Plant Species Evaluation Form

Allium siskiyouense Traub

SISKIYOU ONION

Family: Alliaceae (CNPS 2018) | **PLANTS Symbol:** ALSI2 (USDA 2018) | **Calif. Endemic:** No (CNPS 2018)

Synonyms/Other Names: The binomial *Allium siskiyouense* was coined by H.P. Traub, and published in *A California Flora* (Munz and Keck 1959). However, a Latin description was not provided until F.M. Ownbey's revision in 1972. The name *Allium falcifolium* var. *demissum* Jeps was recognized by the Flora of North America editorial committee in 2002, in reference to the species here described. This synonym is not currently in use, but may be encountered in the literature (McNeal and Jacobsen 2002, Tropicos 2018).

Identification Issues: Identification of *A. siskiyouense* requires access to bulbs and flowering material. Within the artificial group defined by narrow (less than 3 mm in diameter), flattened stems bearing two or more flat leaves per stem, and with non-clustered and un-ornamented bulbs on a short rhizome and bulblets similar in size to bulbs. This species is distinguished by lanceolate to ovate perianth parts, included stamens (i.e. not projecting beyond the corolla), and in having inner bulb coats that are pink to red (McNeal 2012). The "pink, midveins often darker" flower color described of *A. siskiyouensis* in the *Jepson eFlora* (McNeal 2012) potentially needs to be revised. There are a multiple photos posted online by professional botanists of dark purple-flowered plants of *A. siskiyouensis.* Similarly, there are dark purple-flowered plants displayed on the *OregonFlora* (2021) site page for *A. siskiyouensis*. Either the description in the *Jepson eFlora* needs to be revised or the purple flowered plants are another taxon (J. Kierstead pers. comm. 2021).

Taxonomy:

Unless otherwise cited, the following description is used with permission from the Jepson Herbarium. Jepson Flora Project (eds.) 2018. *Jepson eFlora*, http://ucjeps.berkeley.edu/eflora/, accessed in 2018. Copyright © Regents of the University of California.

Species In Genus: 700 species: generally northern temperate, especially California. Etymology: (Latin: garlic).

Note: Replanting bulbs after study essential for survival of pl; shape, arrangement of cells of outer bulb coat (outer bulb coat sculpture) generally important in identification, generally determined only with magnification; color of outer bulb coat may be masked by substrate; stem lengths from top of bulb to base of inflorescence, not from substrate surface.

Habit: Bulb 8--20 mm, ovoid; outer coat sculpture 0 or cells +- square, in 2--3 rows basally; inner coats generally pink to red. Stem: 3--8 cm. Leaf: 2, +- 2 × stem, flat, sickle-shaped. Inflorescence: flowers 10--35; pedicels 5--16 mm. Flower: 8--11 mm; perianth parts ascending to +- erect, widely lanceolate to ovate, obtuse, entire or dentate near tip, pink, midveins often darker; ovary crests 3, minute, 2-lobed, central. eFlora Treatment Author: Dale W. McNeal.

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).

