

PLANTS AND ANIMALS OF LASSEN VOLCANIC NATIONAL PARK

Although Lassen is primarily known for its volcanic geology, the park boasts a rich diversity in plant and animal life. Over 700 flowering plant species grace the park, providing shelter and food for 250 vertebrates (animals with backbones) as well as a host of invertebrates including insects.

This great diversity of life forms is due to two factors--the geographic location of the park and the abundance of habitats that occur there.

Situated at the southern end of the Cascade Range geologic province, Lassen Park lies at the crossroads of three great biological provinces--the Cascades to the north, the Sierra Nevada mountains to the south and the Great Basin desert to the east.

The myriad of habitats in Lassen Park are allowed by variations in such environmental conditions as elevation (5,000 to 10,457 feet), moisture (precipitation is greater on the western than the eastern side of the park), substrate (rock type and soil depth), temperature, insolation (amount of sun) and prior disturbance (both natural and man-caused).

Habitats and their resident plants and animals can be arranged into communities named after their predominant plant species or by some other descriptive term such as climate or general vegetation type. The following survey is a brief introduction to the major communities of Lassen Park. It is important to remember that animals are mobile and thus may occur in more than one community, and also that some species are ubiquitous--that is they occur over a wide range and refuse to be categorized at all.

MIXED CONIFER FOREST (YELLOW PINE FOREST). At the lower elevations in the western part of the park (below about 6,500 feet) is a rich forest community characterized by a mix of conifers. The most common trees in this forest are Jeffrey pine, ponderosa pine, incense cedar, sugar pine, and white fir.

Common wildflowers and food plants for wildlife include gooseberries, currants, squawcarpet ceanothus, snowberry, stickseeds, Indian warrior, miner's lettuce, campion, spotted coralroot, pinedrops, pipsissiwa, snow plant, and pyrola. This rich forest is home to a host of animals including the common flicker, olive-sided flycatcher, western wood pewee, white and red-breasted nuthatch, brown creeper, Townsend's solitaire, great horned and pygmy owl, yellow-bellied sapsucker, pileated woodpecker, skunk, and a variety of rodents.

UPPER MONTANE FOREST (RED FIR FOREST). Just above the mixed conifer forest lies a forest zone containing less diversity than that found at lower elevations. Here, at elevations in the park between 6,500 and 8,000 feet, occur dense red fir forests with little understory and fewer animals.

In the more open areas western white pine is common and on thin soils occur lodgepole pine. At this elevation, winter snows lie deep and summer temperatures are cool in the dense shade of the red fir.

The upper montane forest does have its characteristic animals, although most are rather shy and secretive. Living in this forest are the Williamson sapsucker, hermit thrush, black-backed woodpecker, snowshoe hare, red fox, and pine marten.

Many animals make no distinction between the mixed conifer forest and upper montane forest, and so live happily in both. This is especially true for a number of forest dwelling birds, such as the Steller's Jay, western tanager, golden-crowned kinglet, owls (spotted, flammulated, saw-whet, and great grey), woodpeckers (hairy, downy, and white headed), solitary and warbling vireos, evening grosbeak, and dark-eyed junco. Forest mammals include the porcupine, chickaree (or Douglas' tree squirrel), northern flying squirrel, and chipmunks.

SUBALPINE. As one rises above the forest zone in Lassen Park the trees begin to take on a more gnarled character and bare patches of ground intersperse between the wooded areas. The subalpine community is a land of extremes, with shaded hollows collecting very deep drifts of snow (up to 40 feet!) while adjacent areas may remain snow free due to the fierce winter winds. The subalpine areas do contain, however, a distinctive assemblage of plants and animals that can tolerate, and often thrive, in the harsh conditions.

The subalpine community in Lassen Park (between 8,000 and 10,000 foot elevations) is the home of two distinctive and beautiful conifers, the whitebark pine and the mountain hemlock. The pine prefers the drier sites while the hemlock does well in moist shaded areas. Both trees are subject to the harsh winter weather and are often forced into a prostrate position known as krummholtz ("crooked wood").

Because of the abundance of sun and variation in moisture at this high elevation, the subalpine is host to a large number of shrubs and beautiful wildflowers, including red heather (or Brewer's mountain heath), white heather (or Merten's cassiope), rock spirea, sandwort, Sierra pincushion, spreading and prickly phlox, silky raillardella, rock cress, wallflower, Lobb's nama, coyote mint, Lyall's lupine, rock fringe, ballhead ipomopsis, eriogonums, Davis' knotweed, Indian paintbrush, and penstemons.

