Plant Species Evaluation Form

Eriogonum ternatum Howell

TERNATE BUCKWHEAT

Family: Polygonaceae (CNPS 2018) | **PLANTS Symbol:** ERTE10 (USDA 2018) | **Calif. Endemic:** No (CNPS 2018)

Synonyms/Other Names: *Eriogonum umbellatum* Torr. var. *ternatum* (Howell) S. Stokes; *E. ursinum* S. Watson var. *confine* S. Stokes (Reveal 2011).

Identification Issues: *Eriogonum* is a large genus with roughly 250 species (Reveal and Rosatti 2018). *Eriogonum ternatum* is a perennial member of the subgenus *Oligogonum* (incl. *Eriogonum lobbii, E. umbellatum*, and *Eriogonum ursinum*). *Eriogonum* taxa are considered among the hardest to distinguish and identify in North America (Reveal 2017). Descriptions within *Flora of North America North of Mexico* distinguish caudex stems and aerial stems from flowering stems (Reveal 2005). Caudex stems and aerial stems refer to vegetative stems giving rise to leaves. Stem types are not distinguished within descriptions published in the second edition of *The Jepson Manual* and *The Jepson eFlora* (Baldwin et al. 2012; Jepson Flora Project 2018). Reveal notes that extreme phenotypes should not be focused upon, and that one should sample the range of variation. He also states that field observations on floral color, stature, pubescence, and overall size are helpful. Phenotypic plasticity is known among some members of *Eriogonum*. A rare taxon, *E. densum*, from New Mexico was found to be an extreme form of the more common *E. polycladon*. Likewise, inflorescences of certain *Eriogonum* species that are prostrate in the wild can appear more erect when grown in cultivation (Anderson 2006).

Eriogonum ternatum has been mistaken for *E. umbellatum*, and, at one time, was treated as a variety of *E. umbellatum*. Notably, *E. umbellatum* var. *humistratum* has the greatest potential for confusion with *E. ternatum* (Reveal 2005). Respective distributions of these taxa overlap in northern Trinity and southern Siskiyou counties (Calflora 2018; CCH 2018). *Eriogonum ternatum* has erect involucral teeth 0.8-2 mm in length, whereas the involucral teeth of *E. umbellatum* are reflexed and 1.5-3 mm long on *E. umbellatum* var. *humistratum* (Reveal 2005).

Taxonomy:

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Species In Genus: +- 250 species: temperate North America. Etymology: (Greek: woolly knees, for hairy nodes of 1st sp. named).

Genus Description – Habit: Annual to shrub, matted or not. Stem: prostrate to erect, occasionally 0, glabrous or hairy, occasionally glandular. Leaf: basal, sheathing (on stem above basal, beneath other, +- non-sheathing cauline), or cauline, alternate, opposite, or whorled; blades linear to +- round, generally longer than wide, margins flat, wavy, or rolled under; ocreae 0. Inflorescence: variable, glabrous or hairy, occasionally glandular; peduncles 0 or erect to reflexed (pointed down); involucres 1 or in clusters, tubular, glabrous or hairy, teeth generally 4--10, awns 0.

Flower: (2)6--100(200), with a stalk-like base ("flower stipe" or "stipe") or not; perianth generally white to red or yellow, glabrous or hairy, occasionally glandular, lobes 6, generally entire; stamens 9. Fruit: generally brown or black, generally obconic, glabrous or hairy; embryo curved or straight.

Species Description – Habit: Perennial mat 3--13 dm diam. Stem: 1--2.5(3) dm, tomentose. Leaf: basal; blades (0.7)1--1.5 cm, (0.4)0.8--1.3 cm wide, tomentose abaxially, tomentose to +- glabrous adaxially. Inflorescence: 0.8--3 cm, 1--3.5 cm wide; branches tomentose; involucres 5--8 mm, 3--5 mm wide, tomentose; teeth 5--8. Flower: 3--5 mm, stipe 0.3--0.6 mm, glabrous; perianth yellow, lobes spoon-shaped to obovate. Fruit: 3.5--5 mm, glabrous except sparsely hairy tip. eFlora Treatment Author: James L. Reveal & Thomas J. Rosatti.