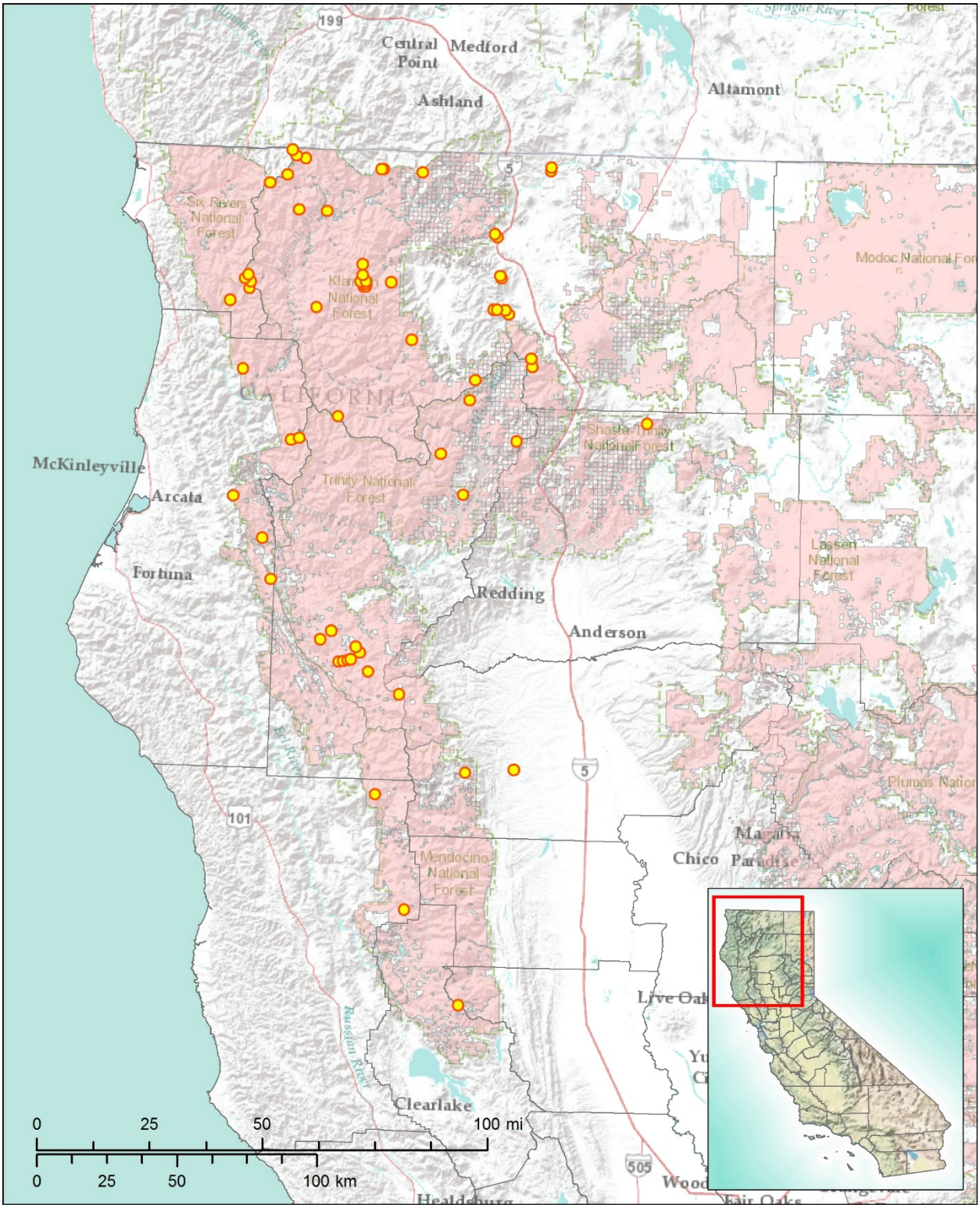
State Listing	G-rank	S-rank	CRPR	R5 FSS	NFP SM	CA BLM
CA: Not listed NV: Not listed OR: Not listed	G4	CA: S4 NV: Not listed OR: Not listed	4.3	Not listed	Not listed	Not listed

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).

Allium siskiyouense was was added to the first edition of the CNPS *Inventory of Rare and Endanged Vascular Plants of California* (Powell 1974).

Distribution: *Allium siskiyouense* occurs in southwestern Oregon and northwestern California, within the Klamath Ranges (KR) and North Coast Ranges (NCoR) bioregions. Within California, it is found in Del Norte, Humboldt, Siskiyou, Tehama, and Trinity counties (CNPS 2018). USDA Forest Service lands on which this species is found in California include Klamath, Shasta-Trinity, and Six Rivers National Forests (Calflora 2017, CCH 2017).



