Plant Species Evaluation Form

Sabulina rosei (Maguire & Barneby) Dillenb. & Kadereit

PEANUT SANDWORT

Family: Caryophyllaceae (CNPS 2018) **PLANTS Symbol:** MIRO3 (USDA 2018) **Calif. Endemic:** Yes (CNPS 2018)

Synonyms/Other Names: Treated as *Minuartia rosei* (Maguire & Barneby) McNeill in the *Jepson eFlora* and *Flora of North America* (Hartman and Rabeler 2012; Rabeler et al. 2005). Originally described as *Arenaria rosei* Maguire & Barneby (Tropicos 2018).

Identification Issues: Unknown.

Taxonomy:

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Genus Description – Habit: Annual, perennial herb, erect to mat-forming, taprooted or rhizomed. Leaf: blade thread-like to awl-shaped or narrowly oblong; veins or ribs 1-3. Inflorescence: terminal or axillary, open to +- dense; flowers 1-many; peduncles, pedicels 0.5-35+ mm. Flower: hypanthium short, obscure; sepals 5, +- free, 1.9-7 mm, +- lanceolate to ovate, glabrous to glandular-hairy; petals 5 or 0, 0.7-10 mm, entire or notched; stamens on an obscure to prominent disk; styles 3, 0.3-2 mm. Fruit: capsule, narrowly ovoid to widely elliptic; valves 3, ascending to recurved. Seed: 1-many, red-tan to red-, purple-, or black-brown.

Species Description – Habit: Perennial herb, mat-forming, 5-20 cm, generally glabrous, glaucous; taproot > 3 mm diam; rhizomes, trailing stems 5-20+ cm. Stem: in flower ascending to erect. Leaf: 4-15 mm, +- 0.5-1.2 mm wide, > internodes, needle-like, straight or curved, +- flexible, +- evenly spaced; axillary leaves well developed. Inflorescence: often glandular-hairy. Flower: sepals 2.5-4 mm, acute to acuminate, margin not incurved, vein 1, faint; petals 1.4-2.2 × sepals. Seed: 2.3-2.8 mm; margin thick, red-brown to brown. eFlora Treatment Author: Ronald L. Hartman & Richard K. Rabeler.

Status:

Note: Federally recognized Endangered, Threatened, Proposed, or Candidate species under the Endangered Species Act are omitted as they do not meet the definition of a Species of Conservation Concern (FSH 1909.12 § 12.52).

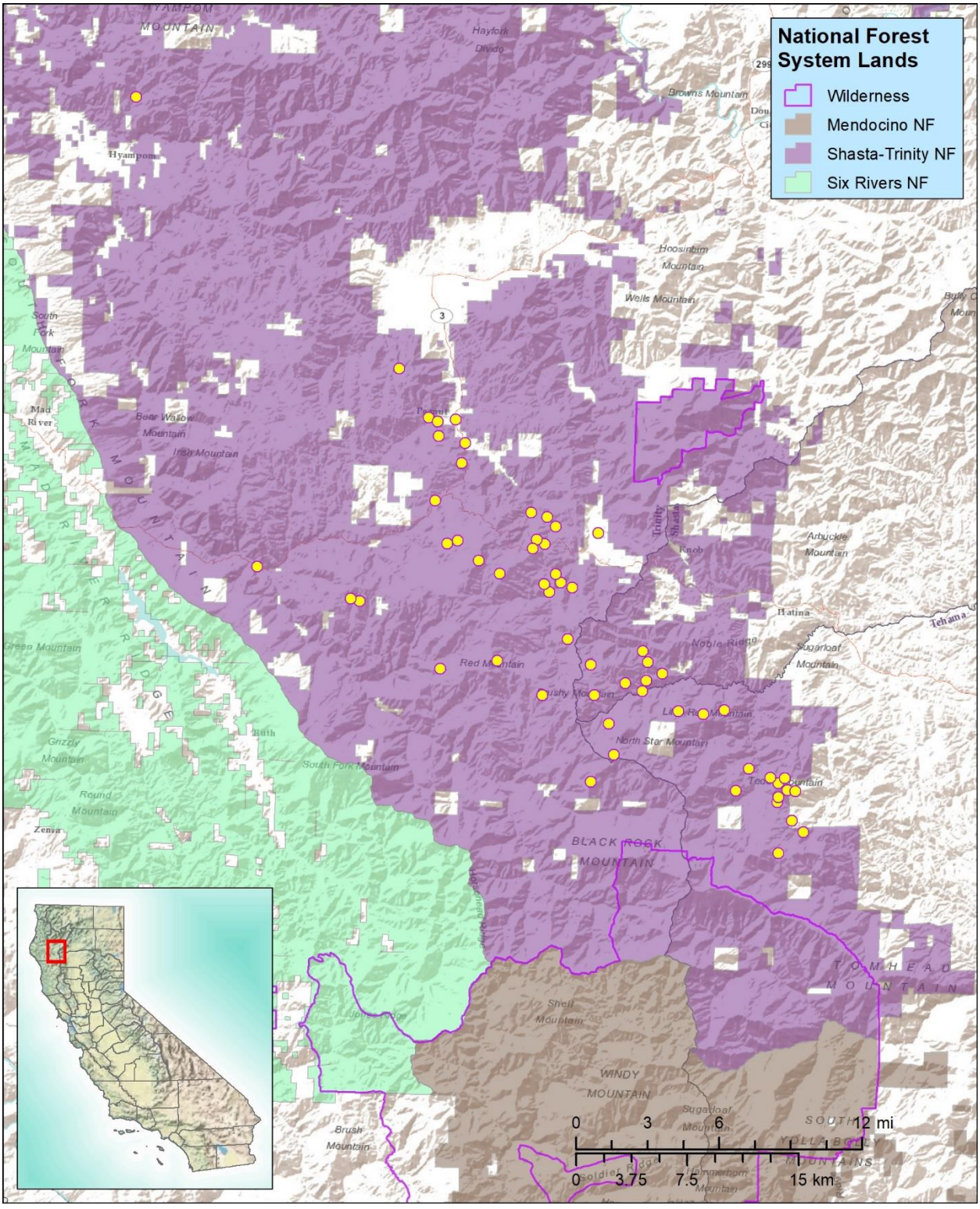
State Listing	G-rank	S-rank	CRPR	R5 FSS	NFP SM	CA BLM
CA: Not listed NV: Not listed OR: Not listed	G3	CA: S3 NV: Not listed OR: Not listed	4.2	Sensitive	Not listed	Not listed