Status:

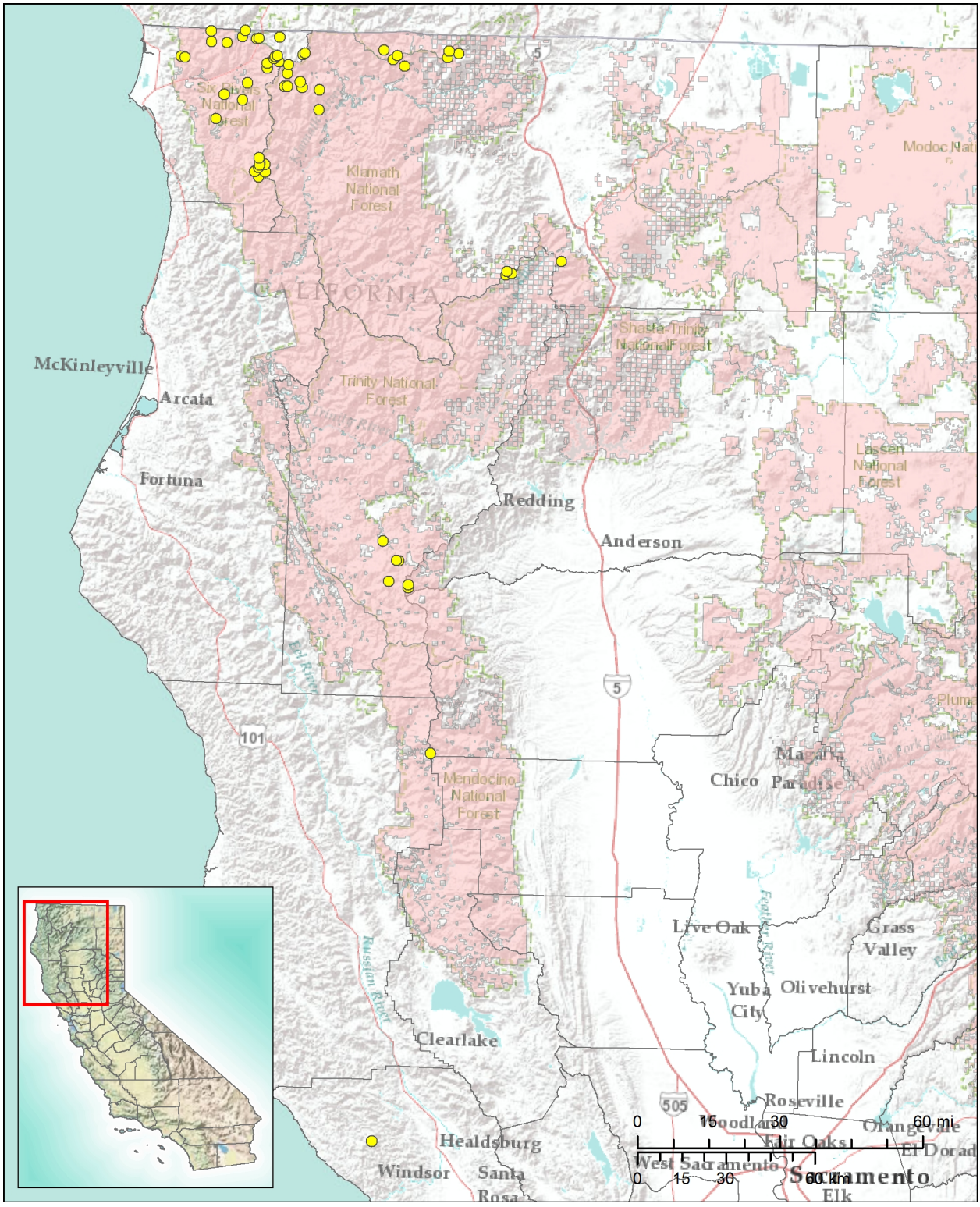
Note: Federally recognized Endangered, Threatened, Proposed, or Candidate species under the Endangered Species Act are omitted as they do not meet the definition of a Species of Conservation Concern (FSH 1909.12 § 12.52).

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).

