A Natural History of the Alameda Creek Watershed

Instructor:

Steven V. Cochrane

Phone: 510 225 8196

Email:

Steven@AlamedaCreek.org

Course Start & End

12/6/2023

02/07/2023

CalNat Website

http://calnat.ucanr.edu/

Registration

Contact Steven Cochrane

Steven@AlamedaCreek.org for registration packet via email

http://www.alamedacreek.org/upcoming-events/events.php

Course Fee

$475.00 check or Venmo, (credit card requires 4.5% fee)

Course Location

Lectures: Zoom: Wednesdays 7:00-900 PM

Field: Saturdays 0900-1200

Course Overview

General. UC Environmental Stewards (UCES) seeks to foster a committed corps of volunteer naturalists and community scientists trained and ready to take an active role in natural resource conservation, education, and restoration. UCES courses use education and service to inspire and empower individuals to create more sustainable and resilient communities and ecosystems. This UC California Naturalist certification course will introduce you to the wonders of our local ecology and engage you in the stewardship of California's natural communities. The course will combine a science curriculum with guest lecturers, field trips and project-based learning to immerse you in the natural world.

This California Naturalist course will focus in particular on the Alameda Creek Watershed area of the Diablo Range. After gaining background about the watershed and on-the-ground engagement, we will focus on monitoring salmonids and stream conditions in Alameda Creek using a phone app to record data.

Learning Outcomes

- Understand what it means to be a naturalist.
- Integrate knowledge about the interconnectedness of abiotic, biotic and cultural factors and their influence on the natural history of the central coast.
- Demonstrate skills in making and recording natural history observations in a field notebook.
- Apply knowledge of the local bioregion to local and global environmental issues.
- Recognize the value of natural and cultural resources to our community/society.
- Meet all of the course requirements.

Course Requirements

- **Contact Time**: Each California Naturalist course consists of a minimum of 40 educational hours (classroom hours and field time), which includes a minimum of 8 hours in the field.
- **Required Reading**: Every participant is required to read the "The California Naturalist Handbook," by *Greg de Nevers, Deborah Stranger Edelman, Adina Merenlender.* (purchased separately by participants).
- **Class Attendance and Field Trips**: Participants must attend all classes and field trips. If any are missed, the participant will be expected to complete make-up activities on their own time at the direction of the instructor. Field trips cancelled due to seasonal storms will be rescheduled.
- **Stewardship Project**: Participants are required to complete a Stewardship Project in one of the program's six volunteer service or stewardship areas:
  1) Education/Interpretation, 2) Participatory Science, 3) Conservation/Restoration, 4) Environmental and Climate Justice, 5) Community Resilience and Adaptation, and

AM, Rancho Arroyo Park, Niles

Course Schedule

Lecture: 2023: 12/6, 12/13, 12/20; 2024 1/3, 1/10, 1/17, 1/24, 1/31, 2/7, 2/14

Field: Saturdays 0900-Noon

12/2, 12/9, 1/13, 1/20, 1/27, 2/3, 2/10

6) Program Support. The Stewardship Project provides an opportunity for participants to integrate their own personal interests with the in-class material toward the development of an applied work project that is done in conjunction with a natural resource agency or organization. Participants must get pre-approval for Stewardship Projects in the first two weeks of the course. Participants are encouraged to work in teams when appropriate. Participants will deliver and individual or group project presentations (5 minutes long per person) on graduation day. Participants are expected to spend a minimum of 8 hours in addition to the 40 hours in the course on the Stewardship project and are required to upload these hours in the California Naturalist Program Volunteer Portal prior to graduation/certification.

