

Bee Campus USA - California State University Northridge

Report on 2020

Pollinator Habitat Creation & Enhancement

Most of CSUN's pollinator habitat creation/enhancement in 2020 was performed by the CSUN Grounds team. After an extensive remodel to the Art & Design Center entrance due to road construction, the Grounds team completely replanted the disturbed area with various plants, whose flowers are already attracting bees. The Grounds team also planted flowering plants in formerly bare patches along roads on the north and south side of the campus Physical Plant Management complex. In addition, they replanted areas of planters north of Bookstein Hall and Noski Auditorium that had been disturbed or grown bare. One major landscaping change of 2020 was the removal of CSUN's roughly 10,000 square-foot bamboo rainforest, which was necessary to remove several inefficient cooling towers nestled in the rainforest. After the cooling tower upgrade was complete, the former rainforest space was turned into a tree nursery. There, a variety of trees in 15-35 gallon boxes are able to develop and mature, before their eventual permanent installation elsewhere on campus. Various plants such as woolly sunflower, sage varieties, yellow bells, Mendocino grass, and others fill in spaces between and around the tree boxes. The Institute for Sustainability helped to create a "pocket pollinator habitat" less than one mile from the CSUN campus, on the corner of Parthenia and Reseda Blvd. The area includes native plants to attract pollinators and seating areas for the community. During the end of November, over 50 irrigated fruit trees in a 0.3 acre space were planted for a new student fruit orchard. These fruits will be available for students and other community members to gather in an effort to increase access to produce, and knowledge surrounding urban food production in our communities. It will also provide pollination habitat to pollinators and other animals.



Enhanced space outside CSUN's Art and Design Center



Honeybee in a flower outside the Art and Design Center



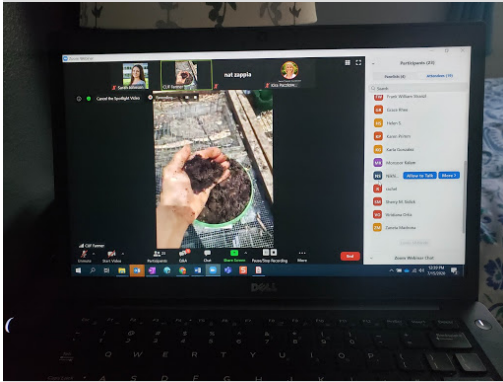
Flowering plants at CSUN's tree nursery



Education & Outreach

In Spring 2020, In honor of the 50th anniversary of Earth Day, the Institute collaborated with several on and off-campus partners to present a series of workshops hosted by nationally-renown urban farmers and gardeners including Scott Murray, Rose Smith, Elliot Kuhn, Yvonne Savio, and others. Participants took part in the experience from their yard or balcony while they weren't on campus due to COVID-19. The campus and broader community participated to plant a garden with fast-growing veggies and herbs such as radish, lettuce, and cilantro. In eight weeks, participants had a virtual "victory salad" (victory gardens were part of the WWII effort that raised food—approximately 40% of americans' fruits and vegetables at that time). Institute student assistant and graduate student, Richard Rachman, led one-hour webinars on urban biodiversity in the CSUN Food Garden, nocturnal moths and other animals for Halloween, and the importance of native plants in the San Fernando Valley. These webinars were about the survey work he has done at the CSUN Food Garden, where he described over 200 native and non-native organisms in the 0.7 acre space. Two documentaries were also posted on YouTube, one about Rincon-Vitova Insectaries and their use of organic pest management utilizing biocontrol insects and another about Integrative Pest Management and its possibility in the CSUN orange grove. Richard also gave a presentation about pollinators, to the Northridge East Neighborhood Council. Institute for Sustainability Director Natale Zappia also served on three panels including, "Urban Sustainability Symposium" for California State University, Los Angeles, "Pollinator Pockets and Urban Biodiversity" for the Association of Professional Landscape Designers Biodiversity Conference, and "Sustainability: More than an Ethos" for the Los Angeles Public Library. Institute for Sustainability Program Analyst Sarah Johnson led a virtual workshop regarding the importance of pollinators, specifically butterflies, and how to support them at home. She provided an overview of how to responsibly raise monarch butterflies to help increase the species' drastically declining population. An undergraduate student assistant facilitated a webinar titled, "Seeds Save Us". The webinar consisted of understanding the privatization of seeds and the importance of seed saving. She also showed a video to explain the process of seed saving in detail. On December 18th, staff member Richard Rachman and 2 volunteers led the 2nd Annual CSUN Christmas Bird count for the Audubon Society, and counted 30 species of bird on the CSUN Campus. The recording of some of these sessions can be found on the CSUN Sustainability YouTube channel: <https://www.youtube.com/channel/UCmWuqE8uQ29ifDFP0kvtbLw>





Elliot Kuhn, Manager of Cottonwood Urban Farm leads a virtual workshop on urban composting



Asian citrus psyllid found at the orange grove during the citrus IPM documentary.

