



UC California Naturalist

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University of California

Agriculture and Natural Resources

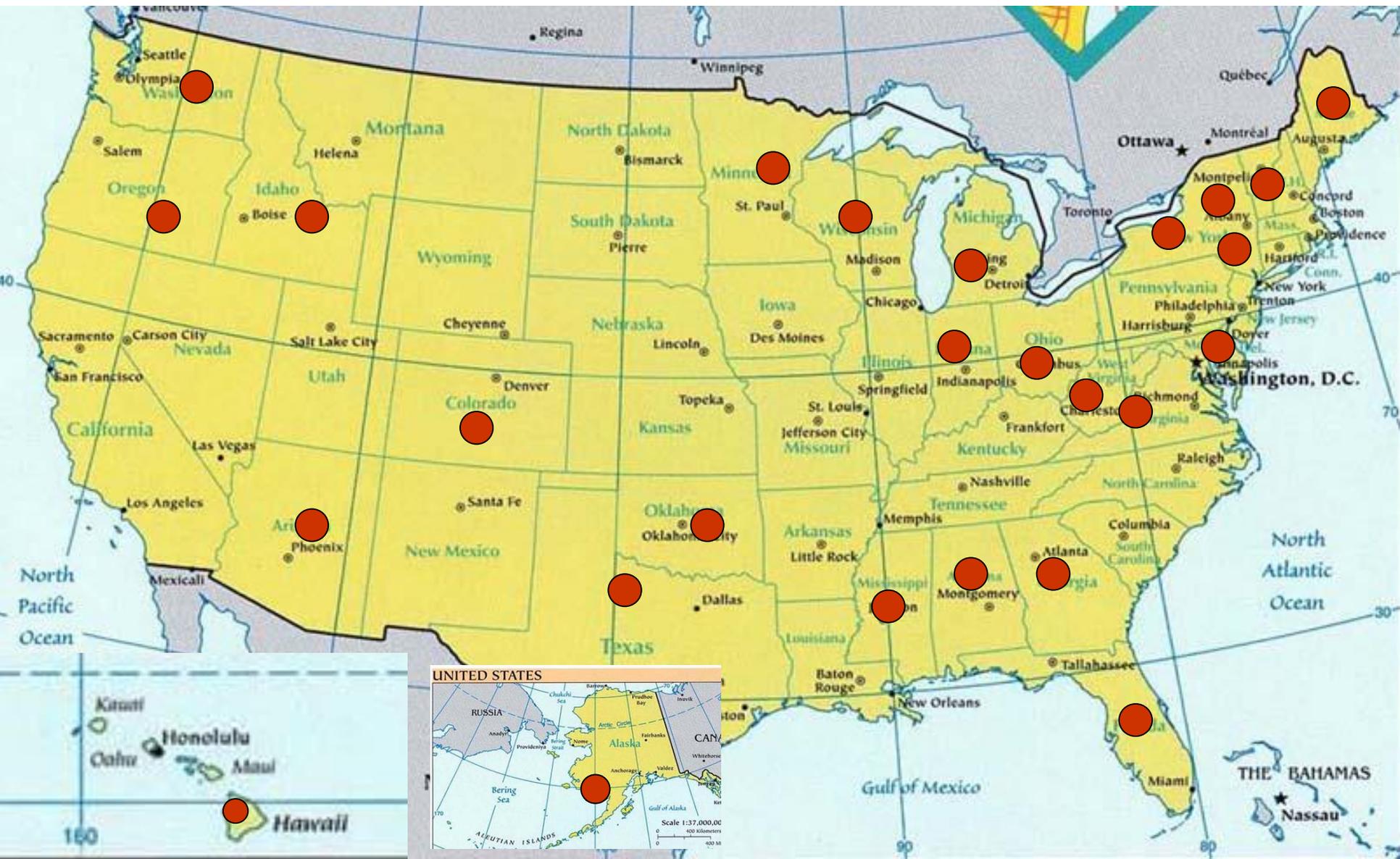
Today

1. What is the California Naturalist Program? (Adina Merenlender)
2. Accomplishments to date (Brook Gamble)
3. Expanding in Southern California (Sabrina Drill)
4. Advanced modules (Jessica Chen)
5. Next Steps
6. Questions



What is the California Naturalist Program?

