



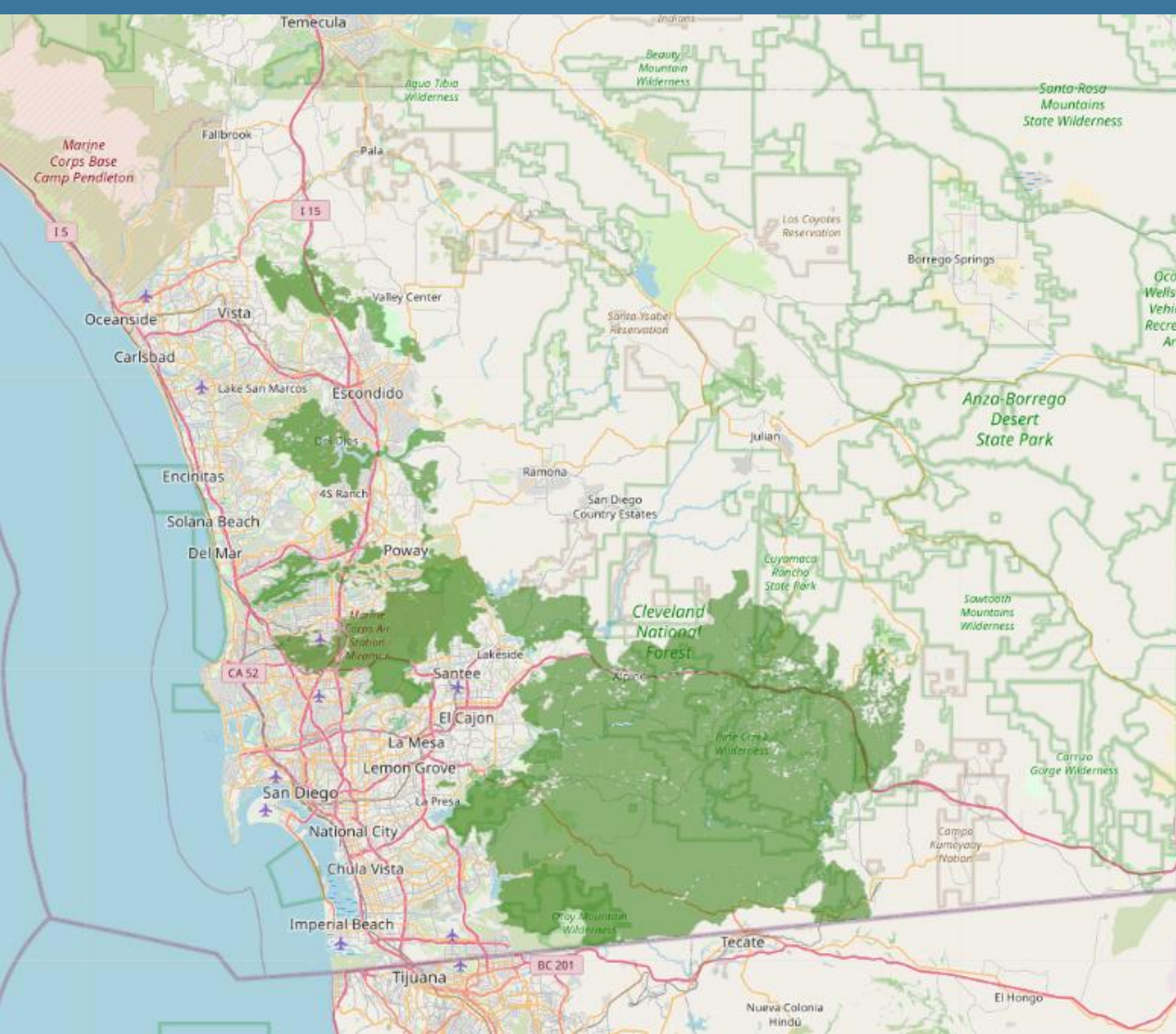
Protecting the Hermes Copper Butterfly

through Collaboration,
Education, Research, and
Habitat Enhancement



Hermes Copper Butterfly Habitat Restoration in Southeast San Diego County

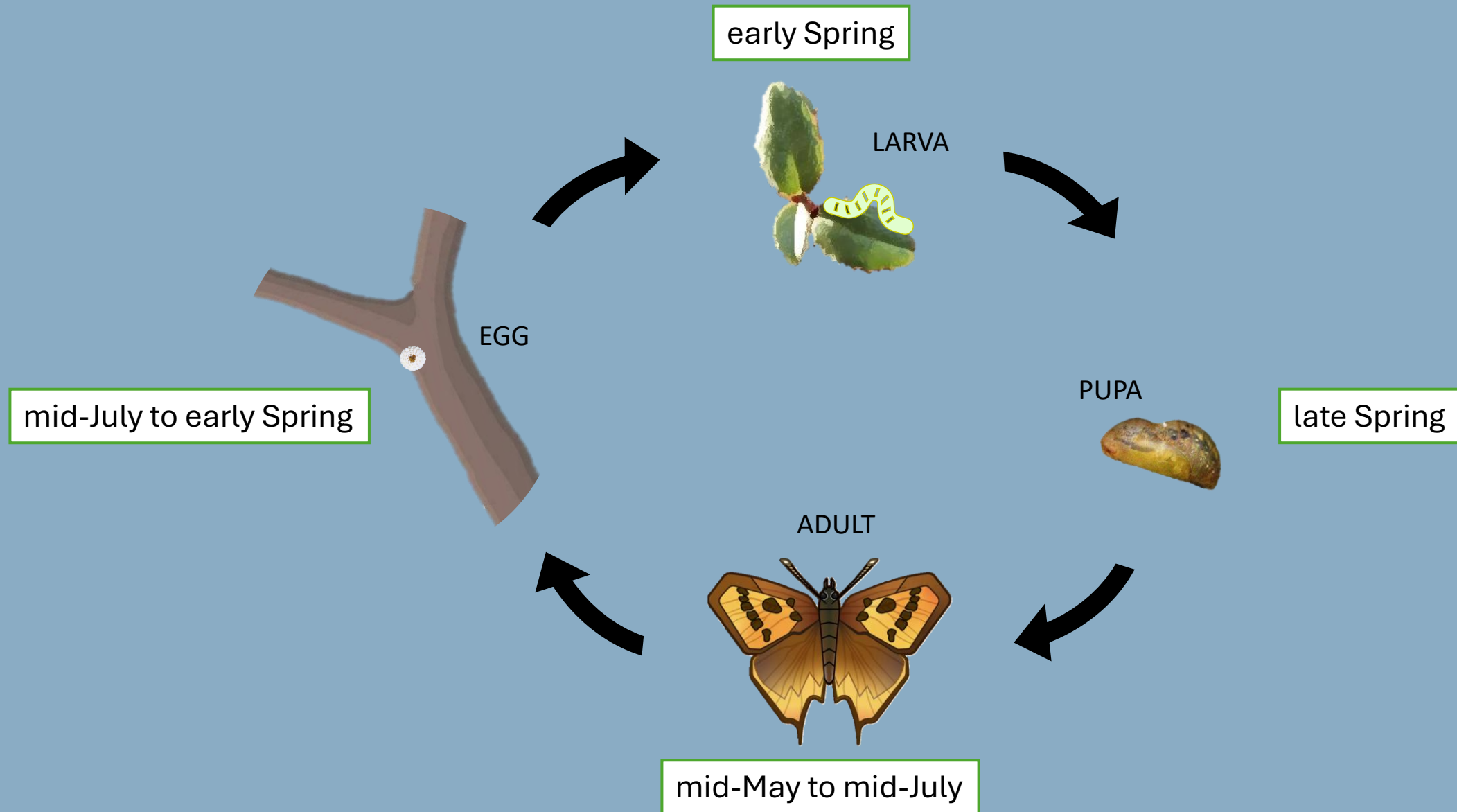
- Funded agreement with Bureau of Land Management through the Good Neighbor Authority
- 5-year project, May 2024 - April 2029
- Goal is to promote species recovery and better understand Hermes copper habitat needs to guide future restoration efforts
- Project includes research, education, outreach, and on-the-ground habitat improvements
- Part of a wider effort to conserve Hermes copper



