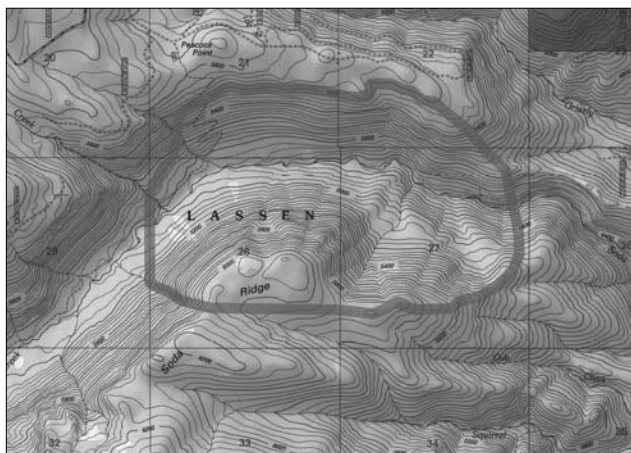


80. Soda Ridge (Conard and Robichaux 1980)



**Figure 161—
Soda Ridge
rRNA**

Location

This recommended RNA is on the Lassen National Forest. It lies just 1.5 miles (2.4 km) NE. of the Green Island Lake RNA and is about 14 miles (23 km) SW. of Canyon Dam. It occupies portions of sects. 21, 22, 27, 28 T26N, R6E MDBM (40°05'N., 121°18'W.), USGS Jonesville 15' quad (fig. 161). Ecological subsection – Lassen-Almanor (M261Dm).

Target Element

White Fir (*Abies concolor*)

Distinctive Features

Mature White Fir Forest: This area contains large areas of mature white fir forest on the N.-facing slope of Soda Ridge. The dominants average at least 200-300 years on the steeper slopes with younger forests (100-120 years) on gentle slopes near Soda Creek. Understory vegetation varies from sparse and species-poor under old forest to relatively diverse and dense on the creek benches. White fir forest is frequently affected by fire, with the largest and oldest forests occurring on steep mesic slopes where fire is less prevalent. There is a mosaic of stands locally representing different successional stages and fire histories. The broad elevational band represented includes transitional types to Douglas-fir (*Pseudotsuga menziesii*)-dominated forest at low elevations and red fir (*Abies magnifica*)-dominated forest at highest elevations.

Mixed Conifer Forest: The SE. exposures above Soda Creek have a well-developed ponderosa pine (*Pinus ponderosa*)-dominated mixed conifer forest with an open understory and many large trees.

Meadow Vegetation: A series of wet meadows arises from a line of seeps on the N. side of Soda Creek. These meadows are diverse and relatively unspoiled. They include *Drosera rotundifolia* and a number of other montane hydrophilic species.

Physical Characteristics

This area covers about 1300 acres (525 ha). Elevations range from 4560 ft to slightly more than 6000 ft (1390-1829 m). The SW.- to NE.- trending canyon of Soda Creek dominates the area. The canyon slopes are steep (25-30°) on both NE.- and SW.-facing slopes from the summits of the ridges (5600-6000 ft, or 1707-1829 m) down to about 5200 ft (1585 m) where a series of creekside benches occur with 5-15° slopes. The summit of Soda Ridge is broad and relatively flat (<5° slope).

The flat ridges and steep valley slopes are influenced by the Pliocene basalt flows that underlie the area. These flows are considered part of the Southern Cascade ecological section.

Climate data are given for Canyon Dam, indicating a typical Mediterranean climate with 95 percent of the precipitation falling October-May. Average annual precipitation is estimated (Rantz 1972) at 60-70 inches (1524-1778 mm).

Association Types

The white fir forest was sampled using the point-centered quarter method along several transects adding up to 44 points. The remainder of the association types are described qualitatively.

