

83. South Mountaineer Creek (Mountaineer Creek) (Keeler-Wolf 1991c)

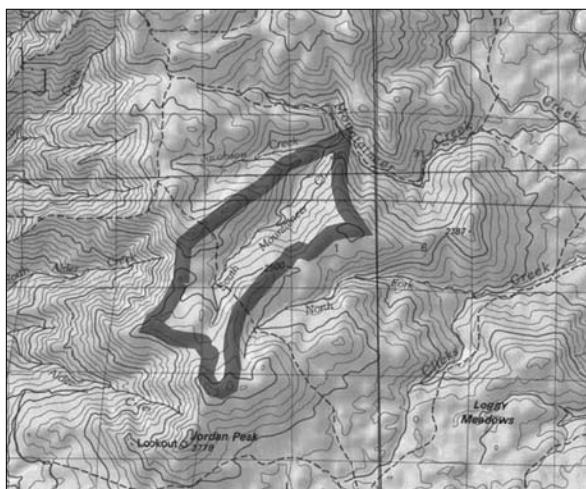


Figure 165—South Mountaineer Creek cRNA

Location

This candidate RNA (cRNA) lies within the Tule River Ranger District, Sequoia National Forest. It is approximately 37.4 miles (60 km) from the Tule River Ranger Station and within the Golden Trout Wilderness. Its boundaries include all or portions of sections 1, 2, 3, 10, 11, and 14 of T20S, R31E, and sections 35 and 36 of T19S, R31E (36°12'30"N., 118°35'W.), USGS Camp Nelson quad (fig. 165). Ecological subsection – Upper Batholith (M261Eq).

Target Element

Red Fir (*Abies magnifica*)

Distinctive Features

The area includes several age groups of red fir represented throughout most of the cRNA's environmental range. Widespread associates of the red fir forest, such as western white pine (*Pinus monticola*) and lodgepole pine (*Pinus contorta* ssp. *murrayana*), also occur in typical conditions and densities on the cRNA. In addition to the identified target element, well-developed montane meadow and aquatic plant and fauna communities add value to this cRNA.

Rare Plants: Two CNPS List 4 species occur in the cRNA. Sierra corydalis (*Corydalis caseana* ssp. *caseana*) is locally common and widespread in streamside and rivulet situations at 6900-8600 ft (2103-2621 m). Sierra corydalis is known in the S. Sierra Nevada only from Tulare County. Mineral King Draba (*Draba cruciata*) is restricted to rocky, N.-facing slopes at the highest elevations beneath open canopies of western white pine and red fir. Its location in the cRNA is within a mile (1.6 km) of the southernmost known occurrence for this taxon.

Rare Fauna: The Federally-listed threatened species little Kern golden trout (*Onchorynchus aguabonita whitei*) is native to the Mountaineer Creek drainage. Introduced, non-native rainbow trout (*Onchorynchus gairdneri*) have hybridized with the little Kern golden trout in parts of the drainage. The California State Department of Fish and Game has established a program to remove the hybrids and non-native fish and re-establish the pure-bred little Kern golden trout population.

In addition to the trout, a golden eagle (*Aquila chrysaetos*, California State species of special concern) was observed in the cRNA. The cRNA may also be the southernmost location of pikas (*Ochotona princeps*) in the Sierra Nevada.

Fire History: The most recent major fire in the cRNA occurred about 150 years ago (approximately 1850), affecting at least 60 percent of the canopy in the drainage. Stands spared from the fire occur at the S. head of the drainage and the upper slopes of the SE. part of the drainage. Individuals occurring at the edges of rocky areas and meadows also were spared.

Physical Characteristics

The area covers 1603 acres (649 ha) with an elevation of 6840-9236 ft (2085-2815 m) as moderate to steep slopes. It encompasses the entire South Mountaineer Creek drainage.

The majority of the area is underlain by Mesozoic granitic rock of the Sierra Nevada Batholith with just a few small outcrops of Paleozoic metamorphics.

(primarily schistose with mica visible in outcrops) in the E. portions of the drainage. The granitic rock is broken into talus in several areas at the head of the drainage and on upper slopes.

The soils of the cRNA are divided into five mapping units. The Cannell-Kriest family-Rock outcrop complex (30-50 percent [17-27°] slope; grayish, brown sandy loam; 5-7 inches [13-18 cm] thick) and the Cannell-Sirretta-Nanny family complex (30-50 percent [17-27°] slope; dark grayish brown gravelly coarse sandy loam; 6-7 inches [15-18 cm] thick) are the principal mapping units for the cRNA. The remainder of the soils are mapped as Dome Chaix-Rock outcrop, Rock outcrop-Toem complex, and Rock outcrop.

