

Kept as 1B.1 on 1/26/2011

Rare Plant Status Review:

Calochortus excavatus

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Changes made to the original status review document appear in blue.

Calochortus excavatus is an endemic perennial herb in the Liliaceae. It is known from alkaline meadows and seeps, and mesic areas in chenopod scrub habitat from approximately 1150 to 2000 meters in elevation. It is included in *The Jepson Manual* (1993) and *The Jepson Manual, 2nd Edition* (available online at: <http://ucjeps.berkeley.edu/tjm2/review/treatments/liliaceae.html#16727>). *Calochortus excavatus* flowers from April to July.

Calochortus excavatus is known from approximately 67 occurrences in Inyo and Mono Counties; 7 of which are considered historic and have not been documented in over 20 years. Of the 60 recent occurrences (those that have been documented in the past 20 years), 43 are currently ranked as either “good” or “fair”, 5 are ranked as “poor”, and the remaining 19 are ranked “unknown” by CNDDDB. The majority of occurrences of *C. excavatus* (at least 53) are known only from private lands. Suitable habitat within and beyond its known range should be searched for potential new occurrences. Please see the table below for a summary of occurrence data.

Occurrence Statistics for <i>Calochortus excavatus</i>											
Data from CNDDDB, November 2010											
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
67	0	19	24	5	0	19	7	60	67	0	0

The population size of *C. excavatus* is fairly well known. Data are available for 59 occurrences and counts/estimates conducted between 1993 and 2008 indicate that the population size at occurrences of *C. excavatus* varies greatly (from 1 plant at EO# 57 to as many as 46086 plants at EO# 38), however many occurrences (at least 26) are known from 30 or fewer individuals. Population count/estimate data is available in the “Populations” worksheet in the “Locations_CalochortusExcavatus” spreadsheet.

Calochortus excavatus was included in Appendix I (rare and not endangered plants) in the First Edition of the CNPS *Inventory* (1974), was moved to List 2 (rare and endangered) in the Second Edition (1980), and then to List 1B (rare or endangered in California and elsewhere) in the Third Edition (1984), where it has remained ever since.

Occurrences of *C. excavatus* are threatened by groundwater pumping, development, non-native plants, road maintenance, and grazing. Information on the long-term population trends at occurrences of *C. excavatus* is needed to fully assess its conservation status.

The large number of total occurrences (approximately 79%) of *C. excavatus* on private land, the lack of occurrences ranked "excellent", and the relatively low number of individuals per population indicate that it should be kept as rank 1B. However, due to an increase of known occurrences without an increase of known threats, a threat rank of 0.2 (20-80% occurrences threatened) rather than 0.1 (over 80% of occurrences threatened) appears to be more appropriate at this time.

Based on the current information, CNPS and CNDDDB recommend that *C. excavatus* be kept as rank 1B, but designated with a threat rank of 0.2 instead of 0.1. If, however, reviewers conclude that *C. excavatus* is too common for rank 1B we will consider re-ranking it to rank 4.

Recommended Actions

CNPS: ~~Re-rank in CNPS from 1B.1 to 1B.2~~ **Keep as 1B.1**

CNDDDB: ~~Keep~~ **Re-rank from G2G3 / S2S3 to G2 / S2**

Revised CNPS *Inventory* record:

Calochortus excavatus Greene

Inyo County star-tulip

Liliaceae

Rank 1B.2-1

Inyo (INY), Mono (MNO)

Union Wash (351A) 36118F1, Manzanar (351B) 36118F2, Mt. Langley (351C) 36118E2, Lone Pine (351D) 36118E1, Blackrock (372B) 36118H2, Independence (372C) 36118G2, Kearsarge Peak (373D) 36118G3, Tinemaha Reservoir (392C) 37118A2, Big Pine (393A) 37118B3, Coyote Flat (393B) 37118B4, Split Mtn. (393C) 37118A4, Fish Springs (393D) 37118A3, Deep Springs Lake (412D) 37118C1, Laws (413A) 37118D3, Fish Slough (413B) 37118D4, Bishop (413C) 37118C4, Poleta Canyon (413D) 37118C3, Rovana (414A) 37118D5, Chidago Canyon (432C) 37118E4, Chalfant Valley (432D) 37118E3, Convict Lake (434D) 37118E7, River Spring (451A) 37118H5, Benton Hot Springs (451D) 37118G5, Big Alkali (470B) 38119B2
Chenopod scrub, Meadows and seeps/alkaline, mesic; elevation 1150-2000 meters.
Perennial bulbiferous herb, blooms April-July.

Threatened by groundwater pumping, development, non-native plants, road maintenance, and grazing. See *Pittonia* 2:71 (1890) for original description, and *Proceedings of the California Academy of Sciences* III 2:146 (1901) for taxonomic treatment.

Current known distribution of *Calochortus excavatus*