Sources: *Distribution*: Calflora 2017, CCH 2017. *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	Goat Mountain	Lake	Fouts Springs (3912236)	CCH, Jan 2017 (UC1299628)	26-Jun-1956			Mendocino NF	6000
2	Mendocino National Forest, North Coast Ranges, Elk Creek Watershed. ~1 mi. N of Monkey Rock; W of 1N02	Mendocino	Hull Mountain (3912258)	CCH, Jan 2017 (CHSC103499)	30-Jun-1993			Mendocino NF	5500
3	Mendocino National Forest--North Coast Ranges. Upper Middle Fork Eel River Watershed. On knoll & ridge top at headwaters of Pothole Creek, just no. of gate to Carl Jacobson property	Mendocino	Leech Lake Mtn. (3912381)	CCH, Jan 2017 (CHSC91092)	8-Jun-1994			Mendocino NF	6200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
3	Mendocino National Forest--North Coast Ranges. Williams/Thatcher Creek Watershed. Ridge west of headwaters of Fossil Creek. Just N of gate/Carl Jacobson property	Mendocino	Leech Lake Mtn. (3912381)	CCH, Jan 2017 (CHSC91494)	8-Jun-1994			Mendocino NF	6560
4	Raglin Ridge Rd. 9.1 mi sw Colyear Spr. Rd.; Raglin Ridge	Tehama	Raglin Ridge (4012216)	CCH, Jan 2017 (UC1520701)	31-May-1987				
5	Mendocino National Forest ; S Yolla Bolly Mtn Middle Eel-Yolla Bolla Primitive Area	Tehama	Lowrey (4012215)	CCH, Jan 2017 (SEINET198084)	17-Jul-1952				
6	along road 1.1 mi n White Rock Guard Station; Trinity-Tehama county line	Tehama	Platina (4012238)	CCH, Jan 2017 (UC1299632)	3-Jul-1950			Shasta-Trinity NF	
7	Shasta-Trinity National Forest, along Panther Camp Trail 200 yds. N of junction with rd. 29N73	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (HSC74478)	22-Jun-1980			Shasta-Trinity NF	5400
8	Along FS 29N58, Rattlesnake Ridge, at junction with FS 29N67	Trinity	Forest Glen (4012333)	CCH, Jan 2017 (HSC75243)	7-May-1980			Shasta-Trinity NF	4400

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
9	Along USFS Rd. 29N62, 1.3 mi. SW of jct. with USFS Rd. 29N58.	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (HSC81789)	19-Jun-1980			Shasta-Trinity NF	4301
9	Shasta-Trinity National Forest, Rattlesnake Ridge along Forest Servcie Rd. 29N62, 1.3 mi. W of junction with FS Rd. 29N58	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (HSC75235)	19-Jun-1980			Shasta-Trinity NF	4003
10	Shasta-Trinity National Forest along rd. 29N58, Rattlesnake Ridge at junction with rd. 30N29.	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (HSC75241)	7-May-1980			Shasta-Trinity NF	4400
11	At end of Forest Rd. 29N81A, west of the Bramlet Road (Forest Road 30N29) south of Highway 36W; 13 miles south of Hayfork	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (JEPS120198)	21-Jun-2011			Shasta-Trinity NF	4528
11	Shasta-Trinity National Forest, along FS Rd. 29N59, 0.5 mi. E of junction with FS Rd. 30N29, Rattlesnake Ridge	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (HSC75240)	19-Jun-1980			Shasta-Trinity NF	4701
12	Shasta-Trinity National Forest, at end of FS Rd. 30N28A	Trinity	Dubakella Mtn. (4012342)	CCH, Jan 2017 (HSC75238)	20-Jun-1980			Shasta-Trinity NF	4800

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13		Trinity	Dubakella Mtn. (4012342)	Calflora, May 2017 (po17042)	16-May-2016	101 - 1000 individuals		Shasta-Trinity NF	
14	Shasta-Trinity National Forest, along FS Rd. 1N05 at the copper mine along Copper Mine Hill	Trinity	Naufus Creek (4012343)	CCH, Jan 2017 (HSC75237)	8-May-1980			Shasta-Trinity NF	4800
15	Shasta-Trinity National Forest, along FS Rd. 1N10, 1 mi. from junction with FS Rd. 2N07	Trinity	Naufus Creek (4012343)	CCH, Jan 2017 (HSC75239)	18-Jun-1980			Shasta-Trinity NF	4501
15	Shasta-Trinity National Forest, along rd. 1N10 1 mi. from junction with rd. 2N07 (7)	Trinity	Naufus Creek (4012343)	CCH, Jan 2017 (HSC75242)	8-May-1980			Shasta-Trinity NF	4501
16	along summit near Blake lookout; Northern Coast Ranges, South Fork Mountain	Humboldt	Blake Mountain (4012355)	CCH, Jan 2017 (JEPS47611)	16-Jul-1933			Shasta-Trinity NF	5600
16	along summit near Blake Lookout; Northern Coast Ranges, South Fork Mountain	Humboldt	Blake Mountain (4012355)	CCH, Jan 2017 (UC666938)	16-Jul-1933			Shasta-Trinity NF	5600

