Plant Species Evaluation Form

Lupinus sericatus Kellogg

COBB MOUNTAIN LUPINE

Family: Fabaceae (CNPS 2018)

PLANTS Symbol: LUSE3 (USDA 2018)

Calif. Endemic: Yes (CNPS 2018)

Synonyms/Other Names: *Lupinus sericatus* Kellogg was described in 1876. No other names or synonyms are known to have been used to refer to this taxon (Tropicos 2017).

Identification Issues: Considerable identification issues are unknown. *Lupinus sericatus* is distinguished by its herbaceous perennial habit (lacking wood at base), silver to grey-green herbage, spoon-shaped leaflets, and its purple to violet corolla (Sholars 2017).

Taxonomy:

Unless otherwise cited, the following description is used with permission from the Jepson Herbarium. Jepson Flora Project (eds.) 2018. *Jepson eFlora*, http://ucjeps.berkeley.edu/eflora/, accessed January 2018. Copyright © Regents of the University of California.

Species In Genus: +- 220 species: especially western North America, western South America to eastern United States, also tropical South America, Mediterranean to western Asia, eastern tropical Africa; some cultivated for fodder, green manure, edible seed, ornamental. Etymology: (Latin: wolf, from mistaken idea that plants rob soil of nutrients) Toxicity: Some (e.g., *Lupinus arboreus, Lupinus latifolius, Lupinus leucophyllus*) have alkaloids (especially in seeds, fruits, young herbage). TOXIC to livestock (especially sheep). Note: Inflorescence length excludes peduncle; some California species naturalized in eastern North America, South America, Australia, southern Africa.

Genus Description – Habit: Annual to shrub; cotyledons generally petioled, withering early. Stem: generally erect. Leaf: palmately compound [or not], generally cauline; stipules fused to petiole; leaflets 3--17, generally oblanceolate, entire. Inflorescence: raceme, flowers spiraled or whorled, occasionally also in lower leaf axils; bracts generally deciduous. Flower: calyx 2-lipped, lobes entire or toothed, generally appendaged between; corolla blue, purple, white, or yellow, banner glabrous to densely hairy, centrally grooved, sides reflexed, wing tips +- fused, keel generally beaked; stamens 10, filaments fused, 5 long with short anthers, 5 short with long anthers; style brush-like. Fruit: dehiscent, generally oblong. Seed: 2--12, generally smooth.

Species Description – Habit: Perennial herb 1.5--5 dm, silver to gray-green, short-appressed-hairy. Stem: generally erect. Leaf: cauline, clustered near base; stipules 2--7 mm; petiole 5--15 cm; leaflets 4--7, 30--50 mm, widely spoon-shaped. Inflorescence: 10--30 cm, open to dense, flowers +- whorled; peduncle 8--15 cm; pedicels 4--6 mm; bract 3--4 mm. Flower: 12--16 mm; calyx upper lip 6--10 mm, 2-toothed, lower 7--10 mm, 3-toothed; petals purple to violet, banner back glabrous to +- hairy, keel upper margins ciliate claw to tip, lower generally +- glabrous. Fruit: 2--3 cm, hairy. Seed: 3--7, 3--4 mm, light brown. eFlora Treatment Author: Teresa Sholars.

Status:

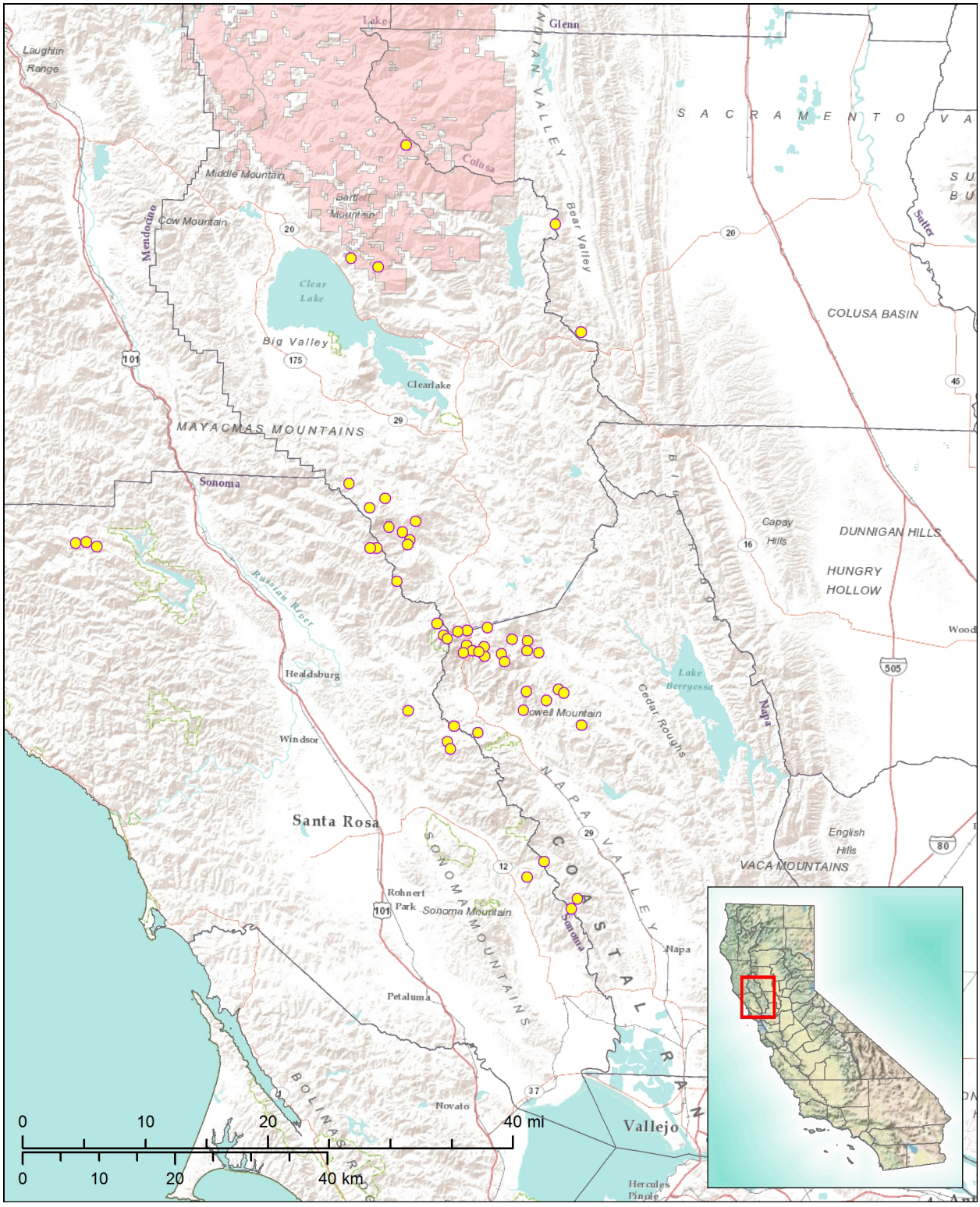
Note: Federally recognized Endangered, Threatened, Proposed, or Candidate species under the Endangered Species Act are omitted as they do not meet the definition of a Species of Conservation Concern (FSH 1909.12 § 12.52).

