Species: *Carex buxbaumii* Wahlenb., Buxbaum's sedge

Photo Source: CalPhotos 2021, NRCS 2021

Photo Credits: Dean Taylor (upper left and bottom second from left); NRCS – drawing from Britton and Brown (1913) (lower left); NRCS – Hurd et al. (right and second from the right)

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 Buxbaum's sedge		
Entity	**Status**	**Status Definition**
NatureServe CA[a]	G5	G5: Demonstrably Secure — Common; widespread and abundant.
	S3	S3: Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80

		or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the nation or state/province.
California Rare Plant Rank[b]	4.2	4: Plants of limited distribution – a watch list. 0.2: Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat) This taxon was added to the *CNPS Inventory of Rare and Endangered Plants of California* in 2001 and has undergone no changes since then.
California State Listing[c]	Not listed	
USDA Forest Service[d]	Not listed	
USDI FWS[e]	Not listed	
USDI BLM[f]	Not listed	
NatureServe OR[g]	Not listed	
Oregon State Listing[h]	Not listed	
NatureServe NV[i]	Not listed	
Nevada State Listing[j]	Not listed	

[a] California Natural Diversity Database, California Dept. of Fish & Wildlife [CNDDB 2021, 2021a]
[b] California Native Plant Society [CNPS 2021]
[c] California Department of Fish and Wildlife [CDFW 2021]
[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 2021]
[f] US Department of Interior Bureau of Land Management [BLM 2020]
[g] Oregon Biodiversity Information Center [ORBIC 2019]
[h] Oregon Department of Agriculture [ODA 2018]
[i] Nevada Natural Heritage Program [NNHP 2021]
[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.

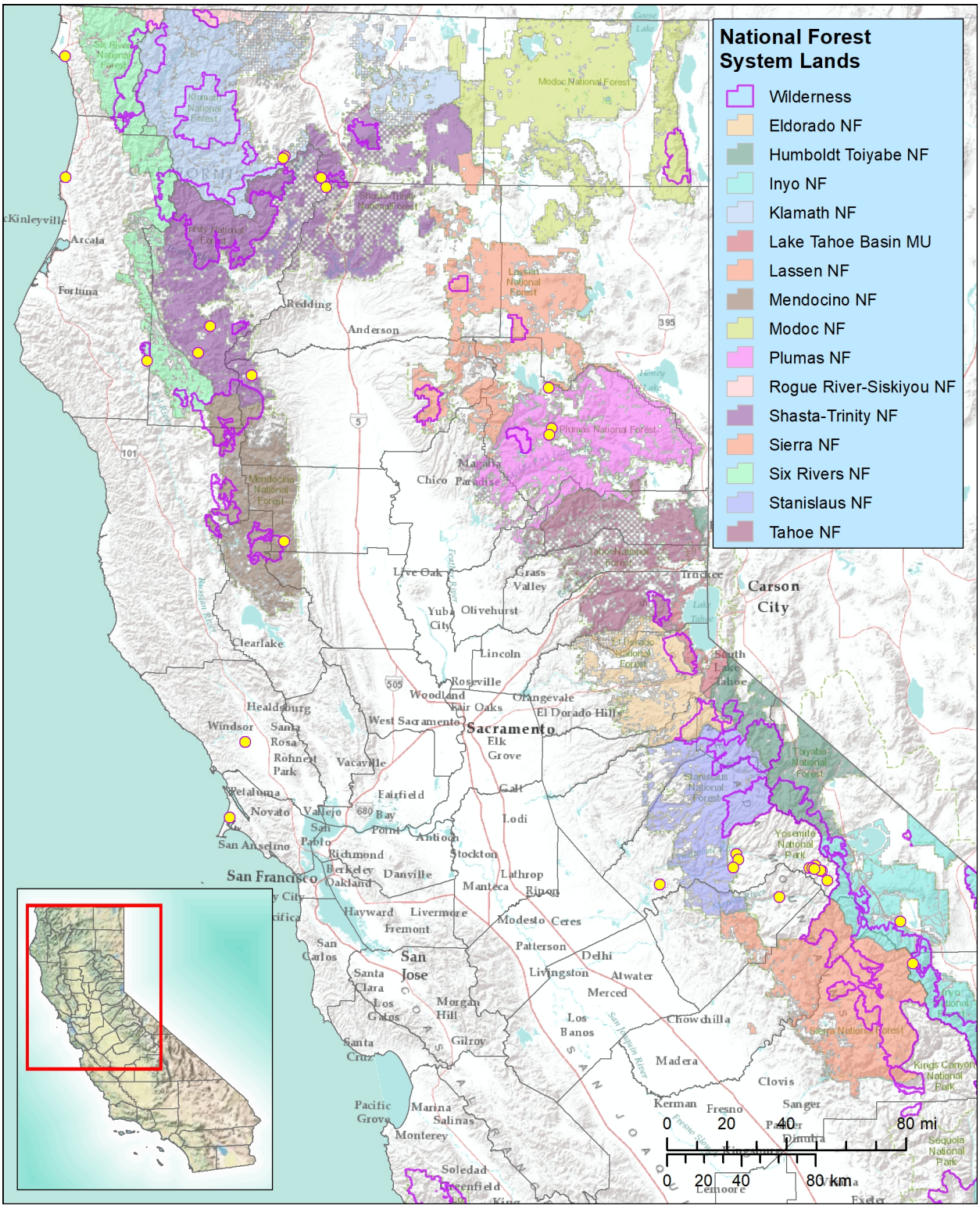
Distribution, abundance, and population trend on the planning unit[1]

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 Buxbaum's sedge 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
Inyo:	5	0	1	0	1	19-Aug-1940	1
Klamath:	10, 11	0	2	0	2	16-Jun-1979	2
Mendocino:	2	0	1	0	1	3 Jul 1971	1
Plumas:	27, 30	0	2	0	2	15-Jul-1976	2
Shasta-Trinity:	12, 13, 15, 17, 28	0	5	1	4	11-Jul-2001	5
Six Rivers:	3	0	1	0	1	2 Jul 1978	1
Totals:	N/A	0	12	1	11	N/A	12



Sources: *Distribution*: Calflora 2021, CCH1 2021, CCH2 2021, Green 2021 pers. comm. *Baselayers*: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.

The total number of occurrences for Buxbaum's sedge was estimated using GIS tools and methods described by Green and Sims (2018).