Hermes copper butterfly (HCB) range
U.S. Fish & Wildlife Service



Hermes copper life cycle



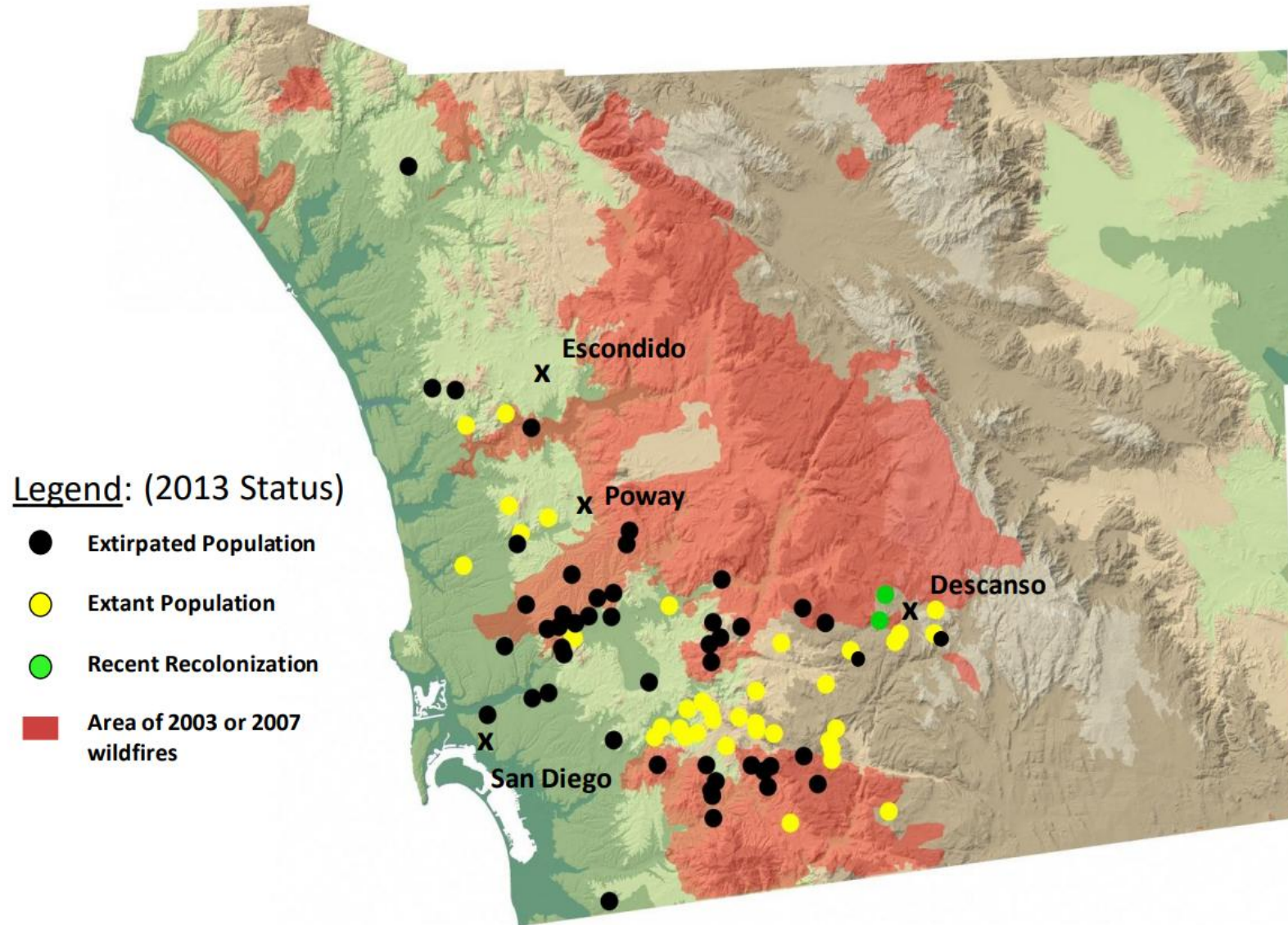


Hermes status & challenges

- Extant populations are decreasing
- Major threats are habitat fragmentation, fire, and drought
- Low reproduction potential
- Translocation has proven difficult