CA Naturalist Program modeled after other programs

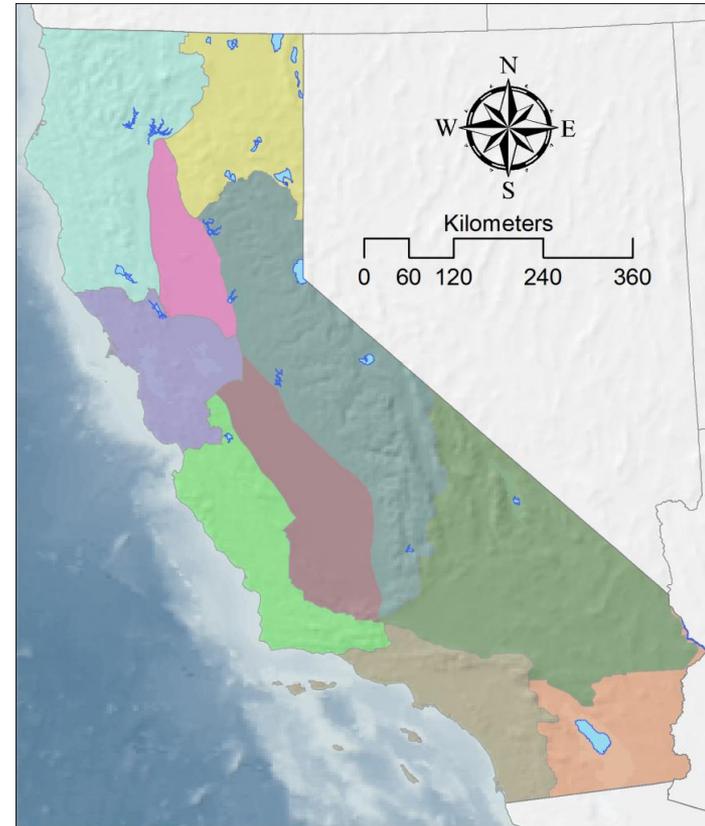


California's diversity & challenges

California is one of the most diverse places on Earth.

- 30,000 species of insects
- 63 of freshwater fish
- 46 amphibians
- 96 reptiles
- 563 birds
- 190 mammals
- more than 8,000 plants

Many are endemic to CA



Bioregions

Bay / Delta	Mojave
Central Coast	Sacramento Valley
Colorado Desert	San Joaquin Valley
Klamath / North Coast	Sierra
Modoc	South Coast

What do naturalists do?

- Spend time outside observing nature

- Drawing

- Photographing

- Note taking

- Identifying and collecting

- Steward land
 - Interpret nature
 - Citizen science
- Conservation action
 - Support science & education institutions
 - Have fun!



A group of people, including a woman in a blue shirt and white shorts pointing towards a map, are gathered on a dirt path in a lush, green natural area. The background features a large tree with vibrant green leaves on the left and a dense forest of tall evergreen trees on the right under a clear blue sky. The scene is bright and sunny, suggesting a pleasant day for a hike.

The mission of the California Naturalist Program is to foster a diverse community of naturalists and promote stewardship of California's natural resources through education and service.

We cannot protect and restore California's unique ecology without an environmentally literate, engaged public.

WANTED
NEW CONSTITUENCY



MUST HAVE:

- Environmental literacy
- Scientific and social understanding
- Interpretive skills
- Involved in collaborative conservation

UC California Naturalist

Provides:

- i. clear, concise information about structure and function of California's ecological communities and challenges in resource management
- ii. a framework to increase engagement of California citizens in conservation in their communities
- iii. a portal for information from academic scientists, public agencies, and non-profit organizations dedicated to preserving California's nature

By using:

- Science-based curriculum
- Hands-on learning
- Training in communication
- Stewardship, citizen science, interpretation...





