

# Fostering Learning and Connection to Science and Society Through a Co-designed California Naturalist Course



**UC Environmental Stewards**

University of California  
Agriculture & Natural Resources



**UC DAVIS**

Center for Community  
and Citizen Science

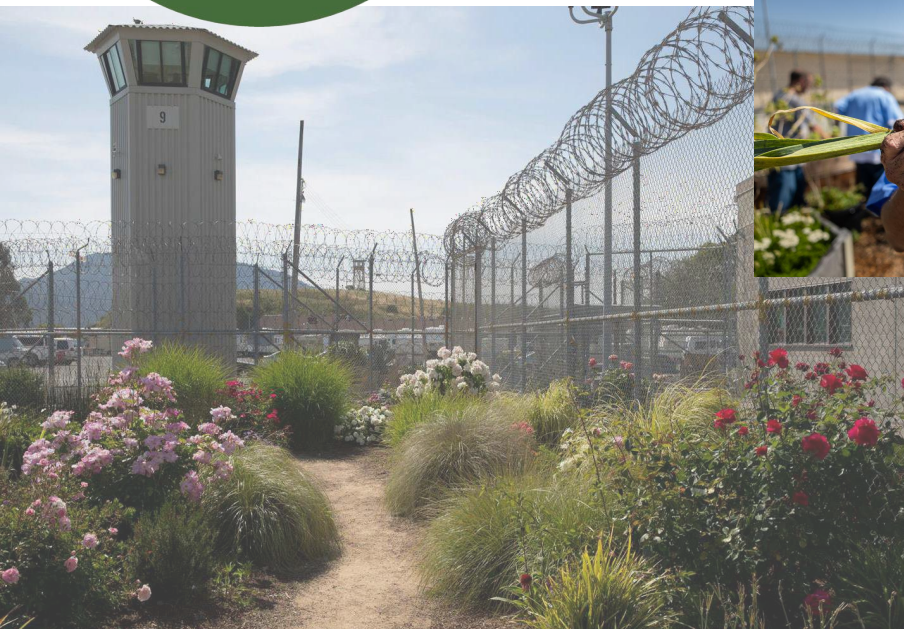
At the School of Education

**AISL Awardee Meeting 2026**  
**Margot Reisner, Laci Gerhart, Heidi Ballard**



# Land Together

*Cultivating growth, justice, and belonging by nurturing deep connections to nature, self, and community for people impacted by mass incarceration.*



## In-Prison: Insight Garden Program

- Interdisciplinary and holistic gardening curriculum
- Over 450 participants yearly at 9 prisons
- National tablet course on Edovo



## Wraparound Reentry Support

- Pre-release coaching and case management
- Gate pickups and system navigation
- Post release support circles and outings



