Added *Allium howellii* var. *howellii* to CRPR 4.3, and *A. howellii* var. *sanbenitense* to CRPR 1B.3 in the CNPS Inventory on April 4, 2017

Rare Plant Status Review: *Allium howellii* var. *howellii* and var. *sanbenitense*

Proposed Addition of *A. howellii* var. *howellii* to California Rare Plant Rank 4.3, G3G4T3 / S3

Proposed Addition of *A. howellii* var. *sanbenitense* to California Rare Plant Rank 1B.3, G3G4T2 / S2

Kaitlyn Green (CNPS), Aaron E. Sims (CNPS), and Roxanne Bittman (CNDDB)

February 15, 2017

Background

Allium howellii Eastw. is a perennial bulbiferous herb in the Alliaceae (former Liliaceae) that is known from the San Joaquin Valley and vicinity. Within the species, three varieties are recognized, with var. *clokeyi* currently already included in the CNPS Inventory as a California Rare Plant Rank (CRPR) 1B.3 taxon (CNPS Online Inventory record available at http://www.rareplants.cnps.org/detail/86.html). All three varieties are included in *The Jepson Manual* (McNeal 1993), *The Jepson Manual, Second Edition* (McNeal 2012), and *Flora of North America* (McNeal and Jacobsen 2002). At the species level, *Allium howellii* is distinguished from other *Allium* taxa in California in having one leaf per stem, three stigma lobes, exserted stamens, and in having inner and outer perianth parts that are more or less equal in length.

Background *Allium howellii* var. *howellii*

Allium howellii Eastw. var. *howellii* is distinguished from var. *clokeyi* and var. *sanbenitense* in having 10-30 flowers per stem with a generally pink to lavender perianth (versus 50 or more flowers per stem and a white perianth in the other varieties). It is found in valley and foothill grassland on clay soils with minor shrink-swell characteristics, as well as on serpentine soils (R. O'Dell pers. comms. 2017). *Allium howellii* var. *howellii* occurs between 50 and 2,200 meters in elevation and blooms from March to April.

Allium howellii var. *howellii* has an estimated 87 occurrences comprised of 154 records. Of the 87 occurrences 57 are considered historical (occurrences not seen in over 20 years are considered historical by the CNDDB). Twenty-three occurrences are known from federal lands, including Bitter Creek National Wildlife Refuge (9 occurrences), BLM (1 occurrence), Carrizo Plain National Monument (11), and Sequoia National Forest (2). The remaining 64 occurrences have private or unknown land ownership. In *The Jepson Manual, Second Edition* (McNeal 2012), *A. howellii* var. *howellii* is reported as being common across a large distribution from San Francisco Bay, San Joaquin Valley, southern Coast Range, southern Sierra Nevada Foothills, Tehachapi Mountains, and the Western Transverse Range. Collection data, on the other hand, supports a smaller range that omits the San Francisco Bay Area and Western Transverse Range, with only a handful of collections in the southern Coast Range. The large number of collections and occurrences, and relatively large range of *A. howellii* var. *howellii*, suggest it might be too common for CRPR 4 status. It is also suspected that additional occurrences will show up once more surveys are conducted for this taxon. However, the current data indicates that 65% of its occurrences are considered historical, and approximately 73%

of its occurrences are on private land or have an unknown land ownership. We therefore feel that it meets the criteria for watchlist status at this time, and encourage dedicated field surveys in attempts to update the status of its historical occurrences and to potentially discover new populations.

Background *Allium howellii* var. *sanbenitense*

Allium howellii Eastw. var. *sanbenitense* (Traub) McNeal & T.D. Jacobsen is distinguished from var. *clokeyi* in having stamens that are exserted 2-4 mm (versus 0-2 mm) and also a different distribution in being mostly restricted to the Inner South Coast Ranges (versus var. *clokeyi* being mostly restricted to the Western Transvers Ranges). It is found on grassy slopes that are often steep, and in openings of chaparral, on high shrink-swell clay soils that are derived from marine shale (R. O'Dell pers. comm. 2017). *Allium howellii* var. *sanbenitense* occurs between 390 and 1,365 meters in elevation and blooms from April to May.

Allium howellii var. *sanbenitense* has an estimated 11 occurrences comprised of 15 collections. Of the 11 occurrences, six are considered historical. Seven occurrences are located on BLM lands, while the remaining four are located on private or unknown land ownership. It occupies a narrow distribution, mostly from the Inner South Coast Ranges, with a few collections from the San Joaquin Valley.

Allium howellii var. *howellii* and var. *sanbenitense* are both possibly threatened by grazing and development (D. Cook, K. Morse, and R. O'Dell pers. comms. 2017).

