

34. Guatay Mountain (Gautier and Zedler 1980)

Location

This proposed RNA (pRNA) was dropped in 1987 in order to expand the boundary; it was then renominated in 1995. The pRNA is on the Cleveland National Forest, approximately 3.5 miles (5.7 km) NNW. of Pine Valley and includes portions of sects. 21, 28, and 29 T15S, R4E SBBM (32°50'N., 116°33'W.), USGS Descanso quad (fig. 70). Ecological subsection – Palomar-Cuyamaca Peak (M262Bo).

Target Element

Tecate Cypress (*Cupressus forbesii*)

Distinctive Features

Tecate Cypress: Tecate cypress occurs only in scattered stands on several mountains in S. California and into Baja California. Considered rare (CNPS List 1B), it is a candidate for California State listing as threatened. One large stand and many scattered individuals are represented in the pRNA (fig. 71). It is a major component of the unique local chaparral. The local population is remarkable for the great size and age of the individuals. Most are more than 100 years old.

In California intense fires have reduced the numbers of Tecate cypress in recent years. Fire management is a crucial issue because of the conflicting needs of the vegetation and the local human population. Tecate cypress requires fire for reproduction. However, only certain types of fire, affecting cypress populations of certain ages, are optimum for initiating release of seeds from the serotinous cones. Stands younger than 40 years tend to produce relatively few seedlings when burned, perhaps because of the small number of cones present on young trees. Low-intensity fire can kill the trees without opening the cones, and thus may do more harm than good. Crown fires every 50-100 years are best for high yields of seedlings.

Although the stands at Guatay Mountain are relatively old, their vigor is high, with few senescent individuals. However, without fire, the stand would have to be artificially reseeded, which would alter the natural dynamics of the ecosystem (through scraping of soil, etc.). Dunn (1987) recently conducted a more detailed study of the population dynamics of Tecate cypress including the population at Guatay Mountain.

Gabbro Endemism: Guatay Mountain is underlain by the Guatay Mountain Gabbroic Pluton. A number of rare endemic plants are associated with gabbro, an ultramafic rock, in the Peninsular Ranges. Locally at least two species (*Calochortus dunnii* and *Calamagrostis densa*) are rare gabbro endemics. The first is a member of CNPS List 1B and is listed by the State of California as rare. The other is a member of CNPS List 4.

Other Rare Plants: In addition to the cypress and the gabbro endemics, *Mimulus clevelandii* (CNPS List 4) is present along the ridges on the upper slopes of Guatay Mountain.

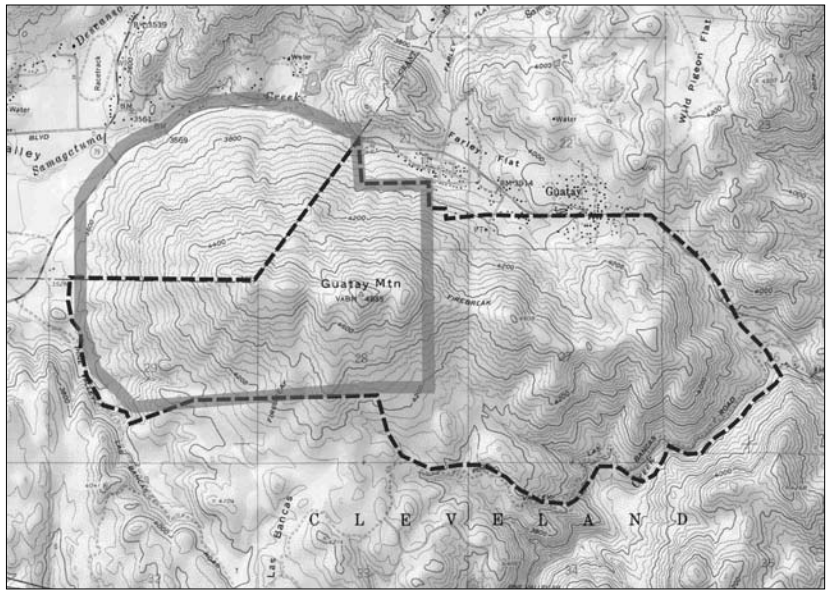


Figure 70—Guatay Mountain pRNA

Dashed line =
Ecological study
area; Solid gray line
= RNA Boundary

Physical Characteristics

This area is not well-defined in the survey. The vegetation types add up to about 2884 acres (1167 ha). Guatay Mountain rises as an E.-W.- trending ridge with three high points averaging about 1000 ft (305 m) higher than the surrounding lowlands. The highest point is 4885 ft (1470 m). Slopes range from 10 to 70 percent. N.- and E.-facing slopes are steeper than S.-facing slopes.

