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AN UPDATED DATABASE OF SERPENTINE ENDEMISM IN THE CALIFORNIA FLORA

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ABSTRACT

We update and revise the serpentine affinity database of Safford et al. (2005), which documents levels of plant taxon association with ultramafic (“serpentine”) substrates in the California flora. The revised database reflects recent taxonomic changes consistent with the second edition of the Jepson Manual (TJM2) and more recent updates to the Jepson eFlora, and includes additional species that were not previously documented as serpentine associates. We also include serpentine-associated species that have been described since the publication of TJM2 and are not yet incorporated in the eFlora. A number of taxa were removed from the Safford et al. (2005) database due to new ecological information or taxonomic changes. As before, the new database presents information on rarity, geographic distribution, taxonomy, and lifeform. Based on our new database numbers and TJM2’s list of California endemic species, the percentage of California endemic full species that are +/- restricted to ultramafic substrates has risen to 14.7%. Of 255 total endemic taxa in our database (including strict and “broad” endemics), 148 (c. 60%) come from only ten plant families, concentrated mostly in one or two genera per family. The North Coast and Klamath Ranges continue to support more serpentine endemics than the rest of the State combined. The previous version of the database has been widely used in biodiversity research and conservation management, and we hope that this improved and updated version will prove as valuable.

Key Words: California flora, edaphic, endemics, serpentine, ultramafic.

Soils derived from ultramafic parent materials—often referred to as “serpentine”—support a great diversity of plant life in California. Serpentine soils are generally ecologically stressful environments because they are poor in plant macronutrients, have high magnesium : calcium ratios, and contain toxic heavy metals (Alexander et al. 2007). Serpentine environments support high levels of native plant diversity partly because they are less likely to support the (often non-native) dominant species that competitively exclude other plants on more fertile substrates (Brooks 1987). In addition, the stressful environment of serpentine leads to high levels of endemism. While serpentine soils occupy less than 1.5% of California’s geographic area (Harrison et al. 2000), a high number of California’s endemic plant species are partially or entirely restricted to serpentine soils (described below, also see Safford et al. 2005; Safford 2011). Understanding the plant diversity associated with serpentine environments is important for facilitating research into basic ecological and evolutionary questions (of which there is a long history in California serpentine; Harrison and Rajakaruna 2011), as well as for informing management decisions involving landscapes, natural disturbances, and conservation (Safford and Harrison 2004, 2008).

To this point, the serpentine endemism database of Safford et al. (2005) has provided the most comprehensive documentation of plant species affin-

ities for serpentine substrates in California. This database assigns plant taxa a ranking representing their degree of specialization to serpentine soils based on herbarium records, botanical descriptions, field data, expert opinion, and published literature. The database has been widely used for a variety of purposes since its publication. The rankings have been cited by numerous ecological and evolutionary studies, such as research on the evolutionary origins of serpentine adaptation (Anacker et al. 2010), biogeographic considerations of plant diversity and endemism in the California flora (Harrison et al. 2006; Burge et al. 2011), autoecological studies of serpentine species (Eckert 2006), and studies of mycorrhizae on serpentine soils (Southworth et al. 2014). The serpentine affinity rankings have been integrated into the CalFlora (<http://www.calflora.org>) web interface—a database on California plants—where the rankings are displayed on the pages of serpentine-associated species. The serpentine database has also been used by land managers in conservation planning, environmental assessments and impact statements, and resource management plans.

METHODS

Our understanding of the systematics and ecology of the California flora has expanded substantially since the earlier version of this database was

TABLE 1. TAXA DROPPED FROM SERPENTINE AFFINITY DATABASE AFTER 2012. TJM2 (Baldwin et al. 2012) included many taxonomic changes and new taxa. These changes were incorporated into the database at the time of TJM2. This table includes taxa dropped from the list since that time.

Species	Family	Reason and source
<i>Chlorogalum purpureum</i> var. <i>reductum</i> Hoover	Agavaceae	Taxon does not grow on serpentine soils (Kofron et al. 2013)
<i>Cardamine pachystigma</i> var. <i>pachystigma</i> (S. Watson) Rollins	Brassicaceae	Taxon is not a serpentine indicator; reanalysis of herbarium and collection records
<i>Sedum obtusatum</i> ssp. <i>obtusatum</i> A. gray.	Crassulaceae	Taxon is not a serpentine indicator; reanalysis of herbarium and collection records
<i>Carex amplexens</i> Steud.	Cyperaceae	Moved to <i>Carex fracta</i> Mack. by Baldwin et al. (2012), which is not a serpentine indicator
<i>Swertia fastigiata</i> Pursh	Gentianaceae	Moved to <i>Frasera umquaensis</i> M. Peck & Applegate by Baldwin et. al (2012), which is not a serpentine indicator
<i>Calochortus greenii</i> S. Watson	Liliaceae	Taxon does not grow on serpentine soils; government agency (BLM, USFWS) reports on species ecology
<i>Ceanothus papillosus</i> Torr. & A. Gray var. <i>roweanus</i> McMinn	Rhamnaceae	Taxon not recognized by TJM2 or Jepson eFlora, herbarium collections and CalFlora observations do not support taxon as serpentine indicator
<i>Brodiaea pallida</i> Hoover	Themidaceae	New collections show that only 1 of 5 population groups occurs on serpentine; R. Preston, UC Davis, pers. comm.
<i>Brodiaea purdyi</i> Eastw.	Themidaceae	Taxon subsumed within <i>B. minor</i> (Benth.) S. Watson, which is not a serpentine indicator (Preston 2006; Baldwin et al. 2012)

published. Here, we provide a revised version of the database (Appendix 1; Supplemental Table 1), with nomenclature updated to reflect The Jepson Manual, 2nd edition (TJM2; Baldwin et al. 2012) and then again using the most recent Jepson eFlora (most recent version accessed November 18, 2019; Jepson Flora Project 2019). This contribution follows on Safford (2011), which provided a lay person's summary of the status of the endemism database just as TJM2 was being prepared for press. The general patterns discussed in Safford (2011) are still valid, but it was important to incorporate the published results from Baldwin et al. (2012) and the most recent Jepson eFlora (Jepson Flora Project 2019), and to provide a completely revised version of the database itself, which was not part of Safford (2011).

In the current database (Appendix 1), we have added numerous additional species that were not included on the original 2005 list, many of which are recently described serpentine-associated species. We also removed seven taxa from the list that we constructed after TJM2 (Table 1) because recent taxonomic changes and/or further study has indicated they are not strongly associated with serpentine substrates. To revise the original list, we first updated nomenclature to current Jepson eFlora names (as of November 18, 2019; Jepson Flora Project 2019). We then solicited feedback on the list from numerous expert California botanists and requested suggestions for additional species that should be included. We also conducted a literature review for recently described species that have affinities for serpentine. We then conducted further research on all species that were identified by experts or through the

literature review as possibilities for addition to or removal from the list, as described below.

We have ranked new additions to the list using the same semi-quantitative scale as the original database (see Safford et al. 2005 for details), with the difference that we have reduced all rankings >6 to 6, as those resulted from the addition of CalFlora information (which at the time could be considered independent of our other sources). Today CalFlora directly references the serpentine affinity database in its species descriptions. Rankings of new additions to the list presented here are based primarily on herbarium records (mostly accessed via the Consortium of California Herbaria (CCH1 2019; CCH2 2019), habitat descriptions by Baldwin et al. (2012) and the Jepson eFlora (Jepson Flora Project 2019), CalFlora observation records (CalFlora 2019), the primary literature, and in some cases, direct input from botanical experts. In the CCH herbarium records, we accessed at least 150 collection records for each taxon (except where records totaled <150, in which case we accessed all records), using random selection where necessary to ensure no bias in regional coverage. Where CCH or CalFlora records were <5, we combined the two and treated them as a single information source. We used the Berkeley Mapper (linked to the CCH website), Google Earth, our field experience, and various geologic and jurisdictional (e.g., US Forest Service) maps to visualize the locations of herbarium records and to determine, when possible, whether botanical records lacking geological information were found on or off of ultramafic substrates. Taxa with >50% of usable records ("usable" = the records identified the substrate, or we were able to determine the substrate by another fashion) from serpentine made their way

TABLE 2. TAXA INCLUDED IN THE SERPENTINE AFFINITY LIST THAT ARE NOT IN THE CURRENT JEPSON eFLORA (AS OF NOVEMBER 18, 2019). These include recently described taxa as well as taxa that are widely recognized by botanists in California, but are not included in the current eFlora because of taxonomic uncertainty.

Taxon	Source
<i>Brodiaea rosea</i> ssp. <i>rosea</i> (Greene) Baker	Preston 2013
<i>Calystegia vanzuukiae</i> Brummitt & Namoff	Brummitt and Namoff 2013
<i>Cardamine pachystigma</i> var. <i>dissectifolia</i> (S. Watson) Rollins	R. Preston and L. Janeway, pers comm and CCH and CalFlora records
<i>Claytonia serpenticola</i> T.R. Stoughton	Stoughton 2017
<i>Dicentra formosa</i> ssp. <i>oregana</i> (Haw.) Walp.	Baldwin et al. 2012; L. Hoover, U.S. Forest Service, pers. comm.
<i>Erythranthe willisii</i> G.L. Nesom	Nesom 2017
<i>Hesperolinon sharsmithiae</i> R. O'Donnell	O'Donnell 2006
<i>Sedum eastwoodiae</i> (Britton) A. Berger	Zika et al. 2018
<i>Sedum flavidum</i> B.L. Wilson & Zika	Zika et al. 2018
<i>Sedum kiersteadiae</i> B.L. Wilson & R.E. Brainerd	Wilson et al. 2014
<i>Sedum patens</i> Zika	Zika et al. 2018
<i>Sedum rubiginosum</i> Zika & B.L. Wilson	Zika et al. 2018
<i>Vaccinium coccineum</i> Piper	L. Hoover and J. Nelson, U.S. Forest Service, pers comm.

onto the final list. Rankings of new list additions (e.g., recently described species) should be used cautiously since many of them are based on limited data, and we suggest that all species ranked based on three or fewer sources are in need of further study. All species in the updated list follow the nomenclature of the current (November 2019) Jepson eFlora except for 13 taxa (Table 2), most of which are recently described.

We emphasize that we did not carry out a complete search of new collection records for every taxon since 2005. This was only carried out for taxa where recent publications, taxonomic changes, or personal communications from California botanists led us to believe that such a search might change the status of the species. For new additions to the list, we no longer required three separate sources of information supporting their affinity for serpentine if evidence for their affinity to serpentine appeared strong (for example, in the herbarium records).

Finally, it is important to note that for species for which *all* described infraspecific taxa (subspecies, varieties) exhibit the same level of serpentine affinity, we only include the full species name in our database.

RESULTS AND DISCUSSION

As in Safford et al. (2005) and Safford (2011), we define serpentine endemic taxa as those that scored at least 4.5 in our ranking process. Put another way, our class of “serpentine endemics” includes strict endemics (more than c. 95% of recorded occurrences on ultramafics) and broad endemics (c. 85–94%). The updated serpentine affinity database (Appendix 1) contains 255 endemic taxa (strict plus broad endemics), 193 of which are full species (this includes five species for which all of the subspecies are listed in the database due to differing levels of serpentine affinity: *Arctostaphylos bakeri* Eastw., *A. montana* Eastw., *Calystegia collina* (Greene) Brummitt, *Cirsium font-*

nale (Greene) Jeps., and *Lessingia micradenia* Greene). Thus, serpentine endemic species account for about 14.7% – more than 1/7 – of the endemic species in California (based on 1315 endemic species in Baldwin 2012). This is a notable increase from the 12.5% reported by Safford et al. (2005), and is due to additions of newly described species and a decrease in the number of California endemic species according to Baldwin et al. (2012).

Taxonomic revisions have led to some changes from Safford et al. (2005) in the ordering of family and genera with the most serpentine endemic taxa. Asteraceae remains the family with the most serpentine endemics, with 25 strict endemics, 13 broad endemics, and 106 total serpentine-associated taxa (Table 3). Liliaceae, which historically contained the second most serpentine endemics of any family (considering both strict and broad endemics), has been split into several smaller families, many of which are further down the current list, including Alliaceae – also in the top ten families, Agavaceae, Themidaceae, and so on. As a result, Brassicaceae is now the second most endemic-rich family (Table 3). Scrophulariaceae was also split in Baldwin et al. (2012) into numerous plant families, and it has dropped from a fifth place ranking in the Safford et al. (2005) rankings to a complete absence from the list now. Families derived from Scrophulariaceae are still important components of serpentine endemism in California however: for example, Orobanchaceae currently occupies sixth place on the list, and Phrymaceae and Plantaginaceae are further down the list. *Eriogonum* is now the most endemic-rich genus, followed by *Streptanthus* (Table 4).

As discussed by Safford et al. (2005; see their Figs 1 and 2), the distribution of taxa among plant families and genera is very different when comparing serpentine endemics and California endemics. Families which support many more serpentine endemic taxa than expected include Linaceae, Polygonaceae,

TABLE 3. NUMBERS OF SERPENTINE ENDEMIC AND NEAR ENDEMIC TAXA BY FAMILY. ¹ Strict endemics. ² Strict endemics plus broad endemics (“endemic taxa” in this paper). ³ Strict and broad endemics plus “near endemic” taxa (taxa transitional from strong indicators to broad endemics). ⁴ Total taxa in our database, including weak indicators and taxa transitional from indifferent to weak indicators. Families ranked by numbers of endemics (strict + broad).

Family	Serpentine affinity score			Total ⁴
	≥5.5 ¹	≥4.5 ²	≥3.5 ³	
Asteraceae	25	38	46	106
Brassicaceae	19	24	28	38
Polygonaceae	11	19	22	41
Liliaceae	5	13	16	38
Polemoniaceae	9	10	11	21
Orobanchaceae	7	10	10	19
Apiaceae	7	9	12	33
Crassulaceae	8	9	9	16
Linaceae	8	9	9	14
Ericaceae	5	8	10	15
Fabaceae	4	7	11	25
Alliaceae	4	7	11	24
Lamiaceae	6	7	9	17
Boraginaceae	6	6	11	24
Caryophyllaceae	5	6	8	18
Campanulaceae	3	5	8	13
Rhamnaceae	4	5	7	14
Onagraceae	3	5	7	13
Cyperaceae	3	5	7	12
Convolvulaceae	1	5	6	7
Phrymaceae	4	4	6	8
Rubiaceae	3	4	4	8
Montiaceae	0	3	6	17
Rosaceae	1	3	6	11
Plantaginaceae	1	3	5	15
Poaceae	1	3	3	18
Iridaceae	2	3	3	5
Violaceae	0	2	3	7
Cupressaceae	0	2	3	6
Malvaceae	2	2	2	7
Agavaceae	2	2	2	5
Salicaceae	2	2	2	3
Gentianaceae	2	2	2	2
Garryaceae	1	2	2	2
Themidaceae	0	1	5	8
Ranunculaceae	1	1	3	7
Papaveraceae	0	1	1	5
Berberidaceae	1	1	1	4
Pteridaceae	0	1	1	4
Fagaceae	1	1	1	3
Orchidaceae	0	1	1	3
Dryopteridaceae	1	1	1	2
Lentibulariaceae	1	1	1	1
Apocynaceae	1	1	1	1
Verbenaceae	0	1	1	1
Melanthiaceae	0	0	2	4
Pinaceae	0	0	1	6
Parnassiaceae	0	0	1	2
Saxifragaceae	0	0	1	1
Sarraceniaceae	0	0	1	1
Tecophilaeaceae	0	0	0	1
Primulaceae	0	0	0	1
Polygalaceae	0	0	0	1
Cistaceae	0	0	0	1

TABLE 4. GENERA WITH MORE THAN THREE TAXA ENDEMIC TO SERPENTINE (MEAN AFFINITY SCORE ≥ 4.5).

Genus	Family	Number of taxa
<i>Eriogonum</i>	Polygonaceae	19
<i>Streptanthus</i>	Brassicaceae	18
<i>Allium</i>	Alliaceae	11
<i>Arctostaphylos</i>	Ericaceae	9
<i>Hesperolinon</i>	Linaceae	9
<i>Carex</i>	Cyperaceae	7
<i>Lomatium</i>	Apiaceae	7
<i>Erythranthe</i>	Phrymaceae	6
<i>Navaretia</i>	Polemoniaceae	6
<i>Packera</i>	Asteraceae	6
<i>Phacelia</i>	Boraginaceae	6
<i>Sedum</i>	Crassulaceae	6
<i>Calystegia</i>	Convolvulaceae	5
<i>Campanula</i>	Campanulaceae	5
<i>Cordylanthus</i>	Orobanchaceae	5
<i>Erigeron</i>	Asteraceae	5
<i>Fritillaria</i>	Liliaceae	5
<i>Monardella</i>	Lamiaceae	5
<i>Boechera</i>	Brassicaceae	4
<i>Calochortus</i>	Liliaceae	4
<i>Castilleja</i>	Orobanchaceae	4
<i>Ceanothus</i>	Rhamnaceae	4
<i>Cirsium</i>	Asteraceae	4
<i>Galium</i>	Rubiaceae	4
<i>Harmonia</i>	Asteraceae	4
<i>Horkelia</i>	Rosaceae	4
<i>Lessingia</i>	Asteraceae	4

Brassicaceae, Apiaceae, Caryophyllaceae, and Liliaceae. Genera that follow the same pattern of notable enrichment in serpentine endemics include *Streptanthus*, *Minuartia*, *Cordylanthus*, *Packera*, and *Hesperolinon*.

