Species: *Scheuchzeria palustris* L., American scheuchzeria

Photo Sources: iNaturalist 2023, Allison Sanger

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Status

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

Table 1. Current status of American scheuchzeria

Entity	Status	Status Definition
NatureServe CA[a]	G5 S1	**G5**: Demonstrably Secure — Common; widespread and abundant. **S1**: Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
California Rare Plant Rank[b]	2B.1	**2B**: Rare and endangered in California, more common elsewhere. **0.1**: Seriously endangered in California.

		This taxon was added to the *CNPS Inventory of Rare and Endangered Plants of California* in 1974 and was changed from 2.1 to 2B.1 in 2013 (CNPS 2022).
California State Listing[c]	Not listed	
USDA Forest Service[d]	S	Sensitive
USDI FWS[e]	Not listed	
USDI BLM[f]	Not listed	
NatureServe OR[g]	S2 HP List 2	**S2**: Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state. **HP List 2**: Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences.
Oregon State Listing[h]	Not listed	
NatureServe NV[i]	Not present	
Nevada State Listing[j]	Not present	

[a] California Natural Diversity Database, California Dept. of Fish & Wildlife [CNDDB 2022, 2022a]
[b] California Native Plant Society [CNPS 2022]
[c] California Department of Fish and Wildlife [CDFW 2022]
[d] US Forest Service Region 5 Forester's List [USDA 2013] and Pacific NW Survey and Manage [USDA & BLM 2014]
[e] US Department of Interior Fish and Wildlife Service [USFWS 2022]
[f] US Department of Interior Bureau of Land Management [BLM 2022]
[g] Oregon Biodiversity Information Center [ORBIC 2019]
[h] Oregon Department of Agriculture [ODA 2018]
[i] Nevada Division of Natural Heritage [NDNH 2022]
[j] Nevada Division of Forestry [NDF 2012]
Note: Individual State Heritage Programs (CNDDB, ORBIC, NNHP) represent NatureServe and contain more up-to-date ranks for their state than NatureServe Explorer.

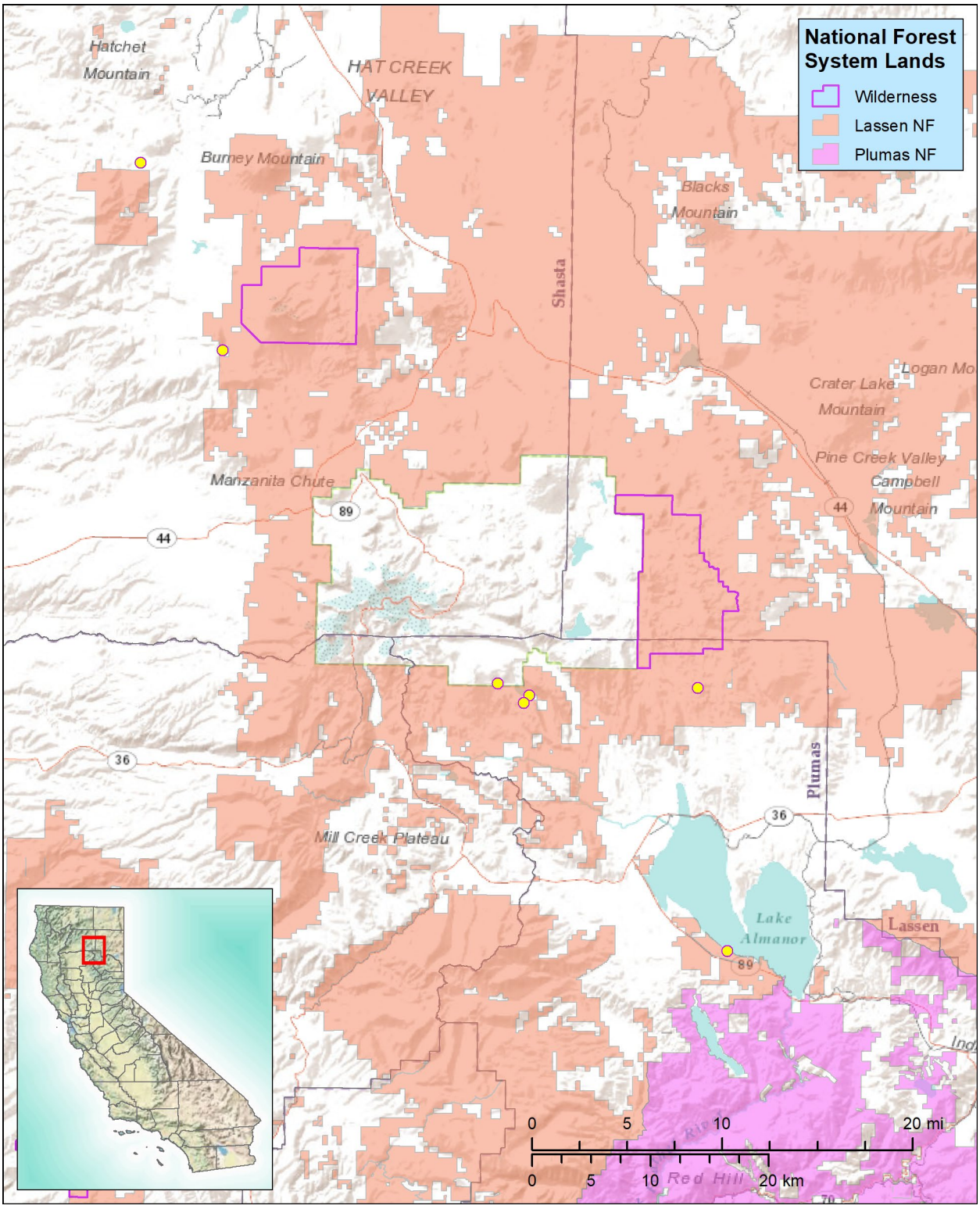
Distribution, abundance, and population trend on the planning unit[1]

