Species: *Eriogonum ursinum* S. Watson var. *erubescens* Reveal & J. Knorr, blushing wild buckwheat

Photo Source: CalPhotos 2020, Julie Knorr

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Status

Table 1 summarizes the current status of this species or subspecies/variety by various ranking entities and defines the meaning of the status.

Table 1. Current status of blushing wild buckwheat

Entity	Status	Status Definition
NatureServe CA[a]	G3G4T3, S3	G3: Vulnerable — At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

Table 1. Current status of blushing wild buckwheat		
Entity	**Status**	**Status Definition**
		G4: Apparently secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors. T3: Vulnerable — At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. This rank applies to the variety. (The rank of G3/G4 applies to the species *Eriogonum ursinum*. The rank of T3 applies to var *erubescens.*) S3: Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
California Rare Plant Rank[b]	1B.3	1B: Plants rare, threatened, or endangered in California and elsewhere 0.3: Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known) This taxon was added to the online version of the *CNPS Inventory of Rare and Endangered Plants of California* in 2006 and has undergone no recent changes in status (CNPS 2020).
California State Listing[c]	Not listed	
USDA Forest Service[d]	S	Sensitive
USDI FWS[e]	Not listed	
USDI BLM[f]	S	Sensitive
NatureServe OR[g]	Not present	
Oregon State Listing[h]	Not present	
NatureServe NV[i]	Not present	
Nevada State Listing[j]	Not present	

[a] California Natural Diversity Database, California Dept. of Fish & Wildlife [CNDDB 2020]
[b] California Native Plant Society [CNPS 2020]
[c] California Department of Fish and Wildlife [CDFW 2020]
[d] US Forest Service Region 5 Forester's List [USDA] and Pacific NW Survey and Manage [USDA & BLM 2014]
[e] US Department of Interior Fish and Wildlife Service [USFWS 2020]
[f] US Department of Interior Bureau of Land Management [BLM 2015]
[g] Oregon Biological Information Center [ORBIC 2019]
[h] Oregon Department of Agriculture [ODA 2018]
[i] Nevada Natural Heritage Program [NNHP 2020]
[j] Nevada Division of Forestry [NDF 2012]
Note: Individual State Heritage Programs (CNDDB, ORBIC, NNHP) represent NatureServe and contain more up-to-date ranks for their state than NatureServe Explorer.

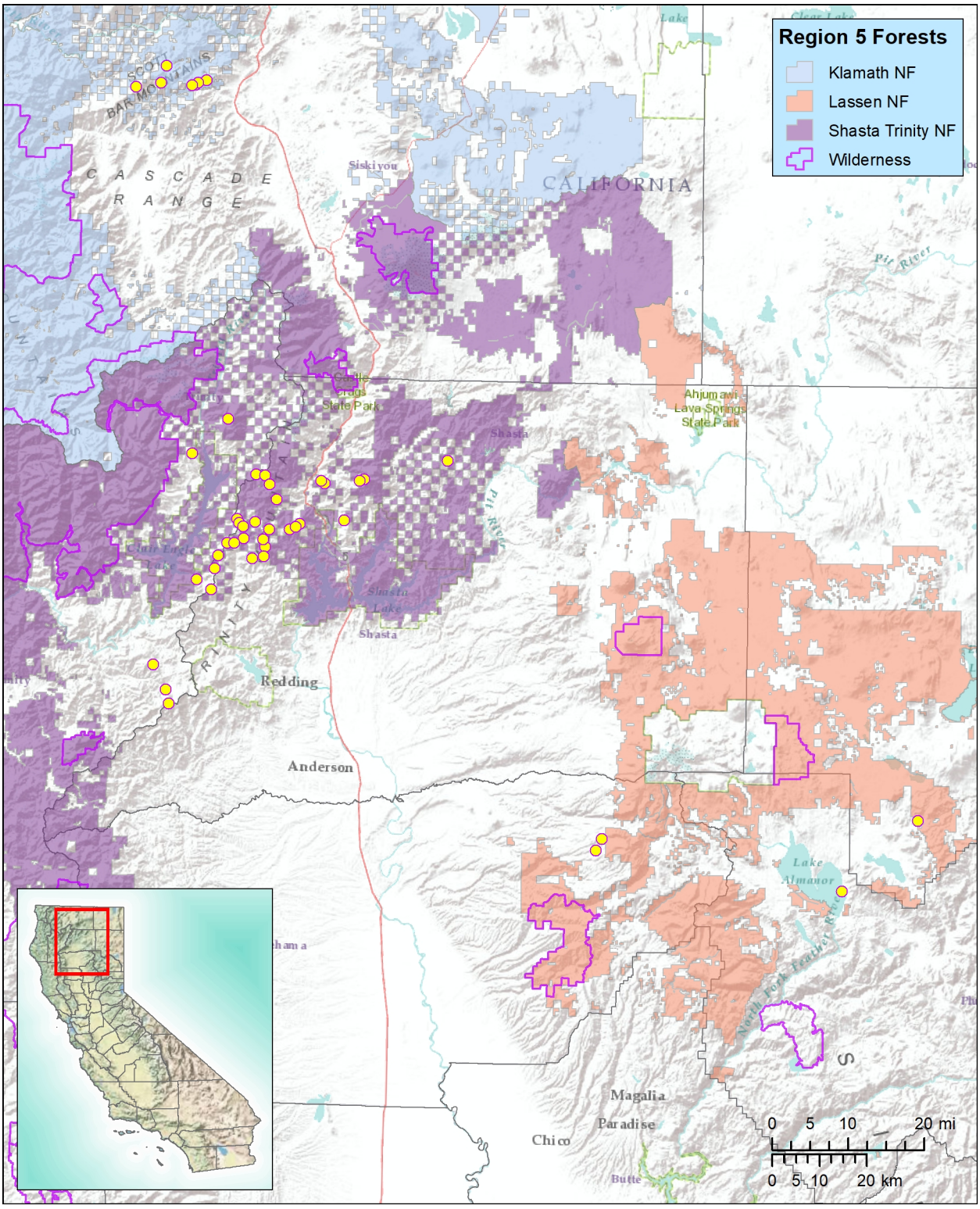
Distribution, abundance, and population trend on the planning unit[1]

Table 2 summarizes the distribution and frequency of this species or subspecies/variety within National Forest System Lands in California. Table 4 in Appendix 1 lists all known occurrences of this species or subspecies/variety within California. Individual occurrences are defined as sites that contain an individual, population, or groups of populations of the plant that are located more than 1/4 (0.25) of a mile apart from each other as defined by the CNDDB.