SWAP:	NNHP:	NNPS:	ORBIC:	OCS:	IUCN:
Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Expanded abbreviations and citations: State Listing=California Endangered Species Act Listing (CDFW 2018b), Nevada Division of Forestry Fully Protected Plant Species (NAC 527) (NDF 2012), Oregon Department of Agriculture Listed Plants (ODA 2014); G-rank=Global Conservation Status (CDFW 2018a; NatureServe 2018); S-rank=Subnational (state or province-level) Conservation Status (CDFW 2018a; NatureServe 2018; NNHP 2017; ORBIC 2016); CRPR=California Rare Plant Rank (CNPS 2018); R5 FSS=USDA Forest Service Region 5 Regional Forester Sensitive Plant Species List (USDA 2013); NFP SM=Forest Service and Bureau of Land Management Northwest Forest Plan Survey and Manage Species (USDA 2001); CA BLM=California Bureau of Land Management Designated Sensitive Species (BLM 2010); SWAP=California State Wildlife Action Plan Status (CDFW 2015); NNHP=Nevada Natural Heritage Program Status (NNHP 2017); NNPS=Nevada Native Plant Society Status (NNHP 2017); ORBIC=Oregon Biological Information Center Status (ORBIC 2016); OCS=Oregon Conservation Strategy Species (ODFW 2016); IUCN=International Union for Conservation of Nature Red List Status (IUCN 2017).

Non-substantive name changes were made to the CNPS Inventory in 2016 (Sims and Lazar 2016) in order to reflect the resurrection and updated circumscription of the genus *Sabulina* (Dillenberger and Kadereit 2014).

Distribution: Western North America – endemic to northern California, where most occurrences 55/58; ~95%) are found at the southern tip of the Klamath Ranges (KR) bioregion. The southern reach of the *S. rosei* distribution extends beyond the Klamath Ranges (KR) bioregion, where three occurrences (Records 1, 2, and 51) are situated just inside the boundary of the High North Coast Ranges (NCoRH) bioregion. This species is endemic to the Rattlesnake Creek Terrane (RCT), a notable serpentine-bearing geologic feature of NW California, arcing from NW to SE through Trinity County, ending in western Shasta and Tehama Counties. The RCT has its own serpentine endemic flora, in addition to sharing some serpentine endemic species with neighboring California bioregions (Kierstead 2020 editorial comments). A majority (54/58; ~93%) of all occurrences are found on NFS lands within Shasta-Trinity NF (54/54; 100%). Two occurances (2/58; ~3.5%) are on BLM lands, and the remaining occurrences (2/58; ~3.5%) are located within private inholdings or located just outside the Shasta-Trinity NF boundary (Calflora 2018; CCH 2018; Hartman and Rabeler 2012).