Buxbaum's sedge has a native distribution in the Northern Hemisphere (most recently including Venezuela and Algeria) and is introduced in Australia (Wilson et al. 2008, Bainbridge 2017, Jiménez-Mejías et al. 2018, Sienkiewicz-Paderewska et al. 2019). In North America, it ranges from Alaska across Canada to Greenland and south to California and most of the continental United States, except South Dakota and the southernmost states (Georgia excepted) (FNA 1993+, Bainbridge 2017, NRCS 2021). Within California, Buxbaum's sedge has an inverted U-shaped distribution encompassing Del Norte, Glenn, Humboldt, Inyo, Marin, Mariposa, Mono, Plumas, Siskiyou, Sonoma, Tehama, Trinity, and Tuolumne counties. On the west it occurs in the Coast Ranges in the Central Coast (CCo), North Coast (NCo), Outer North Coast Ranges (NCoRO), and High North Coast Ranges (NCoRH) bioregions. In the north, it occurs in the Klamath Ranges (KR) bioregion, and in the east, it occurs in the central Sierra Nevada Foothills (c SNF), northern and central High Sierra Nevada (n SNH, c SNH), and the Eastern Sierra Nevada (SNE) bioregions (Calflora 2021, CCH2 2021, Green 2021 pers. comm.).

Twelve of the 31 California occurrence records are located on U.S. National Forest lands: five on the Shasta-Trinity NF, two on the Klamath NF, one on the Six Rivers NF, one on the Mendocino NF, two on the Plumas NF, and one on the Inyo NF. Eleven records are located on National Park lands (one record in the Point Reyes National Seashore and ten records in Yosemite NP). One location is owned by the Sonoma Land Trust, and one record spans the boundary between Harry A. Merlo State Recreation Area and Big Lagoon County Park. One location is managed by the Bureau of Land Management, one by the California Department of Fish and Wildlife, one (at Convict Creek) by the Los Angeles Department of Water and Power, and one (at Hog Ranch) by the San Francisco Public Utilities Commission. The other two records are on private land (Calflora 2021, CCH2 2021, Green 2021 pers. comm.).

Thirteen of the 31 records are recent; this includes one record from Shasta-Trinity NF, nine from Yosemite National Park, one from Big Lagoon, one from Convict Creek, and one on private land. All other records, including 11 from National Forest lands, are historical (not documented for over 20 years). Record #4 at Big Lagoon has been documented repeatedly over a nearly 100-year period and censused twice, with 50 plants recorded in 1999 and 11–50 plants in 2017 (Calflora 2021, CCH2 2021, Green 2021 pers. comm.). Similarly, Record #18 at Swamp Lake in Yosemite NP has been observed by two different sets of researchers, first by Mason in the 1930s and 1950s, and then by Colwell and Taylor in the 2000s. Unfortunately, no population estimates have been made for that location (CCH2 2021, Green 2021 pers. comm.). Another Yosemite location (#23), at Soda Springs, was first documented by Bolander in 1866, visited in 1944, and then revisited by Colwell in 2004 and 2005; in 2004, this site had 737 plants (CCH2 2021, Green 2021 pers. comm.). Record #9 on private land near the Plumas NF has only been visited once, but it was censused in 2001, when more than 1000 plants were recorded (Green 2021 pers. comm.). Although not censused, record #28 in the Shasta-Trinity NF had several very large colonies in 2001. These observations indicate that Buxbaum's sedge is abundant and/or stable over time at several California locations. However, long-term trends for most locations are unknown.

At the bottom of Table 4, three rows are highlighted in pink. These are records that are available online (CCH1 2021, CCH2 2021) that were not included in the occurrence analysis. Two of the records have been redetermined to another sedge species, and one has a location that is too vague to georeference.

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

Buxbaum's sedge is a long-rhizomed perennial herb with flowering stems (culms) to 1 m tall (JEPS 2021, Więclaw et al. 2021) and glaucous foliage (Wilson et al. 2008); it flowers from March to August (CNPS 2021). Plants are found in wet meadows, springs, seeps, marshes, bogs (peatlands), and fens on a variety of substrates (including mineralized clay, alkaline soils, granite, and serpentine), sometimes within forest openings, from near sea level to 3300 m in elevation (CDC 2015, Sienkiewicz-Paderewska et al. 2019, CCH2 2021, CNPS 2021, JEPS 2021, Więclaw et al. 2021). Associates in California are variable depending on region and habitat and include *Pinus* spp., *Calocedrus decurrens, Chamaecyparis lawsoniana, Rhododendron occidentale, Kalmia polifolia, Alnus* spp., *Salix* spp., *Drosera rotundifolia, Darlingtonia californica, Triglochin maritima, Deschampsia caespitosa, Carex* spp., and *Juncus* spp. (CCH2 2021, Green 2021 pers. comm.).

Carex is a genus of ca. 2000 species found worldwide (FNA 1993+). According to the phylogenetic analysis of Gebauer et al. (2015), the closest relative of Buxbaum's sedge is *C. hartmanii* (sometimes called *C. hartmaniorum*), a Eurasian species with similar habitat preferences (Więclaw et al. 2021). *Carex buxbaumii and C. hartmanii* belong to *Carex* section *Racemosae* (Gebauer et al. 2015), a group of approximately 60 species that are mainly native to North America and Eurasia (Więclaw et al. 2021). Like all *Carex*, the flowers are unisexual with the pistillate flowers enclosed in an envelope called a perigynium. The plants are monoecious, with both staminate and pistillate flowers borne in the same inflorescence in units called spikelets. In Buxbaum's sedge, the spikelets are erect, and the terminal spikelet of the inflorescence has pistillate flowers borne above the staminate, while below that, there are two to six additional pistillate spikelets. Each flower is subtended by an acuminate or aristate scale (or bract) that is purplish brown in color with a lighter midrib; the lowest scale of the inflorescence is leaf-like. The pale perigynia are papillose in texture (FNA 1993+, Wilson et al. 2008, JEPS 2021, Więclaw et al. 2021). Buxbaum's sedge is morphologically similar to the rare California species *Carex limosa* (CRPR 2B.2) which differs in having nodding, rather than erect, lateral spikelets (Bainbridge 2017, CNPS 2021, JEPS 2021).

