

Changed to California Rare Plant Rank 1B.2 in CNPS Inventory on June 30, 2015**Rare Plant Status Review: *California macrophylla*****Proposed Change from CRPR 1B.1 to 1B.2 4-3, G2 / S2 to G3? G3G4 / S3? S3S4**Aaron E. Sims (CNPS), Caroline Tippets (CNPS), and Roxanne Bittman (CNDDDB)
May 15, 2015

Changes made to the original document appear in blue text.

Background

California macrophylla (H. & A.) Aldas, Navarro, Vargas, Saez & Aedo is an annual herb in the Geraniaceae known from southern Oregon to the Inner North Coast Ranges, southern Sierra Nevada Foothills, Great Central Valley, Central Western California, South Coast, Channel Islands, western Transverse Ranges, and Peninsular Ranges of California; to northern Mexico. It occurs on heavy clay soils of cismontane woodland and valley and foothill grasslands at an approximate elevation of 15 to 1,200 meters. *California macrophylla* is included in *The Jepson Manual* (as *Erodium macrophyllum*) (Taylor 1993) and *The Jepson Manual, Second Edition* (Alarcón et al. 2012); the Geraniaceae treatment (Vol. 13) of the *Flora of North America* is not yet published. It mostly flowers from March to May.

In California, *C. macrophylla* is currently known from 162 occurrences throughout 29 counties as well as Santa Catalina and Santa Cruz Islands. It has a very large distribution in California as is seen by its occupancy of 127 USGS 7.5" Quadrangles (143 when including non-key quads) (see Appendix I, Map 1). Of the 162 occurrences of *C. macrophylla*, 69 are historical (occurrences not seen in the past 20 years are considered historical by the CNDDDB), 8 are possibly extirpated, and 1 is presumed extirpated. Forty-two of the 162 occurrences are ranked as either "excellent" or "good", with the majority of occurrences (103) having an unknown occurrence rank. The population sizes of *C. macrophylla* are not very well known, with data available for roughly half (82) of its occurrences. Approximately 18 of the total known occurrences have population count/estimates of 1,000 plants or more (with 2 occurrences estimated to have greater than 10,000 plants); 29 occurrences have populations estimated from 100 to 100s of individuals; and about 32 occurrences are estimated to have fewer than 100 individuals. With only half of the known occurrences having documented population/count estimates, it is difficult to estimate a statewide number of known individuals for *C. macrophylla*. However, as an annual herb, population sizes can fluctuate greatly on an annual basis due to precipitation, climate, and possibly other factors, and attempting to assess the plants overall number of individuals is therefore not particularly useful.

California macrophylla (then recognized as *Erodium macrophyllum*) was Considered But Rejected from the Fifth Edition of the CNPS Inventory (Skinner and Pavlik 1994) as being too common. It was then added to California Rare Plant Rank (CRPR) 2 of the CNPS Inventory, 6th Edition (RPSAC and Tibor 2001) due to the historical status of most of its occurrences, its small population sizes, threats to occurrences in southern California, and because many botanists reported having never seen it. At that time it was thought to be more common outside of California in Arizona, Nevada, Oregon,

Utah, and Baja, California. However, occurrences from Arizona, Nevada, and Utah were found to be erroneous, and since only two collections were known from Oregon and only one collection known from Baja, it was changed to CRPR 1B in November of 2006. Its name was also changed to *California macrophylla* at that time (see the Rare Plant Status Review Forum at: <http://cnps.org/forums/showthread.php?t=993> for more information regarding these changes. For those who have not registered on the Forum, contact the first author at asims@cnps.org for registration instructions). When its status changed from CRPR 2 to 1B in 2006, *C. macrophylla* was known from approximately 74 occurrences; its known occurrences have more than doubled in less than 10 years. The reason for such an increase in its known occurrences in the last decade is at least partly due to an increase of its known voucher collections in the Consortium of California Herbaria (CCH 2015). As more herbaria participate and regularly update their records to CCH, more records are revealed to the public and entered into the CNDDDB when a plant is updated. Based on CNDDDB documentation, approximately 65 records existed in the CCH for *C. macrophylla* in 2004, and 272 records existed when the plant was last updated in 2015 (many were duplicate records, but still a significant increase of available data). The increase of occurrences is also possibly due to the plant originally being overlooked/under-collected due to its non-showy habit, and occurrence mostly on private range lands. When reviewed in 2006, V. Yadon felt that CRPR 4 was more appropriate due to these factors, as well as its commonness in the Inner Coast Ranges. Some others agreed, however, the general consensus was that although locally abundant in some places, its populations were small and highly localized overall. Threats from development and grazing (or lack thereof) were also mentioned, and it was subsequently changed to 1B until further notice.