State Listing	G-rank	S-rank	CRPR	R5 FSS	NFP SM	CA BLM
CA: Not listed NV: Not listed OR: Not listed	G2?	CA: S2? NV: Not listed OR: Not listed	1B.2	Not listed	Not listed	Sensitive

SWAP:	NNHP:	NNPS:	ORBIC:	OCS:	IUCN:
Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Expanded abbreviations and citations: State Listing=California Endangered Species Act Listing (CDFW 2018b), Nevada Division of Forestry Fully Protected Plant Species (NAC 527) (NDF 2012), Oregon Department of Agriculture Listed Plants (ODA 2014); G-rank=Global Conservation Status (CDFW 2018a; NatureServe 2018); S-rank=Subnational (state or province-level) Conservation Status (CDFW 2018a; NatureServe 2018; NNHP 2017; ORBIC 2016); CRPR=California Rare Plant Rank (CNPS 2018); R5 FSS=USDA Forest Service Region 5 Regional Forester Sensitive Plant Species List (USDA 2013); NFP SM=Forest Service and Bureau of Land Management Northwest Forest Plan Survey and Manage Species (USDA 2001); CA BLM=California Bureau of Land Management Designated Sensitive Species (BLM 2010); SWAP=California State Wildlife Action Plan Status (CDFW 2015); NNHP=Nevada Natural Heritage Program Status (NNHP 2017); NNPS=Nevada Native Plant Society Status (NNHP 2017); ORBIC=Oregon Biological Information Center Status (ORBIC 2016); OCS=Oregon Conservation Strategy Species (ODFW 2016); IUCN=International Union for Conservation of Nature Red List Status (IUCN 2017).

Distribution: North Coast Range of northern California, in the vicinity of Clear Lake and Lake Berryessa. Several occurrences are found to the northeast of Clear Lake. A majority of records are found to the south of Clear Lake and due west of Lake Berryessa, where occurrences are found throughout the southern Mayacamas Mountains. Occurrences are distributed across Napa, Sonoma, Lake, and Colusa counties. A total of two (2) occurrences are found on NFS lands and located on Mendocino NF, with two (2) additional records located within five miles of this forest's boundary (CNDDB 2017; CCH 2017; Calflora 2017; Griffith et al. 2016).



Sources: *Distribution*: Calflora 2017, CCH 2017, CNDDB 2017. *Layers*: USDA Forest Service, Pacific Southwest National Forests: CPAD 2016. California counties: CDF 2009. *Basemaps*: California inset map: © 2013 National Geographic Society, i-cubed (Esri 2017a). Main map: Esri, DeLorme, USGS, NPS (Esri 2012) and Esri, USGS, NOAA (Esri 2017b).

Locations within California:

(Note: Record numbers indicate sites that contain an individual, population, or groups of populations located within ¼ mile of each other (per the California Natural Diversity Database (CNDDB) definition of Element Occurrences in California). Official Element Occurrence (EO) numbers for plants in California are determined solely by the CNDDB and are included within the Reference (Source) column for CNDDB data. Duplicate records from the same site are given the same record number and included in red. The Population Info column includes total number of individuals and total number and size of populations/sub-populations when provided. Elevations in meters from source were converted to feet. If not provided in original source, Land Manager information was obtained using the California Protected Areas Database (CPAD 2016) and Quad information was obtained using 24K Quads, SDE Feature Class (CDFG 2013). All other information is directly from the Reference (Source) column unless additional citation is given.)

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	RIDGE NORTHWEST OF SUMMIT ON KORTUM CANYON ROAD, SOUTHWEST OF CALISTOGA.	Napa | Sonoma	Calistoga (3812255)	CNDDB, May 2017 (EO 1)	17-Nov-1985	ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1985 COLLECTION BY KNIGHT AND EDWARDS.		Unknown	1000
2	FLAT TOP, SOUTH END OF RATTLESNAKE RIDGE EAST OF CALISTOGA.	Napa	Calistoga (3812255)	CNDDB, May 2017 (EO 2)	1981	MAIN SOURCE OF INFORMATION IS MAP BY CALLIZO.		Land Trust of Napa County	2400
3	BITER CREEK, EAST OF CALISTOGA.	Napa	Calistoga (3812255)	CNDDB, May 2017 (EO 3)	1976	REPORTED BY RAE IN 1976. CALLIZO REPORTS THAT THIS SITE IS QUESTIONABLE.		Unknown	600
3	St. Helena Palisades	Napa	St. Helena (3812254)	Calflora, May 2017 (jgr18572)	17-May-1987	1+ individuals		Dunn-Wildlake Ranch	1325
3	St. Helena Palisades	Napa	St. Helena (3812254)	Calflora, May 2017 (jgr18191)	5-Apr-1987	1+ individuals		Dunn-Wildlake Ranch	1325

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
4	DIAMOND MOUNTAIN ROAD, SOUTH OF CALISTOGA.	Napa	Calistoga (3812255)	CNDDB, May 2017 (EO 4)	1980	SITE REPORTED BY CALLIZO IN 1980 AND IN UNDATED SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		Unknown	1200
5	TRINITY ROAD, ABOUT 1.3 MILES EAST OF HIGHWAY 12, SOUTHWEST OF RUTHERFORD.	Sonoma	Rutherford (3812244)	CNDDB, May 2017 (EO 5)	2-Jun-1998	20 PLANTS SEEN BY GUGGOLZ & GUGGOLZ IN 1998. COLLECTED IN 1979 BY HERR & MCCLINTOCK, SEEN BY LOVELL IN 1976 AND ACKLEY & TAYLOR IN 1978. PLANTS NOT SEEN DURING CONSTRUCTION AS SITE WAS DEVELOPED, BUT HAVE REESTABLISHED OR WERE REPLANTED.	CHANGE IN LANDSCAP-ING - SITE IS NOW RESIDENTIAL.	Unknown	900
6	NEAR SUMMIT OF TRINITY P.O. ROAD, MOUNT HOOD RANGE.	Napa | Sonoma	Rutherford (3812244)	CNDDB, May 2017 (EO 6)	5-May-1935	ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1935 COLLECTION BY HOWELL.		Unknown	1500

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
7	LAS POSADAS STATE FOREST, NORTHWEST OF FIRE STATION, HOWELL MOUNTAIN NORTH OF ST. HELENA.	Napa	St. Helena (3812254)	CNDDB, May 2017 (EO 9)	1979	SITE REPORTED BY SOMMERS IN 1979 (CALLIZO 1982).		CDF-Las Posadas SF	1700
7	Headwaters of Moore Creek, Las Posadas State Forest. 3-4 mi. E of Angwin.	Napa	St. Helena (3812254)	CCH, Jan 2017 (UC1745944)	23-May-1950			Las Posadas State Forest	1699
7	Las Posadas State Forest	Napa	St. Helena (3812254)	Calflora, May 2017 (ce23)	7-May-2009	1+ individuals		Las Posadas State Forest	1713
7	Los Posadas State Expt Forest -- Ca 1 mi SE of Angwin	Napa	St. Helena (3812254)	Calflora, May 2017 (wb1194-2081)	18-May-2013	1+ individuals		Las Posadas State Forest	1713
8	DEER LAKE, HOWELL MOUNTAIN NORTH OF ST. HELENA.	Napa	St. Helena (3812254)	CNDDB, May 2017 (EO 10)	1978	SITE BASED ON 1978 OBSERVATION/ COLLECTION BY CLIFTON (CALLIZO 1982) AND AN UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		Unknown	2200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
9	INK GRADE, NORTH SLOPE OF HOWELL MOUNTAIN NORTH OF ST. HELENA.	Napa	St. Helena (3812254)	CNDDB, May 2017 (EO 11)	1982	SITE BASED UPON 1982 OBSERVATION/ COLLECTION BY CALLIZO (CALLIZO 1982).		Unknown	1600
9	3 mi. N. of Pacific Union College (Howell Mt.) on road to Aetna Springs	Napa	St. Helena (3812254)	CCH, Jan 2017 (DS227289)	2-Jun-1933				
9	3 mi. N. of Pacific Union College (Howell Mt.) on road to Aetna Springs	Napa	St. Helena (3812254)	CCH, Jan 2017 (DS629888)	2-Jun-1933				
10	SOUTHEAST SLOPE OF COBB MOUNTAIN, WEST SIDE OF HIGHWAY 29 ABOUT 1 MILE NORTH OF ANDERSON SPRINGS.	Lake	Whispering Pines (3812276)	CNDDB, May 2017 (EO 12)	1986	MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1986 REPORT BY WESCO. COLLECTIONS FROM "ANDERSON SPRINGS" AND "HIGHWAY BETWEEN MIDDLETOWN AND WHISPERING PINES" ARE ALSO ATTRIBUTED TO THIS SITE.		Unknown	1900