CALIFORNIA NATURALIST
DISCOVERY • ACTION • STEWARDSHIP

Local partners:

**Pacific Grove
Natural
History
Museum**



Program participants



Citizen science



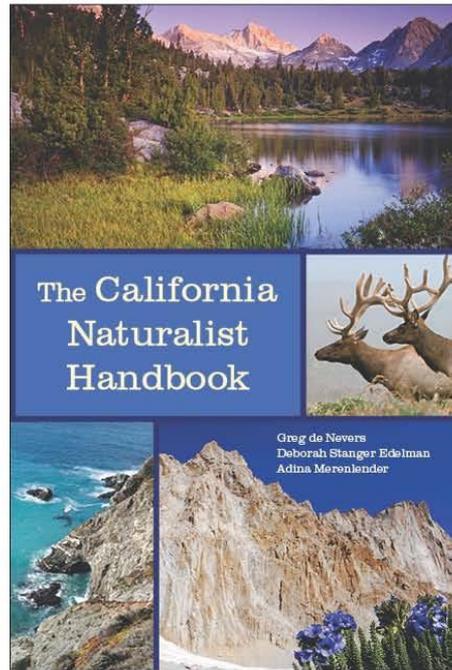
Outreach/education



Stewardship

A Certified CA Naturalist will have...

- Attended all class sessions and field days (40 hrs).
- Completed a capstone project.
- Logged at least 1 observation in iNaturalist.
- Participated in the citizen science project adopted by each class.
- Read the entire book “The California Naturalist Handbook” and complete assigned homework.
- Created a field note with entries from all field days and hopefully more.
- Completed post and pre course surveys.
- *Committed (and logged in VMS) 40 + volunteer hours/yr*
 - *environmental stewardship*
 - *education*
 - *citizen science*



The California Naturalist Handbook

GREG DE NEVERS, DEBORAH STANGER EDELMAN,
AND ADINA MERENLENDER

"Everyone interested in creating a sustainable society should have a copy of *The California Naturalist Handbook*."

Paul R. Ehrlich, co-author of *The Dominant Animal*

"This book reminds students of what makes California a brilliant place to explore and experience nature."

Ann Wasser, Pacific Grove Natural History Museum

"*The California Naturalist Handbook* is the new, go-to reference for any question about the nature of the state, its energy resources, land management and environmental concerns."

Rich Stallcup, author of *California Traveler Birds of California*

"This is a dangerous book. If you start reading it, you may find yourself having the uncontrollable desire to study the insects in your backyard, examine the rocks in a local roadcut, or look for frogs along a mountain stream."

Peter Moyle, author of *Fishes: An Enthusiast's Guide*

The California Naturalist Handbook, the primary text for the California Naturalist Program, provides a fun, science-based introduction to California's natural history with an emphasis on observation, discovery, communication, stewardship and conservation. It is a hands-on guide to learning about the natural environment of California. Subjects covered include California natural history and geology, native plants and animals, California's freshwater resources and ecosystems, forest and rangeland resources, conservation biology, and the effects of global warming on California's natural communities.

Greg de Nevers is a botanist and naturalist with years of experience observing nature and sharing it with others through writing and teaching.

Deborah Stanger Edelman co-founded the California Naturalist Program and has over 20 years experience developing resource conservation and education programs for organizations.

Adina Merenlender is an internationally recognized conservation biologist, and is the Director of the UC California Naturalist program.

TO ORDER ONLINE:

ucpress.edu/9780520274808

For a 20% discount use source code 13W3981

Please enter this code in the discount box.

Discount only available on books shipped to North America, South America, Australia, and New Zealand.

PHONE ORDERS: 1-800-777-4726

FOR MORE ON THIS TITLE:

ucpress.edu/go/calnaturalist

The Curriculum

The UC California Naturalist Handbook, UC Press 2013

By Greg de Nevers, Deborah Stanger Edelman, and Adina Merenlender

Table of Contents

Acknowledgements and Preface

Chapter 1 California Natural History and the Role of Naturalists

Chapter 2 Geology, Climate, and Soils

Chapter 3 Water

Chapter 4 Plants

Chapter 5 Forest, Woodland, and Range Resources and Management

Chapter 6 Forests and Woodland Resources

Chapter 7 Energy and Global Environmental Issues

Chapter 8 Interpretation, Collaboration, and Citizen Science

Glossary

Capstone projects and citizen science

Inland Mendocino CA Naturalists adopt NestWatch as their class citizen science project.