Distribution: Western North America, with plants restricted to southwest Oregon (Curry and Josephine counties) and northwest California (Reveal 2005). California occurrences are found in the northern Klamath Range (n KR), southern Outer North Coast Ranges (s NCoRO), and northern High North Coast Ranges (n NCoRH) bioregions (Reveal and Rosatti 2018). These occurrences are found in Sonoma, Mendocino, Shasta, Trinity, Siskiyou, and Del Norte counties. A majority (46/56; ~82%) of its occurrences are found on National Forest System lands, within Six Rivers NF (23/46; 50%), Klamath NF (14/46; ~30%), Shasta-Trinity NF (8/46; ~17%), and Mendocino NF (1/46; ~2%) (CCH 2017). There are unexplained disjunctions between population clusters, and not all apparently suitable habitat is occupied. This may be partly due to undercollection or misidentification of specimens, because of difficulty in distinguishing similar Eriogonums from each other.



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	Sonoma County: The Cedars, N of Cazadero, headwaters of East Austin Creek. Area called Red Slide	Sonoma	Cazadero (3812351)	CCH, Jan 2017 (UCD101272)	23-Jun-1984			BLM	1800
1	The Cedars	Sonoma	Fort Ross (3812352)	Calflora, May 2017 (jgr9760)	25-Jun-1995	1+ individuals		The Cedars Area of Critical Environmental Concern	1457
1	The Cedars, N of Cazadero, headwaters of Big Austin Creek, near Laton Mine site.	Sonoma	Fort Ross (3812352)	CCH, Jan 2017 (UC1520694)	10-Aug-1985			The Cedars Area of Critical Environmental Concern	1220
1	Sonoma County: The Cedars, 5 miles N of Cazadero on King Ridge Road, headwaters of Big Austin Creek. Above tributary creek referred to locally as Azalea Creek (NE fork before Layton Mine bldgs.)	Sonoma	Fort Ross (3812352)	CCH, Jan 2017 (UCD101270)	23-Jun-1984			The Cedars Area of Critical Environmental Concern	1800

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
2	Round Valley Rd. (M4) 0.1 mi n of Board Ridge Rd. (23N02)	Mendocino	Mendocino Pass (3912278)	CCH, Jan 2017 (CHSC69686)	15-Jul-1986			Mendocino NF	5400
3	0.2 mi e along s side of rd. 29N68, w of Regan Mdw. jct with 29N15; Brushy Mtn.	Shasta	Pony Buck Peak (4012331)	CCH, Jan 2017 (UC1553599)	8-Jul-1988			Shasta-Trinity NF	4900
4	Near an un-named spring along Road 29N39, 3.1 km west of Road 28N10; about 6.8 km north-northwest of Pony Buck Peak; head of North Fork Beegum Creek.	Shasta	Pony Buck Peak (4012331)	CCH, Jan 2017 (CDA22673)	8-Jul-2001			Shasta-Trinity NF	4396
4	Klamath Ranges. 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 (4012331)	CCH, Jan 2017 (CHSC82694)	8-Jul-2001			Shasta-Trinity NF	4396
5	Klamath Ranges. On ridgetop 1.8 km north of Red Mountain	Trinity	Smoky Creek (4012332)	CCH, Jan 2017 (CHSC82593)	8-Jul-2001			Shasta-Trinity NF	5413
6	Hwy. 36 4.8 mi west of Wildwood Rd., 7.3 mi east of Hwy. 3	Trinity	Wildwood (4012341)	CCH, Jan 2017 (CHSC71547)	28-Jul-1998			Shasta-Trinity NF	4100
7	Along State Route 36 just west of Muldoon Gulch	Trinity	Wildwood (4012341)	CCH, Jan 2017 (UCR45378)	27-Jul-1979			Shasta-Trinity NF	4101