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
10	North side of Socrates Mine Road 0.6 miles west of its junction with Highway 175	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (CHSC52631)	17-Apr-1985				
10	1 mi from State Highway 29 up Socrates Mine Road 5 mi n Middletown; up Socrates Mine Road, n of Middletown	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (JEPS77362)	4-May-1963				
10	1 mi from State Highway 29 up Socrates Mine Road 5 mi n Middletown; up Socrates Mine Road, n of Middletown	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (JEPS77363)	4-May-1963				
10	Highway 29 - Whispering Pines, 2 miles south	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (DS737580)	3-Jun-1948				
10	Middletown-Cobb Mt. Hiway a few mi n Middletown; Middletown-Cobb Mt.	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UC353886)	1-May-1927				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
11	COBB VALLEY AT 3000' ELEVATION, NORTH OF COBB MOUNTAIN.	Lake	Whispering Pines (3812276)	CNDDB, May 2017 (EO 13)	19-May-1935	MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1935 COLLECTION BY BENSON. TWO 1927 COLLECTIONS BY BAKER (#2188, 2228) FROM "EAST SLOPE OF COBB MOUNTAIN" ARE ALSO ATTRIBUTED TO THIS SITE.		Unknown	3000
11	Cobb Mt. East slope	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (DS170752)	21-Jun-1927			SLC	3501
11		Lake	Whispering Pines (3812276)	CCH, Jan 2017 (RSA672426)	19-May-1935				3002
11	Lake County: East face Cobb Mountain	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UCD109519)	10-May-1948				2999

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
12	WEST FACE OF MAYACAMAS MOUNTAINS, ALONG SOCRATES MINE ROAD ABOUT 0.25 MILE FROM RIDGETOP FIRE ROAD.	Sonoma	Whispering Pines (3812276)	CNDDB, May 2017 (EO 14)	10-Apr-1990	FEWER THAN 50 PLANTS REPORTED IN 1979. ADDITIONAL INFORMATION PROVIDED BY 1979 COLLECTION BY PATTERSON (SN JEPS).	PLANTS OCCUR ADJACENT TO ROADS, MAINTEN-ANCE MAY THREATEN.	BLM	3000
12	Socrates Mine Rd. (Whispering Pines Quad.) lower left corner of quad. on bend in road just nw 3066 BM (ca 3 air mi sw of Whispering Pines); Whispering Pines Quad, Lake-Sonoma County Line	Sonoma	Whispering Pines (3812276)	CCH, Jan 2017 (JEPS78238)	22-Jun-1979			BLM	
13	SOUTHWEST SLOPE OF BOGGS MOUNTAIN ABOUT 1.2 MILES NORTHWEST OF HARBIN SPRINGS ANNEX.	Lake	Whispering Pines (3812276)	CNDDB, May 2017 (EO 15)	1986	ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1986 REPORT BY WESCO.		Unknown	3200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
14	NORTHWEST SLOPE OF COBB MOUNTAIN, ABOUT 0.9 MILE NORTHWEST OF THE SUMMIT.	Lake	Whispering Pines (3812276)	CNDDB, May 2017 (EO 16)	24-Jun-1983	TWO COLONIES REPORTED BY STONE (1983) AND BY CLIFTON (1983). POPULATION ESTIMATE BY STONE IS FEWER THAN 20 PLANTS TOTAL. CLIFTON ESTIMATES POPULATION AT 20-100 PLANTS. COLLECTIONS FROM "COBB MTN" ALSO ATTRIBUTED TO THIS SITE.		Unknown	3600
14	Lake County: Mayacmas Mountains, Cobb Mountain. Lee Creek drainage. (No data label provided. Location based on data from collections made on the same date. It is probable that this collection is from Cobb Mountain, perhaps from the Lee Creek Drainage.)	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UCD158797)	29-Jun-1974				3799

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
15	WEST FACE OF MAYACAMAS MOUNTAINS, ABOUT 0.7 MI WSW OF SOCRATES MINE ROAD AT JUNCTION WITH RIDGETOP FIRE ROAD.	Sonoma	Whispering Pines (3812276)	CNDDB, May 2017 (EO 17)	10-Apr-1990	NOT A NATURAL/NATIVE OCCURRENCE. THIS POPULATION IS PART OF A REVEGETATION EFFORT (SEE FREMONTIA 13(3), 1985) BY N. CRANE. 100+ PLANTS REPORTED AT THIS SITE IN 1982.	PLANTS OCCUR ADJACENT TO ROAD, MAY BE IMPACTED BY MAINTEN-ANCE.	BLM	2700
16	SOUTHEAST SLOPE OF COBB MOUNTAIN, FORD FLAT.	Lake	Whispering Pines (3812276)	CNDDB, May 2017 (EO 18)	10-May-1993	250 PLANTS OBSERVED IN 1993. MCBRIDE SUGGESTS THAT LOGGING WILL OPEN UP HABITAT FOR THIS SPECIES IN THIS AREA.	PROPOSED TIMBER HARVEST.	PVT	2500
16	Lower slopes of Cobb Mountain, six miles north-west of Middletown	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (DS270708)	30-Apr-1939				
17	WEST OF AETNA SPRINGS, NORTHWEST END OF POPE VALLEY.	Napa	Aetna Springs (3812264)	CNDDB, May 2017 (EO 19)	1976	SITE BASED UPON 1976 S. RAE SIGHTING/DFG MAP CITED BY CALLIZO (1982) AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.	ROAD MAINTEN-ANCE.	Unknown	800