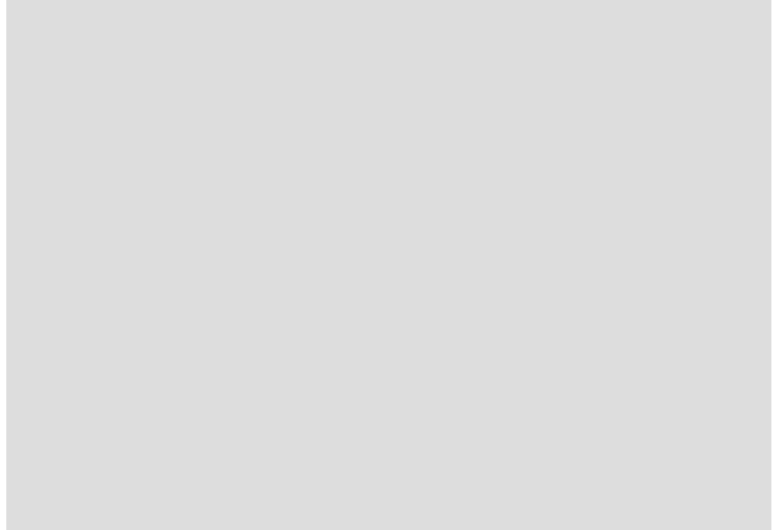


Theodore Payne Bush Lupine that Richard Rachman talked about during our native plant webinar, discussing the importance for habitat building and native plants for pollinators and conservation.

Courses & Continuing Education

Pollinator topics were addressed in a number of for-credit courses in 2020. Biologic Principles, Entomology, Bacterial Diversity, Conservation Biology, Evolutionary Biology, Ecology and People, Flowering Plant Systematics, and Plant Ecology all taught students about pollinators to varying degrees. Some of these courses examine the relationship between plants and their pollinators, others look at threats and conservation efforts impacting pollinator populations, the mechanics of pollination, the impacts of humans and pollinators upon each other, and other aspects of plant/human/pollinator relationships. One microbiology class examines the gut biome of honeybees. The Institute for Sustainability also hosted an Agroecology, farming, and food pathways class for a non-credit urban agriculture certificate program.



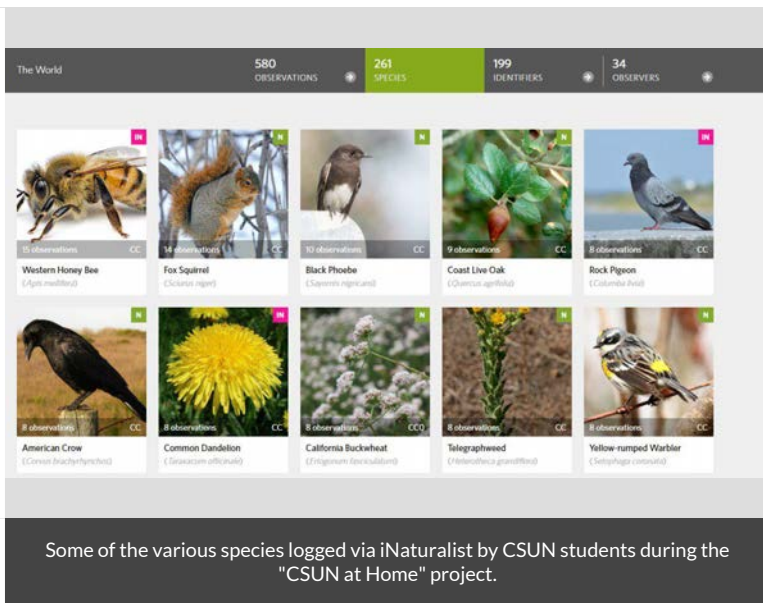


Western honey bee found feeding in a California golden poppy during our Food Garden biodiversity survey and shared via webinar.

Orbweaver that was photographed in the food garden during nocturnal urban surveying, and used for our Halloween webinar, "What' goes bump in the night at CSUN".