Table 2. Known Occurrence Frequency of blushing wild buckwheat within the Planning Area (NRIS, CNDDB, Calflora/CCH databases)

National Forest System (NFS) lands	Record #s (from Locations table below)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 years)	Historic (not seen in past 20 years)	Most Recent Obs. Date	Total Records on NFS lands
Klamath:	3, 4, 5, 6, 7, 8, 29	7	0	7	0	20-Aug-2010	7
Shasta-Trinity:	11, 12, 14, 16, 20, 21, 25, 32, 36, 37, 38, 43, 44	9	4	12	1	12-Aug-2019	13
Totals:	N/A	16	4	19	1	N/A	20

[1] 1909.12 Chapter 10, Section 12.53, components 2, 3, and 4.



Sources: *Distribution*: Calflora 2020, CCH1 2020, CCH2 2020, CNDDB 2020. *Baselayers*: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.

Blushing wild buckwheat was last updated in the CNDDB on January 16, 2018 (CNDDB 2020), and therefore all Calflora, CCH, and/or NRIS records prior to this date are assumed to have already been reviewed and entered into the CNDDB for this plant. Accordingly, only records from Calflora, CCH, and/or NRIS reported after this date have been reviewed for potential new or updated occurrence information and are included in Table 4 in Appendix 1 as applicable.

This taxon is a California endemic first described in 2004 from the Klamath Range (KR) bioregion (Reveal and Knorr 2004). It has been reported on recent CNDDB survey forms and a Dean Wm. Taylor herbarium specimen from the Cascade Range bioregion (Green 2020 pers. comm., CCH2 2020). The current range (reflected on the map in this account), includes the west slope of Dyer Mountain in Plumas County, in the vicinity of Coppervale in Lassen County, the west slope of Lyons Peak in Tehama County, the Trinity Mountains in Shasta and Trinity Counties, mountains north of Shasta Lake in Shasta County, and the Scott Bar Mountains west of Yreka in Siskiyou County (CNDDB 2020, Greene 2020 pers. comm.). In addition, collections of blushing wild buckwheat have been made by Sierra Pacific Industries and by Dean Wm. Taylor as far south as Nevada County in the Sierra Nevada bioregion (Taylor 2020 per. comm.). Sierra Pacific Industries Botany Department is currently analyzing measurements of morphological characteristics of plants of *Eriogonum ursinum* var. *erubescens* and *Eriogonum ursinum* var. *ursinum* (bear buckwheat, or Bear Valley buckwheat) throughout their ranges. The scientists involved in this work believe that numerous herbarium specimens currently identified as *E. ursinum* var. *ursinum* (and displaying under that name at the CCH1 and CCH2 online) are misidentified and are actually *E. ursinum* var. *erubescens* (Taylor 2020 pers. comm., Lindstrand 2020 pers. comm.). Therefore, currently the true range of blushing wild buckwheat is not known, and it may be more widespread and common than previously thought.

Twenty of the 45 records included in Table 4 are located on National Forest land, with 13 on the Shasta-Trinity NF and seven on the Klamath NF; none are within Wilderness Area. Only one record is historical, an occurrence located on the Shasta-Trinity NF based on a 1993 herbarium collection. Most of the 44 recent records have population estimates that range in size from just a few plants to 50 plants, with 11 having over 100 plants, and three having 1,000 or more plants. Given that this is a recently described taxon, only two records have been censused over time. One increased in size, and the other was stable. Of the 45 records of blushing wild buckwheat, 36 are currently included in the CNDDB. All nine non-CNDDB records are located at least one mile from a known CNDDB occurrence. These nine records seem to represent new occurrences and should perhaps be evaluated for inclusion in the CNDDB.

Brief description of natural history and key ecological functions[2]

Blushing wild buckwheat is a mat-forming, perennial herb to short subshrub with white tomentose hairs on the underside of the leaves and umbellate inflorescences with flowers that blush pinkish as they age; it blooms from June to September (JEPS 2020, CNPS 2020, Linstrand pers. comm. 2020). It was originally separated from its close relative bear buckwheat (*E. ursinum* var. *ursinum*) based on a number of inflorescence and fruit characters (JEPS 2020, Reveal and Knorr 2004), but the two varieties overlap in the Cascade Range and Sierra Nevada bioregions and intermediates between the two taxa have been observed (Linstrand 2020 pers.

[2] Basis for other 1909.12 Chapter 10, Section 12.53 components.

comm., Taylor 2020 pers. comm.). Based on past and recent morphological analysis, characters that can be used to separate blushing wild buckwheat from bear buckwheat are its woodier above-ground growth, longer scape length (30-40 mm vs. 10-25 mm), larger inflorescence diameter (no exact measurements given), higher degree of branching within the inflorescence (2-3 times branched vs. 1-2 times [this may have been reported incorrectly in the literature]), longer involucre length (4.7-5.7 mm vs. 3-5 mm), longer flowers (4.5–8.5 mm vs. 1.5–5.5 mm), and longer fruits (5–8 mm vs 3–5 mm) (JEPS 2020, Reveal and Knorr 2004, Taylor 2020 pers. comm.). More work needs to be done to understand the taxonomic boundaries of these two varieties.

Blushing wild buckwheat grows in montane chaparral and lower montane coniferous forest on nearly bare rocky outcrops, scree, and talus slopes, sometimes on roadcuts at 750-2,120 m in elevation. It is found on metasedimentary, volcanic, metavolcanic, and ultramafic substrates, including chert and granite (rarely on serpentine) (CNDDB 2020, CNPS 2020, CCH1 and CCH2 2020, Taylor 2020 pers. comm.). The outcrops occur above or within open forests that may include *Pseudotsuga menziesii*, *Calocedrus decurrens*, *Abies concolor*, *Pinus* spp., and *Quercus* spp. Associated species on the outcrops include sparse *Arctostaphylos patula*, *Ericameria nauseosa*, *Holodiscus discolor*, *Prunus emarginata*, *Eriogonum* spp., *Streptanthus tortuosus*, *Sedum* spp., and *Penstemon* spp. (CNDDB 2020, Reveal and Knorr 2004).