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
18	SULPHUR CREEK-BLANK SPRING VICINITY, SOUTH OF BEAR VALLEY.	Colusa | Lake	Wilbur Springs (3912214)	CNDDB, May 2017 (EO 20)	10-Jun-1979	ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1979 CNPS NOTE CARD BY NEILSON.		Unknown	1600
19	PINE MOUNTAIN, ABOUT HALF-WAY BETWEEN MOUNT ST. HELENA AND COBB MOUNTAIN, MAYACAMAS MOUNTAINS.	Lake | Sonoma	Mount St. Helena (3812266)	CNDDB, May 2017 (EO 21)	1976	SITE BASED UPON 1976 SIGHTING BY S. HAMON REPORTED BY B. GUGGOLZ (1992).		Unknown	3600
20	KELLY ROAD JUST WEST OF ROCKPILE ROAD, ABOUT 1.3 MILES SOUTH OF WHITE MOUNTAIN, WEST OF LAKE SONOMA.	Sonoma	Big Foot Mtn. (3812372)	CNDDB, May 2017 (EO 22)	23-Apr-1986	50-100 PLANTS REPORTED IN 1986. RAICHE NOTES THAT A SOLITARY PLANT OBSERVED SEVERAL MILES TO THE EAST ALONG ROCKPILE ROAD IS NOW EXTIRPATED. THIS SITE NOT YET MAPPED BY CNDDB (INSUFFICIENT SITE DESCRIPTION).	ROAD WIDENING IS POTENTIAL THREAT.	DOD-COE	1950

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
20	on a w-facing steep bank on the Kelly Road 0.2 mi w of the junction with Rockpile Road	Sonoma	Big Foot Mtn. (3812372)	CCH, Jan 2017 (JEPS83488)	23-Apr-1986				
20	from Kelly Road near Rockpile Road sw Cloverdale ((about 11 1/2 mi n of its origin (Rockpile) at intersection with Skaggs Springs-Stewarts Point Road)); sw of Cloverdale	Sonoma	Big Foot Mtn. (3812372)	CCH, Jan 2017 (JEPS83025)	25-Mar-1984				
20	from Kelly Road near Rockpile Road sw Cloverdale ((about 11 1/2 mi n of its origin (Rockpile) at intersection with Skaggs Springs-Stewarts Point Road)); sw of Cloverdale	Sonoma	Big Foot Mtn. (3812372)	CCH, Jan 2017 (JEPS83804)	25-Mar-1984				
20	Kelly Road just west of its intersection with Rockpile Road	Sonoma	Big Foot Mtn. (3812372)	CCH, Jan 2017 (RSA339414)	25-Mar-1984				2001

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
20	Sonoma County: Kelly Road just west of its intersection with Rockpile Road	Sonoma	Big Foot Mtn. (3812372)	CCH, Jan 2017 (UCD109522)	25-Mar-1984				2001
21	MOUNT ST. HELENA, ROBERT LOUIS STEVENSON STATE PARK, ALONG HIGHWAY 29 BELOW FIRE LOOKOUT ROAD.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 23)	1952	COLLECTION HISTORY FOR THIS SITE INCLUDES COLLECTIONS FROM "E SIDE OF MT ST HELENA, SUMMIT OF HWY". CALLIZO REPORTS THAT THE "SUMMIT" POPULATION IS NO LONGER EXTANT. UNCLEAR IF THIS IS THE SAME SITE AS "ALONG HWY BELOW FIRE LOOKOUT RD".		DPR-Robert Louis Stevenson SP	2000
21	Summit of highway, (at Molly Patten's), Mt. St. Helena	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (CAS216125)	26-Mar-1934				
21	along St. Helena Creek (e side Mt. St. Helena); , along St. Helena Creek	Lake	Detert Reservoir (3812265)	CCH, Jan 2017 (JEPS48873)	9-Jun-1942				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
21	near Toll-house (Mt. St. Helena); Napa River Basin, Mt. St. Helena	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (JEPS65437)	4-May-1893			Robert Louis Stevenson SP	
21	Toll House Inn	Napa	Calistoga (3812255)	CCH, Jan 2017 (DS634420)	2-May-1931				
21	St. Helena Inn, highway 29	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (DS635557)	15-May-1932			Robert Louis Stevenson SP	
21	Highway 29, Mt. St. Helena (Calistoga, 9.8 miles north)	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (DS737697)	19-Jun-1947				
21	Highway 29 - Stevenson Place, 0.4 miles north	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (DS737585)	3-Jun-1948			Robert Louis Stevenson SP	
21	Highway 29 - Stevenson Place, 1.1 miles north	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (DS737584)	3-Jun-1948			Robert Louis Stevenson SP	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
22	JUST WEST OF AETNA SPRINGS ABOUT 1.8 MILES ENE OF SUGARLOAF MOUNTAIN.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 24)	1976	BASED ON DFG MAPS/RAE SIGHTING REPORTED BY CALLIZO (1982) AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		Unknown	1200
23	ALONG ROAD ACROSS CANYON FROM OAT HILL MINE.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 25)	3-Jun-1933	ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1933 COLLECTION BY WIGGINS.		Unknown	1600
23	Along road across canyon from Oat Hill Mine	Lake	Detert Reservoir (3812265)	CCH, Jan 2017 (DS227271)	3-Jun-1933				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
24	TWIN PEAKS, EAST OF MOUNT ST. HELENA.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 26)	1952	SITE BASED UPON 1951-1952 SIGHTING/REPORT BY RAVEN AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS. CALLIZO SUGGESTS THAT THIS MIGHT BE THE SAME LOCATION AS THE CEDAR CANYON SITE (EO#34) OR OAT HILL MINE ROAD SITE (EO#35).		Unknown	2400
24	Aetna Mine Rd. at Twin Peaks	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (JEPS107244)	3-May-1980			Swartz Canyon	2349
25	LIVERMORE ROAD, SOUTHEAST OF WHITE POINT ALONG THE LAKE/NAPA COUNTY LINE.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 27)	1978	SITE BASED UPON 1978 SIGHTING BY KNIGHT AND UNDATED SIGHTING BY WESTON AND CALLIZO.		Unknown	2500

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
25	Inner North Coast Ranges Along Livermore Road between Hwy 29 (at Mountain Mill House Girl Scout Camp) and White Point, near the Lake Co. line and south of Three Peaks	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (UCR43183)	24-Apr-1985				2201
25	Livermore Road, edge of roadway bordering walnut orchard, ca. 1 air mile S of Three Peaks	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (JEPS96702)	3-Jun-1998				2100
25	Livermore Road, edge of roadway bordering walnut orchard, ca. 1 air mile S of Three Peaks	Napa	Detert Reservoir (3812265)	Calflora, May 2017 (xr168302)	3-Jun-1998	1+ individuals			2228

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
26	AETNA EXTENSION MINE, NORTHWEST OF AETNA SPRINGS.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 29)	1978	ONLY SOURCES OF INFORMATION FOR THIS OCCURRENCE ARE 1976 S. RAE SIGHTING/DFG MAP REPORTED BY CALLIZO AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		Unknown	1300
27	MOUNT ST. HELENA, ROBERT LOUIS STEVENSON STATE PARK, LILAC TRAIL IN THE SOUTHEAST END OF THE PARK.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 30)	1978	SITE BASED ON 1978 SIGHTING BY GRUMMER REPORTED BY CALLIZO AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		DPR-Robert Louis Stevenson SP	2400
28	MOUNT ST. HELENA, MEINERS, SOUTHWEST OF ROBERT LOIUS STEVENSON STATE PARK.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 31)	1952	SITE BASED ON 1951-1952 SIGHTING BY RAVEN REPORTED BY CALLIZO.		California Department of Parks and Recreation	2400