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
8	Along State Route 3 0.3-0.5 miles south of Salt Creek Bridge, Shasta-Trinity National Forest	Trinity	Dubakella Mtn. (4012342)	CCH, Jan 2017 (CAS701657)	19-Jun-1980			Shasta-Trinity NF	2500
8	Along State Route 3 0.3-0.5 miles south of Salt Creek Bridge, Shasta-Trinity National Forest	Trinity	Dubakella Mtn. (4012342)	CCH, Jan 2017 (CAS984836)	19-Jun-1980			Shasta-Trinity NF	2500
8	Shasta-Trinity National Forest; Along Route 3, 0.3-0.5 miles south of Salt Creek Bridge	Trinity	Dubakella Mtn. (4012342)	CCH, Jan 2017 (HSC68828)	19-Jun-1980			Shasta-Trinity NF	2500
9	Blue Point, Scott Mountain Public Campground, Klamath National Forest	Siskiyou	Scott Mountain (4112236)	CCH, Jan 2017 (GH364495)	1-Sep-1953			Shasta-Trinity NF	
10	Near Chinquapin in rocks, dry steep rocky hillside on Scott Mountain	Siskiyou	Scott Mountain (4112236)	CCH, Jan 2017 (GH364498)	19-Aug-1948				
11	Scott Mountain S of junction of Forest service Rd. 40N08 and 44N44 ca 1/2 mi E of junction of State Route 3 and Forest Service Rd. 40N08E side of North-South running ridge.	Siskiyou	Scott Mountain (4112236)	CCH, Jan 2017 (JEPS108711)	4-Aug-2006			Klamath NF	5480
12	Mt. Eddy, west of Sisson, on open southeastern gravelly and stony slope	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (A364496)	16-Jul-1918			Shasta-Trinity NF	

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12	Mt. Eddy, west of Sisson, on open southeastern gravelly and stony slope	Siskiyou	Mount Eddy (4112234)	CCH, Jan 2017 (GH364497)	16-Jul-1918			Shasta-Trinity NF	
13	Forks of Blue Trail, 1-2 mi. from Jeep rd. near Flint Valley	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC43541)	10-Jul-1974			Six Rivers NF	
14	Eight Mile Creek study unit, rd. to Elk Valley	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC43540)	31-Dec-1974			Six Rivers NF	
15	Ridge near FS 15N01 about 1 mi. N of Flint Valley	Siskiyou	Chimney Rock (4112356)	CCH, Jan 2017 (HSC69549)	4-Aug-1980			Six Rivers NF	4902
15	Klamath National Forest, ridge along FS Rd. 15N01, 1 mi. N of Flint Valley.	Siskiyou	Chimney Rock (4112356)	CCH, Jan 2017 (HSC69556)	26-Jun-1980			Six Rivers NF	4902
15	about 1 mi s Elk Valley (at head of Blue Creek, 1 mi e of Chimney Rock); Blue Creek	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (UC1222335)	19-Jul-1950			Six Rivers NF	4400
16	Near Boundry Trail, close to the town of Orleans	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC54822)	29-Jul-1979			Six Rivers NF	5098
17	Elk Valley: At head of Blue Creek, 1 mile east of Chimney Rock, 1-2 miles south of valley	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (RSA178529)	19-Jul-1950			Six Rivers NF	4400

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
18	Glacial cirque behind Chimney Rock	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC43543)	25-Aug-1976			Six Rivers NF	
18	Chimney Rock	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC60952)	8-Aug-1964			Six Rivers NF	5745
19	Near Sawtooth Mtn., close to the town of Orleans	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC54999)	30-Jul-1979			Six Rivers NF	5502
19	Near Sawtooth Mtn., close to the town of Orleans	Del Norte	Chimney Rock (4112356)	CCH, Jan 2017 (HSC55005)	30-Jul-1979			Klamath NF	5600
20	22.9 mi. from junction with Hwy. 199 on French Hill Rd.	Del Norte	Cant Hook Mtn. (4112368)	CCH, Jan 2017 (HSC42995)	30-Jun-1970			Six Rivers NF	
21	Baldy Mountain.	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (SDSU6747)	4-Aug-1962			Klamath NF	4701
21	Baldy Mountain	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (UC1299712)	14-Jul-1950			Klamath NF	
22	Near Table Mtn.	Del Norte	Hurdygurdy Butte (4112377)	CCH, Jan 2017 (HSC74177)	28-Jul-1980			Six Rivers NF	3501
23	Near Gordon Mtn., close to the town of Gasquet	Del Norte	Hurdygurdy Butte (4112377)	CCH, Jan 2017 (HSC51528)	13-Jun-1979			Six Rivers NF	4101