Although the number of occurrences of *C. macrophylla* have more than doubled since its status was last reviewed in 2006, it still appears to have small, highly localized populations overall (Appendix I, Map 2). According to Gillespie (2005), some historical observations suggest that *C. macrophylla* may have been more common, but its distribution and possibly abundance has decreased in the past century. Gillespie (2005) also revealed that it may have occurred on soil types other than clay in the past, which may support the hypothesis of its past commonness. Evidence suggests that *C. macrophylla* can actually grow and reproduce on soil types other than clay, and it's possible that it is presently restricted to clay soils where there is less competition with non-native plants (Gillespie 2005). Other soil types throughout the range of *C. macrophylla* should therefore be surveyed for potential additional occurrences.

The majority of occurrences (83; approximately 51%) of *C. macrophylla* have an unknown land ownership. Its remaining known occurrences are mostly on private lands (32), BLM lands (17-19), and lands owned by the California Department of Fish and Wildlife (13). Two occurrences of *C. macrophylla* are on University of California Natural Reserve Systems, another two are on the Los Padres National Forest, and the remaining occurrences with a known landownership are on various county and local land jurisdictions (see the "Localities" worksheet in the "Locations_CaliforniaMacrophylla" spreadsheet for a breakdown of occurrences). The majority of the occurrences with an unknown land ownership are at least in part referenced by old voucher specimens, which may explain why land ownership is undeterminable. Further documentation of known occurrences is necessary to

adequately address the conservation status of this plant based on its presence on protected versus unprotected lands.

Approximately 45 of the 162 occurrences have threats documented in the CNDDDB. Fifteen of the occurrences include grazing as a threat; however, properly managed grazing may actually benefit *C. macrophylla* from having to compete with non-native plants (E. Buxton, B. Olson, D. Taylor; Forum Comments 2006), and therefore should not be considered a threat unless adequately assessed. The next most documented threat to this species is development, with fourteen occurrences noted to be threatened directly or indirectly by development or potential development. One of its occurrences is presumed extirpated (EO #54), and eight other occurrences are possibly extirpated (EO #s 46, 50, 52, 56, 69, 84, 100, and 164), most likely from development, urbanization, and agriculture. Other documented threats include off road vehicles, road/trail construction and maintenance, pipeline construction, feral pigs, and non-native plants.

With 42 occurrences ranked as “excellent” or “good” by CNDDDB, *C. macrophylla* has not met the *general* level of meriting downranking from California Rare Plant Rank 1B to 4 based on number of viable occurrences alone (in general, California Rare Plant Rank 1B contains plants that are known from fewer than 50 occurrences ranked as “excellent” or “good” by CNDDDB). However, since only roughly 1/3 (59) of its occurrences are ranked, an assessment based on occurrence ranks doesn’t currently provide a good estimate of its overall viability. Nevertheless, due to its increased and current widespread distribution and abundance in California, and apparent lack of significant threats to the majority of its occurrences, *C. macrophylla* should be changed to CRPR 1B.2 4.3 in the CNPS Inventory. An alternate option could be to delete *C. macrophylla* from the CNPS Inventory, as initially proposed, but based on its apparent small and somewhat localized populations overall, it appears to warrant CRPR 4 status at this time. Although recommended for change to CRPR 4, *C. macrophylla* should be considered locally rare in some areas, particularly in southern California, where many populations are reported to be very small and threatened.

