

METRO PHOENIX ECOFLORA

FEBRUARY 2020-SEPTEMBER 2022



Introduction

Urban areas are critical intersections between people and nature. Engaging communities in the study of urban plant life and ecosystems encourages appreciation and can be a gateway to conservation. If people learn and care about the nature nearby, it encourages them to care for nature at large and in all forms. It is increasingly important to study and nurture the nature that exists in urban areas, making sure it isn't just accessible, but equitable for everyone. As the world becomes increasingly urbanized, it is ever more important to encourage urbanites to think about, view and interact with urban ecosystems.

The EcoFlora program was developed by the New York Botanical Garden (NYBG) to promote (1) biodiversity conservation in an increasingly urbanized world, (2) greater plant awareness among the public and (3) enhanced participation of community scientists in the study and conservation of biodiversity. The project launched in 2016 and saw great success. NYBG, in collaboration with four gardens across the country received a National Leadership Grant from the Institute of Museum and Library Services (IMLS) to scale up the EcoFlora project.

The Metro Phoenix EcoFlora project began in February 2020 with three years of funding from this grant. The project is an opportunity to contribute to real-life science while studying plants and urban ecosystems in metro Phoenix, what is happening with them, and how these plants are interacting with other organisms.

Thank you to the New York Botanical Garden as the founding EcoFlora organization; Desert Botanical Garden as the host institution; the Central Arizona Conservation Alliance as the host organization; Chicago Botanic Garden, Denver Botanic Gardens, and Marie Selby Botanical Gardens as supporting partner organizations; the numerous contributing project members and collaborators; Volunteers in the Garden (VIGs); and the Marketing Communications team at Desert Botanical Garden.

The project would also like to acknowledge iNaturalist, a joint initiative of the California Academy of Sciences and the National Geographic Society.

To learn about the nationwide EcoFlora program, check out the [EcoFlora Toolkit](#).

Jeny Davis | EcoFlora Coordinator

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PROJECT NUMBERS

498

**TOTAL NUMBER
OF PROJECT MEMBERS**

70,870

Total Observations

42,396

Observations of Plants

3,160

Species Observed

1,396

Plant Species Observed

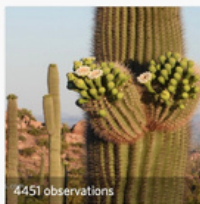
40%

Of all iNaturalist observations in Metro Phoenix were made by project members

40

Plant species found without herbarium records in Metro Phoenix

MOST OBSERVED SPECIES



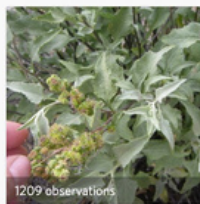
4451 observations

Carnegiea gigantea
Saguaro



1646 observations

Larrea tridentata
Creosote Bush



1209 observations

Ambrosia deltoidea
Triangle-leaf Bursage



1011 observations

Fouquieria splendens
Ocotillo



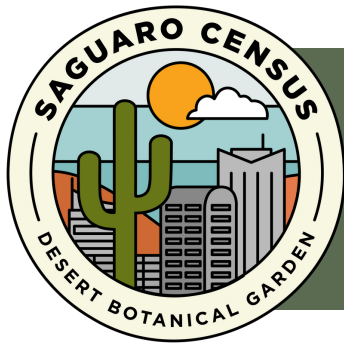
973 observations

Oncosiphon pilulifer
Stinknet

ECOQUESTS

33 EcoQuests resulting in 21,424 observations

Each month of the project brings a new EcoQuest to participate in. EcoQuests are like hide-and-seek games for urban biodiversity, seeking certain plants or ecological relationships. Each is filled with information and resources and the results from EcoQuests can provide information for research, such as pollinator counts, invasive species mapping, or wildlife habitat.