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
24	Along the dirt road to Baldy Mountain Lookout (USFS # 17N11), 0.6 mile south of the junction of 17N23, on a ridge dividing Doolittle Creek and Little South Fork, about 3.5 miles north-northeast of the lookout	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (CAS657826)	9-Aug-1978			Klamath NF	4400
24	Baldy Mt.	Siskiyou	Happy Camp (4112374)	CCH, Jan 2017 (SD53393)	2-Aug-1962			Klamath NF	4698
25	Peak 5148 near end of USFS Rd. 17N32 19 mi. from Indian Creek Rd.	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (HSC77292)	7-Aug-1983			Klamath NF	5102
26	Klamath National Forest, ridge just E of saddle, S of Rattlesnake Meadow	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (HSC69044)	7-Aug-1980			Klamath NF	5902
27	ridge s Preston Peak; Klamath National Forest, Preston Peak Quad.	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (UC1483469)	7-Aug-1980			Klamath NF	6400
27	Preston Peak	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (DS207379)	24-Aug-1929			Klamath NF	7000
28	Near Smith River, S Siskiyou Fork	Del Norte	Hurdygurdy Butte (4112377)	CCH, Jan 2017 (HSC74782)	4-Aug-1980			Six Rivers NF	3501

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29	South fork Indian Creek to Elk Lick	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (DS207026)	20-Jul-1929			Klamath NF	5000
30	El Capitan	Siskiyou	Preston Peak (4112375)	CCH, Jan 2017 (HSC61211)	20-Jun-1968			Klamath NF	6001
31	Ridge between Broken Rib Mtn and Wounded Knee Mtn	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC102253)	12-Jul-2012			Six Rivers NF	5325
31	Near Wounded Knee Mtn.	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC65981)	27-Jul-1980			Six Rivers NF	4701
32	trail from Illinois river to Black Butte	Del Norte	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (GH364500)	11-Sep-1912			Siskiyou NF	
32	Trail from Illinois River to Black Butte	Del Norte	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (CAS131597)	11-Sep-1912			Siskiyou NF	
33	Near Broken Rib Mtn., close to the town of Gasquet	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC53656)	29-Jun-1979			Six Rivers NF	4701
33	Near Broken Rib Mtn., close to the town of Gasquet	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC53648)	29-Jun-1979			Six Rivers NF	4380
33	Near Broken Rib Mtn., close to the town of Gasquet	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC53649)	29-Jun-1979			Six Rivers NF	4380

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
34	7 miles NNE of Seiad Valley, SW of Cook and Gerrn Pass, 0.5 mile SE of red Butte.	Siskiyou	Kangaroo Mtn. (4112382)	CCH, Jan 2017 (RSA516402)	16-Jul-1986			Klamath NF	5676
35	9 mi. so. of Calif.-Ore. Line on Sanger Pk. Rd., Siskiyou Nat. Forest	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (SD56699)	4-Aug-1963			Six Rivers NF	5499
35	9.0 miles south of California -Oregon state line on Sanger Peak Road, Siskiyou National Forest.	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (SDSU6759)	4-Aug-1963			Six Rivers NF	5499
36	High Divide, Siskiyou Mts.	Del Norte	High Divide (4112481)	CCH, Jan 2017 (CAS374902)	10-Aug-1937			Six Rivers NF	2000
36	High Divide, Siskiyou Mts.	Del Norte	High Divide (4112481)	CCH, Jan 2017 (DS338268)	10-Aug-1937			Six Rivers NF	2000
36	Siskiyou Mountains, High Divide.	Del Norte	High Divide (4112481)	CCH, Jan 2017 (RSA21122)	10-Aug-1937			Six Rivers NF	2001
36	Siskiyou Mts., High Divide	Del Norte	High Divide (4112481)	CCH, Jan 2017 (SD42499)	10-Aug-1937			Six Rivers NF	6562
37	Alta Mine site	Del Norte	High Divide (4112481)	CCH, Jan 2017 (HSC49890)	4-Aug-1978				1601