Based on the available information, CNPS and CNDDDB recommend re-ranking *California macrophylla* from CRPR 1B.1 to 1B.2 4.3 in the CNPS Inventory. If occurrences of *C. macrophylla* in California begin to trend downward, and/or if threats to its survival increase, CNPS and CNDDDB will re-evaluate its status at that time.

Recommended Actions

CNPS: Change from 1B.1 to 1B.2 4.3

CNDDDB: Change from G2 / S2 to G3? / S3? ~~G3G4 / S3S4~~

Current CNPS Inventory Record

California macrophylla (H. & A.) Aldas, Navarro, Vargas, Saez & Aedo
round-leaved filaree

Geraniaceae

Synonym: *Erodium macrophyllum*

CRPR 1B.1

Oregon; Baja California

Alameda, Butte (*?), Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, Santa Barbara, San Benito, Santa Clara, San Diego, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, Stanislaus, Tehama, Tulare, Ventura, Yolo; Santa Catalina Island, Santa Cruz Island* Dulzura (010A) 32116F7, Otay Mesa (010C) 32116E8, National City (011A) 32117F1, El Cajon Mtn. (021A) 32116H7, San Pasqual (034C) 33116A8, Sage (067C) 33116E8, Romoland (068B) 33117F2, Murrieta (068C) 33117E2, Bachelor Mtn. (068D) 33117E1, Lake Elsinore (069A) 33117F3, Alberhill (069B) 33117F4, Sunnymead (085B) 33117H2, Perris (085C) 33117G2, Lake Mathews (086C) 33117G4, Vidal (096D) 34114A5, Glendora (109A) 34117B7, San Dimas (109D) 34117A7, Los Angeles (110C) 34118A2, Burbank (111A) 34118B3, Calabasas (112B) 34118B6, Malibu Beach (112C) 34118A6, Piru (139A) 34118D7, Simi (139D) 34118C7, Lake Hughes (162B) 34118F4, Whitaker Peak (163C) 34118E6, Warm Springs Mountain (163D) 34118E5, Rancho Nuevo Creek (166B) 34119F4, Figueroa Mtn. (168B) 34119F8, Los Olivos (169A) 34120F1, La Liebre Ranch (188C) 34118G6, Lebec (189D) 34118G7, Pleito Hills (190A) 34119H1, Eagle Rest Peak (190B) 34119H2, Hurricane Deck (193D) 34119G7, Tehachapi North (212B) 35118B4, Tehachapi South (212C) 35118A4, Wells Ranch (217C) 35119A6, Chimineas Ranch (218B) 35119B8, Taylor Canyon (218C) 35119A8, Caliente Mtn. (218D) 35119A7, Rio Bravo Ranch (239A) 35118D7, Carneros Rocks (243A) 35119D7, Simmler (243C) 35119C8, La Panza NE (244A) 