All sedges, including Buxbaum's sedge, are wind pollinated. The seeds of sedges are dispersed within their perigynia, and dispersal agents include water, wind, and animals (Wilson et al. 2008). Sedge seeds generally germinate in moist, sunny, disturbed openings, and seedlings are not often seen in mature meadows with little open soil (Wilson et al. 2008). Sedge seeds are usually dormant when they first mature, preventing germination until the next growing season; if conditions are not suitable then, the seeds can remain viable for years in the soil seed bank (Wilson et al. 2008). Sedges can also reproduce by their rhizomes, persisting without sexual reproduction. Their well-developed below-ground rhizomes and roots can sometimes survive fire, depending on fire intensity, the moisture level of the habitat, and the species; however, they

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

do not tolerate deep soil disturbance, such as that caused by livestock grazing (Newhouse et al. 1995, Wilson et al. 2008). Studies on Buxbaum's sedge in fens in Poland have found that this species prefers an early-seral habitat where shrubs and trees are removed. However, it does best when this early-seral habitat is maintained through mowing rather than grazing (Sienkiewicz-Paderewska et al. 2019). The life span of sedge genets has been measured for very few species and ranges from 30–50 years or longer (Newhouse et al. 1995). The response of this species to fire is unknown.

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

In California, Buxbaum's sedge is found in wet meadows, seeps, springs, marshes, fens, and bogs over a very broad elevational range, from near sea level directly along the coast to nearly 10,000 feet in the Sierra Nevada. The only possible threats listed on recent survey forms are changes in hydrology and sea level rise (Green 2021 pers. comm.). Five locations have a site quality ranking; one is rated Fair, one Good, and three Excellent. Only three locations have been censused, with one having approximately 50 plants, one having 750 plants, and one having over 1,000 plants. Given that over half of the known locations are historical, long-term trends cannot be determined. This species is uncommon or rare in most areas of the United States and Europe, and it has been extirpated from Ireland (Wilson et al. 2008, Sienkiewicz-Paderewska et al. 2019). In the past the main reason for its decline has been conversion of its habitat to agriculture. Now, it is mainly threatened by activities that lower the water table or recreational activities where its habitat is excessively disturbed (such as OHV usage or horseback riding) (Wilson et al. 2008). In northwest California, streams that feed wetlands are diverted regularly for the purpose of cannabis cultivation (Kierstead 2021 pers. comm.). Buxbaum's sedge would be threatened by any action that alters hydrology or microclimate (Bainbridge 2017), including future climate change.

Taxonomy[4]

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

Table 3. Name status of Buxbaum's sedge

Entity	Name Status
CNDDB and CNPS	*Carex buxbaumii* Wahlenb.
Jepson eFlora	*Carex buxbaumii* Wahlenb.
Jepson Manual (1993)	*Carex buxbaumii* Wahlenb.
Flora of North America	*Carex buxbaumii* Wahlenberg
USDA NRCS[a] PLANTS	*Carex buxbaumii* Wahlenb.

[a] Natural Resources Conservation Service [NRCS 2021]

[3] 1909.12 Chapter 10, Section 12.53, components 7, 9, 10, 11 and 12, as appropriate.
[4] 1909.12, Chapter 10, Section 12.53, component 1.

Synonymy: *Carex buxbaumii* f. *buxbaumii, C. buxbaumii f. dilutior* Kük., *C. buxbaumii* f. *mitis* Norman, *C. buxbaumii* f. *oenipontana* Grembl. ex Appel, *C. buxbaumii* f. *pedunculata* Raymond, *C. buxbaumii* f. *virescens* Norman, *Carex buxbaumii* subsp. *subulata* (Cajander) Liro, *C. buxbaumii* var. *anticostensis* Raymond, *C. buxbaumii* var. *claviformis* Russow, *C. buxbaumii* var. *sibirica* Litv., *C. buxbaumii* var. *submutica* Hartm., *C. buxbaumii* var. *subrigida* Neuman, *C. holmiana* Mack., *C. polygama* Schkuhr, *C. polygama* J. F. Gmelin, *C. polygama* subsp. *subulata* Cajander, *C. polygama* var. *brevisquamosa* Cajander, *C. polygama* var. *confusa* Cajander, *Carex oligandra* F.Muell. ex Boott, *C. picea* Franch., *C. pseudobuxbaumii* M.Winkl., *C. subulata* Schumach., *C. tubulata* K.Schum. ex Boott, *Physiglochis buxbaumii* (Wahlenb.) Raf. (Jiménez-Mejías et al. 2018, Tropicos 2021, WFO 2021).

Jepson eFlora link (JEPS 2021): https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=17317

Type locality: Sweden, in Sueciae paludosis (*Wahlenberg s.n.*, UPS-THUNB) (Wahlenberg 1802, Moberg and Nilsson 1991, Jiménez-Mejías et al. 2018).

Key literature

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Persons Contacted

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Author(s) and Date:

Ellen A. Dean, California Native Plant Society, Associate Rare Plant Botanist, 18 August 2021; revised 5 October 2021.

Reviewer(s) and Date:

Aaron E. Sims, California Native Plant Society, Rare Plant Program Director, 28 September 2021; Julie Ann Kierstead, USDA Forest Service Region 5, Ecosystem Planning, 30 September 2021.

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

Purpose: This is to maintain the best available science on a species that could be used by the Forest Service in a variety of functions. Specifically, there would be additional steps and evaluations to determine whether or not this species would be considered a Species of Conservation Concern under the 2012 Planning Rule or a Sensitive Species under the 1982 Planning Rule.

Appendix 1: Known Occurrences

Table 4. Known Occurrences of Buxbaum's sedge 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	Crescent City Marsh Wildlife Area, Del Norte County, US-CA, US	Del Norte	Crescent City (4112472)	Calflora, Jul. 2021 (in:2737 8353)	14-Jun-2019	1+ individuals		CA Dept Fish and Wildlife Crescent City Marsh Wildlife Area	16
2	Mendocino National Forest, Twin Springs. T18N R7W sec8	Glenn	St. John Mtn. (3912246)	CCH2, Jul. 2021 (HSC-48103)	3 Jul 1971	Moist soil		Mendocino NF	
3	Off FS 2S08 near Pine Mtn., road to Lost Lake	Humboldt	Black Lassic (4012335)	CCH2, Jul. 2021 (HSC-45391)	2 Jul 1978	Roadside		Six Rivers NF	4800
3	Along FS 2S08 near Pine Mtn.	Humboldt	Black Lassic (4012335)	CCH2, Jul. 2021 (HSC-45435)	2 Jul 1978	Roadside serpentine		Six Rivers NF	4800
4	Big Lagoon County Park. Big Lagoon Bog. Common in northern section. NAD27 UTM Zone 10, 405321E 4557202N.	Humboldt	Trinidad (4112412)	CCH2, Jul. 2021 (CHSC0 97052)	9-Jul-1999	Bog. Common in northern section, With: Deschampsia cespitosa, Calamagrostis nutkaensis, Carex viridula, C. echinata ssp. phyllomanica, and Triglochin maritima.		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10