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
28	just below the crossing of State Highway #29 e side Mt. St. Helena; e side of Mt. St. Helena	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (UC725353)	6-May-1940			Robert Louis Stevenson SP	
28	East side of Mt. St. Helena just below the crossing of State Highway #29	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (DS311849)	6-May-1949			Robert Louis Stevenson SP	
28	near summit on highway e side Mt. St. Helena; e side of Mt. St. Helena	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (UC764752)	26-Apr-1941			Robert Louis Stevenson SP	
29	TABLE ROCK, SOUTHEAST OF MOUNT ST. HELENA AT THE NORTHWEST END OF THE PALISADES.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 32)	1979	SITE BASED UPON 1979 SIGHTING BY GRUMMER AND CALLIZO AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		Unknown	2400
30	Head of cañon, lower slopes of Cobb Mountain, six miles northwest of Middletown	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (GH369091)	30-Apr-1939				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
30	MAPLE SPRING, SOUTH OF TWIN PEAKS AND WEST OF SUGARLOAF MOUNTAIN, EAST OF MOUNT ST. HELENA.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 35)	1978	SITE BASED UPON 1978 SIGHTING BY GRUMMER AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		California State Lands Commission	2300
30	Napa County: Oat Hill Mine Road, upper Swartz Canyon. (Coordinates converted from UTM data by label maker.)	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (UCD161642)	11-May-2005			Swartz Canyon	2300
30	headwaters Swartz Canyon, South flanks Twin Peaks, (ca. 5 air mi W Aetna Springs)	Napa	Detert Reservoir (3812265)	CCH, Jan 2017 (JEPS101820)	23-Jun-1998			Swartz Canyon	2349
30	headwaters Swartz Canyon, South flanks Twin Peaks, (ca. 5 air mi W Aetna Springs);	Napa	Detert Reservoir (3812265)	Calflora, May 2017 (gr8055)	23-Jun-1998	1+ individuals			2303

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
31	TROUTDALE CREEK AREA, JUST WEST OF HIGHWAY 29 AT THE LAKE/NAPA COUNTY LINE.	Lake | Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 36)	Unknown	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME/T-R-S PROVIDED BY CALLIZO (1982).		Unknown	2000
32	TROUTDALE CREEK, MAYACAMAS MOUNTAINS.	Lake | Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 38)	Unknown	5 PLANTS REPORTED TO OCCUR OVER 16 SQUARE METER AREA (DATE UNKNOWN). MAIN SOURCES OF INFORMATION FOR THIS SITE ARE SLID PRINTOUT AND UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS. NEEDS FIELDWORK.		California Department of Parks and Recreation	2200
32	Mount St. Helena	Napa	Mount St. Helena (3812266)	CCH, Jan 2017 (RSA672427)	19-May-1935				3002
33	NORTHWEST SLOPE OF MOUNT ST. HELENA, NEAR GOAT ROOST ROCK, MAYACAMAS MOUNTAINS.	Sonoma	Mount St. Helena (3812266)	CNDDB, May 2017 (EO 39)	1980	SITE BASED UPON 1980 SIGHTING BY GRUMMER.		Unknown	3000

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
34	EAST OF INK GRADE ON NORTH SLOPE OF HOWELL MOUNTAIN, NORTH OF ST. HELENA.	Napa	St. Helena (3812254)	CNDDB, May 2017 (EO 40)	1982	ONLY SOURCE OF INFORMATION IS 1982 SIGHTING/MAP REPORTED BY CALLIZO.		Unknown	1500
35	MT. VEEDER VINEYARDS, ABOUT 0.6 MILE SOUTH OF LOKOYA ROAD AND 1 MILE ENE OF BISMARK KNOB, NNE OF SONOMA.	Napa	Sonoma (3812234)	CNDDB, May 2017 (EO 41)	26-Apr-1997	1 PLANT OBSERVED IN 1997.	PROPOSED VINEYARD LESS THAN 25 FEET AWAY FROM PLANT.	PVT	1860
35	between Bismark Knob and Mt. Veeder (school site)	Napa	Sonoma (3812234)	CCH, Jan 2017 (JEPS107242)	26-Apr-1997				1841
36	ABOUT 0.4 MILE NORTH OF SUMMIT OF HOGBACK MOUNTAIN, JUST NORTH OF NAPA-SONOMA COUNTY LINE, SOUTHEAST OF BISMARK KNOB.	Napa | Sonoma	Sonoma (3812234)	CNDDB, May 2017 (EO 42)	Unknown	ONLY SOURCE OF INFORMATION FOR THIS SITE IS UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS; NEEDS FIELDWORK.		Unknown	1800

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
37	HEAD OF HUMBUG CREEK (GATES CANYON), 0.4 MILE NORTHWEST OF BIG SPRINGS, SOUTHWEST OF CALISTOGA.	Sonoma	Calistoga (3812255)	CNDDB, May 2017 (EO 43)	20-May-1998	12 PLANTS SEEN IN 1998 BETWEEN THIS OCCURRENCE AND OCCURRENCE #44. PLANTS ROBUST AND IN GOOD HEALTH. THE RARE HARMONIA NUTANS & TRITELIEA LUGENS ALSO OCCUR AT THIS SITE. LANDOWNERS ARE AWARE OF RARE PLANT SPECIES AND ARE VERY PROTECTIVE.	NO THREATS UNDER PRESENT LANDOWNERS.	PVT	1490
38	WEST OF DIAMOND MOUNTAIN, 0.35 MILE SOUTH OF BIG SPRINGS, SOUTHWEST OF CALISTOGA.	Sonoma	Calistoga (3812255)	CNDDB, May 2017 (EO 44)	20-May-1998	12 PLANTS SEEN IN 1998 BETWEEN THIS OCCURRENCE AND OCCURRENCE #44. PLANTS ROBUST AND IN GOOD HEALTH. THE RARE HARMONIA NUTANS & TRITELEIA LUGENS ALSO OCCUR AT THIS SITE. LANDOWNERS ARE AWARE OF RARE PLANT SPECIES AND ARE VERY PROTECTIVE.	NO THREATS UNDER PRESENT LANDOWNERS.	PVT	1620

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
39	WEST SIDE VAN NESS CREEK, ABOUT 1.5 AIR MILES SOUTHEAST OF RATTLESNAKE SPRING, NORTHWEST OF BEAR VALLEY.	Napa	Detert Reservoir (3812265)	CNDDB, May 2017 (EO 45)	Unknown	ONLY SOURCE OF INFORMATION FOR THIS SITE IS UNDATED ARCVIEW SHAPEFILE OF RARE PLANT LOCATIONS FROM NAPA COUNTY CNPS; UNKNOWN WHEN SEEN. NEEDS FIELDWORK.		Unknown	2200
40	Pepperwood Ranch Natural Preserve	Sonoma	Mark West Springs (3812256)	CNDDB, July 2017 (EO 46)	31-May-1996	SITE BASED ON THREE 1996 DE NEVERS COLLECTIONS. NEEDS FIELDWORK.		CAS-Pepperwood Ranch Preserve	
40	In Devil's Kitchen outcrops on Oak Hill Ranch east of Chalk Mountain, Pepperwood Ranch Natural Preserve, 3450 Franz Valley Road	Sonoma	Mark West Springs (3812256)	CCH, Jan 2017 (CAS975422)	4-Mar-1996				
40	In Devil's Kitchen outcrops on Oak Hill Ranch east of Chalk Mountain, Pepperwood Ranch Natural Preserve, 3450 Franz Valley Road	Sonoma	Mark West Springs (3812256)	CCH, Jan 2017 (CAS975308)	19-Apr-1996				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
40	North Coast Range Pepperwood Ranch Natural Preserve, 3450 Franz Valley Rd., Santa Rosa	Sonoma	Mark West Springs (3812256)	CCH, Jan 2017 (UCR255029)	19-Apr-1996				
40	Pepperwood Ranch Natural Preserve. 3450 Franz Valley Road. Oak Hill Ranch, Devil's Kitchen	Sonoma	Mark West Springs (3812256)	CCH, Jan 2017 (CAS1164484)	31-May-1996				
41	ABOUT 0.5 AIR MILE NNE OF TABLE ROCK JUST OUTSIDE OF ROBERT LOUIS STEVENSON STATE PARK.	Napa	Detert Reservoir (3812265)	CNDDB, July 2017 (EO 47)	1-Apr-2016	UNKNOWN NUMBER OF PLANTS OBSERVED IN 2016.		Unknown	2420
41		Napa	Detert Reservoir (3812265)	Calflora, May 2017 (mg22121)	1-Apr-2016	individuals			2421

