

12. Bridge Creek (Keeler-Wolf 1985c, 1989d)

Location

This candidate RNA is on the Klamath National Forest, Siskiyou County, approximately 10 miles (16 km) NE. of Somes Bar. It occupies portions of sects. 23, 26, 27, 28, 34, and 35 T13N, R7E HBM (41°30'N., 123°21'W.), USGS Medicine Mtn., Orleans Mtn., and Forks of Salmon quads (fig. 24). It lies entirely within the Marble Mountain Wilderness. Ecological subsections – Upper and Lower Salmon Mountains (M261Af, M261Ag).

Target Element

Pacific Douglas-Fir (*Pseudotsuga menziesii*)

Distinctive Features

Old-Growth Douglas-Fir Forest: The majority of Douglas-fir/hardwood forest at Bridge Creek has not burned for more than 150 years. Thus, the forest has a distinctly multilayered structure. Tall (up to 220 ft, 67 m) canopy trees overlie a subcanopy of hardwoods and young conifers up to 120 ft tall (37 m), which overlies well-developed low tree, shrub, and herb strata (fig. 25). These mature, multilayered forests are uncommon in California and demonstrate the climax type of Douglas-fir forest. Young Douglas-fir is growing faster than white fir at mid-elevation and thus should continue to reproduce and dominate without the threat of takeover by white fir (*Abies concolor*).

Rare Plants: *Rubus nivalis*, a rare understory component of the upper elevation Douglas-fir/hardwood forest, is a member of CNPS List 2.

Giant Chinquapin (*Chrysolepis chrysophylla*) Reproduction: Giant chinquapin is the major hardwood subdominant in the Douglas-fir/hardwood forest of Bridge Creek. Compared to very mesic coastal sites and more xeric inland sites, this area has the highest rate of sexual reproduction for giant chinquapin and also the highest diversity of understory species (Keeler-Wolf 1988b). The first distinction is the result of mesic understory conditions allowing giant chinquapin seedlings to germinate and survive, but not to be so moist as to create extremely dense shrub understories, which shade out giant chinquapin seedlings.

Physical Characteristics

The area covers 1806 acres (731 ha) of mid- and lower slopes and creek bottoms along the middle portion of the Bridge Creek drainage, including the lower portion of Halfmoon Creek and the Yellowjacket Creek drainages. Elevations range from 2500 to 4200 ft (762-1280 m). All main slope exposures are represented, with E. and W. predominating. Topography is steep at the upper elevations and side valleys; it is moderately steep along Bridge Creek.

Rocks are Jurassic granitics of the Wolley Creek Pluton. Soil-mapping units include the Gilligan-Goldridge families association, Gilligan-Chawanakee families association, and Entic Xerumbrepts-Gerle family association. Average annual precipitation is estimated between 65 and 70 inches (1651-1778 mm) with much falling as snow above 4000 ft (1219 m). Maritime fog occasionally enters the lower valleys during summer. Mean annual temperature is estimated to be about 55 °F (12.7 °C) at the lowest elevations.

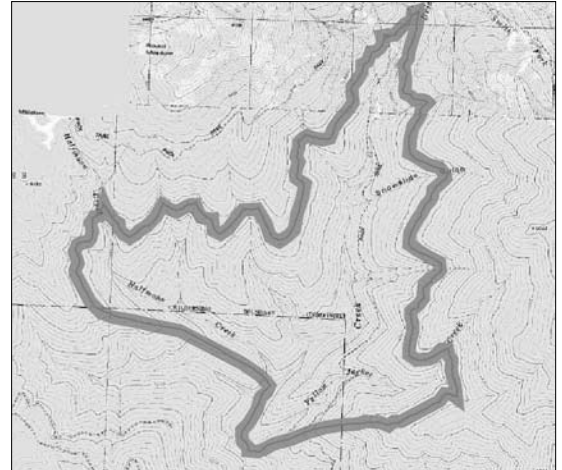


Figure 24—
Bridge Creek
cRNA

Association Types

Twenty-nine 100-m² plots were sampled in the Douglas-fir/hardwood forest. For additional sampling in this area, see Keeler-Wolf (1988a).

Douglas-Fir/Hardwood Forest (82420): 1400 acres (567 ha). On E.-facing plots, Douglas-fir dominates (basal area) 14 of 20 plots, and white fir dominates 6. On W.-facing plots, Douglas-fir dominates eight of nine plots and giant chinquapin dominates one. Importance values, (relative density + relative frequency + relative basal area) × 100, for all plots are: Douglas-fir 114, giant chinquapin 55, white fir 73, tanoak (*Lithocarpus densiflorus*) 8, sugar pine (*Pinus lambertiana*) 6, Pacific yew (*Taxus brevifolia*) 7, Pacific madrone (*Arbutus menziesii*) 4, Pacific dogwood (*Cornus nuttallii*) 15, *Acer circinatum* 13, incense-cedar (*Libocedrus decurrens*) 3, canyon live oak (*Quercus chrysolepis*) 1, bigleaf maple (*Acer macrophyllum*) 1, and *Salix scouleriana* 1. Total basal area cover is 163 m²/ha, and total stem density for trees is 1750/ha. Douglas-fir seedlings have the highest importance values, (relative density + relative frequency) × 100, whereas, among saplings, white fir has the highest values. Giant chinquapin follows white fir and Douglas-fir in sapling importance, but giant chinquapin seedlings are rare.

