

68. Raider Basin (Raider Creek) (Jensen and Schierenbeck 1989)

Location

This recommended RNA (rRNA) is located about 1.6 miles (2.5 km) NW. of Eagleville. It is in the South Warner Wilderness within the Modoc National Forest, Modoc County. Its boundaries include section 33 of T41N, R16E and sections 3, 4, 7-10, and 15-22 of T40N, R16E HBM (41°20'N., 120°09'W.), USGS Eagle Peak quad (fig. 137). Ecological subsection – Warner Mountains (M261Gf) and Surprise Valley (342Ba).

Target Element

White Fir Forest (*Abies concolor*)

Distinctive Features

Two major varieties of white fir have been recognized within its distribution range: *Abies concolor* var. *lowiana* (in the Sierra Nevada and NE. California) and *A. concolor* var. *concolor* (in the Rocky Mountain region). The rRNA contains large populations of relatively undisturbed examples of old-growth *Abies concolor* var. *lowiana* at the NE. extreme of its range.

Rare Fauna: Following the recommendation of an environmental assessment (Camilleri 1979), six rams and eight ewes of California bighorn sheep (*Ovis canadensis californiana*) were reintroduced into the Raider Creek Basin in 1980. However, due to an outbreak of bacterial pneumonia (*Pasteurella* sp.), transmitted from domestic livestock in 1987, all individuals are thought to have died. There have been no sightings of bighorn sheep since early 1988. The Modoc/Washoe Experiment Stewardship Committee is currently addressing another plan to reintroduce the bighorn sheep into the area.

Rare birds known to frequent the area include golden eagle (*Aquila chrysaetos*, State-listed species of special concern), bald eagle (*Haliaeetus leucocephalus*, Federally- and State-listed endangered species), prairie falcon (*Falco mexicanus*, State-listed species of special concern), and northern goshawk (*Accipiter gentilis*, State-listed species of special concern). Mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), and mountain lion (*Felis concolor*) also have been sighted.

Fire History: Modoc National Forest employees have no knowledge of any recent major wildfire within the rRNA. A 1990 plan included considering a series of managed fires within the South Warner Wilderness. Portions of the rRNA was included in this plan.

Physical Characteristics

The area covers 6100 acres (2440 ha) (6481 acres [2623 ha] listed in the forest plan) with an elevation of 4850-9097 ft (1480-2775 m). It comprises the upper watersheds of Raider and Hornback creeks.

The Warner Mountains contain some of the oldest volcanic rock of the Modoc Plateau (the Cedarville series), which formed in the Oligocene or early Miocene. Much of the rRNA below 5800 ft (1768 m) consists of rocky, exposed, volcanic tuff barren of vegetation.

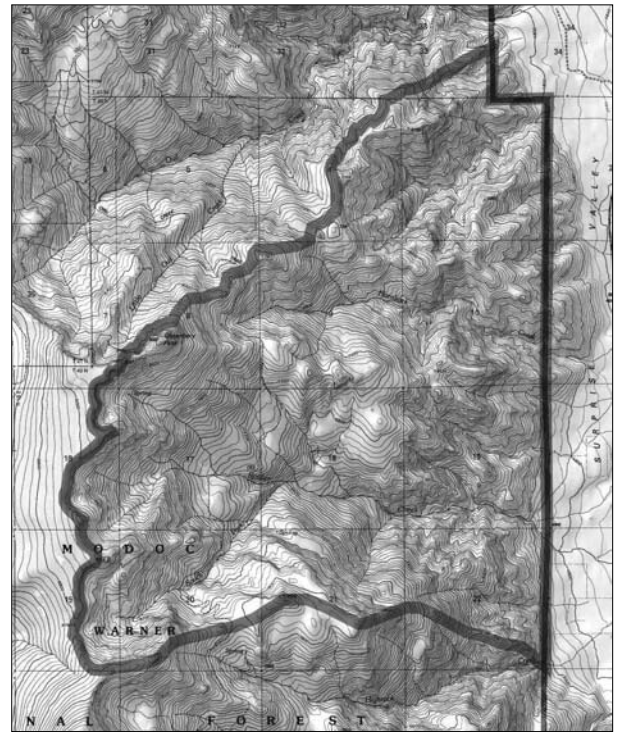


Figure 137—Raider Basin rRNA



Figure 138—Raider Basin, white fir forest in Raider Basin. The view is from the south boundary of rRNA looking north toward Dusenbury Peak. (1988)

The rRNA contains four soil associations. The Waca-Lyonman is a deep, well-drained soil which supports stands of white fir and associated conifers. The Homecamp-Newlands association is a mosaic of stony loam and dark grayish brown loam which supports big sagebrush scrub. The Hapgood-Snag association is a deep, well-drained, dark grayish brown stony-to-fine sandy loam that supports big sagebrush scrub and various bunch grasses. The remainder of the rRNA is classified as Rubbleland-Rock Outcrop.

Annual precipitation in the rRNA is approximately 20 inches

(51 cm), the majority of it falling from September through mid-June in the form of snow. Thunderstorms are common during late May, June, and July. The mean temperatures are estimated to be 20 °F (-6.6 °C) in January and 60 °F (15.5 °C) in July.