Sources: *Distribution*: Calflora 2018, CCH 2018. *Layers*: USDA Forest Service, Pacific Southwest National Forests: CPAD 2016. California counties: CDF 2009. *Basemaps*: California inset map: © 2013 National Geographic Society, i-cubed (Esri 2017a). Main map: Esri, DeLorme, USGS, NPS (Esri 2012) and Esri, USGS, NOAA (Esri 2017b).

Locations within California:

Record numbers indicate sites that contain an individual, population, or groups of populations located within ¼ mile of each other, per the California Natural Diversity Database (CNDDB 2017) definition of Element Occurrences (EOs) in California. Official EO numbers for plants in California are determined solely by the CNDDB and are included within the Reference (Source) column for CNDDB data. Duplicate records from the same site are given the same record number and included in red. The Population Info column includes total number of individuals and total number and size of populations/sub-populations when provided. Elevations provided in meters from source have been converted to feet. If not provided in original source, Land Manager information was obtained using the California Protected Areas Database (CPAD 2016) and Quad information was obtained using 24K Quads, SDE Feature Class (CDFG 2013). All other information is directly from the Reference (Source) unless additional citation is given.

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	Along road to Handy Camp Gulch, 0.25 mi. E of Wells Creek	Tehama	North Yolla Bolly W	HSC70004 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	4501.312336
2	Along road to Wells Creek Campground ca. 1 mile southeast of Tedoc Gap.	Tehama	North Yolla Bolly W	CHSC35542 (CCH, Oct 2018)	22-Jun-1980			BLM	4297.900262
2	Along road to Wells Creek Campground, 1 mi. SE of Tedoc Gap	Tehama	North Yolla Bolly W	HSC71865 (CCH, Oct 2018)	22-Jun-1980			BLM	4301.181102
3	Shasta-Trinity National Forest, junction of FS Rd. 41 and FS Rd. 28N08	Shasta	North Yolla Bolly W	HSC71900 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	4002.624672
4	High North Coast Ranges. W of Red Bluff and S of Platina, on the summit of Tedoc Mtn. (end of Forest Road 28N60).	Tehama	North Yolla Bolly W	CHSC64966 (CCH, Oct 2018)	12-Jul-1995			Shasta-Trinity NF	5298.55643
4	Shasta-Trinity National Forest, summit of Mt. Tedoc	Tehama	North Yolla Bolly W	HSC71881 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	5200.131234
4	Along road to Mt. Tedoc From Tedoc Gap	Tehama	North Yolla Bolly W	HSC81948 (CCH, Oct 2018)	25-Jun-1979			Shasta-Trinity NF	4901.574803
4	on Mt. Tedoc.	Tehama	North Yolla Bolly W	UCD98236 (CCH, Oct 2018)	17-Jun-1972			Shasta-Trinity NF	4498.031496
4	Tedoc Mountain summit	Tehama	North Yolla Bolly W	gr14618 (Calflora, Oct 2018)	17-May-1972			Shasta-Trinity NF	
5	Shasta-Trinity National Foest, Tedoc Mtn.	Tehama	Beegum W	CAS-BOT-BC181139 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	5291.994751
5		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_047)	16-Aug-2017	19 individuals		Shasta-Trinity NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
5	Along USFS Rd. 45 1.5 mi. N of Tedoc Gap W side of Mt. Tedoc	Tehama	Beegum W	HSC71847 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	4501.312336
5	along forest service rd. 45 1.5 mi n Tedoc Gap (w side of mt.); Six Rivers National Forest, Mount Tedoc	Tehama	Beegum W	JEPS81073 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	4498.031496
5	Shasta-Trinity National Forest, 1 mi. from Tedoc Gap on the road to Hwy. 36	Tehama	Beegum W	HSC74986 (CCH, Oct 2018)	25-Jun-1979			Shasta-Trinity NF	4599.737533
5	Tedoc Mtn., Shasta-Trinity National Forest	Tehama	Beegum W	CAS-BOT-BC181149 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	5291.994751
5	Tedoc Mtn., Shasta-Trinity National Forest	Tehama	Beegum W	CAS-BOT-BC181151 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	5291.994751
5	Shasta-Trinity National Forest, Tedoc Mtn.	Tehama	Beegum W	HSC74844 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	5295.275591
5	Tedoc Mt. Shasta-Trinity National Forest, Yolla Bolly Quadrangle	Tehama	Beegum W	JEPS81113 (CCH, Oct 2018)	22-Jul-1978			Shasta-Trinity NF	5291.994751
5	NW side of Tedoc Mt. along new rd. around W of mtn.	Tehama	Beegum W	HSC33093 (CCH, Oct 2018)	17-Jun-1972			Shasta-Trinity NF	4199.475066
5	Tedoc Mt. nw side of Tedoc Mt. (nw side, along new road around w of mountain)	Tehama	Beegum W	JEPS76668 (CCH, Oct 2018)	17-Jun-1972			Shasta-Trinity NF	4199.475066
5	Tedoc Mt.; nw side, along new road around w of mountain	Tehama	Beegum W	JEPS76748 (CCH, Oct 2018)	17-Jun-1972			Shasta-Trinity NF	4199.475066
6	1 mi w Regan Meadow Camp; North Coast Ranges	Tehama	Pony Buck Peak	UC1299262 (CCH, Oct 2018)	19-Jul-1946			Shasta-Trinity NF	
7	junction of Round Bottom Mine Road and Regan Meadow Road (2.6 mi w of Regan Meadow); North Coast Ranges	Tehama	Pony Buck Peak	UC1299500 (CCH, Oct 2018)	2-Jul-1950			Shasta-Trinity NF	
8	Along FS road 1 mi. W of Regan Meadow	Shasta	Pony Buck Peak	HSC71856 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	5000