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17	Sims Mountain	Humboldt	Sims Mountain (4012365)	CCH, Jan 2017 (HSC79055)	17-May-1984			Six Rivers NF	4199
18	Horse Mountain Summit SW of Willow Creek.	Humboldt	Grouse Mtn. (4012376)	CCH, Jan 2017 (OBI35866)	2-Jul-1983			Six Rivers NF	
18	Horse Mountain Summit SW of Willow Creek	Humboldt	Grouse Mtn. (4012376)	CCH, Jan 2017 (UCR32184)	2-Jul-1983			Six Rivers NF	4951
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225

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19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225

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19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225
19	Trinity River watershed above Clare Engle Res	Trinity	Covington Mill (4012287)	Calflora, May 2017 (ce488)	1-Jan-2002	1+ individuals		Shasta-Trinity NF	3225

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
20	Trinity County: Trinity Alps; 0.5 mile southeast of Parker Divide on Parker Creek Trail	Trinity	Ycatapom Peak (4112217)	CCH, Jan 2017 (UCD138602)	8-Jul-1976			Shasta-Trinity NF	6850
21	Trinity summit, Corral Prairie	Humboldt	Trinity Mtn. (4112314)	CCH, Jan 2017 (GH357270)	12-Jul-1932			Six Rivers NF	
22	Head of Brett Hole Trinity Summit, Brett Hole	Humboldt	Trinity Mtn. (4112314)	CCH, Jan 2017 (UC666937)	12-Jul-1932			Six Rivers NF	6000
22	Head of Brett Hole Trinity Summit, Brett Hole	Humboldt	Trinity Mtn. (4112314)	CCH, Jan 2017 (JEPS47610)	12-Jun-1932			Six Rivers NF	6000
23	saddle at southerly base of Gozem Peak, Trinity Mountains (0.5 mi West of Pond Lily Lake)	Trinity	Whisky Bill Peak (4112215)	Calflora, May 2017 (gr15650)	28-Jun-2002	1+ individuals		Shasta-Trinity NF	6152
23	saddle at southerly base of Gozem Peak, Trinity Mountains (0.5 mi West of Pond Lily Lake)	Trinity	Whisky Bill Peak (4112215)	Calflora, May 2017 (gr15650)	28-Jun-2002	1+ individuals		Shasta-Trinity NF	6152
23	saddle at southerly base of Gozem Peak, Trinity Mountains (0.5 mi West of Pond Lily Lake)	Trinity	Whisky Bill Peak (4112215)	CCH, Jan 2017 (JEPS109595)	28-Jun-2002			Shasta-Trinity NF	5800

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24	On trail 12W02 from Mary Blaine Mountain to Young's Peak	Trinity	Youngs Peak (4112323)	CCH, Jan 2017 (HSC86344)	5-May-1985			Klamath NF	5600
25	Grizzly Peak and western ridge, ca. 5 mi due e of Lake McCloud	Siskiyou	Grizzly Peak (4112128)	CCH, Jan 2017 (CHSC31011)	25-Jun-1980				6200
26	Trinity County: Trinity Alps; Tangle Blue Lake	Trinity	Tangle Blue Lake (4112226)	CCH, Jan 2017 (UCD138601)	30-Jul-1975			Shasta-Trinity NF	6300
27	Klamath Ranges. Scott Mountains; opening on spur ridge 1.9 km west-southwest of Scott Mountain Summit	Siskiyou	Scott Mountain (4112236)	CCH, Jan 2017 (CHSC96090)	4-Jul-2006			Klamath NF	6030
27	Scott Mountains; Opening on spur ridge 1.9 km west-southwest of Scott Mountain Summit.	Siskiyou	Scott Mountain (4112236)	CCH, Jan 2017 (RSA724921)	4-Jul-2006			Klamath NF	6030
28	Near Cedar Camp	Humboldt	Fish Lake (4112336)	CCH, Jan 2017 (HSC76440)	24-Jun-1981			Six Rivers NF	3999
29	near summit of road to Mt. Eddy or Dead Fall Meadow (Park Creek Road of forest road 42N17)	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (JEPS82242)	14-Aug-1983			Shasta-Trinity NF	7000

