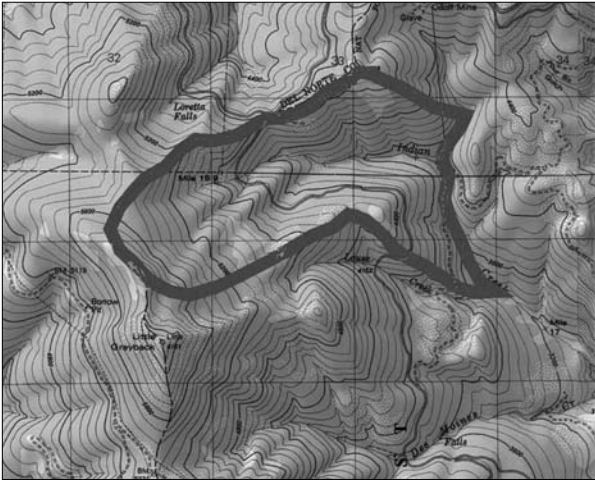


## 44. Indian Creek Brewer Spruce (Sawyer and others 1978)



**Figure 91—Indian Creek Brewer Spruce Special Interest Area**

### Location

Dropped from RNA consideration, the site was designated a Special Interest Area by the Klamath National Forest. It is in Siskiyou County approximately 15 miles (24 km) NW. of Happy Camp. It lies less than 0.5 miles (0.8 km) S. of the Oregon border. The area occupies portions of sections 32 and 33 T19N, R6E and sects. 4 and 5 T18N, R6E HBM (41°59'N., 123°31'W.), USGS Polar Bear Mtn. quad (*fig. 91*). Ecological subsection – Lower Salmon Mountains (M261Af) and Red Butte (M261An).

### Target Element

Brewer Spruce (*Picea breweriana*)

### Distinctive Features

**Dominant Brewer Spruce:** This area was rated as one of the best stands of Brewer spruce in the Klamath Region by the authors of the ecological survey (*fig. 92*). Particularly notable is the large area of dominance by this unique Klamath Mountains endemic.

**Accessibility of Brewer Spruce Stands:** Many Brewer spruce stands are relatively isolated and thus difficult to study. The proximity of this stand to a major paved Forest Service road (Happy Camp-O'Brian road) facilitates access and study.

**Variability in Successional State:** The recent cutting at the S. end of the area adds some variability to the vegetation, providing different conditions in which to study Brewer spruce regeneration from the adjacent forest stands.

**Rare Plant Taxa:** Three CNPS rare plants have been identified from the area. These are *Bensoniella oregona* (List 1B), *Pedicularis howellii* (List 4), and *Vaccinium coccinium* (List 3). The *Vaccinium* is a major component of the understory of the mesic phase forest.

### Physical Characteristics

The area covers about 500 acres (202 ha) of the upper headwaters of Indian Creek, a major SE.-flowing tributary of the Klamath River. Elevations are from 3500 to 5700 ft (1067-1737 m). Slopes are largely NE.- and S.-facing with N.- and E.-facing slopes also well-represented. Slopes range from moderate to steep. Rocks are pre-Cretaceous metasediments. Soils show moderate development and appear to be internally well-drained. Precipitation at the site averages 70-80 inches (1778-2032 mm) annually (Rantz 1972). January mean minimum temperatures are on the order of 20 °F (-7 °C); July maximum temperatures are about 87 °F (31 °C).

### Association Types

Twenty releves and 30 points (point-centered quarter method) were chosen to sample the only forest described from the area. Acreages are not given for the associations.

**Brewer Spruce/*Quercus sadleriana* (85410, 85310):** This association is placed in the red fir (*Abies magnifica*) zone of the W. Klamath Region (Sawyer and Thornburgh 1977). It can be classified as representing the Brewer

spruce/*Quercus sadleriana* type. Two phases occur locally: a mesic *Achlys triphylla* phase and a more xeric *Arctostaphylos patula* phase. Only minor differences exist between samples in these phases.

The mid-slope *Achlys triphylla* phase has a relatively high diversity of understory herbs and shrubs (19 shrub and 21 herb species indicated). Both mid-slope and upper-slope phases are dominated by Brewer spruce and white fir (*Abies concolor*). Secondary associates are noble fir (*Abies procera*), Douglas-fir (*Pseudotsuga menziesii*), and sugar pine (*Pinus lambertiana*). Tree reproduction is mainly spruce and white fir. Of the understory species, *Vaccinium coccinium*, *Quercus sadleriana*, *Pyrola secunda*, *Chimaphila umbellata*, *Achlys triphylla*, *Rubus lasiococcus*, *Linnaea borealis*, *Clintonia uniflora*, and *Nothochelone* (*Penstemon*) *nemorosa* are among the most conspicuous in the mesic *Achlys* phase.