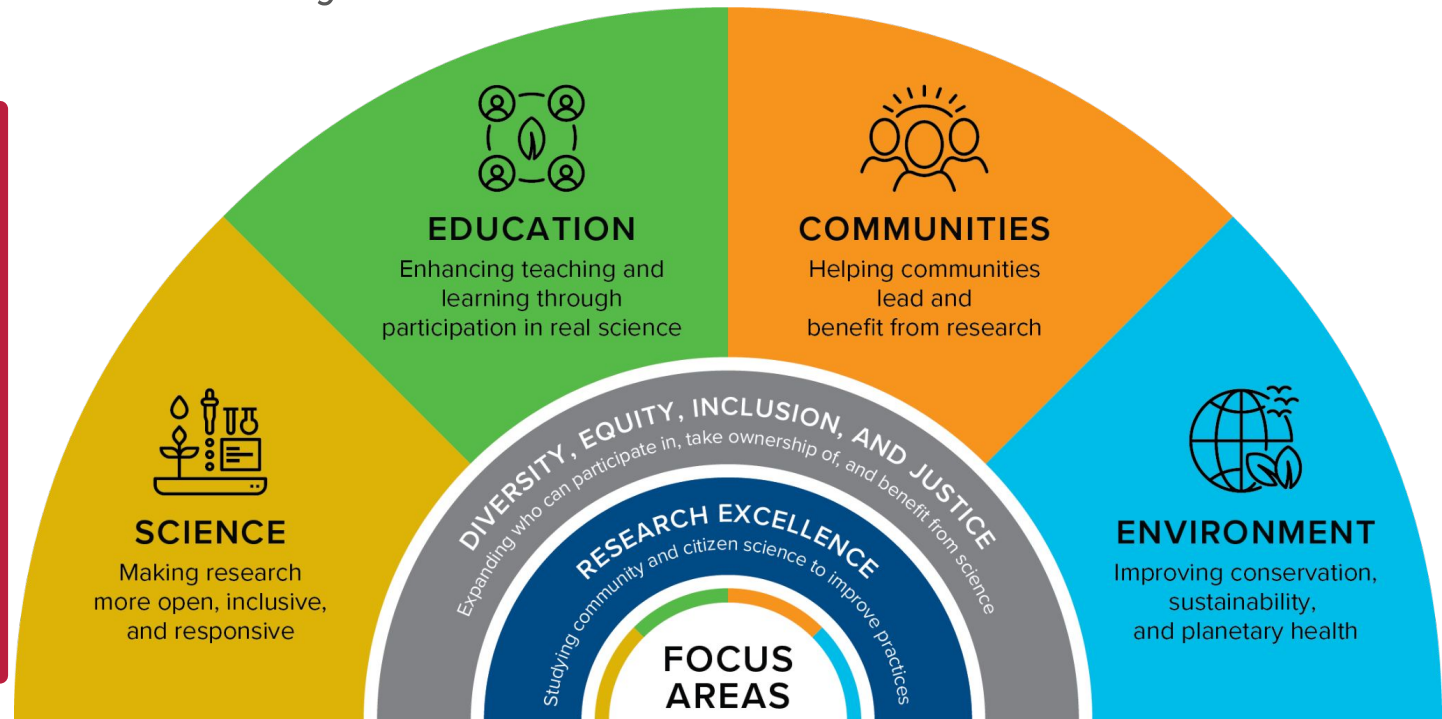
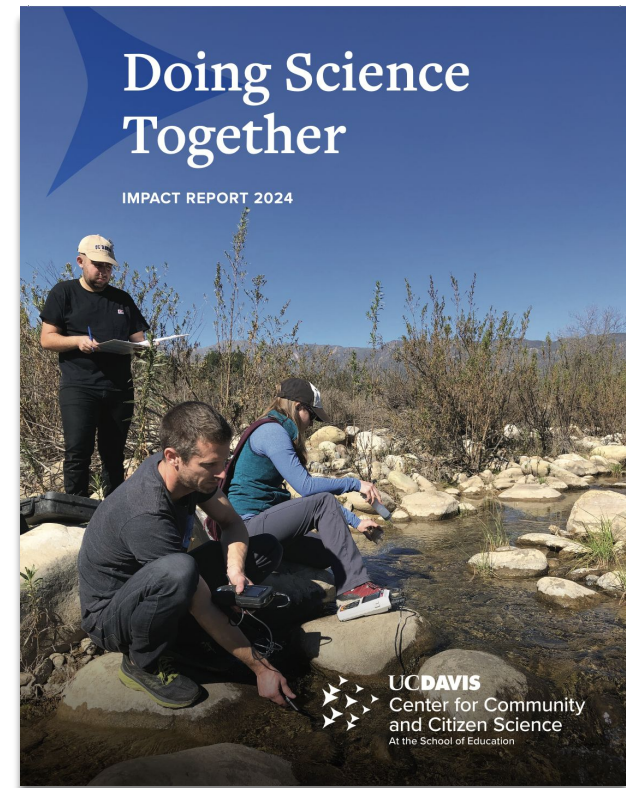
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# Participatory Environmental Science

- Increase knowledge and understanding of natural world, and scientific process
- Enhance skills and practices of science reasoning and data literacy
- Impact sense of place and stewardship behaviors
- Develop confidence and identity with science



# California Naturalists

The mission of UC Environmental Stewards is to foster a diverse community of stewards building toward sustainability and resilience in California's communities and ecosystems through education and service



# Project Overview: Research

## Context



**LT:** Permaculture gardens in prisons, built and maintained by incarcerated people. 48-week curriculum of four learning arcs.

## Interventions



**PES:** Authentic science in gardens.

Participants gather, submit, and work with biodiversity data. Interactions with professional scientists; new dimensions of learning in garden spaces.



**CalNat:** Master Naturalist training

Field-based environmental education in garden spaces, resulting in certification through UC Environmental Stewards.