White Fir-Mixed Conifer Forests (84240, 84230): 601 acres (243 ha). Sampling indicates that relative density of white fir is high (mean 82 percent, range 73-88 percent) with overall tree density ranging from 290-350 stems/ha on steep slopes to 550-650 stems/ha in younger stands along the creek (fig. 162). The relative cover of white fir varies depending on the number of surviving large, old trees of sugar pine (*Pinus lambertiana*), Douglas-fir, and Jeffrey pine (*Pinus jeffreyi*) after fires. In most areas the basal area of white fir is relatively low compared to its high density. Red fir is represented by smaller trees in the upper elevations, indicating a trend toward red fir dominance in the absence of fire. White fir is reproducing well throughout the area, indicative of the stability of this type. Average cover of saplings is 10 percent, with white fir dominant.

Understory cover averages less than 5 percent throughout this association. *Pyrola picta*, *Chimaphila menziesii*, and *Corallorhiza maculata* predominate on the steep slopes, while additional species such as *Achillea millefolium*, *Amelanchier pallida*, *Galium triflorum*, *Goodyera oblongifolia*, *Hieracium albiflorum*, *Osmorhiza chilensis*, *Potentilla glandulosa*, *Smilacina racemosa* ssp. *amplexicaulis*, *Symphoricarpos acutus*, and *Viola* spp. occupy the understory of the bench areas.

Ponderosa Pine-Mixed Conifer Forest (84210, 84230): 512 acres (207 ha). This is the major vegetation association on the S.-facing slopes. The forest is dominated by ponderosa pine, but Jeffrey pine, sugar pine, Douglas-fir, and incense-cedar (*Libocedrus decurrens*) are common associates. The forest is almost uniformly mature, with many dominants more than 3.3 ft (1 m) dbh. The understory is extremely open.

Montane Chaparral (37510): 121 acres (49 ha). This vegetation occurs as patches within the white fir forest. It is entirely seral in this area, with 75-100 years required for white fir to fully emerge from the shrub canopy. A large ridge crest patch is dominated by *Quercus vaccinifolia* (30 percent cover), *Arctostaphylos patula* (5-10 percent), and *A. nevadensis* (5-10 percent). There is 5-10 percent cover of white and red fir saplings. Several large residual Jeffrey pine also occur. Other areas of young fir forest have skeletons of montane chaparral shrubs in the understory. Other smaller patches of this vegetation are dominated by *Arctostaphylos patula*, *Quercus chrysolepis* var. *nana*, *Ceanothus velutinus*, *Prunus emarginata*, *Salix scouleriana*, and *Ribes* spp.

Rock Outcrop and Talus Slopes (no Holland equivalent): 47 acres (19 ha). This type is not specifically discussed although species such as *Onychium densum*, *Penstemon deustus*, and *Streptanthus tortuosus* var. *orbicularis* (among others in the plant list) are likely members.

Wet Meadows (45100, 45400): 12 acres (5 ha). Species noted for this association include *Veratrum californicum*, *Senecio triangularis*, *Drosera rotundifolia*, *Dodecatheon jeffreyi*, *Lilium pardalinum*, *Mimulus guttatus*, *Veronica americana*, two species of *Habenaria*, and *Vaccinium* sp.

Riparian Zone (61530, 63500): 12 acres (5 ha). Soda Creek supports a narrow band of riparian vegetation with scattered tall black cottonwood (*Populus trichocarpa*) and intermittent dense thickets of mountain alder (*Alnus tenuifolia*) with scattered aspen (*Populus tremuloides*). Mountain alder also occurs in thickets along swales away from the creek. One such area has a cover of 75 percent mountain alder, 20 percent *Salix caudata*, and <5 percent *S. scouleriana*. Other



Figure 162—
Soda Ridge, typical white fir forest in Soda Ridge RNA. (around 1980)

species characteristics of such thickets include *Heracleum lanatum*, *Adiantum pedatum*, *Acer glabrum*, *Cornus stolonifera*, and *Stachys rigida*. Rocky alluvial flats along the creek have some herbaceous species such as *Calystegia malacophyllus*, *Eriogonum nudum*, *E. umbellatum*, *Monardella villosa*, *Scutellaria californica*, *Silene californica*, and *Verbascum thapsus*.

Plant Diversity

One hundred sixty-eight taxa of vascular plants are listed.

Conflicting impacts

The Peacock Point timber sale may have affected the N. boundary of the area. The sale had been proposed but not logged at the time of the survey. Other human impacts are minimal in the area.