



SAR Native Bees Team

June 1st, 2023

MEET THE TEAM



Bonny Bentzin

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Brooke



Ogechi



Catherine



Grace



Juliet

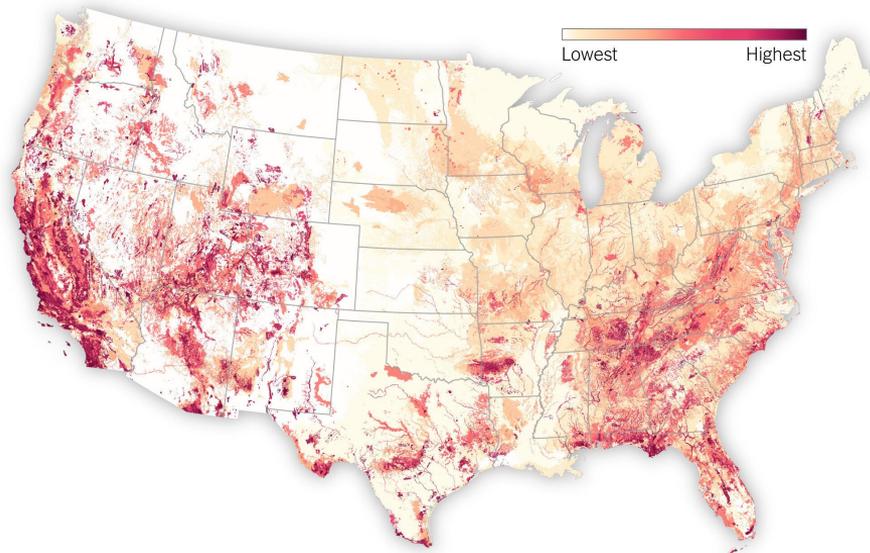


Ryan

Background: California Biodiversity



Concentrations of imperiled biodiversity



California Species at Risk

Western Bumble Bee
(*Bombus occidentalis*)



Franklin's Bumble Bee
(*Bombus franklini*)



Suckley's Cuckoo
Bumble Bee
(*Bombus suckleyi*)

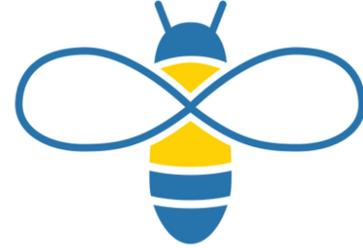


Crotch's Bumble Bee
(*Bombus crotchii*)



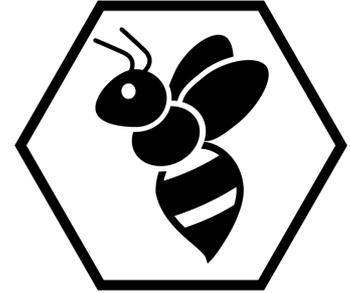
Background: UCLA Efforts

- Bruin Beekeepers
- Past SAR team – Native Plant Nursery 2022



Research Questions

- Which native bee species are present?
- What are their preferred plants?
- Where on campus are they located?
- How can we educate the student body and landscaping practices?





Methods: Background (1/2)



Native Bees are...

- *Diurnal* (daytime organisms)
 - Small
 - Delicate
 - *Pollinators* (visit and distribute flowering plants)
 - Difficult to identify
- 

Methods: Background (2/2)

To address this...

- Daytime field assessments
- Video > photo
- No capturing
- Documented flowers and plants
- Uploaded unidentified bees to iNaturalist





Methods: Procedure



Identification

- Field Surveys
- Informational Interviews
- Equipment
- iNaturalist



Data Assessment

- Google Form Survey
 - Map of Observations
- 
- 
- 

Interviews

- 1. Andy Kleinhesselink**
 - a. Restoration Ecologist / Managing Director of Sage Hill
- 2. Leif Richardson**
 - a. Conservation Scientist for Xerces Society
- 3. Krystle Hickman**
 - a. Community Scientist / Conservation Photographer
- 4. Evan Meyer**
 - a. Director of Theodore Payne Foundation
- 5. Rey Soto**
 - a. Data Analyst / Lead Beekeeper at UCLA Extension
- 6. Hilary Kearney**
 - a. Urban Beekeeper; CEO of Girl Next Door Honey
- 7. John Latsko**
 - a. Interpretive Horticulturist at L.A. Arboretum



1



2



3



4



5



6



7



iNaturalist



“online social network of people sharing biodiversity information”

For Our Project...