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.)**
4	Big Lagoon County Park; Big Lagoon Bog	Humboldt	Trinidad (4112412)	CCH2, Jul. 2021 (HSC-96498)	9-Jul-1999	Bog		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10
4	Big Lagoon County Park. Big Lagoon Bog. Common in northern section. NAD27 UTM Zone 10, 405321E 4557202N.	Humboldt	Trinidad (4112412)	CNDDB recent survey form (Green 2021 pers. comm.)	9-Jul-1999	50 plants. Bog. Coastal peatland (fen). Occasional on northern portion of the site. With Deschampsia caespitosa, Juncus falcatus, Triglochin maritima, Viola macloskeyi, Carex echinata ssp. phyllomanica, Carex viridula spp. viridula, Carex leptalea, Potentilla palustris, Lycopus uniflorus, Lycopodiella inundata. Site quality Fair.	Altered hydrology, sea level change, invasive plants.	CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	
4	Big Lagoon County Park, Big Lagoon Bog	Humboldt	Trinidad (4112412)	CCH2, Jul. 2021 (HSC-96554)	19-Jun-1997	Bog with Potentilla palustris, Deschampsia cespitosa		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4	Big Lagoon Sphagnum Bog, along main channel of small creek, 5 m from where it emerges from the spruce forest, and on the herbaceous/scrub ecotone, east side of the bog.	Humboldt	Trinidad (4112412)	Calflora, Jul. 2021 (po27755)	20-Feb-2017	11 - 50 individuals. Big Lagoon Sphagnum bog, with Calamagrostis nutakensis, Rhododendron columbianum, Deschampsia cespitosa ssp holciformis, Carex obnupta, Helenium sp. Morella californica, Spiraea douglasii. Many plants in winter dormancy.		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	26
4	Bog at Big Lagoon Co. Park -- Ca 7 mi N of Trinidad	Humboldt	Trinidad (4112412)	Calflora, Jul. 2021 (wb1194-554)	28-Jun-2010	1+ individuals		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	16
4	in middle bog Big Lagoon Sphagnum bog	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (UC1598405)	4-Jun-1987	sphagnum bog along (but not restricted to) margins of streamlets		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4	Big Lagoon Northern Coast Ranges, Big Lagoon	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (UC249736)	13-Jul-1924	in swamp - somewhat brackish?		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	20
4	Big Lagoon.	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (CAS:DS:254001)	23-Apr-1927	In bog. Local.		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10-100
4	Big Lagoon.	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (CAS:BOT:233852)	23-Apr-1927	In bog. Local.		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10-100

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4	Big Lagoon	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (UC562435)	23-Apr-1927	in bog		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10-100
4	Big Lagoon. At south end of lagoon.	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (CAS:BOT:577058)	7-Aug-1965	In bog.		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	5
4	Big Lagoon.	Humboldt	Rodgers Peak (4112421)	CCH2, Jul. 2021 (CHSC023306)	9-Aug-1965			CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	10

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
4	Big Lagoon	Humboldt	Trinidad (4112412)	CCH2, Jul. 2021 (HSC-7100)	2-Oct-1965	Sphagnum bog		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	0
4	Big Lagoon Park, 8 mi. N of Trinidad	Humboldt	Trinidad (4112412)	CCH2, Jul. 2021 (HSC-62882)	20-May-1979	Bog		CA Dept Parks and Recreation Harry A. Merlo SRA, Big Lagoon County park.	
5	Rock Creek Lake Basin.	Inyo	Mt. Abbot (3711847)	CCH2, Jul. 2021 (UC837234)	19-Aug-1940	Rock paved area on which water stood earlier in season.		Inyo NF, John Muir Wilderness	10700
5	Rock Creek Lake Basin. Defile cutting across lower part of Transverse Ridge [across lower part of Transverse Ridge].	Inyo	Mt. Abbot (3711847)	CCH2, Jul. 2021 (CAS:BOT:293347)	19-Aug-1940	Plants abundant. In defile cutting. In flat rocky area which had previously been under water.		Inyo NF, John Muir Wilderness	10700
6	Swale near radio station, Point Reyes Peninsula.	Marin	Drakes Bay (3812218)	CCH2, Jul. 2021 (CAS:DS:347904)	4-Jun-1947			United States National Park Service, Point Reyes Nat. Seashore	

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6	Point Reyes Peninsula. Swale near radio station.	Marin	Drakes Bay (3812218)	CCH2, Jul. 2021 (CAS:BOT:355860)	4-Jun-1947			United States National Park Service, Point Reyes Nat. Seashore	
6	swale near radio station Pt. Reyes Peninsula	Marin	Drakes Bay (3812218)	CCH2, Jul. 2021 (UC905025)	4-Jun-1947	swale		United States National Park Service, Point Reyes Nat. Seashore	
6	Point Reyes peninsula. Swamp near Radio station.	Marin	Drakes Bay (3812218)	CCH2, Jul. 2021 (CAS:BOT:464925)	4-Jun-1947			United States National Park Service, Point Reyes Nat. Seashore	
7	Yosemite National Park: Yosemite Valley, Stoneman Meadow, southeastern quadrant of the meadow ca. 50 meters north from the road and ca. 20 meters east from the boardwalk; Half Dome, CA 7.5' USGS quadrangle.	Mariposa	Half Dome (3711965)	CCH2, Jul. 2021 (UC1755476, YOSE 7357)	15-Jun-2010	Margin of small inundated depression with carex nudata dominant in the center.		United States National Park Service Yosemite NP	3975