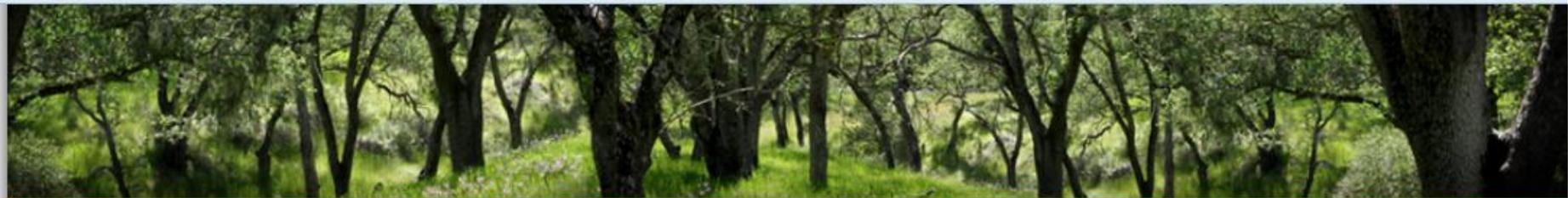
Integrating PPSR and the CA Naturalist

(NSF Informal Science Education Program Pathways Award)

- **Develop and Test an Integrated Model for Naturalist and PPSR Participation**
- **Recruit** a diversity of participants to the California Naturalist program at the two designated research pilot sites.
- **Connect** CA Naturalist participants as volunteers for a variety of local Citizen Science/ Public Participation in Science Research Programs (PPSR).
- **Research** impacts of integrated model of PPSR and naturalist program training on participants science and environmental learning and identity.



Regional Network Example



Stewardship | Discovery | Action

SHARE | EMAIL | PRINT

Home

About the program

Citizen Science for CA Naturalists

Take a class

- Pacific Grove Museum of Natural History
- UC Santa Cruz Arboretum
- Pepperwood Preserve & Santa Rosa JC
- Sagehen Creek Truckee
- SPAWN Marin County
- Pasadena Naturalists
- Santa Barbara

Advanced Trainings

Become a sponsor/instructor

Volunteer Monitoring

Meeting the UC ANR Mission

Pacific Grove Museum of Natural History

California Naturalist Certification Program: Pacific Grove Museum of Natural History

The California Naturalist class will introduce you to the wonders of our unique ecology and engage you in the stewardship of California's natural communities. The course will utilize a combination of science curriculum, guest lecturers, field trips and project based learning to immerse you in the natural world of the Monterey Peninsula. Through the course, participants will develop their ability to observe nature and will learn tools to improve these skills. In addition, participants will improve their communication skills by sharing knowledge with other participants and by working on a group project.

The certification classes will be held at the Pacific Grove Museum of Natural History Wednesday evenings in the Spring. There will also be three Saturday field trips and volunteer hours are required to be certified through this sponsor.

More information on dates and costs can be found at <http://www.pgmuseum.org/>



WHAT IS LiMPETS?

ROCKY INTERTIDAL MONITORING

SANDY BEACH MONITORING

TEACHER RESOURCES

STUDENT RESOURCES

DATA ENTRY & RESULTS

DISCOVER YOUR MARINE SANCTUARIES

CONTACT US

LiMPETS News

New LiMPETS Site at
Vandenberg Airforce Base >

More news >

You are here: [Home](#) > [What is LiMPETS?](#)



What is LiMPETS?