- Identification
- Confirmation
- Data for Map Development





Methods: Reasoning

Identification Skills

(Field Surveys, Interviews, Equipment)

Building identification skills to correctly determine bee species

Outreach

(Earth Day Fair, Pollinator Palooza)

Increasing knowledge of importance of native bees



Professional Confirmation

(iNaturalist)

Utilizing bee experts to obtain accurate data

Data Maximization

(Google Form)

Maximizing data collection by employing community scientists



Methods: Equity, Diversity, Inclusion

- Encouraging participation from diverse group of scientists
- Receiving funding so necessary materials were widely available
- Alt text in Instagram posts to increase accessibility





Earth day with Climate Justice Forum + CALPIRG Pollinator Palooza



Identified bees of UCLA

Black-tailed Bumble Bee



Longhorn Bee



Oval-headed Sweat Bee



Leafcutter Bee



Valley Carpenter Bee



Bombus vosnesenskii



Sonoran Bumble Bee



Diadasia Bee

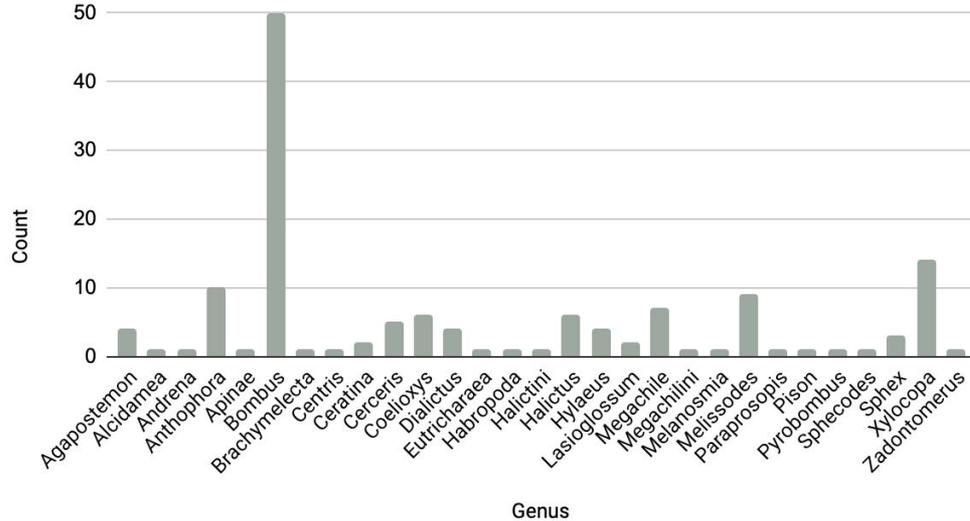


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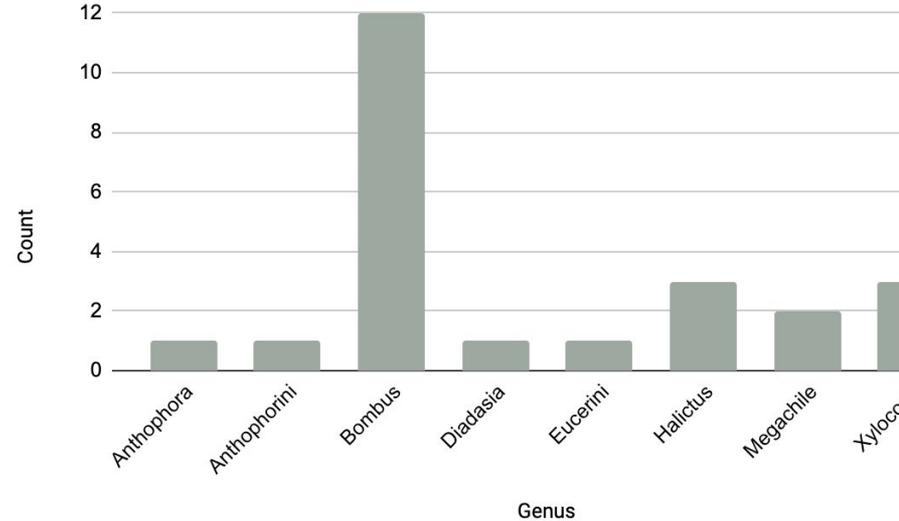