## Research Focus

### Science Identity

The degree to which participants see themselves as scientists or contributors to science, or believe they are seen as such by others.

### Self-Efficacy

Participants' beliefs about their capabilities to learn specific content and to perform particular behaviors.

**Approaches and Guiding Values**

Shared Leadership

Equity

Co-Design

Utility

Scalability

# Project Overview: Implementation

Phase 1: Co-design Adapted CalNat Course at CHCF

Phase 2: Pilot #1 CalNat Course at CHCF; redesign June - Dec. 2026

Phase 3: Pilot #2 CalNat Course; redesign March - August 2027

Phase 4: Dissemination

## Proofs of concept

- Pollinator observations, Great Sunflower Project protocol
- Bird observations, eBird protocol
- Meteorological observations
- Nature journaling and sketching
- *Birds of CHCF Field Guide*

### Rock Dove

*Columba livia*

**CONTRIBUTORS**  
Tavern Jackson (T.J.), Greg Ennis (Brother Reid)

**DESCRIPTION**  
A very common blue-gray dove with iridescent purple and green rock feathers, as well as dark markings on its wings and tail. They are most often spotted in flocks and tend to nest on buildings rather than in trees or bushes.

**BASIC FACTS**  
Worldwide, including throughout the U.S.; typically in cities and towns or near coasts or in mountainous areas.

**When observing the rock dove, I am fascinated by their level of socialization. The males are always joining the females with inflated abdomens and chest, following courtship songs. It reminds me of music festivals. Also, the rock dove seems to be extremely self-confident and operate in their own world. I realized that it is very abundant of its own species, as well as other species around. When any other bird discovers a food source, the rock dove is usually right behind them.**

**Omnivorous** (seeds, grains, insects, trash)

**Least Concern**

**OBSERVATIONS**

- They can typically be seen between 9 a.m. and sundown. They are generally all around the yard in larger groups and perch on the roof of my building.
- It's such a common bird. I and many others, have been taught to call this bird a pigeon. I have grown up with the awareness of this bird.
- Many rock doves can usually be spotted behind the chapel and fences, picking through leftover fruit and any seeds in the dirt.

**SIMILAR SPECIES**

A Eurasian collared dove. They have tan feathers and black bands around their necks.

A mourning dove. Famous for their "purr" or "coo" calls, males have pink throat feathers.

### Great Sunflower Project (English)

<b>Location:</b> Arenal		
<b>Date:</b> June 13, 2022		
<b>Time:</b> 4:22 PM		
<b>Observation Length (Minutes):</b> 2 Min.		
<b>Species of Flower Observed:</b> Oregano		
<b>Number of Flowers Observed:</b> 20 Fully grown		
Pollinator Species	Observation 1 (Tally)	Observation 2 (Tally)
Bumble bee		
Carpenter bee	3 small	
Honey bee		
Other bee species (describe in notes)		
Other known species (describe in notes)	Green spider	Lady bug
Birds		
Butterflies		
Unknown species (describe in notes)		rolly polly ☹️
<i>Mark here if you didn't see any pollinators. This is important!</i>	<input type="checkbox"/>	<input type="checkbox"/>

#### Other Notes:

This biological survey was very fun and exciting. Learned something new: first time seeing a small carpenter bee.

#### Types of bees:



Bumble bee

Carpenter bee

Honey bee

Other bee species

# Impacts

- Ecological engagement in an environment devoid of green spaces
- Expansive vision for what the scientific community and education can look like
- Workforce development and reentry readiness
  - Normalization & community engagement reduce recidivism
  - Inclusion in CalNat Network
- Investment in the deep knowledge and talent inside prison walls
  - Prisons are unique environments that no one except people incarcerated there can study fully





“The goal... is simple - to inspire - to motivate - to give joy - and to help everyone appreciate the surprising diversity of nature surrounding us. Most importantly... to offer a its reader a view into a place where some believe that beauty could not exist.”



“I remember [a] convo about the butterflies and other bugs. I remember going years without seeing those things. I also remember how peaceful [these] conversations were.”



“The sky is the most beautiful part of any prison, and its birds are its ambassadors, dressed in their colored coats.”



“There was always a sense of wonder and awe as people shared what they had observed, or in the case of winter, maybe not observed.”



Thank you!