The genus *Eriogonum* consists of approximately 250 species in temperate regions of North America (JEPS 2020). Within the genus, *E. ursinum* is most closely related to *E. umbellatum* and *E. marifolium* (Kempton 2012). The reproductive biology of blushing wild buckwheat has not yet been studied, but many other *Eriogonum* species (including *E. umbellatum*) are pollinated by bees (CPC 2020). The fruits are dry, indehiscent achenes, each containing one seed, that do not have any adaptations for long-distance dispersal (JEPS 2020). Seeds most likely fall close to the parent plant and may be dispersed small distances by wind or water action. Studies of other species of *Eriogonum* have found the seeds to be dispersed by wind and ants (Dunwiddie et al. 2000, Kostikova et al. 2014, Whitford et al. 1981). The seedlings of blushing wild buckwheat have been observed in the field while doing surveys, but they are uncommon (Reveal and Knorr 2004). Seedling survivorship has been found to be low in other rare perennial buckwheats (Dunwiddie et al. 2000, Caplow et al. 2007); a study of *E. pyrolifolium*, which has a similar growth form as blushing wild buckwheat and is somewhat closely related (Kempton 2012) found that seedlings grow slowly, have drought-resistant characteristic, and have high mortality (Chapin et al. 1989). It is likely that blushing wild buckwheat grows slowly, and although it might seed into a disturbed rock outcrop, it may take 20 to 30 years for seedlings to grow into the large individuals with substantial woody mats like those that make up its current populations (Taylor 2020 pers. comm.).

Overview of ecological conditions for recovery, conservation, and viability[3] including Threats and Risk Factors

The morphological variation and distribution of blushing wild buckwheat are currently being examined by the botanists of Sierra Pacific Industries. Therefore, knowledge of its ecological preferences, distribution, and abundance may both increase and change over the next two years.

[3] 1909.12 Chapter 10, Section 12.53, components 7, 9, 10, 11 and 12, as appropriate.

This makes conservation planning for blushing wild buckwheat complicated. Currently, it is known from rocky, exposed locations within the Klamath Range and Cascade Range bioregions, and it may also be present in the Sierra Nevada bioregion. No occurrences are known from Wilderness Area. Of the 27 records that are ranked as to occurrence quality, five are ranked excellent, 19 are ranked good, three are ranked fair. Very few occurrences have had their populations followed over time, which means that trends in population numbers are unknown. Threats to blushing wild buckwheat in its original range in the Klamath bioregion were considered minimal at the time of listing, especially because four of the occurrences on Klamath NF land are in locations where the rare *Calochortus persistens* is located (Lazar and Bittman 2006). Threats recorded for other populations in the CNDDB include OHV use, recreation and target shooting, adjacent timber harvest activities (on private lands), erosion, and road building/maintenance (CNDDB 2020). In addition to these threats, increased fire incidence or fire-fighting activities, could result in high mortality to blushing wild buckwheat, and populations could take many years to grow again to maturity. At least one known occurrence of blushing buckwheat was extirpated by fireline construction in the Carr fire of 2018. Seeds of blushing wild buckwheat were collected in 2019 for seed banking by CNPS as part of the California Plant Rescue program and they have been deposited at the University of California Santa Cruz Arboretum (CPC 2020, Green 2020 pers. comm.).

Additional Considerations at the Forest Level

<This section, including the next 5 subheadings, would be filled out by **Forest Service botanists**.>

<Forest Name>

Geographic distribution within the Forest

A. Scarce or isolated
B. Patchy or gaps
C. Contiguous

<Select a geographic distribution rank and provide references or cite 'specialist expertise, <name>' where appropriate.>

Abundance of the species on the Forest

A. Rare – current abundance is low enough that stochastic and other factors could lead to potential imperilment.
B. Uncommon – current abundance is large enough that demographic stochasticity is not likely to lead to rapid local extinction, but, in combination with highly variable environmental factors, could pose a threat.
C. Common – current abundance is large enough that species persistence is not threatened by demographic stochasticity in combination with environmental variation.
D. Insufficient information to draw inferences about criterion.

<Select a species abundance rank and provide references or cite 'specialist expertise, <name>' where appropriate.>

Population trend on the Forest

A. Significant downward or suspected downward population trend.
B. Stable population.
C. Upward population trend.
D. Insufficient information to draw inferences about criterion.

<Select a population trend rank and provide references or cite 'specialist expertise, <name>' where appropriate.>

Habitat trend on the Forest

A. Decline in habitat quality or quantity.
B. Stable amounts of suitable or potential habitat, relatively unchanged habitat quality.
C. Improving habitat quality or increasing amounts of suitable or potential habitat.
D. Insufficient information to draw inferences about criterion.

<Select a habitat trend rank and provide references or cite 'specialist expertise, <name>'where appropriate.>

Vulnerability of habitat on the Forest

A. Substantial modification of habitat has occurred or is anticipated with conditions departing from expectations based on NRV, and/or habitat is impacted by modern stressors such as drought, climate change, high intensity wildfire and wildfire suppression disturbances, loss of natural openings due to historic wildfire suppression, nonnative invasive species, water impoundments and diversions, and recreation, etc.
B. Habitat modification is likely to result in ecological patterns similar to the range of historical conditions, but is being impacted by modern stressors.
C. Habitat resilient, changes are similar in frequency and intensity to those expected from NRV, and modern stressors not significant.
D. Insufficient information to draw inferences about criterion.

<Select a habitat vulnerability rank and provide references or cite 'specialist expertise, <name>'where appropriate.>

Additional Forest specific information related to the SCC determination

<This section is provided for Forest botanists to add additional Forest specific information that is not captured in the section above, if necessary. Provide a narrative description here of the additional relevant information. State "No additional information" if this section is not used.>

Taxonomy[4]

Table 3 summarizes this species or subspecies/variety's name status in key literature.

Table 3. Name status of blushing wild buckwheat

Entity	Name Status
CNDDB and CNPS	*Eriogonum ursinum* S. Watson var. *erubescens* Reveal & J. D. Knorr
Jepson eFlora	*Eriogonum ursinum* S. Watson var. *erubescens* Reveal & J. Knorr
Jepson Manual (1993)	Not yet described
Flora of North America	Eriogonum *ursinum* S. Watson var. *erubescens* Reveal & J. Knorr
USDA NRCS[a] PLANTS	Eriogonum *ursinum* S. Watson var. *erubescens* Reveal & J. D. Knorr
[a] Natural Resources Conservation Service [NRCS]	

Synonymy: There are no synonyms for this taxon, however prior to 2004, the populations that are included in this variety were sometimes identified as *Eriogonum ursinum* var. *ursinum* or *E. ursinum* with no variety (CCH1 2020, Tropicos 2020).

Jepson eFlora link: https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=85316

Type locality: "United States. California, Siskiyou Co.: Scott Bar Mountains, N and W slope and ridge of Deadwood Baldy Peak" (*J. L. Reveal & J. D. Knorr 8371*, NY) (Reveal and Knorr 2004).