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

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

Table 2. Known occurrence frequency of American scheuchzeria within the planning area (NRIS, CNDDB, Calflora/CCH databases)

National Forest System (NFS) lands in California	Record #s (from Table 4)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 years)	Historical (not seen in past 20 years)	Most Recent Obs. Date	Total Records on NFS lands
Lassen:	3, 4, 5	3	0	2	1	8-Sep-2011	3
Totals:	N/A	3	0	2	1	N/A	3



Sources: *Distribution*: Calflora 2022, CCH2 2022, CNDDB 2022, NRIS 2022, Lindstrand 2023 pers. comm. *Baselayers*: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.

American scheuchzeria was last updated in the CNDDB on 23 September 2014 (CNDDB 2022), and therefore all Calflora, CCH, and/or NRIS records prior to this date are assumed to have already been reviewed and entered into the CNDDB for this plant. Accordingly, only records from Calflora, CCH, and/or NRIS reported after this date have been reviewed for potential new or updated occurrence information and are included in Table 4 in Appendix 1 as applicable.

American scheuchzeria has a circumboreal distribution (FNA 1993+, POWO 2022). In North America, it occurs in Alaska, Canada, and across the northern United States, extending south along the Pacific Coast to northern California (FNA 1993+). Within California (Table 4), it is only known from the High Cascade Range (CaRH) bioregion in Plumas and Shasta counties (Calflora 2022, CCH2 2022, CNDDB 2022, NRIS 2022, Lindstrand 2023 pers. comm.).

The first California record of American scheuchzeria was collected in Sierra County in 1875 (*Lemmon 1037*, herbarium unknown, not available online; Watson 1880, Fernald 1923). Based on this collection, later treatments included Sierra Co. in the species' range (e.g., Jepson 1909, Abrams 1923, Munz 1959). The exact collecting locality of *Lemmon 1037* is unknown, and the species is not currently known to occur in Sierra County; therefore, this record is excluded from this distribution analysis (Corbin 1992, CCH2 2022, CNDDB 2022, CNPS 2022, JEPS 2022). The species was next collected in 1897 at a site that was later destroyed by the damming and filling of Lake Almanor (record #1) (Corbin 1992, CNDDB 2022). American scheuchzeria was considered extirpated from California until its rediscovery at a new site in 1988 (Willow Lake; record #3) (Corbin 1992, CNDDB 2022). Three of the six extant California occurrences of American scheuchzeria are located on U.S. National Forest lands, all of which are on Lassen NF. The Willow Lake location (record #3) is a botanical Special Interest Area (Sikes et al. 2013). None of the records are in designated Wilderness Areas. The three non-National Forest records are in Lassen Volcanic NP (1) or on private timber land (2).