**EcoQuest with most observations:
Saguaro Census
8,497**

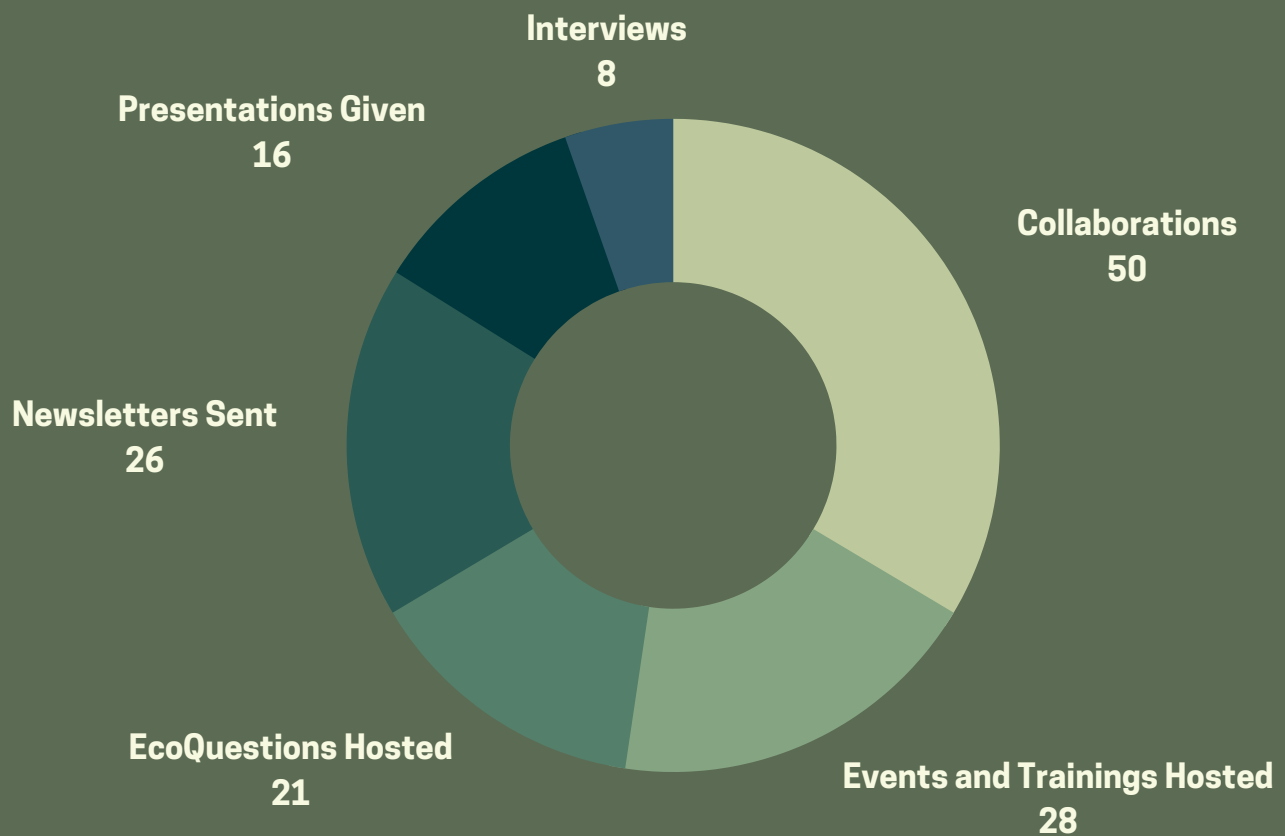
In May of 2022, the Metro Phoenix EcoFlora hosted a collaborative EcoQuest with Dr. Tania Hernandez, Desert Botanical Garden's New World Succulents Specialist. The Saguaro Census is part of a larger project led by Dr. Hernandez and is the first step to generate a database to monitor the saguaro population in the Valley, learn more about their health and research the effects climate change might have on them. The project will also be used to develop tools to understand and preserve endangered cactus species in the Southwest with substantial community involvement.

More than 300 people participated in the Saguaro Census EcoQuest. The number of saguaro (*Carnegiea gigantea*) observations in metro Phoenix more than doubled, from 4,096 to 12,593 saguaros. There were 2,283 saguaros documented in residential areas, 570 in commercial lots, 350 by roadsides and 125 in public areas like libraries. Of the 3,390 saguaros that had their height recorded, the majority were 3-16 feet tall and only 212 were less than 3 feet tall. Participants recorded saguaros across the Valley, with a high volume of observations made in North Phoenix, Tempe, Mesa, Gilbert and Chandler.