Key literature

Caplow, F., T. N. Kaye, J. Arnett. 2007. Population viability analysis: *Eriogonum codium* (Umtanum desert buckwheat). Prepared for Region 1, U.S. Fish and Wildlife Service. Natural Heritage Report 2007-04. Washington State Department of Natural Resources, Olympia, WA.

Chapin, D. M. and L. C. Bliss. 1989. Seedling growth, physiology, and survivorship in a subalpine volcanic environment. *Ecology* 70: 1325-1334.

Dunwiddie, P.W., K.A. Beck, and F.E. Caplow. 2001. Demographic studies of *Eriogonum codium* Reveal Caplow & Beck (Polygonaceae) in Washington. In: Reichard et al. editors. *Conservation of Washington's native plants and ecosystems*. Washington Native Plant Society, Seattle, Washington.

Kempton, E. A. 2012. Systematics of Eriogonoideae s. s. (Polygonaceae). *Systematic Botany* 37: 723-737.

Kostikova, A., N. Salamin, and P. B. Pearman. 2014. The role of climatic tolerances and seed traits in reduced extinction rates of temperate Polygonaceae. *Evolution* 68-7: 1856-1870. Supplementary material.

[4] 1909.12, Chapter 10, Section 12.53, component 1.

Lazar, K. and R. Bittman. 2006. Rare Plant Status Review: *Eriogonum ursinum* var. *erubescens*. California Native Plant Society and California Department of Fish and Wildlife (CNDDB). Sacramento, CA.

Reveal, J. L. and J. D. Knorr. 2004. A New Variety of *Eriogonum ursinum* (Polygonaceae, Eriogonoideae). *Phytologia* 86: 160-168.

Literature cited

[BLM] U.S. Dept. of Interior Bureau of Land Management. 2020. Special Status Plants in California, Including BLM Designated Sensitive Species. January 17, 2020. Provided by Christina Lund, State Botanist, California BLM on 30 April 2020.

Calflora. 2020. Information on wild California plants for conservation, education, and appreciation. Website http://www.calflora.org/ [accessed Month 2020].

[CDFW] California Department of Fish and Wildlife, Natural Diversity Database. 2020. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Last updated January 2, 2020. 10 pp. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline [accessed August 2020].

[CNDDB] California Department of Fish and Wildlife, Natural Diversity Database. 2020. RareFind 5 [Internet application] and CNDDB Maps and Data, Version 5.2.14. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data [Government Version, August 2020].

____. 2020a. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication, January 2020. 140 pp. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline [accessed August 2020].

[CNPS] California Native Plant Society, Rare Plant Program. 2020. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed August 2020].

Caplow, F., T. N. Kaye, J. Arnett. 2007. Population viability analysis: *Eriogonum codium* (Umtanum desert buckwheat). Prepared for Region 1, U.S. Fish and Wildlife Service. Natural Heritage Report 2007-04. Washington State Department of Natural Resources, Olympia, WA.

Chapin, D. M. and L. C. Bliss. 1989. Seedling growth, physiology, and survivorship in a subalpine volcanic environment. *Ecology* 70: 1325-1334.

[CPC] Center for Plant Conservation. 2020. CPC National Collection Rare Plant Database. Website https://saveplants.org/national-collection/pollinator-search/ [accessed August 2020].

[CCH1] Consortium of California Herbaria. 2020. Data provided by the participants of the Consortium of California Herbaria. Regents of the University of California, Berkeley. Website http://ucjeps.berkeley.edu/consortium/ [accessed August 2020].

[CCH2] Consortium of California Herbaria, CCH2 Portal. 2020. Data provided by the California Phenology TCN. Website http//:www.cch2.org/portal/index.php [accessed August 2020].

Dunwiddie, P.W., K.A. Beck, and F.E. Caplow. 2001. Demographic studies of *Eriogonum codium* Reveal Caplow & Beck (Polygonaceae) in Washington. In: Reichard et al. editors. *Conservation of Washington's native plants and ecosystems*. Washington Native Plant Society, Seattle, Washington.

[JEPS] Jepson Flora Project (eds.). 2020. Jepson eFlora. Website http://ucjeps.berkeley.edu/IJM.html [accessed August 2020].

Kempton, E.A. 2012. Systematics of Eriogonoideae s. s. (Polygonaceae). *Systematic Botany* 37: 723-737.

Kostikova, A., N. Salamin, and P.B. Pearman. 2014. The role of climatic tolerances and seed traits in reduced extinction rates of temperate Polygonaceae. *Evolution* 68-7: 1856-1870. Supplementary material.

Lazar, K. and R. Bittman. 2006. Rare Plant Status Review: *Eriogonum ursinum* var. *erubescens*. California Native Plant Society and California Department of Fish and Wildlife (CNDDB). Sacramento, CA.

[NRCS] U.S. Department of Agriculture, Natural Resources Conservation Service. 2020. PLANTS Database. Website http://plants.usda.gov/ [accessed August 2020].

[NRIS] U.S. Department of Agriculture Forest Service, Natural Resource Information System. 2020. Natural Resource Information System; Threatened, Endangered and Sensitive Plants - Invasive Plants [accessed March 2020].

[NDF] Nevada Division of Forestry. 2012. NAC 527.010 List of fully protected species of native flora. April 2012. Available at: https://www.leg.state.nv.us/NAC/NAC-527.html#NAC527Sec010 [accessed May 2020].

[NNHP] Nevada Natural Heritage Program. 2020. Tracking and Watch Lists. Department of Conservation and Natural Resources. Available at: http://heritage.nv.gov/botany [accessed May 2020].

[ODA] Oregon Department of Agriculture. 2018. Oregon listed and candidate plants - complete list. Native Plant Conservation Program. October 12, 2018. Available at: https://data.oregon.gov/Natural-Resources/Oregon-listed-and-candidate-plants-complete-list/8s3k-ygh2 [accessed May 2020].

[ORBIC] Oregon Biodiversity Information Center. 2019. Rare, Threatened and Endangered Vascular Plant Species of Oregon. Institute for Natural Resources, Portland State University, Portland, OR. 49 pp. Available at https://inr.oregonstate.edu/sites/inr.oregonstate.edu/files/2019-rte-vascs.pdf [accessed May 2020].

Reveal, J.L. and J.D. Knorr. 2004. A new variety of *Eriogonum ursinum* (Polygonaceae, Eriogonoideae). *Phytologia* 86: 160-168.

Tropicos. 2020. Missouri Botanical Garden. Website http://www.tropicos.org [accessed August 2020].

[USDA] U.S. Department of Agriculture Forest Service, Pacific Southwest Region. 2013. Regional Forester Sensitive Species List. Available at: http://www.fs.usda.gov/main/r5/plants-animals/plants [accessed May 2020].