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30	Siskiyou County: ca. 5 miles south and 5 miles west of Weed	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (UCD138603)	14-Jul-1963			Shasta-Trinity NF	7000
30	Siskiyou County: ca. 5 miles south and 5 miles west of Weed	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (UCD143202)	14-Jul-1963			Shasta-Trinity NF	7000
30	Siskiyou County: ca. 5 miles south and 5 miles west of Weed	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (UCD143200)	14-Jul-1963			Shasta-Trinity NF	7000
31	Etna Summit between Etna and Sawyers Bar. The Salmon Mountains. High Lake Basins in the vicinity of English Peak. Marble Mountain Wilderness Area.	Siskiyou	Etna (4112248)	CCH, Jan 2017 (RSA237370)	24-Jun-1967			Klamath NF	
32	Lime Gulch; bordering Shasta Valley (about 15 miles south of Yreka)	Siskiyou	China Mtn. (4112245)	CCH, Jan 2017 (JEPS96551)	19-Jun-1996				
33	flat above Marble Valley; Marble Mt. Wilderness Area, Marble Gap trail	Siskiyou	Somes Bar (4112344)	CCH, Jan 2017 (JEPS82459)	14-Jul-1966			Klamath NF	6000
34	Lime Gulch; bordering Shasta Valley (about 15 miles south of Yreka)	Siskiyou	China Mtn. (4112245)	Calflora, May 2017 (gr13611)	19-Jun-1996	1+ individuals			4190

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35	Moffett Creek, Scott River drainage, head Sissel Gulch	Siskiyou	Duzel Rock (4112256)	Calflora, May 2017 (gr13612)	11-Jun-1997	1+ individuals			5141
36	Moffett Creek, Scott River drainage, head Sissel Gulch	Siskiyou	Duzel Rock (4112256)	CCH, Jan 2017 (JEPS96555)	11-Jun-1997				5500
37	Below Doctor Rock	Del Norte	Summit Valley (4112357)	CCH, Jan 2017 (HSC43760)	11-Sep-1974			Six Rivers NF	
38	Near Forks of Blue Horiz. Control S.	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC73196)	19-Jun-1980			Six Rivers NF	4678
39	Marble Mountain	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (DS53551)	30-Jun-1901			Klamath NF	8000
39	Marble Mountain North Coast Ranges, Marble Mountain	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (UC15003)	30-Jun-1901			Klamath NF	8000
40	Flat above Marble Valley, Marble Gap Trail, Marble Mts.	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (CAS476499)	14-Jul-1966			Klamath NF	6000
41	Ridge along F.S. rd. 15N01 about 1 mi. N of Flint Valley	Siskiyou	Chimney Rock (4112356)	CCH, Jan 2017 (HSC69699)	26-Jun-1980			Six Rivers NF	4902
42	Flat above Marble Valley, Marble Gap Trail, Marble Mountains.	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (RSA184802)	14-Jul-1966			Klamath NF	6001

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42	Siskiyou County: Marble Mountain Wilderness Area	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (UCD138604)	9-Jul-1963			Klamath NF	6400
42	Siskiyou County: 2nd camp Marble Mountain Wilderness Area	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (UCD143201)	9-Jul-1963			Klamath NF	
42	Siskiyou County: 2nd camp Marble Mountain Wilderness Area	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (UCD141785)	9-Jul-1963			Klamath NF	
43	Near Chimney Rock	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC65877)	18-Jun-1980			Six Rivers NF	5000
44	Marble Mtn. Wilderness along trail to Elk Valley	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (HSC44700)	16-Jun-1978			Klamath NF	6302
45	Marble Mountains - Jct. Paradise Lk Tr & PCT	Siskiyou	Boulder Peak (4112351)	Calflora, May 2017 (jgr6580)	10-Jul-2004	1+ individuals		Klamath NF	8241
46	Between King's Castle and Black Mountains, west side of ridge.	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (POM258066)	9-Jul-1939			Klamath NF	6001
47	Between Elk Valley and Chimney Rock	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC43762)	1-Jul-1976			Six Rivers NF	