- Two major nectar sources: CA buckwheat and slender sunflower
- Host plant with a large distribution, but Hermes copper only present in a subset of that range

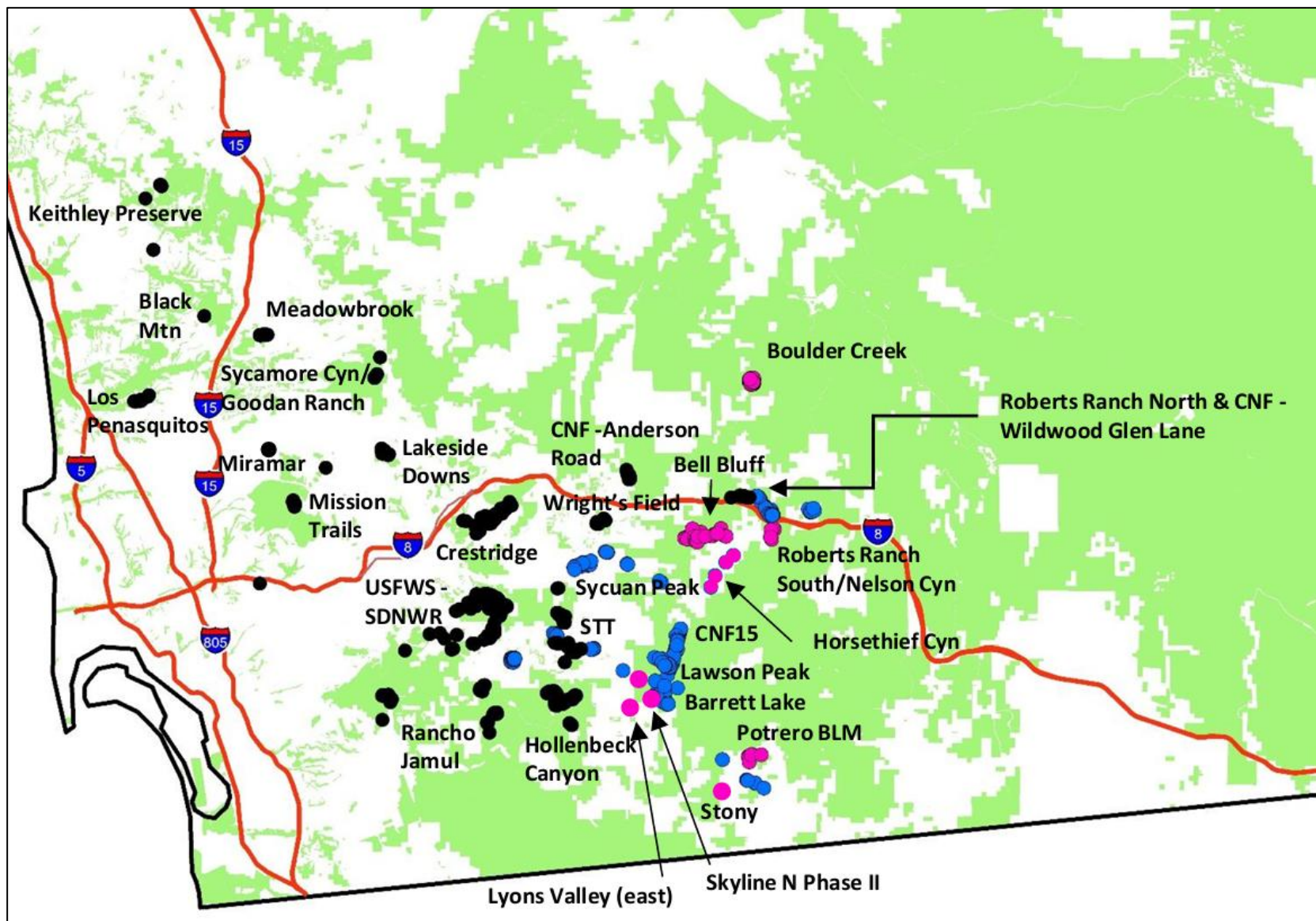
Map from San Diego County Hermes Copper Habitat Conservation and Management Plan, April 2017