[USDA & BLM] U.S. Department of Agriculture Forest Service and U.S. Department of Interior Bureau of Land Management. 2014. List of Survey and Manage Species in Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, protection Buffer, and other Mitigation Measures; as amended by Annual Species Reviews 2001-2003. Available at: https://www.blm.gov/or/plans/surveyandmanage/files/sm-fs-enc3-table1-1-dec2003wrtv.pdf [accessed May 2020].

[USFWS] U.S. Dept. Interior Fish and Wildlife Service. 2020. Endangered Species List. Available at: https://www.fws.gov/endangered. [accessed August 2020].

Whitford, W. G., D. J. Depree, P. Hamilton, and G. Ettershank. 1981. Foraging ecology of seed-harvesting ants, *Pheidole* spp. in a Chihuahuan Desert Ecosystem. *The American Midland Naturalist* 105: 159–167.

Persons Contacted

Green, Kaitlyn. 2020. Contractor, California Department of Fish and Wildlife. Email correspondence regarding additional survey forms for blushing wild buckwheat. Personal communication 19 August 2020.

Kierstead, Julie. 2020. Forest Botanist, Shasta-Trinity National Forest (retired). Email correspondence regarding location of her Calflora observation of blushing wild buckwheat. Personal communication 19 August 2020.

Lindstrand, Len. 2020. Botany Program Manager, Sierra Pacific Industries. Email correspondence and phone conversation regarding: additional locations and taxonomy of blushing wild buckwheat, coordinates for a Tehama County location, and photo permission. Personal communications 19–20 August 2020.

Taylor, Dean Wm. 2020. Independent Consulting Botanist, Sierra Pacific Industries. Email correspondence and phone conversation regarding: additional locations and taxonomy of blushing wild buckwheat, scanned herbarium specimens collected by SPI, and map of possible locations. Personal communication 21 August 2020.

Author(s) and Date:

Ellen Dean, California Native Plant Society, 24 August 2020; revised 5 October 2021.

Reviewer(s) and Date:

Aaron E. Sims, California Native Plant Society, 3 September 2020; David L. Magney, California Native Plant Society, 6 October 2020; Julie A. Kierstead, USDA Forest Service Region 5 Ecosystem Planning, 16 December 2020.

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.

Appendix 1: Known Occurrences

Table 4. Known Occurrences of blushing wild buckwheat within California (NRIS, CNDDB, Calflora/CCH databases).

Duplicate records from the same site are given the same record number and are included in red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
1	ON SUMMIT AND UPPER SLOPES OF BULLY CHOOP MOUNTAIN, SHASTA/TRINITY COUNTY LINE, TRINITY MOUNTAINS.	Shasta/Trinity	Bully Choop Mtn. (4012257)	CNDDB, August 2020 (EO 1)	20-Aug-2003	UNKNOWN NUMBER OF PLANTS OBSERVED IN 2003. THIS SITE IS BASED ON A SURVEY FORM FOR EPILOBIUM SISKIYOUENSE WHERE "ERIOGONUM ERUBESCENS (CURRENTLY BEING DESCRIBED)" IS LISTED AS AN ASSOCIATED SPECIES.		BLM?	6950
2	MIKES PEAK AND SLOPES TO THE NORTHEAST, SOUTHWEST OF GRASS VALLEY CREEK.	Trinity	Lewiston (4012267)	CNDDB, August 2020 (EO 2)	4-Aug-2011	UNKNOWN NUMBER OF PLANTS SEEN IN NE POLYGON IN 2004. 50 PLANTS SEEN IN SW POLYGON IN 2007. UNKNOWN NUMBER OF PLANTS SEEN IN MIDDLE POLYGON IN 2011.		Private-Sierra Pacific	4400

Duplicate records from the same site are given the same record number and are included in red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3	RIDGE EXTENDING EAST FROM MONTANA PEAK, FROM 0.6 TO 1.3 AIR MILES EAST OF PEAK, KLAMATH NATIONAL FOREST.	Siskiyou	Yreka (4112266)	CNDDB, August 2020 (EO 3)	18-Aug-2010	ABOUT 350 PLANTS ESTIMATED IN 2002. ABOUT 1000 PLANTS ESTIMATED IN 2010.	PILES OF SHOTGUN DEBRIS AND BEER BOTTLES SEEN ALONG WITH ATV TRACKS (2002). POPULATION IS FREE OF DISTURBANCE (2010).	Klamath NF	5500
4	IN SADDLE 0.25 MILE NORTHEAST OF MAHOGANY POINT, 0.7 MILE SOUTHWEST OF MONTANA PEAK, KLAMATH NATIONAL FOREST.	Siskiyou	Yreka (4112266)	CNDDB, August 2020 (EO 4)	18-Jul-2002	49 PLANTS COUNTED IN 2002.		Klamath NF	5500

Duplicate records from the same site are given the same record number and are included in red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
5	SADDLE BETWEEN MONTANA PEAK AND MAHOGANY POINT, ON NORTH SIDE OF ROAD 45N28, RIDGE AT HEAD OF WATER GULCH.	Siskiyou	Yreka (4112266)	CNDDB, August 2020 (EO 5)	20-Aug-2010	ABOUT 90 PLANTS ESTIMATED IN 2002 AND 2010.	RIDGE ROAD BUILT LONG AGO, POSSIBLY THROUGH A PORTION OF THE POPULATION. ADJACENT UNITS PROPOSED FOR TIMBER SALE.	Klamath NF	5500
6	SUMMIT OF INDIAN CREEK BALDY, ABOUT 0.65 AIR MILE SSE OF BALDY GAP, KLAMATH NATIONAL FOREST.	Siskiyou	Indian Creek Baldy (4112267)	CNDDB, August 2020 (EO 6)	23-Jul-2002	3,000 TO 4,000 PLANTS OBSERVED IN 2002.	EVIDENCE OF HIKERS, OLD CANS.	Klamath NF	5500
7	JUST NORTHWEST OF MAHOGANY POINT, ABOUT 1.25 MILES EAST OF GUNSIGHT PEAK.	Siskiyou	Indian Creek Baldy (4112267)	CNDDB, August 2020 (EO 7)	23-Jul-2002	226 PLANTS OBSERVED IN 2002. PLANTS SCATTERED THROUGHOUT ROCKS. 1982 COLLECTION BY REED ATTRIBUTED TO THIS SITE.	SITE BURNED IN 1955. OCCASIONAL ORV USE.	Klamath NF	5500

