

High Country Plants & Habitats:

How are they coping with climate change?



July 28–30, 2017 • Ann Howald

\$165 per person / \$150 for Committee members
enrollment limited to 15 participants

During this field seminar we will visit subalpine meadows and forests, shores of sub-alpine lakes, streams that cascade toward Mono Lake, and natural rock gardens. We'll learn to recognize the common trees, shrubs, wildflowers and ferns that are characteristic of each habitat. We'll see resident birds, insects and other wildlife, and discuss many of the ways that plants, insects, and animals rely on each other for food, seed distribution, nesting sites and other necessities. A special focus this year will be the ways high elevation plants and animals of the Mono Basin are affected by climate change, now and in the future.

We'll talk about what scientists (including citizen scientists) are already seeing, with regard to climate change and "weird weather" impacts, and future scenarios that might develop in an ever-warming world. Changes we are already seeing include earlier flowering times in plants, changing geographic distributions, loss of pollinators for plants, and loss of typical food sources for animals.

Wildflowers will be at their prime during our visit. We expect to see scarlet paintbrushes, purple monkshood, red columbines, blue lupines and larkspurs, pink penstemons and monkeyflowers, and an assortment of yellow "daisies," just to name a few. We'll learn to recognize plant communities by their dominant species, and the soil and terrain they occupy. We'll also explore plants' connections to their environment—how special adaptations permit them to survive the cold, wind, snow, and drought of high altitudes, how they reproduce, and the essential relationships between plants and their insect, bird, and mammal neighbors. And we'll talk about how these relationships could be changed, or even disrupted, by climate change.

Ann Howald was trained as a plant ecologist and taxonomist. She recently retired but remains involved in rare plant and conservation issues. Ann is an active volunteer for the California Native Plant Society and California State Parks. She lives in Sonoma, and spends her summers in the Eastern Sierra, researching Mono County plants.

ITINERARY

Friday, July 28, 6:45pm: Meet at the Mono Lake Committee Information Center & Bookstore in Lee Vining. We'll introduce ourselves, distribute course materials, discuss a few basics of plant identification and plant names, and then enjoy a slideshow preview of the habitats and some of the wildflowers we expect to see on Saturday and Sunday. We'll also go over the details of where and when to meet on Saturday and Sunday, which will be determined by where the flowers are at their best during our class. Sample locations from past workshops include the Warren Fork of Lee Vining Creek, the Tioga Lake area, and the Nunatak Trail area.

Saturday, July 29, 8:00am: Meet at a location we will discuss on Friday night. Detailed directions will be provided Friday night. Bring a packed lunch, plenty of water, and other supplies as described below. Plan to hike 2–3 miles at a leisurely pace. Our day will end around 5:00pm. During past classes, many of us have had dinner together at a local restaurant on Saturday night, which is optional.

Sunday, July 30, 8:00am: Meet at a location provided Friday night. Bring a packed lunch, water, and other supplies. We will visit one or two different locations, hiking about 2–3 miles total. We usually end the day around 3:00pm so that folks have time to drive home.

High Altitude Cautions: Remember to bring (and drink!) lots of water because your body loses more water at high altitudes. Begin drinking extra water as you drive to higher elevation in order to prevent dehydration and headaches. Also, the sun is fierce at high elevations, capable of burning even on cool days, so be sure to protect yourself thoroughly, using sunscreen, sunglasses, hat, and a bandanna to protect the back of your neck. If you have a history of heart or respiratory related problems, please consult with a doctor before joining this field seminar. Our walks will be at a leisurely pace, over level to moderately steep terrain, and 2–3 miles per day. We will spend most of our time at 9,000–10,000 feet in elevation; at least 24 hours of prior acclimation in Lee Vining is advised.

TO BRING

- lunch, both days
- plenty of water
- notebook or clipboard & paper
- hat, bandanna
- camera and binoculars (optional)
- 10X hand lens
- field guide
- sunscreen
- insect repellent
- pens & pencils
- sunglasses

RECOMMENDED BOOKS

Blackwell, Laird R. *Wildflowers of the Eastern Sierra & Adjoining Mojave Desert & Great Basin*. Lone Pine Publishing, 2002.

Some like this book for its broad habitat coverage and information on how plants get their names. Species arranged by habitat. Photos are of varying quality.

Flannery, Tim. *The Weather Makers*. Atlantic Monthly Press, 2005.

An introduction to climate change and its impacts, written in a style that is informative, accessible, and insightful. Although written more than ten years ago, the facts it presents are still current. Also includes suggestions for things we can all do to slow the rate of change.

Laws, John Muir. *The Laws Field Guide to the Sierra Nevada*. California Academy of Sciences, 2007.

This beautifully illustrated guide has it all: trees, shrubs, wildflowers, ferns, fungi, lichens, fish, reptiles, amphibians, birds, mammals, insects, weather, and constellations. Includes many of the plants, birds and butterflies we will see, with lots of ecology tidbits and “fun facts.”

Smith, Genny. *Sierra East*. UC Press, 2000.

A well-illustrated, thorough introduction to the geology, weather and climate, plants, insects, fishes, amphibians, reptiles, birds and mammals, and places to see them, of the Eastern Sierra. Now available in paperback.

Weeden, Norman F. *A Sierra Nevada Flora*. Wilderness Press, 1996.

No photos but useful for those who have keying experience. Includes almost all plants we will see in the high country. Recently reprinted, so date may differ. Plant names are out-of-date.

Wenk, Elizabeth. *Wildflowers of the High Sierra and John Muir Trail*. 2015.

Interesting ecological stories about plants; 340 species are covered, arranged by flower color. Photos are of varying quality in focus and composition; color representation is good.

Wiese, Karen. *Sierra Nevada Wildflowers*. Falcon Guide, 2000.

Good photos, arranged by flower color. Includes many of the plants we will see on our walks.



Mono Lake Committee Field Seminars

P.O. Box 29 • Lee Vining, CA 93541 • (760) 647-6595 • monolake.org/seminars