- Environmental monitoring and education program for students, educators, and volunteer groups
- Monitor the ocean and coastal ecosystems of California's National Marine Sanctuaries to increase awareness and stewardship of these important areas
- Rocky Intertidal Monitoring Program
- Sandy Beach Monitoring Program
- Hands-on coastal monitoring experiences to conduct real science and serve as ocean stewards.

iNaturalist.org

iNaturalist.org Observations ▾ Species ▾ Projects ▾ Places ▾ People Welcome mokei (Sign out) Dashboard ▾

« Projects Leave this project



University of California CALIFORNIA NATURALIST

Año Nuevo and surrounds

4 taxa observed ~ [Browse the Año Nuevo species guide](#)

[Add Observations](#)



Map Satellite

Año Nuevo Bay

Google Map Data - Terms of Use

Recent Observations [View all](#) »

 **Northern Elephant Seal** *Mirounga angustirostris*
Observer [loarie](#)
Date Nov 13, 2011 03:24 AM PST
Place [ano nuevo state park \(Google, OSM\)](#)
2 2 IDs | [Research Grade](#) [View](#) » 

» Observations / Map

Atom / KML / CSV

» Checklist

4 taxa observed

» Top Contributors

1.  **loarie**
3 species, 5 observations

[View leaderboard](#) » | [View all members](#) »

» Stats

About Projects

This Natu Projects are a way to pool your observations with other people on iNat. Whether you're interested in starting a citizen science project or just keeping tabs on the birds in a nearby park with your local birding club, Projects are the way to go.

[Start a new project](#)

Projects You've Joined

 Año Nuevo and Surrounds UC California Naturalist Project <small>This project is part of the UC California Naturalist Program.</small>	 CA Newt Watch <small>Tracking of annual CA Newt (<i>Taricha Torosa</i>) migration in SF East Bay community. Includes rescue efforts of...</small>	 The Sampled Red List Index for Plants <small>The Sampled Red List Index for Plants (SRLI) project is a major global monitoring scheme that is helping us...</small>
 Arachnids and Myriapods of North America <small>In an effort to increase awareness of the 'lesser-studied' terrestrial arthropods, here is a repository for...</small>	 Mark West Watershed Biodiversity Project <small>*Platform to share and communicate observations about specific species to inform us about our watershed bio...</small>	 Global Reptile BioBlitz <small>There are over 9,000 recognized species of reptile in the world. Many are extremely poorly known and many m...</small>
 Jasper Ridge Monitoring Project <small>The purpose of this project is to gather information about the distribution and abundance of plants and ani...</small>	 BadgerMap <small>BadgerMap is a project to document confirmed habitat and species sightings for American Badger (<i>Taxidea tax...</i></small>	 Global Amphibian BioBlitz <small>Amphibians around the world are rapidly disappearing. To conserve these fascinating creatures, scientists ...</small>

[View all your projects](#) »

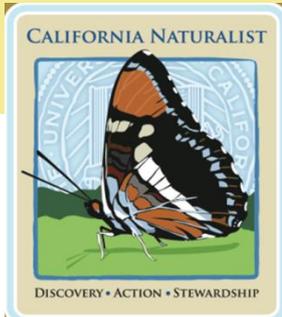
Add your observations to a CA Naturalist project!



Accomplishments

California Naturalist Program

Discovery Action Stewardship



Early Adopters 2012

- *Santa Rosa JC/Pepperwood
- *UC Santa Cruz Arboretum
- UC Sagehen Field Station
- *Pacific Grove Natural History Museum
- Pasadena City College
- Salmon Protection & Watershed Network
- Santa Barbara Botanical Garden

2013

- Hopland Research and Extension Center
- Occidental Arts and Ecology Center
- Santa Ana Watershed Association

Number of Naturalists to date: ~330

Number of volunteer hours *logged*: ~4354



SELF-EFFICACY WITH SCIENCE

For each of the following, please rate each statement by placing an X in the appropriate column. Please respond as you really feel, rather than how you think “most people” feel.

Choose one answer on each line.

These statements are about how you feel about <u>learning and understanding science topics</u>	Disagree Strongly	Disagree a little	Agree a little	Agree Strongly
I think I'm pretty good at understanding science topics.				
Compared to other people my age, I think I can quickly understand new science topics.				
It takes me a long time to understand new science topics.				
I feel confident in my ability to explain science topics to others.				

These statements are about how you feel about <u>doing scientific activities</u>	Disagree Strongly	Disagree a little	Agree a little	Agree Strongly
I think I'm pretty good at following instructions for scientific activities.				
Compared to other people my age, I think I can do scientific activities pretty well.				
It takes me a long time to understand how to do scientific activities.				
I feel confident about my ability to explain how to do scientific activities to others.				