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8	TOP OF DEADWOOD BALDY PEAK, ABOUT 1.5 AIR MILES NORTHWEST OF MCKINLEY MTN, SCOTT BAR MOUNTAINS, KLAMATH NATIONAL FOREST.	Siskiyou	McKinley Mtn. (4112277)	CNDDB, August 2020 (EO 8)	5-Aug-2002	TYPE LOCALITY. GREATER THAN 1000 PLANTS OBSERVED IN 2002. PLANTS EXTENSIVE IN THE AREA. AREA WAS SURVEYED MOSTLY FROM ABOVE TREE LINE; EXCEPT WEST (AND SOUTH) OF SECTION 7.	NO PLANTS FOUND ON ROAD OR AT OLD LOOKOUT TOWER SITE.	Klamath NF	5500
9	1 MILE SOUTH OF TRINITY MOUNTAIN, ALONG FOREST ROAD 3N05.	Shasta | Trinity	Papoose Creek (4012276)	CNDDB, August 2020 (EO 9)	3-Aug-2011	SITE IS BASED ON A 2011 COLLECTION BY TAYLOR.		Private-Sierra Pacific	3900
10	NORTHWEST SLOPE OF SCHELL MOUNTAIN, APPROXIMATELY 2.3 AIR MILES EAST OF CLEAR CREEK.	Shasta	Schell Mtn. (4012275)	CNDDB, August 2020 (EO 13)	6-Jul-2012	348 PLANTS OBSERVED IN 2012: ~9.5% OF THE PLANTS ARE IN THE PATH OF A PROPOSED ROAD, AND 1 PLANT IS IN THE TIMBER HARVEST UNIT.	SURROUNDING LAND USE IS TIMBER HARVEST. PROPOSED ROAD CONSTRUCTION WILL AFFECT THE POPULATION.	Private-Sierra Pacific	4200

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11	ON RIDGELINE BETWEEN WILD COW MOUNTAIN AND SCHELL MOUNTAIN, ABOUT 1 AIR MILE SSW OF SUMMIT OF SCHELL MOUNTAIN.	Shasta	Schell Mtn. (4012275)	CNDDB, August 2020 (EO 14)	18-Jun-2012	50-100 PLANTS OBSERVED IN 2012. WILDFIRE BURNED THROUGH AREA (1999 HIGH COMPLEX).		Shasta-Trinity NF	4400
12	NORTHWEST OF WILD COW MOUNTAIN, APPROXIMATELY 1.75 AIR MILES SOUTHEAST OF HALL CABIN ON CLEAR CREEK.	Shasta	Schell Mtn. (4012275)	CNDDB, August 2020 (EO 15)	6-Jul-2012	1 PLANT OBSERVED IN 2012. LOCATED DOWNSLOPE FROM A CLARKIA BOREALIS SSP. BOREALIS POPULATION.		Shasta-Trinity NF	3776
13	INTERSECTION OF COUNTY ROAD 106 AND USFS ROAD 35N17X, ABOUT 3 AIR MILES NORTHEAST OF TRINITY MOUNTAIN.	Trinity	Papoose Creek (4012276)	CNDDB, August 2020 (EO 16)	4-Aug-2011	15 PLANTS OBSERVED IN TWO CLUMPS IN 2008. UNKNOWN NUMBER OF PLANTS SEEN IN 2011. A 2006 COLLECTION BY NELSON IS ALSO ATTRIBUTED TO THIS OCCURRENCE. THE RARE CLARKIA BOREALIS SSP. BOREALIS OCCURS NEARBY.	SURROUNDING LAND USE IS TIMBER HARVEST.	Private-Sierra Pacific	4581

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
14	ALONG TRI CO RD 106, JUST INSIDE SHA CO AT THE INTERSECTION OF FS RD 35N92, NE OF TRINITY MOUNTAIN GUARD STATION (SITE).	Shasta/Trinity	Papoose Creek (4012276)	CNDDB, August 2020 (EO 17)	10-Jul-2006	SITE IS BASED ON A 2006 PHOTO BY ENGSTROM IN CALPHOTOS.		Shasta-Trinity NF	3900
15	~0.49 AIR MI SE OF THE MOUTH OF PAPOOSE CREEK, 1.5 AIR MILES EAST OF LITTLE PAPOOSE CREEK, NORTHEAST OF LOOKOUT RIDGE.	Trinity	Papoose Creek (4012276)	CNDDB, August 2020 (EO 18)	3-Jul-2012	ABOUT 10 CLUMPS OBSERVED IN 2012. THESE PLANTS ARE BEING TREATED AS E. URSINUM VAR. ERUBESCENS, THOUGH THEY MAY BE E. URSINUM VAR. URSINUM.	SURROUNDING LAND USE IS TIMBER HARVEST; FORESTER WILL PRESCRIBE PLANT PROTECTION MEASURES.	Private-Sierra Pacific	3091
16	ALONG COUNTY LINE ROAD, WEST ABOVE THE ORIGINS OF NORTH FORK FIVEMILE GULCH, ~3.6 AIR MILES SOUTH OF TRINITY MOUNTAIN.	Shasta	Papoose Creek (4012276)	CNDDB, August 2020 (EO 19)	2-Jul-2012	SITE INITIALLY LOCATED BY USFS IN 2009. 2 CLUMPS OF PLANTS OBSERVED IN 2012. FLOWERS WERE BLUSHING, AND WERE BIUMBELLATE AND TRIBUMBELLATE. ID IS UNSURE, UNCERTAIN ON THE CIRCUMSCRIPTION OF THE TWO MINOR VARIANTS OF URSINUM.		Shasta-Trinity NF	4160

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17	0.9 AIR MILE WEST OF HIGH MOUNTAIN, ALONG A DRAW DRAINING TO NORTH FORK SALT CREEK, 6.6 AIR MILES EAST OF POLLARD FLAT.	Shasta	Hanland Peak (4012283)	CNDDB, August 2020 (EO 20)	15-Jul-2011	UNKNOWN NUMBER OF PLANTS OBSERVED IN 2011.	SURROUNDING LAND USE IS TIMBER HARVEST; FORESTER WILL IMPLEMENT PROTECTION MEASURES.	Private-Sierra Pacific	3300
18	SOUTH OF A TRIBUTARY TO NORTH FORK SALT CREEK, ~1.5 AIR MI WSW OF HIGH MOUNTAIN, 6 AIR MI ESE OF POLLARD FLAT I-5 EXIT.	Shasta	Hanland Peak (4012283)	CNDDB, August 2020 (EO 21)	1-Jul-2011	30 PLANTS OBSERVED IN 2011.	SURROUNDING LAND IS MANAGED FOR TIMBER; FORESTER WILL IMPLEMENT APPROVED PROTECTION MEASURES.	Private-Sierra Pacific	3213
19	ABOUT 0.7 AIR MILE WEST OF BUCKS PEAK, ABOUT 2.25 AIR MILES ENE OF LAKEHEAD.	Shasta	Hanland Peak (4012283)	CNDDB, August 2020 (EO 22)	26-Sep-2011	140 PLANTS OBSERVED IN 2011.	THE FEW (4) PLANTS AT THE ROAD BANK MAY BE AFFECTED BY PROPOSED ROAD RECONSTRUCTION.	Private-Sierra Pacific	2600