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
42	ALONG SIDE OF HIGHWAY 29, ABOUT 2.75 MILES SOUTH OF WHISPERING PINES, NE OF ANDERSON SPRINGS.	Lake	Whispering Pines (3812276)	CNDDB, July 2017 (EO 48)	6-Apr-1976	MAIN SOURCE OF INFORMATION IS 1976 REHLING COLLECTION. 1976 SPECHT COLLECTION FROM 2.5 MILES S OF WHISPERING PINES ON W SIDE OF HWY 29, SECTION 25" AND 1938 CATELOW COLLECTION FROM "6 MI NW OF MIDDLETOWN ON ADAM'S SPRING RD" ATTRIB HERE.		Unknown	1450
42	6 mi. n.w. of Middletown on Adam's Spring Road	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (CAS348172)	8-May-1938				
42	Approx. 2.75 miles south of Whispering Pines along side of Hwy 29;	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (HSC47880)	6-Apr-1976				
42	Approx. 2.75 miles south of Whispering Pines along side of Hwy 29; T11N R8W S25 SE/4 NE/4	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (RSA296757)	6-Apr-1976				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
42	2.5 mi. S of Whispering Pines on W side of Hwy. 29	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (HSC47879)	24-Mar-1976				
42	head of canyon lower slopes Cobb Mountain (six mi nw of Middletown); lower slopes of Cobb Mountain	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UC629734)	30-Apr-1939				
42	Cobb Mt.	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (GH369092)	18-May-1938				
42	Cobb Mt.	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (GH369093)	1-July-1884				
42	Cobb Mt.	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (CAS257404)	18-May-1938				
42	Cobb Mountain	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (POM248714)	18-May-1938				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
42	Cobb Mountain, 6 miles northwest of Middletown	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (POM257191)	30-Apr-1939				
42	Howard's Ranch Cobb Mountain (Cobb Mountain)	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UC149989)	30-Jun-1911				
42	Cobb Mountain	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UC865434)	18-May-1938				
43	ROCKPILE ROAD, 10.2 MILES FROM ITS JUNCTION WITH STEWART'S POINT ROAD.	Sonoma	Big Foot Mtn. (3812372)	CNDDB, July 2017 (EO 49)	11-Jun-2010	75 PLANTS OBSERVED IN 2010. BRIEF SEARCH DID NOT RESULT IN LOCATING OTHER POTENTIAL NEARBY POPULATIONS ALONG THIS ROAD.	Non-native plant impacts Road/trail construction/ maint.	SON County?	1930
44	18055 KELLY ROAD, SW OF CLOVERDALE.	Sonoma	Big Foot Mtn. (3812372)	CNDDB, July 2017 (EO 50)	14-Mar-2015	2 PLANTS OBSERVED IN 2015.		PVT?	1830
44	18055 Kelly Road, Cloverdale, CA	Sonoma	Big Foot Mtn. (3812372)	Calflora, May 2017 (po2305)	14-Mar-2015	2 individuals			1834

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
45	SE CORNER OF INTERSECTION OF BRIM ROAD AND BARTLETT SPRINGS ROAD, BEAR VALLEY.	Colusa	Leesville (3912224)	CNDDB, July 2017 (EO 51)	16-Apr-2016	1 PLANT OBSERVED IN 2016; INCIDENTAL OBSERVATION, MORE FIELDWORK NEEDED TO DETERMINE EXTENT OF POPULATION.	ORV activity	BLM	2172
46	ON ROAD TO ADDINGTON CAMP, GOAT MOUNTAIN.	Lake	Bartlett Springs (3912226)	CNDDB, July 2017 (EO 52)	1-Jun-2004	SITE BASED ON 2001 AND 2004 HULSE-STEPHENS COLLECTIONS. NEEDS FIELDWORK.		Mendocino NF	4550
46	Lake County: Goat Mountain. On road to Addington Camp	Lake	Fouts Springs (3912236)	CCH, Jan 2017 (UCD41605)	4-Jun-2001			Mendocino NF	4551
46	Lake County: Goat Mountain. Lake County: Goat Mountain. Addington Camp	Lake	Fouts Springs (3912236)	CCH, Jan 2017 (UCD125561)	1-Jun-2004			Mendocino NF	4551
46	Lake County: Goat Mountain. Lake County: Goat Mountain. Addington Camp	Lake	Fouts Springs (3912236)	CCH, Jan 2017 (UCD44985)	1-Jun-2004			Mendocino NF	4551
47	Unspecified	Lake	Clearlake Oaks (3912216)	CCH, Jan 2017 (CAS192207)				Mendocino NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
47	Unspecified	Lake	Clearlake Oaks (3912216)	CCH, Jan 2017 (DS115916)	31-Dec-1884			Mendocino NF	
47	Unspecified	Lake	Clearlake Oaks (3912216)	CCH, Jan 2017 (DS37051)	31-Dec-1886			Mendocino NF	
47	Unspecified	Lake	Clearlake Oaks (3912216)	CCH, Jan 2017 (DS378951)	31-Dec-1886			Mendocino NF	
48		Lake	Lucerne (3912217)	CCH, Jan 2017 (GH369094)					
49	Mt. St. Helena	Napa	Mount St. Helena (3812266)	CCH, Jan 2017 (DS193587)	4-May-1928				
50	Mt. St. Helena	Sonoma	Mount St. Helena (3812266)	CCH, Jan 2017 (UC84431)	30-Apr-1890			Robert Louis Stevenson SP	
50	Mt. St. Helena	Sonoma	Mount St. Helena (3812266)	CCH, Jan 2017 (CAS621502)	9-May-1923				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
50	Mt. St. Helena	Sonoma	Mount St. Helena (3812266)	CCH, Jan 2017 (CAS621533)	6-Jun-1915				
50	Mt Saint Helena	Sonoma	Mount St. Helena (3812266)	CCH, Jan 2017 (SBBG3708)	5-May-1939				
50	Mount St. Helena	Sonoma	Mount St. Helena (3812266)	CCH, Jan 2017 (POM125418)	9-May-1923				
51	Anderson's Springs. Cobb Mountain.	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (CAS696)					
51	Anderson Springs and Cobb Mountain	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (RSA104446)	7-Apr-1892				
51	along hiway between Middletown and Whispering Pines; between Middletown and Whispering Pines	Lake	Whispering Pines (3812276)	CCH, Jan 2017 (UC424797)	19-Apr-1930				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
52	Brinkley Ranch Binkley Lease Regional Area, northwest of the town of Cobb, in Section 31, Township 12 North, Range 8 West.	Lake	The Geysers (3812277)	Calflora, May 2017 (ce572)	15-Jul-2009	1+ individuals			2533

Distribution on National Forest System (NFS) Lands:

(Please see Reference column of Locations table above for references pertaining to Record Numbers indicated on NFS lands.)