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
8		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140001)	8-Jun-1988			Shasta-Trinity NF	
9	Klamath Ranges. Near an un-named spring along Rd 29N39 3.1 km west of Rd 28N10; about 6.8 km north-northwest of Pony Buck Peak; head of North Fork Beegum Creek.	Shasta	Pony Buck Peak	CHSC82662 (CCH, Oct 2018)	8-Jul-2001			Shasta-Trinity NF	4396.325459
9				NRIS, Jul. 2021 (MIRO305140027)	11-May-1982			Shasta-Trinity NF	
10	Shasta-Trinity National Forest, along Rd. 29N73, 0.9 mi. from Red Mountain.	Trinity	Smoky Creek	HSC71887 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	5501.968504
10	Shasta-Trinity National Forest, along Rd. 29N73, 0.9 mi. from Red Mountain.	Trinity	Smoky Creek	HSC71888 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	5501.968504
11	On s side of 29N36, ca. 0.4 mi w of its jct with 29N38, ca. 4 mi s of Wildwood.	Trinity	Pony Buck Peak	CHSC30208 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	4199.475066
11		Trinity	Pony Buck Peak	NRIS, Jul. 2021 (0514_MIRO3_52_046)	20-Jun-2014	31 individuals		Shasta-Trinity NF	
11	On S side of 29N36 0.4 mi. W of jct. with 29N38 4 mi. S of Wildwood	Trinity	Pony Buck Peak	HSC66313 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	4199.475066
12	Shasta-Trinity National Forest, Rattlesnake Ridge along Forest Servcie Rd. 29N62, 1.3 mi. W of junction with FS Rd. 29N58	Trinity	Smoky Creek	HSC68791 (CCH, Oct 2018)	19-Jun-1980			Shasta-Trinity NF	4002.624672
12	Shasta-Trinity National Forest. Rattlesnake Ridge along road 29N62, 1.3 miles west of junction with road 29N58.	Trinity	Smoky Creek	UCD98234 (CCH, Oct 2018)	19-Jun-1980			Shasta-Trinity NF	3999.343832
13	Rattlesnake Ridge along road 29N62 1.3 miles west of junction with road 29N58, Shasta-Trinity National Forest, Six Rivers National Forest	Trinity	Smoky Creek	CAS-BOT-BC181145 (CCH, Oct 2018)	19-Jun-1980			Shasta-Trinity NF	3999.343832