Service-Learning

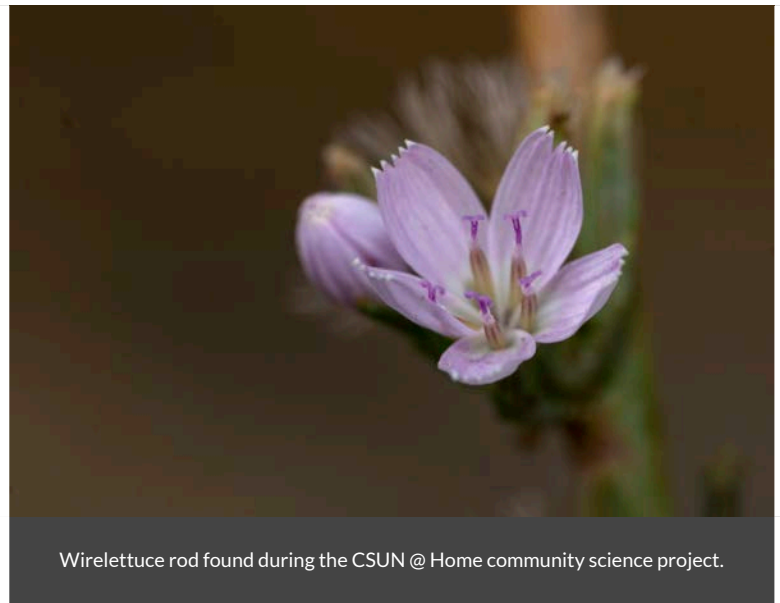
Due to COVID-19, the university is not allowed to host service-learning students on campus as we usually would in the food garden and orange grove. A Biology graduate student, Richard Rachman, led a community science project with scientists and students from an undergraduate Biology (People and Ecology) course utilizing iNaturalist, CSUN @ Home, where they made over 900 observations, many of which were native plants and pollinators. The Institute also hosted an Agroecology, farming, and food pathways class for a non-credit urban agriculture certificate program. There were many guest presentations organized by the Institute for Sustainability and delivered virtually that discussed pollinators.



The screenshot shows the iNaturalist app interface with a grid of 10 species observations. At the top, it displays statistics: 580 OBSERVATIONS, 261 SPECIES, 199 IDENTIFIERS, and 34 OBSERVERS. The species shown are:

- Western Honey Bee (*Apis mellifera*) - 15 observations
- Fox Squirrel (*Sciurus niger*) - 14 observations
- Black Phoebe (*Sayornis nigricans*) - 13 observations
- Coast Live Oak (*Quercus agrifolia*) - 9 observations
- Rock Pigeon (*Columba livia*) - 8 observations
- American Crow (*Corvus brachyrhynchos*) - 8 observations
- Common Dandelion (*Taraxacum officinale*) - 8 observations
- California Buckwheat (*Eriogonum fasciculatum*) - 8 observations
- Telegraphweed (*Trientalis graveolens*) - 8 observations
- Yellow-rumped Warbler (*Setophaga ruticilla*) - 8 observations