Of the five geographic regions identified by Safford et al. (2005), the North Coast region remains the geographic leader in number of serpentine endemic taxa (127), and the Klamath region supports the most serpentine endemics that are restricted to a

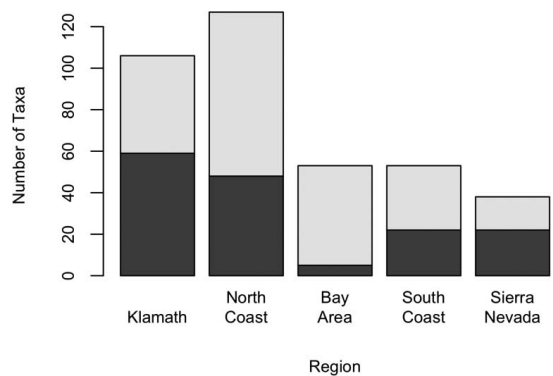


FIG. 1. Geographic distribution of serpentine endemic taxa (mean score ≥ 4.5) in California. Dark areas of bars represent taxa restricted to a single geographic region, and light areas represents taxa that also occur in other regions. Geographic regions are from Baldwin et al. (2012).

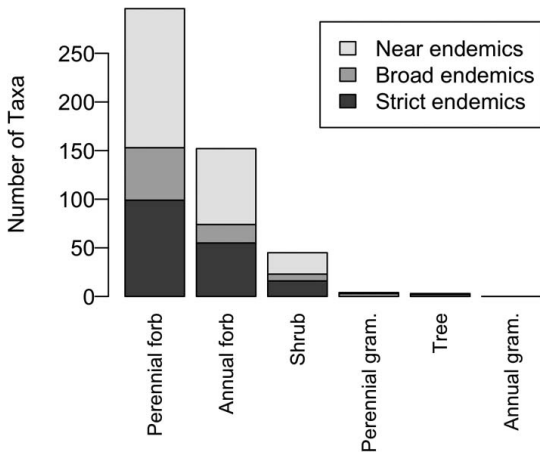


FIG. 2. Lifeforms of serpentine endemic and near endemic taxa (mean score ≥ 3.5) in California.

single region (60; Fig. 1). Together, the North Coast and Klamath regions support 146 serpentine endemic taxa that are found nowhere else in the state. See Safford (2011) for a figure and short discussion regarding the elevational distribution of serpentine endemic taxa in California. In short, most taxa grow in habitats below 1000 m elevation and few are found above 1500 m, primarily due to the relative rarity of ultramafic outcrops above that elevation.

Among the endemic taxa, 216 are dicots, 35 are monocots, two are gymnosperms, and two are pteridophytes (Appendix 1). The distribution of life forms is shown in Fig. 2. Serpentine endemic taxa in California are primarily perennial forbs (153 of 255 taxa, including three that can also be annuals), most of the rest are annual forbs (74 taxa, including the same three taxa); less than 10% of the endemic taxa in our database are woody species (Fig. 2).

192 (77%) of the endemic taxa in our database are listed in the CNPS Inventory of Rare and Endangered Plants (CNPS 2019). 108 serpentine endemic taxa are assigned California Rare Plant Rank 1B, which includes Federal and State threatened and endangered taxa as well as those taxa that the California Native Plant Society believes warrant listing (Appendix 1).

The richness of serpentine endemic taxa in California is astonishing, given the limited area of the state that supports ultramafic rocks and soils. Yet, amazingly, new species continue to be described from ultramafic soils in California. Only 15 years after embarking on this exercise for the first time, we expanded the list of California serpentine endemics by 3.7%. Given the outsized contribution made to California's natural riches by ultramafic substrates and their biota, we hope and expect that botanical and geocological exploration will continue to expand the California serpentine flora, as well as our understanding of the factors that make it so diverse.

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APPENDIX 1. Updated list of taxa associated with serpentine ordered by family and taxon.¹ Names as in the Jepson eFlora (except for species listed in Table 2);² Aff = Affinity; SE = strict endemic, BE = broad endemic, BE/SI = broad endemic/strong indicator, SI = strong indicator, WI = weak indicator, WI/IN = weak indicator/indifferent.³ Mean affinity score.⁴ Sum of all affinity scores.⁵ Median of affinity scores.⁶ Standard deviation of affinity scores.⁷ California Native Plant Society rarity codes (CNPS 2019).⁸ Geographic distribution: KL = Klamath Ranges, NC = North Coast Ranges, BA = San Francisco Bay Area, SC = South Coast Ranges, SN = Sierra Nevada.⁹ Life forms are abbreviated as follows: carn = carnivorous, cesp = caespitose, hemipar = hemiparasitic, paras = parasitic, rhiz = rhizomatous.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Sourc.	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Chlorogalum angustifolium</i>	Kellogg	Agavaceae	WI	2.4	9.5	4	1.8	2.8		1				Perennial forb (bulb)	
<i>Chlorogalum grandiflorum</i>	Hoover	Agavaceae	WI/IN	1	2		-		1B.2					Perennial forb (bulb)	
<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	(D.C.) Kunth	Agavaceae	SE	6	30	5	6	0	1B.2					Perennial forb (bulb)	
<i>Hastingsia alba</i>	(Durand) S. Watson	Agavaceae	SI	3.4	17	3	1.5			1				Perennial forb (bulb)	
<i>Hastingsia serpentinicola</i>	R. Becking	Agavaceae	SE	6	18	3	6	0		1				Perennial forb (bulb)	
<i>Alium acuminatum</i>	Hook.	Aliaceae	WI	1.5	4.5	3	2	0.9		1				Perennial forb (bulb)	
<i>Alium amplicens</i>	Torr.	Aliaceae	WI	2.3	11.3	5	2	2.2		1				Perennial forb (bulb)	
<i>Alium bolanderi</i> var. <i>bolanderi</i>	S. Watson	Aliaceae	WI/IN	1.1	4.5	4	1	0.6		1				Perennial forb (bulb)	
<i>Alium bolanderi</i> var. <i>mirabile</i>	S. Watson	Aliaceae	WI	2	4	2	2	-		1				Perennial forb (bulb)	
<i>Alium cratericola</i>	Eastw.	Aliaceae	SI	2.6	15.8	6	2.5	1.9	CBR					Perennial forb (bulb)	
<i>Alium crispum</i>	Greene	Aliaceae	WI/IN	1.3	3.75	3	1	0.7		1				Perennial forb (bulb)	
<i>Alium diabolese</i>	(Owney & Aase ex Traub) McNeal	Aliaceae	SE	6	18	3	6	0		1				Perennial forb (bulb)	
<i>Alium faicifolium</i>	Hook. & Arn.	Aliaceae	BE/SI	4.2	38	9	4	1.6		1				Perennial forb (bulb)	
<i>Alium fimbriatum</i> var. <i>purdyi</i>	S. Watson	Aliaceae	BE	5.4	21.5	4	6	1.5	4.3					Perennial forb (bulb)	
<i>Alium hofmannii</i>	Owney ex Traub	Aliaceae	SE	6	30	5	6	0	4.3					Perennial forb (bulb)	
<i>Alium howellii</i> var. <i>sanbenitense</i>	Eastw.	Aliaceae	BE/SI	4	12	3	4	1	1B.3					Perennial forb (bulb)	
<i>Alium jepsonii</i>	(Owney & Aase ex Traub) S.S. Denison & McNeal	Aliaceae	BE	5.4	37.5	7	6	1	1B.2					Perennial forb (bulb)	
<i>Alium lacunosum</i> var. <i>lacunosum</i>	S. Watson	Aliaceae	BE/SI	3.8	15.3	4	4.5	2.8		1				Perennial forb (bulb)	
<i>Alium lacunosum</i> var. <i>micranthum</i>	S. Watson	Aliaceae	BE/SI	4.3	13	3	6	2.9	CBR					Perennial forb (bulb)	
<i>Alium membranaceum</i>	Owney ex Traub	Aliaceae	WI/IN	1.3	4	3	1	1.5	CBR					Perennial forb (bulb)	
<i>Alium obtusum</i> var. <i>conspicuum</i>	Lemmon	Aliaceae	WI/IN	1	2	2	1	-		1				Perennial forb (bulb)	
<i>Alium peninsulare</i> var. <i>franciscanum</i>	Lemmon ex Greene	Aliaceae	WI	1.8	3.5	2	1.8	-	1B.2					Perennial forb (bulb)	
<i>Alium sanbornii</i> var. <i>condonii</i>	Alph. Wood	Aliaceae	SE	5.6	22.5	4	6	1	4.3					Perennial forb (bulb)	
<i>Alium sanbornii</i> var. <i>sanbornii</i>	Alph. Wood	Aliaceae	SI	3.4	27	8	3.5	2.2	4.2					Perennial forb (bulb)	
<i>Alium serva</i>	McNeal & Owney	Aliaceae	SI	2.6	10	4	3	1.5		1				Perennial forb (bulb)	
<i>Alium shearsmithiae</i>	(Owney & Aase ex Traub) McNeal	Aliaceae	BE	5.1	20.5	4	6	2	1B.3					Perennial forb (bulb)	
<i>Alium siskiyouense</i>	Owney ex Traub	Aliaceae	SI	2.8	14	5	2	1.8	4.3					Perennial forb (bulb)	
<i>Alium tuolumense</i>	(Owney & Aase ex Traub) S.S. Denison & McNeal	Aliaceae	SE	6	18	3	6	0	1B.2					Perennial forb (bulb)	
<i>Alium unifolium</i>	Kellogg	Aliaceae	WI/IN	1	3	3	1	1		1				Perennial forb (bulb)	
<i>Angelica tomentosa</i>	S. Watson	Apiaceae	WI	2.7	8	3	3	1.5		1				Perennial forb	
<i>Apicium angustifolium</i>	Nutt.	Apiaceae	SI	1.5	7.6	5	0.1	2.5		1				Annual forb	
<i>Ligusticum californicum</i>	J. M. Coult. & Rose	Apiaceae	WI/IN	1.4	5.75	4	1.4	1.3		1				Perennial forb	
<i>Lomatium ciliolatum</i>	Jeps.	Apiaceae	SE	6	18	3	6	0		1				Perennial forb	
<i>Lomatium concolorii</i>	J. M. Coult. & Rose	Apiaceae	SE	6	18	3	6	0	1B.2					Perennial forb	
<i>Lomatium dasycarpum</i> ssp. <i>dasycarpum</i>	(Torr. & A. Gray) J. M. Coult. & Rose	Apiaceae	BE/SI	3.6	21.5	6	3.5	1.9		1				Perennial forb	
<i>Lomatium engelmannii</i>	Mathias	Apiaceae	SE	5.8	34.5	6	6	0.8	4.3					Perennial forb	
<i>Lomatium hooveri</i>	(Mathias & Constance) Constance & Erter	Apiaceae	SE	5.9	29.5	5	6	0.4	4.3					Perennial forb	
<i>Lomatium howellii</i>	(S. Watson) Jeps.	Apiaceae	SE	6	24	4	6	0	4.3					Perennial forb	
<i>Lomatium macrocarpum</i>	(Torr. & A. Gray) J. M. Coult. & Rose	Apiaceae	SI	2.7	8	3	3	0.6		1				Perennial forb	
<i>Lomatium marginatum</i> var. <i>marginatum</i>	(Benth.) J. M. Coult. & Rose	Apiaceae	WI	2.3	9	4	2.5	2.1		1				Perennial forb	

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸						Lifeform ⁹
										KL	NC	BA	SC	SN		
<i>Lomatium magdalenum</i> var. <i>purpureum</i>	(Benth.) J. M. Coult. & Rose	Apiaceae	SI	3.3	13	4	3	2.2	CBR	1	1	1	1	1	Perennial forb	
<i>Lomatium observatorium</i>	Constance & Ertter	Apiaceae	WI/IN	1.4	2.75	2	1.4	-	1B.2	1	1	1	1	1	Perennial forb	
<i>Lomatium parvifolium</i>	(Hook. & Arn.) Jeps.	Apiaceae	SI	3.3	13	4	3	2.3	4.2	1	1	1	1	1	Perennial forb	
<i>Lomatium repens</i>	(Jeps.) Mathias	Apiaceae	SI	3.2	12.6	4	3	2.4	4.3	1	1	1	1	1	Perennial forb	
<i>Lomatium tracyi</i>	Mathias & Constance	Apiaceae	SE	6	42	7	6	0	4.3	1	1	1	1	1	Perennial forb	
<i>Lomatium tridentatum</i> var. <i>tridentatum</i>	(Pursh) J. M. Coult. & Rose	Apiaceae	SI	2.8	11	4	2	2.4		1	1	1	1	1	Perennial forb	
<i>Lomatium utriculatum</i>	(Nutt. ex Torr. & A. Gray) J. M. Coult. & Rose	Apiaceae	WI	1.7	8.5	5	1	1.4		1	1	1	1	1	Perennial forb	
<i>Perideridia bacillifolia</i>	Chuang & Constance	Apiaceae	BE	4.6	23	5	6	2.4	4.2	1	1	1	1	1	Perennial forb	
<i>Perideridia kelloggii</i>	(A. Gray) Mathias	Apiaceae	WI	2.1	10.6	5	2	2		1	1	1	1	1	Perennial forb	
<i>Perideridia leptocarpa</i>	T. I. Chuang & Constance	Apiaceae	SE	5.6	22.5	4	6	1	4.3	1	1	1	1	1	Perennial forb	
<i>Perideridia oregana</i>	(S. Watson) Mathias	Apiaceae	WI	1.7	5	3	1	1.2		1	1	1	1	1	Perennial forb	
<i>Perideridia pringlei</i>	(J. M. Coult. & Rose) A. Nelson & J. F. Macbr.	Apiaceae	BE/SI	3.7	18.5	5	3	2.3	4.3	1	1	1	1	1	Perennial forb	
<i>Sanicula bipinnatifida</i>	Hook.	Apiaceae	WI	1.8	7.1	4	2	1.5		1	1	1	1	1	Perennial forb	
<i>Sanicula hoffmannii</i>	(Munz) R. H. Shan & Constance	Apiaceae	WI	1.8	3.5	2	1.5	-	4.3	1	1	1	1	1	Perennial forb	
<i>Sanicula maritima</i>	S. Watson	Apiaceae	WI	2.3	4.5	2	2	-	1B.1	1	1	1	1	1	Perennial forb	
<i>Sanicula peckiana</i>	J. F. Macbr.	Apiaceae	BE	5.3	26.5	5	6	1.3	4.3	1	1	1	1	1	Perennial forb	
<i>Sanicula tracyi</i>	R. H. Shan & Constance	Apiaceae	WI	2.1	8.5	4	1	2.6	4.2	1	1	1	1	1	Perennial forb	
<i>Sanicula tuberosa</i>	Torr.	Apiaceae	WI/IN	1.3	3.75	3	1	0.7		1	1	1	1	1	Perennial forb	
<i>Tauschia glauca</i>	(J. M. Coult. & Rose) Mathias & Constance	Apiaceae	BE/SI	3.5	10.5	3	3	0.6	4.3	1	1	1	1	1	Perennial forb	
<i>Tauschia harwegii</i>	(A. Gray) J. F. Macbr.	Apiaceae	WI/IN	1.3	4	3	1	1.5		1	1	1	1	1	Perennial forb	
<i>Tauschia howellii</i>	(J. M. Coult. & Rose) J. F. Macbr.	Apiaceae	WI	2.3	7	3	1	3.2	1B.3	1	1	1	1	1	Perennial forb	
<i>Tauschia kelloggii</i>	(A. Gray) J. F. Macbr.	Apiaceae	SI	2.6	12.8	5	2	2.2		1	1	1	1	1	Perennial forb	
<i>Asclepias solanona</i>	Woodson	Apocynaceae	SE	6	42	7	6	0	4.2	1	1	1	1	1	Perennial forb	
<i>Agoseris heterophylla</i>	(Nutt.) Greene	Asteraceae	WI/IN	1.4	4.1	3	1	1.5		1	1	1	1	1	Annual forb	
<i>Ancistrocarphus filagineus</i>	A. Gray	Asteraceae	SI	3.3	13	4	3	0.5		1	1	1	1	1	Annual forb	
<i>Antennaria argentea</i>	Benth.	Asteraceae	WI	1.9	7.75	4	0.8	2.7		1	1	1	1	1	Perennial forb	
<i>Antennaria sonyeri</i>	R.J. Bayer & Figura	Asteraceae	SE	6	18	3	6	0	1B.2	1	1	1	1	1	Perennial forb	
<i>Antennaria suffrutescens</i>	Greene	Asteraceae	SE	5.6	22.5	4	6	1	4.3	1	1	1	1	1	Perennial forb (rhiz.)	
<i>Arnica cernua</i>	Howell	Asteraceae	SE	6	24	4	6	0	4.3	1	1	1	1	1	Perennial forb (rhiz.)	
<i>Arnica spathulata</i>	Greene	Asteraceae	SE	5.5	16.5	3	6	1.2	4.3	1	1	1	1	1	Perennial forb	
<i>Balsamorhiza macrolepis</i>	W. M. Sharp	Asteraceae	SE	2.5	15	6	2	1.1	1B.2	1	1	1	1	1	Perennial forb	
<i>Balsamorhiza sericea</i>	W. A. Weber	Asteraceae	SE	6	18	3	6	0	1B.3	1	1	1	1	1	Perennial forb	
<i>Benitoa occidentalis</i>	(H. M. Hall) D. D. Keck	Asteraceae	BE/SI	4.1	16.5	4	4	1.8	4.3	1	1	1	1	1	Annual forb	
<i>Bridekia greenii</i>	A. Gray	Asteraceae	BE/SI	3.7	11	3	4	0.6		1	1	1	1	1	Perennial forb	
<i>Cacalopsis nardosmia</i>	(A. Gray) A. Gray	Asteraceae	WI/IN	1.3	4	3	2	1.2		1	1	1	1	1	Perennial forb	
<i>Calycadenia multiglandulosa</i>	DC.	Asteraceae	SI	3.1	15.5	5	3	1.2		1	1	1	1	1	Annual forb	
<i>Calycadenia oppositifolia</i>	(Greene) Greene	Asteraceae	SI	2.6	18	7	2	1.6		1	1	1	1	1	Annual forb	
<i>Calycadenia pauciflora</i>	A. Gray	Asteraceae	BE	5.3	21	4	5.5	1	4.2	1	1	1	1	1	Annual forb	
<i>Calycadenia truncata</i>	DC.	Asteraceae	WI	2.1	12.5	6	2.5	1.1		1	1	1	1	1	Annual forb	
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	DC.	Asteraceae	WI	1.7	5.1	3	2	1.5		1	1	1	1	1	Perennial forb	
<i>Chaenactis glabriuscula</i> var. <i>heterocarpa</i>	DC.	Asteraceae	SI	2.5	10	4	2.5	0.6		1	1	1	1	1	Perennial forb	
<i>Chaenactis suffrutescens</i>	A. Gray	Asteraceae	SE	6	30	5	6	0	1B.3	1	1	1	1	1	Perennial forb	
<i>Cristium andrewsii</i>	(A. Gray) Jeps.	Asteraceae	WI	1.7	5	3	2	0.9	1B.2	1	1	1	1	1	Perennial forb	
<i>Cristium cymosum</i>	(Greene) J. T. Howell	Asteraceae	SI	3	12	4	2	2		1	1	1	1	1	Perennial forb	
<i>Cristium douglasii</i> var. <i>braveri</i>	DC.	Asteraceae	SI	3	12	4	3	1.6		1	1	1	1	1	Perennial forb	
<i>Cristium fontinale</i> var. <i>campylon</i>	(Greene) Jeps.	Asteraceae	SE	5.9	29.5	5	6	0.4	1B.2	1	1	1	1	1	Perennial forb	
<i>Cristium fontinale</i> var. <i>fontinale</i>	(Greene) Jeps.	Asteraceae	SE	6	30	5	6	0	1B.1	1	1	1	1	1	Perennial forb	