One of the six extant occurrences is historical (not visited in over 20 years); the other five have been observed since 2002. The populations at four locations (record #s 2, 3, 4, and 5) have been documented over periods of two to 23 years. All six of the extant locations have at least one year of census data, with four censused in multiple years. Population estimates range from approximately 40 plants to more than 1000 plants; one location has 1–50 plants, one has 51–100 plants, two have 101–500 plants, one has 501–1000 plants, and one has over 1000 plants. Of the seven location records included in this analysis, five are already included in the CNDDB. Two additional records (#s 6 and 7) are located at least 23 miles from the nearest occurrence and should perhaps be considered for inclusion in the CNDDB. At the bottom of Table 4 there are two rows highlighted in pink that are not included in this distribution analysis; both records have locations too vague to be georeferenced ("Sierra Nevada Mountains" and "Sierra County").

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

American scheuchzeria is an aquatic, perennial, rhizomatous herb with stems up to 40 cm tall (FNA 1993+, CNPS 2022, JEPS 2022). It flowers from June through August (CCH2 2022, CNDDB 2022, CNPS 2022, JEPS 2022, NRIS 2022). Within California, plants are found in fens and along swampy lake margins (Sikes et al. 2013, CNPS 2022, JEPS 2022, Lindstrand et al. 2023). It is always associated with mosses and the lakeside localities are on floating mats of *Sphagnum* (Sikes et al. 2013, CNPS 2022, JEPS 2022, Lindstrand et al. 2023). While pH was only reported from one California site (slightly acidic, pH 5.5–6.5), sites in Canada and Europe ranged from acidic to circumneutral (Tallis and Birks 1965, Vitt and Bayley 1984, CCH2 2022). Elevations range from 4550–6250 ft (1385–1905 m) (CCH2 2022, CNDDB 2022, JEPS 2022, Lindstrand 2023 pers. comm.). Associates in California include *Pinus contorta* subsp. *murrayana*, *Kalmia polifolia*, *Vaccinium* spp., *Comarum palustre*, *Lycopus uniflorus*, *Drosera* spp., *Menyanthes trifoliata*, *Nuphar polysepala, Oreostemma alpigenum* var. *andersonii, Spiranthes porrifolia, Triantha occidentalis* subsp. *occidentalis, Utricularia intermedia, U. macrorhiza*, *U. minor*, *Carex* spp., *Dulichium arundinaceum* var. *arundinaceum, Eleocharis macrostachya*, *Rhynchospora alba*, *Juncus nevadensis* var. *nevadensis*, *Meesia triquetra,* and *Sphagnum* spp. (Corbin 1992, CCH2 2022, CNDDB 2022, Lindstrand 2023 pers. comm.).

Currently, American scheuchzeria is the only species in the genus *Scheuchzeria* and family Scheuchzeriaceae (FNA 1993+, JEPS 2022). Plants are rush- or sedge-like, with green, zigzag stems that emerge from creeping rhizomes (FNA 1993+). The flowers have white to yellow green tepals in two series of three, and the fruits are borne in triads (Corbin 1992, FNA 1993+). No information has been published on reproduction, seed dispersal, survival, or demography of American scheuchzeria within California. Flowers are wind pollinated, and seeds are quite large (4–10 mm), with no known dispersal mechanisms (Tallis and Birks 1965, FNA 1993+, Volkova et al. 2016). Vegetative reproduction is probably important (Volkova et al. 2016), but no published information was found on the frequency of reproduction from seeds versus rhizomes.

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

American scheuchzeria is presumed extirpated (SX) from Iowa and Illinois, possibly extirpated (SH) from West Virginia, critically imperiled (S1) in Wyoming, North Dakota, Ohio, Pennsylvania, Connecticut, Rhode Island, and Massachusetts, Imperiled (S2) in Nunavut, Oregon, and Vermont, and Vulnerable (S3) in Alaska, Idaho, Montana, Manitoba, New York, and Newfoundland (NatureServe 2022). It has been extirpated or is declining at many sites in Europe (Tallis and Birks 1965, Gunnarson et al. 2002).