The Guatay Mountain Gabbroic pluton includes amphibole gabbro, gabbro, and olivine gabbro. The mountain is surrounded by tonalites (granitic rock) except for a small area of Julian Schist in the SE. of the area. The well-rounded conical shape of the mountain is characteristic of gabbro weathering. The soils are well-drained zonal soils with a high erosion hazard; they are classified as Las Posas series. Temperatures are mild, and precipitation occurs primarily in the winter months. Estimated annual precipitation for the area is 25-37 inches (635-940 mm). Estimated highest and lowest temperatures are about 100 °F (38 °C) and -4 °F (-19 °C), with mean January and July temperatures of 39 °F (3.9 °C) and 70.1 °F (21.2 °C), respectively.

Association Types

No quantitative vegetation sampling was conducted in this survey.

California Mixed Chaparral (37110): 2036 acres (824 ha). This association occurs on N.- and W.-facing slopes. Predominant shrub species include *Arctostaphylos glandulosa*, *Adenostoma fasciculatum*, *Ceanothus greggii*, *Quercus dumosa*, *Cercocarpus betuloides*, and *Yucca whipplei*. The understory is unusual in its relatively high cover of the prostrate shrub *Salvia sonomensis*.

On N. sides of the mountain, canyon live oak (*Quercus chrysolepis*) forms dense island-like clumps 13-33 ft (4-10 m) tall in a sea of mixed chaparral. This suggests that with low fire frequencies canyon live oak forest could come to dominate this area.

Another subtype of mixed chaparral occurs on the highest S.-facing slopes of the mountain where *Haplopappus arborescens*, *Ceanothus foliosus*, and *Helianthemum scoparium* dominate.

Southern Interior Oak Woodland (71160, 61310): 467 acres (189 ha). This association occurs in drainageways around the base of the mountain. These woodlands are dominated by coast live oak (*Quercus agrifolia*). Grasses are usually abundant in openings, with shrubs and herbaceous species predominating in shady areas. No additional information is available.

Chamise Chaparral (37200): 335 acres (136 ha). This association, dominated by *Adenostoma fasciculatum*, occurs on S.-facing slopes at lower elevations. *Arctostaphylos glandulosa* is scattered throughout the stand. Understory vegetation is virtually non-existent.

Southern Interior Cypress Forest (83330): 47 acres (19 ha). This association is dominated by Tecate cypress, which occurs on a N.-facing slope and consists of dense pockets of cypress interspersed with mixed chaparral. A large area in the middle of the stand is devoid of cypress, containing sparse cover of *Cercocarpus betuloides*. The dense pockets of cypress have poor understory development, but in open stands herbs such as *Sanicula crassicaulis*, *Bloomeria crocea*, and *Gutierrezia sarothrae* are common.

Twenty-four Tecate cypress individuals were cored. The mean age is 92 years (range 24-122). Trees at the bottom of the slope are younger (about 80 years old) than those upslope (about 100 years old). A small number of trees are scattered throughout one of the main N. slope drainages to the E. of the main stand. These scattered trees are substantially younger than the main stand (their mean age is 29 years).

Plant Diversity

Eighty-one taxa of vascular plants are listed.

Conflicting Impacts

There is much private land associated with the Guatay Mountain cypress population. The area was reclassified as a Special Interest Area in 1987 largely because of the small amount of cypress on Forest Service land and its relatively small total population size.



Figure 71—Guatay Mountain,
Tecate cypress (*Cupress forbsii*) on
northern edge of the Guatay
Mountain RNA adjacent to the old
campground along Highway 80.
(1995)