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Af ²	Mean ³	Sum ⁴	Souc.	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Cirsium fontinale</i> var. <i>obispoense</i>	(Greene) Jeps.	Asteraceae	SE	6	24	4	6	0	1B,2						Perennial forb
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	(Greene) Jeps.	Asteraceae	SE	6	24	4	6	0	1B,2						Perennial forb
<i>Cirsium tenuifolium</i>	(Hook.) DC.	Asteraceae	WI/IN	1	3.1	3	1	1		1	1	1	1	1	Perennial forb
<i>Corethrogyne flaginifolia</i>	(Hook. & Arn.) Nutt.	Asteraceae	WI/IN	1.3	4	4	1.5			1	1	1	1	1	Perennial forb, Shrub
<i>Crepis pleurocarpa</i>	A. Gray	Asteraceae	WI	2	10	5	2	0.7		1	1	1	1	1	Perennial forb
<i>Deinandra halimna</i>	(D. D. Keck) B. G.	Asteraceae	SI	3	12	4	3	2.4	1B,2						Annual forb
<i>Ericameria arborescens</i>	Baldwin														
<i>Ericameria greenii</i>	(A. Gray) Greene	Asteraceae	WI/IN	1.3	4	3	1.5			1	1	1	1	1	Shrub
<i>Ericameria nauseosa</i> var. <i>oreophila</i>	(Pall. ex Pursh) G. L. Nesom	Asteraceae	WI	2	8.1	4	1.5	2.1		1	1	1	1	1	Shrub
	Nesom & G. I. Baird	Asteraceae	WI	1.8	8.85	5	2	1.5		1	1	1	1	1	Shrub
<i>Ericameria ophitidis</i>	(J. T. Howell) G. L. Nesom	Asteraceae	SE	5.5	38.5	7	6	1	4.3						Shrub
<i>Erigeron bloomeri</i> var. <i>nudatus</i>	A. Gray	Asteraceae	SE	6	18	3	6	0	2B,3						Perennial forb
<i>Erigeron cervinus</i>	Greene	Asteraceae	SI	3.3	10	3	4	3.1	4.3						Perennial forb
<i>Erigeron foliosus</i> var. <i>confinis</i>	Nutt.	Asteraceae	BE/SI	3.7	11	3	3	1.2		1	1	1	1	1	Perennial forb
<i>Erigeron greenii</i>	G. L. Nesom	Asteraceae	BE	4.8	24	5	4	1.1	1B,2		1				Perennial forb
<i>Erigeron lasianthus</i> var. <i>deficiens</i>	Greene	Asteraceae	WI	1.7	5	3	2	1.5	1B,3						Perennial forb
<i>Erigeron petrophilus</i> var. <i>siccansis</i>	Greene	Asteraceae	BE	4.8	28.5	6	6	2.1	4.3						Perennial forb (rhiz.)
<i>Erigeron petrophilus</i> var. <i>viscidatus</i>	Greene	Asteraceae	WI	2.4	9.5	4	2	0.5	4.3						Perennial forb
<i>Erigeron reductus</i>	(Cronquist) G. L. Nesom	Asteraceae	WI	2	8	4	2	1.6		1	1	1	1	1	Perennial forb
<i>Erigeron robustus</i>	(Cronquist) G. L. Nesom	Asteraceae	WI	1.5	4.5	3	2	1.2	4.3						Perennial forb
<i>Erigeron serpentinus</i>	G. L. Nesom	Asteraceae	SE	6	18	3	6	0	1B,3						Perennial forb
<i>Eriophyllum confertiflorum</i> var. <i>tanacetiflorum</i>	(DC.) A. Gray	Asteraceae	WI	1.9	3.75	2	1.9	-	4.3						Shrub
<i>Eriophyllum japonii</i>	Greene	Asteraceae	BE/SI	3.5	17.5	5	3	1.5	4.3						Shrub
<i>Eriophyllum lanatum</i> var. <i>achilloides</i>	(Pursh) J. Forbes	Asteraceae	WI	2.3	7	3	2	0.6		1	1	1	1	1	Shrub
<i>Eriophyllum lanatum</i> var. <i>lancoletatum</i>	(Pursh) J. Forbes	Asteraceae	WI	1.7	5	3	2	1.5		1	1	1	1	1	Shrub
<i>Eriophyllum latifolium</i>	Rydb.	Asteraceae	SE	5.5	16.5	3	6	1.2	1B,1						Shrub
<i>Grindelia camporum</i>	Greene	Asteraceae	WI	1.8	5.25	3	2	1.4		1	1	1	1	1	Perennial forb
<i>Grindelia hirsutula</i>	Hook. & Arn.	Asteraceae	WI/IN	1.4	8.3	6	1	1		1	1	1	1	1	Perennial forb
<i>Gutierrezia californica</i>	(DC.) Torr. & A. Gray	Asteraceae	WI	1.8	5.25	3	2	1.4	CBR						Perennial forb, Shrub
<i>Harmonia abris-stilesiae</i>	(T. W. Nelson & J. P. Nelson) B. G. Baldwin	Asteraceae	BE	5.4	32.5	6	5.5	0.8	1B,1	1					Annual forb
<i>Harmonia gageolitorum</i>	B. G. Baldwin	Asteraceae	SE	6	18	3	6	0	1B,1						Annual forb
<i>Harmonia hallii</i>	(D. D. Keck) B. G. Baldwin	Asteraceae	SE	6	24	4	6	0	1B,2						Annual forb
<i>Harmonia stebbinsii</i>	(T. W. Nelson & J. P. Nelson) B. G. Baldwin	Asteraceae	SE	6	42	7	6	0	1B,2						Annual forb
<i>Hazardia stenolepis</i>	(H. M. Hall) Hoover	Asteraceae	WI	2	6.1	3	3	1.7	CBR						Shrub (stem succulent)
<i>Hazardia whitleyi</i> var. <i>discoidea</i>	(A. Gray) Greene	Asteraceae	WI	1.9	5.75	3	2	1.1		1					Perennial forb, Shrub
<i>Hazardia whitleyi</i> var. <i>whitleyi</i>	(A. Gray) Greene	Asteraceae	WI/IN	1	2	2	1	-							Perennial forb, shrub
<i>Helianthus bigelovii</i>	A. Gray	Asteraceae	SI	2.9	11.5	4	2.5	2.3		1	1	1	1	1	Perennial forb
<i>Helianthus exilis</i>	A. Gray	Asteraceae	SE	5.7	45.5	8	6	1.1	4.2						Annual, Perennial forb
<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	DC.	Asteraceae	WI	1.5	4.5	3	2	1.2	4.3						Annual forb
<i>Hemizonia congesta</i> ssp. <i>congesta</i>	DC.	Asteraceae	WI/IN	1.3	4	3	2	1.2	1B,2						Annual forb
<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	DC.	Asteraceae	WI	1.8	5.25	3	2	0.7	4.3						Annual forb
<i>Hesperex sparsiflora</i> var. <i>sparsiflora</i>	(A. Gray) Greene	Asteraceae	WI	1.8	7.25	4	1.5	1.6		1	1	1	1	1	Annual forb
<i>Heterotheca oregona</i> var. <i>oregona</i>	(Nutt.) Shummers	Asteraceae	WI	2	6	3	3	1.7		1	1	1	1	1	Perennial forb
<i>Hieracium bolanderi</i>	A. Gray	Asteraceae	BE/SI	3.8	15	4	4.5	2.6		1	1	1	1	1	Perennial forb
<i>Hieracium greenei</i>	A. Gray	Asteraceae	WI	2.2	6.5	3	3	1.4		1	1	1	1	1	Perennial forb
<i>Lagophylla glandulosa</i>	A. Gray	Asteraceae	WI	2	6.1	3	3	1.7		1	1	1	1	1	Annual forb
<i>Lagophylla minor</i>	(D. D. Keck) D. D. Keck	Asteraceae	BE	4.7	23.5	5	5	1.7	CBR						Annual forb

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸							Lifeform ⁹
										KL	NC	BA	SC	SN			
<i>Layia discoides</i>	D. D. Keck	Asteraceae	SE	5.7	28.5	5	6	0.8	1B.1							Annual forb	
<i>Layia pennisili</i>	A. Gray	Asteraceae	BE/SI	3.5	10.5	3	3	0.6	1B.2							Annual forb	
<i>Layia septentrionalis</i>	D. D. Keck	Asteraceae	SI	3.2	19	6	3.5	1.4	1B.2							Annual forb	
<i>Lespedeza strobilifera</i>	A. Gray	Asteraceae	SE	2.7	8	3	3	0.6								Annual forb	
<i>Lespedeza arachnoides</i>	Greene	Asteraceae	SE	6	18	3	6	0	1B.2							Annual forb	
<i>Lespedeza hololeuca</i>	Greene	Asteraceae	SI	2.5	7.5	3	3	1.2	3							Annual forb	
<i>Lespedeza micradenia</i> var. <i>glabrata</i>	Greene	Asteraceae	BE	5.1	30.5	6	5.5	1.3	1B.2							Annual forb	
<i>Lespedeza micradenia</i> var. <i>micradenia</i>	Greene	Asteraceae	BE	5.3	31.5	6	5.5	1	1B.2							Annual forb	
<i>Lespedeza nenuclada</i>	Greene	Asteraceae	WI	2	6	3	2	1								Annual forb	
<i>Lespedeza ramulosa</i>	A. Gray	Asteraceae	BE	5.4	27	5	6	1.3								Annual forb	
<i>Lupinus hypoleuca</i>	Benth.	Asteraceae	WI/JN	1.8	4.25	3	2	1								Perennial forb	
<i>Madia exigua</i>	(Sm.) A. Gray	Asteraceae	WI	1.4	7.25	4	2	1.4								Annual forb	
<i>Malacothrix cleavelandii</i>	A. Gray	Asteraceae	SI	3	9.1	3	3	3								Annual forb	
<i>Malacothrix floccifera</i>	(DC.) S. F. Blake	Asteraceae	WI	2.1	6.25	3	3	1.6								Annual forb	
<i>Micropus amphibolus</i>	A. Gray	Asteraceae	WI	2.4	7.25	3	1	3.1	3.2							Annual forb	
<i>Microseris douglasii</i>	(DC.) Sch. Bip.	Asteraceae	WI/JN	1.3	4	3	1	0.6								Annual forb	
<i>Monolopia gracilis</i>	A. Gray	Asteraceae	WI	2.4	4.75	2	2.4	-	1B.2							Annual forb	
<i>Packera cleavelandii</i>	(Greene) W. A. Weber & A. Löve	Asteraceae	SE	5.8	46.5	8	6	0.7								Perennial forb	
<i>Packera eurycephala</i> var. <i>eurycephala</i>	(Torr. & A. Gray) W. A. Weber & A. Löve	Asteraceae	BE/SI	3.8	15	4	3	1.5								Perennial forb	
<i>Packera eurycephala</i> var. <i>lewisii</i>	(Torr. & A. Gray) W. A. Weber & A. Löve	Asteraceae	SE	5.8	40.5	7	6	0.8	1B.2							Perennial forb	
<i>Packera greenii</i>	(A. Gray) W. A. Weber & A. Löve	Asteraceae	BE	5.3	32	6	6	1.6								Perennial forb	
<i>Packera layneae</i>	(Greene) W. A. Weber & A. Löve	Asteraceae	BE	4.9	29.5	6	5	1.3								Perennial forb	
<i>Packera macconnii</i>	(Greene) W. A. Weber & A. Löve	Asteraceae	BE	5.1	20.5	4	6	2	4.3							Perennial forb	
<i>Pentachaeta bellidiflora</i>	Greene	Asteraceae	WI	2.4	7.25	3	3	1.3	1B.1							Annual forb	
<i>Pyrrhocoma racemosa</i> var. <i>congesta</i>	(Nutt.) Torr. & A. Gray	Asteraceae	SE	6	18	3	6	0	2B.3							Perennial forb	
<i>Pyrrhocoma racemosa</i> var. <i>pinetorum</i>	(Nutt.) Torr. & A. Gray	Asteraceae	BE/SI	4	16	4	4.5	2.4	4.2							Perennial forb	
<i>Pyrrhocoma racemosa</i> var. <i>racemosa</i>	(Nutt.) Torr. & A. Gray	Asteraceae	WI	1.7	5	3	1	2.1								Perennial forb	
<i>Rallandella pringlei</i>	Greene	Asteraceae	SE	6	30	5	6	0	1B.2							Perennial forb	
<i>Rigopappus leptocladus</i>	A. Gray	Asteraceae	WI	1.9	7.5	4	2	1.3								Annual forb	
<i>Rudbeckia glaucescens</i>	Eastw.	Asteraceae	BE	5.3	21	4	6	1.5								Perennial forb	
<i>Rudbeckia klamathensis</i>	P. B. Cox & Urbatsch	Asteraceae	BE	5	10	2	5	-								Perennial forb	
<i>Sericocarpus oregonensis</i>	Nutt.	Asteraceae	WI/JN	1.1	3.25	3	1	0.9								Perennial forb	
<i>Solidago girardinii</i>	A. Gray	Asteraceae	SE	6	18	3	6	0	4.3							Perennial forb	
<i>Solidago multiradiata</i>	Aiton	Asteraceae	WI/JN	1.1	2.1	2	1.1	-								Perennial forb	
<i>Stebbinsoseris decipiens</i>	(K. L. Chambers) K. L. Chambers	Asteraceae	WI	1.8	5.5	3	2	0.6	1B.2							Annual forb	
<i>Wyethia bolanderi</i>	(A. Gray) W. A. Weber	Asteraceae	WI	1.5	3	2	1.5	-								Perennial forb	
<i>Berberis aquifolium</i> var. <i>aquifolium</i>	Pursh	Berberidaceae	WI	1.6	4.75	3	1	1.2								Shrub	
<i>Berberis aquifolium</i> var. <i>repens</i>	Pursh	Berberidaceae	WI	1.7	5	3	1	1.2								Shrub	
<i>Vancouveria chrysantha</i>	Greene	Berberidaceae	SE	6	18	3	6	0	4.3							Perennial forb (rhiz.)	
<i>Vancouveria planipedata</i>	Calloni	Berberidaceae	WI	1.7	5	3	1	1.2								Perennial forb (rhiz.)	
<i>Cryptantha dissita</i>	I. M. Johnston	Boraginaceae	BE/SI	4.4	17.5	4	4.5	2.1	1B.2							Annual forb	
<i>Cryptantha excavata</i>	Brandege	Boraginaceae	WI	1.5	3	2	1.5	-	1B.1							Annual forb	
<i>Cryptantha flaccida</i>	(Lehm.) Greene	Boraginaceae	WI	1.6	4.75	3	2	0.7								Annual forb	
<i>Cryptantha hispida</i>	Brand	Boraginaceae	SE	6	24	4	6	0	CBR							Annual forb	
<i>Cryptantha intermedia</i> var. <i>intermedia</i>	(A. Gray) Greene	Boraginaceae	WI/JN	1.4	4.1	3	1	1.5								Annual forb	
<i>Cryptantha mariposa</i>	I. M. Johnston	Boraginaceae	SE	6	18	3	6	0	1B.3							Annual forb	
<i>Cryptantha nitobakeri</i>	I. M. Johnston	Boraginaceae	SI	3.3	9.75	3	3	2.6								Annual forb	
<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	Benth.	Boraginaceae	WI	1.8	7	4	2	0.5								Annual forb	

APPENDIX I. CONTINUED.