Threats to American scheuchzeria in California include conifer and shrub encroachment (succession), grazing, timber harvest activities, and trampling due to recreational activities

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

(CNDDB 2022, Lindstrand 2023 pers. comm.). Four of the six extant records have occurrence rankings in the CNDDB: three were ranked Excellent and one was ranked Good (CNDDB 2022). All three of the Lassen NF locations are within the perimeter of the 2021 Dixie Fire (Sanger pers. comm. 2023). The Willow Lake and Domingo Lake locations (record #s 3 and 4) have been re-visited and were not impacted, but the fen locality (Skipper Fen, record #5) has not been assessed (Sanger pers. comm. 2023). American scheuchzeria requires permanent water, and the species would be threatened by any alterations of hydrology or water quality, including those resulting from climate change. European populations have declined or disappeared because of drought, increasing peat depth (and resulting changes in depth to the permanent water table), alterations of flow/water table depth (e.g., diversion of water or lowering of water tables for peat harvesting), and shrub and conifer encroachment (Moore 1955, Tallis and Birks 1965, Gunnarsson et al. 2002, Bragazza 2006). Aquatic habitats on National Forest lands are protected from most sources of potential disturbance. The Lassen Volcanic NP site is similarly protected. The two sites on private land are within historical or current timber harvest areas. These sites are subject to California Forest Practice Rules (CFPRs), and buffers and other protective measures are required around wetlands and waters (Lindstrand 2023 pers. comm.). American scheuchzeria is one of multiple peat-specialist taxa that, once extirpated, do not readily recolonize, even after water table and moss recovery; therefore, transplanting or re-seeding may be required to re-establish damaged or extirpated populations (Bourgeois et al. 2019). There are currently no *ex-situ* living collections or seed collections of American scheuchzeria collected from California, and the species is not a current target for the California Plant Rescue initiative (CaPR 2022).

Taxonomy[4]

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

Table 3. Name status of American scheuchzeria

Entity	Name Status
CNDDB and CNPS	*Scheuchzeria palustris* L.
Jepson eFlora	*Scheuchzeria palustris* L.
Jepson Manual (1993)	*Scheuchzeria palustris* L. subsp. *americana* (Fernald) Hultén
Flora of North America	*Scheuchzeria palustris* Linnaeus
USDA NRCS[a] PLANTS	*Scheuchzeria palustris* L. subsp. *americana* (Fernald) Hultén
[a] Natural Resources Conservation Service [NRCS 2022]	

Synonymy: *Scheuchzeria americana* (Fernald) G.N. Jones, *Scheuchzeria asiatica* Miq., *Scheuchzeria generalis* E.H.L. Krause, *Scheuchzeria paniculata* Gilib., *Scheuchzeria palustris* L. var. *americana* Fernald, *Scheuchzeria palustris* L. subsp. *americana* (Fernald) Hultén, *Papillaria palustris* (L.) Dulac (FNA 1993+, IPNI 2022, POWO 2022, Tropicos 2022).

Jepson eFlora link (JEPS 2022): https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=43474

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

Type locality: "*Habitat in Lapponiae* [Finland], *Helvetiae* [Switzerland], *Borussiae* [Prussia], *Sueciae* [Sweden]" (*collector unknown s.n.* LINN) (Linnaeus 1753).

Key literature

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Sanger, Allison. 2023. USFS Botanist, Lassen National Forest. Email correspondence regarding localities, threats, and natural history of *Scheuchzeria palustris*. Personal communication 3 January 2023.

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

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

Conservation Concern under the 2012 Planning Rule or a Sensitive Species under the 1982 Planning Rule.

Appendix 1: Known Occurrences

Table 4. Known Occurrences of American scheuchzeria within California (NRIS, CNDDB, Calflora/CCH databases).

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.

