

59. Mount Eddy (Whipple and Cope 1979, Cheng 1996b)

Location

This established RNA is on the Shasta-Trinity National Forest about 8 miles (15 km) W. of Mount Shasta City (the boundary is different from the ecological survey area). It lies within portions of sect. 24 T40N, R6W and sect. 18 T40N, R5W MDBM (41°20'N., 122°30'W.), USGS Mount Eddy quad (fig. 120). Ecological subsections – Upper Scott Mountains (M261Aj).

Target Element

Foxtail Pine (*Pinus balfouriana*)

Distinctive Features

Rare Flora: Eight CNPS listed species are found in the study area: *Darlingtonia californica* (List 4; clumps at 7400 ft [2256 m] may be the highest elevation for the species), *Veronica copelandii* (List 4), *Eriogonum alpinum* (List 1B), *E. siskiyouense* (List 4), *Draba aureola* (List 1B), *Cryptantha subretusa* (List 2), *Campanula scabrella* (List 4), and *Thelypodium brachycarpum* (List 4). Six CNPS listed species are found in the established RNA: *Eriogonum alpinum* (List 1B), *E. siskiyouense* (List 4), *E. umbellatum* var. *humistratum* (List 4), *Draba aureola* (List 1B), *D. howellii* ssp. *carosula* (List 1B), and *Campanula scabrella* (List 4). An additional species, *Lupinus lapidicola* (List 4), occurs just E. of the RNA boundary.

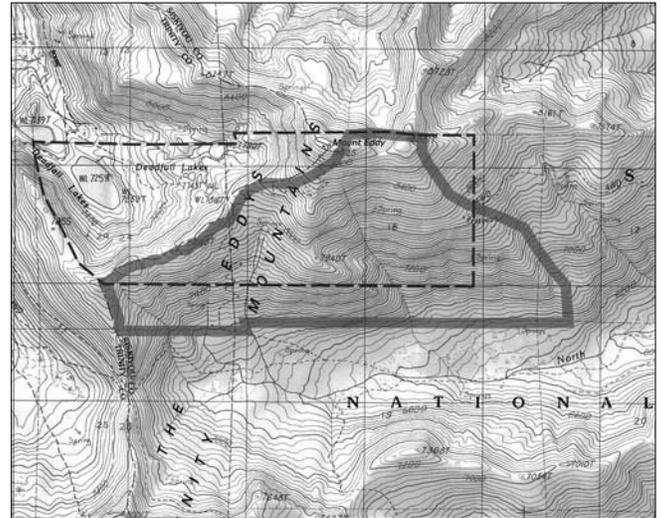
Extensive Foxtail Pine Forest: The 268 acres (108 ha) of foxtail pine forest included in the RNA are an excellent example of the Klamath Mountains ecological section type of this forest (fig. 121).

Physical Characteristics

The study area covers about 940 acres (380 ha), and the established RNA is 890 acres (360 ha). Mount Eddy, at 9025 ft (2751 m), is the highest peak in the Klamath Mountains ecological section. The area includes a ridge extending S. from the summit, one trending SW., and a lower ridge S. of the Deadfall Lakes. It also includes the majority of the Deadfall Lakes basin. The lowest elevation in the study area is about 7200 ft (2195 m), and in the RNA, 6320 ft (1926 m). W.- and S.-facing slopes predominate, varying from 20 to 50 percent.

The area is underlain by the Trinity Ultramafic Pluton. Rock is primarily peridotite in varying degrees of serpentinization. Pleistocene glaciation is evident, particularly in the Deadfall Lakes drainage. Soils are typically thin, gravelly, and unstable. Throughout the region, surface rock covers 50-75 percent of the ground.

Climate is relatively dry by Klamath montane standards, with the Deadfall Lakes snow course averaging 33 inches (84 cm) of water (40 percent moisture content) on April 1. Estimates from Rantz (1972) suggest total precipitation between 50 and 60 inches (1270-1524 mm). Mean daily temperatures extrapolated from Mount Shasta City would be 24 °F (-4 °C) in January and 59 °F (15 °C) in July at the lower elevations of the area.



**Figure 120—
Mount Eddy RNA**

Dashed line =
Ecological study area;
Solid gray line =
RNA Boundary

Association Types

Data is provided from 20 releves and eighteen 0.1-acre (0.04-ha) plots each in the western white pine (*Pinus monticola*) forest and foxtail pine forest.