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
14	W side of Hwy 30, on slope, ca. 2.3 mi s of its jct with Hwy 36, ca. 2 mi s of Wildwood.	Trinity	Pony Buck Peak	CHSC30209 (CCH, Oct 2018)	16-Jun-1980			Shasta-Trinity NF	3799.212598
14		Trinity	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140009)	16-Jun-1980			Shasta-Trinity NF	
15	ca. 2 air mi s Wildwood (along Forest Road 30 near the creek crossing); Klamath Mtn. Region, Saddle Gulch (tributary to Hayfork Cree	Trinity	Pony Buck Peak	JEPS90761 (CCH, Oct 2018)	12-Jun-1992			Shasta-Trinity NF	3697.506562
16	Wild-Mad Road	Trinity	Pony Buck Peak	po2524 (Calflora, Oct 2018)	1-Jun-2015			Shasta-Trinity NF	
17	E of Forest Glen	Trinity	Forest Glen	SBBG22251 (CCH, Oct 2018)	28-Jun-1939			Shasta-Trinity NF	1998.031496
18	along creek 9 mi up from Peanut; Salt Creek	Trinity	Smoky Creek	JEPS90760 (CCH, Oct 2018)	30-Jun-1973			Shasta-Trinity NF	2798.55643
19	Saddle Gulch, tributary to Hayfork Creek, ca. 2 air miles S of Wildwood, along Forest Road 30 near the creek crossing on an abandoned logging spur	Trinity	Pony Buck Peak	gr15626 (Calflora, Oct 2018)	12-Jun-1992			Shasta-Trinity NF	
20	Hwy. 36 4.8 mi west of Wildwood Rd., 7.3 mi east of Hwy. 3. On a roadcut.	Trinity	Wildwood	CHSC71529 (CCH, Oct 2018)	28-Jul-1998			Shasta-Trinity NF	4097.769029
20	Along Hwy. 36 at Muldoon Gulch, Shasta-Trinity National Forest	Trinity	Wildwood	HSC68945 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	4301.181102
21	Shasta-Trinity National Forest, along 4-wheel drive road out Blue Point Ridge, 1 mi. W of junction with FS Rd. 29N55	Trinity	Dubakella Mtn.	HSC68892 (CCH, Oct 2018)	20-Jun-1980			Shasta-Trinity NF	5101.706037
22	Steep serpentine road cut above Hwy. 36, about 1 mile west of Muldoon Gulch Road	Trinity	Wildwood	CAS-BOT-BC181140 (CCH, Oct 2018)	29-Jun-1974			Shasta-Trinity NF	4297.900262
22	Shasta-Trinity National Forest, along Hwy. 36 on ridge between Salt Creek and Muldoon Gulch, 2.5 mi. W of junction with FS Rd. 30	Trinity	Wildwood	HSC68857 (CCH, Oct 2018)	22-Jun-1980			Shasta-Trinity NF	4301.181102

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
22	Steep slope above Hwy. 36 about 20 ft. above rd., 1 mi. W of Muldoon Gulch Rd.	Trinity	Wildwood	HSC33522 (CCH, Oct 2018)	29-Jun-1974			Shasta-Trinity NF	4301.181102
23	Wildwood-Forest Glenn.	Trinity	Wildwood	UCD98235 (CCH, Oct 2018)	9-Jun-1998			unknown	4429.133858
24	approx. 2 mi w Wildwood (off Hwy 36); Shasta-Trinity N.F., Murdoon Gulch	Trinity	Wildwood	JEPS77454 (CCH, Oct 2018)	25-Jul-1978			Shasta-Trinity NF	
25	Shasta-Trinity National Forest. Along Sallt Creek Road at jct with road 30N24	Trinity	Wildwood	UCR52403 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	3100.393701
25	Along Salt Creek Road at junction with road 30N24, Shasta-Trinity National Forest, Six Rivers National Forest	Trinity	Wildwood	CAS-BOT-BC181148 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	3097.112861
25	Along Salt Creek Road at junctino with road 30N24, Shasta-Trinity National Forest	Trinity	Wildwood	CAS-BOT-BC181152 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	3097.112861
25	Shasta-Trinity National Forest. Along Salt Creek Road at junction with road 30N24.	Trinity	Wildwood	CHSC35540 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	3097.112861
25	Shasta-Trinity National Forest, along Salt Creek Rd. at junction with FS Rd. 30N24	Trinity	Wildwood	HSC67286 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	3100.393701
25		Trinity	Wildwood	NRIS, Jul. 2021 (MIRO305140010B)	17-Jun-1980			Shasta-Trinity NF	
25	Above USFS Rd. 30N24 on W Fork of Salt Creek, 200 yds. up from the Salt Creek Rd.	Trinity	Wildwood	HSC33523 (CCH, Oct 2018)	30-Jun-1973			Shasta-Trinity NF	3001.968504
26	Shasta-Trinity National Forest, along old Hwy. 36, 1 mi. W of Hwy. 3 near Peanut	Trinity	Dubakella Mtn.	HSC67280 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	2601.706037
26	Shasta-Trinity Nat l Forest along old State Route 36, ca 1 mile west of State Route 3, near Peanut.	Trinity	Dubakella Mtn.	RSA293089 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF	
27	S. of Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC181144 (CCH, Oct 2018)	18-May-1954			Shasta-Trinity NF	2598.425197