Rec. #	Locality	County	Quad	Ref. (Source)	Date Last Obs'd	Population Info	Threats	Land Mgr.	Elev. (ft.)
1	PRATTVILLE.	Plumas	Almanor (4012122)	CNDDB, Dec. 2022 (EO 1)	5-Jul-1897	SITE BASED ON AN 1897 JONES COLLECTION. BOGS IN THIS AREA ARE NOW COVERED BY THE FORMATION OF LAKE ALMANOR; SITE PRESUMED EXTIRPATED.	FORMATION OF LAKE ALMANOR HAS EXTIRPATED SITE.	Unknown	Unknown
2	LITTLE WILLOW LAKE, WITHIN LASSEN VOLCANIC NATIONAL PARK.	Plumas	Reading Peak (4012144)	CNDDB, Dec. 2022 (EO 2)	19-Jun-2009	OVER 100 PLANTS OBSERVED IN 1989, ABOUT 150 IN 1990. UNKNOWN NUMBER OF PLANTS OBSERVED IN 2008. 30 PLANTS OBSERVED IN 2009; NOT A COMPLETE SURVEY. SPHAGNUM BOG AND PEATY SEDGE AT LAKE EDGE. ISLANDS IN LAKE APPEARED TO SUPPORT GOOD HABITAT, BUT WERE NOT CHECKED IN 1990. WITHIN A RED FIR FOREST.	SUCCESSION FROM LAKE TO MEADOW TO LODGEPOLE PINE FOREST THREATENS PLANTS HERE. RECENT GRAZING ON LAKE MARGIN (1989).	Lassen Volcanic NP	6040

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
2	Lassen Volcanic National Park	Plumas	Reading Peak (4012144)	CCH2, Dec. 2022 (CHSC102184)	19-Jun-2009	Growing in dense vegetation mats that comprise floating sphagnum bogs near the west shore of Little Willow Lake. Some 30 plants observed at collection site; not a complete survey of the area.		Lassen Volcanic NP	6076
2	Lassen Volcanic National Park	Plumas	Reading Peak (4012144)	CCH2, Dec. 2022 (JEPS116641)	19-Jun-2009	growing in dense vegetation mats that comprise floating sphagnum bogs near the west shore of Little Willow Lake. Some 30 plants observed at collection site; not complete survey of the area		Lassen Volcanic NP	6073
2		Plumas	Reading Peak (4012144)	NRIS polys, Aug. 2022 (050651-SCPAA3-LNP)	20-Sep-2006			Lassen Volcanic NP	
2	Little Willow Lake, along a minor unnamed tributary	Plumas	Reading Peak (4012144)	Calflora, Dec. 2022 (wb2209-4962)	20-Aug-1990	Slightly acid bog (pH 5.5-6.5) with Sphagnum, Carex limosa, Dulichium arundinaceum, Carex rostrata, Nuphar polysepalum.		Lassen Volcanic NP	6017

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
2	Lassen National Park, Little Willow Lake, along a minor unnamed tributary	Plumas	Reading Peak (4012144)	CCH2, Dec. 2022 (DWT11464)	20-Aug-1990	Slightly acid bog (pH 5.5-6.5) with Sphagnum, Carex limosa, Dulichium arundinaceum, Carex rostrata, Nuphar polysepalum.		Lassen Volcanic NP	6050
2	Little Willow Lake	Plumas	Reading Peak (4012144)	Calflora, Dec. 2022 (wb2209-4958)	10-Aug-1990	Shallow water and moss of floating bog with Nuphar polysepalum dominant		Lassen Volcanic NP	6017
2	Lassen National Park, Little Willow Lake	Plumas	Reading Peak (4012144)	CCH2, Dec. 2022 (DWT11440)	10-Aug-1990	shallow water and moss of floating bog with Nuphar polysepalum dominant		Lassen Volcanic NP	6150
2	Little Willow Lake on the s edge of Lassen Volcanic National Park, ca. 11 mi (air) nw of Chester. On the w side of the lake. T30N R05E S35 SW1/4 of SE1/4	Plumas	Reading Peak (4012144)	CCH2, Dec. 2022 (CHSC046716)	24-Aug-1989	Fresh-water Marsh in Red Fir Forest. Common on a quaking bog on the w side of the lake.		Lassen Volcanic NP	6001