- **Field Notebook**: All participants are required to keep a field notebook during the course. (A small 3 ring binder or notebook with removable pages is required; pages will be re-positioned as observations accumulate.) The course encourages all participants to develop the skills of systematically recording field observations using a scientific approach. Create a field notebook with entries from all field days and preferably more. Field notebooks will be checked by the instructor periodically during the class or field sessions. The field notebook page format will be presented by the instructor with examples.
- **Nature Journal** At the same time, participants can use a Nature Journal to reflect on their observations as well as what they have learned in the course. The journal format is of your own preference (any size or binding). Journal entries can include sketches, color illustrations, scribbles, notes, and other embellishments. Your journal consists of your own creative endeavors. These are the twin goals of the field notebook and the journal. Field notebooks are required, and nature journals are highly encouraged.
- **iNaturalist Observation and Partner iNaturalist Project**: Over the course of the class, each participant will be responsible for registering for an iNaturalist account (http://www.inaturalist.org/) and adding at least 10 observations to the course iNaturalist Project. Our iNaturalist Project is user: ACACANAT PW: ACA2024!
- **Class Participatory Science Project**: Each participant must contribute to the participatory science project adopted by the class. Our class participatory science project uses the Survey 123 phone app to collect data. A demonstration and instructions will be provided by the instructor
- **Evaluation**: Completion of the online post-course evaluation survey is highly encouraged. You will be provided with a link to the evaluation survey toward the end of the course.

Recommended Supplemental Reading

- *An Island Called California An Ecological Introduction to Its Natural Communities*, by Elna Bakker, Gordy Slack. Second Edition, UC Press
- *The Natural History Of The San Francisco Bay Region*, Arthur C Smith, UC Press.
- *A Natural History of California by Schoenherr*, Allan A. UC Press
- *UCANR Regional Publication "Natural History of the California Current"* by Christopher Pincetich and Sabrina Drill
- *UCANR Regional Publication "Natural History of the Central Coast Bioregion* By William D. Tietje, William L. Preston, and Anne Y. Polyakov
    - UCANR Regional Publications here: https://calnat.ucanr.edu/Resources/calnat_pubs/#B

- And other regional guides as suggested by the instructor.

Course Materials

The first three course materials are required. Please notify the instructor immediately if you do not have an e-mail account. The last two are helpful but are not required.

- **Required:** Access to internet connected computer or phone and an email account for communication, Volunteer Portal access, iNaturalist app, Seek app, and Survey 123 app.
- **Required:** Field Notebook. If you don't own one, the type of field notebook and its format will be discussed during the first course session. We will also discuss why a separatenature journal is highly encouraged.
- **Required:** Pencil(s)
- **Recommended:** Hand lens (10x. The instructor will discuss its effective use).
- **Recommended:** Binoculars (The instructor will review and suggest binocular power/field of view options for natural history observations)

Recommended Resources

- **CalNat YouTube Channel:** View videos from UC California Naturalist conferences, meetings, and more. The "Ecosystems of California" video series with Erika Zaveleta, is also available on the channel. *Url:*https://www.youtube.com/channel/UCGBYG5ShV4VDiUiRbEmmObg
- **CalNat Participatory Science Portal:** UC California Naturalist program developed a StoryMap (https://calnat.ucanr.edu/California_PPSR/) about participatory science in the program to highlight the different types of projects and the depth of participatory science in the program. In addition, a three part video training (https://www.youtube.com/playlist?list=PLBEIahTDJmdnk68AHknKbAPBw7SdEpdFX) on participatory science drawing on examples from throughout UCANR programs.

Volunteering and the UC Volunteer Portal

Participants will be provided with an online account to track their volunteer hours, including hours spent on their Stewardship Project in the UC Volunteer Portal. A welcome email will be sent to you after instructors add your information to the system. Notify your instructor if you do not receive an email invitation to the Volunteer Portal. Recording your 8 volunteer hours in the volunteer portal is required during the course. Tracking volunteer hours after the course is optional but strongly encouraged as an essential way to document the impact of the UC California Naturalist Program. Participants are encouraged to complete at least forty (40) hours of volunteer service each year. Pins are awarded each year for participants who meet this goal, and the pins differ from year to year. The Volunteer Portal website is: https://apps.ideal-logic.com/ucanr.