Based on the available information, CNPS and CNDDB recommend adding *Allium howellii* var. *howellii* to CRPR 4.3, and *A. howellii* var. *sanbenitense* to CRPR 1B.3 of the CNPS Inventory. A threat rank of .3 is suggested for both taxa because we don't have enough documentation of threats to them at this time. If knowledge on the distribution, threats, and rarity status of either variety changes in the future, we will re-evaluate their status at that time.

Recommended Actions

CNPS: Add *Allium howellii* var. *howellii* to CRPR 4.3; add *Allium howellii* var. *sanbenitense* to CRPR 1B.3
CNDDB: Add *Allium howellii* var. *howellii* to G3G4T3 / S3; add *Allium howellii* var. *sanbenitense* to G3G4T2 / S2

Draft CNPS Inventory Records

Allium howellii Eastw. var. *howellii*
Howell's onion
Alliaceae
CRPR 4.3
Fresno, Kern, Kings, Merced, San Benito, San Luis Obispo, Santa Clara, Tulare
Ballinger Canyon (191B) 3411984, Peak Mountain (193A) 3411987, Tehachapi North (212B) 3511824, Tehachapi South (212C) 3511814, Monolith (212D) 3511813, Keene (213A) 3511825, Tejon Hills (214D) 3511817, Maricopa (216C) 3511914, Fellows (217A) 3511925, Panorama Hills (217B) 3511926, Elkhorn Hills (217D) 3511915,

Painted Rock (218A) 3511927, Chimineas Ranch (218B) 3511928, Caliente Mtn. (218D) 3511917, Breckenridge Mtn. (238A) 3511845, Bena (238C) 3511836, Oiler Peak (238D) 3511835, Rio Bravo Ranch (239A) 3511847, Oil Center (239B) 3511848, Edison (239D) 3511837, Simmler (243C) 3511938, Mckittrick Summit (243D) 3511937, La Panza Ne (244A) 3512041, California Valley (244D) 3512031, Santa Margarita Lake (245C) 3512034, Alta Sierra (261A) 3511865, Democrat Hot Springs (261C) 3511856, Woody (262A) 3511867, Sand Canyon (262B) 3511868, Knob Hill (262C) 3511858, Pine Mountain (262D) 3511857, Shale Point (266C) 3511958, Sawtooth Ridge (267A) 3512061, Packwood Creek (267D) 3512051, Delano West (288D) 3511973, Tent Hills (291C) 3512072, The Dark Hole (292A) 3512083, Hepsedam Peak (340D) 3612037, Mercy Hot Springs (362A) 3612067, Cerro Colorado (362B) 3612068, Llanada (362C) 3612058, Panoche (362D) 3612057, Marina (366A) 3612167, Hammonds Ranch (382C) 3612076, Ortigalita Peak (383C) 3612078, San Felipe (385B) 3612184
Valley and foothill grassland / clay or serpentinite; elevation 50-2,200 meters.
Perennial bulbiferous herb. Blooms March to April.
Many occurrences historical; need field surveys. Possibly threatened by grazing and development. See *Leaflets of Western Botany* 2(7):109 (1938) for original description.

Allium howellii Eastw. var. *sanbenitense* (Traub) McNeal & T.D. Jacobsen
San Benito onion
Alliaceae
CRPR 1B.3
Monterey, San Benito
Monarch Peak (317A) 3612027, Ciervo Mtn. (339A) 3612045, Panoche (362D) 3612057, Idria (339B) 3612046, San Benito Mtn. (339C) 3612036, Monocline Ridge (361D) 3612055
Chaparral (openings), valley and foothill grassland / clay, often steep slopes; elevation 390-1,365 meters.
Perennial bulbiferous herb. Blooms April to May.
Possibly threatened by grazing and development. See *Herbertia* 12:68 (1945) for original description, and *Plant Life* 28:66 (1972) and *Flora North America* 26:251 (2003) for revised nomenclature.

Literature Cited

Eastwood, A. 1938. New species in Liliaceae. Leaflets of Western Botany 2(7): 109.

McNeal, D. W. 1993. *Allium*. Pp. 1172-1179 in The Jepson Manual: Higher Plants of California. University of California Press, Berkeley.

____. 2012. *Allium.* Pp. 1290-1297 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, CA.

____ and T. D. Jacobsen. 2003. *Allium*. Pp. 224 in Flora of North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 26. New York and Oxford.

Traub, H. P. 1945. New *Allium* names and a deleted species. Herbertia 12: 68.

Sent to: SN, GV, CW, R. O'Dell on 2/15/2017

____ and F. M. Ownbey. 1972. *Allium howellii* subsp. *sanbenitense*. Plant Life 28: 66.