Taxon ¹	Authority	Family	Alt ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Emmenanthe penduliflora</i> var. <i>rosea</i>	Benth.	Boraginaceae	BE/SI	4.3	17	4	4.5	1.7		1	1	1	1	1	Annual forb
<i>Hackelia bella</i>	(J. F. Macbr.) J. M. Johnston	Boraginaceae	WI/IN	1.3	4	3	1.5		CBR	1					Perennial forb
<i>Howellianthus daliesianus</i>	(J.T. Howell) Walden & R. Patt.	Boraginaceae	SE	6	30	5	6	0	4.3	1					Perennial forb
<i>Pectocarya pusilla</i>	(A. DC.) A. Gray	Boraginaceae	WI/IN	1.3	2.5	2	1.3	-		1	1	1	1	1	Annual forb
<i>Phacelia breweri</i>	A. Gray	Boraginaceae	SE	5.5	11	2	5.5	-		1	1	1	1	1	Annual forb
<i>Phacelia californica</i>	Cham.	Boraginaceae	WI/IN	1.4	4.25	3	1.4			1	1	1	1	1	Perennial forb
<i>Phacelia corymbosa</i>	Jeps.	Boraginaceae	SE	5.5	33	6	6	0.8		1	1	1	1	1	Perennial forb
<i>Phacelia distans</i>	Benth.	Boraginaceae	WI/IN	1.1	2.1	2	1.1			1	1	1	1	1	Annual forb
<i>Phacelia divaricata</i>	(Benth.) A. Gray	Boraginaceae	WI	2.3	7	3	1.2			1	1	1	1	1	Annual forb
<i>Phacelia egneri</i>	(Brand) J. T. Howell	Boraginaceae	WI	2.1	6.25	3	1.6			1	1	1	1	1	Perennial forb
<i>Phacelia greenei</i>	J. T. Howell	Boraginaceae	SE	6	36	6	6	0	1B.2	1	1	1	1	1	Annual forb
<i>Phacelia imbricata</i> var. <i>imbricata</i>	Greene	Boraginaceae	WI	1.7	5	3	1	1.2		1	1	1	1	1	Perennial forb
<i>Phacelia leonis</i>	J. T. Howell	Boraginaceae	BE/SI	3.9	27.5	7	4	1.1	1B.3	1	1	1	1	1	Annual forb
<i>Phacelia plachoides</i>	(Benth.) Brand	Boraginaceae	BE/SI	4.2	12.5	3	6	3.2	1B.2	1	1	1	1	1	Annual forb
<i>Phacelia pringlei</i>	A. Gray	Boraginaceae	BE/SI	4	12	3	4	1	CBR	1					Annual forb
<i>Phacelia purpusii</i>	Brandege	Boraginaceae	WI/IN	1.1	2.1	2	1.1	-		1	1	1	1	1	Annual forb
<i>Arabis macdonaldiana</i>	Eastw.	Brassicaceae	BE	5.4	32.5	6	6	1	1B.1	1	1	1	1	1	Perennial forb
<i>Arabis oreana</i>	Rollins	Brassicaceae	BE/SI	3.8	11.5	3	3	2.1	4.3	1	1	1	1	1	Perennial forb
<i>Boechera constancei</i>	(Rollins) Al-Shehbaz	Brassicaceae	SE	5.9	41.5	7	6	0.4	1B.1	1	1	1	1	1	Perennial forb
<i>Boechera koeleri</i>	(Howell) Al-Shehbaz	Brassicaceae	BE	5.3	21	4	5.5	1	1B.3	1	1	1	1	1	Perennial forb
<i>Boechera rollei</i>	(Rollins) Al-Shehbaz	Brassicaceae	SE	6	12	2	6	-	1B.1	1	1	1	1	1	Perennial forb
<i>Boechera serpicicola</i>	Windham & Al-Shehbaz	Brassicaceae	SE	5.3	16	3	6	1.2	1B.2	1	1	1	1	1	Perennial forb
<i>Boechera subpinnatifida</i>	(S. Watson) Al-Shehbaz	Brassicaceae	WI	2.3	9	4	2.5	1		1	1	1	1	1	Perennial forb (rhiz.)
<i>Candaminea nuttallii</i>	Greene	Brassicaceae	WI	2	2	1	2			1	1	1	1	1	Perennial forb (rhiz.)
<i>Cardamine pachygygia</i> var. <i>dissectifolia</i>	(S. Watson) Rollins	Brassicaceae	SE	5.5	60	11	6	0.9	1B.2	1	1	1	1	1	Perennial forb (rhiz.)
<i>Cañahuetus flavescens</i>	(Hook.) Payson	Brassicaceae	WI	2.3	9.25	4	2.5	1.6		1	1	1	1	1	Annual forb
<i>Draba anaeola</i>	S. Watson	Brassicaceae	SI	2.7	8	3	3	0.6	1B.3	1					Perennial forb
<i>Draba carnosella</i>	O. E. Schulz	Brassicaceae	SE	6	14	4	6	0		1	1	1	1	1	Perennial forb
<i>Draba howellii</i>	S. Watson	Brassicaceae	WI/IN	1.4	4.25	3	1	1.4	4.3	1	1	1	1	1	Perennial forb
<i>Erysimum franciscanum</i>	Rossbach	Brassicaceae	SI	3	9	3	3	0	4.2	1	1	1	1	1	Perennial forb
<i>Nocca fendleri</i> ssp. <i>californica</i>	(A. Gray) Holub	Brassicaceae	SE	6	30	5	6	0	1B.1	1	1	1	1	1	Perennial forb
<i>Nocca fendleri</i> ssp. <i>glauca</i>	(A. Gray) Holub	Brassicaceae	BE/SI	4.4	22	5	4	1.5		1	1	1	1	1	Perennial forb
<i>Streptanthus barbatus</i>	S. Watson	Brassicaceae	SE	5.6	28	5	6	0.5	CBR	1					Perennial forb
<i>Streptanthus barbiger</i>	Greene	Brassicaceae	SE	6	24	4	6	0	4.2	1	1	1	1	1	Perennial forb
<i>Streptanthus brachyopus</i>	J. L. Morrison	Brassicaceae	SE	6	24	4	6	0	1B.3	1	1	1	1	1	Perennial forb
<i>Streptanthus brachiatius</i>	F. W. Hoffm.	Brassicaceae	SE	5.9	23.5	8	6	0.5		1	1	1	1	1	Annual, Perennial forb
<i>Streptanthus breveri</i>	A. Gray	Brassicaceae	SE	5.7	40	7	6	0.8		1	1	1	1	1	Annual forb
<i>Streptanthus drepanoides</i>	Kruekeb. & J. L. Morrison	Brassicaceae	SE	6	36	6	6	0	4.3	1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>albidas</i>	Hook.	Brassicaceae	BE	5.3	31.5	6	6	1.3		1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>glandulosus</i>	Hook.	Brassicaceae	BE/SI	3.7	40.3	11	3	1.7		1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Hook.	Brassicaceae	SI	3	3	1	3	-	1B.3	1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>niger</i>	Hook.	Brassicaceae	SE	6	30	5	6	0	1B.1	1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>nutchellus</i>	Hook.	Brassicaceae	BE	4.9	24.5	5	6	1.8		1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>secundus</i>	Hook.	Brassicaceae	SI	3.3	20	6	3	1.5		1	1	1	1	1	Annual forb
<i>Streptanthus glandulosus</i> ssp. <i>somonensis</i>	Hook.	Brassicaceae	SE	6	12	2	6	-		1	1	1	1	1	Annual forb
<i>Streptanthus hesperidis</i>	Jeps.	Brassicaceae	SE	6	24	4	6	0	1B.2	1	1	1	1	1	Annual forb
<i>Streptanthus howellii</i>	S. Watson	Brassicaceae	SE	6	30	5	6	0	1B.2	1	1	1	1	1	Annual forb
<i>Streptanthus insignis</i> ssp. <i>insignis</i>	Jeps.	Brassicaceae	BE/SI	4	20	5	4	2.4		1					Perennial forb
<i>Streptanthus insignis</i> ssp. <i>lyonii</i>	Jeps.	Brassicaceae	SI	3.3	16.5	5	2	2.7	1B.2	1	1	1	1	1	Annual forb
<i>Streptanthus moerhousii</i>	F. W. Hoffm.	Brassicaceae	SE	6	110	18	6	0	CBR	1	1	1	1	1	Annual, Perennial forb
<i>Streptanthus polygaloides</i>	A. Gray	Brassicaceae	SE	5.7	28.5	5	6	0.9		1	1	1	1	1	Annual forb
<i>Streptanthus vernalis</i>	R. O'Donnell & R. W. Dolan	Brassicaceae	SE	6	12	2	6	-	1B.2	1	1	1	1	1	Annual forb

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸				Lifeform ⁹
										KL	NC	BA	SC	
<i>Streptanthus vimineus</i>	(Greene) Al-Shehbaz & D.W. Taylor	Brassicaceae	SE	6	12	2	6	-		1				Annual forb
<i>Theopodium brachycarpum</i>	Torr.	Brassicaceae	SI	3.3	10	3	3	0.6	4.2	1				Annual. Perennial forb
<i>Campanula angustiflora</i>	Eastw.	Campanulaceae	BE/SI	3.9	19.3	5	4	2.4		1				Annual forb
<i>Campanula exigua</i>	Rattan	Campanulaceae	BE/SI	3.9	19.5	5	4	1.5	IB.2	1				Annual forb
<i>Campanula griffithii</i>	Morin	Campanulaceae	SE	6	18	3	6	0	CBR	1				Annual forb
<i>Campanula rotundifolia</i>	L.	Campanulaceae	BE	5	15	3	6	1.7		1				Perennial forb
<i>Campanula scabrella</i>	Engelm.	Campanulaceae	SI	2.5	10	4	2.5	1.3	4.3	1				Perennial forb (rhiz.)
<i>Campanula stansanthiae</i>	Morin	Campanulaceae	SE	6	18	3	6	0	IB.2	1				Annual forb
<i>Campanula wilkinsiana</i>	Greene	Campanulaceae	WI/IN	1	5	5	0	1.7	IB.2	1				Perennial forb (rhiz.)
<i>Githopsis diffusa</i> ssp. <i>candida</i>	A. Gray	Campanulaceae	WI/IN	1	2	2	1	-	CBR	1				Annual forb
<i>Githopsis pulchella</i> ssp. <i>campestris</i>	Vauke	Campanulaceae	WI	1.6	3.25	2	1.6	-						Annual forb
<i>Githopsis pulchella</i> ssp. <i>serpentinicola</i>	Vauke	Campanulaceae	BE	5.3	21	4	5.5	1	4.3					Annual forb
<i>Githopsis pulchella</i> var. <i>glabra</i>	Vauke	Campanulaceae	BE/SI	3.8	19	5	3	2						Annual forb
<i>Githopsis pulchella</i> var. <i>glabrella</i>	Vauke	Campanulaceae	WI/IN	1	1	1	1	-						Annual forb
<i>Nenecladus montanus</i>	Greene	Campanulaceae	SE	6	18	3	6	0	CBR	1				Annual forb
<i>Cerastium arvense</i> ssp. <i>strictum</i>	L.	Campanulaceae	WI	2.1	8.5	4	0.9	2.6		1				Perennial forb
<i>Erenosegone kingii</i> var. <i>glabrescens</i>	(A. Gray) Mattf.	Caryophyllaceae	WI/IN	1.4	4.1	3	2	1.1		1				Perennial forb
<i>Minuartia californica</i>	(A. Gray) Mattf.	Caryophyllaceae	WI	1.7	5	3	2	1.5		1				Annual forb
<i>Minuartia cisantana</i>	Meinke & Zika	Caryophyllaceae	WI	1.8	3.5	2	1.8	-		1				Annual. Perennial forb
<i>Minuartia decumbens</i>	T. W. Nelson & J. P. Nelson	Caryophyllaceae	SE	6	24	4	6	0		1				Perennial forb
<i>Minuartia douglasii</i>	(Fenzl ex Torr. & A. Gray) Mattf.	Caryophyllaceae	SI	3	15	5	3	0.7		1				Annual forb
<i>Minuartia howellii</i>	(S. Watson) Mattf.	Caryophyllaceae	SE	5.7	28.5	5	6	0.9		1				Perennial forb
<i>Minuartia nuttallii</i> var. <i>gregaria</i>	(Pax) Briq.	Caryophyllaceae	SI	3.2	16	5	3	1.9		1				Perennial forb
<i>Minuartia rosei</i>	(Maquire & Barneby) McNeill	Caryophyllaceae	SE	6	30	5	6	0		1				Perennial forb
<i>Minuartia stolonifera</i>	T. W. Nelson & J. P. Nelson	Caryophyllaceae	SE	6	30	5	6	0		1				Perennial forb
<i>Moechringia macrophylla</i>	(Hook.) Fenzl	Caryophyllaceae	SI	2.7	8	3	3	0.6		1				Perennial forb
<i>Silene antirrhina</i>	L.	Caryophyllaceae	WI/IN	1.1	3.25	3	1	0.9		1				Annual forb
<i>Silene campanulata</i> ssp. <i>campanulata</i>	S. Watson	Caryophyllaceae	BE	5.3	31.5	6	5.5	1	4.2	1				Perennial forb
<i>Silene campanulata</i> ssp. <i>glandulosa</i>	S. Watson	Caryophyllaceae	BE/SI	3.8	19	5	3	1.3		1				Perennial forb
<i>Silene grayi</i>	S. Watson	Caryophyllaceae	WI	1.8	5.5	3	2	1.3		1				Perennial forb
<i>Silene hookeri</i>	Nutt.	Caryophyllaceae	BE/SI	3.5	7	2	3.5	-		1				Perennial forb
<i>Silene salomonacea</i>	T. W. Nelson, J. P. Nelson, & S. A. Erwin	Caryophyllaceae	SI	3	6	2	3	-	IB.2	1				Perennial forb
<i>Silene serpentinicola</i>	Nelson, & S. A. Erwin	Caryophyllaceae	SE	6	6	1	6	-		1				Perennial forb (rhiz.)
<i>Crocanthemum scoparium</i>	(Nutt.) Millsp.	Cistaceae	WI/IN	1	2	2	1	-		1				Shrub
<i>Calystegia collina</i> ssp. <i>collina</i>	(Greene) Brummitt	Convolvulaceae	BE	4.7	33	7	6	1.6		1				Perennial forb
<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	(Greene) Brummitt	Convolvulaceae	SE	5.6	33.5	6	6	1.2	4.2					Perennial forb
<i>Calystegia collina</i> ssp. <i>tridactylosa</i>	(Greene) Brummitt	Convolvulaceae	BE	4.5	18	4	4.5	1.7	IB.2	1				Perennial forb
<i>Calystegia collina</i> ssp. <i>venusta</i>	(Greene) Munz	Convolvulaceae	WI	1.5	4.5	3	1	1.3	4.3					Perennial forb
<i>Calystegia malacophylla</i>	Brummitt & Namoff	Convolvulaceae	BE	5	15	3	5	0	IB.3	1				Perennial forb
<i>Convolvulus simulans</i>	L. M. Perry	Convolvulaceae	BE/SI	3.7	14.8	4	4	2.4	4.2					Annual forb
<i>Dudleya abramsii</i> ssp. <i>betinae</i>	Rose	Crassulaceae	SE	6	18	3	6	0	IB.2	1				Perennial forb
<i>Dudleya abramsii</i> ssp. <i>marina</i>	Rose	Crassulaceae	SE	6	18	3	6	0	IB.3	1				Perennial forb
<i>Dudleya abramsii</i> ssp. <i>serbellii</i>	Rose	Crassulaceae	SE	6	24	4	6	0	IB.1	1				Perennial forb
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	(Eastw.) Moran	Crassulaceae	SI	3.2	9.5	3	3	0	IB.1	1				Perennial forb
<i>Scdella pentandra</i>	H. Sharsm.	Crassulaceae	WI	2	8.1	4	1.5	2.1		1				Annual forb
<i>Scdella pumila</i>	(Benth.) Britton & Rose	Crassulaceae	WI	1.7	5.1	3	2	1.5		1				Annual forb
<i>Sedum albonarginatum</i>	R. T. Clausen	Crassulaceae	SE	5.9	47	8	6	0.4	IB.2	1				Perennial forb
<i>Sedum citrinum</i>	Zika	Crassulaceae	SE	6	18	3	6	0	IB.2	1				Perennial forb
<i>Sedum eastwoodiae</i>	(Britton) A. Berger	Crassulaceae	SE	6	30	5	6	0	IB.2	1				Perennial forb

APPENDIX I. CONTINUED.