These statements are about how you feel about <u>yourself as a scientist</u>	Disagree Strongly	Disagree a little	Agree a little	Agree Strongly
I think I could be a good scientist.				
I have always had a natural talent for doing science.				

Lessons Learned:

Informal mixing is working

Goal: participants of different age-groups and backgrounds benefit from each others' experiences and skill sets.

Method: Informal interactions in class and the field.

Based on the first exit interviews...

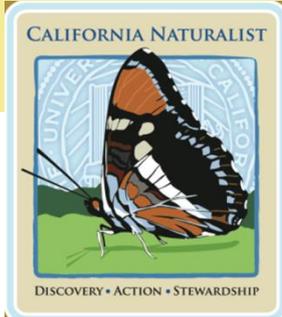
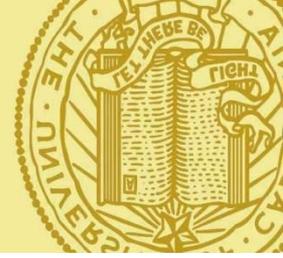
- Older participants in the course talked about learning from the content of the course and learning from other naturalists in training
- Many of the older participants talked about learning from younger participants, enjoying their enthusiasm and even just that they were there.
- The younger participants had similar positive feedback about learning from the older and/or experienced participants in the course.

California Naturalist Program

Discovery

Action

Stewardship



Capacity Building



California Naturalist Program

Building a Constituency for Nature



Interest growing in UC's California Naturalist Program

Enthusiasm and generosity of spirit are characteristics of the teachers and the students in the University of California's burgeoning [California Naturalist Program](#), according to several media accounts about the program's growth and development around California.

The California Naturalist Program is a statewide initiative of UC Cooperative Extension. The program is aiming to create a diverse community of naturalists and promote stewardship of California's natural resources through education and service. Once certified, the naturalists will have a background about California's unique natural treasures and tools for communicating that knowledge to other people.

The 40-hour California Naturalist training course combines classroom and field experience in science, problem-solving, communication and community service. Students are taught by experts on the topics of ecology, geology, plant communities, interpretation, wildlife, energy, and others.

Recent newspaper accounts include:

- [California Naturalist Program offers learning, with a huge dollop of fun](#) Jackie Pascoe, [The Santa Cruz Sentinel](#)
- [California Naturalist Training to be offered at](#)