National Forest System (NFS) lands	Record #s (from Locations table above)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 yrs.)	Historic (not seen in past 20 yrs.)	Most Recent Obs.	EOs/ Recs. (5 mile buffer)	Total Records on NFS lands
Angeles:	-	-	-	-	-	-	-	0
Cleveland:	-	-	-	-	-	-	-	0
Eldorado:	-	-	-	-	-	-	-	0
Inyo:	-	-	-	-	-	-	-	0
Klamath:	-	-	-	-	-	-	-	0
Lake Tahoe Basin MU:	-	-	-	-	-	-	-	0
Lassen:	-	-	-	-	-	-	-	0
Los Padres:	-	-	-	-	-	-	-	0
Mendocino:	46,47,	1	1	1	1	1-Jun-2004	2	2
Modoc:	-	-	-	-	-	-	-	0
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	-	-	-	-	-	-	-	0
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	-	-	-	-	-	-	-	0
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	1	1	1	1	N/A	2	2

Demographic and Population Trends: A total of 17 of the 52 (~33%) occurrences have population count and size estimate information. These 17 occurrences range in size from an estimated 1 to 250 plants each. A total of six occurrences were estimated to have 1+ plants at the time of their respective observations. Exactly 10 of these occurrences were estimated to have fewer than 10 plants each. Between 20 and 80 plants were estimated at the sites of four separate occurrences. Only three occurrences were reported to have over 100 plants, with the single largest record having an estimated 250 plants (CNDDB 2017; CCH 2017; Calflora 2017).

Life History: *Lupinus sericatus* is a perennial herb that blooms from March through June (CNPS 2017). *Lupinus* is a nitrogen fixing legume that develops root nodules that house diazotrophic microbes. These microbes are able to fix atmospheric nitrogen into bioavailable ammonia, which the parent plant incorporates into developing tissue. Nitrogen fixation in legumes also enriches soil fertility around the host plant through the decomposition of aged roots and nodules (Ledgard and Steele 1992). Certain members of *Lupinus* are known to be toxic to livestock (Keeler and Panter 1989). Limited information is available pertaining to specific life history traits of *Lupinus sericatus*.

Diversity: *Lupinus* is a prominent member of the Faboideae. This subfamily is represented by upward of 500 genera and ca. 14,000 species with zygomorphic flowers that have a prominent banner sitting outside the lateral wings, have dry and elongate fruit that dehisce along two edges, and nodule forming roots that house diazotrophic microbes (Stevens 2001; Sholars 2017). *Lupinus* is group of roughly 250 species in the Genisteae (Drummond 2008; Stevens 2001). The Genisteae is a tribe of roughly 25 northern temperate genera. Plants commonly referred to as "brooms" or "gorse" in the genera *Cytisus*, *Genista*, and *Ulex* are also members of this tribe alongside *Lupinus* (Stevens 2001).

Roughly 12 species of *Lupinus* are found in Mediterranean Europe. Eastern South America is home to roughly 24 species, whereas eight are found in eastern North America. A bulk of the diversity is represented by taxa in the highlands of Mexico and Central America (~30 species), the Andes of western South America (~85 species), and western North America in the Rockies, Great Basin, and along the Pacific Slope (~88 species). Studies on molecular divergence times of taxa in the Fabaceae demonstrate that *Lupinus* and *Spartium* split nearly 16.0 Mya. Data based on cpDNA suggest that *Lupinus* arose 5.8-10.0 Mya, long after the breakup of Gondwanaland (100 Mya) and the breakdown of the North Atlantic land bridge (50 Mya). This suggests that amphi-Atlantic distributions are best explained by long-distance dispersal. Mapping of ancestral biogeography places the origin of *Lupinus* in the Old World, indicating later migration into the New World and subsequent radiation among the species-rich western New World clade (200 of the roughly 250 species in *Lupinus*). Andean-Mexican perennials and western North American perennials occupy a single clade among the western New World taxa, where each regional subclade underwent respective radiations 0.8-3.4 Mya and 0.7-2.1 Mya. Speciation rates among both Andean-Mexican and Western North American subclades are substantially higher than what is measured elsewhere. The positive correlation between perennials and high elevation habitat suggests that speciation in these perennial groups is linked to habitat formation as a result of uplift of the Andes (2-4 Mya) and the mountain ranges of the Pacific Slope (2-5 Mya) (Drummond 2008).

Habitat: *Lupinus sericatus* is associated with broadleaf upland forests, chaparral, cismontane woodlands, and lower montane coniferous forests (CNPS 2017). Reports from specific occurrences indicate that *L. sericatus* occurs on scree-like rhyolite, shallow volcanic soil, open and partially shaded woodlands, disturbed yellow pine forest, decomposed bluestone, serpentine, and disturbed rocky soils. These same occurrences report *L. sericatus* growing alongside *Pinus ponderosa, P. lambertiana, Salvia sonomensis, Garrya fremontii, Adenostoma fasciculata,*

Baccharis pilularis, Arbutus menziesii, Quercus kelloggii, Calocedrus decurrens, Arctostaphylos sp., *P. attenuata, Pseudotsuga menziesii, Q. chrysolepis, Madia madioides, Galium californicum, Carex multicaulis, Toxicodendron diversilobum, Q. durata, Leptosiphon latisectus, Plantago erecta*, and *Ancistrocarphus filagineus* (CNDDB 2017).

Habitat Status or Trend: *Lupinus sericatus* is a CRPR 1B.2 and is declared Sensitive by the Bureau of Land Management (CNPS 2017). Eight of the 46 CNDDB occurrence records report at least one threat. Roadways and infrastructure are most frequently reported as threats. Three occurrences are reported from disturbed sites (CNDDB 2017). This taxon occurs in Sonoma (pop. 503,070 – 307 people/mi^2), Napa (pop. 142,166 – 182 people/mi^2), Lake (pop. 64,166 – 52 people/mi^2), and Colusa (pop. 21,588 – 19 people/mi^2) counties (CNPS 2017; U.S. Department of Commerce 2017), several of which have experienced expanding urbanization, which results in the destruction of native habitat.

Capacity for the Species to Disperse: Information on the behavior and the capacity of *L. sericatus* to disperse is unknown.

Threats: Geothermal development, habitat alteration, infrastructure, roadway widening and maintenance, OHV activity, herbicide, and logging are reported as threats to *Lupinus sericatus* (CNPS 2017; CNDDB 2017).

Literature Cited

[BLM] Bureau of Land Management. 2010. Special Status Plants in California, Including BLM Designated Sensitive Species. February 8, 2010. Available at: https://www.blm.gov/ca/dir/pdfs/2010/im/CAIM2010-008ATT2B.pdf [accessed 25 May 2017].

Calflora. 2017. Information on wild California plants for conservation, education, and appreciation. Website http://www.calflora.org/ [accessed 14 June 2017].

[CDFG] California Department of Fish and Game. 2013. 24K Quads, SDE Feature Class. Index for 1:24,000-scale (24K), 7.5-minute by 7.5-minute, paper U.S. Geological Survey maps in California.

[CDFW] California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians; Volume II, Appendix C: Species of Greatest Conservation Need. Gonzales, A. G. and J. Hoshi (eds.). Prepared with assistance from Ascent Environmental, Inc., Sacramento, CA. Available at: https://www.wildlife.ca.gov/swap/final [accessed 11 May 2017].

