

Rare Plant Status Review: *Clarkia biloba* ssp. *brandegeae*

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January 12, 2009

Clarkia biloba ssp. *brandegeae* is an endemic, annual herb in the Onagraceae. It is known from chaparral and cismontane woodland habitats from 75 to 915 meters in elevation. *C. biloba* ssp. *brandegeae* is also frequently found growing on roadcuts. It is included in *The Jepson Manual* (1993) and will be included in *The Jepson Manual* (2nd Edition). *C. biloba* ssp. *brandegeae* flowers between May and July.

C. biloba ssp. *brandegeae* is known from 73 occurrences in Butte, El Dorado, Nevada, Placer, Sacramento, Sierra, and Yuba Counties (please see page 3 for a map showing known locations). 20 of these occurrences are considered historical and have not been documented for at least 20 years. Out of the 53 recent occurrences (those that have been documented in the past 20 years) a total of 33 are currently ranked as either “good” or “excellent” by CNDDDB. 12 of 53 recent occurrences are ranked as either “fair” or “poor” by CNDDDB. The occurrence rank is unknown for 28 occurrences. Field work should attempt to re-locate historical occurrences of *C. biloba* ssp. *brandegeae*, and suitable habitat within and beyond its known range should be searched for new occurrences. Please see the table below for a summary of occurrence data.

Occurrence Statistics for <i>Clarkia biloba</i> ssp. <i>brandegeae</i> Data from CNDDDB, January 2009											
Total # of Known Element Occurrences	Element Occurrence Ranks						Population Status		Presence		
	A	B	C	D	X	U	Historic >20 years	Recent <=20 years	Present, Extant	Possibly Extirpated	Extirpated
73	12	21	10	2	0	28	20	53	73	0	0

The population size of *C. biloba* ssp. *brandegeae* is not well known. However, some data are available for 44 occurrences. Counts/estimates conducted between 2002 and 2008 indicate that the population size at occurrences of *C. biloba* ssp. *brandegeae* varies greatly (from 4 plants at EO#’s 76 and 77 to 1,000,000 plants at EO# 7). Population count/estimate data is provided in the table on page 4. Note that population counts are not that meaningful for annual plants due to annual fluctuations.

C. biloba ssp. *brandegeae* was first included on List 1B in the Sixth Edition of The CNPS Inventory (2001).

Occurrences of *C. biloba* ssp. *brandegeae* are threatened by road maintenance, weed control measures (e.g. herbicide application), fire suppression, logging, and recreation activities. It is also possibly threatened by loss of habitat due to erosion.

The relatively large number of occurrences (73) of *C. biloba* ssp. *brandegeae* may seem to indicate that it is too common to be included on List 1B. Some clients have

asked us to submit this review, requesting your input on possibly downgrading its status. It is, however, important to note that only 53 of these occurrences have been documented in the past 20 years, and only 33 occurrences are ranked as “good” or “excellent” by CNDDDB. Generally speaking, List 1B contains plants that are known from fewer than 50 occurrences ranked as “good” or “excellent” by CNDDDB. Consequently, it appears that, at this point in time, there are insufficient data to support re-ranking *C. biloba* ssp. *brandegeeeae* to List 4. The occurrences of *C. biloba* ssp. *brandegeeeae* that support 1000's of individuals are not likely to be vulnerable to extirpation. On the other hand, there are 25 occurrences of *C. biloba* ssp. *brandegeeeae* with apparently fewer than 500 individuals, a relatively small size for an annual plant population. A number of these occurrences are located on roadcuts and may be vulnerable to extirpation by road maintenance activities and weed control measures.

Based on the current information, CNPS and CNDDDB recommend that *C. biloba* ssp. *brandegeeeae* be kept on List 1B. If, however, reviewers conclude that *C. biloba* ssp. *brandegeeeae* is too common for List 1B we will consider re-ranking it to List 4. If reviewers determine that it should be maintained on List 1B, we will monitor new reports of *C. biloba* ssp. *brandegeeeae* and propose (via the Rare Plant Status Review Process) re-ranking it to List 4 once there are greater than 50 known occurrences ranked as “good” or “better” by CNDDDB.

Recommended Actions

CNPS: Keep on CNPS List 1B.2

CNDDDB: Keep on G4G5T2, S2.2

Current CNPS *Inventory* record:

Clarkia biloba (Durand) Nels. & Macbr. ssp. *brandegeeeae* (Jeps.) Lewis & Lewis
Brandegee's clarkia