Sixteen species of shrubs and 36 species of herbs are noted in the sample. These species form a relatively dense ground cover averaging about 65 percent. The most important species include *Berberis nervosa*, *Quercus sadleriana*, *Rosa gymnocarpa*, *Rubus ursinus*, *Chimaphila umbellata*, *Goodyera oblongifolia*, *Achlys triphylla*, and *Linnaea borealis*.

Mixed Evergreen Forest (81100, 81320, 81400): 246 acres (100 ha). This association has a higher density of broad-leafed sclerophyllous evergreens than conifers. Typically, there is an overstory of Douglas-fir with less than 50 percent cover and a closed canopy of tanoak, Pacific madrone, and canyon live oak. On most sites tanoak is dominant. Most mixed evergreen forest in the area is on relatively xeric exposures (S. and W.) and characterized by numerous stems of 8-12 inches (20-31 cm) dbh tanoak with scattered clumps of Pacific madrone and scattered emergent Douglas-fir. Occasionally, there are areas with large tanoak and Pacific madrone up to 36 inches (91 cm) dbh. On steep upper xeric exposures, low shrubby canyon live oak may dominate (Holland 81320).

The understory is poorly developed on xeric exposures dominated by sclerophylls, but more mesic lower-slope sites may average 25 percent ground cover. Understory species include *Toxicodendron diversilobum*, *Chimaphila umbellata*, *Pyrola picta*, *Symphoricarpos mollis*, *Whipplea modesta*, *Iris* sp., *Rosa gymnocarpa*, *Arnica discoidea*, *Vicia americana*, *Pteridium aquilinum*, *Goodyera oblongifolia*, *Disporum hookeri*, *Bromus marginatus*, and *Polystichum munitum* var. *imbricans*.

White Fir/Douglas-Fir Forest (84240): 133 acres (54 ha). This is a transitional forest between upper-elevation white fir- and lower-elevation Douglas-fir-dominated forests. It occurs along the upper elevation boundary on N.-facing exposures. Douglas-fir usually dominates the canopy, with white fir strongly dominating the understory. Average canopy height is about 150 ft (46 m) with emergent Douglas-fir to 180 ft (55 m). As a result of heavy snows and shade, the shrub and herb layers are poorly developed, averaging 10-25 percent cover. Shrub species include *Corylus cornuta*, *Rubus parviflorus*, *Quercus sadleriana*, *Rosa gymnocarpa*, and *Paxistima myrsinites*. Herbs include *Apocynum pumilum*, *Anemone quinquefolia*, *Vancouveria hexandra*, *Achlys triphylla*, *Chimaphila umbellata*, *Smilacina racemosa* var. *amplexicaulis*, *Trillium ovatum*, *Penstemon anguineus*, *Trientalis latifolia*, and *Pyrola picta*.

Knobcone Pine (*Pinus attenuata*) Forest (83210): 29 acres (12 ha). Small areas of this vegetation occur in xeric upper slopes that may have incurred recent fires. Montane chaparral species form the understory and include *Quercus vaccinifolia*, *Arctostaphylos patula*, *Ceanothus velutinus*, and *Garrya fremontii*.

Riparian Zone (61510, 63500): No acreage given. The steep gradient of all of the streams and frequent high runoff tend to restrict riparian growth. However, sporadic clumps of riparian species occur along all of the major streams. Typical species adjacent to permanent water are *Alnus sinuata*, *Peltiphyllum peltatum*, *Salix* sp., and *Carex nudata*. In seasonally inundated alluvium away from the main streambeds, such species as bigleaf maple (*Acer glabrum* var. *torreyi*), white alder (*Alnus rhombifolia*), *Salix scouleriana*, *Petasites palmata*, *Aruncus vulgaris*, *Stachys rigida*, *Actaea rubra* ssp. *arguta*, *Penstemon deustus*, *Rubus leucodermis*, *Ribes sanguineum*, and *Castilleja miniata* occur.

Spring, Seep, and Rivulet (45400): No acreage given. Numerous small springs and other moist spots occur which vary in their degree of shadiness and moisture. The following species are typical: *Euonymus occidentalis*, *Cornus stolonifera*, *Rhododendron occidentale*, *Sorbus cascadenis*, *Equisetum hymale* var. *robustum*, *Thelypteris oregana*, *Glyceria elata*, *Juncus effusus* var. *gracilis*, *Juncus xiphoides*, *Lotus oblongifolius* var. *nevadensis*, *Agrostis exarata*, *A. alba*, *Epilobium glaberrimum*, *E. angustifolium*, *Aralia californica*, *Carex nervina*, *Tellima grandiflora*, *Boykinia elata*, *Adiantum pedatum*, and *Aquilegia formosa*.

Plant Diversity

One hundred forty taxa are listed.

Conflicting Impacts

The area is relatively free of human alteration. A little-used trail passes through the area. The low elevation and steep slopes tend to discourage recreational use, despite its wilderness area status. Access to the area is somewhat difficult and time consuming, requiring a 4.5-mile (7.2-km), 3-hour walk to the central portion of the RNA.



Figure 25—Bridge Creek, old-growth Douglas-fir towering over understory of Pacific dogwood, Pacific yew, and giant chinquapin. (1984)