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48	Dismal Swamp N end of Warner Mtns	Modoc	Leonards Hot Springs (4112051)	CCH, Jan 2017 (SEINET198607)	26-Jun-1946				
49	Between King's Castle and Black Mts., west side of ridge	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (DS291372)	9-Jul-1939			Klamath NF	6000
49	between King's Castle and Black Mts. (w side of ridge)	Siskiyou	Marble Mountain (4112352)	CCH, Jan 2017 (UC722291)	9-Jul-1939			Klamath NF	6000
50	Antelope Mountain (about 8 air miles south of Yreka)	Siskiyou	Gazelle (4112255)	CCH, Jan 2017 (JEPS104939)	28-Jun-1996				5900
51	Antelope Mountain (about 8 air miles south of Yreka)	Siskiyou	Gazelle (4112255)	Calflora, May 2017 (gr13621)	28-Jun-1996	1+ individuals			5823
51	Antelope Mountain (about 8 air miles south of Yreka)	Siskiyou	Gazelle (4112255)	Calflora, May 2017 (gr13621)	28-Jun-1996	1+ individuals			5823
51	Antelope Mountain (about 8 air miles south of Yreka)	Siskiyou	Gazelle (4112255)	Calflora, May 2017 (gr13621)	28-Jun-1996	1+ individuals			5823
52	Packers Valley above Hammonds Camp; Marble Mountains, Packers Valley	Siskiyou	Grider Valley (4112362)	CCH, Jan 2017 (UC1299631)	12-Jul-1951			Klamath NF	6800
53	Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (CAS107182)	20-Apr-1914				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
53	Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (GH357269)	20-Apr-1914				
53	Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (POM109968)	10-Apr-1910			Minor Street Park	
53	hill near Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (UC164281)	10-Apr-1910			Minor Street Park	
53	Yreka hills Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (JEPS47605)	3-May-1909				
53	Yreka hills	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (POM109964)	3-May-1909				
53	hill near Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (UC375196)	3-May-1909			Minor Street Park	
54	Hills near Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (DS53265)	10-Apr-1910				
54	Hill near Yreka	Siskiyou	Yreka (4112266)	CCH, Jan 2017 (DS76706)	3-May-1909				
55	Crest of Siskiyou on road from Happy Camp to Cave Jct. (Ore)	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (RSA131708)	22-Jun-1958				5102
56	Baldy Mountain about 6 air-line miles west of Happy Camp, Siskiyou Mts.	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (CAS392271)	2-Jul-1952			Klamath NF	5700

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
56	e slope at Baldy Lookout Baldy Lookout	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (UC1299629)	13-Jul-1950			Klamath NF	
56	higher peak of Baldy Mountain Baldy Mountain	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (UC1299636)	13-Jul-1950			Klamath NF	5700
57	Siskiyou Mts., summit	unknown	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (GH357277)	01-Jan-1885			Klamath NF	
57	Siskiyou Mountains	Siskiyou	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (DS81800)	1884-06-17			Klamath NF	
58	Trail South West from Pokerflat Siskiyou wilderness area	Siskiyou	Polar Bear Mtn. (4112385)	Calflora, May 2017 (gr13553)	7-Jul-2005	1+ individuals		Klamath NF	5344
59	Alex Hole	Siskiyou	Condrey Mtn. (4112288)	CCH, Jan 2017 (JEPS81882)	7-Jul-1982			Rogue River NF	6400
60	Ridge 0.5 mi. E of Cook and Green Pass	Siskiyou	Kangaroo Mtn. (4112382)	CCH, Jan 2017 (HSC68531)	24-Jun-1980			Klamath NF	5102
61	Cook and Green Pass	Siskiyou	Kangaroo Mtn. (4112382)	Calflora, May 2017 (jgr21134)	4-Jul-1993	1+ individuals		Rogue River NF	4823