Onagraceae

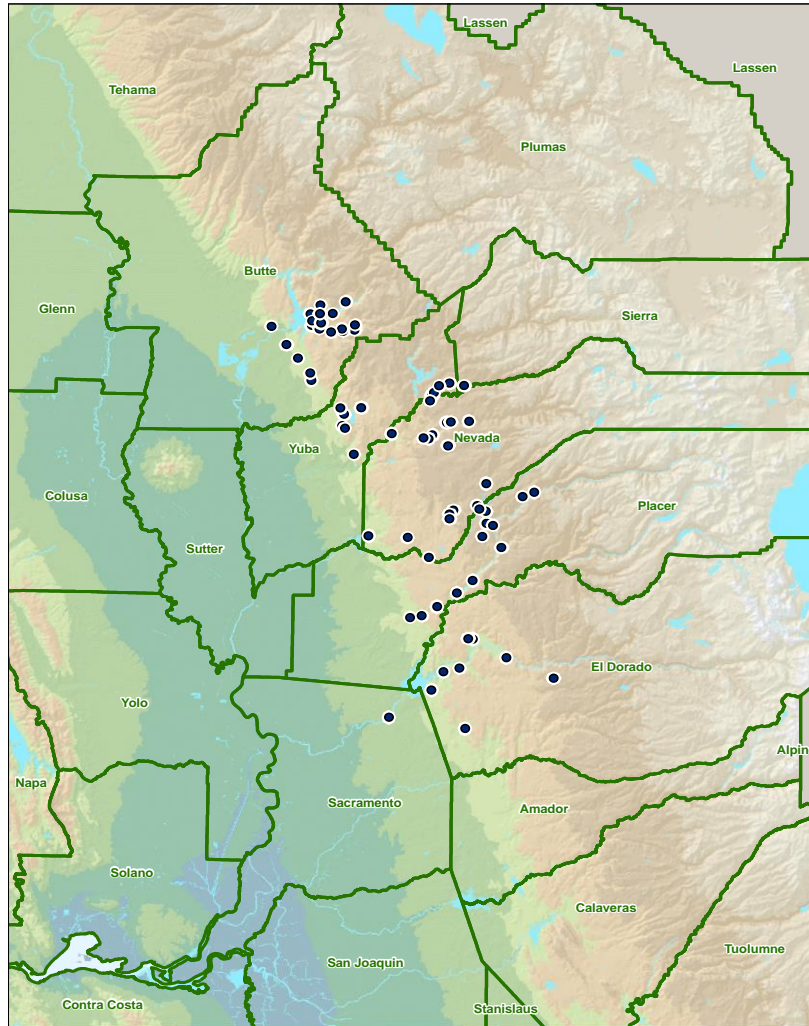
List 1B.2

Butte (BUT), El Dorado (ELD), Nevada (NEV), Placer (PLA), Sacramento (SAC), Sierra (SIE), Yuba (YUB)

Camino (509B) 3812066, Placerville (510A) 3812067, Latrobe (510C) 3812058, Clarksville (511A) 3812161, Folsom (511B) 3812162, Greenwood (526B) 3812088, Coloma (526C) 3812078, Auburn (527A) 3812181, Gold Hill (527B) 3812182, Rocklin (527C) 3812172, Pilot Hill (527D) 3812171, Dutch Flat (541A) 3912027, Chicago Park (541B) 3912028, Colfax (541C) 3912018, Foresthill (541D) 3912017, Grass Valley (542A) 3912121, Wolf (542C) 3912112, Lake Combie (542D) 3912111, Camp Far West (543D) 3912113, Pike (557B) 3912048, North Bloomfield (557C) 3912038, Camptonville (558A) 3912141, Challenge (558B) 3912142, French Corral (558C) 3912132, Nevada City (558D) 3912131, Bangor (559B) 3912144, Oregon House (559D) 3912133, Oroville Dam (575C) 3912154, Forbestown (575D) 3912153, Oroville (576D) 3912155
Chaparral, Cismontane woodland / often roadcuts; elevation 75-915 meters.

Perennial, herb, blooms May through July.
Threatened by road maintenance, fire suppression, and weed control measures.
Possibly threatened by erosion. See *University of California Publications in Botany* 2:334 (1907) for original description and 20(4):323 (1955) for revised nomenclature.

Map showing the known occurrences of *Clarkia biloba* ssp. *brandegeae*



Population Counts/Estimates at *Clarkia biloba* ssp. *brandegeae* Occurrences

Element Occurrence Number (s)	Population Size: Count/Estimate	Date(s) of Observation
4	500	2002
7	1,000,000	2003
8	1,200	2002
12	300	2003
13	5,100	2002
14	100	2002
20	12	2003
21	1,500	2003
23	100	2004
25	500	2003
26	200	2002
27	30	2004
28	10,000	2003
29	200	2004
30	200	2003
31	400	2003
32 and 33, combined	4400	2002
34	60	2002
35	5,100	2002
36	500	2002
37	200	2003
38	1500	2003
40	100,000	2003
43	102	2004, 2006
44	25	2004
45	50	2004
46	100	2004
48	1,000	2005
49	150	2005
52	20,000	2003
57	500	2003
59	6,000	2003
64	100	2006
65	40,000	2003
66	30	2003
67	200	2003
68	1,400	2003
69	4,000	2003
70	10,000	2003
71	200	2005
73	1455	2007
76	4	2008

Element Code: PDONA05053
Retained on CNPS List 1B.2 on 2009-04-30

77	4	2008
79	2,460	2008