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
28	Along old State Route 36 ca. 1 mile west of with StateRoute 3 near Peanut, Shasta-Trinity National Forest, Six Rivers National Forest	Trinity	Dubakella Mtn.	CAS-BOT-BC181147 (CCH, Oct 2018)	17-Jun-1980			Shasta-Trinity NF, Unknown	2598.425197
28	Along Hwy. 3, 0.4 mi. S of Salt Creek Bridge	Trinity	Dubakella Mtn.	HSC68665 (CCH, Oct 2018)	18-Jun-1980			Shasta-Trinity NF	2500
28	1 mile SW of Peanut	Trinity	Dubakella Mtn.	RSA107049 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	
28	Southwest of Peanut	Trinity	Dubakella Mtn.	RSA108249 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	
28	South of Peanut	Trinity	Dubakella Mtn.	RSA107240 (CCH, Oct 2018)	18-May-1954			Shasta-Trinity NF	
29	Serpentine slopes southwest of Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC181141 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	2500
29	1 mi. sw. of Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC181142 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	2500
29	Southwest of Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC181143 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	2500
29	Southwest of Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC181150 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	2500
29	slopes sw Peanut	Trinity	Dubakella Mtn.	UC1035445 (CCH, Oct 2018)	17-Jul-1955			Shasta-Trinity NF	2500
30	Across from entrance to Philpot Campground, on the Peanut to Forest Glenn Road	Trinity	Dubakella Mtn.	HSC38399 (CCH, Oct 2018)	23-Jun-1975			Shasta-Trinity NF	2900.262467
30	Along Old Hwy. 3 at entrance to Philpot Campground	Trinity	Dubakella Mtn.	HSC70086 (CCH, Oct 2018)	22-Jun-1978			Shasta-Trinity NF	2500
30	Across from entrance to Philpot Campground, on the Peanut to Forest Glenn Road.	Trinity	Dubakella Mtn.	RSA259591 (CCH, Oct 2018)	23-Jun-1975			Shasta-Trinity NF	
30	1 mi. W of Peanut	Trinity	Dubakella Mtn.	HSC4085 (CCH, Oct 2018)	7-Jun-1966			Shasta-Trinity NF	2500

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30	1 mi sw Peanut	Trinity	Dubakella Mtn.	UC1111619 (CCH, Oct 2018)	18-Jul-1955			Shasta-Trinity NF	2500
31	Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC27511 (CCH, Oct 2018)	13-Jun-1955			unknown	2500
31	Peanut	Trinity	Dubakella Mtn.	CAS-BOT-BC27512 (CCH, Oct 2018)	13-Jun-1955			unknown	2500
31	Serpentine slope, Peanut, alt. 2500 feet	Unknown	Dubakella Mtn.	GH37611 (CCH, Oct 2018)	13-Jun-1955			unknown	
31	Peanut	Trinity	Dubakella Mtn.	NY342420 (CCH, Oct 2018)	13-Jun-1955			unknown	2500
31	Peanut; ; Peanut, Trinity Co.	Trinity	Dubakella Mtn.	UC1035443 (CCH, Oct 2018)	13-Jun-1955			unknown	2500
32	Along Road 60 (Underwood Mountain Road) 0.5 miles south of junction with road 4N34 (Eltapom Road) - Six Rivers National Forest	Trinity	Hyampom Mtn.	CAS-BOT-BC181146 (CCH, Oct 2018)	30-May-1980			Shasta-Trinity NF	2696.850394
32	Along Rd. 60 (Underwood Mtn. Rd.) 0.5 mi. S of junction with FS Rd. 4N34 (Eltapom Rd.)	Trinity	Hyampom Mtn.	HSC68735 (CCH, Oct 2018)	30-May-1980			Shasta-Trinity NF	2700.131234
33		Trinity	Dubakella Mtn.	NRIS, Jul. 2021 (0514_MIRO3_52_045)	12-Jun-2014	45 individuals		Shasta-Trinity NF	
34		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140013)	22-Jun-1980			Shasta-Trinity NF	
35		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140033)	9-May-1983			Shasta-Trinity NF	
36		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (0514_MIRO3_51_054)	25-Jul-2017			Shasta-Trinity NF	
37		Trinity	Wildwood	NRIS, Jl. 2021 (MIRO3051400 10A)	5-Jul-1978			Shasta-Trinity NF	