35120D1, La Panza Ranch (244B) 35120D2, California Valley (244D) 35120C1, Camatta Ranch (245A) 35120D3, Atascadero (246B) 35120D6, Lake Isabella South (260C) 35118E4, Knob Hill (262C) 35118E8, Pine Mountain (262D) 35118E7, Orchard Peak (267B) 35120F2, Packwood Creek (267D) 35120E1, Cholame (268A) 35120F3, Estrella (269A) 35120F5, White River (286D) 35118G7, Garza Peak (291B) 35120H2, Pyramid Hills (291D) 35120G1, Tierra Redonda Mountain (294C) 35120G8, Priest Valley (316B) 36120B6, Slack Canyon (316C) 36120A6, Smith Mountain (316D) 36120A5, Monarch Peak (317A) 36120B7, Ciervo Mtn. (339A) 36120D5, Idria (339B) 36120D6, San Benito Mtn. (339C) 36120C6, Santa Rita Peak (339D) 36120C5, Rock Spring Peak (340B) 36120D8, Hepsedam Peak (340D) 36120C7, Rana Creek (343A) 36121D5, Chews Ridge (343D) 36121C5, Tumey Hills (361C) 36120E6, Llanada (362C) 36120E8, Panoche (362D) 36120E7, Panoche Pass (363A) 36121F1, San Benito (363D) 36121E1, Ortigalita Peak NW (383B) 36120H8, Laguna Seca Ranch (383D) 36120G7, Hollister (385C) 36121G4, San Juan Bautista (386D) 36121G5, Ingomar (403B) 37120B8, Howard Ranch (404A) 37121B1, Merced (421C) 37120C4, Patterson (424B) 37121D2, San Jose East (427D) 37121C7, San Gregorio (429C) 37122C4, Westley (443C) 37121E2, Tracy (444B) 37121F4, Lone Tree Creek (444C) 37121E4, Solyo (444D) 37121E3, Midway (445A) 37121F5, Altamont (445B) 37121F6, Stockton West (462A) 37121H3, Union Island (462C) 37121G4, Brentwood (463B) 37121H6, Byron Hot Springs (463C) 37121G6, Clifton Court Forebay (463D) 37121G5, Antioch South (464A) 37121H7, Clayton (464B)* 37121H8, Oakland East (465C)* 37122G2, Las Trampas Ridge (465D) 37122G1, Oakland West (466D)* 37122G3, Honker Bay (481C) 38121A8, Antioch North (481D) 38121A7, Petaluma (484B) 38122B6, Elmira (498C) 38121C8, Winters (514C) 38121E8, Glascock Mtn. (532A) 38122H3, Wilson Valley (532B) 38122H4, Jericho Valley (532C) 38122G4, Arbuckle (546D) 39122A1, Leesville (547B) 39122B4, Wilbur Springs (547C) 39122A4, Salt Canyon (547D) 39122A3, Lodoga (563C) 39122C4, Nelson (577D)(*?) 39121E7, Willows (578C) 39122E2, Glenn (578D) 39122E1, Richardson Springs NW