No permanent weather stations exist within the cRNA. The closest weather recording site is at the Lodgepole Ranger Station, approximately 24.5 miles (39.4 km) NW. of the cRNA at 36°36'N., 118°44'W., 6735 ft (2053 m) elevation. Average annual temperature at Lodgepole Ranger Station is 41.4 °F (5.2 °C), and average annual precipitation is 48.6 inches (1234 mm). The climate at the cRNA is probably similar to that at the Lodgepole Ranger Station, with January and February receiving the highest precipitation. Temperature is likely to decrease substantially with elevation in the cRNA. Average annual temperature at the higher elevations is estimated at 34 °F (1.1 °C). Snow depths at the cRNA can average 36-45 inches (914-1143 mm) at low elevations and 11 ft (3.4 m) at higher elevations.

Association Types

Red Fir Forest (85310): 1110 acres (449 ha). The red fir forest in the cRNA is only 28 miles (45 km) N. of the southernmost extent of this forest type. It occurs on all major slope directions and comprises approximately 70 percent of the cRNA.

The majority of the red fir forest on the cRNA is monospecific and uniform in age, resulting from the extensive crown fire of the mid-1800s. Most of the trees are members of the 140-year-old cohort. A few older individuals (200-350 years old) occur in more protected areas and above 8600 ft (2622 m) on NW.-facing slopes (*fig. 166*). Red fir averages 270 trees/acre (669 trees/ha), 508 ft²/acre (117 m²/ha) basal area, and 18.5 inches (47 cm) dbh. The largest trees encountered were 68-73 inches (173-185 cm) dbh and up to 170 ft (51.8 m) tall. Only sampling plots with less than 30 percent crown cover supported dense stands of saplings. The sampling period was in the midst of a severe drought, and recent tree death was widespread.

Western white pine is the most common tree associate, but it occurs only in relatively low densities [7 trees/acre (17 trees/ha)] on N.-facing slopes. Lodgepole pine is an associate along lower reaches of the creek bottom and adjacent to meadows.

The understory cover is low (6 percent) due to the uniform canopy conditions. Vegetation is largely restricted to scattered sunny openings and includes *Hackelia* sp., *Monardella odoratissima*, *Collinsia torreyi*, *Draperia systyla*, *Lupinus andersonii*, and *Senecio integerrimus*. Shade-tolerant species in the understory include *Dentaria pachystigma*, *Pedicularis semibarbata*, *Pyrola picta*, and *Corallorhiza maculata*. *Chrysolepis sempervirens* and *Angelica lineariloba* occur on stabilized talus on N. slopes.

Upper Montane Mixed Coniferous Forest (85200): 221 acres (89 ha). This association type is dominated by white fir (*Abies concolor*) and sugar pine (*Pinus lambertiana*) and is found on dry, SE.-facing slopes. Jeffrey pine (*Pinus jeffreyi*) is a codominant on more xeric, rocky sites. Red fir occurs scattered throughout the cRNA, but is most common on the upper, N.-facing slopes and areas along the creek bottom. California black oaks (*Quercus kelloggii*) occur as scattered

shrubby individuals on the lowest-elevation, rocky, metamorphic sites. Herbs and grasses such as *Pteryxia terebinthina*, *Melica stricta*, *Erigeron foliosus*, and *Bromus richardsonii* occur with the California black oak.

The largest sugar pine are up to 90 inches (2.3 m) dbh, 170 ft (52 m) tall, and more than 600 years old. The largest white fir are up to 70 inches (1.8 m) dbh and at least 400 years old.

The forest has an open canopy averaging about 40 percent crown cover. Ground cover is higher than in the red fir forest, averaging 18.5 percent. The understory is dominated by *Chrysolepis sempervirens*, *Prunus emarginata*, *Ceanothus cordulatus*, *Ribes roezlii*, *Hieracium horridum*, and *Arctostaphylos patula*. Plants that are largely restricted to this forest are *Zigadenus exaltatus*, *Delphinium pratense*, and *Nemophila pedunculata*.

Crown fire does not appear to be as widespread in this forest type as in the red fir forest.

Sierran White Fir Forest (84240): 124 acres (50 ha). This association type is limited to the lower-elevation NW. exposures at the NE. portion of the cRNA. The physiognomy is, in general, similar to that of the red fir forest, with sugar pine, Jeffrey pine, and red fir as common associates. A zone of pure white fir forest occupies a vertical distribution between 7200 and 7400 ft (2200-2255 m).

Most of the white fir trees are members of even-aged stands dating back to the fire 140 years ago. A few larger trees that survived this fire reach 76 inches (193 cm) dbh.

Understory is sparse except adjacent to rocky areas where a mixture of mountain chaparral shrubs and herbaceous vegetation occurs. Associated species include *Sanicula crassicaulis*, *Melica stricta*, *Stipa columbiana*, *Crepis occidentalis*, *Galium bolanderi*, *Gayophytum diffusum* ssp. *parviflorum*, *Cryptantha simulans*, *Allophyllum violaceum*, *Cirsium* sp., *Eriogonum spergulinum* var. *pratense*, *Orochaenactis thysanocarpha*, *Hieracium albiflorum*, *Habenaria unalascensis*, and *Osmorhiza chilensis*.

