

Added to California Rare Plant Rank 1B.2 of the CNPS Inventory on June 16, 2017**Rare Plant Status Review: *Spergularia macrotheca* var. *longistyla*****Proposed Addition to California Rare Plant Rank 1B.2, G5T2 / S2**

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May 10, 2017

Changes made to the original document are in blue text.

Background

Spergularia macrotheca (Hornem. ex Cham. & Schltld.) Heynh. var. *longistyla* R. Rossbach is a perennial herb in the Caryophyllaceae that is mostly endemic to the Sacramento and San Joaquin valleys. It is included in *The Jepson Manual* (Hartman 1993), *The Jepson Manual, Second Edition* (Hartman and Rabeler 2012), and *Flora of North America* (Hartman and Rabeler 2005). *Spergularia macrotheca* var. *longistyla* is distinguished from most other species of *Spergularia* in being a strong perennial versus being an annual or short-lived perennial. It is most similar to *S. villosa*, but differs in having larger seeds (0.6-0.9 mm vs. 0.4-0.5 mm), larger calyx lobes (4.5-7 mm vs. 2.5-4 mm; < 8 mm in fruit vs. < 5 mm in fruit), and longer styles (0.6-3 mm vs. 0.4-0.6 mm in *S. villosa*). *Spergularia macrotheca* var. *longistyla* can be identified from the other two varieties of *S. macrotheca* by its white petals (vs. pink or blue petals in var. *macrotheca*), and fruit 0.8-1 times as long as the calyx, with styles 2-3 mm long (vs. fruit 1.2-1.4 times as long as the calyx, with styles 1.2-1.9 mm in var. *leucantha*) (Hartman and Rabeler 2012).

Spergularia macrotheca var. *longistyla* occurs in alkaline marshes and meadows at an approximate elevation of 0 to 255 meters, and blooms from February to May (Calflora 2017).

Spergularia macrotheca var. *longistyla* is known from an estimated ~~268~~ occurrences comprised of ~~813~~ collections and observations. Of the ~~268~~ occurrences, ~~1920~~ are considered historical (occurrences not seen in over 20 years are considered historical by the CNDDDB). The majority of occurrences (22) are from Alameda and Contra Costa counties. Only ~~two~~ three occurrences are from Napa County, where it apparently only covers about 20 acres (J. Ruygt pers. comm. 2017). Two occurrences are from Solano County and the remaining occurrence is from Yolo County. The ~~collections of var. *longistyla* from Yolo County collections, however,~~ are suspect; Crampton labels are var. *leucantha* while Bronny labels are var. *longistyla* from approximately the same location (C. Witham pers. comm. 2017). ~~Later, E. Dean (pers. comm. 2017) confirmed that a Bronny specimen at DAV from the same location as other observations by Bronny is var. *leucantha*, and records from Yolo County are therefore not being included for var. *longistyla*. We are including records from Yolo County for now, but they ultimately need verification.~~ An additional record from Fresno County lacks sufficient information to be included as a potential occurrence. *Spergularia macrotheca* var. *longistyla* seems to be under-collected in general, most likely because the majority of the populations occur on private land (H. Bartosh pers. comm. 2017). Three occurrences are located in the Clifton Court Forebay (a reservoir in Contra Costa County); two are located in Grizzly

Island Wildlife Area; another two occurrences are located in Los Vaqueros Watershed, and the remaining 1924 have an unknown land ownership.

Spergularia macrotheca var. *longistyla* is reported to be locally common where it occurs in Alameda and Contra Costa counties, with most of the populations being rather large, however, its alkaline habitat is rare and it is not known from very many locations in these two counties (Dianne Lake pers. comm. 2017). It is ranked B in the CNPS East Bay Chapter's database of *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties* (Lake 2017). A rarity rank of B means that it occurs in 6 to 9 regions in Alameda and Contra Costa counties; the two counties have been divided into 40 botanical regions and rank is determined partially on how many regions a plant occurs in rather than individual sites. In this case, *S. macrotheca* var. *longistyla* occurs in 6 regions, and there are 10 sites within those regions (D. Lake pers. comm. 2017).