(593B) 39121H8, Santa Catalina East (SCTE) 33118C3, Santa Catalina North (SCTN) 33118D4, Santa Catalina South (SCTS) 33118C4, Santa Catalina West (SCTW) 33118D5, Santa Cruz Island A (SCZA) 33119H7, Santa Cruz Island B (SCZB) 33119H6, Santa Cruz Island C (SCZC) 33119H5, Santa Cruz Island D (SCZD) 33119H4

Cismontane woodland, valley and foothill grassland / clay; elevation 15-1200 meters.

Annual herb. Blooms March – May

Threatened by urbanization, habitat alteration, vehicles, pipeline construction, feral pigs, and non-native plants. Potentially threatened by grazing. See *Boisseira* 20:1-154 (1972) for taxonomic treatment.

Available online at: <http://www.rareplants.cnps.org/detail/1340.html>

Revised CNPS Inventory Record

California macrophylla (H. & A.) Aldas, Navarro, Vargas, Saez & Aedo
round-leaved filaree

Geraniaceae

Synonym: *Erodium macrophyllum*

CRPR 1B.2 4.3

Oregon; Baja California

Alameda, Butte (*?), Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, Santa Barbara, San Benito, Santa Clara, San Diego, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, Stanislaus, Tehama, Tulare, Ventura, Yolo; Santa Catalina Island, Santa Cruz Island* Dulzura (010A) 32116F7, Otay Mesa (010C) 32116E8, National City (011A) 32117F1, El Cajon Mtn. (021A) 32116H7, San Pasqual (034C) 33116A8, Sage (067C) 33116E8, Romoland (068B) 33117F2, Murrieta (068C) 33117E2, Bachelor Mtn. (068D) 33117E1, Lake Elsinore (069A) 33117F3, Alberhill (069B) 33117F4, Sunnymead (085B) 33117H2, Perris (085C) 33117G2, Lake Mathews (086C) 33117G4, Vidal (096D) 34114A5, Glendora (109A) 34117B7, San Dimas (109D) 34117A7, Los Angeles (110C) 34118A2, Burbank (111A) 34118B3, Calabasas (112B) 34118B6, Malibu Beach (112C) 34118A6, Piru (139A) 34118D7, Simi (139D) 34118C7, Lake Hughes (162B) 34118F4, Whitaker Peak (163C) 34118E6, Warm Springs Mountain (163D) 34118E5, Rancho Nuevo Creek (166B) 34119F4, Figueroa Mtn. (168B) 34119F8, Los Olivos (169A) 34120F1, La Liebre Ranch (188C) 34118G6, Lebec (189D) 34118G7, Pleito Hills (190A) 34119H1, Eagle Rest Peak (190B) 34119H2, Hurricane Deck (193D) 34119G7, Tehachapi North (212B) 35118B4, Tehachapi South (212C) 35118A4, Wells Ranch (217C) 35119A6, Chimineas Ranch (218B) 35119B8, Taylor Canyon (218C) 35119A8, Caliente Mtn. (218D) 35119A7, Rio Bravo Ranch (239A) 35118D7, Carneros Rocks (243A) 35119D7, Simmler (243C) 35119C8, La Panza NE (244A) 35120D1, La Panza Ranch (244B) 35120D2, California Valley (244D) 35120C1, Camatta Ranch (245A) 35120D3, Atascadero (246B) 35120D6, Lake Isabella South (260C) 35118E4, Knob Hill (262C) 35118E8, Pine Mountain (262D) 35118E7, Orchard Peak (267B) 35120F2, Packwood Creek (267D) 35120E1, Cholame (268A) 35120F3, Estrella (269A) 35120F5, White River (286D) 35118G7, Garza Peak (291B) 35120H2, Pyramid Hills (291D) 35120G1, Tierra Redonda Mountain (294C) 35120G8, Priest Valley (316B) 36120B6, Slack Canyon (316C) 36120A6, Smith Mountain (316D) 36120A5, Monarch Peak (317A) 36120B7, Ciervo Mtn. (339A) 36120D5, Idria (339B) 36120D6, San Benito Mtn. (339C) 36120C6, Santa Rita Peak (339D) 36120C5, Rock Spring Peak (340B)

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Cismontane woodland, valley and foothill grassland / clay; elevation 15-1200 meters. Annual herb. Blooms March – May

~~Previously CRPR 1B.1; more common than originally thought.~~ Threatened by development, urbanization, and habitat alteration. Possibly threatened by vehicles, grazing, and non-native plants. See *The Botany of Captain Beechey's Voyage* p. 327 (1838) for original description, *Anales del Jardín Botánico de Madrid* 59(2):109-216 (2002) for revised nomenclature, and *Madroño* 52(1):53-59 (2005) for ecological information.

Literature Cited

Alarcón, M., C. Aedo, and C. Navarro. 2012. *California macrophylla*. P. 818 in Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.), *The Jepson Manual: Vascular Plants of California*, Second Edition. University of California Press, Berkeley and Los Angeles.

Aldasoro, J.J., C. Navarro, P. Vargas, L. Saez, and C. Aedo. 2002. *California*, a new genus of Geraniaceae endemic to the southwest of North America. *Anales del Jardín Botánico de Madrid* 59(2):109-216. (Revised nomenclature.)

California Natural Diversity Database (CNDDDB). 2015. Occurrence report for *California macrophylla*. California Department of Fish and Wildlife, Sacramento, CA. Accessed May 2015.

Gillespie, I.G. 2005. Habitat characteristics and distribution of *Erodium macrophyllum* (Geraniaceae). *Madroño* 52(1):53-59. (Ecological information.)