Taxon ¹	Authority	Family	Aif ²	Mean ³	Sum ⁴	Sourc.	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸				Lifeform ⁹
										KL	NC	BA	SC	
<i>Sedum flavitum</i>	B.L. Wilson & Zika	Crassulaceae	SI	3	18	6	3	0.6	4.3		1			Perennial forb
<i>Sedum kiersteadiae</i>	B.L. Wilson & R.E. Brainerd	Crassulaceae	SI	3.3	10	3	3	0.6	1B.2		1			Perennial forb
<i>Sedum laxum</i> ssp. <i>heckneri</i>	(Britton) A. Berger	Crassulaceae	SI	3.3	10	3	3	0.6	4.3		1			Perennial forb
<i>Sedum laxum</i> ssp. <i>laxum</i>	(Britton) A. Berger	Crassulaceae	BE	4.8	23	5	5	0.8			1			Perennial forb
<i>Sedum patens</i>	Zika	Crassulaceae	SE	6	6	1	6	-			1			Perennial forb
<i>Sedum radiatum</i>	S. Watson	Crassulaceae	WI	2	6	3	2	2			1			Annual forb
<i>Sedum rubiginosum</i>	Zika & B.L. Wilson	Crassulaceae	SE	6	6	1	6	-			1			Perennial forb
<i>Calceolaria decurrens</i>	(Torr.) Florin	Cupressaceae	SI	3	9	3	3	0			1			Tree
<i>Chamaecyparis lawsoniana</i>	(A. Murray bis) Parl.	Cupressaceae	SI	3	15	5	3	0.7			1			Tree
<i>Hesperocyparis bakeri</i>	(Jepps) Bartel	Cupressaceae	SI	2.6	13	5	3	0.5	CBR		1			Tree
<i>Hesperocyparis macanabiana</i>	(A. Murray bis) Bartel	Cupressaceae	BE	4.7	28	6	4.5	1.2	4.2		1			Tree
<i>Hesperocyparis sargentii</i>	(Jepps) Bartel	Cupressaceae	BE	4.9	34	7	5	1.2			1			Tree
<i>Juniperus communis</i> var. <i>jackii</i>	L.	Cupressaceae	BE/SI	4	8	2	4	-			1			Shrub
<i>Callisclerus cringer</i>	(A. Gray) C.N. Gilmour, J.R. Starr, & Naezi	Cyperaceae	WI	1.7	5	3	1	2.1	CBR		1			Perennial gram.
<i>Carex bairnerdii</i>	Mack.	Cyperaceae	WI/IN	1.4	4.25	3	2	1			1			Perennial gram. (rhiz.)
<i>Carex concinnoides</i>	Mack.	Cyperaceae	BE/SI	4	8	2	4	-			1			Perennial gram. (rhiz.)
<i>Carex hirtissima</i>	W. Boott	Cyperaceae	WI	1.8	3.5	2	1.8	-			1			Perennial gram. (cesp.)
<i>Carex klamathensis</i>	B.L. Wilson & Janeway	Cyperaceae	SE	6	12	2	6	-	1B.2		1			Perennial gram. (rhiz.)
<i>Carex mendocinensis</i>	Olney ex W. Boott	Cyperaceae	BE/SI	3.8	23	6	3.5	1.2			1			Perennial gram. (cesp.)
<i>Carex obtusipennis</i>	Stacey	Cyperaceae	BE	4.9	24.5	5	6	1.6	1B.2		1			Perennial gram. (rhiz.)
<i>Carex scabriscala</i>	Mack.	Cyperaceae	SE	6	12	2	6	-	4.3		1			Perennial gram. (rhiz.)
<i>Carex serotinicola</i>	Zika	Cyperaceae	SE	5.5	11	2	5.5	-			1			Perennial gram. (cesp.)
<i>Carex serotoides</i>	W. Boott	Cyperaceae	BE	4.9	39	8	5	1.1			1			Perennial gram. (rhiz.)
<i>Carex spissa</i>	L. H. Bailey	Cyperaceae	SI	2.8	8.25	3	2	2.9			1			Perennial gram. (rhiz.)
<i>Carex xerophila</i>	Janeway & Zika	Cyperaceae	WI	1.7	5	3	2	0.6			1			Perennial gram. (cesp.)
<i>Polystichum lemmonii</i>	Underw.	Dryopteridaceae	SE	6	24	4	6	0			1			Perennial forb (rhiz.)
<i>Polystichum scopulinum</i>	(D. C. Eaton) Maxon	Dryopteridaceae	WI	1.7	5.1	3	2	1.5			1			Perennial forb (rhiz.)
<i>Acrostaphylos bakeri</i> ssp. <i>bakeri</i>	Eastw.	Ericaceae	SE	5.5	27.5	5	6	1.3	1B.1		1			Shrub
<i>Acrostaphylos bakeri</i> ssp. <i>sublaevis</i>	Eastw.	Ericaceae	SE	6	12	2	6	-			1			Shrub
<i>Acrostaphylos canescens</i> ssp. <i>sonomensis</i>	Eastw.	Ericaceae	SI	2.5	12.5	5	3	1.5	CBR		1			Shrub
<i>Acrostaphylos franciscana</i>	Eastw.	Ericaceae	SE	6	18	3	6	0	1B.1		1			Shrub
<i>Acrostaphylos hispida</i>	Howell	Ericaceae	BE	4.5	22.5	5	4	1.1	4.2		1			Shrub
<i>Acrostaphylos klamathensis</i>	S. W. Edwards, Keeler-Wolf & W. Knight	Ericaceae	BE/SI	3.9	19.5	5	4	1.8	1B.2		1			Shrub
<i>Acrostaphylos montana</i> ssp. <i>montana</i>	Eastw.	Ericaceae	BE	4.9	19.5	4	4.5	1	1B.3		1			Shrub
<i>Acrostaphylos montana</i> ssp. <i>ravenii</i>	Eastw.	Ericaceae	SE	6	18	3	6	0	1B.1		1			Shrub
<i>Acrostaphylos nortensis</i>	(P. V. Wells) P. V. Wells	Ericaceae	SI	2.8	5.5	2	2.5	-	4.3		1			Shrub
<i>Acrostaphylos obtusipennis</i>	Eastw.	Ericaceae	SE	5.7	28.5	5	6	0.9	4.3		1			Shrub
<i>Acrostaphylos stanfordiana</i> ssp. <i>raichei</i>	Parry	Ericaceae	SI	2.6	10.5	4	3	1.7	1B.1		1			Shrub
<i>Acrostaphylos viscida</i> ssp. <i>paluchella</i>	Parry	Ericaceae	BE	5	25	5	5	1			1			Shrub
<i>Acrostaphylos viscida</i> ssp. <i>viscida</i>	Parry	Ericaceae	WI	2.2	10.8	5	3	1.2			1			Shrub
<i>Pyrola denata</i>	Sm.	Ericaceae	WI	2	6	3	3	1.7			1			Perennial forb (rhiz.)
<i>Vaccinium coccineum</i>	Piper	Ericaceae	BE/SI	3.5	3.5	1	3	-	3.3		1			Shrub
<i>Acmispon junceus</i> var. <i>junceus</i>	(Benth.) Brouillet	Fabaceae	WI	1.5	3	2	1.5	-			1			Perennial forb
<i>Astragalus breveri</i>	A. Gray	Fabaceae	SI	3.2	15.8	5	3	2	4.2		1			Annual forb
<i>Astragalus claranus</i>	Jepps.	Fabaceae	SI	3	6	2	3	-			1			Annual forb
<i>Astragalus clelandii</i>	Greene	Fabaceae	SE	6	24	4	6	0	4.3		1			Perennial forb
<i>Astragalus curtipes</i>	A. Gray	Fabaceae	WI	1.8	3.5	2	1.8	-	CBR		1			Perennial forb
<i>Astragalus macradom</i>	(Hook. & Arn.) A. Gray	Fabaceae	WI/IN	1.3	3.75	3	1	0.7	4.3		1			Perennial forb
<i>Astragalus ratanii</i> var. <i>jeppsonianus</i>	A. Gray	Fabaceae	BE/SI	4.3	25.5	6	4	1.2	1B.2		1			Annual forb
<i>Astragalus whitneyi</i> var. <i>siskiyounensis</i>	A. Gray	Fabaceae	BE	4.6	23	5	5	1.1			1			Perennial forb
<i>Holia strobilata</i>	(Hook. & Arn.) Rydb.	Fabaceae	SI	2.5	5	2	2.5	-	1B.1		1			Perennial forb

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸						Lifeform ⁹
										KL	NC	BA	SC	SN		
<i>Lathyrus biflorus</i>	T. W. Nelson & J. P. Nelson	Fabaceae	SE	6	24	4	6	0	1B.1	1					Perennial forb	
<i>Lathyrus dehorricus</i>	C. L. Hitchc.	Fabaceae	BE	5.3	10.5	2	5	-	4.3						Perennial forb	
<i>Lathyrus vestitus</i> var. <i>vestitus</i>	Nutt.	Fabaceae	WI	1.8	7.2	4	0.6	2.8							Perennial forb	
<i>Lupinus constrictus</i>	T. W. Nelson & J. P. Nelson	Fabaceae	SE	6	24	4	6	0	1B.1						Perennial forb	
<i>Lupinus croceus</i>	Eastw.	Fabaceae	BE/SI	4	12	3	4	0							Perennial forb	
<i>Lupinus lapidicola</i>	A. Heller	Fabaceae	SI	3	15	5	3	3							Perennial forb	
<i>Lupinus anastus</i>	S. Watson	Fabaceae	SI	3.1	15.3	5	3	2.9							Perennial forb	
<i>Lupinus spectabilis</i>	Hoover	Fabaceae	SE	6	24	4	6	0	1B.2						Annual forb	
<i>Pedunculatum californicum</i>	(S. Watson) Rydb.	Fabaceae	BE/SI	4.4	21.8	5	6	2.4							Perennial forb	
<i>Trifolium amoenum</i>	Greene	Fabaceae	WI/IN	1.3	2.5	2	1	-	1B.1						Annual forb	
<i>Trifolium fucatum</i>	Lindl.	Fabaceae	WI/IN	1.3	4	3	1	0.6							Annual forb	
<i>Trifolium gracilentum</i>	Torr. & A. Gray	Fabaceae	WI/IN	1	3.1	3	1	1							Annual forb	
<i>Trifolium longipes</i> ssp. <i>elmeri</i>	Nutt.	Fabaceae	BE	5.3	21	4	6	1.5							Perennial forb	
<i>Trifolium longipes</i> ssp. <i>oreganum</i>	Nutt.	Fabaceae	BE/SI	4	12	3	4	2							Perennial forb	
<i>Trifolium macrocephalum</i>	Pursh	Fabaceae	WI/IN	1.4	7	5	1	1.1							Annual forb	
<i>Trifolium wilkenovii</i>	Spreng.	Fabaceae	WI/IN	1.3	4	3	1	0.6							Annual forb	
<i>Notholothocarpus densiflorus</i> var. <i>echinoides</i>	(Hook. & Arn.) Mianon, C. H. Cannon, & S. Oh	Fagaceae	SI	2.5	12.3	5	1	2.5							Shrub	
<i>Quercus durata</i> var. <i>durata</i>	Jeps.	Fagaceae	SE	5.8	40.5	7	6	0.8							Shrub	
<i>Quercus vaccinifolia</i>	Kellogg	Fagaceae	SI	2.5	12.3	5	2	2.2							Shrub	
<i>Garrya buxifolia</i>	A. Gray	Garryaceae	SE	5.8	29	5	6	0.4							Shrub	
<i>Garrya congdonii</i>	Eastw.	Garryaceae	BE	5	30	6	5.5	1.3							Shrub	
<i>Gentiana seigera</i>	A. Gray	Gentianaceae	SE	5.8	17.5	3	6	0.3	1B.2						Perennial forb	
<i>Zelmeria trichantha</i>	(Griseb.) G. Mans.	Gentianaceae	SE	5.5	11	2	5.5	-							Annual forb	
<i>Iris bracteata</i>	S. Watson	Iridaceae	SE	5.8	11.5	2	5.5	-	3.3						Perennial forb (rhiz.)	
<i>Iris innominata</i>	L. F. Hend.	Iridaceae	SE	5.7	17	3	6	0.6	4.3						Perennial forb (rhiz.)	
<i>Iris macrospilon</i>	Torr.	Iridaceae	WI/IN	1.1	3.25	3	1	0.9							Perennial forb (rhiz.)	
<i>Iris tenuissima</i> ssp. <i>purdyiformis</i>	Dykes	Iridaceae	WI	1.5	3	2	1.5	-							Perennial forb (rhiz.)	
<i>Iris thompsonii</i>	R. C. Foster	Iridaceae	BE	4.5	9	2	4.5	-	4.3						Perennial forb	
<i>Acanthomintha duttonii</i>	(Abrams) Jokers	Lamiaceae	SE	6	30	5	6	0	1B.1						Annual forb	
<i>Acanthomintha licifolia</i>	(A. Gray) A. Gray	Lamiaceae	WI/IN	1.3	3	3	0	1.7	1B.1						Annual forb	
<i>Acanthomintha lanceolata</i>	Curran	Lamiaceae	SI	3.4	16.8	5	3	2.1	4.2						Annual forb	
<i>Acanthomintha obovata</i> ssp. <i>obovata</i>	Jeps.	Lamiaceae	BE/SI	3.5	10.5	3	3	2.5	4.2						Annual forb	
<i>Monardaella douglasii</i>	Benth.	Lamiaceae	WI/IN	1	2	2	1	-							Annual forb	
<i>Monardaella foliata</i>	(Jeps.) Jokers	Lamiaceae	SE	5.8	34.5	6	6	0.8	1B.2						Shrub	
<i>Monardaella palmieri</i>	A. Gray	Lamiaceae	BE	4.8	28.5	6	6	2.2	1B.2						Perennial forb (rhiz.)	
<i>Monardaella purpurea</i>	Howell	Lamiaceae	SE	6	24	4	6	0							Perennial forb	
<i>Monardaella sheldonii</i>	Torr.	Lamiaceae	SI	3	18	6	3	1.7							Perennial forb (rhiz.)	
<i>Monardaella stebbinsii</i>	Hardham & Bartel	Lamiaceae	SE	6	30	5	6	0	1B.2						Perennial forb (rhiz.)	
<i>Monardaella villosa</i> ssp. <i>villosa</i>	Benth.	Lamiaceae	SE	6	24	4	6	0							Perennial forb	
<i>Monardaella viridis</i>	Jeps.	Lamiaceae	WI/IN	1	2	2	1	-	4.3						Perennial forb	
<i>Salvia sonomensis</i>	Greene	Lamiaceae	WI	1.6	9.5	6	1.5	1.3							Shrub	
<i>Scutellaria antirrhinoides</i>	Benth.	Lamiaceae	WI	2.3	11.5	5	3	1.5							Perennial forb	
<i>Stachys pycnantha</i>	Benth.	Lamiaceae	WI	2.2	11	5	1	2.4	CBR						Perennial forb	
<i>Trichostema laxum</i>	A. Gray	Lamiaceae	BE/SI	4	16	4	4.5	2.4							Annual forb	
<i>Trichostema rubispalum</i>	Elmer	Lamiaceae	SE	5.6	28	5	6	0.9	4.3						Annual forb	
<i>Pinguicula macroceras</i>	Link	Lentibulariaceae	SE	6	18	3	6	0	2B.2						Perennial forb (carn.)	
<i>Calochortus clavatus</i> var. <i>clavatus</i>	S. Watson	Liliaceae	BE	4.5	13.5	3	4	0.6	4.3						Perennial forb (bulb)	
<i>Calochortus clavatus</i> var. <i>paludosus</i>	S. Watson	Liliaceae	WI	1.6	3.1	2	2	-							Perennial forb (bulb)	
<i>Calochortus elegans</i>	Pursh	Liliaceae	WI	2	4	2	2	-							Perennial forb (bulb)	
<i>Calochortus elegantus</i>	H. P. McDonald	Liliaceae	WI	1.5	4.5	3	0	1.3	1B.3						Perennial forb (bulb)	
<i>Calochortus fimbriatus</i>	H. P. McDonald	Liliaceae	WI/IN	1	3	3	0	1.7	1B.3						Perennial forb (bulb)	
<i>Calochortus fimbriatus</i>	S. Watson	Liliaceae	WI	2.1	8.5	4	2.5	1.2							Perennial forb (bulb)	
<i>Calochortus nudus</i>	Lemmon	Liliaceae	BE	5.4	21.5	4	6	1.5	1B.2						Perennial forb (bulb)	

APPENDIX I. CONTINUED.