Expanding in Southern California

Connecting Multiple Audiences



**Traditional
Audiences**



**Non-Traditional
Audiences**

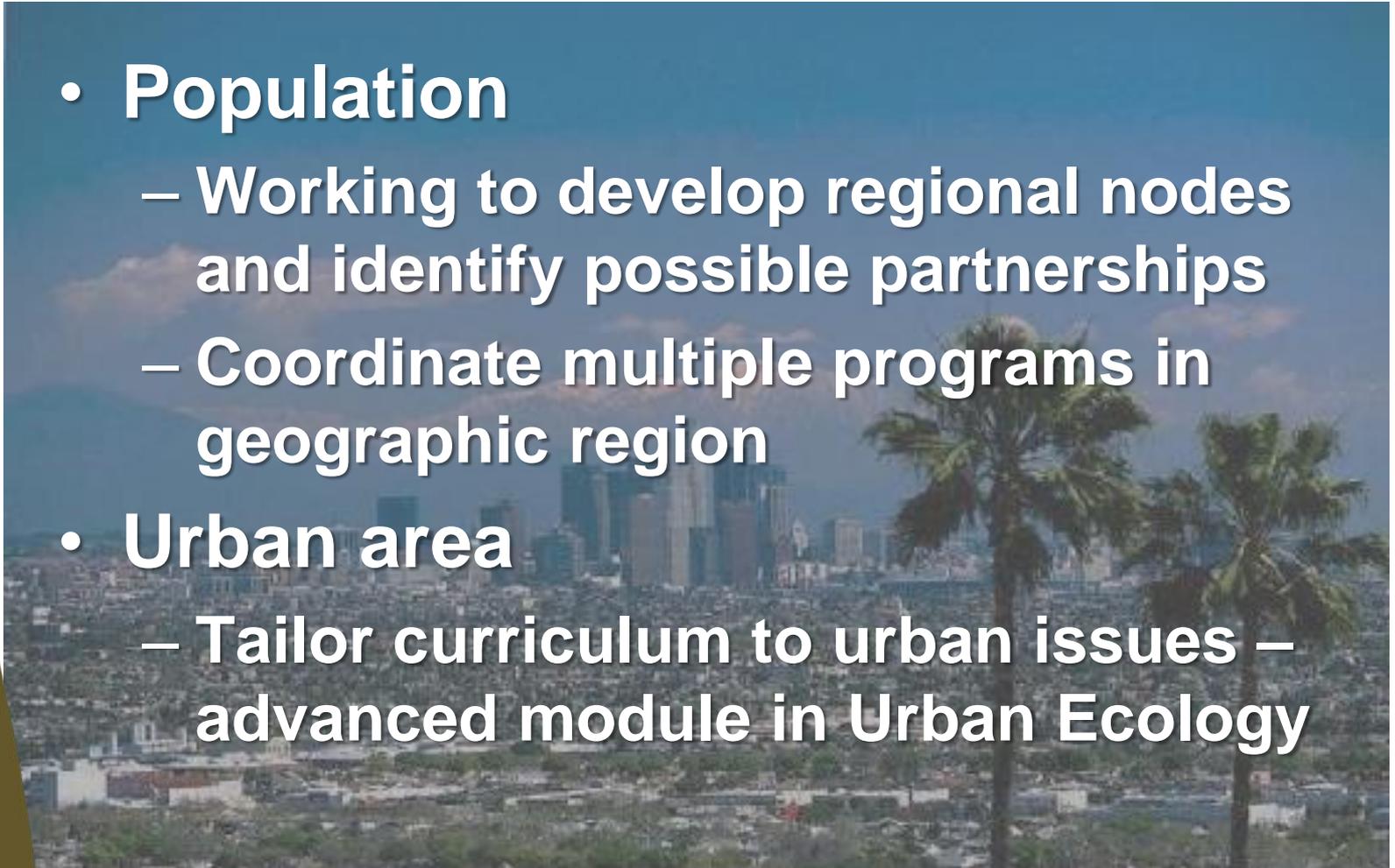
Mutual Learning
Exchange

Expanding in Southern California

- Currently programs at PCC and Santa Barbara Botanical Gardens
- New program starting up for the Santa Ana Watershed
- Working to attract new partners in Los Angeles County

Los Angeles Opportunities

- **Population**
 - Working to develop regional nodes and identify possible partnerships
 - Coordinate multiple programs in geographic region
- **Urban area**
 - Tailor curriculum to urban issues – advanced module in Urban Ecology



Los Angeles Opportunities

- Cultural and economic diversity
 - Tailor information to life experience of urban dwellers
 - Ensure naturalist experience resonates with diverse audiences
 - Naturalist resources in multiple languages?
- Explore new revenue streams to make sure cost is not a barrier – scholarships, grant or donor funding, etc.



- Foster new roles for Naturalists
 - Urban nature ambassadors
 - Promotodaras for the environment - “Pronaturadoras”?
 - Citizen science coordinators to serve as the link between scientists and more casual reporters





Advanced modules

Modules

Publicly-accessible: UCANR 8000 Publication Series

Bioregional Modules

Advanced Training Modules

Bioregional Modules



- Resource for core course curriculum
- Specific to each bioregion



- South Coast bioregional module

Advanced Modules & Trainings



ADVANCED MODULES:

- Particular subjects that deserve greater attention & depth
- Resource for flex week or advanced trainings
- Ecosystems: estuaries, chaparral, oak woodlands, vernal pools, etc
- Urban ecology, fire ecology, landscape ecology

ADVANCED TRAININGS:

- Currently optional and encouraged; eventually can be used to fulfill requirements for certified CA Naturalists to **maintain certification**
- Offered through CA Naturalist or existing, qualified trainings



UC
CE

UC ANR Hopland
Research & Extension Center

2013 Plant ID Workshops

Intro to Grasses – May 24

We'll explore our local grasses through lecture, site visits, and hands on identification exercises using dichotomous keys. We'll look at how habitat, disturbance, and other environmental factors influence grass distribution; how grasses serve as indicators of site condition; and the importance of native perennial grasses in maintaining valuable forage.