Association Types

Sierran White Fir Forest (84240): 1436 acres (575 ha). The absence of recent fire in the rRNA has likely contributed to the development of large, uneven-aged white fir stands (fig. 138), which have a closed canopy and little understory vegetation. Basal area of white fir ranges from 66.7 ft²/acre to 464.7 ft²/acre (15.3-106.6 m²/ha), and diameter ranges from 3.93 to 51.2 inches (0.1-1.3 m). Almost all of the saplings or seedlings found are white fir.

Herbaceous understory cover ranges from 0.2 to 7 percent. The most common species occurring in the understory are *Arnica cordifolia*, *Hieracium albiflorum*, *Penstemon gracilentus*, *Osmorhiza chilense*, and *Kelloggia galioides*.

Northern Juniper Woodland (72110): 364 acres (145 ha). This association type is dominated by *Juniperus occidentalis* ssp. *occidentalis*. It is found at elevations of 5400-6400 ft (1646-2012 m) on exposed slopes of the E. half of the rRNA integrating with big sagebrush scrub. Cover is fairly open, with *Artemisia tridentata* and *Purshia tridentata* as common shrub associates.

Whitebark Pine Forest (86600): 260 acres (104 ha). Nearly pure stands of whitebark pine (*Pinus albicaulis*) form pockets of open forest on N.-facing slopes at elevations above 7600 ft (2317 m). Understory vegetation is very sparse.

Mountain Mahogany Scrub (no Holland equivalent): 235 acres (94 ha). This association type occurs on dry, S.-facing slopes and exposed ridges at upper elevations of Hornback Creek basin and along the saddle E. of Dusenbury Peak. The canopy is open and dominated by *Cercocarpus ledifolius*, some individuals reaching 6.6-9.8 ft (2-3 m) high. Other common plants include *Juniperus occidentalis*, *Artemisia tridentata*, *Balsamorhiza sagittata*, *Amelanchier pallida*, *Artemisia arbuscula*, *Chrysothamnus nauseosus*, and *Ribes cereum*.

Montane Meadow (45100): 183 acres (73 ha). The meadows along the forks of the Raider and Hornback drainages are the most floristically rich in the rRNA. The meadows range in size from 2135 ft² (200 m²) to more than 62 acres (25 ha).

Quaking aspen (*Populus tremuloides*) occurs sparsely along the creeks above 7000 ft (2120 m) and at the edges of meadows. *Veratrum californicum* is the

dominant species in several of the meadows. Other associates include *Agrostis exarata*, *Deschampsia caespitosa*, *Carex microptera*, *Elymus glaucus*, *Epilobium* sp., *Frasera speciosa*, *Glyceria elata*, *Hordeum brachyantherum*, *Hypericum anagalloides*, *Lupinus polyphyllus* ssp. *superbus*, *Potentilla gracilis*, *Trifolium cyanthiferum*, and *Veronica americana*.

Big Sagebrush Scrub (35210): 183 acres (73 ha). This association is the primary vegetation type at lower elevations (5971-6955 ft [1820-2120 m]) on the E. edge of the rRNA. It is also the dominant type at the lowest elevations along Raider Creek. It forms an open shrub community dominated by *Artemisia tridentata* and *Purshia tridentata*. Common grass species occurring are *Agropyron spicatum*, *Bromus tectorum*, *Festuca idahoensis*, *Stipa occidentalis*, and *Oryzopsis* spp. Most of the species in this association are also found in the understory of the Northern Juniper Woodland.

Washoe Pine-White Fir Forest (85220): 40 acres (16 ha). Washoe pine (*Pinus washoensis*) is found with white fir on the rRNA at elevations generally below 6500 ft (1981 m). Three small stands of this forest are found in the Hornback Creek drainage. Although normally an important component of high-elevation SW. and W. slopes of the Warner Mountains, it is not a common association type in the rRNA.

Subalpine Sage Scrub (35220): The highest elevations of the Raider Creek basin contain scattered examples of subalpine sage scrub. The largest stand occurs on the high ridge of the S. boundary of the rRNA and resembles an alpine fell-field. Common plants in this scrub include *Artemisia arbuscula*, *Arenaria aculeata*, *Sedum stenopetalum*, and *Eriogonum caespitosum*. This community also occurs sporadically throughout barren areas at elevations greater than 7500 ft (2286 m).

Montane Riparian Forest (81800/61530): A narrow band of riparian forest occurs along both Raider and Hornback creeks. It is dominated at upper elevations by white fir, with quaking aspen more common in the meadow areas. At elevations below 5400 ft (1636 m), the riparian vegetation is a transitional forest with Jeffrey pine (*Pinus jeffreyi*) replacing white fir. *Populus trichocarpus* dominates the canopy at the lowest portion of Raider Creek. Common shrubs include *Prunus emarginata*, *Rosa woodsii*, and *Salix scouleriana*.

Plant Diversity

One hundred seventy-seven species of vascular plants are listed.

Conflicting Impacts

The South Warner Wilderness is used for hiking, backpacking, and deer hunting. However, due to the closure of one of the main trails, the Raider Creek basin is the least accessible area within the South Warner Wilderness. The only noticeable example of recreational use of the area is the large, well-used hunter's camp adjacent to the meadow in section 17.

The Raider Creek basin was grazed by sheep (before 1943) and cattle (1943-1971), but grazing has been minimal since 1971.