According to Jake Ruygt and Chris Bronny (pers. comms. 2016 and 2017), development and agriculture are the main threats to *Spergularia macrotheca* var. *longistyla*. Dianne Lake (pers. comm. 2017) also mentions that development is the main threat to this taxon in Alameda and Contra Costa counties; "[t]here have been a lot of housing developments and shopping centers, especially in the eastern parts of both counties, over the last 30 years or so, and they still continue." Possible threats to this taxon are competition with non-native grasses, especially at the fringes of alkaline habitats, as well as competition with the non-native *Spergularia bocconeii* (Bartosh pers. comm. 2017), though according to Dianne Lake (pers. comm. 2017), *S. macrotheca* var. *longistyla* is a fairly hardy plant that seems to withstand grazing and weed invasion. Many of the alkaline habitats of East Bay (Alameda and Contra Costa) and Solano counties are difficult to conserve, and have since been developed, irrigated, or flooded by dams which may have taken out other populations we were not aware of (H. Bartosh pers. comm. 2017). A 1991 occurrence from Contra Costa County (Taylor 11601, JEPS90794) is possible extirpated from the construction of the Byron Airport, however, good habitat appears to still occur on the airport grounds (D. Taylor pers. comm. 2017), and the area should be resurveyed. Many of the western-most occurrences in the East Bay are likely extirpated due to development (L. Naumovich pers. comm. 2017), and should also be surveyed to determine if *S. macrotheca* var. *longistyla* is still present.

Based on the available information, CNPS and CNDDDB recommend adding *Spergularia macrotheca* var. *longistyla* to California Rare Plant Rank 1B.2 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *S. macrotheca* var. *longistyla* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add *Spergularia macrotheca* var. *longistyla* to CRPR 1B.2

CNDDDB: Add *Spergularia macrotheca* var. *longistyla* to G5T2 / S2

Draft CNPS Inventory Record

Spergularia macrotheca (Hornem. ex Cham. & Schltldl.) Heynh. var. *longistyla* R. Rossbach
long styled sand-spurrey

Sent to: NW, GV, CW, C. Bronny on 05/10/2017

Caryophyllaceae

CRPR 1B.2

Alameda, Contra Costa, Napa, Solano, Yolo

~~Monson (334A) 3611943, Courtright Reservoir (395C) 3711818, Altamont (445B) 3712166, Livermore (446A) 3712167, Dublin (446B) 3712168, Niles (446C) 3712158, Newark (447D) 3712251, Byron Hot Springs (463C) 3712176, Clifton Court Forebay (463D) 3712175, Richmond (466A) 3712283, Oakland West (466D) 3712273, Fairfield South (482A) 3812221, Grays Bend (513B) 3812166, Calistoga (517D) 3812255~~

Marshes and swamps, meadows and seeps / alkaline; elevation 0-255 meters.

Perennial herb. Blooms February to May.

Threatened by development, and [habitat alteration](#), agriculture, and [hydrological alterations](#). Possibly threatened by competition and non-native plants. See *Rhodora* 42(495):70-79 (1940) for original description.

Literature Cited

Hartman, R. 1993. *Spergularia*. Pp 493-494 in *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley.

____ and R.K. Rabeler. 2005. *Spergularia*. Pp. 16-23 in *Flora of North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 5*. New York and Oxford.

____. 2012. *Spergularia*. Pp. 622-624 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.

Lake, D. 2017. Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties. Website <https://ebcnps.fatcow.com/cgi-bin/ebrare/ebrare.cgi> [accessed 10 May 2017].

Rosbach, R. P. 1940. *Spergularia in North and South America*. *Rhodora* 42(495): 70-79. (Original description.)