Western White Pine/*Angelica arguta* (84160, 45100, 45210, 51120): 480 acres (194 ha) in the study area, 432 acres (175 ha) in the RNA. This association occurs at the lowest elevations of the area. It is typically an open forest (20 percent cover) dominated by western white pine with white fir (*Abies concolor*) as an important subdominant. Whitebark pine (*Pinus albicaulis*) is also a regular constituent at the upper elevational limits of this type. Results from plots sampled in this type indicate a density of 109 trees/ha and a total basal area of 31.8 m²/ha with *P. monticola* comprising 85 percent relative density. Based on 10 cored *P. monticola*, the age-height curve ascends gradually, with dominant trees about 70-80 ft (21-24 m) tall and 300-400 years old.

Typically, the understory covers no more than 15 percent and is dominated by *Arctostaphylos nevadensis* and *Quercus vaccinifolia*. On more xeric, higher elevation, S.-facing slopes (unsampled), the understory may reach 65 percent. Other unsampled understory species include *Cercocarpus ledifolius* and locally dominant (on N. slopes) species: *Artemisia tridentata*, *Lonicera conjugalis*, *Lupinus croceus*, and *Bromus marginatus*.

The meadow, streamside, and lakeside vegetation is also grouped within this forest type. *Dodecatheon alpinum*, *Caltha howellii*, *Helenium bigelovii*, *Darlingtonia californica*, *Veronica copelandii*, and several *Carex* and *Heleocharis* species dominate the meadows. In addition to these species, streamsidings and lakesides also have *Potentilla fruticosa* and lodgepole pine (*Pinus contorta* ssp. *murrayana*). The total number of herbs listed on releves is 40. Those with the highest presence include *Anemone drummondii*, *Crepis pleurocarpa*, *Arenaria nuttallii*, *Polygonum davisiae*, *Hydrophyllum occidentale*, *Monardella odoratissima*, *Senecio integerrimus*, *Achillea lanulosa*, *Phlox diffusa*, and *Erysimum perenne*.

Foxtail Pine/*Anemone drummondii* (86300): 240 acres (97 ha) in the study area, 268 acres (108 ha) in the RNA. This is the other forest in the area; it occurs at elevations above 7800-8000 ft (2377-2438 m). This association is even more open than the previous one, with average canopy cover about 18 percent. Foxtail pine is the only tree present in 50 percent of the samples and the major component of all releves. Foxtail pine strongly dominates the sample. The total basal area for this type is 42.5 m²/ha, and the total density is 108 trees/ha. The age-height relationship for 10 *P. balfouriana* trees in this forest is more curvilinear than for *P. monticola*, with rapid vertical growth taking place in the first 100-150 years and leveling off at about 30-40 ft (9-12 m) after about 200 years. The oldest tree sampled is 330 years. Scattered individuals of *Pinus albicaulis* with occasional *P. monticola* at lower elevations are the only trees other than *P. balfouriana*.

Shrub understory ranges from practically nil at upper elevations to about 25 percent at the lower levels of this type. *Anemone drummondii* is virtually ubiquitous; 33 other herbs also are listed on the releves, including *Phlox diffusa*, *Achillea lanulosa*, *Eriogonum umbellatum*, *Astragalus whitneyi*, *Poa pringlei*, *Arenaria nuttallii*, *Erysimum perenne*, and *Polygonum davisiae*.

***Penstemon procerus*/*Potentilla glandulosa* (91200):** 220 acres (89 ha) in the study area, 169 acres (68 ha) in the RNA. This herb-dominated association occurs on the summit ridges. It has been divided into two phases. The *Lesquerella occidentalis* phase is the highest elevation form; it occurs between 8500 and 9000 ft (2591-2743 m). It contains more *L. occidentalis*, *Poa pringlei*, *Erigeron compositus*, *Hulsea nana*, *Potentilla fruticosa*, and *Ivesia gordonii* than the other phase. The *Eriogonum siskiyouense* phase occurs at elevations between 7900 and 8100 ft (2408-2469 m) on the S. slopes of the ridge above Deadfall Lakes. It contains

more *Crepis pleurocarpa*, *Phlox diffusa*, *Sedum lanceolatum*, *Arenaria congesta*, and *Eriogonum siskiyouense* than the *Lesquerella* phase. Typical cover on the rocky slopes of this type is about 25 percent.

Rock Outcrop: 21 acres (9 ha)

Plant Diversity

Two hundred eighty-nine taxa are listed.

Conflicting Impacts

The area is relatively heavily used by recreationists. The trail to the summit is heavily used, and the lakes and meadows of the lower elevations are under relatively heavy impact (including some off-road vehicle use in recent years).



Figure 121—Mount Eddy, old growth foxtail pine in Mt. Eddy RNA. (1976)