- Volunteer activities need to relate to California's natural or environmental history, occur in California, be sponsored by one or more organization, and be unpaid.
- Your 8-hour Stewardship project will count toward your first year's volunteer hours. You will log these hours into the California Naturalist Volunteer Portal
- There are resources available to help you familiarize with the UC California Naturalist volunteer portal and commonly used features. You can view help guides

and videos at http://calnat.ucanr.edu/Resources/VP_Help/

Course Credit

Upon completing certification requirements, participants are eligible for four academic credits through UC Davis Continuing and Professional Education (CPE) for an additional fee. Eligible participants will receive a link to a website and guidance on the process to request and pay for credits. Credits are only processed at the end of each quarter and may take several weeks to arrive. A Certified Naturalist can only receive credits from one institution. If their community college provides credits for the certification, they are not eligible for the UC credits.

Homework Policy

- Homework will be assigned during each lecture and will consist of required readings, material research, and natural history exercises, such as using a taxonomic key. Nature journaling on your own is encouraged and journaling time will be peovided during field trips.

Attendance Policy

Participants must complete a minimum of 40+ hours of instruction during the class. If class or field sessions are missed, participants can request a make-up session or assignment from the instructor. Because of the unique aspects of field trips, participants are required ~~encouraged~~ to attend all field trips. In the case of an emergency and the field trip is missed, participants may be able to arrange an alternative option at the discretion of the instructor.

Cancellation Policy

Registrants may cancel up to two weeks before the first day of instruction for a full refund, minus a $50 administrative fee. Registrants that can successfully refer another student to replace their spot in the course prior to the first day of class will receive a full refund. Registrants that experience a verifiable medical emergency personally, or in their family, between the two weeks of class before and after instruction has begun may re-enroll in the following year's course at a 50% discounted rate, with priority for early registration. No other cancellations, for any other reason, will result in a refund.

Instructional Methods

The course will integrate a range of instructional methods that promote active adult learning such as experiential learning, inquiry-based approaches and transformative learning. Your instructor will build on the participants' prior knowledge and experience, promote peer-to-peer discussion, hands-on activities, and other multiple modality approaches.

Statement on Inclusion and Accommodations

Requests for reasonable accommodations for disabilities or limitations should be made prior to the date of the program or activity for which it is needed. Please make such requests as early as possible by contacting Steven Cochrane at steven@alamedacreek.org.

If you have a learning or physical need that will require special accommodations in this class you will need to notify your instructor in writing of your accommodation needs. Please notify at least 7 days prior to the first class if you require any special

accommodations. This will allow us ample opportunity to provide suitable accommodations. We make reasonable accommodations for persons with documented disabilities.

Statement on Financial Accessibility Cost

Students are responsible for course fees, purchasing books, and transportation for the field trips Students are also responsible for costs associated with any travel, meals and equipment.

Class Schedule

Wk	Date	Topic/Subject (instructional activity) (Reading *Californian Naturalist Handbook*/Assignments Due)	Speaker **(Title & Affiliation)**
1	12/6/23	**Introduction to Natural History & Course Administration** (Ch. 1) Local naturalists, field guides, and resources. Log into the Volunteer Portal and set-up your profile.	Steven Cochrane, ACA
2	12/13/23	**Interpretation, Education, Collaboration, & Participatory Science** (Ch. 8) Field data collection	Steven Cochrane, ACA
3	12/20/23	**Geology, Climate and Soils** (Ch. 2) Formation of the Diablo Range, Fluvial Geomorphology	Steven Cochrane, ACA
4	1/3/24	**Water Resources:** Water Sources and Water Agencies (Ch. 3; Stewardship Project Outline)	Jeff Miller. ACA Steven Cochrane, ACA
5	1/10/24	**Plants:** Plant Taxonomy, Identification, and Field Resources (Ch. 4; Enter Stewardship Project Information and 1st hour into the Volunteer Portal)	Steven Cochrane, ACA
6	1/17/24	**Forests, Woodland and Range:** Natural Communities and Ecology (Ch. 5)	Steven Cochrane, ACA
7	1/24/24	**Animals: Wildlife, Observation, and Field Resources** (Ch. 6)	Will Ware, CAL Trout Steven Cochrane, ACA
8	1/31/24	**Energy & Global Environmental Issues** (Ch. 7) Energy flow, nutrient cycles, dams, water, diversions, human impacts.	Steven Cochrane, ACA
9	2/7/24	**Survey 123** Field data collection using the phone app (Confirm that you have entered volunteer 8 hours for your Stewardship Project into the Volunteer Portal)	Steven Cochrane, ACA
10	2/14/24	**Stewardship Project Presentations and Graduation** (Complete Course Evaluations)	Steven Cochrane, ACA

See the field trip schedule on the next page.

