

DRAFT - California Naturalists at Sierra Streams Class Schedule

Lead Instructor/Course Facilitator: Rachel Durben, MS Biology

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Rachel is a biologist focusing on ecosystem health assessments through biological and chemical monitoring, especially in riparian and stream environments. Her background is in riparian ecology, focusing on species interactions and adaptations.

Co-Instructor: Kelly Hickman, BS Marine Biology

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Course Description:

The California Naturalist Program seeks to foster a committed corps of volunteer naturalists and citizen scientists trained and ready to take an active role in natural resource conservation, education, and restoration. The California Naturalist 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 rigorous science curriculum with guest lecturers, field trips and project-based learning to immerse you in the natural world of the northern Sierra foothills.

By the end of this course, participants will be able to:

- Understand what it means to be a naturalist
- Understand the abiotic, biotic and cultural factors that make California and the northern Sierra foothills natural history and ecology unique
- Demonstrate skills in making and recording natural history observations in a field notebook and on iNaturalist.org
- Demonstrate skills in communicating and interpreting natural resource information
- Apply knowledge of northern Sierra foothills ecosystems to local and global environmental issues.

Components of the Course:

Class & Readings

The class will be held on 10 Wednesday evenings from April 2 to June 11, from 6-8:30pm. Evening classes meet at the Sierra Streams Institute office at 431 Uren St, Suite C, Nevada City, unless otherwise noted. In preparation for lectures, all assigned readings from the California Naturalist Handbook should be completed before each class where they appear on the syllabus. Evening classes will be a mix of lecture, discussion, eating and some outdoor exploration. Dress appropriately for the weather—you never know when the instructor may send everyone outside!

Field Trips

Saturday Field trips (see below for dates) will run from 9am – 1pm. We will meet at the Sierra Streams Institute office unless otherwise noted. Participants may

not bring guests or children on any field trips. Directions will be given at the first class meeting.

Graduation day

Graduation day will be Wednesday, June 11, from 6 – 9:30pm at the Sierra Streams office.

Field Notebooks

All participants are required to keep a field notebook during the course. Instructors may check field notebooks periodically during the class or at the end. We will be using these notebooks during class, on field trips and hopefully on your own time. Keeping a field notebook is one of the best ways of fostering continued learning and getting to know a place intimately.

iNaturalist

Over the course of the California Naturalist class, each participant will be responsible for registering for an iNaturalist account (<http://www.inaturalist.org/>) and adding at least 3 observations to the established Sierra Streams Institute California Naturalist project. We will go over the iNaturalist web tool on the first day of class.

Capstone Project

Participants are required to complete a volunteer service project in one of four areas: Stewardship, Education/Interpretation, Citizen Science and Program Support. The Capstone project provides an opportunity for participants to integrate the in-class material with an applied work project that is done in conjunction with a natural resource agency or organization. Participants are encouraged to work in teams when appropriate, and in the final class will deliver individual or group presentations on the projects. Presentations will be 5 minutes long per person (so 15 minutes for a 3 person group). The instructor will provide a Capstone project proposal form, list of approved project ideas, and feedback as necessary. Participants who would like to propose a Capstone project that is not on the list will have an opportunity to do so.

Attendance

Participants must attend all Wednesday evening classes. If an evening class is missed, the participant will be expected to complete make-up activities on their own time at the direction of the instructor. Please talk to me if you are going to miss a class. Only one evening class session can be missed. One field trip can be missed without make-up work.

Homework

Reading is assigned for each class meeting (check the class schedule below), based on the topic to be covered that day. Participants are expected to read the chapters assigned for that day before the class meeting times, so that the

materials are more relevant as they are presented. There will be short quizzes or group exercises to reinforce the material in class.

Volunteer management system (VMS):

Participants will be provided an on-line account to track their volunteer hours, including hours spent on their Capstone project. Tracking volunteer hours is an essential way to prove need and impact of a program like the California Naturalist Program.

Other Information

Participants may opt to pay an additional \$80 to receive four UC Davis Extension undergraduate academic credits upon course completion and certification. More information will be provided.

This is a zero waste class. Please bring a mug or water bottle for drinks. We will provide washable plates and utensils. We will be taking turns bringing snacks. Please avoid single use items or excessive packaging. There is a sink to wash dishes at the SSI office.

Required Items:

- The California Naturalist Handbook by Greg de Nevers, Deborah Stanger Edelman and Adina Merenlender (available at Amazon.com)
- An e-mail account
- A field notebook for nature observations and drawings, pencil(s)
- Suggested but Not Required: hand lens (10x), binoculars

Recommended supplemental reading:

- *The Laws Field Guide to the Sierra Nevada*, Laws, J.M., Heyday Books: 2007
- *An Island called California*, Bakker, E., University of California Press: 1984
- *A Natural History of California*, Schoenherr, A.A., University of California Press: 1992
- *Introduction to California Plant Life* (California Natural History Guides, 69), Ornduff et al., UC Press: 2003
- *Trees and Shrubs of California* (Calif. Natural History Guides 62), Stuart, Sawyer, UC Press: 2001
- *California Insects*, Powell and Hogue, University of California Press: 1980
- *Spring Wildflowers of California of the Foothills, Valley and Coast* (California Natural History Guides, 75), Munz, P.A., University of California Press: 2004
- *Mammals of California* (California Natural History Guides, 66), Jameson and Peters, UC Press: 2004
- *The Sibley Field Guide to Birds of Western North America*, Sibley, D.A., Knopf Publishing: 2003

Class Schedule

(C) = Confirmed Speaker

Week 1- Wednesday, April 2 6:00-8:30pm

Introduction to Instructors; Introduction to California's Natural Resources and the Cal Naturalist Program – Rachel Durben and Kelly Hickman, SSI