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
7	YOSEMITE NATIONAL PARK: Yosemite Valley, Stoneman Meadow, southeastern quadrant of the meadow ca. 50 meters north from the road and ca. 20 meters east from the boardwalk	Mariposa	Half Dome (3711965)	Calflora, Jul. 2021 (wb2209-10342)	15-Jun-2010	margin of small inundated depression with Carex nudata dominant in the center		United States National Park Service Yosemite NP	3980
7	YOSEMITE NATIONAL PARK: Yosemite Valley, Stoneman Meadow, southeastern quadrant of the meadow ca. 50 meters north from the road and ca. 20 meters east from the boardwalk	Mariposa	Half Dome (3711965)	Calflora, Jul. 2021 (wb2209-25795)	15-Jun-2010	margin of small inundated depression with Carex nudata dominant in the center		United States National Park Service Yosemite NP	3980
8	Convict Creek, UC Sierra Nevada Aquatic Research Lab, Mt. Morrison Rd, 0.8 mi NW of intersection with Hwy 395	Mono	Convict Lake (3711857)	CCH2, Jul. 2021 (UCR-223944)	4-Sep-2010	Perennial herb, rhizomatous; occasional in wet meadows near Convict Creek, E end of property; with Carex lanuginosa, Salix lutea.		Los Angeles Department of Water and Power	7061
8	Convict Creek, UC Sierra Nevada Aquatic Research Lab, Mt. Morrison Rd, 0.8 mi NW of intersection with Hwy 395	Mono	Convict Lake (3711857)	CCH2, Jul. 2021 (UCR-223920)	4-Sep-2010	Perennial, rhizomatous; occasional in moist meadow near Convict Creek, N side of central stream control structure.		Los Angeles Department of Water and Power	7071

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
9	Meadow, on the east side of the dirt road, about 1/4 miles northwest of Hauns Meadow and Hauns Creek, about 3 miles (air) east of Lake Almanor, about 5 miles (air) northwest of Greenville. T27N R09E S18 near center of n border	Plumas	Canyondam (4012121)	CNDDB recent survey form (Green 2021 pers. comm.)	11-Jul-2001	> 1000 plants in wet meadow in Yellow Pine Forest. Site quality Excellent.		Private	4750
9	Meadow, on the east side of the dirt road, about 1/4 miles northwest of Hauns Meadow and Hauns Creek, about 3 miles (air) east of Lake Almanor, about 5 miles (air) northwest of Greenville. T27N R09E S18 near center of n border	Plumas	Canyondam (4012121)	CCH2, Jul. 2021 (CHSC080882)	11-Jul-2001	In fruit. Normal size plants, on wet dark humus in a small wet meadow. Common. Meadow in Yellow Pine Forest.		Private	4750
9	Meadow, on the east side of the dirt road, about 1/4 miles NW of Hauns Meadow and Hauns Creek, about 3 miles (air) east of Lake Almanor, about 5 miles (air) NW of Greenville.	Plumas	Greenville (4012028)	CCH2, Jul. 2021 (JEPS102675)	11-Jul-2001	Normal size plants, on wet dark humus in a small wet meadow; Meadow in Yellow Pine Forest.		Private	4750
10	Along Hwy. 3, 2.7 mi. N of Scott Mtn. Summit	Siskiyou	Scott Mountain (4112236)	CCH2, Jul. 2021 (HSC-82004)	16-Jun-1979	Meadow		Klamath NF	4400

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11	Above Mule Creek, along Hwy. 3, 4.4 mi. N of Scott Mtn. Summit	Siskiyou	Scott Mountain (4112236)	CCH2, Jul. 2021 (HSC-81983)	16-Jun-1979	Meadow		Klamath NF	4003
12	West side of Cedar Lake; head of South Fork Sacramento River. T39N R06W S25 NW 1/4 of SE1/4 USGS Quadrangle: Seven Lakes Basin 1:24,000	Siskiyou	Seven Lakes Basin (4112224)	CNDDB recent survey form (Green 2021 pers. comm.)	30-Aug-1993	Sedgy darlingtonia soggy meadow bordering the lake, in Port Orford cedar. Also collected Narthecium californicum, Carex limosa, Carex angustata, Carex scopulorum var. bracteosa, Eriophorum cringer, Gentianella amarella ssp. acuta. Site quality Excellent.		Shasta-Trinity NF	5715
12	West side of Cedar Lake; head of South Fork Sacramento River. T39N R06W S25 SE1/4 USGS Quadrangle: Seven Lakes Basin 1:24,000	Siskiyou	Seven Lakes Basin (4112224)	CCH2, Jul. 2021 (CHSC062795)	30-Aug-1993	Sedgy darlingtonia soggy meadow bordering the lake, in Port Orford cedar.		Shasta-Trinity NF	5715
13	Lower Cliff Lake, The Eddys (about 15 air miles southwest of Weed); Shasta-Trinity National Forest;	Siskiyou	Seven Lakes Basin (4112224)	Calflora, July 2021 (xr169196)	26-Jul-1996	1+ individuals		Shasta-Trinity NF	5800
13	Shasta-Trinity National Forest; Cliff Lake, The Eddys, about 15 air miles SW of Weed.	Siskiyou	Seven Lakes Basin (4112224)	CCH2, Jul. 2021 (JEPS125994)	27-Jul-1996	Margin of turf rampart on the lake shore, under a stand of Chamaecyparis lawsoniana; on serpertinized gabbro; associated with Rhododendron occidentale and Leucothoe davisiae		Shasta-Trinity NF	5800

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14	Pitkin Marsh, near Forestville. Western branch of the Upper Marsh.	Sonoma	Sebastopol (3812247)	CCH2, Jul. 2021 (CAS:DS:368721)	7-Jun-1951	In a marshy opening.		Sonoma Land Trust, Lower Pitkin Marsh	
14	upper meadow, Pitkin Marsh Pitkin Marsh	Sonoma	Sebastopol (3812247)	CCH2, Jul. 2021 (UC728661)	18-Jun-1945	meadow		Sonoma Land Trust, Lower Pitkin Marsh	
14	Pitkin Marsh.	Sonoma	Sebastopol (3812247)	CCH2, Jul. 2021 (CAS:BOT:355871)	18-Jun-1945			Sonoma Land Trust, Lower Pitkin Marsh	
15	Along road from Tedoc Gap to Wells Creek, 0.5 mi. from Tedoc Creek	Tehama	North Yolla Bolly (4012228)	CCH2, Jul. 2021 (HSC-81945)	15-Jun-1979	Seep serpentine		Shasta-Trinity NF	4502
16	Along old Hwy. 3, near junction with road to Philpot Campground	Trinity	Dubakella Mtn. (4012342)	CCH2, Jul. 2021 (HSC-70035)	22-Jun-1978	Roadside serpentine		Private	2500
16	Off Hwy. 3 near Peanut	Trinity	Dubakella Mtn. (4012342)	CCH2, Jul. 2021 (HSC-70082)	22-Jun-1978	Roadside serpentine		Private	2500
17	Trinity County: Silver Spring.	Trinity	Smoky Creek (4012332)	CCH2, Jul. 2021 (DAV86184)	14-Sep-1979	Serpentine seepage.		Shasta-Trinity NF	3700