Wet Meadow (45100): 45 acres (18 ha). The wet meadows are the most productive and species-rich communities in the cRNA. The most extensive meadow, a classic hanging meadow, covers about 10 acres (4 ha) at the head of the South Fork Mountaineer Creek between about 8300 and 8600 ft (2530-2621 m). Several boggy pools of open water exist within this meadow. Red fir and lodgepole pine, along with *Ledum glandulosum* var. *californicum*, *Pyrola secunda*, *Mitella breweri*, and *Caltha howellii*, occur along the border of the meadow. *Carex nebrascensis*, *Heleocharis* sp., *Aster alpigenus* ssp. *andersonii*, *Pedicularis groenlandica*, *Hypericum anagalloides*, *Calamagrostis canadensis*, *Mimulus primuloides*, *Salix drummondiana* var. *subcaerulea*, *Corydalis caseana*, *Oxypolis occidentalis*, *Veratrum californicum*, *Lingusticum grayi*, and *Ranunculus alismaefolius* var. *alismellus* are among the species dominating wetter areas.

An additional type of meadow forms narrow stringers a few yards wide along the creek. Many of the above-mentioned species also occur here. Species common only to this habitat include *Arnica longifolia* ssp. *myriadenia*, *Athyrium felix-femina*, *Cardamine breweri*, *Carex fracta*, *Castilleja miniata*, *Epilobium angustifolium*, *Habenaria sparsiflora*, *Mertensia ciliata*, *Orobanche uniflora*, *Saxifraga nidifica*, and *Veronica serpyllifolia* var. *humifusa*.

Lodgepole Pine Forest (86100): 35 acres (14 ha). Lodgepole pine is restricted to mesic-to-hydric situations with cold air drainage in the cRNA. The most extensive stand occurs on the N.-facing basin at the head of the drainage, where it forms a variable cover. It is often associated with western white pine and red fir. Understory species include *Juncus parryi*, *Antennaria rosea*, *Draba cruciata*, *Chrysopsis breweri*, *Dentaria pachystigma*, *Allium campanulatum*, *Senecio integerrimus*, and *Poa fendleriana*.

Further into the drainage, the forest becomes denser, and the understory becomes more lush. Canopy closure is more than 50 percent, and lodgepole pine can be up to 48 inches (122 cm) dbh. Understory species here include *Ligusticum grayi*, *Erigeron peregrinus*, *Veratrum californicum*, *Pyrola secunda*, and *Mitella breweri*.

Mixed Montane Chaparral (37510): 34 acres (14 ha). This association type occurs on xeric, rocky substrates in the cRNA. Currently, there are only a few small areas of montane chaparral, the largest of which occurs on the upper S.-facing slope of the N. boundary ridge. These areas are typically codominated by *Arctostaphylos patula*, *A. nevadensis*, *Ceanothus cordulatus*, *Holodiscus microphyllus*, *Prunus emarginata*, *Chrysolepis sempervirens*, *Rhamnus californicus*, and *Ribes roezlii*. The stands of these shrubs are typically open and separated by rocky soil or granitic outcrops, among which grow herbaceous species such as *Senecio integerrimus*, *Comandra pallida*, *Phacelia eisenii*, *Arenaria congesta*, *Mimulus whitneyi*, *Phlox diffusa*, *Eriogonum nudum*, *Pteryxia terebinthina*, and *Erigeron foliosus*.

Montane Riparian Scrub (63500): This association type is not well developed in the cRNA. It occurs in small, scattered stands dominated by several shrubby willows including *Salix caudata* var. *bryantina*, *S. pseudocordata*, and *S. scouleriana*. Other shrubs include *Cornus stolonifera*, *Lonicera involucrata*, *Sorbus californicus*, and *Sambucus microbotrys*.

Western White Pine Forest (no Holland equivalent): This open forest dominates the highest elevations of the cRNA on NW.- to NE.-facing exposures. Red fir is the major associate, and lodgepole pine is a minor associate.

The western white pines are presumed to be the oldest trees in the cRNA. The largest individual recorded (possibly two fused individuals) is 8 ft (2.43 m) dbh. The canopy is open, averaging 25-45 percent cover. The understory is rocky with occasional patches of *Chrysolepis sempervirens*. Dominant herbs include *Draba cruciata*, *Juncus parryi*, *Cryptogramma acrostichoides*, *Linanthus oblongolatus*, *Dicentra uniflora*, *Pellaea breweri*, *Allium obtusatum*, *Carex rossii*, *Hackelia mundula*, *Penstemon caesius*, *Monardella odoratissima* ssp. *pallida*, *Fritillaria pinetorum*, and *Chrysopsis breweri*.

Plant Diversity

Two hundred twenty species of vascular plants are listed.

Conflicting impacts

A few campsites are located near the South Mountaineer Creek. Aside from these sites, little recreational impact was noted in the cRNA. The wet meadows are largely undisturbed and show no noticeable signs of grazing.

Clear-cut blocks (cut over the past 15-20 years) border the SE. side of the cRNA but do not affect the South Mountaineer Creek drainage.



Figure 166—South Mountaineer Creek, an even-aged stand of ca. 210 year old red fir on a northwest-facing slope in South Mountaineer Creek cRNA. Note long clean boles and relatively small apical tufts of branches. (1990)