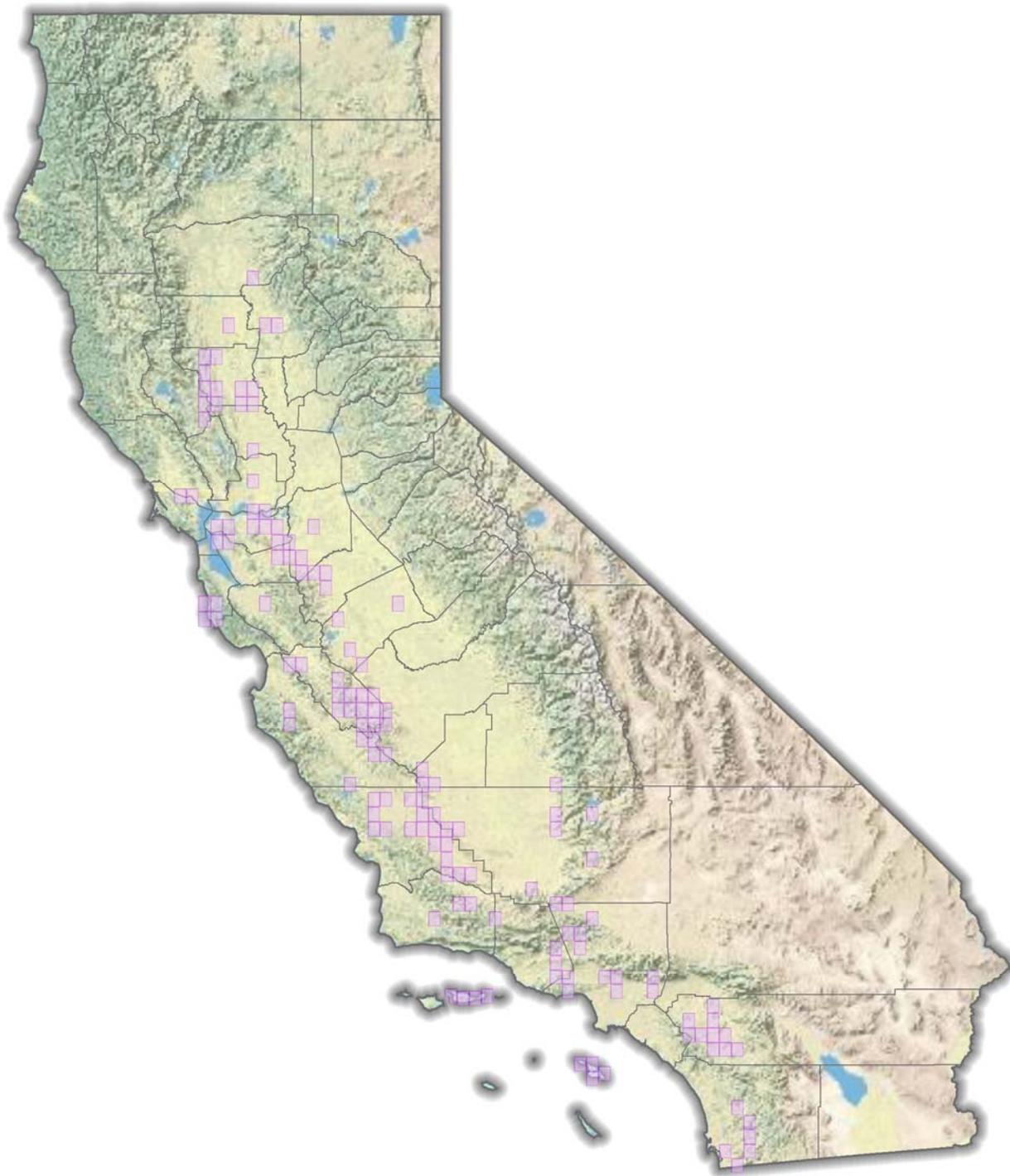
Hooker, W.J. and G.A.W. Arnott. 1838. California—Supplement, Ord. XIII. Geraniaceae Juss. P. 327 in *The Botany of Captain Beechey's Voyage*. (Original description.)

Rare Plant Scientific Advisory Committee (RPSAC) and D.P. Tibor (ed.). 2001. California Native Plant Society's Inventory of Rare and Endangered Plants of California. Special Publication No. 1 (Sixth Edition). California Native Plant Society, Sacramento. 387 pp.

Skinner, M.W. and B.M. Pavlik (eds.). 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. Special Publication No. 1 (Fifth Edition). California Native Plant Society, Sacramento. 338 pp.

Taylor, M.S. 1993. *Erodium macrophyllum*. P. 672 in Hickman, J.C. (ed.), *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley.

Appendix I – Distribution Maps



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Map 1: General distribution of *California macrophylla* in California. Showing occupancy of USGS 7.5" Quadrangles based on data provided by the CNDDDB 2015.

Appendix 1 – Distribution Maps



Map 2: Specific distribution of *California macrophylla* in California. Showing element occurrences mapped by the CNDDDB 2015.