Taxon ¹	Authority	Family	A.P. ²	Mean ³	Sum ⁴	Souc.	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Calochortus raichei</i>	Farwig & V. Girard	Liliaceae	SE	6	18	3	6	0	1B,2	1				Perennial forb (bulb)	
<i>Calochortus tibromensis</i>	A. J. Hill	Liliaceae	SE	6	24	4	6	0	1B,1		1			Perennial forb (bulb)	
<i>Calochortus umbellatus</i>	Alph. Wood	Liliaceae	SI	2.9	14.5	5	3	1.1	4,2	1				Perennial forb (bulb)	
<i>Calochortus uniflorus</i>	Hook. & Arn.	Liliaceae	WI	1.7	5	3	1	1.2	4,2		1			Perennial forb (bulb)	
<i>Calochortus vesiae</i>	Purdy	Liliaceae	WI	2	6	3	2	1						Perennial forb (bulb)	
<i>Erythronium californicum</i>	Purdy	Liliaceae	SI	2.7	8	3	2	2.1						Perennial forb (bulb)	
<i>Erythronium citrinum</i> var. <i>citrinum</i>	S. Watson	Liliaceae	BE/SI	4.3	21.5	5	4	0.4	4,3	1				Perennial forb (bulb)	
<i>Erythronium citrinum</i> var. <i>roderickii</i>	S. Watson	Liliaceae	BE	4.7	37.5	8	4.5	1.4	1B,3	1				Perennial forb (bulb)	
<i>Erythronium helense</i>	Applegate	Liliaceae	BE	4.5	18	4	4.5	1.7	4,2		1			Perennial forb (bulb)	
<i>Erythronium hendersonii</i>	S. Watson	Liliaceae	SI	2.5	5	2	2.5	-	2B,3	1				Perennial forb (bulb)	
<i>Erythronium multiscapellum</i>	(Kellogg) A. Nelson & P. B. Kenn.	Liliaceae	SI	3	15	5	2	1.7						Perennial forb (bulb)	
<i>Erythronium purpurascens</i>	S. Watson	Liliaceae	WI/JN	1	2	2	1	-						Perennial forb (bulb)	
<i>Erythronium tolmense</i>	Applegate	Liliaceae	SI	2.5	5	2	2.5	-	1B,2					Perennial forb (bulb)	
<i>Fritillaria affinis</i>	(Schult. & Schult. f.) Sealy	Liliaceae	WI	2	6	3	2	0		1				Perennial forb (bulb)	
<i>Fritillaria agrestis</i>	Greene	Liliaceae	SI	2.7	13.3	5	2	1.6	4,2		1			Perennial forb (bulb)	
<i>Fritillaria biflora</i> var. <i>biflora</i>	Lindl.	Liliaceae	WI	2.3	9	4	2.5	1.7	CBR					Perennial forb	
<i>Fritillaria biflora</i> var. <i>ineziana</i>	Lindl.	Liliaceae	BE	5.4	21.5	4	6	1.5	1B,1					Perennial forb (bulb)	
<i>Fritillaria eastwoodiae</i>	R. M. MacFarl.	Liliaceae	WI	2.3	13.5	6	2	0.4	3,2					Perennial forb (bulb)	
<i>Fritillaria falcata</i>	(Jeps.) D. E. Beetle	Liliaceae	SE	6	24	4	6	0	1B,2		1			Perennial forb (bulb)	
<i>Fritillaria glauca</i>	Greene	Liliaceae	BE/SI	4.3	17.3	4	5.5	2.7	4,2	1				Perennial forb	
<i>Fritillaria lilacea</i>	Lindl.	Liliaceae	WI	1.8	7	4	1.5	1.1	1B,2		1			Perennial forb (bulb)	
<i>Fritillaria pluriflora</i>	Torr. ex Benth.	Liliaceae	WI	2.4	9.5	4	2.5	1.5	1B,2		1			Perennial forb (bulb)	
<i>Fritillaria purdyi</i>	Eastw.	Liliaceae	BE	4.5	31.5	7	4	1.8	4,3					Perennial forb (bulb)	
<i>Fritillaria recurva</i>	Benth.	Liliaceae	SI	2.7	8	3	2.5	1.9			1			Perennial forb (bulb)	
<i>Fritillaria virida</i>	Kellogg	Liliaceae	SE	6	18	3	6	0	1B,2					Perennial forb (bulb)	
<i>Lilium bolanderi</i>	S. Watson	Liliaceae	SE	6	18	3	6	0	4,2	1				Perennial forb (bulb)	
<i>Lilium kelloggii</i>	Purdy	Liliaceae	SI	2.5	10	4	2	1.9	4,3	1				Perennial forb (bulb)	
<i>Lilium pardalinum</i> ssp. <i>vollmeri</i>	Kellogg	Liliaceae	BE	5	15	3	5	1	4,3	1				Perennial forb (bulb)	
<i>Lilium rubescens</i>	S. Watson	Liliaceae	WI	2	9.75	5	2	1.4	4,2		1			Perennial forb (bulb)	
<i>Lilium washingtonianum</i> ssp. <i>purpurascens</i>	Kellogg	Liliaceae	BE/SI	3.5	10.5	3	3	2.5	4,3	1				Perennial forb (bulb)	
<i>Prosartes parvifolia</i>	S. Watson	Liliaceae	BE	5	5	1	5		1B,2	1				Annual forb	
<i>Hesperolobon adenophyllum</i>	(A. Gray) Small	Liliaceae	SE	5.7	28.5	5	6	0.9	1B,2					Annual forb	
<i>Hesperolobon bicapellatum</i>	(H. Sharsm.) H. Sharsm.	Liliaceae	SE	6	18	3	6	0	1B,2	1				Annual forb	
<i>Hesperolobon breweri</i>	(A. Gray) Small	Liliaceae	SI	2.5	10	4	2.5	1.5	1B,2		1			Annual forb	
<i>Hesperolobon californicum</i>	(Benth.) Small	Liliaceae	SI	2.8	8.5	3	3	0.6			1			Annual forb	
<i>Hesperolobon clevelandii</i>	(Greene) Small	Liliaceae	WI	2	8	4	2	1.8			1			Annual forb	
<i>Hesperolobon congestum</i>	(A. Gray) Small	Liliaceae	SE	6	24	4	6	0	1B,1		1			Annual forb	
<i>Hesperolobon dielymocarpon</i>	H. Sharsm.	Liliaceae	SE	6	18	3	6	0	1B,2		1			Annual forb	
<i>Hesperolobon distychnum</i>	H. Sharsm.	Liliaceae	SE	6	18	3	6	0			1			Annual forb	
<i>Hesperolobon drymaroides</i>	(Curran) Small	Liliaceae	SE	6	24	4	6	0	1B,2		1			Annual forb	
<i>Hesperolobon micranthoides</i>	(A. Gray) Small	Liliaceae	WI	2.4	11.8	5	3	1		1				Annual forb	
<i>Hesperolobon microanthum</i>	R. O'Donnell	Liliaceae	BE	5.7	17	3	6	0.6			1			Annual forb	
<i>Hesperolobon sharsmithiae</i>	(A. Gray) Small	Liliaceae	BE	4.7	14	3	6	2.3	CBR		1			Annual forb	
<i>Hesperolobon spergulinum</i>	H. Sharsm.	Liliaceae	SE	5.8	34.5	6	6	0.8	1B,3		1			Annual forb	
<i>Hesperolobon tehamaense</i>	Pursh	Liliaceae	WI/JN	1.3	4	3	1	1.5			1			Perennial forb	
<i>Lilium lewisii</i> var. <i>lewisii</i>	R. M. Lloyd	Malvaceae	WI	2	8	4	1.5	2.4	1B,2		1			Shrub	
<i>Fremontodendron decumbens</i>	Greene	Malvaceae	SI	2.5	5	2	2.5	-		1				Perennial forb	
<i>Sidaeceae asprella</i> ssp. <i>nana</i>	(Torr. & A. Gray) A. Gray	Malvaceae	SI	2.6	13	5	3	2.3			1			Annual forb	
<i>Sidaeceae diplocypha</i>	A. Gray	Malvaceae	WI	1.6	4.75	3	2	0.7			1			Annual forb	
<i>Sidaeceae harwegii</i>	Greene	Malvaceae	SE	5.6	22.5	4	6	1	1B,2		1			Perennial forb	
<i>Sidaeceae hickmanii</i> ssp. <i>anomala</i>	Greene	Malvaceae	SE	6	12	2	6	-	1B,1		1			Perennial forb	
<i>Sidaeceae hickmanii</i> ssp. <i>viridis</i>	Wiggins	Malvaceae	SI	3	6	2	3	-	1B,1		1			Perennial forb	
<i>Pseudotrillium rhvale</i>	(S. Watson) S. B. Farmer	Melanthaceae	BE/SI	4	12	3	4	1		1				Perennial forb	

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Toxicoscordon fontanum</i>	(Eastw.) Zomlefer & Judd	Melanthiaceae	BE/SI	3.8	23	6	4	0.8	4.2	1	1	1	1	1	Perennial forb (bulb)
<i>Toxicoscordon paniculatum</i>	(Nutt.) Rydb.	Melanthiaceae	WI	1.6	4.75	3	2	0.7		1	1	1	1	1	Perennial forb (bulb)
<i>Xerophyllum tenax</i>	(Pursh) Nutt.	Melanthiaceae	WI	1.6	8	5	1	0.9		1	1	1	1	1	Perennial forb (rhiz.)
<i>Calyptridium quadriperatum</i>	S. Watson	Montiaceae	BE	4.6	27.5	6	4	1.2	4.3	1	1	1	1	1	Annual forb
<i>Calyptridium umbellatum</i>	(Torr.) Greene	Montiaceae	WI/JN	1.3	4	3	1	1.5		1	1	1	1	1	Perennial forb
<i>Claytonia exigua</i> ssp. <i>exigua</i>	Torr. & A. Gray	Montiaceae	SI	3.4	24	7	3	1.1		1	1	1	1	1	Annual forb
<i>Claytonia exigua</i> ssp. <i>glauca</i>	Torr. & A. Gray	Montiaceae	BE/SI	3.6	18	5	3	1.3		1	1	1	1	1	Annual forb
<i>Claytonia gypsophiloides</i>	Fisch. & C. A. Mey.	Montiaceae	SI	3.1	15.5	5	3	0.2		1	1	1	1	1	Annual forb
<i>Claytonia saxosa</i>	Brandege	Montiaceae	BE/SI	4.4	21.8	5	5	2.2	CBR	1	1	1	1	1	Annual forb
<i>Claytonia serpenticola</i>	T. R. Stoughton	Montiaceae	BE/SI	4	4	1	4	-		1	1	1	1	1	Perennial forb
<i>Lewisia canaliculifolia</i>	J. T. Howell	Montiaceae	WI/JN	1	6	6	1	1.1	1B.2	1	1	1	1	1	Perennial forb
<i>Lewisia cotyledon</i> var. <i>coryledon</i>	(S. Watson) B. L. Rob.	Montiaceae	WI	2	3	3	3	1.7	CBR	1	1	1	1	1	Perennial forb
<i>Lewisia cotyledon</i> var. <i>beckneri</i>	(S. Watson) B. L. Rob.	Montiaceae	WI/JN	1	4	4	0.5	1.4	1B.2	1	1	1	1	1	Perennial forb
<i>Lewisia cotyledon</i> var. <i>howellii</i>	(S. Watson) B. L. Rob.	Montiaceae	WI/JN	1.3	4	3	1	1.5	3.2	1	1	1	1	1	Perennial forb
<i>Lewisia teana</i>	(Porter) B. L. Rob.	Montiaceae	SI	3	6	2	3	-		1	1	1	1	1	Perennial forb
<i>Lewisia nevadensis</i>	(A. Gray) B. L. Rob.	Montiaceae	WI	1.7	5	3	2	1.5		1	1	1	1	1	Perennial forb
<i>Lewisia oppositifolia</i>	(S. Watson) B. L. Rob.	Montiaceae	BE	5.3	21	4	6	1.5	2B.2	1	1	1	1	1	Perennial forb
<i>Lewisia rediviva</i>	Pursh	Montiaceae	WI/JN	1.4	7	5	1	1.1		1	1	1	1	1	Perennial forb
<i>Lewisia stebbinsii</i>	Gankin & W. R. Hildreth	Montiaceae	BE	4.7	14	3	6	2.3		1	1	1	1	1	Perennial forb
<i>Lewisia triphylla</i>	(S. Watson) B. L. Rob.	Montiaceae	WI	1.7	5	3	2	1.5		1	1	1	1	1	Perennial forb
<i>Camissonia bentzenis</i>	P. H. Raven	Onagraceae	SE	5.9	29.5	5	6	0.4	1B.1	1	1	1	1	1	Annual forb
<i>Camissonia lacustris</i>	P. H. Raven	Onagraceae	SI	3	9	3	3	3		1	1	1	1	1	Annual forb
<i>Clarkia arcuta</i>	(Kellogg) A. Nelson & J. F. Macbr.	Onagraceae	WI	2.3	7	3	2	0.6		1	1	1	1	1	Annual forb
<i>Clarkia biloba</i> ssp. <i>biloba</i>	(Durand) A. Nelson & J. F. Macbr.	Onagraceae	WI/JN	1.4	2.75	2	1.4	-		1	1	1	1	1	Annual forb
<i>Clarkia breweri</i>	(A. Gray) Greene	Onagraceae	BE/SI	3.8	11.5	3	3	2.1	4.2	1	1	1	1	1	Annual forb
<i>Clarkia franciscana</i>	H. Lewis & P. H. Raven	Onagraceae	SE	6	24	4	6	0	1B.1	1	1	1	1	1	Annual forb
<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>	(Piper) A. Nelson & J. F. Macbr.	Onagraceae	WI	2.2	6.5	3	2	1	1B.2	1	1	1	1	1	Annual forb
<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	(Piper) A. Nelson & J. F. Macbr.	Onagraceae	BE	5	25	5	5	1	4.2	1	1	1	1	1	Annual forb
<i>Epilobium minutum</i>	Lindl.	Onagraceae	WI	2	6	3	2	1		1	1	1	1	1	Annual forb
<i>Epilobium oreganum</i>	Greene	Onagraceae	BE/SI	3.8	23	6	4	2.2	1B.2	1	1	1	1	1	Perennial forb
<i>Epilobium rigidum</i>	Hauskn.	Onagraceae	WI	5.1	20.5	4	6	2	4.3	1	1	1	1	1	Perennial forb
<i>Epilobium septentrionale</i>	(D. D. Keck) R. N. Bowman & Hoch	Onagraceae	BE	2	4	2	2	-	4.3	1	1	1	1	1	Perennial forb
<i>Epilobium siskiyouense</i>	(Munz) Hoch & P. H. Raven	Onagraceae	SE	5.5	38.5	7	6	1	1B.3	1	1	1	1	1	Perennial forb
<i>Cypripedium californicum</i>	A. Gray	Orchidaceae	BE	4.5	40.5	9	4	1.3	4.2	1	1	1	1	1	Perennial forb (bulb)
<i>Cypripedium fasciculatum</i>	Kellogg	Orchidaceae	SI	2.5	12.3	5	2	1.6	4.2	1	1	1	1	1	Perennial forb (bulb)
<i>Piperia candida</i>	Rand. Morgan & Ackerman	Orchidaceae	WI/JN	1.2	3.5	3	1	1	1B.2	1	1	1	1	1	Perennial forb (bulb)
<i>Aphyllon validum</i> ssp. <i>howellii</i>	Jeps.	Orobanchaceae	SI	3.4	13.5	4	3	1.3	4.3	1	1	1	1	1	Perennial forb (paras.)
<i>Castilleja affinis</i> ssp. <i>neglecta</i>	Hook. & Arn.	Orobanchaceae	SE	6	30	5	6	0		1	1	1	1	1	Perennial forb (hemipar.)
<i>Castilleja brevilobata</i>	Piper	Orobanchaceae	SE	6	18	3	6	0	4.2	1	1	1	1	1	Perennial forb (hemipar.)
<i>Castilleja foliolosa</i>	Hook. & Arn.	Orobanchaceae	WI	2.3	9	4	2.5	1.4		1	1	1	1	1	Perennial forb, Shrub
<i>Castilleja miniata</i> ssp. <i>elata</i>	Douglas ex Hook.	Orobanchaceae	BE	4.6	27.5	6	4.5	1.4		1	1	1	1	1	Perennial forb (hemipar.)
<i>Castilleja minor</i> ssp. <i>spiralis</i>	(A. Gray) A. Gray	Orobanchaceae	SI	3.3	16.5	5	3	2.6		1	1	1	1	1	Annual forb (hemipar.)
<i>Castilleja pruinosa</i>	Fernald	Orobanchaceae	SI	3.2	15.8	5	3	1.9		1	1	1	1	1	Annual forb (hemipar.)
<i>Castilleja rubicandula</i> ssp. <i>lithospermioides</i>	(Jeps.) T. I. Chuang & Heckard	Orobanchaceae	WI	2.4	9.75	4	2	1.8		1	1	1	1	1	Annual forb (hemipar.)
<i>Castilleja rubicandula</i> ssp. <i>rubicandula</i>	(Jeps.) T. I. Chuang & Heckard	Orobanchaceae	SE	5.6	28	5	6	0.9		1	1	1	1	1	Annual forb (hemipar.)
<i>Corcholanthus nidularius</i>	J. T. Howell	Orobanchaceae	SE	6	18	3	6	0	1B.1	1	1	1	1	1	Annual forb (hemipar.)
<i>Cordyanthus pilosus</i> ssp. <i>pilosus</i>	A. Gray	Orobanchaceae	SI	2.5	10	4	2.5	0.6		1	1	1	1	1	Annual forb (hemipar.)