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18	West island of Swamp Lake, Yosemite NP.	Tuolumne	Lake Eleanor (3711987)	CNDDB recent survey form (Green 2021 pers. comm.)	13-Jul-2004	No abundance estimate. FLOATING ISLAND IN WEST END OF LAKE. CABU IS GROWING ON PERIMETER OF ISLAND WITH CAREX CUSICKII, AND DROSERA ROTUNDIFOLIA. THIS PERIMETER AREA IS THE DENSEST VEGETATION ON THE ISLAND. THE CENTER OF THE ISLAND CONTAINS WATER POCKETS WITH UTRICULARIA VULGARis and is dominated by Carex limosa, Menyanthes trifoliata, and Kalmia polifolia. The plant community can be classified as a Saturated Temperate Forb Vegetation Formation with a surrounding forest classified as Calocedrus decurrens-Alnus rhombifolia forest. Site quality Excellent.	None	United States National Park Service Yosemite NP	5018

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18	SWAMP LAKE, WEST ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE1 18030)	13-Jul-2004	FLOATING ISLAND IN WEST END OF LAKE. CABU IS GROWING ON PERIMETER OF ISLAND WITH CAREX CUSICKII, AND DROSERA ROTUNDIFOLIA. THIS PERIMETER AREA IS THE DENSEST VEGETATION ON THE ISLAND. THE CENTER OF THE ISLAND CONTAINS WATER POCKETS WITH UTRICULARIA VULGAR		United States National Park Service Yosemite NP	5018
18	SWAMP LAKE, WEST ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE1 18032)	13-Jul-2004	FLOATING ISLAND IN WEST END OF LAKE. CABU IS GROWING ON PERIMETER OF ISLAND WITH CAREX CUSICKII, AND DROSERA ROTUNDIFOLIA. THIS PERIMETER AREA IS THE DENSEST VEGETATION ON THE ISLAND. THE CENTER OF THE ISLAND CONTAINS WATER POCKETS WITH UTRICULARIA VULGAR		United States National Park Service Yosemite NP	5018

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18	SWAMP LAKE, WEST ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE1 18015)	13-Jul-2004	FLOATING ISLAND IN WEST END OF LAKE. CABU IS GROWING ON PERIMETER OF ISLAND WITH CAREX CUSICKII, AND DROSERA ROTUNDIFOLIA. THIS PERIMETER AREA IS THE DENSEST VEGETATION ON THE ISLAND. THE CENTER OF THE ISLAND CONTAINS WATER POCKETS WITH UTRICULARIA VULGAR		United States National Park Service Yosemite NP	5018
18	SWAMP LAKE, WEST ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE1 17965)	13-Jul-2004	FLOATING ISLAND IN WEST END OF LAKE. CABU IS GROWING ON PERIMETER OF ISLAND WITH CAREX CUSICKII, AND DROSERA ROTUNDIFOLIA. THIS PERIMETER AREA IS THE DENSEST VEGETATION ON THE ISLAND. THE CENTER OF THE ISLAND CONTAINS WATER POCKETS WITH UTRICULARIA VULGAR		United States National Park Service Yosemite NP	5018

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18	Swamp Lake, west island	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1862064)	13-Jul-2004	Carex limosa, Carex cusickii, Menyanthes trifoliata		United States National Park Service Yosemite NP	5018
18	Yosemite National Park.; In bottom of ephemeral lake 0.5 mile east-northeast of Swamp Lake, connected by temporary drainage	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1862063)	15-Jul-2004	Dulichium arundinaceum, Polygonum amphibium var stipulaceum, Scirpus acutus var occidentalis, Carex lenticularis var lipocarpa, Carex feta.		United States National Park Service Yosemite NP	5020
18	IN BOTTOM OF EPHEMERAL LAKE 0.5 MILE EAST-NORTHEAST OF SWAMP LAKE, CONNECTED BY TEMPORARY DRAINAGE, YOSEMITE NATIONAL PARK.	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE117964)	15-Jul-2004	COLLECTED FROM DRY MARGIN OF SHALLOW LAKE		United States National Park Service Yosemite NP	5020
18	IN BOTTOM OF EPHEMERAL LAKE 0.5 MILE EAST-NORTHEAST OF SWAMP LAKE, CONNECTED BY TEMPORARY DRAINAGE, YOSEMITE NATIONAL PARK.	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE118031)	15-Jul-2004	COLLECTED FROM DRY MARGIN OF SHALLOW LAKE		United States National Park Service Yosemite NP	5020

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18	Yosemite National Park, unnamed lake 0.3 miles West of Swamp Lake	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE2 31697)	18-Jul-2008	saturated margin of the lake in Carex vesicaria dominated sites		United States National Park Service Yosemite NP	4980
18	Yosemite National Park, unnamed lake 0.3 miles West of Swamp Lake; Lake Eleanor 7.5' USGS quadrangle.	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1755 334, YOSE 06990)	19-Jul-2008	Margin of the high watermark of the lake bordering Alnus tenuifolia thickets.		United States National Park Service Yosemite NP	4980
18	just w of Hetch Hetchy Dam (Yosemite National Park, Swamp Lakes); Yosemite National Park, Swamp Lakes	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1100 426)	27-Jul-1937	in the hills, reddish-purple base		United States National Park Service Yosemite NP	5200
18	SWAMP LAKE RESEARCH RESERVE. SOUTH ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE6 5387)	9-Jul-1938			United States National Park Service Yosemite NP	5200
18	w Hetch Hetchy; Yosemite National Park, Swamp Lake	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC5991 33)	9-Jul-1938			United States National Park Service Yosemite NP	5200