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
37	Low Divide, East of Smith River Village 7 miles	Del Norte	High Divide (4112481)	CCH, Jan 2017 (DS330924)	25-Jun-1938				1800
37	7 mi e Smith River Village (Low Divide); Low Divide	Del Norte	High Divide (4112481)	CCH, Jan 2017 (UC709315)	25-Jun-1938				1800
38	Six Rivers National Forest. Along Forest Route 18N07 to Sanger Lake.	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC102897)	18-Jul-2010			Six Rivers NF	4400
39	Just off Forest Rd. 18N07 on a ridge heading up to Haystack Mtn. Gasquet Rd	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (UCR39971)	7-Jul-1983			Six Rivers NF	
40	Sanger Peak	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (HSC62065)	16-Aug-1962			Six Rivers NF	
41	s Lily Pad Lake (trail up Kangaroo Peak; ca. 5 mi n of the town of Seiad Valley); Kangaroo Peak	Siskiyou	Kangaroo Mtn. (4112382)	CCH, Jan 2017 (JEPS84304)	17-Jul-1986			Klamath NF	5906
42	ridge-top between Indian Creek and Illinois River drainage (Dunn Creek) (about 12 air mi nw of Happy Camp)	Siskiyou	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (JEPS25875)	20-Jul-1960			Klamath NF	5400
43	Poker Flat	Siskiyou	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (HSC61799)	31-Jul-1938			Klamath NF	5200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
43	Poker Flat - Twin Valley trail	Del Norte	Polar Bear Mtn. (4112385)	CCH, Jan 2017 (JEPS56243)	31-Jul-1938			Klamath NF	4200
44	rock outcrop along trail to Lily Pad Lake (vicinity of Cook and Green Pass); Sisiyou Mts.	Siskiyou	Kangaroo Mtn. (4112382)	CCH, Jan 2017 (JEPS83885)	31-Jul-1976			Klamath NF	5600
45	Klamath Ranges. Siskiyou Mountains; crest of the mountain 1.3 air km east of Condrey Mountain	Siskiyou	Condrey Mtn. (4112288)	CCH, Jan 2017 (CHSC99718)	24-Jul-2008			Rogue River NF	6726
46	Jaynes Cyn, Siskiyou Mtns	Siskiyou	Condrey Mtn. (4112288)	CCH, Jan 2017 (SBBG27992)	1-Sep-1934			Klamath NF	6400
47	ca 1/2 mi se Red Butte (slope e of road; ca. 7 mi nne of Seiad Valley, sw of Cook and Green Pass)	Siskiyou	Kangaroo Mtn. (4112382)	CCH, Jan 2017 (JEPS84293)	16-Jul-1986			Rogue River NF	5676
48	Siskiyou Mountains, Jaynes Canyon	Siskiyou	Condrey Mtn. (4112288)	CCH, Jan 2017 (RSA423129)	1-Sep-1934			Rogue River NF	6401
49	Along Holiday Rd. (315), 5.2 mi. from junction with Gasquet Toll Road	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (HSC96153)	28-Jun-2004			Six Rivers NF	2900
50	Near High Plateau Creek, close to the town of Gasquet	Del Norte	High Plateau Mtn. (4112388)	CCH, Jan 2017 (HSC54760)	24-Jul-1979			Six Rivers NF	1250

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50	Near High Plateau Creek, close to the town of Willow Creek	Del Norte	High Plateau Mtn. (4112388)	CCH, Jan 2017 (HSC55003)	24-Jul-1979			Six Rivers NF	1250
50	Near High Plateau Creek, close to the town of Gasquet	Del Norte	High Plateau Mtn. (4112388)	CCH, Jan 2017 (HSC55004)	24-Jul-1979			Six Rivers NF	1250
51	Summit Crescent City-Grants Pass Road	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (DS125789)	1-Jul-1922				
52	Oregon Mt.	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (CAS235316)	2-Jul-1936				
53	near state (Oregon/California)line Patrick Creek-O'Brien Rd	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (JEPS84302)	15-Jul-1986			Six Rivers NF	3018
53	state line n Monumental (at head of Shelley Creek, California side); Shelley Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (UC1198154)	21-Oct-1940			Six Rivers NF	3100
53	n Monumental (near state line)	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (UC1198153)	9-Jul-1940			Six Rivers NF	3100