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3	WILLOW LAKE, SOUTHEAST OF DRAKESBAD; JUST SOUTH OF THE BOUNDARY OF LASSEN VOLCANIC NATIONAL PARK.	Plumas	Mt. Harkness (4012143)	CNDDB, Dec. 2022 (EO 3)	8-Sep-2011	OVER 1000 PLANTS SEEN IN 1988, 1000 SEEN IN 1989, ABOUT 500 SEEN IN 1990, ABOUT 1000 IN 1991-1994, 1996. "SIMILAR NUMBERS" REPORTED IN 1999 AND 2000. >500 PLANTS IN 2002. ALSO OBSERVED IN 1997, 2006, 2010 AND 2011. ON AT LEAST 2 LARGE FLOATING SPHAGNUM BOGS WHICH ARE GRADUALLY FILLING IN THE LAKE. ASSOCIATED WITH DROSERA ROTUNDIFOLIA, D. ANGLICA, KALMIA POLIFOLIA MICROPHYLLA, VACCINIUM OCCIDENTALE, CAREX, LYCOPUS UNIFLORUS, AND RHYNCHOSPORA ALBA.	TRAMPLING BY FISHERMEN & CATTLE GRAZE EDGES OF LAKE. HELICOPTER LOGGING & DRAGGING LOGS THROUGH BOG (1992).	Lassen NF	5430
3	At the south end of Willow Lake growing on the floating bog.	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (SPIF01272)	8-Sep-2011	Growing with Tofieldia sp., Menyanthes trifoliata, Drosera anglica, and various sedges. DFG Occ. #3.		Lassen NF	5422

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3	Willow L, 9 mi NW of Chester -- Lassen NF	Plumas	Mt. Harkness (4012143)	Calflora, Dec. 2022 (wb1194-3066)	8-Jul-2010	1+ individuals		Lassen NF	
3	Willow Lake	Plumas	Mt. Harkness (4012143)	Calflora, Dec. 2022 (mu19954)	29-Jul-2006			Lassen NF	
3	Willow Lake.	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (V112676)	23-Jul-2005	In a floating fen.		Lassen NF	5430
3	Lassen National Forest: Willow Lake. Dirt road off Bluff Road, off Feather River Road/Chester Valley Road.	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (RSA specimen being processed)	29-Jul-2006	Quaking bog (Sphagnum Fen). East side of lake.		Lassen NF	5450
3	Willow Lk	Plumas	Mt. Harkness (4012143)	Calflora, Dec. 2022 (jgr712)	25-Jul-2004	1+ individuals		Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001B)	19-Aug-2002			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	28-Jun-2000			Lassen NF	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	11-Aug-1999			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	22-Sep-1998			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	12-Sep-1997			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	29-Aug-1996			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	11-Aug-1994			Lassen NF	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	7-Aug-1993			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	9-Jul-1992			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	23-Jul-1991			Lassen NF	
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	13-Nov-1990			Lassen NF	
3	Willow Lake at south edge of Lassen NP	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (ELH no catalog number)	30-Aug-1989	Floating bog at edge of lake		Lassen NF	5500
3		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-001A)	10-Aug-1989			Lassen NF	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
3	Willow Lake located se of Drakesbad just s of the boundary of Lassen Volcanic National Park. On the s side of the lake. T29N R06E S06 SW1/4 of NW1/4	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (CHSC044 121)	4-Aug-1988	Red Fir Forest. Common on a large, floating, sphagnum bog on the s side of the lake.		Lassen NF	5499
3	Willow Lake located se of Drakesbad just s of the boundary of Lassen Volcanic National Park. On a peat island on the s side of the lake. T29N R06E S06 NW1/4 of SW1/4	Plumas	Mt. Harkness (4012143)	CCH2, Dec. 2022 (CHSC044 267)	19-Jul-1988	Fresh-water Marsh in Red Fir Forest. Occasional on a large floating peat island on the s side of the lake.		Lassen NF	5499

