Lamb, Oakland Planning Dept., pers. comm., 1993).

One occurrence of Cirsium fontinale var. fontinale has been reported from Santa Clara County, but the site is thought to have been destroyed by urbanization (Niehaus 1977). The three remaining populations grow in San Mateo County. The largest population occurs to the east of Crystal Springs Reservoir and north of State Highway 92, along both sides of Interstate 280. It occurs partly on San Francisco Water Department land and partly on a California Department of Transportation right-of-way. Given its proximity to the roadside, it is likely to be affected by any highway projects in the area. Major realignments of Highway 92 were planned several years ago but the plans have been abandoned due to lack of funding (Richard Vonarb, California Department of Transportation, pers. comm., 1992). They could be revived, however, if funding becomes available. At present, a smaller project to widen Highway 92 east of the reservoir causeway is under review. Provision for the removal of water from the increased road surface may adversely affect some of the plants. The California Department of Transportation is aware of the plant locations and vulnerability. The proposed construction of multi-use recreational trails on San Francisco Water Department land presents an additional threat. Trail construction would threaten the plants through direct destruction of the habitat or through modification of hydrologic regimes. Because C. fontinale var fontinale is dependent upon seeps and springs to provide abundant soil moisture, any disruption in the flow of water (such as that caused by road, trail, or drain construction) would threaten the plants.

A second and substantially smaller population of Cirsium fontinale var. fontinale occurs in the "Triangle" west of Interstate 280. One to two hundred plants have been observed on San Francisco Water Department lands; an outlying colony of about 25 plants occurs on an easement held by the California Department of Transportation. This colony occupied a smaller territory in 1992 than it had in previous years (Susan Sommers, pers. comm., 1992). The plants on Water Department land are threatened by proposed trail construction, as discussed for Hesperolinon congestum. In addition, a general management plan for the Water Department lands currently is being developed (Ed Stewart, San Francisco Water Department, pers. comm., 1992).

The single specimen of *Cirsium* fontinale var. fontinale in Edgewood

County Park occurs in a drainage ditch beside a trail. Clearing of the ditch to improve or maintain drainage could damage or destroy this plant or any seedlings it may produce.

Eriophyllum latilobum has been reported from only two locations, one of which is likely erroneous (specimen misidentified, according to Barry Prigge, pers. comm., 1992). The single remaining population consists of about 300 plants that occur along 4 km (2.5 miles) of Crystal Springs Road in San Mateo County. Seventy-five percent of the plants occur within 9 m (30 ft) of the road, where land ownership is poorly defined (McGuire and Morey 1992). The City of Hillsborough, the County of San Mateo, and the San Francisco Water Department have varying jurisdictions over the land. The steep slopes along Crystal Springs Road provide a very unstable habitat for E. latilobum. The slopes are subject to erosion and soil slippage. After soil slippage occurs, road maintenance crews remove the slumped soil, which may contain mature individuals, seedlings, and/or seeds of E. latilobum. The road cut is then reshaped, which may damage plants remaining on the banks. The proposed construction of the San Mateo Creek Trail (McGuire and Morey 1992) would have adverse impacts on the plant if trail design does not incorporate plant conservation. The paved trail, which is 3 m (10 ft) wide, is expected to run adjacent to Crystal Springs Road from Skyline Boulevard to the San Mateo City boundary. Construction of the trail could damage or eliminate colonies of *E*. latilobum, alter site hydrology, accelerate soil erosion through increased pedestrian and bicycle traffic, and allow for the introduction of aggressive alien plant species.

Fourteen populations of Hesperolinon congestum exist. One Marin County population is protected at The Nature Conservancy's Ring Mountain Preserve. Two relatively small populations occur on land owned by the Marin Municipal Water District. Another small population is found in the Golden Gate National Recreation Area above Nicasio Reservoir. A fifth population occurs, in part, on a small preserve at St. Hilary's Church and, in part, on private land which recently has been proposed for development (Robison and Morey 1992a). The sixth Marin County site is the Middle Ridge area of the Tiburon Peninsula, on which occur a few scattered groups of plants. Some plants grow on land designated as open space by the city of Tiburon. The remainder of the plants occur on private land and are threatened by ongoing or proposed residential development.

One population of *Hesperolinon congestum* is known from San Francisco County. Footpaths through the population threaten the plants with trampling (Robison and Morey 1992a).

In San Mateo County, three populations of *Hesperolinon congestum* are known to occur on private property. These plants are threatened by proposed development and by the consequences of recently completed development, such as trampling, trash dumping, and changes in hydrology caused by irrigation runoff (Robison and Morey 1992a). Two populations occur on land owned by the San Francisco Water Department. Their habitat is threatened by the proposed construction of trails in the watershed. The construction of these trails and the accompanying fences may damage Hesperolinon congestum habitat.

Pentachaeta bellidiflora historically ranged from Marin County to Santa Cruz County. Three populations in Marin County and two in San Mateo County were destroyed by urbanization. One Marin County occurrence was destroyed by off-road vehicles. Two sites in Santa Cruz County no longer support P. bellidiflora (Robison and Morey 1992b). The single remaining population of *P*. bellidiflora was bisected by the construction of California Interstate 280 in the late 1960s. The largest portion of the population occurs in the Triangle, on land administered by the San Francisco Water Department. A small remnant of this population is located to the east of Interstate 280, on Edgewood County Park. The proposed construction of trails on Water Department land threaten the P. bellidiflora habitat (Robison and Morey 1992b).

Ceanothus ferrisae is known from three populations in Santa Clara County. The largest population, consisting of approximately 5,000 plants, occurs near Anderson Dam, partially on Santa Clara County Park property and partially on private property. The county proposes further recreational development in the park, which threatens Ceanothus ferrisae (Chris Nagano, U.S. Fish and Wildlife Service, pers. comm., 1992). An outlying population occurs 3.2 km (2 miles) west on land leased and managed by a waste management firm. Waste Management, Inc. and The Nature Conservancy jointly funded research on C. ferrisae; a three-year monitoring program at the Waste Management site has shown no evidence of natural recruitment. A fire killed 95 percent of the plants in this population in 1992. No seed production or seedlings have been observed since that time (Kathy Freas, CH2M Hill, in litt., 1993).