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
53	n Monumental (along the California Oregon border at head of Shelley Creek); Shelley Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (UC630501)	31-Jul-1937			Six Rivers NF	3100
53	state line n Monumental (at head of Shelley Creek); Shelley Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (UC1198152)	21-Jul-1937			Six Rivers NF	3100
53	n Monumental (state line at head of Shelley Cr. (California side)); Sheeley Cr.	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (UC1198151)	13-Jun-1936			Six Rivers NF	3100
53	Near California and Oregon border	Del Norte	High Plateau Mtn. (4112388)	CCH, Jan 2017 (RSA423130)				Six Rivers NF	
54	Sanger Peak road 6.5 miles south of north entrance to Siskiyou National Forest	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (SD88461)	2-Jul-1972			Siskiyou NF	4400
54	Sanger Peak Road 6.5 miles south of north entrance to Siskiyou National Forest.	Del Norte	Broken Rib Mtn. (4112386)	CCH, Jan 2017 (SDSU6753)	2-Jul-1972			Siskiyou NF	4400
55	Near Wimer Rd., close to the town of Gasquet.	Del Norte	High Plateau Mtn. (4112388)	CCH, Jan 2017 (HSC50030)	15-May-1979			Six Rivers NF	2598

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
56	Patrick Creek-O'Brien Road near state line	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (JEPS84301)	15-Jul-1986			Six Rivers NF	3018
56	Head of Shelley Creek north of Monumental	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (CAS277132)	1-Jul-1937				3100
56	Along the California Oregon border at head of Shelley Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (DS254782)	1-Jul-1937				3100
56	Head of Shelley Creek north of Monumental	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (DS270813)	1-Jul-1937				3100
56	4 km NE of Baker's Flat in the drainage head of Monkey Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (HSC63172)	14-Jun-1979			Six Rivers NF	
56	Old Gasquet Toll Rd., head of Shelly Creek, 8.5 mi. N of Patrick Creek jct.	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (HSC63743)	8-Sep-1975			Six Rivers NF	3051
56	head of Shelley Creek north of Monumental	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (GH364499)	1-Jan-1938			Six Rivers NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
56	State line N of Monumental, at head of Shelley Creek	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (HSC17440)	21-Jul-1937			Six Rivers NF	3100
56	Head of Shelley Creek on Or.-Ca. border	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (HSC17449)	30-Jun-1937			Six Rivers NF	3100
56	Head of Shelley Creek, north of Monumental.	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (POM257444)	30-Jun-1937			Six Rivers NF	3100
56	head of Shelly Crk N of Monumental	Del Norte	Shelly Creek Ridge (4112387)	CCH, Jan 2017 (SBBG27996)	30-Jun-1937			Six Rivers NF	3100

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:	11,21,24, 25,26,27, 29,30,34, 41,42,43, 44,46	-	14	1	13	4-Aug-2006	18	14
Lake Tahoe Basin MU:	-	-	-	-	-	-	-	0
Lassen:	-	-	-	-	-	-	-	0
Los Padres:	-	-	-	-	-	-	-	0
Mendocino:	2	-	1	-	1	15-Jul-1986	-	1
Modoc:	-	-	-	-	-	-	-	0
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	3,4,5,6,7, 8,9,12	-	8	2	8	8-Jul-2001	1	8
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	13,14,15, 16,17,18, 19,20,22, 23,28,31, 33,35,36, 38,39,40, 49,50,53, 55,56	-	23	3	20	12-Jul-2012	4	23
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	0	46	6	42	N/A	23	46

Demographic and Population Trends: Total number of occurrences for this taxon were estimated using GIS tools and methods described by Green and Sims (2018), and later refined based upon the provided location information. There is minimal documentation regarding demographic and population trends associated with *E. ternatum* and its occurrences within

California. A majority of occurrences (49/56; ~88%) are substantiated by historic records that were collected over 20 years ago (CCH 2017).

Life History: *Eriogonum ternatum* is an herbaceous, prostrate perennial that blooms from June through August (CNPS 2018). Caterpillars of lycaenid species in the genus *Euphilotes* are known to feed on *Eriogonum* taxa (Shields and Reveal 1988). Certain members of *Euphilotes* are known to carry out their entire life cycle restricted to some *Eriogonum* species complexes (Reveal 2005). *Eriogonum fasciculatum*, a taxon within subgenus *Eucycla*, is visited by generalist species of bees, flies, wasps, and beetles (Montalvo and Beyers 2010). *Eriogonum* species offer a small amount of nectar at the base of flowers, which attracts bees, flies, ants, and other insects. Also, ants (*Formica altipetens*) have been observed tending aphids on *E. umbellatum* (Anderson 2006). The involucre of *Eriogonum* inflorescences may function to deter herbivory or prevent damage to flowers in harsh conditions (Kempton 2012).