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4	DOMINGO LAKE, ABOUT 0.5 MI S OF WILLOW LAKE & WILLOW CREEK. JUST SOUTH OF BOUNDARY OF LASSEN VOLCANIC NATIONAL PARK.	Plumas	Mt. Harkness (4012143)	CNDDB, Dec. 2022 (EO 4)	22-Sep-1998	257 PLANTS SEEN IN 1989, ONLY 2 SEEN IN 1990. ABOUT 300+ PLANTS OBSERVED IN 1993, 1995, AND 1998. FLOATING SPHAGNUM BOG ON 2 SMALL ISLANDS. ASSOCIATED WITH DROSERA ANGLICA, D. ROTUNDIFOLIA, D. X OBOVATA, UTRICULARIA VULGARIS, CAREX LIMOSA, LYCOPUS UNIFLORUS, RHYNCHOSPORA ALBA, AND ASTER ALPIGENUS VAR. ANDERSONII. WITHIN RED FIR FOREST.		Lassen NF	5800
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	22-Sep-1998			Lassen NF	
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	4-Oct-1995			Lassen NF	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	31-Aug-1993			Lassen NF	
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	23-Jul-1991			Lassen NF	
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	29-Sep-1990			Lassen NF	
4		Plumas	Mt. Harkness (4012143)	NRIS polys, Aug. 2022 (050651-SCPAA3-002)	27-Sep-1989			Lassen NF	

Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in pink.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
5	"SKIPPER" FEN; ABOUT 0.75 AIR MILE WSW OF HECKLE RANCH SITE, SOUTH OF HAY MEADOW.	Plumas	Red Cinder (4012142)	CNDDB, Dec. 2022 (EO 5)	20-Sep-2006	2 PLANTS OBSERVED IN 2005. 41 PLANTS OBSERVED IN 2006. THE RARE CAREX LIMOSA, C. LASIOCARPA, AND MEESIA TRIQUETRA ALSO OCCUR AT THIS SITE. WET FEN WITH MENYANTHES TRIFOLIATA, VACCINIUM CAESPITOSUM, PINUS CONTORTA, ASTER ALPIGENUS, CAREX UTRICULATA, ELEOCHARIS MACROSTACHYA, POTENTILLA PALUSTRIS, CAREX ECHINATA, JUNCUS NEVADENSIS, CAREX VESICARIA, SPIRANTHES PORRIFOLIA, ETC.	COW OR RECREATION TRAFFIC. ANY CHANGE OF HYDROLOGY.	Lassen NF	6250
5		Plumas	Red Cinder (4012142)	NRIS polys, Aug. 2022 (050651-SCPAA-003)	23-Aug-2005			Lassen NF	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
6	Old Cow Creek Meadows	Shasta		Lindstrand 2022 pers. comm.	15-Sep-2022	85-95 individuals in fruiting phenology. Extensive wet meadow and fen complex. The Scheuchzeria occurs as a scattered rhizomatous patch among dense herbaceous vegetation between hummocks dominated by Pinus contorta subsp. murrayana, Vaccinium uliginosum subsp. occidentale, and Kalmia polifolia. Vegetation throughout the wet meadow/fen complex is diverse; associated species at the Scheuchzeria site include Carex sp., Drosera rotundifolia, Juncus sp., and Triantha occidentalis subsp. occidentalis.	Grazing, timber harvest activities, conifer encroachment	Private	5850

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
7	Hatchet Creek headwaters. Fens along unnamed headwaters stream tributary to Hatchet Creek, approximately 2.4 km north of Green Mountain and 2.4 km southwest of Terry Lake	Shasta		Lindstrand 2022 pers. comm.	29-Sep-2022	800-850 individuals scattered over large areas in fruiting phenology. Site consists of two large adjacent fens within an extensive forested wetland. Associated species among the Scheuchzeria include Carex limosa, Drosera anglica, Equisetum arvense, Kalmia polifolia, Oreostemma alpigenum var. andersonii, Pedicularis groenlandica, Perideridia parishii subsp. latifolia, Pinus contorta subsp. murrayana, Triantha occidentalis subsp. occidentalis, and Vaccinium uliginosum subsp. occidentale.	Grazing, timber harvest activities, conifer encroachment	Private	4550
	Sierra Nevada Mts.			CCH2, Dec. 2022 (US 70693)	1875	[Herbarium specimen *Lemmon s.n*]			
		Sierra		Botany of California Vol. 2 (Watson 1880), Fernald 1923	1875	[Herbarium specimen *Lemmon 1037*]			

Appendix 2: Additional Considerations at the Forest Level

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

<Forest Name>

Geographic distribution within the Forest

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

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

Abundance of the species on the Forest

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

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

Population trend on the Forest

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

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

Habitat trend on the Forest

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

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

Vulnerability of habitat on the Forest

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

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

Additional Forest specific information related to the SCC determination

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