

# Ecological site group F019XG914CA

## Loamy Hills >30"ppt

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### Key Characteristics

- located on hills
- loamy texture
- >30" ppt

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

### Physiography

This ESG is found on mountains, often in convex/convex positions between 4000 to 7000 ft. in elevation. Slopes range from 15 to 50 percent. Aspects are typically west, southwest or south-facing, but may be found on other aspects in certain areas.

### Climate

The average annual precipitation in this MLRA is 23 to 98 inches (585 to 2,490 millimeters), increasing with elevation inland. Most of the rainfall occurs as low-intensity, Pacific frontal storms. Precipitation is evenly distributed throughout fall, winter, and spring, but summers are dry. Snowfall is rare along the coast, but snow accumulates at the higher elevations directly inland. Fog is a significant variable that defines this MLRA from other similar MLRAs. Summer fog frequency values of greater than 35% are strongly correlated to the extent of coast redwood distribution, which is a primary indicator species in this MLRA. Nighttime fog is approximately twice as common as daytime fog and seasonally, it reaches its peak frequency in early August, with the greatest occurrence of fog from June through September (Johnstone and Dawson 2010). The average annual temperature is 49 to 59 degrees F (10 to 15 degrees C). The freeze-free period averages 300 days and ranges from 230 to 365 days, decreasing inland as elevation increases.

### Soil features

The soils for this ESG are varied, but are primarily represented by mesic, Typic Haploxerepts. They typically range in soil textures from coarse-loamy to loamy and are moderately deep and well drained over colluvium and/or residuum weathered from granitoid sources, usually quartz monzonite.

The representative soils for this ESG include Cedarpines, Runningsprings, Groutcreek, Heapspeak, and Waterman.

### Vegetation dynamics

This ESG fits best within the Montane Hardwood-Conifer (MHC) designated California Wildlife Habitat Relationships group and includes both conifers and hardwoods, often as a closed forest. There may be small areas of mixed conifer forest, but they are of minor extent in comparison to the MHC.

To be considered MHC, at least one-third of the trees must be conifer and at least one-third must be broad-leaved. The habitat often occurs in a mosaic-like pattern with small pure stands of conifers interspersed with small stands of broad-leaved trees. This diverse habitat consists of a broad spectrum of mixed, vigorously growing conifer and hardwood species. Typically, conifers to 65 m (200 ft.) in height form the upper canopy and broad-leaved trees 10 to 30 m (30 to 100 ft.) in height comprise the lower canopy. Most of the broad-leaved trees are sclerophyllous

evergreen, but winter-deciduous species also occur. Relatively little understory occurs under the dense, bi-layered canopy of MHC. However, considerable ground and shrub cover can occur in ecotones or following disturbance such as fire or logging. Steeper slopes are normally devoid of litter; however, gentle slopes often contain considerable accumulations of leaf and branch litter.

Information from:

California Wildlife Habitat Relationships System  
California Department of Fish and Game  
California Interagency Wildlife Task Group  
Richard Anderson

## **Major Land Resource Area**

MLRA 019X  
Southern California Coastal Plains and Mountains

## **Subclasses**

- F019XG914CA—Loamy Hills >30"ppt

## **Correlated Map Unit Components**

22673833, 22673832, 22673566, 22673565, 22673837, 22673840, 22673461, 22673459, 22673463, 22673467, 22673689, 22673687, 22673344, 22673348, 22673345, 22673339, 22673343, 22673582, 22673580, 22673576, 22673574, 22673577, 22673698, 22673691, 22673695, 22673696, 22673486, 22673554, 22673804, 22673684, 22673683, 22673556, 22673557, 22673514, 22673513, 22673642, 22673644, 22673643, 22673647, 22673650, 22673651, 22673652, 22673653, 22673654, 22673780, 22673664, 22673663, 22673666, 22673665