APPENDIX I. CONTINUED.

Taxon ¹	Authority	Family	Alt ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Cordylanthus pingii</i>	A. Gray	Orobanchaceae	SE	5.6	28	5	6	0.9	CBR	1	1	1	1	1	Annual forb (hemipar.)
<i>Cordylanthus tenuis</i> ssp. <i>branneus</i>	A. Gray	Orobanchaceae	BE	5.1	25.5	5	5	1	4.3	1	1	1	1	1	Annual forb (hemipar.)
<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	A. Gray	Orobanchaceae	SE	6	24	4	6	0	1B.2	1	1	1	1	1	Annual forb (hemipar.)
<i>Cordylanthus tenuis</i> ssp. <i>tenuis</i>	A. Gray	Orobanchaceae	WI	2.3	9	4	2	0.5		1	1	1	1	1	Annual forb (hemipar.)
<i>Orthocarpus pachystachyus</i>	A. Gray	Orobanchaceae	BE	4.5	27	6	4.5	1.4		1	1	1	1	1	Annual forb (hemipar.)
<i>Pedicularis howellii</i>	A. Gray	Orobanchaceae	SE	6	18	3	6	0	1B.1	1	1	1	1	1	Annual forb (hemipar.)
<i>Triphysaria floribunda</i>	A. Gray	Orobanchaceae	SI	2.5	7.5	3	3	1.2	4.3	1	1	1	1	1	Perennial forb (hemipar.)
	(Benth.) T. I. Chuang & Heckard	Orobanchaceae	WI	2.3	6.75	3	2	1.9	1B.2	1	1	1	1	1	Annual forb
<i>Dicentra pumiflora</i> ssp. <i>oregana</i>	(Haw.) Walp.	Papaveraceae	BE	5.2	31	6	6	1.3	4.2	1	1	1	1	1	Perennial forb
<i>Dicentra pauciflora</i>	S. Watson	Papaveraceae	WI	2.2	6.5	3	3	1.4		1	1	1	1	1	Perennial forb
<i>Ehrendorferia chrysantha</i>	(Hook. & Arn.) Rylander	Papaveraceae	WI/JN	1.1	3.25	3	1	0.9	CBR	1	1	1	1	1	Perennial forb
<i>Eschscholzia hypocoides</i>	Benth.	Papaveraceae	SI	2.6	7.75	3	1	3.1	4.3	1	1	1	1	1	Annual forb
<i>Platystemon californicus</i>	Benth.	Papaveraceae	WI	1.7	5	3	2	0.6		1	1	1	1	1	Annual forb
<i>Parnassia cirrata</i> var. <i>intermedia</i>	Piper	Parnassiaceae	BE/SI	3.5	7	2	3.5	-		1	1	1	1	1	Perennial forb
<i>Parnassia palustris</i>	L.	Parnassiaceae	WI	2	6	3	0			1	1	1	1	1	Perennial forb
<i>Diplacus douglasii</i>	(Benth.) G.L. Nesom	Phrymaceae	SI	2.7	13.5	5	3	0.5		1	1	1	1	1	Annual forb
<i>Diplacus lanuae</i>	(Greene) Jeps.	Phrymaceae	SI	2.9	14.3	5	3	1.2		1	1	1	1	1	Annual forb
<i>Erythranthe glaucescens</i>	(Greene) G.L. Nesom	Phrymaceae	BE/SI	3.8	18.8	5	4	2.1		1	1	1	1	1	Annual forb
<i>Erythranthe linearifolia</i>	Benth.	Phrymaceae	BE/SI	4	16	4	4.5	2.4		1	1	1	1	1	Perennial forb (rhiz.)
<i>Erythranthe linaria</i>	(Curran ex Greene) G.L. Nesom	Phrymaceae	SE	5.6	33.5	6	6	1.2		1	1	1	1	1	Annual forb
<i>Erythranthe percaulis</i>	G.L. Nesom	Phrymaceae	SE	6	18	3	6	0	1B.1	1	1	1	1	1	Annual forb
<i>Erythranthe trinitensis</i>	G.L. Nesom	Phrymaceae	SE	6	18	3	6	0	1B.3	1	1	1	1	1	Annual forb
<i>Erythranthe willisii</i>	G.L. Nesom	Phrymaceae	SE	5.5	11	2	5.5	-		1	1	1	1	1	Perennial forb
<i>Picea brevieriana</i>	S. Watson	Pinaceae	WI	2.2	6.5	3	3	1.4	CBR	1	1	1	1	1	Tree
<i>Pinus attenuata</i>	Lemmon	Pinaceae	SI	2.5	12.6	5	3	2.4		1	1	1	1	1	Tree
<i>Pinus baldouiriana</i> ssp. <i>baldouiriana</i>	Greav. & Balf.	Pinaceae	BE/SI	4.3	26	6	4	1.5		1	1	1	1	1	Tree
<i>Pinus coulteri</i>	D. Don	Pinaceae	WI/JN	1.3	4	3	1	1.5		1	1	1	1	1	Tree
<i>Pinus jeffreyi</i>	D. Don	Pinaceae	SI	2.7	8	3	3	0.6		1	1	1	1	1	Tree
<i>Pinus sabiniana</i>	D. Don	Pinaceae	WI/JN	1.4	4.25	3	1	1.4		1	1	1	1	1	Tree
<i>Antrichium cornutum</i>	Benth.	Plantaginaceae	WI	2.2	11	5	2	0.8	CBR	1	1	1	1	1	Annual forb
<i>Antrichium leptaleum</i>	A. Gray	Plantaginaceae	WI	1.6	3.1	2	1.6	-		1	1	1	1	1	Annual forb
<i>Antrichium subcordatum</i>	A. Gray	Plantaginaceae	BE/SI	4.3	21.5	8	4	1.8	4.3	1	1	1	1	1	Annual forb
<i>Antrichium vellicodyculatum</i>	Kellogg	Plantaginaceae	SI	2.5	20	8	2.5	1.3		1	1	1	1	1	Annual forb
<i>Antrichium virga</i>	A. Gray	Plantaginaceae	SI	2.8	8.5	3	3	0.6	4.3	1	1	1	1	1	Perennial forb
<i>Collinsia greenei</i>	A. Gray	Plantaginaceae	BE	5.2	31	6	6	1.3	CBR	1	1	1	1	1	Annual forb
<i>Collinsia multicolor</i>	Lindl. & Paxton	Plantaginaceae	WI/JN	1.1	2.25	2	1.1	-	1B.2	1	1	1	1	1	Annual forb
<i>Collinsia sparsiflora</i>	Fisch. & C. A. Mey.	Plantaginaceae	WI	1.7	5	3	1	1.2		1	1	1	1	1	Annual forb
<i>Keckelia tenuiflora</i>	(A. Gray) Straw	Plantaginaceae	WI/JN	1.1	3.25	3	1	0.9		1	1	1	1	1	Shrub
<i>Penstemon azureus</i> var. <i>azureus</i>	Benth.	Plantaginaceae	SI	2.7	8	3	3	0.6		1	1	1	1	1	Perennial forb
<i>Penstemon filiformis</i>	(D. D. Keck) D. D. Keck	Plantaginaceae	BE	5	30	6	5.5	1.3	1B.3	1	1	1	1	1	Perennial forb
<i>Penstemon parvulus</i>	(A. Gray) Krautter	Plantaginaceae	BE/SI	3.7	11	3	4	0.6		1	1	1	1	1	Perennial forb
<i>Penstemon purpusii</i>	Brandege	Plantaginaceae	SI	2.8	11	4	2	2.4	CBR	1	1	1	1	1	Perennial forb
<i>Plantago erecta</i>	E. Morris	Plantaginaceae	WI/JN	1	3	3	1	1		1	1	1	1	1	Annual forb
<i>Veronica copelandii</i>	Eastw.	Plantaginaceae	SE	6	34	4	6	0	4.3	1	1	1	1	1	Perennial forb
<i>Agrostis microphylla</i>	Steud.	Poaceae	WI/JN	1.1	4.25	4	1.1	1.1		1	1	1	1	1	Annual gram.
<i>Bromus laevipes</i>	Shear	Poaceae	WI	1.7	5	3	2	0.6		1	1	1	1	1	Perennial gram. (cesp.)
<i>Calamagrostis foliosa</i>	Kearney	Poaceae	WI	1.7	5	3	2	1.5	4.2	1	1	1	1	1	Perennial gram. (rhiz.)
<i>Calamagrostis ophitidis</i>	(J. T. Howell) Nygren	Poaceae	SE	6	24	4	6	0	4.3	1	1	1	1	1	Perennial gram. (cesp.)
<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	(Timm) Koeler	Poaceae	WI	1.5	3	2	1.5	-		1	1	1	1	1	Perennial gram. (cesp.)
<i>Danthonia californica</i>	Bol.	Poaceae	SI	3.3	13	4	3	2.2		1	1	1	1	1	Perennial gram. (cesp.)
<i>Elymus trachycandus</i> ssp. <i>trachycandus</i>	(Link) Shimmers	Poaceae	WI	1.6	3.1	2	1.6	-		1	1	1	1	1	Perennial gram. (cesp.)
<i>Festuca californica</i>	Vasey	Poaceae	WI	2.4	11.8	5	2	1.6		1	1	1	1	1	Perennial gram. (cesp.)

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Festuca hlaeensis</i>	Elmer Nevski	Poaceae	WI/JN	1.3	5.25	4	1	1.2		1	1	1	1	1	Perennial gram. (cesp.)
<i>Hottelium brachyantherum</i> ssp. <i>californicum</i>		Poaceae	SI	3.1	9.25	3	3	2.9		1	1	1	1	1	Perennial gram. (cesp.)
<i>Melica geyeri</i>	Munro	Poaceae	WI/JN	1.2	6	5	1	0.4		1	1	1	1	1	Perennial gram. (rhiz.)
<i>Poa piperi</i>	Hitchc.	Poaceae	BE	5.4	21.5	4	5.5	1	4.3	1					Perennial gram. (rhiz.)
<i>Poa rhizomatosa</i>	Hitchc.	Poaceae	WI	1.8	3.5	2	1.5	-	4.3	1					Perennial gram. (rhiz.)
<i>Poa tenerima</i>	Scribn.	Poaceae	SI	3.3	13	4	3	1.3	CBR	1	1	1	1	1	Perennial gram. (cesp.)
<i>Scribneria bolanderi</i>	(Thurb.) Hack.	Poaceae	WI	1.7	5.1	3	1	2		1	1	1	1	1	Annual gram.
<i>Stipa tenenoi</i> var. <i>pubescens</i>	(Vasey) Scribn.	Poaceae	BE	4.8	14.5	6	2.3	3.2		1	1	1	1	1	Perennial gram. (cesp.)
<i>Stipa nelsonii</i> var. <i>dorei</i>	Scribn.	Poaceae	WI/JN	1	2	2	1	-		1					Perennial gram. (cesp.)
<i>Stipa nelsonii</i>	Boh.	Poaceae	WI/JN	1.1	2.1	2	1.1	-	CBR	1					Perennial gram. (cesp.)
<i>Collomia diversifolia</i>	Greene	Polemoniaceae	SE	5.6	33.5	6	6	1.2	4.3	1	1	1	1	1	Annual forb
<i>Collomia tinctoria</i>	Kellogg	Polemoniaceae	WI	1.8	7.1	4	2	1.5		1	1	1	1	1	Annual forb
<i>Gilia capitata</i> ssp. <i>capitata</i>	Sims	Polemoniaceae	WI	1.6	4.75	3	1	1.2		1	1	1	1	1	Annual forb
<i>Leptosiphon ambiguus</i>	(Rattan) J. M. Porter & L. A. Johnson	Polemoniaceae	SE	5.8	17.5	3	6	0.6		1	1	1	1	1	Annual forb
<i>Leptosiphon bolanderi</i>	(A. Gray) J. M. Porter & L. A. Johnson	Polemoniaceae	WI/JN	1.3	2.5	2	1.3	-		1	1	1	1	1	Annual forb
<i>Leptosiphon lativectus</i>	(E. G. Buxton) J. M. Porter & L. A. Johnson	Polemoniaceae	WI	2	6	3	2	0		1	1	1	1	1	Annual forb
<i>Leptosiphon liniflorus</i>	(Benth.) J. M. Porter & L. A. Johnson	Polemoniaceae	WI	1.6	6.25	4	1.5	1.2		1	1	1	1	1	Annual forb
<i>Leptosiphon nuttallii</i> ssp. <i>howellii</i>	(A. Gray) J. M. Porter & L. A. Johnson	Polemoniaceae	BE	5.3	31.5	6	6	1.3		1	1	1	1	1	Perennial forb
<i>Lianthus dichotomus</i>	Benth.	Polemoniaceae	SI	2.5	12.4	5	3	2.4		1	1	1	1	1	Annual forb
<i>Navaretia heterodoxa</i>	(Greene) Greene	Polemoniaceae	SI	2.8	14	5	3	2.4		1	1	1	1	1	Annual forb
<i>Navaretia jepsonii</i>	V. L. Bailey ex Jeps.	Polemoniaceae	SE	5.6	22.5	4	5.5	0.6	4.3	1					Annual forb
<i>Navaretia linearifolia</i> ssp. <i>pinnatisecta</i>	(Howell) L. A. Johnson	Polemoniaceae	BE/SI	3.8	19	5	3	2.2		1					Annual forb
<i>Navaretia nitrocarpa</i>	Greene	Polemoniaceae	SE	5.9	23.5	4	6	0.5		1					Annual forb
<i>Navaretia paradoxicala</i>	L. A. Johnson & D. Gowen	Polemoniaceae	SE	6	18	3	6	0	IB.3	1					Annual forb
<i>Navaretia paradoxivota</i>	L. A. Johnson & D. Gowen	Polemoniaceae	SE	6	18	3	6	0	IB.3	1					Annual forb
<i>Navaretia pubescens</i>	(Benth.) Hook. & Arn.	Polemoniaceae	WI	2	6	3	2	1		1	1	1	1	1	Annual forb
<i>Navaretia rosulata</i>	Brand	Polemoniaceae	SE	6	18	3	6	0	IB.2	1					Annual forb
<i>Navaretia sinistra</i>	(M. E. Jones) L. A. Johnson	Polemoniaceae	SI	2.5	7.5	3	3	1.8		1	1	1	1	1	Annual forb
<i>Phlox hisutsu</i>	E. E. Nelson	Polemoniaceae	SE	6	18	3	6	0	IB.2	1					Perennial forb
<i>Polemonium chartaceum</i>	H. Mason	Polemoniaceae	WI	1.6	8.1	5	2	1.5	IB.3	1					Perennial forb
<i>Polemonium eddyense</i>	Stubbbs	Polemoniaceae	SE	6	18	3	6	0	IB.2	1					Perennial forb
<i>Polygala cornuta</i> var. <i>cornuta</i>	Kellogg	Polygalaceae	WI	2.3	9	4	2	1.3		1					Perennial forb, shrub
<i>Chorizanthe breweri</i>	S. Watson	Polygonaceae	BE	5.4	21.5	4	5.5	1	IB.3	1					Annual forb
<i>Chorizanthe palmieri</i>	S. Watson	Polygonaceae	BE	4.9	24.5	5	6	1.6	4.2	1					Annual forb
<i>Chorizanthe unaristata</i>	Torr. & A. Gray	Polygonaceae	SI	2.7	10.8	4	2.5	2		1					Annual forb
<i>Chorizanthe ventricosa</i>	Goodman	Polygonaceae	BE	5.3	16	3	6	1.2	4.3	1					Annual forb
<i>Eriogonum alpinum</i>	Engelm.	Polygonaceae	SE	6	30	5	6	0	IB.2	1					Perennial forb
<i>Eriogonum argillosum</i>	J. T. Howell	Polygonaceae	SI	3.1	12.5	4	3	2.6	4.3	1	1	1	1	1	Annual forb
<i>Eriogonum cedrorum</i>	Reveal & Raiche	Polygonaceae	SE	6	12	2	6	-	IB.3	1					Perennial forb
<i>Eriogonum elevatum</i>	Small	Polygonaceae	SI	3.3	10	3	3	2.5		1					Annual forb
<i>Eriogonum compositum</i> var. <i>compositum</i>	Douglas ex Benth.	Polygonaceae	WI	1.7	5.1	3	2	1.5	CBR	1	1	1	1	1	Perennial forb
<i>Eriogonum conglobatum</i>	(S. Stokes) Reveal	Polygonaceae	BE	5.1	35.5	7	6	1.7	4.3	1					Shrub
<i>Eriogonum covilleum</i>	Eastw.	Polygonaceae	SI	3	12	4	3	1.6	CBR	1					Annual forb
<i>Eriogonum dasycanthum</i>	Torr. & A. Gray	Polygonaceae	SI	3	6	2	3	-	CBR	1	1	1	1	1	Annual forb
<i>Eriogonum dictamnifolium</i>	Rev.	Polygonaceae	SI	3.2	9.5	3	3	3	2B.3	1					Perennial forb
<i>Eriogonum elatum</i> var. <i>villosum</i>	Douglas ex Benth.	Polygonaceae	SI	3.3	13	4	3.5	3.2		1					Perennial forb (rhiz.)
<i>Eriogonum hircellum</i>	J. T. Howell & Baeig.	Polygonaceae	SE	6	18	3	6	0	IB.3	1					Perennial forb (rhiz.)
<i>Eriogonum hirtiflorum</i>	A. Gray ex S. Watson	Polygonaceae	SI	3.3	13	4	3.5	3.2	CBR	1	1	1	1	1	Annual forb

APPENDIX I. CONTINUED.