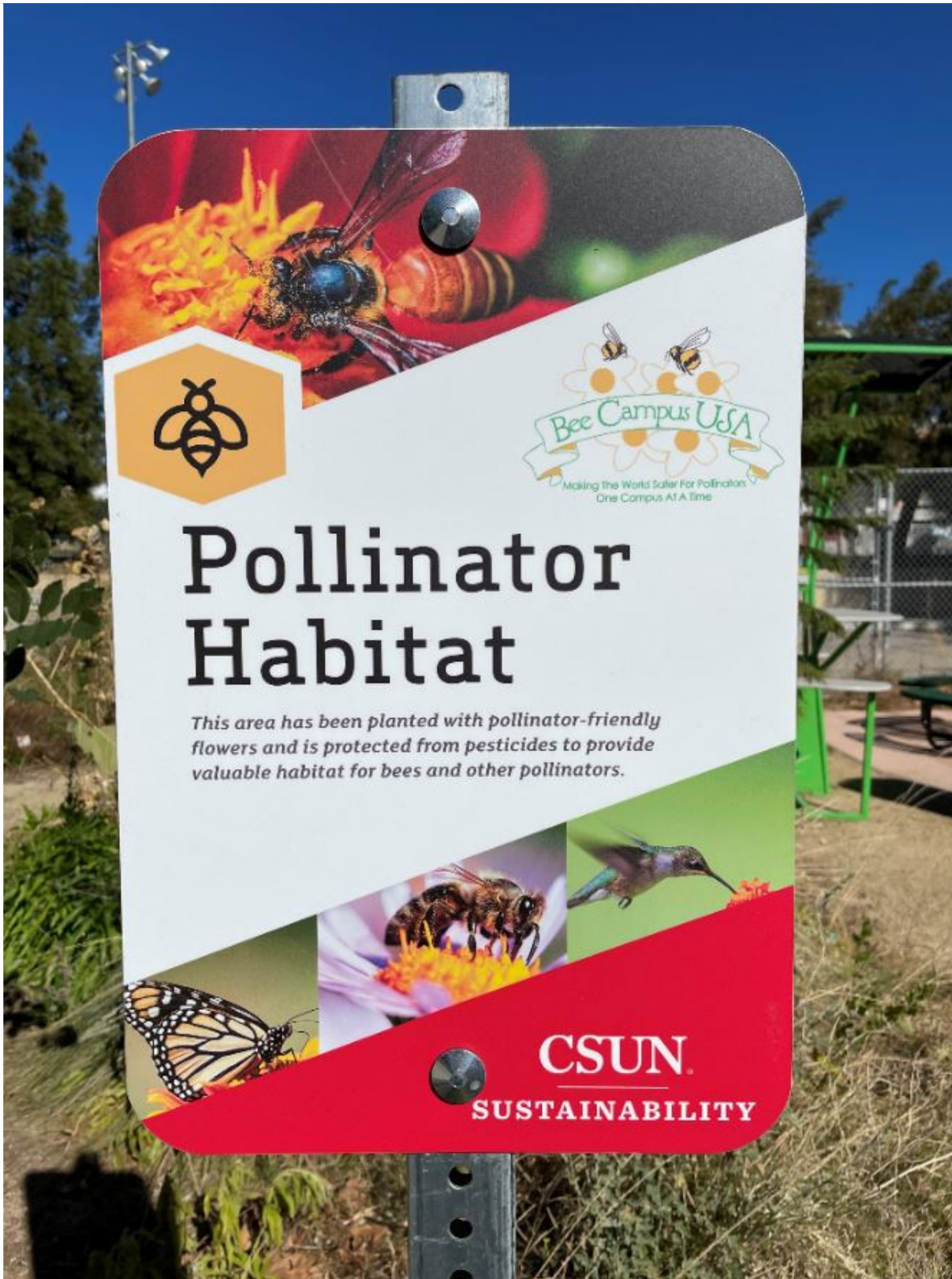
Some of the various species logged via iNaturalist by CSUN students during the "CSUN at Home" project.



Educational Signage

Permanent signs were installed in 17 different planters, denoting them as pollinator-friendly areas, protected from pesticide usage, and intended to provide a habitat for pollinators. More of these signs will be installed as more areas are refurbished to be more pollinator-friendly.





Pollinator Habitat

This area has been planted with pollinator-friendly flowers and is protected from pesticides to provide valuable habitat for bees and other pollinators.



Policies & Practices

Prevention is a key part of CSUN's approach to pest management. Weed control starts with consistent, thorough mulching of planters to suppress the growth of unwanted plants. When weeds do appear, they are treated with a mix of herbicide spot treatment and manual weeding. Broad applications of pesticides and herbicides happen only on athletic fields, and CSUN does not use glyphosate products on its landscape. CSUN is also actively searching for and testing natural alternatives to synthetic herbicides. CSUN has designated an area of its orange grove to be used by biology professor Rachel Mackelprang for beekeeping. The area is fenced off from the public, and is used to teach aspects of honeybee microbiology, pollinators' role in food production, and commercial honey production. When feral hives form in undesirable areas of campus, such as inside irrigation boxes or near high-traffic walkways, CSUN's Grounds team works with Dr. Mackelprang to safely relocate the hive with as little disturbance as possible. Additionally, CSUN has a few strategically placed artificial bee hives, which are serviced by the campus' contracted pest control provider, Dewey pest control. When hives form in these boxes, Dewey removes them and gives them to local beekeepers. This prevents the formation of difficult-to-remove beehives in high-traffic areas, and encourages the formation and longevity of hives that don't pose any risk to campus occupants.

Integrated Pest Management Plan: [Integrated Pest Management Plan \(final\).docx](#)

Recommended Native Plant List: [CSUN Pollinator Habitat Plan.docx](#)

Recommended Native Plant Supplier List: [Regional Plant Suppliers.docx](#)





Thoroughly mulched planter to reduce weed growth

Learn More

<https://www.csun.edu/sustainability>
energy.sustainability@csun.edu

<https://www.facebook.com/CSUN.Sustainability.Institute/>
<https://www.instagram.com/sustaincsun/?hl=en>
<https://twitter.com/sustaincsun?lang=en>





Unfortunately the committee could not all meet for a group photo due to remote work and limited on-campus personnel. Rather than a screenshot of a virtual meeting, here is graduate student and committee member Richard Rachman surveying arroyo lupine populations around the CSUN campus.

