

1 **A.34 VEINY MONARDELLA**
2 **(*MONARDELLA DOUGLASII* SSP.**
3 ***VENOSA*)**



4 **A.34.1 Legal and Other Status**

5 The veiny monardella (*Monardella douglasii* ssp. *venosa*) is
6 not listed as endangered under the federal Endangered Species Act (ESA) or under the California
7 ESA (DFG 2011). The California Native Plant Society (CNPS) includes the veiny monardella
8 on List 1B.1, signifying it as seriously endangered in California (CNPS 2007). The veiny
9 monardella was formerly classified as List 1A, Presumed Extinct, until 1992 when it was
10 rediscovered. Its State Rank is S1.1, very threatened, with fewer than six occurrences; its Global
11 Rank is G5T1, the least secure, with fewer than six viable Element Occurrences worldwide
12 (CNPS 2007).

13 **A.34.2 Species Distribution and Status**

14 **A.34.2.1 Range and Status**

15 The veiny monardella is a California endemic, currently known from two extant populations.
16 One occurrence is in central Butte County, located on private property, and the other is in
17 Tuolumne County, on private land near the Peoria Basin (CNDDDB 2007).

18 The veiny monardella's original distribution is unknown. Besides the two extant populations, it
19 is known from two other CNDDDB occurrences (CNDDDB 2007). One was located in the "plain of
20 the Feather River" near the town of Marysville. This was an 1854 occurrence that has not been
21 seen since. The other occurrence was located in Butte County, possibly near the town of
22 Cherokee off Highway 70. This was an 1879 occurrence that has not been seen since. Both of
23 these populations are presumed to be extirpated (CNDDDB 2007).

24 Besides these occurrences, the species had been reported from two other sites near Chico in
25 Butte County that are both presumed to be extirpated (Castro & Janeway 1993). Hickman
26 (1993) lists it as found in Sutter, Butte, and Tuolumne counties; CNPS lists these and Yuba
27 County as counties where it is or has been found (CNPS 2007). The species was thought to be
28 extinct when surveys conducted in the 1980's were unable to locate the plant (Castro pers.
29 comm.). In 1992, however, a Butte County population was relocated. The Tuolumne County
30 population was subsequently relocated in 1998 (D. Taylor in CNDDDB 2007). Besides these two
31 areas, no other occurrences can be found (Castro pers. comm.).

32 From the known extant occurrences, the veiny monardella's elevation range is 270 feet (82
33 meters) in Butte County, to 860 feet (262 meters) in Tuolumne County (CNDDDB 2007). Two
34 extirpated populations were found at 100 feet (30 meters) in Yuba County, and possibly at 1,325
35 feet (403 meters) in Butte County (if the occurrence was near the town of Cherokee), indicating a

1 large elevational range for the species. However, the location of the “Cherokee” occurrence is
2 not specified and could have referred to a lower valley location. The two historical Chico
3 occurrences were most likely close to 250 feet (80 meters) elevation (Castro pers. comm.).

4 **A.34.2.2 Distribution and Status in the Plan Area**

5 The extant occurrence in Butte County occurs within the Plan Area on private property south of
6 Chico near Neal Road. The population is found scattered among six small sites, containing from
7 fewer than 10 to over 1,000 plants each within a 60-hectare area in two separate but
8 interconnected canyons. In 1992 more than 3,000 individuals were seen in this area and the
9 population’s numbers appear to have been steady since this time (Castro pers. comm.) (see
10 Figure 34-1).

11 **A.34.3 Habitat Requirements and Special Considerations**

12 The veiny monardella is found in open grassland; both the Butte and Tuolumne County
13 populations are found in heavy clay soils, with deep cracks, of volcanic or serpentine origin
14 (Castro pers. comm.).

15 The Butte County occurrence is found in a canyon bottom creek terrace, in gray black vertisol
16 soils, on seasonally wet land (CNDDDB 2007). Here it is found in flat to gently sloping terrain at
17 the bottom edge of the Sierra Nevada foothills abutting the Sacramento Valley (Castro pers.
18 comm.) (see Figure 34-1). It is found in lenses of clay possibly derived from Tuscan Mudflow
19 rock outcrops (Center for Plant Conservation 2007) or volcanic ash (Conlin pers. comm.), and is
20 a component of the annual grassland, in an area with sparsely clustered forbs and grasses. Common
21 associates of the veiny monardella in this area include dwarf dwarf-cudweed (*Evax caulescens*),
22 Tehama navarretia (*Navarretia heterandra*), adobe navarretia (*Navarretia nigelliformis*), and species
23 in the tarweed genus (*Hemizonia* spp.) (CNDDDB 2007).

24 **A.34.4 Life History**

25 Veiny monardella is a late spring annual. Seeds fall into deep cracks in the clay, germinate in
26 late fall (November), and accelerate growth in early spring (Castro pers. comm.). Flowering
27 does not begin until early to mid-May (Castro pers. comm.). Seed-rain seems to be limited to
28 existing patches and the small seeds do not seem to disperse far, dropping into deep clay cracks
29 beneath parent individuals (Castro pers. comm.).

30 Veiny monardella seems to respond well to late summer fire. The Butte County population
31 burned in September 1992, and was found germinating well in the fall of the same year (Castro
32 and Janeway 1993). The area where veiny monardella was rediscovered in May 1992 was
33 burned in a wildfire in September 1992, followed by two rainstorms. Four weeks after the fire,
34 abundant seedlings were observed (Castro and Janeway 1993).