Distribution of HCB adults in San Diego County as of 2011



Map from 2025 Hermes Copper Adult Surveys report, Dan Marschalek et. al.

Distribution of HCB adults in San Diego County as of 2025



- extant populations
- extirpated populations
- sites of unknown status
- conserved lands (SANDAG)

Status of each site presumed as of August 2025.

(A 2026 status update is not provided due to few Hermes copper observations in 2026.)

Collaboration: Project Partners



**San Diego Zoo
Wildlife Alliance**





Research: San Diego Zoo Wildlife Alliance

Working to better understand environmental conditions and stressors on spiny redberry to improve future restoration efforts:

- Growing 80 redberry plants at a property just outside of the historic range - Samataguma
- Installed a weather station to track climate data
- Can this site support a lab for raising Hermes in ambient conditions?



Research: San Diego Zoo Wildlife Alliance

Next Steps:

Measuring plant conditions and stress levels using a leaf spectrometer to compare:

- Occupied, recently occupied and unoccupied sites
- Nursery-grown plants and wild plants
- Plants installed at Samataguma and plants at occupied sites

Goals:

- Understand the distribution of Hermes copper within the host plant range
- Understand how best to feed Hermes copper reared in lab settings



Education: Viejas Band of Kumeyaay Indians

- Planted 36 small redberry plants
 - 4/36 plants appear healthy
 - Attempted rescue from site to be developed
- With support from SDMMP staff, hosted an experiential learning event
 - 20+ tribal members in attendance, including children and Viejas staff
 - Pollinator walk, netting insects for hands-on learning before releasing, drawing & coloring activity to reflect on observations and learnings



Education: Viejas Band of Kumeyaay Indians

Next Steps:

Fall & Winter 2026:

