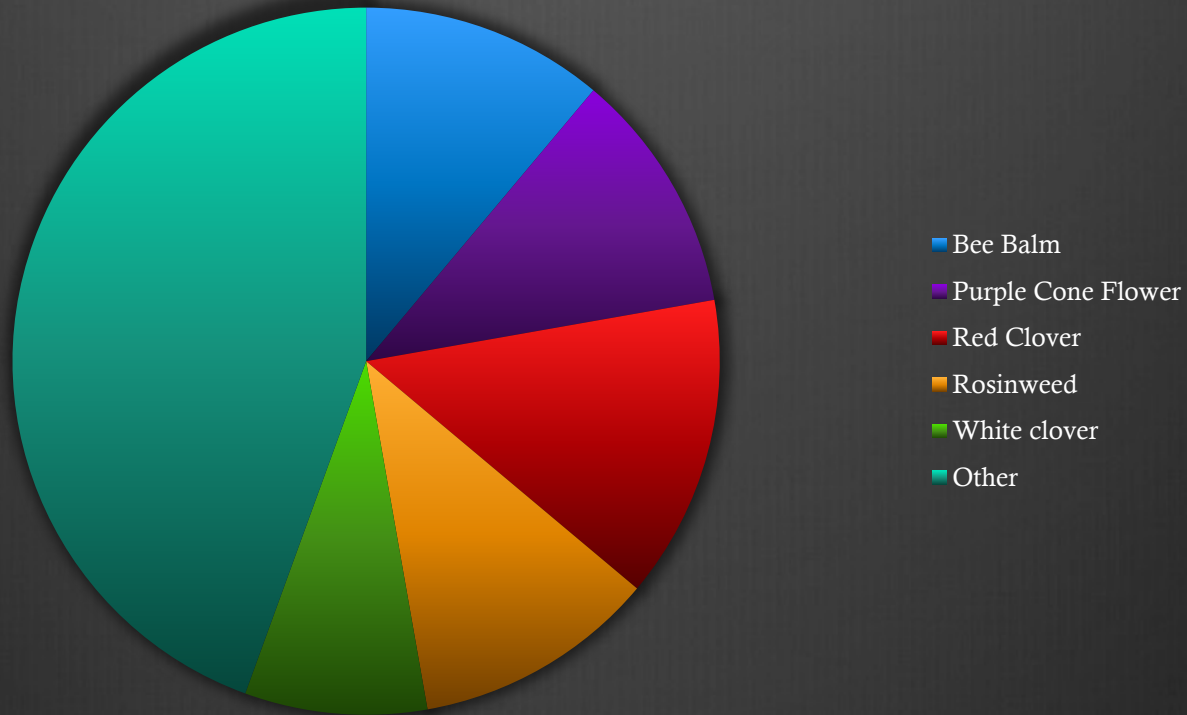
# Results: Flower Choice

## B. Impatiens Flower Choice



# Results: Flower Choice

B. vagans Flower Choice





# Results: Distribution



# Results: Diversity Distribution

Area	Number of Families
Biocore Prairie	17
Class of 1918 Marsh	17
Willow Creek Woods	10
Old Field and Orchard	9
Picnic Point	8
University Bay Marsh	8
Muir Woods	8
Picnic Point Marsh	7
Caretaker's Woods	7
Big Woods	4
Eagle Heights Community Garden	3
Frautschi Point	3
Tent Colony Woods	3
Eagle Heights Woods	2



# Results: Diversity Distribution



# Conclusions

- ⊗ Focus on areas of low biodiversity
- ⊗ Plant resources to promote pollinator diversity
- ⊗ Additional surveys can show trends between years

# Questions?