## **Stage**

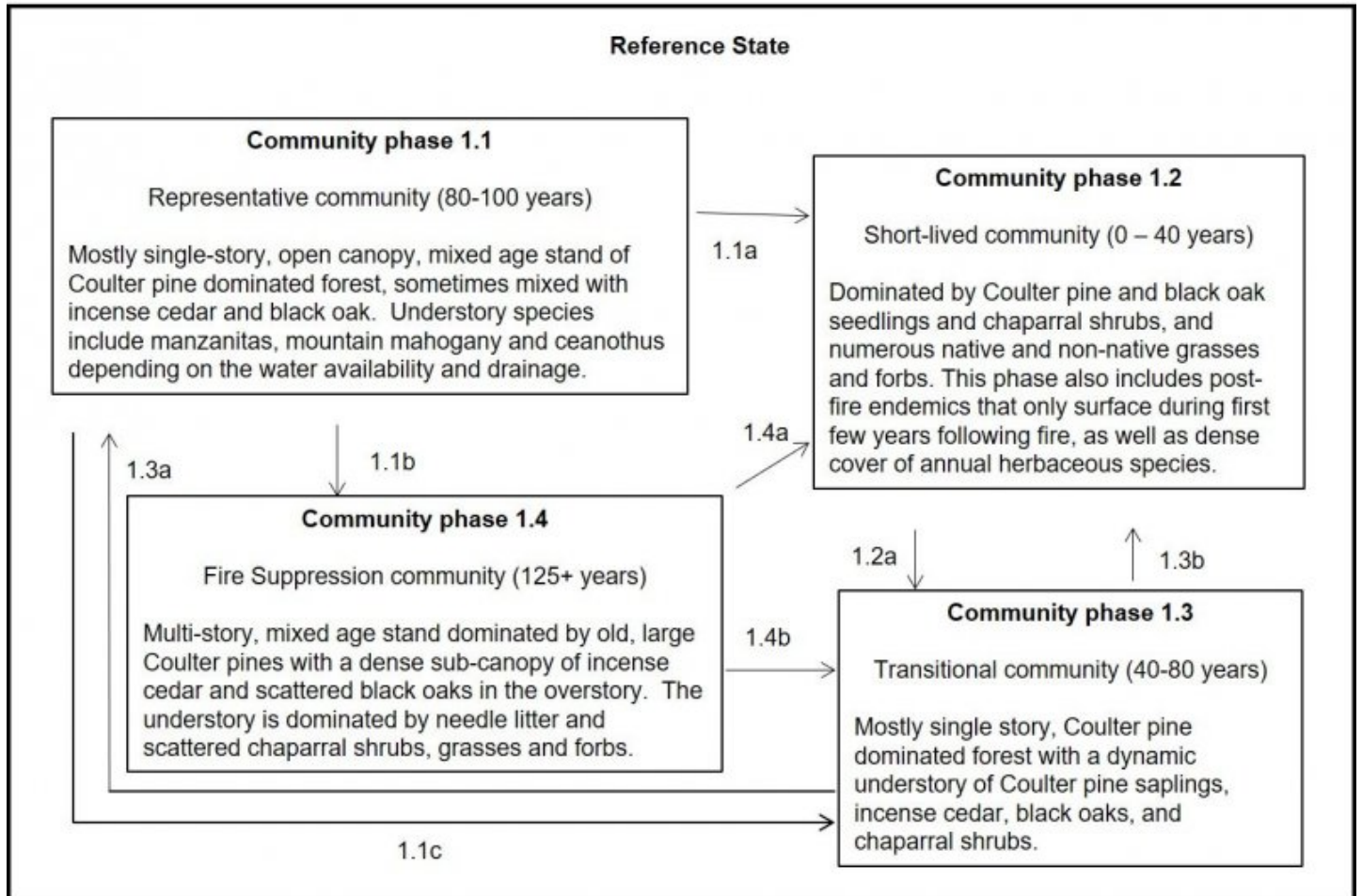
Provisional

## **Contributors**

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## **State and transition model**

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### Reference State Community Pathways (Natural dynamics only – no management scenarios)

Coulter pine (*Pinus coulteri*) lives approximately 100 years. The cones are serotinous, requiring fire to open them for germination and establishment, making them a good conifer associate to the chaparral shrubs that are commonly associated with this pine in the Southern California mountains. Coulter pine occurs in a Mediterranean climate. Winter rains are infrequent, and the summer is dry with occasional summer thunderstorms. Coulter pine is most frequent on steep Coulter pine is an indicator of serpentine soils, but also occurs on a variety of other substrates.

1.1a This community pathway occurs following a high severity fire. Coulter pine regenerates prolifically after fire as do the understory chaparral shrub species, eventually leading to an evenly aged stand of young Coulter pines with an understory of shrubs. A prescription of mechanical clearing and burning of slash may also produce the same results.

1.1b This community pathway occurs over time without fire the stand becomes more mixed aged and dense. Incense cedar and black oaks, which have established in the understory, becomes increasingly prevalent in the canopy and create a Coulter pine-incense cedar forest.

1.1c This community pathway occurs following a low to moderate severity fire that removes many but not all of Coulter pines, most of the black oaks and incense cedars and understory species.

1.2a This community pathway occurs over time without vegetation management or major disturbances.

1.3a This community pathway occurs over time without vegetation management or major disturbances and normal progression.

1.3b This community pathway occurs following a low to moderate severity fire.

1.4a This community pathway occurs following a high severity fire that removes everything.

1.4b This community pathway occurs following a moderate severity fire.

FEIS info: Coulter pine readily establishes from seed on burned sites. The persisting cones on surviving trees, and sometimes on those killed by fire, provide a source of seed. Seedling establishment is usually greatest during the first postfire year. The severe Marble Cone Fire in the Santa Lucia Mountains destroyed Coulter pine stands. At postfire year 1, a large number of Coulter pine seeds germinated. Three seasons following the fire, Coulter pine seedling density ranged from 18 to 4,213 per acre (7-1,685/ha). The lower seedling densities probably resulted from interference by annual ryegrass. Pine seedling numbers were greatest in areas where fire was less intense. In these areas, relative frequency of pine seedlings was 100 percent; density was 2 seedlings per square meter. In areas where fire was severe, relative frequency was only 56 percent, and density was one seedling per square meter. The study suggested that the intense heat in the heavily burned areas may have destroyed seeds within the cones of trees, but the less intense heat in the more lightly burned areas may have opened cones without destroying seeds, creating a patchy dynamic of new Coulter pine growth and newly sprouting chaparral species and black oaks. Pine seedlings are often disproportionately located on areas where mineral soil was exposed.

## Citations