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38		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_051A)	26-Jul-2017	30 individuals		Shasta-Trinity NF	
38		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_051B)	26-Jul-2017	20 individuals		Shasta-Trinity NF	
39		Trinity	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140006)	26-Jul-1978			Shasta-Trinity NF	
40		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_050)	24-Jul-2017	750 individuals		Shasta-Trinity NF	
41		Tehama	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140035)	2-Aug-1988			Shasta-Trinity NF	
42		Shasta	Beegum W	NRIS, Jul. 2021 (MIRO305140034)	11-May-1983			Shasta-Trinity NF	
43		Trinity	Black Rock Mtn.	NRIS, Jul. 2021 (MIRO305140032)	6-Aug-1982			Shasta-Trinity NF	
44		Tehama	North Yolla Bolly W	NRIS, Jul. 2021 (0514_MIRO3_51_049)	16-Aug-2017	40 individuals		Shasta-Trinity NF	
45		Trinity	Dubakella Mtn.	NRIS, Jul 2021 (MIRO305140026)	8-Jun-1982			Shasta-Trinity NF	
46		Trinity	Wildwood	NRIS, Jul. 2021 (0514_MIRO3_52_057)	17-Dec-2018	100 individuals		Shasta-Trinity NF	
47		Tehama	Beegum W	NRIS, Jul. 2021 (MIRO305140038)	1-Jan-1992			Shasta-Trinity NF	
48		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_053)	26-Jul-2017			Shasta-Trinity NF	
49		Tehama	North Yolla Bolly W	NRIS, Jul. 2021 (0514_MIRO3_51_048)	16-Aug-2017	6 individuals		BLM	
50		Tehama	North Yolla Bolly W	NRIS, Jul. 2021 (0514_MIRO3_51_0044)	5-Aug-2002			Shasta-Trinity NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
51		Tehama	North Yolla Bolly W	NRIS, Jul. 2021 (MIRO305140039)	1-Jan-1992			Shasta-Trinity NF, Unknown	
52		Trinity	Beegum W	NRIS, Jul. 2021 (MIRO305140004)	16-Jun-1994			Shasta-Trinity NF	
53		Tehama	Beegum W	NRIS, Jul. 2021 (MIRO305140011)	18-Jul-1979			Shasta-Trinity NF	
54		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (MIRO305140030)	19-May-1982			Shasta-Trinity NF	
55		Tehama	Beegum W	NRIS, Jul. 2021 (0514_MIRO3_51_056)	16-Aug-2017	15 individuals		Shasta-Trinity NF	
56		Trinity	Dubakella Mtn.	NRIS, Jul. 2021 (MIRO305140008)	5-Jul-1978			Shasta-Trinity NF	
57		Trinity	Smoky Creek	NRIS, Jul. 2021 (MIRO305140023)	18-Aug-1988			Shasta-Trinity NF	
58		Shasta	Pony Buck Peak	NRIS, Jul. 2021 (0514_MIRO3_51_055)	25-Jul-2017	5 individuals		Shasta-Trinity NF	

Distribution on National Forest System (NFS) Lands:

(Please see Reference column of Locations table above for references pertaining to Record Numbers indicated on NFS lands.)

National Forest System (NFS) lands	Record #s (from Locations table above)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 yrs.)	Historic (not seen in past 20 yrs.)	Most Recent Obs.	EOs/ Recs. (5 mile buffer)	Total Records on NFS lands
Angeles:	-	-	-	-	-	-	-	0
Cleveland:	-	-	-	-	-	-	-	0
Eldorado:	-	-	-	-	-	-	-	0
Inyo:	-	-	-	-	-	-	-	0
Klamath:	-	-	-	-	-	-	-	0
Lake Tahoe Basin MU:	-	-	-	-	-	-	-	0
Lassen:	-	-	-	-	-	-	-	0
Los Padres:	-	-	-	-	-	-	-	0
Mendocino:	-	-	-	-	-	-	-	0
Modoc:	-	-	-	-	-	-	-	0
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58	-	54	12	42	17-Dec-2018	4	54
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	-	-	-	-	-	-	3	0
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	0	54	12	42	N/A	7	54

Demographic and Population Trends: Total number of occurrences for this taxon were estimated using GIS tools and methods described by Green and Sims (2018). Ten records have been censused, all within the last 10 years. Population numbers at these records range between 5–750 individuals, with an average of 231 individuals per site and a median of 35.5 individuals. Most occurrences (42/58; ~72%) are historic and have not been officially documented in the last twenty years (CCH 2018). There are multiple observations of *Sabulina rosei* that have not yet been added to NRIS or CCH databases for this species, inlcuding a dozen or more occurances south of Highway 36 (Kierstead 2020 editorial comments).