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18	SWAMP LAKE RESEARCH RESERVE	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE6 5388)	9-Jul-1938			United States National Park Service Yosemite NP	5200
18	w Hetch Hetchy; Yosemite National Park, Swamp Lake	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC599137)	9-Jul-1938			United States National Park Service Yosemite NP	5200
18	SWAMP LAKE RESEARCH RESERVE. SOUTH ISLAND. SWAMP LAKE	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE6 5391)	10-Jul-1938	ON FLOATING LOG		United States National Park Service Yosemite NP	5200
18	w Hetch Hetchy (South island in Swamp Lake); Yosemite National Park, Swamp Lake, South island	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC599141)	10-Jul-1938			United States National Park Service Yosemite NP	5200
18	SWAMP LAKE RESEARCH RESERVE. SOUTH ISLAND	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE6 5389)	11-Jul-1938			United States National Park Service Yosemite NP	

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18	SOUTH ISLAND. SWAMP LAKE	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE6 5390)	11-Jul-1938			United States National Park Service Yosemite NP	5200
18	w Hetch Hetchy (South island in Swamp Lake); Yosemite National Park, Swamp Lake, South island	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC5991 14)	11-Jul-1938			United States National Park Service Yosemite NP	5200
18	marsh 1/2 mi below Swamp Lake; Yosemite National Park	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1056 295)	11-Jul-1939	along margin of marsh		United States National Park Service Yosemite NP	5100
18	w Hetch Hetchy Dam; Sierra Nevada, Yosemite National Park, Swamp Lake meadow	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1102 954)	6-Aug-1958			United States National Park Service Yosemite NP	5200
18	w side of Hetch Hetchy Dam (meadow at Swamp Lake); Sierra Nevada, Yosemite National Park, Swamp Lake	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (UC1102 955)	9-Aug-1958	meadow		United States National Park Service Yosemite NP	5200

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19	Pond complex on North side of Tuolumne River near river mile 115, Poopenaut Valley. Datum: NAD83. GPS Error: 2 M.	Tuolumne	Lake Eleanor (3711987)	CCH2, Jul. 2021 (YOSE1 18791)	24-Jul-2006			United States National Park Service Yosemite NP	3330
20	Sierra Nevada; Spring seepage at Don Pedro Reservoir. East shore about 1 mile from entrance to Tuolumne River Channel	Tuolumne	Moccasin (3712073)	CCH2, Jul. 2021 (SFV-9321)	17-Sep-1967	Pinus sabiniana and chaparral. Lowest bract saw-toothed linear, culm and leaf edges rough. Lanceolate tracts with whitish midvein.		United States Bureau of Land Manageme nt	98
21	Yosemite National Park; west end of Dog Lake	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (YOSE2 32232)	7-Aug-2010	in wet soil at lake outlet in partial shade of Pinus contorta		United States National Park Service Yosemite NP	9179
22	Pond 1/4 mile Northwest of sewage disposal ponds, Tuolumne Meadows.	Tuolumne	Falls Ridge (3711984)	CCH2, Jul. 2021 (UC1965 926)	22-Aug-2006			United States National Park Service Yosemite NP	8557

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.)**
23	Yosemite National Park; Pond 160 m north of soda springs, Tuolumne Meadows	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (UC1861962)	11-Aug-2005	Forms a loose 0.5 m wide band around most of perimeter of this pond, at high water line.; ELEOCHARIS MACROSTACHYA, JUNCUS BUFONIUS VAR. OCCIDENTALIS, CAREX SP.		United States National Park Service Yosemite NP	8636
23	POND 160 M NORTH OF SODA SPRINGS, Tuolumne MEADOWS, YOSEMITE NATIONAL PARK	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (YOSE116904)	11-Aug-2005	FORMS A LOOSE 0.5 M WIDE BAND AROUND MOST OF PERIMETER OF THIS POND, AT HIGH WATER LINE.		United States National Park Service Yosemite NP	8636
23	POND 160 M NORTH OF SODA SPRINGS, Tuolumne MEADOWS, YOSEMITE NATIONAL PARK	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (YOSE116905)	11-Aug-2005	FORMS A LOOSE 0.5 M WIDE BAND AROUND MOST OF PERIMETER OF THIS POND, AT HIGH WATER LINE.		United States National Park Service Yosemite NP	8636
23	Pond located 250 m N of Soda Springs, Tuolumne Meadows, Yosemite NP	Tuolumne	Tioga Pass (3711983)	CNDDB recent survey form (Green 2021 pers. comm.)	11-Aug-2005	no population information.		United States National Park Service Yosemite NP	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
23	SODA SPRINGS	Tuolumne	Tioga Pass (3711983)	CNDDB recent survey form (Green 2021 pers. comm.)	28-Jul-2004	737 plants. SODA SPRINGS IS LOCATED ON THE N MARGIN OF Tuolumne MEADOWS. IT IS THE SITE OF AN ACTIVE MINERAL SPRING. VISIBLE MINERAL DEPOSITS ARE PRESENT ON BOTH BARE SOIL AND ROCKS IN A DEPRESSION. THERE IS STANDING WATER IN 25 PERCENT OF THE ~35 M SQ DEPRESSION; THe rest is damp mineral soil. Encroaching but sparse Pinus contora ssp. murranyana is present in all directions. No evidence of recent fire. Site quality Good.		United States National Park Service Yosemite NP	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
23	SODA SPRINGS	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (YOSE1 17849)	28-Jul-2004	SODA SPRINGS IS LOCATED ON THE N MARGIN OF Tuolumne MEADOWS. IT IS THE SITE OF AN ACTIVE MINERAL SPRING. VISIBLE MINERAL DEPOSITS ARE PRESENT ON BOTH BARE SOIL AND ROCKS IN A DEPRESSION. THERE IS STANDING WATER IN 25 PERCENT OF THE ~35 M SQ DEPRESSION; TH		United States National Park Service Yosemite NP	8650
23	0.5 mi W of Soda Springs, Tuolumne Meadows	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (SJSU12 780)	16-Aug-1944	tule-dominated shallow lake		United States National Park Service Yosemite NP	8590
23	Tuolumne Meadows. Soda Springs.	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (CAS:BOT:322006)	5-Aug-1944			United States National Park Service Yosemite NP	