Goals:

- To understand the California Naturalist program and the role of a California Naturalist
- To understand what is unique about California's natural history, human history, ecology and landscape
- To understand what naturalists do and why it is important
- To learn how to keep a naturalist's journal
- Introduce Capstone Project

Reading: Chapter 1 - California Natural History and the Role of Naturalists

Week 2- Wednesday, April 9 6:00-8:30pm

Interpretation, Collaboration, and Citizen Science – (C) Joanne Hild, Executive Director, SSI

Goals:

- To understand the basic principles of interpretation
- To learn techniques for presenting to and communicating with different kinds of audiences.
- To explore the advantages of citizen science for participants and the advancement of science.
- To introduce the iNaturalist website and program.
- To solidify Capstone Project ideas

Reading: Chapter 8 - Interpretation, Collaboration, and Citizen Science
Familiarize yourself with and create an account on the iNaturalist website
<http://www.inaturalist.org>

Wednesday, April 16 – Spring Break – No Class

Week 3- Wednesday, April 23 6:00-8:30pm

Geology, Climate, and Soils – (C) Kyle Leach, Geologist, SSI; (C) Amber Taxiera, Community Outreach Coordinator, The Sierra Fund

Goals:

- To understand how the geologic history of California created the current landscape
- To understand how the landscape influences the ecology of California
- To be aware of the role that nutrient cycles and soils play in shaping plant communities
- To understand California's climate diversity

Reading: Chapter 2 - Geology, Climate, and Soils

Week 4- Wednesday, April 30 6:00-8:30pm

Water – (C) Gary Reedy, River Science Program Director, SYRCL; Peter Moyle, UC Davis; (C) Sol Henson, San Juan Ridge Taxpayers Association

Goals:

- To review the water cycle
- To identify parts of a watershed
- To describe the economic, ecologic and social functions of water resources
- To become exposed to water management, water quality and water distribution issues in California

Reading: Chapter 3 – Water

Week 5- Wednesday, May 7 6:00-8:30pm

Plants – Ori Chafe, Restoration Ecologist, SSI; Karen Callahan, CNPS

Goals:

- To become familiar with the plants and plant communities in your local area
- To understand how plants function, reproduce and adapt
- To understand the differences among native, non-native, invasive, and noxious plants
- To understand impact of human and natural disturbance on plant communities

Reading: Chapter 4 – Plants

Week 6- Wednesday, May 14 6:00-8:30pm

Forests, Woodland, and Range Resources and Management – (C) Jeff Lauder, Ecologist, SSI, CSU Chico; Erin Tarr, Stewardship Program Manager, Bear Yuba Land Trust

Goals:

- To appreciate the ecological and economic value of forests
- To understand forest structure
- To understand the role of fire in forest regeneration
- To understand the various benefits that forests provide
- To understand the challenges of balancing society's conflicting desires for forests

Reading: Chapter 6 – Forest, Woodland, and Range Resources and Management

Week 7- Wednesday, May 21 6:00-8:30pm

Wildlife – Bill Wilson, California Native Plant Society; Justin Wood, River Scientist, SSI

Goals:

- To recognize the energy and evolutionary relationships among animals
- To understand how animals are adapted to their environments
- To understand the concepts of food webs, predator/prey relationships and trophic levels
- To be able to identify the economic and social importance of wildlife species in your area

Reading: Chapter 7 - Animals

Week 8- Wednesday, May 28 6:00-8:30pm

Energy and Global Environmental Issues – Shane Lopez, PG&E Energy Watch Partnerships Program; Elizabeth Soderstrom, Executive Director, American Rivers; Jamie Henn, 350.org

Goals:

- To become familiar with the forms and sources of energy
- To understand how plants and animals use energy
- To explore agricultural issues and their relationship with the environment
- To consider how human activities and resource use affect the global environment

Reading: Chapter 7 - Energy and Global Environmental Challenges

Week 9- Wednesday, June 4 6:00-8:30pm

Flex Week – Sandy Williamson, Entomologist, SSI; Kaitlyn Hacker, Lab Director, SSI

Goals:

- To work on Capstone Projects
- To finish data entry into iNaturalist
- To practice macroinvertebrate identification in SSI lab
- To review and delve deeper into previous subjects

Week 10- Wednesday, June 11 6:00-9:30pm

Graduation and Presentation of Capstone Projects

Goals:

- To wrap-up the class and answer final questions about class content, volunteer hours and any other aspects of the California Naturalist program;
- To provide time for student presentation of Capstone Projects;
- To complete the end of class evaluation and assessment.
- To have a potluck lunch and celebrate!

* Classes will be a combination of lecture, demonstration, guest presenters and hands-on activities.

* Field trips will be held on Saturdays from 9am-1pm on April 5 & 26, May 10 & 24.

Field Trips

April 5 – Tribute Trail: Living Wild, introduction to phenology

Alicia Funk, The Living Wild Project; (C) Rachel Hutchison, SYRCL

April 26 – Tribute Trail: Collect phenology data, Stocking Flat talk/exploration, floodplain restoration

(C) Ori Chafe, SSI; Luke Hunt, American Rivers

May 10 – Inimim Forest: BLM/Community management, different treatment regimes, tree coring

Tom Van Wagner, President, Yuba Watershed Institute, Bob Erickson, local resident and woodworker

May 24 – Hirschman’s Pond: Wildlife cameras, trapping, tracking; birding;
microhabitats & habitat use

Rudy Darling, Audubon Society; (C) Rachel Durben, (C) Jeff Lauder, SSI