Life History: Perennial herb that blooms from May through July (CNPS 2018). Plants are rhizomatous, mat-forming, and develop trailing stems 5-20(+) cm in length. Flowering stems may be ascending to erect (Hartman and Rabeler 2012). *Sabulina rosei* was treated as a species of *Minuartia*. *Minuartia* in the traditional sense is polyphyletic and defined by plesiomorphic characters (Dillenberger and Kadereit 2014). Plants traditionally assigned to *Minuartia* are visited by bees (*Apis* spp., *Bombus* spp., and members of Halictidae) and flies (members of Bombyliidae, Syrphidae, and *Delia* spp., *Eristalis* spp., *Hilara* spp., *Paregle* spp., *Phaonia* spp., *Pegoplata* spp., *Platycheirus* spp., *Scathophaga* spp., *Spilogona* spp., *Sylvicola* spp., Syrphidae, and *Thricops* spp.) (CPC 2018).

Diversity: Extensive polyphyly of the traditionally defined *Minuartia* was revealed with both nrDNA (ITS) and cpDNA (matK) sequence data. In light of these insights, characters used to define *Minuartia* s.l. are plesiomorphic (three styles and three capsule appendages), warranting an updated generic-level framework for the group (Dillenberger and Kadereit 2014). Originally described as *Minuartia rosei*, this taxon was moved to the genus *Sabulina* as a result of this work (Tropicos 2018). The genus *Sabulina* is a monophyletic subset of roughly 65 of the 175 species of *Minuartia* s.l. A majority of California *Minuartia* s.l. have been transferred to the genus *Sabulina* (Dillenberger and Kadereit 2014). These changes are reflected in Calflora (2018) for five of the roughly twelve California species transferred to *Sabulina*. The *Jepson eFlora* continues to acknowledge traditionally defined *Minuartia* (Hartman and Rabeler 2012).

Habitat: Strong affinity to serpentine and is usually found in lower montane coniferous forests of the southern Klamath Ranges (KR) bioregion (CCH 2018; CNPS 2018; Hartman and Rabeler 2012; Safford et al. 2005). Plants have a preference for open serpentine slopes (often weathered peridotite) with scattered *Pinus jeffreyi* and *Calocedrus decurrens* (Rabeler et al. 2005, Kierstead 2020 editorial comments).

Habitat Status or Trend: Significant changes to the size and spatial characteristics of openings within forests of the Klamath Mountains of California have taken place during the last one-hundred years (Skinner 1995). Species composition of serpentine sites associated with the historic Robert H. Whittaker plots in the Klamath-Siskiyou region has shifted in the direction of plant groups with southern biogeographic affinity (i.e. the semi-arid Madro-Tertiary lineages) between the years 1950 and 2007. Researchers attributed this largely to warming conditions, as plants of southern bio-geographic affinity typically occupy xeric sites on south facing slopes. Sharp declines in herb cover and species richness was measured in both serpentine and non-serpentine plots (Damschen et al. 2010).

Capacity for the Species to Disperse: Unknown. Seeds are small (2.3-2.8 mm) and develop within capsules (dehiscent) (Hartman and Rabeler 2012).

Threats: Occurrences of *Sabulina rosei* were threatened by logging in the past. The Northwest Forest Plan drastically decreased logging on the Shasta-Trinity NF, although forest thinning is still carried out (CNPS 2018, Kierstead 2020 editorial comments). Climate change is a threat to this species. The Rattlesnake Creek Terrane is relatively low elevation and dry. Loss of snowpack, drought, and increased temperature can result in high intensity fires. Fire suppression activity includes dozer lines through this species' habitat. *Sabulina rosei* is probably resistant to low or moderate intensity fire, as its root system tends to spread out among rocks, without a deep layer of duff or continuous vegetation to carry fire. In addition, it can resprout from rhizomes. Invasive plants are generally not an issue in these habitats (Kierstead 2020 editorial comments).

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Formatting: Form is set up as 508 compliant. Please use the "styles" if further formatting is necessary.

Purpose: This is to maintain the best available science on a species that could be used by the Forest Service in a variety of functions. Specifically, there would be additional steps and evaluations to determine whether or not this species would be considered a Species of Conservation Concern under the 2012 Planning Rule or a Sensitive Species under the 1982 Planning Rule.

Additional Considerations at the Forest Level: Habitat amount and juxtaposition of both the species and habitat locations.