Field Trip Schedule (Detailed schedules provided the week prior to each field trip.)

Day	Date	Subject/Topic Saturdays 900- Noon (510 225 8196)	Mtg. Location/Time 0900am (map link below)	Speaker (Title & Affiliation)
SAT	12/2/23	Watershed Overview and Water Sources	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	12/9/23	Creek Access and Observation Areas	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	1/13/24	Geology and Geomorphology	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	1/20/24	Plants and Plant Identification (keys)	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	1/27/24	Plant Communities and Ecology	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	2/3/24	Wildlife: observation, tracks, scat	Rancho Arroyo Park, Niles	Steven Cochrane, ACA
SAT	2/10/24	Survey 123 app and Fish Observation	Rancho Arroyo Park, Niles	Steven Cochrane, ACA

Mtg. Location

https://www.google.com/maps/place/Rancho+Arroyo+Park/@37.57231,-121.9943703,17z/data=!4m6!3m5!1s0x808fc07612e9a44b:0xaf1f72c705236653!8m2!3d37.5723908!4d-121.9917417!16s%2Fg%2F1tg81pzk?entry=ttu

Course Instructor: Steven Cochrane

Current Position: Alameda Creek Alliance (ACA) Volunteer and Stewardship Coordinator

Alameda Creek BIOGRAPHY

Steven Cochrane grew up roaming the hills and creeks of the East Bay and S.F. Peninsula. While at Hayward High School, Steven's biology teacher encouraged his interest in aquatic insects which led to a study of his home creek, Ward Creek. While at Chabot College, Steven's ecology teacher, (Hans Peters, a long-time watershed resident), planted some of the ideas leading to Steven's passions for people and the natural world.

Steven's earliest memories of Alameda Creek are around the age of 3 years, playing with his cousins, and riding fathers' backs' as "turtles" near one of the old picnic areas. Later, in junior high, riding bikes to one of the Alameda Creek dams and fishing with salmon eggs for planted trout. He currently enjoys working with ACA volunteers on the Stream Keeper program for monitoring stream reaches.

Recently, in the watershed, Steven has been the fisheries biologist for the ACWD RD1 and RD3 fish ladders and rubber dam projects. He served as the Alameda Whipsnake/Red-legged Frog/wetlands biologist on Walpert Ridge developments. He conducted riparian restoration on Gold and Tehan Creeks (Arroyo de la Laguna), and as the site biologist for a willow wattle bank enhancement project on Vallecitos Creek. He has searched for butterflies at Sunol Regional Park, rare plants at Springtown, helped build a trail at Brushy Peak Regional Preserve, spotted Lewis' Woodpeckers in the headwaters of Arroyo Hondo, botanized at his in-law's ranch in the far reaches of Arroyo Mocho and served on the board of the SF Bay Wildlife Society supporting the Don Edwards National Wildlife Refuge.

Steven holds a B.A. from U.C, Berkeley in biology (ecology) and an M.N.A. in nonprofit administration from USF; where he did his thesis on volunteer management. He has worked as a naturalist, environmental educator, back country ranger, habitat restorationist, botanist, and wildlife biologist in the western U.S.; with stints in the Klamath, Cascade, Olympic and Sierra Nevada ranges; and in the California deserts, Pt. Reyes National Seashore, Hayward Shoreline, and Golden Gate National Recreation Area. Steven currently lives in the East Bay Area where he gardens with native plants, hikes, bikes, runs, and explores local parks with his family.