Frequency of Genus Observations

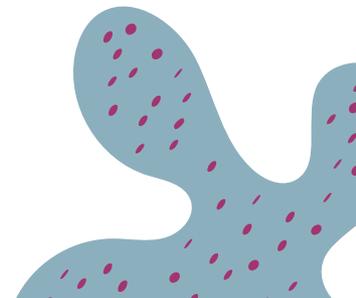
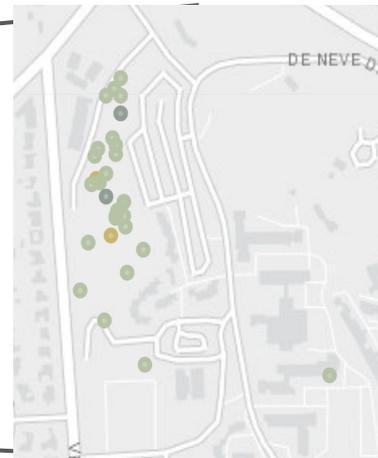
Genus Frequency (iNaturalist)



Genus Frequency (SAR Team Observations)



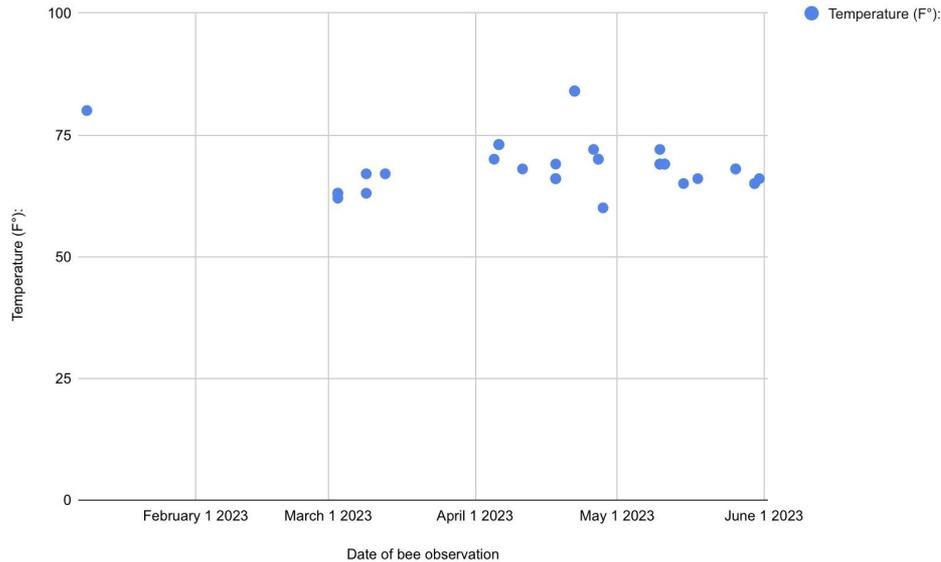
Bee Distribution Map



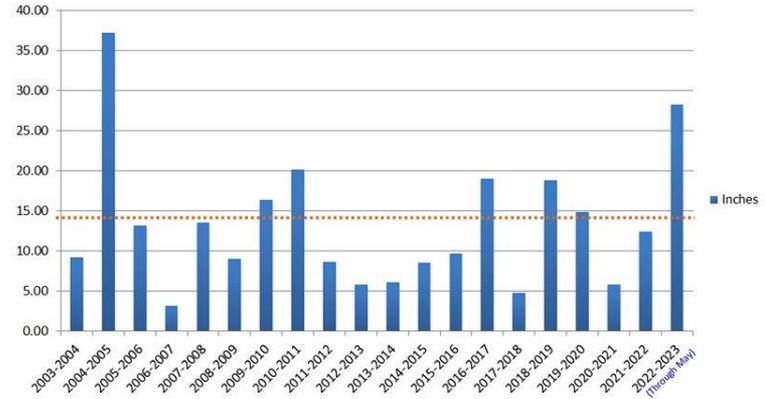
Timeline/weather patterns

Los Angeles saw nearly **double** the normal seasonal rainfall amount (28.40 in)

