February 19, 2025

DESERT CONSERVATION PROGRAM PROJECT COMPLETION SUMMARY

Mojave Poppy Bee Surveys

2021-USDA_ARS-2085A

The work for the above referenced project has been completed. Below is a summary of project related information.

The purpose of the above referenced project was:

> The goal of this project was to conduct systematic surveys for the Mojave poppy bee primarily in Las Vegas bear poppy populations with emphasis on those not studied in previous assessments of pollinators. The project was also designed to facilitate evaluation of overall pollinator visitation to the Las Vegas bear poppy and the degree to which this provides effective pollination.

The major accomplishments or findings of this project include:

- The Mojave poppy bee was found at multiple, but not all historic sites, and additional sites were documented.
- Study of bee-plant interactions confirmed the essential role of the rare Las Vegas bear poppy and prickly poppies as pollen host plants. The Mojave poppy bee shows strong fidelity to these plants, rarely visiting any other co-flowering plants.
- Interannual variation in adult activity is large, even between successive years. Multiple Mojave poppy bees were found at 25 sites in 2023 while there was virtually no activity across all of the sites for the previous 2022 season with the same amount of survey effort.
- The Mojave poppy bee is not active as an adult in all years. Evidence strongly suggests that this bee can remain dormant as an immature in the ground nest for multiple years (at least 3) under drought conditions.
- The diurnal window of Mojave poppy bee activity is narrow, especially for females. The greatest abundance is early in the morning with rapid decay in activity to midday; rarely are the bees found after noon.
- The interaction with Las Vegas Bear Poppy, a short-lived perennial, is critical to the conservation of the Mojave Poppy Bee in Clark County. More than a third of the populations of this host plant declined so severely from 2020 to 2023 that no Mojave Poppy Bees were detected.
- Data on seed fertilization and development suggest that pollination was not limiting plant reproduction at any site studied in either 2022 (n = 3) or 2023 (n= 8).

For more information about this project and/or for other Project Reports or Symposium Reports, please visit our website.

If you have any questions about this project, please contact Stefanie Ferrazzano, at (702) 455-6386.