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
62	base of Sentinel Rocks, Iron Gate Reservoir (about 20 miles east of Yreka); Klamath National Forest	Siskiyou	Iron Gate Reservoir (4112284)	CCH, Jan 2017 (JEPS105055)	30-May-1996				3400
63	base of Sentinel Rocks, Iron Gate Reservoir (about 20 miles east of Yreka); Klamath National Forest	Siskiyou	Iron Gate Reservoir (4112284)	Calflora, May 2017 (xr169045)	30-May-1996	1+ individuals		BLM	2697
64	7.5 mi n West Branch Camp; North Coast Ranges, Waldo-Happy Camp Road	Siskiyou	Deadman Point (4112384)	CCH, Jan 2017 (UC1299750)	8-Jul-1948			Klamath NF	4600
65	3 mi s Oregon-California Line (within 200 yards of the stopping place, summit of the Siskiyous at the crossing of the Takilma-Happy Camp Road); Siskiyous	Siskiyou	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (UC1222815)	16-Jun-1951			Klamath NF	
66	Waldo-Happy Camp Road	Del Norte	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (RSA181945)	15-Jul-1950			Siskiyou NF	5400
66	Summit, Waldo-Happy Camp Road North Coast Ranges, Waldo-Happy Camp Road	Del Norte	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (UC1299630)	15-Jul-1950			Siskiyou NF	5400

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:	24, 27, 31, 33, 39, 40, 42, 44, 45, 46, 49, 52, 56, 57, 58, 60, 64, 65	0	18	3	17	4-Jul-06	12	18
Lake Tahoe Basin MU:	-	-	-	-	-	-	-	0
Lassen:	-	-	-	-	-	-	-	0
Los Padres:	-	-	-	-	-	-	-	0
Mendocino:	1, 2, 3	0	3	0	3	8-Jun-94	1	3
Modoc:	-	-	-	-	-	-	-	0
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20, 23, 26, 29, 30	0	17	4	13	16-May-16	5	17
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	17, 18, 21, 22, 28, 37, 38, 41, 43, 47	0	10	0	10	17-May-84	0	10
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	0	48	7	43	N/A	18	48

Demographic and Population Trends: There are approximately 66 occurrences of *A. siskiyouense*, derived from a total of 118 records. Only one occurrence contains information on population size, with an estimate of 100-1,000 individuals (Record #13) (Calflora 2017, CCH 2017). The typical abundance and areal extent of *A. siskiyouense* aggregations are unknown, and year-to-year trends in these parameters have not been investigated.

Life History: *Allium siskiyouense* is a perennial bulbiferous herb, which blooms as early as April, but usually between May and July (CNPS 2018). The flowers conform to a generalist pollination syndrome, and are borne in conspicuous umbels. A wide array of insects visit *Allium* flowers, with representatives from the orders Coleoptera, Diptera, Hymenoptera, and Lepidoptera. Among the Coleoptera, only Chrysomelidae have been observed, while a long list of Dipteran families are known visitors, including Anthomyiidae, Bombilidae, Calliphoridae, Ephydridae, Muscidae, and Syrphidae. *Allium*-associated Hymenoptera including Apidae (mostly *Bombus*), Colletidae, Halictidae, Megachilidae, and Tenthredinidae. The Lepidoptera include taxa from the families Hesperiidae, Lycaenidae, and Nymphalidae (CPC 2018). The taxa responsible for pollination of *A. siskiyouense* are unknown, but likely include representatives from some or all of these groups. Self-compatibility is known in *Allium*, but appears to be uncommon. In addition to seed production, members of this genus can reproduce via bulbils and underground offsets, providing a versatile toolkit by which to balance longer-distance dispersal against within-site persistence (Ronsheim 1996). How these abilities manifest in *A. siskiyouense* is unknown.