Mixed responses to fire are seen among species of *Eriogonum*. The low growing and fleshy perennial herb *E. elatum* was observed to resprout shortly after a prescribed burn. In contrast, the low growing and woody *E. umbellatum* demonstrated no response the season following a Spring prescribed burn. Plants sprouted and resumed growth during the following Spring growing season (Rau et al. 2008).

Adaptations to extreme conditions and impoverished substrates may allow species of *Eriogonum* to persist at the exclusion of more aggressive and competitive species (Anderson 2006). *Eriogonum ovalifolium* has a comparable stature and growth form to that of *E. ternatum*. The prostrate and low growing canopy of *E. ovalifolium* creates a sheltered habitat for seedling recruitment on barren and exposed substrates. Prostrate canopies also capture and retain seeds (Day and Wright 1989).

Diversity: *Eriogonum* is a species-rich group with phylogeographic patterns indicative of a recent radiation, filling myriad niches in xeric habitats across western North America (Stevens 2001, Raven and Axelrod 1978, Sanchez and Kron 2008; Kempton 2012). The involucre of eriogonoid inflorescences, and other specialized characters may have facilitated the rapid spread of plants into habitats with harsh conditions throughout the distribution of this group (Kempton 2012). Members of *Eriogonum* occur as far north as Alaska and extend south to central Mexico. Group-wide, *Eriogonum* taxa exhibit substantial niche breadth (Kostikova et al. 2013), growing in regions along the immediate coast, desert, and alpine habitats. Many rare taxa are restricted to localized areas and exhibit considerable adaptations to xeric conditions (CNPS 2018, Kostikova et al. 2013).

The genus *Eriogonum* is not monophyletic. Sanchez and Kron (2008) reconstructed a phylogeny of Polygonaceae, emphasizing the evolution of Eriogonoideae using three regions of cpDNA (*rbcL, matK*, and *ndhF*) and a single low-copy nuclear gene (second intron of *LEAFY*). Their robust dataset yielded phylogenies confidently resolving *Eriogonum* as a core member of Eriogonoideae, with the genera *Chorizanthe, Dedeckera*, and *Johanneshowellia* nested within its respective clade. With a different set of genes (*ITS, trnL-F, psbD-trnT*), a follow up study increased sampling within the tribe Eriogoneae, providing further evidence of nomenclature that

is incongruent with evolutionary processes. Diagnostic characters appear to have evolved in parallel, and, as a result, has misled generations of descriptive taxonomists (Kempton 2012). Such work corroborates the notion that *Eriogonum* is undergoing a radiation and that rare taxa restricted in distribution may be the product of recent speciation activity (Stebbins and Major 1965, Raven and Axelrod 1978; Kempton 2012).

Habitat: Gravelly to sandy substrates and often on serpentine slopes and outcrops. Plants are typically associated with lower montane coniferous forests, chaparral (*Arctostaphylos* spp.), and oak woodlands (CalPhotos 2018; CNPS 2018; Reveal 2011).

Habitat Status or Trend: Plants typically occupy openings and exposed habitat within lower montane coniferous forests of the Coast Ranges and Klamath Mountains (CalPhotos 2018; CNPS 2018; Reveal 2005). Fire suppression is linked to significant changes in size and spatial characteristics of openings within forests of the Klamath Mountains of California within the last century (Skinner 1995).

Capacity for the Species to Disperse: Members of the genus *Eriogonum* are dispersed by wind, rain, streams, and animals. Seeds have considerable oil content, allowing them to float and migrate with sheeting water during storms. This high oil content is attractive to ants, which are known to disperse seeds of some *Eriogonum* species (Anderson 2006). *Eriogonum* flowers have dry calyces that increase the surface area of fruit, which is thought to aid in wind dispersal (Montalvo and Beyers 2010). Seeds are also known to fall beneath parent plants (Anderson 2006).

Threats: Direct and outstanding threats to this taxon are unknown.

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Julie Ann Kierstead, USDA Forest Service Region 5 Ecosystem Planning, 1 December 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.