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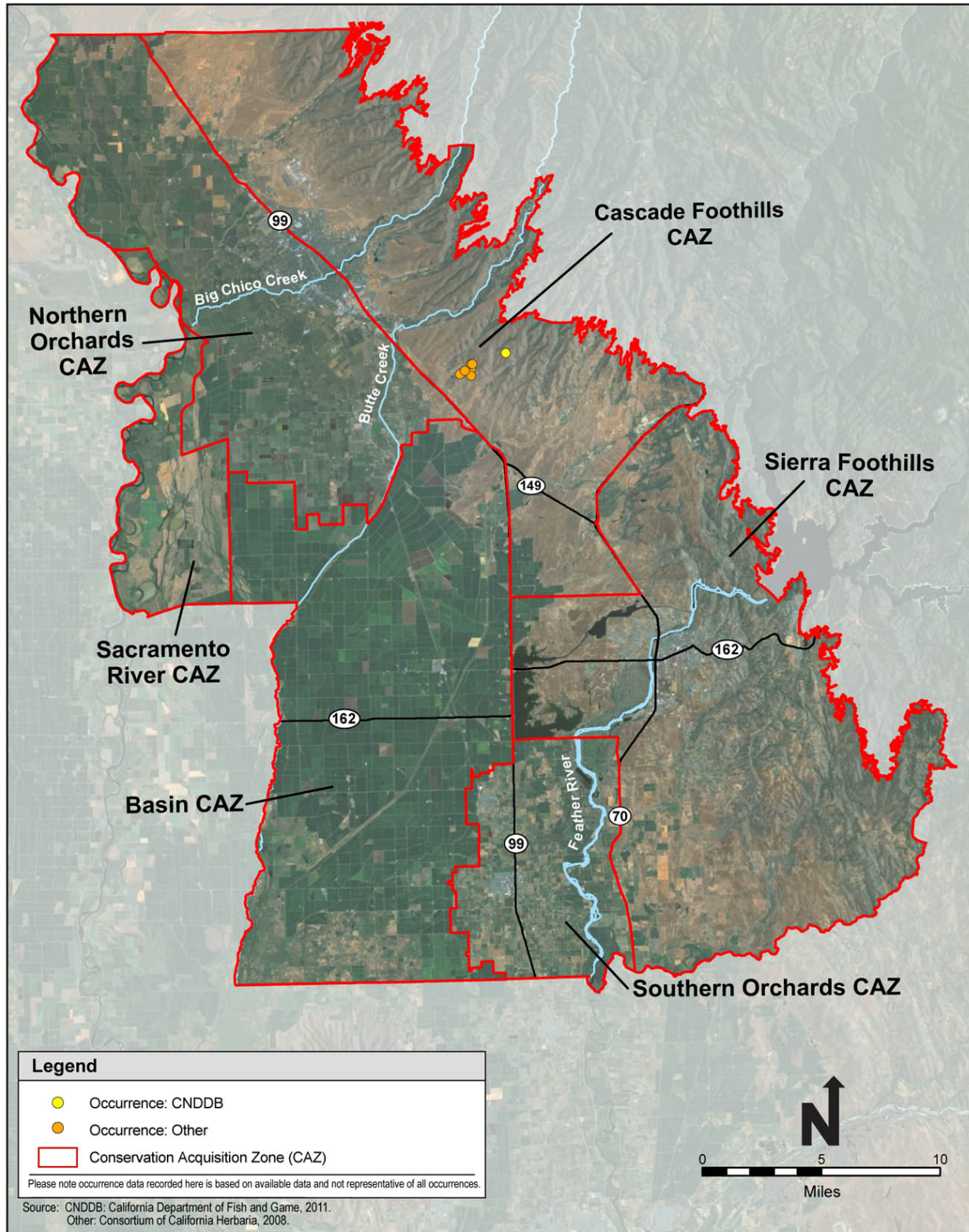


Figure A-34. Veiny Monardella Recorded Occurrences

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1 For the Butte County occurrence, population numbers vary but have remained reasonably high
2 despite varied water-years, based on 10 years of population census. Data on reproductive effort,
3 measured in flower heads per plant, have also been gathered over the past 10 years (Castro pers.
4 comm.).

5 The veiny monardella is susceptible to water mold diseases during high rainfall years under ex
6 situ conditions (Center for Plant Conservation 2007).

7 **A.34.5 Threats**

8 The main factors contributing to the decline of the veiny monardella are development, habitat
9 fragmentation, and possibly competition with invasive plant species. The species appears to do
10 well with moderate grazing, presumably grazing suppresses yellow starthistle (*Centaurea*
11 *solstitialis*) and other invading European grasses (Castro pers. comm.) that compete for water,
12 light or space. Heavy grazing is expected to be deleterious, as cattle tend to congregate in the
13 moist clay soils where veiny monardella grows, and trampling and compaction could do
14 significant harm to these populations. Another potential threat could be artificial alteration of
15 water regime by either increase or depletion.

16 **A.34.6 Relevant Conservation Efforts**

17 No specific conservation efforts for this species are known at this time.

18 **A.34.7 Species Habitat Suitability Model**

19 A habitat suitability model has not been developed for veiny monardella, because there is
20 insufficient information regarding its habitat requirements and the distribution of the physical
21 attributes that support its habitat in the Plan Area.

22 **A.34.8 Recovery Plan Goals**

23 A recovery plan and recovery goals have not been prepared for this species.

24 **A.34.9 References**

25 **Literature Cited**

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30 Distribution.

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10 California Press.

11 **Personal Communications**

12 Castro, Barbara. Environmental Scientist/Botanist, California Department of Water Resources.
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14 Conlin, Andrew. Soil Scientist, Natural Resources Conservation Service. 2007. Communication
15 with Barbara Castro on soil types associated with veiny monardella, 2007.

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