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
23	at Soda Springs, on the Tuolumne Soda Springs, Tuolumne	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (UC685)	1866			United States National Park Service Yosemite NP	9700
23	at Soda Springs Soda Springs	Tuolumne	Tioga Pass (3711983)	CCH2, Jul. 2021 (UC918)	Jun.-Sep. 1866			United States National Park Service Yosemite NP	9700
24	Yosemite National Park; Mineral spring near John Muir trail in Lyell Canyon, 1.4 km e of Rafferty Creek	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (UC1861958)	9-Aug-2005	Large salty flat with much exposed mineralized clay, sparsely vegetated, in full sun.; PYRROCOMA APARGIOIDES, TRIGLOCHIN MARITIMA, MUHLENBERGIA FILIFORMIS, DANTHONIA INTERMEDIA, JUNCUS MEXICANUS		United States National Park Service Yosemite NP	8760
24	MINERAL SPRING NEAR JOHN MUIR TRAIL IN LYELL CANYON, 1.4 KM E OF RAFFERTY CREEK, YOSEMITE NATIONAL PARK	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE116844)	9-Aug-2005	LARGE SALTY FLAT WITH MUCH EXPOSED MINERALIZED CLAY, SPARSELY VEGETATED, IN FULL SUN.		United States National Park Service Yosemite NP	8760

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.)**
24	MINERAL SPRING NEAR JOHN MUIR TRAIL IN LYELL CANYON, 1.4 KM E OF RAFFERTY CREEK, YOSEMITE NATIONAL PARK	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE1 16845)	9-Aug-2005	LARGE SALTY FLAT WITH MUCH EXPOSED MINERALIZED CLAY, SPARSELY VEGETATED, IN FULL SUN.		United States National Park Service Yosemite NP	8760
24	MINERAL SPRING NEAR JOHN MUIR TRAIL IN LYELL CANYON, 1.4 KM E OF RAFFERTY CREEK, YOSEMITE NATIONAL PARK	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE1 16846)	9-Aug-2005	LARGE SALTY FLAT WITH MUCH EXPOSED MINERALIZED CLAY, SPARSELY VEGETATED, IN FULL SUN.		United States National Park Service Yosemite NP	8760
25	About 1/4 mile North of Rafferty Creek-Tuolumne River confluence on South side of Tuolumne River. Datum: NAD83. GPS Error: 5 M.	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE1 18823)	1-Aug-2006			United States National Park Service Yosemite NP	8875
26	Pond 1.5 km South of Ireland Creek - Lyell Fork confluence along trail, Lyell Canyon. Datum: NAD83. GPS Error: 5 M.	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE1 18864)	14-Aug-2006			United States National Park Service Yosemite NP	8819
26	Pond 1.5 km South of Ireland Creek - Lyell Fork confluence along trail, Lyell Canyon. Datum: NAD83. GPS Error: 5 M.	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (YOSE1 18863)	14-Aug-2006			United States National Park Service Yosemite NP	8819

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
26	Pond 1.5 km South of Ireland Creek - Lyell Fork confluence along trail, Lyell Canyon.	Tuolumne	Vogelsang Peak (3711973)	CCH2, Jul. 2021 (UC1965922)	14-Aug-2006			United States National Park Service Yosemite NP	8819
27	Butterfly Botanical Area and Vicinity. At southwest end of Pond reservoir.	Plumas	Crescent Mills (4012018)	CCH2, Jul. 2021 (CAS:BOT-BC:110186)	27-Jul-1966	One of two populations. The other is at the north end of Pond Reservoir.		Plumas NF, Butterfly Valley Botanical Area	3600
28	Shasta-Trinity National Forest: Horse Heaven; on Forest Service road 25 past (west of) the 10 mile marker. T28N R5W S16 NW1/4 of NW1/4 and S17 NE 1/4 of NE 1/4	Trinity	Seven Lakes Basin (4112224)	CCH1, Jul. 2021 (MICH1428527 via SEINet)	11-Jul-2001	Four patches found on either side of small creek: one 2 meters square, two 10 meters square, and one 10 meters by 0.5 meter. Large, diverse, wet meadow dominated by rhizomatous graminoids with some conifer invasion around the edges. Growing with Carex angustata, C. utriculata, C. echinata, C. luzulina, C. pachystachya, Juncus spp., Hordeum brachyantherum.		Shasta-Trinity NF	5500

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
29	N end Hog Ranch Meadow near Mather	Tuolumne	Yosemite Valley (3711987)	CCH2, Jul. 2021 (SJSU12 800)	8-Jul-1947	rhizomatous yet in tight erect clumps; herbage distinctly glaucous; fairly abundant		Hetch Hetchy Water and Power, San Francisco Public Utilities Commissio n	4500
29	Sierra Nevada. Mather, Hog Ranch.	Tuolumne	Yosemite Valley (3711987)	CCH2, Jul. 2021 (CAS:B OT:3338 07; CAS:DS: 707606)	29-May-1946	At margin of bog in wet soil, but not standing in water.		Hetch Hetchy Water and Power, San Francisco Public Utilities Commissio n	4600
30	Snake Lake, about 4 miles northwest of Quincy.	Plumas	Meadow Valley (3912181)	CCH2, Jul. 2021 (CAS:B OT:8589 52)	15-Jul-1976			Plumas NF	4000
31	Yosemite National Park, Tuolumne Meadows, at Dana Fork (of Tuolumne River)	Tuolumne	Tioga Pass (3711983)	CCH1, Jul. 2021 (GH4241 31)	28-Jul-1938			United States National Park Service Yosemite NP	8497

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Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
	Sonoma County: Sugarloaf Ridge State Park. About 50 air miles N of San Francisco, 10 air miles E of Santa Rosa, 2.5 air miles NE of Kenwood and 18 air miles NW of Napa. Adobe Canyon along Pony Gate Trail along east west trending stretch before entering wo	Sonoma	Kenwood (3812245)	CCH2, Jul. 2021 (DAV15 2149)	12-Jun-1994	Oak woodland; out of view of kiosk and campground. South-facing slope with 10 degree slope. Habitat: annual grassland/small draw at edge of oak woodland dominated by Elymus glaucus. Associates: Hordeum brachyantherum, Holcus lanatus.		CA Dept of Parks and Recreation, Sugarloaf Ridge SP	1350
	Sequoia and Kings Canyon National Parks. Table Mountain plateau.	Tulare		CCH2, Jul. 2021 (CAS:BOT:857946)	24-Aug-91	Mesic gravel. East plateau fell field flats.		Sequoia and Kings Canyon National Park	
	High Mountain near Donner Pass, Sierra Nevada	Nevada?		CCH1, Jul. 2021 (GH424127)	1865			Uncertain	

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.>