Taxon ¹	Authority	Family	AIF ²	Mean ³	Sum ⁴	Sourc.	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸							Lifeform ⁹
										KL	NC	BA	SC	SN			
<i>Eriogonum kelloegii</i>	A. Gray	Polygonaceae	SE	6	24	4	6	0	1B,2	1	1	1	1	1	1	Perennial forb	
<i>Eriogonum libertini</i>	Reveal	Polygonaceae	SE	6	36	6	6	0	4,2	1	1	1	1	1	1	Perennial forb	
<i>Eriogonum luteolum</i> var. <i>caninum</i>	Greene	Polygonaceae	SE	5.5	27.5	5	6	0.9	1B,2	1	1	1	1	1	1	Annual forb	
<i>Eriogonum luteolum</i> var. <i>luteolum</i>	Greene	Polygonaceae	BE/SI	3.8	15	4	3	1.5	1	1	1	1	1	1	Annual forb		
<i>Eriogonum luteolum</i> var. <i>pedunculatum</i>	Greene	Polygonaceae	BE	5	10	2	5	-	CBR	1	1	1	1	1	Annual forb		
<i>Eriogonum nervulosum</i>	(S. Stokes) Reveal	Polygonaceae	SE	6	18	3	6	0	1B,2	1	1	1	1	1	Perennial forb (rhiz.)		
<i>Eriogonum nudum</i> var. <i>indictum</i>	Douglas ex Benth.	Polygonaceae	WI	1.5	4.5	3	1	0.6	4,2	1	1	1	1	1	Perennial forb		
<i>Eriogonum nudum</i> var. <i>oblongifolium</i>	Douglas ex Benth.	Polygonaceae	WI	2	6	3	2	0	2B,2	1	1	1	1	1	Perennial forb		
<i>Eriogonum pendulum</i>	S. Watson	Polygonaceae	SE	6	18	3	6	0	2B,2	1	1	1	1	1	Perennial forb		
<i>Eriogonum pyrrolifolium</i>	Hook.	Polygonaceae	WI/IN	1	3	3	0	1.7	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum siskiyounense</i>	Small	Polygonaceae	BE	5.4	32.5	6	6	1.2	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum strictum</i> var. <i>greenii</i>	Benth.	Polygonaceae	SE	5.9	29.5	5	6	0.4	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum tetradium</i>	Howell	Polygonaceae	SE	6	18	3	6	0	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum tripartitum</i>	Greene	Polygonaceae	BE	5.3	26.5	5	6	1.3	4,2	1	1	1	1	1	Shrub		
<i>Eriogonum umbellatum</i> var. <i>argus</i>	Torr.	Polygonaceae	SI	3	12	4	3.5	1.4	CBR	1	1	1	1	1	Perennial forb		
<i>Eriogonum umbellatum</i> var. <i>bahifolium</i>	Torr.	Polygonaceae	BE/SI	3.5	21	6	3	1.2	4,2	1	1	1	1	1	Perennial forb		
<i>Eriogonum umbellatum</i> var. <i>goodmanii</i>	Torr.	Polygonaceae	SI	3.3	10	3	3	2.5	CBR	1	1	1	1	1	Perennial forb		
<i>Eriogonum umbellatum</i> var. <i>humistratum</i>	Torr.	Polygonaceae	BE	4.5	27.3	6	5	2.1	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum umbellatum</i> var. <i>nelsoniorum</i>	Torr.	Polygonaceae	SE	5.5	11	2	5.5	-	4,3	1	1	1	1	1	Perennial forb		
<i>Eriogonum umbellatum</i> var. <i>speciosum</i>	Torr.	Polygonaceae	BE/SI	4.2	21	5	4	1.3	CBR	1	1	1	1	1	Perennial forb		
<i>Eriogonum ursinum</i>	S. Watson	Polygonaceae	WI/IN	1.1	2.25	2	1.1	-	CBR	1	1	1	1	1	Perennial forb		
<i>Eriogonum vimineum</i>	Douglas ex Benth.	Polygonaceae	WI/IN	1	3	3	1	0	1	1	1	1	1	1	Annual forb		
<i>Polygonum majus</i>	(Meisn.) Piper	Polygonaceae	WI	1.5	4.5	3	2	0.9	1	1	1	1	1	1	Annual forb		
<i>Polygonum spargulariiforme</i>	Meisn. ex Small	Polygonaceae	SI	3	18.3	6	2.5	2.1	1	1	1	1	1	1	Annual forb		
<i>Systenotheca vorrtredei</i>	(Brandes) Reveal & Hardham	Polygonaceae	SI	3.1	12.3	4	2.5	2.2	4,3	1	1	1	1	1	Annual forb		
<i>Primula clevelandii</i> var. <i>patula</i>	(Greene) Mast & Reveal	Primulaceae	SI	3	9	3	3	0	1	1	1	1	1	1	Perennial forb		
<i>Adiantum aleuticum</i>	(Rupr.) C. A. Paris	Pteridaceae	WI	2.4	11.8	5	2	1.2	1	1	1	1	1	1	Perennial forb		
<i>Aspidotis carlotia-halliae</i>	(W. H. Wagner & E. F. Gilbert) Lellinger	Pteridaceae	BE	5.3	26.5	5	6	1.1	4,2	1	1	1	1	1	Perennial forb (rhiz.)		
<i>Aspidotis densa</i>	(Brack.) Lellinger	Pteridaceae	SI	3.4	31	9	3	1.2	1	1	1	1	1	1	Perennial forb		
<i>Pellaea brachyptera</i>	(T. Moore) Baker	Pteridaceae	WI	1.5	4.5	3	2	0.9	1	1	1	1	1	1	Perennial forb		
<i>Anemone drummondii</i> var. <i>drummondii</i>	S. Watson	Ranunculaceae	WI	2.3	6.75	3	2	1.6	1	1	1	1	1	1	Perennial forb		
<i>Anemone oregana</i> var. <i>oregana</i>	A. Gray	Ranunculaceae	SI	3	6	2	3	-	1	1	1	1	1	1	Perennial forb		
<i>Aquilegia eximia</i>	Van Houtte ex Planch..	Ranunculaceae	BE/SI	4.2	25	6	3.5	1.5	1	1	1	1	1	1	Perennial forb		
<i>Delphinium hesperium</i> ssp. <i>hesperium</i>	A. Gray	Ranunculaceae	SI	2.7	8	3	3	0.6	1	1	1	1	1	1	Perennial forb		
<i>Delphinium nuttallianum</i>	Pritz.	Ranunculaceae	WI/IN	1.4	4.1	3	1	1.5	1	1	1	1	1	1	Perennial forb		
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i>	A. Gray	Ranunculaceae	BE/SI	3.7	11	3	4	2.5	1B,2	1	1	1	1	1	Perennial forb		
<i>Delphinium uliginosum</i>	Curran	Ranunculaceae	SE	5.7	28.5	5	6	0.9	4,2	1	1	1	1	1	Perennial forb		
<i>Ceanothus arcuatus</i>	McMinn	Rhamnaceae	BE/SI	3.5	7	2	3.5	-	1	1	1	1	1	1	Shrub		
<i>Ceanothus confusus</i>	J. T. Howell	Rhamnaceae	WI/IN	1.3	2.5	2	1.3	-	1B,1	1	1	1	1	1	Shrub		
<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	(Hook.) Nutt.	Rhamnaceae	WI	1.5	6.1	4	1.5	1.3	1	1	1	1	1	1	Shrub		
<i>Ceanothus diversgens</i>	Parry	Rhamnaceae	WI	2	4	2	2	-	1B,2	1	1	1	1	1	Shrub		
<i>Ceanothus ferrisiae</i>	McMinn	Rhamnaceae	SE	6	24	4	6	0	1B,1	1	1	1	1	1	Shrub		
<i>Ceanothus foliosus</i> var. <i>medius</i>	Parry	Rhamnaceae	BE/SI	4	12	3	3	1.7	1	1	1	1	1	1	Shrub		
<i>Ceanothus jepsonii</i>	Greene	Rhamnaceae	SE	6	18	3	6	0	1	1	1	1	1	1	Shrub		
<i>Ceanothus masonii</i>	McMinn	Rhamnaceae	SI	3.3	6.5	2	3	-	1B,2	1	1	1	1	1	Shrub		
<i>Ceanothus pamilus</i>	Greene	Rhamnaceae	SE	5.7	28.5	5	6	0.9	1	1	1	1	1	1	Shrub		
<i>Ceanothus roderickii</i>	W. K. Knight	Rhamnaceae	WI	1.7	5	3	2	1.5	1B,1	1	1	1	1	1	Shrub		
<i>Ceanothus somnensis</i>	J. T. Howell	Rhamnaceae	WI/IN	1.3	4	3	2	1.2	1B,2	1	1	1	1	1	Shrub		
<i>Frangula californica</i> ssp. <i>crassifolia</i>	(Eschsch.) A. Gray	Rhamnaceae	BE	4.8	19	4	6	2.5	1	1	1	1	1	1	Shrub		
<i>Frangula californica</i> ssp. <i>occidentalis</i>	(Eschsch.) A. Gray	Rhamnaceae	SE	6	24	4	6	0	1	1	1	1	1	1	Shrub		
<i>Frangula californica</i> ssp. <i>tomentella</i>	(Eschsch.) A. Gray	Rhamnaceae	WI	1.5	6	4	0.8	1.7	1	1	1	1	1	1	Shrub		
<i>Adenostoma fasciculatum</i>	Hook. & Arn.	Rosaceae	WI/IN	1.3	5.2	4	1.1	1.4	1	1	1	1	1	1	Shrub		

APPENDIX 1. CONTINUED.

Taxon ¹	Authority	Family	Aff ²	Mean ³	Sum ⁴	Source	Med ⁵	SD ⁶	Rarity ⁷	Geog. Distribution ⁸					Lifeform ⁹
										KL	NC	BA	SC	SN	
<i>Holodiscus discolor</i>	(Pursh) Maxim.	Rosaceae	WI/IN	1	3	3	1	1	1	1	1	1	1	1	Shrub
<i>Horkelia congesta</i> var. <i>nemorosa</i>	Hook.	Rosaceae	BE/SI	3.8	7.5	2	3.5	-	2B.1	1	1	1	1	1	Perennial forb
<i>Horkelia daucifolia</i>	(Greene) Rydb.	Rosaceae	BE/SI	3.8	15	4	3	1.5	1	1	1	1	1	1	Perennial forb
<i>Horkelia daucifolia</i> var. <i>daucifolia</i>	(Greene) Rydb.	Rosaceae	BE	4.5	9	2	4.5	-	1	1	1	1	1	1	Perennial forb
<i>Horkelia sericata</i>	S. Watson	Rosaceae	SE	5.6	22.5	4	6	1	4.3	1	1	1	1	1	Perennial forb
<i>Horkelia tridentata</i> var. <i>flavescens</i>	Torr.	Rosaceae	SI	3	9	3	2	1.7	1	1	1	1	1	1	Perennial forb
<i>Horkelia tridentata</i> var. <i>flavescens</i>	(Hook.) Torr. & A. Gray	Rosaceae	WI	1.6	3.25	2	1.6	-	1	1	1	1	1	1	Perennial forb
<i>Ivestia pickeringii</i>	Torr. ex A. Gray	Rosaceae	BE	5.4	32.5	6	6	1	1B.2	1	1	1	1	1	Perennial forb
<i>Potentilla cristae</i>	Ferrière & Strother	Rosaceae	BE/SI	3.1	12.5	4	3	0	1B.3	1	1	1	1	1	Perennial forb
<i>Sonchus affinis</i>	L.	Rosaceae	SI	4.2	12.5	3	3	1.7	2B.2	1	1	1	1	1	Perennial forb (rhiz.)
<i>Gallium ambiguum</i> ssp. <i>ambiguum</i>	W. Wight	Rubiaceae	SI	3.3	10	3	3	2.5	1	1	1	1	1	1	Perennial forb
<i>Gallium ambiguum</i> ssp. <i>siskiyouense</i>	W. Wight	Rubiaceae	SE	5.5	27.5	5	6	0.9	1	1	1	1	1	1	Perennial forb
<i>Gallium andrewsii</i> ssp. <i>andrewsii</i>	A. Gray	Rubiaceae	SI	3.2	16	5	3	1.9	1	1	1	1	1	1	Perennial forb
<i>Gallium andrewsii</i> ssp. <i>gatense</i>	A. Gray	Rubiaceae	BE	5.1	20.5	4	5	0.8	4.2	1	1	1	1	1	Perennial forb
<i>Gallium andrewsii</i> ssp. <i>intermedium</i>	A. Gray	Rubiaceae	WI/IN	1.4	2.75	2	1.4	-	1	1	1	1	1	1	Perennial forb
<i>Gallium clementis</i>	Eastw.	Rubiaceae	WI/IN	1	2	2	1	-	1B.3	1	1	1	1	1	Perennial forb
<i>Gallium hardhamiae</i>	Dempster	Rubiaceae	SE	6	24	4	6	0	1B.3	1	1	1	1	1	Perennial forb
<i>Gallium serpenticum</i> ssp. <i>scotticum</i>	Dempster	Rubiaceae	SE	5.9	29.5	5	6	0.4	1B.2	1	1	1	1	1	Perennial forb
<i>Salix breweri</i>	Bebb	Salicaceae	SE	6	30	5	6	0	1	1	1	1	1	1	Shrub
<i>Salix dehoortensis</i>	C. K. Schmidt.	Salicaceae	SE	6	18	3	6	0	4.3	1	1	1	1	1	Tree, shrub
<i>Salix sitchensis</i>	Sanson ex Bong.	Salicaceae	WI	1.6	4.75	3	1	1.2	1	1	1	1	1	1	Perennial forb (eum.)
<i>Darlingtonia californica</i>	Torr.	Saxifragaceae	BE/SI	4.1	32.5	8	4	1.4	4.2	1	1	1	1	1	Perennial forb
<i>Mcraeanthes howellii</i>	(Greene) Small	Saxifragaceae	BE/SI	3.8	7.5	2	3.5	-	4.3	1	1	1	1	1	Perennial forb
<i>Odonostemon harwegii</i>	Torr.	Teophruidaceae	SI	2.7	8	3	3	0.6	1	1	1	1	1	1	Perennial forb
<i>Brodiaea rosea</i> ssp. <i>rosea</i>	(Greene) Baker	Themidaceae	BE/SI	4	12	3	4	2	3.1	1	1	1	1	1	Perennial forb
<i>Brodiaea sterrae</i>	R. E. Preston	Themidaceae	WI	1.7	5	3	1	1.7	4.3	1	1	1	1	1	Perennial forb
<i>Brodiaea stellaris</i>	S. Watson	Themidaceae	BE/SI	3.7	11	3	4	2.5	1	1	1	1	1	1	Perennial forb
<i>Mulla maritima</i>	(Torr.) S. Watson	Themidaceae	WI	2	6	3	2	1	1	1	1	1	1	1	Perennial forb
<i>Triteleia bridgesii</i>	(S. Watson) Greene	Themidaceae	SI	3.3	13	4	3.5	1.7	1	1	1	1	1	1	Perennial forb
<i>Triteleia erocra</i>	(Alph. Wood) Greene	Themidaceae	BE/SI	4.1	32.5	8	3.7	1.8	1	1	1	1	1	1	Perennial forb
<i>Triteleia violoides</i> ssp. <i>cookii</i>	(W. T. Aiton) Greene	Themidaceae	BE	4.5	13.5	3	6	2.9	1B.3	1	1	1	1	1	Perennial forb
<i>Triteleia peduncularis</i>	Lindl.	Themidaceae	BE/SI	3.8	19	5	3	2.2	1	1	1	1	1	1	Perennial forb
<i>Verbena californica</i>	Moldenke	Verbenaceae	BE	4.8	14.5	3	4	1.2	1B.1	1	1	1	1	1	Perennial forb
<i>Viola canea</i>	S. Watson	Violaceae	BE	5.2	31	6	6	1.3	CBR	1	1	1	1	1	Perennial forb
<i>Viola douglasii</i>	Stued.	Violaceae	SI	2.8	13.8	5	2	2	1	1	1	1	1	1	Perennial forb
<i>Viola hallii</i>	A. Gray	Violaceae	BE/SI	4	16	4	4	2.3	CBR	1	1	1	1	1	Perennial forb
<i>Viola lobata</i> ssp. <i>lobata</i>	Benth.	Violaceae	WI	2.3	11.4	5	2	2.4	1	1	1	1	1	1	Perennial forb (rhiz.)
<i>Viola ocellata</i>	Torr. & A. Gray	Violaceae	SI	2.5	12.5	5	3	0.9	1	1	1	1	1	1	Perennial forb
<i>Viola prunifolia</i> ssp. <i>occidentalis</i>	L.	Violaceae	BE	5.1	25.5	5	6	1.4	1B.2	1	1	1	1	1	Perennial forb (rhiz.)
<i>Viola purpurea</i> ssp. <i>integrifolia</i>	Kellogg	Violaceae	WI/IN	1.3	4	3	2	1.2	1	1	1	1	1	1	Perennial forb