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20	SW SLOPE OF SUGARLOAF MOUNTAIN; SW OF SUGARLOAF MOUNTAIN RADIO FACILITIES AND DOWNSLOPE (N) FROM USFS ROAD 35N06.	Shasta	Lamoine (4012284)	CNDDB, August 2020 (EO 23)	22-Jun-2012	100-200 PLANTS OBSERVED IN 2012.		Shasta-Trinity NF	3900
21	RIDGELINE ABOVE HEADWATERS OF LITTLE SOUTH FORK DOG CREEK, ABOUT 2.1 AIR MILES SOUTHWEST OF SUGARLOAF MOUNTAIN.	Shasta	Lamoine (4012284)	CNDDB, August 2020 (EO 24)	20-Jun-2012	25-50 PLANTS OBSERVED IN 2012. WILDFIRE BURNED THROUGH AREA (1999 HIGH COMPLEX).		Shasta-Trinity NF	3600
22	OFF SLATE MTN ROAD, ABOUT 0.2 MILE WEST OF FOOL GULCH CAMP AND 1.3 MILES SOUTHWEST OF SLATE MOUNTAIN.	Trinity	Damnation Peak (4012285)	CNDDB, August 2020 (EO 25)	11-Jun-2008	30 PLANTS OBSERVED IN 2008.	SURROUNDING LAND USE IS TIMBER HARVEST.	Private-Sierra Pacific	4402

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23	ON BOTH SIDES OF NORTH FORK DOG CREEK, SW OF MOSQUITO RIDGE, FROM 0.9 TO 1.5 AIR MILES SE OF DAMNATION PEAK.	Shasta	Damnation Peak (4012285)	CNDDB, August 2020 (EO 26)	22-Jun-2012	~15-20 PLANTS OBSERVED IN NW-MOST POLYGON AND 51 PLANTS OBSERVED IN 7 SE-MOST POLYGONS IN 2012.	SURROUNDING LAND USE IS TIMBER HARVEST; THERE ARE CURRENTLY NO PROJECTS AT THIS SPOT.	Private-Sierra Pacific	4000
24	ALONG EAST SIDE ROAD (COUNTY ROAD 106) ABOVE BRAGDON GULCH, ABOUT 0.75 AIR MILE NORTHWEST OF BLUE MOUNTAIN.	Trinity	Damnation Peak (4012285)	CNDDB, August 2020 (EO 27)	11-Jul-2012	36 PLANTS OBSERVED IN 2012.	SURROUNDING LAND USE IS TIMBER HARVEST. POTENTIAL DISTURBANCE FROM ROAD MAINTENANCE.	Private-Sierra Pacific	4800
25	ALONG EAST SIDE ROAD (COUNTY ROAD 106) ABOVE BRAGDON GULCH, ABOUT 0.2 AND 0.3 AIR MILE NORTHWEST OF BLUE MOUNTAIN.	Trinity	Damnation Peak (4012285)	CNDDB, August 2020 (EO 28)	11-Jul-2012	106 PLANTS OBSERVED IN 2012.	POTENTIAL DISTURBANCE FROM ROAD MAINTENANCE.	Shasta-Trinity NF	5000

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25	None given but maps to Trinity Mountains, vicinity of Blue Mountain, along roadside.	Trinity	Damnation Peak (4012285)	CNDDB recent survey form (Green 2020 pers. comm.)	2-Jul-2019	20 plants observed.	Road work	Shasta-Trinity NF	5043
26	SE SLOPE OF A MOUNTAIN RIDGE BETWEEN ONION CREEK AND STACEY CREEK DRAINAGES, ABOUT 9.37 AIR MILES WEST OF LAKEHEAD.	Shasta	Damnation Peak (4012285)	CNDDB, August 2020 (EO 29)	14-Jul-2011	19 CLUMPS OF PLANTS OBSERVED IN 2011.	SURROUNDING LAND USE IS TIMBER HARVEST; FORESTER WILL PROVIDE APPROVED PROTECTION MEASURES.	Private-Sierra Pacific	4400
27	WESTERLY ARM OF DOG CREEK MTN, ABOUT 0.2 MILE WEST OF THE SUMMIT, ABOVE THE UPPER REACHES OF SOUTH FORK CLEAR CREEK.	Shasta	Damnation Peak (4012285)	CNDDB, August 2020 (EO 30)	14-Jul-2011	15 PATCHES OF PLANTS OBSERVED IN 2011; PATCHES OF PLANTS RANGED IN SIZE FROM 1'X1' TO 2.5'X2.5'. THESE ARE BELIEVED TO BE E. U. VAR. ERUBESCENS BASED ON THE LARGER STATURE OF THE INDIVIDUALS AND THE RANGE.	SURROUNDING LAND USE IS TIMBER HARVEST.	Private-Sierra Pacific	4350

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28	ABOVE DRAINAGE LEADING TO N END OF TRINITY LAKE, SW OF USFS ROAD 37N55, ~1.3 AIR MI WSW OF BUCKEYE CREEK/HWY 3 CROSSING.	Trinity	Carrville (4112216)	CNDDB, August 2020 (EO 31)	4-Aug-2011	40 PLANTS OBSERVED IN 2010. UNKNOWN NUMBER OF PLANTS OBSERVED IN 2011.	SURROUNDING LAND USE IS TIMBER HARVEST; POPULATION HAS BEEN FLAGGED, FORESTER WILL TAKE PLANT PROTECTION MEASURES.	Private-Sierra Pacific	4000
29	NORTH SLOPE OF PEAK ABOVE BAKER CABIN, HEAD OF PICNIC CREEK, SCOTT BAR MOUNTAINS.	Siskiyou	Russell Peak (4112268)	CNDDB, August 2020 (EO 32)	29-Jun-2009	GREATER THAN 100 PLANTS OBSERVED IN 2009.		Klamath NF	6000
30	APPROXIMATELY 1.7 AIR MILES SE OF POLLARD FLAT, SOUTH OF NORTH SALT CREEK, EAST OF THE SACRAMENTO RIVER.	Shasta	Lamoine (4012284)	CNDDB, August 2020 (EO 33)	6-Feb-2016	29 PLANTS OBSERVED IN 2016.	NONE.	Private-Sierra Pacific	3445