Because of the rich and varied flora in the subalpine community, there is also a host of birds and other animals common to the area. Most notable are Clark's nutcracker, mountain chickadee, mountain bluebird, Cassin's finch, yellow bellied marmot, and pika (or cony).

ALPINE. The alpine community is the region above the treeline that experiences intense sunlight, desiccation winds and very cold temperatures. The wind keeps many areas snow-free all year--adding to the moisture stress--while other areas may have snow patches lasting into late August or throughout the year. The alpine is often considered a desert because during most of the year water is tied up in the frozen solid state--and hence unavailable for plant life.

And yet, the alpine community manages a yearly blossoming of life during the brief summer. Many plants are adapted to the harsh conditions (mostly by forming small mats or cushions that conserve heat and moisture), and each year a small number of animals hurry to gather food for the long winter that is just around the corner.

Common plants in the alpine include pussy toes, pussy paws, golden draba, timberline phacelia, skunk-leafed polemonium, eriogonums, alpine sorrel, alpine (or Tolmei's) saxifrage, dwarf hulsea, and Davidson's penstemon.

Animals in the alpine include the gray-crowned rosy finch, Clark's nutcracker, pika, and some small rodents.

MEADOWS. The meadows, grasslands and herbaceous areas of Lassen Park can be divided into two major types: the dry meadows and the wet meadows. Wet meadows have an abundance of soil moisture throughout the growing season and are characterized by sedges and rushes. Dry meadows tend to dry up before the summer is over and are characterized by grasses and herbs.

Meadows of both types occur in a wide range of elevations and localities in Lassen Park. As such, meadow plants and animals seen in one part of the park may not necessarily occur in another.

Meadows support a rich diversity in plant life and provide food for a large number of animals. They are, in fact, the best place to watch wildlife.

Common wildflowers of Lassen's meadows include lilies, meadow rue, spirea, bog kalmia, Bigelow's sneezeweed, buttercups, senecio, gentians, blue-eyed grass, clovers, corn lily, spring beauty, alpine shooting star, marsh marigold, sticky cinquefoil, checker (or sidalcea), giant red paintbrush, monkey flowers, elephant heads, meadow penstemon, cow parsnip, angelica, and violets. Animals of Lassen's meadows include killdeer, sparrows, shrews, mole, voles, pocket gopher, badger, western toad, Belding ground squirrel, and meadow mice.

MOUNTAIN CHAPARRAL. In certain areas of Lassen Park thick brush fields of mountain chaparral cover the landscape. Chaparral can occur anywhere there are steep rocky slopes or where disturbance such as fire has upset the natural balance of the more typical forest.

Mountain chaparral is characterized by the presence of such shrubs as greenleaf manzanita, huckleberry oak, chinquapin, and two species of ceanothus (tobacco brush and snow brush). Wildflowers include Washington lily and dogbane. A large number of birds and animals live in the chaparral due to abundant food and good cover from predators. Most notable are mountain quail, fox sparrow, cottontail, deer mouse, and dusky-footed wood rat.

JEFFREY PINE/JUNIPER WOODLAND. In the eastern part of Lassen Park are large areas covered with drier, open forests characterized by the sweet smelling Jeffrey pine. This community is a transition between the mountain environment and the Great Basin desert to the east. The most notable plant species include Jeffrey pine, western juniper, rabbitbrush, sagebrush, mule ears, mountain mahogany and sulfur flower. Animals of the Jeffrey pine/juniper woodland are a mixture of many from the mixed conifer forest plus additions from the Great Basin desert such as flycatchers, black-tailed jackrabbit, and chipmunk.

RIPARIAN AREAS. Areas along stream banks have many of the same plants and animals as meadows but have larger deciduous shrubs and animals that require running water. Included in this community are Lassen Park's only native fish, rainbow trout, as well as a host of aquatic insects.

Common plants are willows, mountain alder, black cottonwood, quaking aspen, creek dogwood, columbine, fireweed, brooklime, monkshood, larkspur, and leopard lily.

Animals along the stream side include dipper (or water ouzel), hummingbirds, belted kingfisher, warblers, aplodontia (or mountain beaver), mink, salamanders, and newts. A special habitat for birds is that of lake shores where the pied-billed grebe, Canada goose, mallard, American coot, and spotted sandpiper are found.

UBIQUITOUS SPECIES. As mentioned earlier, some animals range over a number of plant communities. Mammals on the move include mule deer, black bear, coyote, red fox, golden-mantled ground squirrel, long-tailed weasel, mountain lion, bobcat, and bats.

Dwain L. Goforth, 3/84