Diversity: The genus *Allium* makes up a sizeable fraction of the species diversity in the monocot family Alliaceae, with between 700 and 750 species distributed across the northern hemisphere. They are a diverse group of perennial herbs, characterized by rhizomatous or bulbous stems, narrow basal leaves, and flowers with six free tepals arranged in scapose umbels. Most taxa produce mucilaginous latex, and have a distinctive smell owing to the presence of cysteine sulfoxides. There are about 100 species in North America, with 50 species and 20 varieties native to California. The genus is best represented in dry regions, with centers of diversity in southwest/central Asia, eastern Asia, and North America. Within North America there are two centers of diversity: one in Texas, the other in the California Floristic Province (Nguyen et al. 2008).

The taxonomy of *Allium* is somewhat complicated, but the more recent treatments seem to accord well with the results of molecular phylogenetic studies. All North American taxa group within the monophyletic subgenus *Amerallium*, which also includes some Old World species. The North American members form a well-supported clade, composed of the sections Lophioprason, Rhopetoprason, and Caulorhizideum. The phylogeny suggests a single North American colonization event, followed by two biogeographically discrete diversification events; one in the central plains region of the continent that later spread to the east, and another to the west of the Rocky Mountains, centered on the California Floristic Province. *Allium siskiyouensis* falls within section Lophioprason, which represents the latter diversification event and includes a number of California endemic taxa. Edaphic specialization seems to have played an important role in the evolution of this group, with at least six independent origins of serpentine tolerance,

possibly enforcing allopatry and generating new species. Adaptation to this soil type is ongoing, as evidenced by species capable of surviving on both serpentine and non-serpentine substrates, and by the existence of serpentine adapted varieties in otherwise non-serpentine adapted species (Nguyen et al. 2008).

Habitat: *Allium siskiyouense* occurs in lower- and upper montane coniferous forest at elevations between 855 and 2,500 meters. It favors rocky sites, and is occasionally found on serpentine (CNPS 2018).

Habitat Status or Trend: The Klamath Ranges and adjoining North Coast Ranges bioregions have played host to a remarkable diversification in plant species, as a consequence of complex geology and a long history of isolation (Whittaker 1960). This area is one of six globally important temperate forest biodiversity hotspots, having served as a climatic refugium during the Pleistocene. More than a century of land use (including logging, mining, grazing, and modification of fire regimes) has significantly altered much of the region. Only 28% of the old-growth forest remains, and ongoing human impacts continue to degrade wild communities, especially in mesic lowland and mid-elevation areas, partly encompassing the elevation range of *A. siskiyouense*. The scale and speed of anthropogenic climate change might exceed the capacity of the Klamath region to provide refugia for taxa of low mobility and narrow ecological requirements, though careful management may partially mitigate this risk (Olson et al. 2012).

Capacity for the Species to Disperse: Other species in this genus are known to reproduce via three distinct mechanisms: aerial seed production (sexual), aerial bulbils (asexual), and underground offsets (asexual). At least some *Allium* species are self-compatible, but seem biased in favor of outcrossing. In addition to requiring pollination for their production, *Allium* seeds often need a long period of cold, moist stratification in order to germinate. Together with their low mass (about 1 mg in the case of *A. vineale*), this delay enhances the likelihood of dispersal across the landscape, probably via abiotic means. Asexually produced bulbils emerge from the inflorescence, and each is about twenty times as massive as a seed. Germination is almost immediate, and usually occurs very close to the maternal plant. Underground offsets are analogous to the cloves of cultivated garlic, and are significantly larger than bulbils. They can remain dormant for up to five years, and allow the plant to persist through periods when conditions are unfavorable (Ronsheim 1996). The relative investment in each of these three reproductive modes allows *Allium* to balance in situ persistence and longer-distance dispersal. It is not known whether *A. siskiyouense* employs all three modes, nor in what proportion.

Threats: Threats to the persistence of *A. siskiyouense* in its native range are not well understood. Califrornia Rare Plant Ranked plants of similar habit and ecology in this part of California are frequently threatened by disturbance associated with logging and mining activity, as well as by vehicle traffic where that is prone (CNDDB 2017, NRIS 2017).

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Julie Ann Kierstead, Forest Service Region 5 Ecosystem Planning, September 24, 2021.

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.