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31	APPROXIMATELY 1.1 AIR MILES SE OF POLLARD FLAT, SOUTH OF NORTH SALT CREEK, EAST OF THE SACRAMENTO RIVER.	Shasta	Lamoine (4012284)	CNDDB, August 2020 (EO 34)	20-Jun-2016	46 PLANTS OBSERVED IN 2016.	NONE.	Private-Sierra Pacific	2875
32	APPROXIMATELY 0.9 AIR MILE SW OF MAPLE SPRING, WEST OF POLLOCK.	Shasta	Lamoine (4012284)	CNDDB, August 2020 (EO 35)	3-Jun-2014	30 PLANTS OBSERVED IN 2014. OTHER OUTCROPS ARE VISIBLE FROM THIS SITE BUT NOT INVESTIGATED- VERY STEEP COUNTRY.	NONE.	Shasta-Trinity NF	3845
33	ABOUT 1.1 AIR MILES NNW OF THE CONFLUENCE OF CLEAR CREEK AND BRUSH CREEK, 1.9 AIR MILES SSE OF BLUE MOUNTAIN.	Shasta	Schell Mtn. (4012275)	CNDDB, August 2020 (EO 36)	14-Jun-2016	~17 PLANTS OBSERVED IN 2013. UNKNOWN NUMBER OBSERVED IN 2015 AND 2016. ID NEEDS CONFIRMATION; CIRCUMSCRIPTION OF THE TWO MINOR VARIANTS OF URSINUM IS UNCERTAIN.	2 PLANTS GROWING IN AN ESTABLISHED PLANTATION WITH PAST DISTURBANCE. POTENTIAL ROAD MAINTENANCE.	Private-Sierra Pacific	4175

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34	APPROXIMATELY 0.53 MILE SE OF BLUE MOUNTAIN, ON THE EASTERN SLOPE OF TRINITY MOUNTAINS.	Shasta	Damnation Peak (4012285)	CNDDB, August 2020 (EO 37)	3-Jun-2015	3 PLANTS OBSERVED IN 2015.	LOCATED WITHIN A UNIT PROPOSED FOR TIMBER HARVEST. THE OCCURRENCE IS PROTECTED WITHIN A FLAGGED HABITAT RETENTION AREA.	Private-Sierra Pacific	4695
35	S-FACING SLOPE S OF CURL RIDGE ABOVE TRIBUTARIES OF W FORK SQUAW CREEK, ABOUT 0.96 AIR MI S OF HAPPY HUNTING GROUNDS.	Shasta	Shoeinhorse Mtn. (4112211)	CNDDB, August 2020 (EO 38)	2-Jul-2013	3 CLUSTERS OBSERVED IN 2013. ID NEEDS CONFIRMATION; CIRCUMSCRIPTION OF THE TWO MINOR VARIANTS OF URSINUM IS UNCERTAIN.	AREA IS NON-TIMBERED AND NOT LIKELY TO BE AFFECTED BY FUTURE TIMBER HARVESTS.	Private-Sierra Pacific	3100
36	NORTH OF SADDLE AT END OF RIDGE TO NORTH OF BONANZA KING LOOKOUT.	Trinity	Whisky Bill Peak (4112215) | Carrville (4112216)	CNDDB, August 2020 (EO 39)	24-Jul-1993	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1993 HRUSA COLLECTION. NEEDS FIELDWORK.		Shasta-Trinity NF	
37	Flat serpentine outcrop and gravel roadside along road 36N63, south of Slate Mountain.	Shasta	Damnation Peak (4012285)	Calflora 2020 (gp18455)	12-Aug-2019	101 - 1000		Shasta-Trinity NF	5348

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38	None provided.	Shasta	Damnation Peak (4012285)	Calflora 2020 (gp19221)	8-Jul-2019	11 to 50		Shasta-Trinity NF	3973
39	In the vicinity of Lyonsville, Dead Horse Falls, and Diamond Lake. Approximately 2 air miles SE of Lyonsville and 3.5 air miles W of Diamond Lake.	Tehama	Lyonsville (4012136)	CNDDB recent survey form (Green 2020 pers. comm.)	8-Jan-2018	44	In proposed timber harvest unit. Will use CalFire approved protection measures.	Private-Sierra Pacific	4575
40	In the vicinity of Lyonsville, Pear Lake, and Cold Creek Butte. Approximately 2.9 air miles NE of Lyonsville and 3.3 air miles NW of Pear Lake. Growing on the north slope of the North Fork of Antelope Creek.	Tehama	Lyonsville (4012136)	CNDDB recent survey form (Green 2020 pers. comm.)	8-Jan-2018	350	Growing outside of current timber harvest unit but near timber harvest activities. Will use CalFire approved protection measures.	Private-Sierra Pacific	4994
41	Approximately 0.37 air miles N of Hwy 36 and just W of an unamed dirt road.	Lassen	Westwood East (4012038)	CNDDB recent survey form (Green 2020 pers. comm.)	8-Sept-2016 and Jul-2017	30	Road edge.	Private-Sierra Pacific	5396

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42	Approximately 0.39 air miles upslope from Corral Creek and 1.15 air miles SE from Cannon Ball Flat.	Trinity	Bully Choop Mountain (4012257)	CNDDB recent survey form (Green 2020 pers. comm.)	7-Aug-2017	44		Private-Sierra Pacific	4401
43	Mapped along road near Slate Creek.	Shasta	Schell Mtn. (4012275)	CNDDB recent survey form (Green 2020 pers. comm.)	26-Jun-2019	80	Erosion/landslide	Shasta-Trinity NF	3827
44	Dog Creek Rd., Lakehead. I-5 exit 707 toward Delta/Vollmers, heading W on Dog Creek Rd. towards Trinity Lake. Logging skid trail running S from Dog Creek Rd. between Dog Creek Mtn. and Schell Mtn.	Shasta	Schell Mtn. (4012275)	Recent CNPS Rare Plant Treasure Hunt Form (Green 2020 pers. comm.).	24-Sep-2019	35	Logging but may benefit from disturbance	Shasta-Trinity NF	4344
45	Western flank Dyer Mountain, along logging roads ca 1 mile E of eastern shore of Lake Almanor; T27N R08E S11 NW1/4 of NW1/4	Plumas	Canyon Dam	CCH1 and CCH2 (CHSC118364)	18-Jul-12			Private-Sierra Pacific	4951