[CNDDB] California Department of Fish and Wildlife, Natural Diversity Database. 2017. RareFind 5 [Internet application] and CNDDB Maps and Data. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data [Government Version, May 2017].

[CDFW] California Department of Fish and Wildlife, Natural Diversity Database. 2018a. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication, January 2018. 127 pp. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383 [accessed 22 January 2018].

____. 2018b. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Last updated January 2018. 6 pp. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline [accessed 22 January 2018].

[CDF] California Department of Forestry and Fire Protection. 2009. 1:24,000 County Boundaries (cnty24k09_1_poly) [shapefile]. California Department of Forestry and Fire Protection, California Department of Fish and Game. Berkeley Library Geodata. Available at: https://geodata.lib.berkeley.edu/catalog/ark28722-s73w23 [10 December 2017].

[CNPS] California Native Plant Society, Rare Plant Program. 2018. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 22 January 2018].

[CPAD] California Protected Areas Database. 2016. Version 2016b1. GreenInfo Network. Available at: http://www.calands.org/.

[CCH] Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Regents of the University of California, Berkeley. Website http://ucjeps.berkeley.edu/consortium/ [accessed 16 May 2017].

Drummond, C. S. 2008. Molecular phylogenetics and evolution diversification of *Lupinus* (Leguminosae) in the western New World: derived evolution of perennial life history and colonization of montane habitats. *Molecular Phylogenetics and Evolution* 48(2): 408-421.

Esri. 2012. World Reference Overlay [basemap overlay]. Scale Range: 1:591,657,528 down to 1:72,224. Esri, DeLorme, USGS, NPS. Updated 2 September 2017. Available at: http://www.arcgis.com/home/item.html?id=9763d83ba63048da8a2e0a71ccea4416 [8 December 2017].

____. 2017a. USA Topo Maps [basemap]. Scale Range: 1:591,657,528 down to 1:18,056. National Geographic Society, i-cubed, 2013. Updated 5 October 2017. Available at: http://www.arcgis.com/home/item.html?id=99cd5fbd98934028802b4f797c4b1732 [8 December 2017].

____. 2017b. World Terrain Base [basemap]. Scale Range: 1:591,657,528 down to 1:72,224. Esri, USGS, NOAA. Updated 9 February 2017. Available at: http://www.arcgis.com/home/item.html?id=c61ad8ab017d49e1a82f580ee1298931 [8 December 2017].

Griffith, G. E., J. M. Omernik, D. W. Smith, T. D. Cook, E. Tallyn, K Moseley, and C. B. Johnson. 2016. Ecoregions of California (poster): U.S. Geological Survey Open-File Report 2016–1021, with map, scale 1:1,100,000, http://dx.doi.org/10.3133/ofr20161021.

[IUCN] International Union for Conservation of Nature. 2017. The IUCN Red List of Threatened Species. Website http://www.iucnredlist.org/ [accessed 26 May 2017].

Keeler, R. F. and K. E. Panter. 1989. Piperidine alkaloid composition and relation to crooked calf disease-inducing potential of *Lupinus formosus*. *Teratology* 40(5): 423-432.

Ledgard, S. F. and K. W. Steele. 1992. Biological nitrogen fixation in mixed legume / grass pastures. *Plant and Soil* 141: 137-153.

NatureServe. 2018. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Website http://explorer.natureserve.org [accessed 22 January 2018].

[NDF] Nevada Division of Forestry. 2012. NAC 527.010 List of fully protected species of native flora. April 2012. Available at: https://www.leg.state.nv.us/NAC/NAC-527.html#NAC527Sec010 [accessed 12 May 2017].

[NNHP] Nevada Natural Heritage Program. 2017. Species Lists. Department of Conservation and Natural Resources. Available at: http://heritage.nv.gov/species/lists.php [accessed 25 May 2017].

[ODA] Oregon Department of Agriculture. 2014. Oregon listed and candidate plants - complete list. Native Plant Conservation Program. August 13, 2014. Available at: https://data.oregon.gov/Natural-Resources/Oregon-listed-and-candidate-plants-complete-list/8s3k-ygh2 [accessed 25 May 2017].

[ODFW] Oregon Department of Fish and Wildlife. 2016. Oregon Conservation Strategy, Chapter 6: Strategy Species. Oregon Department of Fish and Wildlife, Salem, Oregon. PDF content last updated December 30, 2016. Available at: http://oregonconservationstrategy.org/ [accessed 25 May 2017].

[ORBIC] Oregon Biodiversity Information Center. 2016. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, OR. 130 pp. Available at: http://inr.oregonstate.edu/sites/inr.oregonstate.edu/files/2016-rte-book.pdf [accessed 25 May 2017].

Sholars, T. 2017. *Lupinus*. *In*: Jepson Flora Project (eds.), *Jepson eFlora*. Website http://ucjeps.berkeley.edu/eflora/ [accessed 17 October 2017].

Stevens, P. F. 2001. Angiosperm Phylogeny Website. Version 14, July 2017 [and more or less continuously updated since]. Website http://www.mobot.org/MOBOT/research/APweb/.

Tropicos. 2018. Missouri Botanical Garden. Website http://www.tropicos.org [accessed 22 January 2018].

[USDA] U.S. Department of Agriculture Forest Service, Pacific Southwest Region. 2013. Regional Forester Sensitive Species List. Available at: http://www.fs.usda.gov/main/r5/plants-animals/plants [accessed 9 May 2017].

[USDA] U.S. Department of Agriculture Forest Service and U.S. Department of Interior Bureau of Land Management. 2001. List of Survey and Manage Species in Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures; as amended by Annual Species Reviews 2001-2003. Available at: https://www.blm.gov/or/plans/surveyandmanage/files/sm-fs-enc3-table1-1-dec2003wrtv.pdf [accessed 12 September 2017].

[USDA] U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. PLANTS Database. Website http://plants.usda.gov/ [accessed 22 January 2018].

U.S. Department of Commerce. 2017. United States Census Bureau. Washington, D.C. Data available at: http://www.census.gov.

Persons Contacted:

Sholars, Teresa. 2017. Professor Emeritus of Biology & Sustainable Agriculture, College of the Redwoods, Mendocino, CA; Lupinus treatment author for *The Jepson Manual* and *Jepson eFlora*. Email regarding taxonomy and conservation status of *Lupinus* spp. Contacted 17 October 2017.

Author(s) and Date:

Steven Serkanic, Assistant Rare Plant Botanist, California Native Plant Society, (916) 447-2677 x218, sserkanic@cnps.org;

Aaron E. Sims, Rare Plant Botanist, California Native Plant Society, (916) 324-3816, asims@cnps.org. March 9, 2018.

Reviewer(s) and Date:

David Magney, Rare Plant Program Manager, California Native Plant Society, (916) 447-2677 ext. 205, dmagney@cnps.org. March 9, 2018.

Formatting: Form is set up as 508 compliant. Please use the "styles" if further formatting is necessary.

Purpose: This is to maintain the best available science on a species that could be used by the Forest Service in a variety of functions. Specifically, there would be additional steps and evaluations to determine whether or not this species would be considered a Species of Conservation Concern under the 2012 Planning Rule or a Sensitive Species under the 1982 Planning Rule.

Additional Considerations at the Forest Level: Habitat amount and juxtaposition of both the species and habitat locations.