

51. Last Chance Meadow (Ball 1976, DeDecker 1975a, Inyo National Forest 1982a)

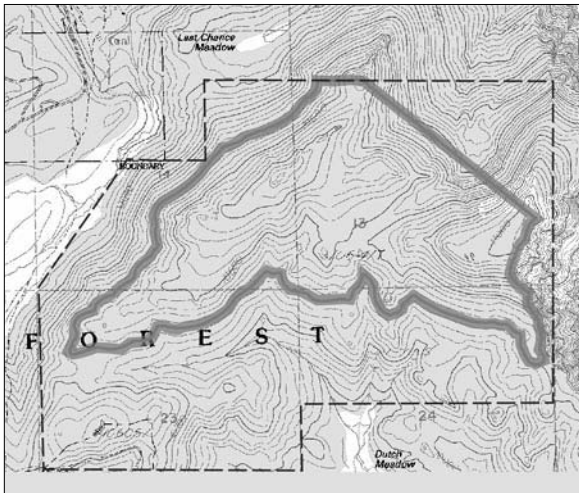


Figure 104—Last Chance Meadow RNA

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

Location

This established RNA is located on the Inyo National Forest. It lies on the E. side of the crest of the S. Sierra Nevada about 13 miles (21 km) SW. of Lone Pine. It lies within portions of sects. 13, 14, 23, and 24 T17S, R35E MDBM (36°27'N., 118°9'W.), USGS Cirque Peak quad (fig. 104). Ecological subsection – Glaciated Batholith (M261Eo).

Target Element

Foxtail Pine (*Pinus balfouriana*)

Distinctive Features

Foxtail Pine Forests: Foxtail pine is a principal dominant of the S. Sierra subalpine forests, yet little ecological information exists for these forests.

Factors limiting growth, structure, productivity, and distribution of the S. Sierra stands are not clearly understood, nor is the role of fire, nor the explanation for the extremely sparse understory characteristic of the type. The extensive stands at this RNA, over a variety of site conditions, could also prove useful in a comparative study with the N. California populations of foxtail pine represented at Crater Creek cRNA, Mount Eddy RNA, and Sugar Creek cRNA. The information gathered in this survey and by the Laboratory of Tree-Ring Research (cited in ecological survey) on growth of foxtail pine suggests that local dominants typically exceed 600 years, attaining ages of 1000-1500 years (fig. 105). The ease of access (edge of RNA only 0.5 mile [0.8 km] from paved road) also will facilitate and encourage research on this typically rather inaccessible forest type.

Stream Study: The inclusion of the entire upper portion of a small, permanent stream drainage makes the RNA useful for watershed-related studies.

Rare and Unusual Plants: Two species, *Frasera tubulosa* and *Ivesia campestris*, are listed as rare on the survey list. However, both of these species are now considered by CNPS as too common (appendix 1) to warrant special consideration. *Sarcodes sanguinea*, although not rare, grows in an unusual situation in the very low duff-understory of the foxtail pine forest.

Physical Characteristics

The RNA covers 660 acres (267 ha); however, the study area covers 1769 acres (716 ha), which spreads over portions of three ridges and includes an entire small drainage-head between the ridges. Land varies in elevation from about 9700 to 11,060 ft (2957-3371 m). Significant facets of the area are exposed to all major azimuth angles, but the majority face N. and S. Slope angles vary from 75° on the E. escarpment to virtually level on the meadows in the SW. portion. Average N. slopes are about 25°, whereas average S. slopes are about 15°.

Rocks are entirely Mesozoic granitics. Soils are poorly developed in most of the area, consisting of decomposed granite or scree, depending on slope. Organically rich meadow soils lie over a thin layer of alluvium in a small area of the SW. portion. The area probably receives average annual precipitation between 20 and 30 inches (508-762 mm), with snow accounting for the vast majority. Snow depth on April 1 in this area averages 25-50 inches (64-127 cm).

Association Types

Fourteen plots of unlisted area were sampled in the subalpine forest; acreage for associations is not given.

Subalpine Forest (86100, 86300, 86700): This vegetation has been grouped into four types: mixed forest dominated by lodgepole pine (*Pinus contorta* ssp. *murrayana*) with foxtail pine subdominant; mixed forest dominated by foxtail pine with lodgepole pine subdominant; mixed forest codominated by limber pine (*Pinus flexilis*) and foxtail pine; and monospecific forest of foxtail pine. These types are not discussed individually.

Lodgepole pine is most common along water courses and at lower elevations, whereas foxtail pine cover is negatively correlated with lodgepole pine cover. Limber pine tends to increase in basal area at higher altitudes (e.g., on ridge S. of Last Chance Meadow), while there is a general reduction in basal area of all species as the highest elevations of this ridge are approached. On the S.-facing slope of this ridge, foxtail pine occurs in high cover. In the SE. quarter of sect. 13 on a boulder-strewn plateau, foxtail pine attains high basal area cover in pure stands. Reproduction throughout the subalpine forest is good for all three main species. Based on 14 sampled sites, basal area cover for the three major tree



Figure 105—Last Chance Meadow, granitic outcrop surrounded by wind-eroded 800 to 1500-year old foxtail pine in the Last Chance Meadow RNA. (L. Johnson 1974)

species are (average, with range and sample size): foxtail pine 36 (1-56, n=14) m²/ha; lodgepole pine 9 (0.25-28.5, n=12) m²/ha; and limber pine 4.1 (0.5-10, n=5) m²/ha. Total basal area for the plots averages 43.4 (11-54.25) m²/ha.

In general, the shrub and herb layers are extremely sparse (<25 plants/100 m²), particularly in the pure foxtail pine areas. The most conspicuous species include *Selaginella watsonii* and several species of *Eriogonum*.

Meadow (45210, 45220): Although not specifically discussed, numerous species (at least 36) derived from the species list are typical meadow plants of the high S. Sierra Nevada. These taxa may be divided into moist, wet, and meadow-riparian situations.

Plant Diversity

Seventy-one taxa are listed.

Conflicting Impacts

There has been some grazing by domestic livestock in the meadow area. However, the principal impact comes from recreationists, mainly hikers using the Pacific Crest Trail, which passes along the S. border of the area. As of 1976, an undesignated trail that traverses the meadowy SW. portion of the RNA was experiencing increasing use.