Wetland Plants – June 7

This workshop will include lecture and site visits to observe plant communities and soil characteristics of different seasonal wetlands, and the influence of topography and hydrology. Participants will learn to recognize a diverse suit of plants including common sedge, rush, and grass species that are well-represented in seasonal wetlands.

ID of CA Oaks – October 4

This workshop will review the diversity, distribution, and ecology of California oaks followed by an outing into the field to look at a number of species found in the interior North Coast Ranges. Participants will broaden their understanding of oak morphology and habitat characteristics while keying common tree and shrub species.



All classes will be held from 9am-3pm. Advanced registration mandatory. Cost: \$65/class or all 3 for \$175. California Naturalists & Naturalists-in-training \$55/class or all 3 for \$145. Please bring: gear for rain or shine, walking shoes or boots, hat, water, sunscreen, lunch, 10x hand lens, millimeter ruler, and a field notebook.

Course instructors include local experts Kerry Heise, Geri Hulse-Stephens, Allison Rofe, & Adina Merenlender.

For Registration, More Information or Questions:
(707) 744-1424 x108; <http://ucanr.edu/p/37613>



Starting November 09 2013, 09:00 AM

Ending November 10 2013, 04:00 PM

SPAWN Creekwalk Naturalist Training - Coho Salmon Conservation Interpretation

We are very pleased to offer our traditional SPAWN Creekwalk Naturalist Training this year in partnership with the University of California Extension as "Coho Salmon Conservation Interpretation- Advanced Training for California Naturalists!"

SPAWN will introduce you to the amazing story of the conservation of endangered coho salmon in Lagunitas Creek, their biology and many ecological connections, and the natural history of the watershed during two days of classroom and field instruction. Expert instructors will teach you the important details of the life-history of our endangered Central Coast coho salmon and share SPAWN's award-winning strategies to continue conservation of coho in the Lagunitas Creek, and all California watersheds. This course provides participants the skills and knowledge to serve as volunteer SPAWN Naturalists and leaders of our popular Creekwalk interpretive program to view spawning coho salmon during the winter months! [Click here](#) for more information.

Meeting Days & Times: November 9th + 10th, Saturday & Sunday, 9:00am - 4:00pm

Location: SPAWN's office, 9255 Sir Francis Drake Blvd

Expert Instructors: Chris Pincetich, Ph.D., SPAWN's Education & Outreach Manager and more!





**What's Next for the
Program?**

Next steps for the California Naturalist Program

A woman with a large backpack is hiking in a field of yellow flowers. She is wearing a light-colored jacket and a white headscarf. The background shows a hazy landscape with hills and a fence.

- Train-the-trainer workshops
- Regional and advanced curriculum modules
- Improve Volunteer tracking system
- Bi-Annual statewide meetings
- Special events
- Incentives for volunteer hours and continuing education
- Work with new sponsor orgs
- Interviews – 6 months and 1 year after participation in the Naturalist Program



Becoming a Partnering Institution

Partnering with us

Benefits to your organization:

- Curriculum, instructional aides, & training for instructors
- Promotional materials & participation incentives
- Financial support from program fees
- Informational website & on-line volunteer tracking tools
- Capstone projects to support your organizational goals
- University of California continuing education units
- Comprehensive program evaluation tools
- Assistance promoting your organization's classes & advanced trainings
- Well trained volunteers to support your organization

Partnering with us

Partnering organizations must:

- Be in existence a minimum of three years from the date of application.
- Provide or form connections with partners that provide access to volunteer opportunities in the categories of stewardship, citizen science, interpretation, and program support.
- Demonstrate the physical, staff, and financial capacity to conduct the program.
- Provide an instructor/coordinator with teaching and public speaking experience, familiarity with natural resource management, ecology, or a related field, and at least a bachelors degree. Instructor/coordinators will be pre-screened