In the more xeric upper-slope, or *Arctostaphylos patula* phase, 14 shrub and 13 herb species are listed from the relevés. *Quercus sadleriana*, *Arctostaphylos patula*, *Vaccinium coccinium*, *Chimaphila umbellata*, *Pyrola secunda*, and *Pyrola picta* are among the most important species. Brewer spruce loses its dominance to white fir in this phase of the forest.

Stand analysis was made largely from the mesic *Achlys* phase. Tree densities are 219/ha, with white fir represented by 72 and Brewer spruce by 87 trees/ha. Douglas-fir dominates in basal area (14.2 m<sup>2</sup>/ha), followed by spruce (12.7 m<sup>2</sup>/ha) and white fir (5.3 m<sup>2</sup>/ha). The relatively low density and basal area values (see Rock Creek Butte cRNA) for the forest reflect the open nature of the stand. Growth rates were sampled from several cored trees of the major species. Brewer spruce has a mean radial growth of 0.12 cm/year (n=10), whereas that of white fir was 0.17 cm/year (n=7).

**Rock Outcrops (no Holland equivalent):** Small areas on the upper slopes near ridges are dominated with a sparse cover of rupicolous species such as *Quercus garryana* var. *breweri*, *Arctostaphylos nevadensis*, *Amelanchier alnifolia*, *Penstemon newberryi* ssp. *berryi*, and *Sedum obtusatum*.

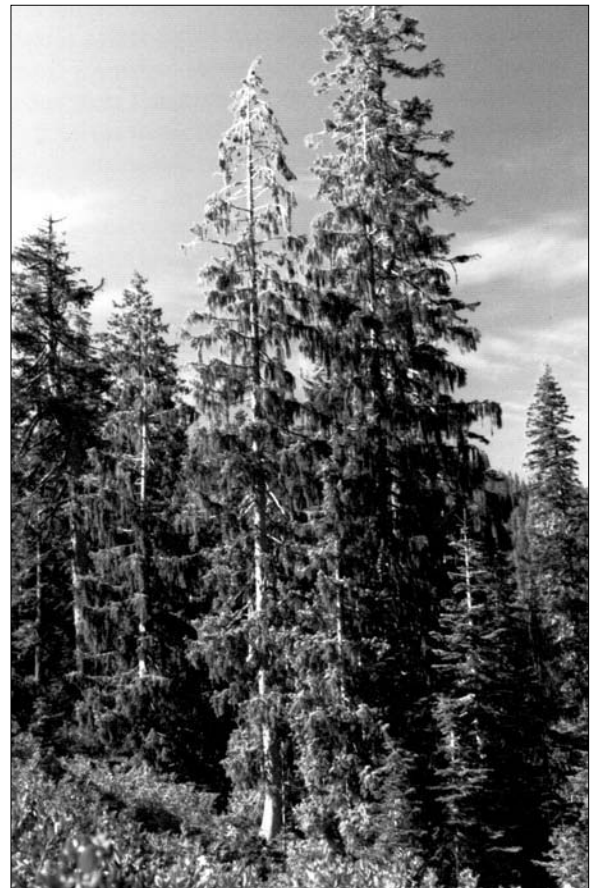
**Successional Montane Chaparral (37510):** An old clear-cut block dominated by successional montane chaparral is located S. of the main Brewer spruce area. Brewer spruce seedlings are scattered among the shrubs of *Arctostaphylos patula* and *Quercus sadleriana*. *Penstemon anguineus*, *Nothochelone nemorosa*, and *Chimaphila umbellata* are also common here.

### Plant Diversity

Ninety-nine taxa of vascular plants are listed.

### Conflicting Impacts

The main stand of Brewer spruce is bisected by the Happy Camp-O'Brian road. The area has been dropped as a candidate RNA because of its relatively small size and the presence of a major road within the Brewer spruce stand. It is designated as a Special Interest Area because of its superior representation of Brewer spruce.



**Figure 92—**  
**Indian Creek**  
**Brewer Spruce,**  
Brewer  
spruce and noble  
fir at edge of  
Sadler oak-domi-  
nated chaparral.  
(L. Johnson, 1976)