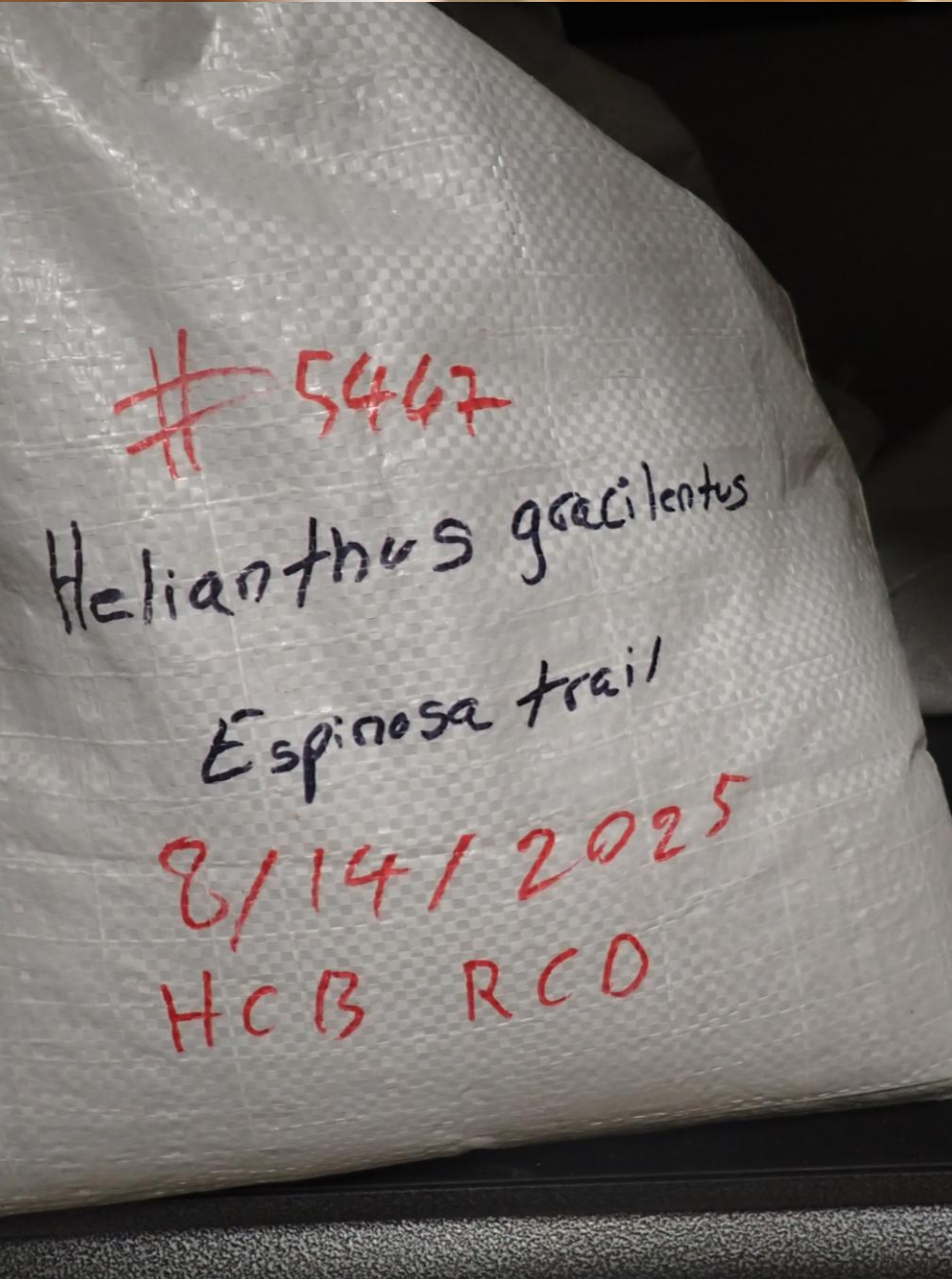
- Education events for Tribal youth about HCB lifecycle, threats, and habitat needs; Greenhouse planting activities
- Continue habitat enhancement activities & grow redberry and nectar plants in greenhouse
 - *With support from Cabrillo SIP Intern*

Spring 2027:

- Host trainings for tribal members - habitat assessment and HCB surveys
- Hermes monitoring with species experts

Summer 2027:

- Redberry seed collection & processing at Viejas



Habitat Enhancement: Seed Collection

- USFS funding supports seed collection
- Collected seed will be used to enhance and improve HCB habitat on 200 acres in SD County:
 - 62 acres in the Round Potrero area on Bureau of Land Management (BLM) Lands
 - 138 acres in the greater Descanso area on Forest Service Lands

Seed Collection: AECOM

3 focal species: HCB host plant and 2 HCB nectar plants



Ramnus crocea



Eriogonum fasciculatum



Helianthus gracilentus

Next steps



Monitoring, and hold trainings on species ID and habitat assessment



Habitat restoration : seed collection and processing for host plant and nectar plants; planting



Testing redberry leaves to determine secondary compounds and inform captive rearing & translocation efforts



Questions?