Temperature (F°): vs. Date of bee observation

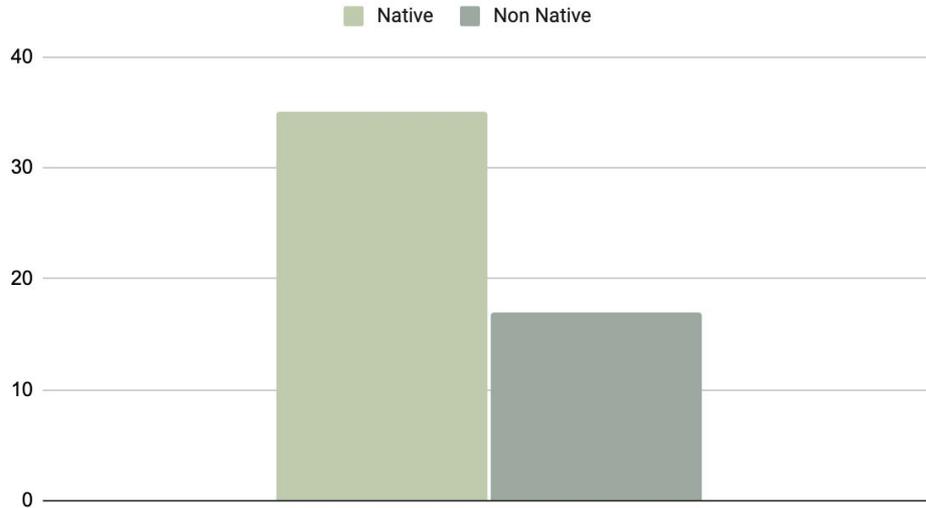


L.A.'s Rainfall by Season - Last 20 Years



Plants Observed with Native Bees

Observed plants (native vs. non-native)



Most common plants:

Native:

- California lilacs (*Ceanothus*)
- Sages (*Salvia*)
- Manzanitas (*Arctostaphylos*)

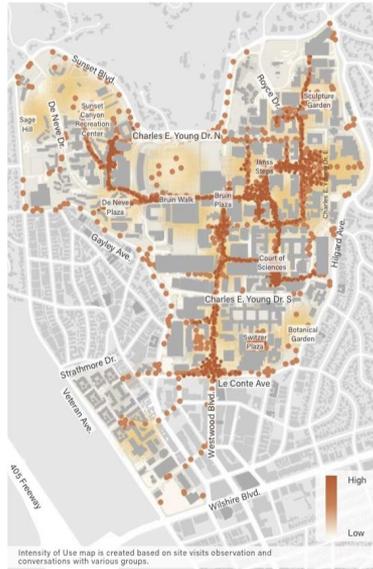
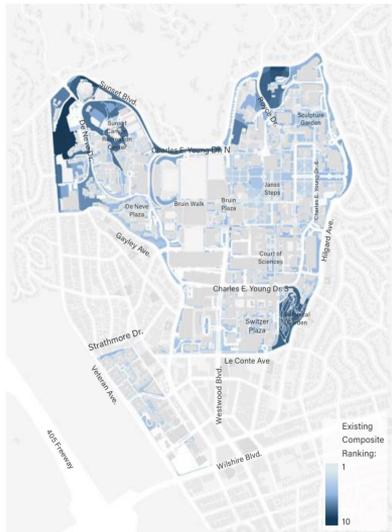
Non-native:

- Hairy vetch (*Vicia villosa*)

