Mount Diablo Manzanita (*Arctostaphylos auriculata*)

Status

Federal: None
State: None
CNPS: List 1B

Population Trend

Global: Unknown
State: Unknown
Within Inventory Area: Unknown

Data Characterization

The location database for Mount Diablo manzanita (*Arctostaphylos auriculata)* includes 19 data records dated from 1889 to 1995 (California Natural Diversity Database 2001). Only 1 occurrence was documented in the last 10 years, but all occurrences except 1 are believed to be extant (California Natural Diversity Database 2001). Fifteen of the occurrences are of high precision and may be accurately located within the inventory area.

Very little ecological information on Mount Diablo manzanita is available. The literature on the species pertains primarily to its taxonomy. The main sources of general information are the *Jepson Manual* (Hickman 1993) and the California Native Plant Society (2001). Specific observations on habitat and plant associates, threats, and other factors are summarized in the California Natural Diversity Database (2001).

Range

Mount Diablo manzanita is endemic to Contra Costa County, where it occurs only on Mount Diablo and in the adjacent foothills. It is found between 700 and 1,860 feet above sea level.

Occurrences within the ECCC HCP/NCCP Inventory Area

Fourteen occurrences of Mount Diablo manzanita are known within the inventory area (12 of these have locational data). Ten of these occurrences are in Mount Diablo State Park, on East Bay Regional Park District lands, or on other public lands.

Biology

Physical Description

Mount Diablo manzanita is an evergreen, perennial shrub, generally between 1 and 4.5 meters tall (Hickman 1993). Its blooming period is from January to March (California Native Plant Society 2001).

Habitat

Mount Diablo manzanita occurs primarily in chamise or manzanita chaparral. It can also be found as an understory shrub in coast live oak woodland (California Natural Diversity Database 2001).

Species Associated with Mount Diablo Manzanita	
Adenostoma fasciculata	chamise
Arctostaphylos glandulosa	Eastwood manzanita
Arctostaphylos manzanita	common manzanita
Artemisia californica	California sagebrush
Baccharis pilularis	coyote bush
Ceanothus cuneatus	wedge-leaf ceanothus
Ericameria linearifolia	narrowleaf goldenbush
Eriodictyon californica	yerba santa
Eriogonum nudum	naked-stem wild buckwheat
Galium porrigens	climbing bedstraw
Helianthella castanea	Diablo helianthella
Heteromeles arbutifolia	toyon
Mimulus aurantiacus	bush monkeyflower
Pickeringia montana	chaparral pea
Pinus attenuata	knob-cone pine
Pinus coulteri	Coulter pine
Pinus sabiniana	gray pine
Quercus agrifolia	coast live oak
Quercus chrysolepis	canyon live oak
Quercus durata	leather oak
Rhus trilobata	skunkbrush
Salvia mellifera	black sage
Zigadenus fremontii	Fremont's death-camas

Threats

Mount Diablo manzanita is restricted to a few occurrences in a limited area, but it does not appear to be endangered (California Native Plant Society 2001). Potential threats to Mount Diablo manzanita include direct loss of plants and disturbance that could alter the stand composition. Direct loss of plants could occur from clearing for firebreaks, trail maintenance, road maintenance, and facilities development (California Natural Diversity Database 2001). Activities such as grazing, off-road vehicle use, and dumping cause disturbances that could alter the interaction between chaparral and the adjacent plant communities or allow invasion by exotic species.

Conservation and Management

The long-term maintenance of Mount Diablo manzanita stands will likely depend on fire management practices in the area in which the stands occur. Periodic fires have had a major role in shaping the structure and composition of chaparral stands. Stands are affected by fire intensity and frequency, and by the response to fire by individual plant species. Mount Diablo manzanita does not resprout after fire (Jepson 1922); instead, stands regenerate by recruiting new individuals from seed. In older stands, much of the aboveground biomass consists of dead stems and litter from fallen leaves and twigs. Fire is necessary to allow the establishment of new plants from seeds by removing the overtopping vegetation; it may also stimulate seed germination. Prescription fire plans may need to be created that include conservation measures for Mount Diablo manzanita, such as let-burn areas, controlled burns, and fire intervals.

Species Distribution Model

Model Description

Model Assumptions

Suitable habitat is assumed to be chaparral/scrub between 700 and 1,860 feet in elevation.

Rationale

Mount Diablo manzanita is endemic to Contra Costa County, where it occurs only on Mount Diablo and in the adjacent foothills. It is found in chaparral/scrub land cover areas between 700 and 1,860 feet above sea level.

Model Results

Figure 2 shows the modeled Mount Diablo manzanita habitat within the ECCC HCP/NCCP inventory area. The habitat is restricted to the eastern and northern flanks of Mt. Diablo. Most of the 12 documented occurrences of this species are consistent with the predicted suitable habitat in the model. One occurrence in

northern Antioch is historical and may have been a misidentification. Four occurrences occur outside of the modeled suitable habitat. Two occurrences fall within patches of chaparral or scrub smaller than the minimum mapping unit of 10 acres (one was mapped as oak woodland, the other as grassland). The other two occurrences are within grassland with no shrubs or trees visible on the aerial photos. These records may be imprecisely located; the actual site may be within up to a mile of the record location.

Literature Cited

California Native Plant Society. 2001. *Inventory of Rare and Endangered Plants of California* (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, CA.

California Natural Diversity Database. 2001. RareFind 2, Version 2.1.2 (September 5, 2001 update). California Department of Fish and Game, Sacramento, CA.

Hickman, J. C. (ed.). 1993. *The Jepson Manual*. University of California Press, Berkeley, CA.

Jepson, W. L. 1922. *Revision of the Californian species of Arctostaphylos*. Madroño 1: 76–96.