The Saguaro Census provides a current picture of saguaros growing in the city, and seeks to understand the biology, distribution and genetics of the urban saguaro population by comparing them with their relatives growing in the wild. The next step of the project is to take samples of residents' saguaros. Dr. Hernandez received about 300 emails from Valley residents who want to volunteer their saguaros for plant research, and she will randomly sample volunteers' saguaros and compare them to ones living in the wild.

COLLABORATION & ENGAGEMENT

- The Metro Phoenix EcoFlora project has collaborated with at least 50 organizations, professional scientists, local experts and community members.
- Events and trainings hosted by the project have had nearly 600 attendees.
- The project has a combined 1,657 followers on social.



CITY NATURE CHALLENGE



The Metro Phoenix EcoFlora was instrumental in co-organizing the first ever City Nature Challenge for the Greater Phoenix Area in 2021, and again in 2022.

The City Nature Challenge (CNC) is a global effort to observe and document as much urban biodiversity as possible while engaging in community science. Using iNaturalist, anyone can get involved and share observations, anywhere from neighborhoods to local parks.

RESULTS:

2021

30TH IN THE WORLD

- **9,702 observations**
- **1,039 species**
- **283 participants**

18TH IN THE WORLD

2022

- **17,791 observations**
- **1,123 species**
- **434 participants**

Co-Organizers for the Greater Phoenix Area City Nature Challenge



Community Services
Parks & Recreation

DISCOVER. IMAGINE. GROW.



ASU Barrett
The Honors College
Arizona State University

PUBLICATIONS



01 — EcoFlora Toolkit

The EcoFloras of North America collaboratively produced a Toolkit in June of 2022. The toolkit provides an overview of the EcoFlora program, describes how to create and implement an EcoFlora project and offers examples of how to engage the community in plant science and studying the surrounding urban environment. Experiences, expertise and lessons learned by the partner gardens are also shared.

[EcoFloras of North America: A Toolkit to Launch Your Project](#)



02 — Land

A collaborative manuscript with the Central Arizona Conservation Alliance and EcoFlora was published in the open access journal Land. The article was focused on the use of social media and app-supported community science for landscape-scale habitat restoration, governance support, and community resilience-building.

[The Central Arizona Conservation Alliance Programs: Use of Social Media and App-Supported Community Science for Landscape-Scale Habitat Restoration, Governance Support, and Community Resilience-Building.](#)



03 — Journal of Zoological and Botanical Gardens

Metro Phoenix EcoFlora worked on a collaborative manuscript for the Journal of Zoological and Botanical Gardens, which explored how four conservation initiatives at Desert Botanical Garden have partnered with organizations and agencies to address local and regional conservation issues through research, education projects, and other types of activities.

[Collaborative Conservation by Botanical Gardens: Unique Opportunities for Local to Global Impacts.](#)



01 — Plant Press Arizona

An article written by the Metro Phoenix EcoFlora Coordinator, Jeny Davis, was published in the Summer 2022 issue of Plant Press Arizona, a publication by the Arizona Native Plant Society. The article focused on how connecting people to nature in their own neighborhoods and directly involving them in real-life science projects are critical to garner support for plant science, research, and conservation at large, and how the EcoFlora program provides a model for collaborating and connecting with the public.

[EcoFlora: Connecting People to Plants, Plant Science, and Urban Ecosystems.](#)

FROM THE MOUTHS OF PROJECT MEMBERS

"I had an unused iNaturalist account for several years before this project. The project turned me into a fan of iNaturalist. The EcoQuests are so engaging and I feel like I've become an "urban explorer", discovering and sharing urban plant treasures. I've even been sharing the project with my students."

"So glad to have found this community and website! I love seeing the weird and wonderful plants, etc. from all over the world!"

"MetroPhoenix EcoFlora has provided me with both a mission and education during the pandemic, and I'm very grateful!"

"I am so thankful that MetroPhoenix includes insects as observations. There is amazing diversity, and insects play critical roles in ecology (and plant/insect relationships are fascinating)."

"I've learned so much by participating in the EcoQuests, posting on iNaturalist and attending lectures!"

Thank you, project members, for your support and participation!