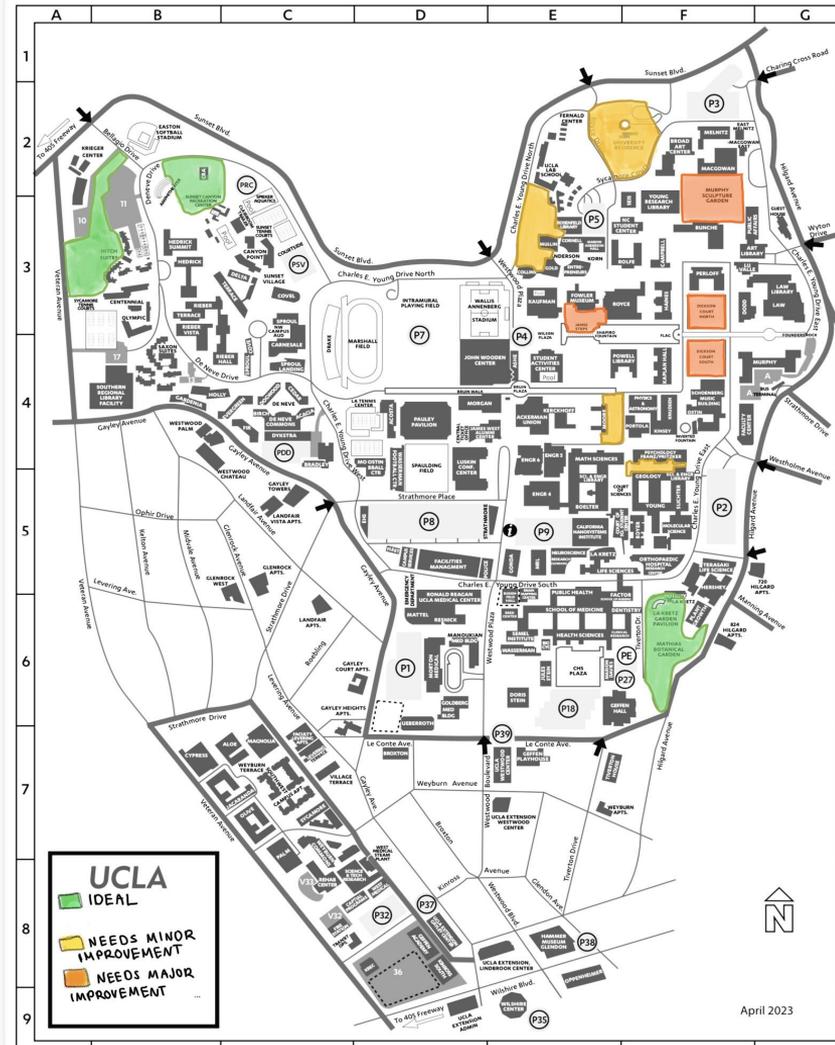
Habitat Index

- Intensity of use
- Existing biodiversity value
- Access to food/habitat

EXISTING BIODIVERSITY VALUE



Intensity of Use map is created based on site visits observation and conversations with various groups.



How is our work significant?

Awareness
on campus

Habitat
and Policy

CREATING A NATIVE BEE HABITAT

1 Leave areas of mulch and dirt undisturbed!

Many types of native bees nest and hibernate underground!



2

Keep dead logs and wood!

Some species of native bees use pre-made holes in wood for nesting!



3 Plant a variety of native plants!

Native bees are pollinating specialists and have preferences!



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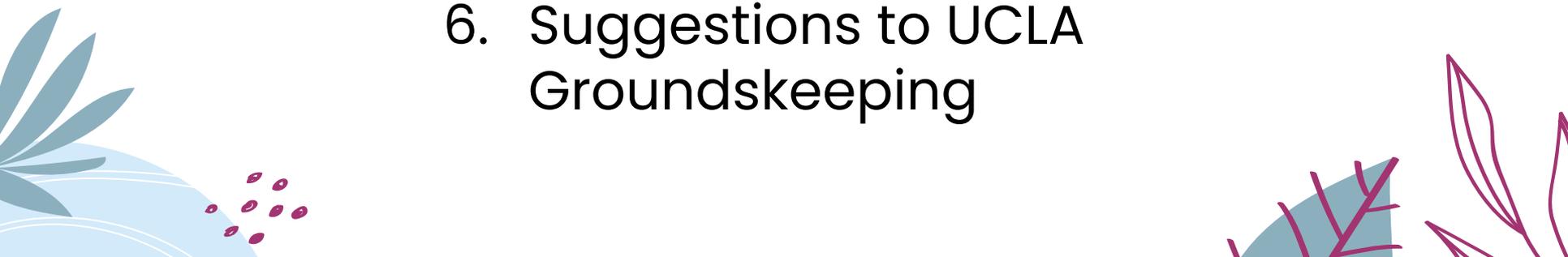
Say NO to:

Leaf blowers, heavy mulch, invasive plants, paved areas, overwatering, insecticides





Deliverables

1. Bee Guide
 2. Maps
 3. Plant List
 4. Bee Boxes
 5. Infographics
 6. Suggestions to UCLA Groundskeeping
- 

THANK YOU!

Special Thanks To:

Bonny Bentzin
Cully Nordby
Carl Maida
Nurit Katz
Andy Kleinhesselink
Leif Richardson
Krystle Hickman

Evan Meyer
Rey Soto
John Latsko
Racquel Fox
Julia Wu
Jeff Van

