1. **Species: *Claytonia obovata*** Rydberg, **Rydberg's spring beauty**

Photos from John Doyen, on Calphotos; accessed 2020.

2. **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 Rydberg's spring beauty

Entity	Status	Status Definition
NatureServe CA[a]	G4 S3	Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors. Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
California Rare Plant Rank[b]	4.3	4: Plants of limited distribution. 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
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 present	
Nevada State Listing[j]	Not present	

[a] California Natural Diversity Database, California Dept. of Fish & Wildlife [CNDDB 2020]
[b] California Native Plant Society [CNPS 2020]
[c] California Department of Fish and Wildlife [CDFW 2020]

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

Claytonia obovata was added to the CNPS *Inventory of Rare and Endangered Plants* on March 3, 2020 (Sims and Lazar 2020).

3. Taxonomy: Table 2 summarizes this species or subspecies/variety's name status in key literature.

Table 2. Name status of Rydberg's spring beauty

Entity	Name Status
CNDDB and CNPS	*Claytonia obovata* Rydberg
Jepson eFlora	Not listed
Jepson Manual (1993)	Not listed
Flora of North America	Not listed
USDA NRCS[a] PLANTS	Not listed

[a] Natural Resources Conservation Service [NRCS]

Synonymy: *Claytonia obovata* Rydb. was synonymized with *Claytonia lanceolata* in 1966 and remained grouped under that name until recently due to misinterpreted morphological variation in *C. lanceolata* s.s. (Stoughton et al. 2017). Currently it has no listed synonyms.

Jepson eFlora link: Not included, recently circumscribed under the current name; separated from *C. lanceolata* Pursh.

"*Claytonia obovata* is morphologically similar to the broad interpretation of *C. lanceolata* by Miller and Chambers (2006), but differs primarily in its ecological setting, and by the presence of sunken, red veins on the cauline leaves that diverge near the base of the leaf blade and generally converge near the apex. It differs also by the shape of the cauline leaf pair, its smaller overall plant size, and in having a sub-umbellate inflorescence that generally lacks a peduncle and exhibits little to no internodal elongation among pedicels by the time of fruiting." (Stoughton et al. 2017).

Type locality: "Type collected on Abbott Butte, Oregon (altitude 1600 meters), July 6, 1899, *J. B. Leiberg 4262* (U.S. Nat. Herb. 621223) Distribution: Type locality and Mount Hull, California." (Rydberg, *North American Flora* 21: 299. 1932).

4. Distribution, abundance, and population trend on the planning unit [12.53.2,3,4]:

Table 3 summarizes the distribution and frequency of this species or subspecies/variety within National Forest System Lands in California. Table 4 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 0.25 mile apart from each other as defined by the CNDDB.

Table 3. Known Occurrence Frequency of Rydburg's spring beauty within the Planning Area (NRIS, CNDDB, Calflora/CCH databases)

National Forest System (NFS) lands	Record #s (from Locations table below)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 years)	Historic (not seen in past 20 years)	Most Recent Obs. Date	Total Records on NFS lands
National Forest System (NFS) lands	**Record #s (from Locations table below)**	**CNDDB EOs**	**Non-CNDDB Records**	**Recent (seen in past 20 years)**	**Historic (not seen in past 20 years)**	**Most Recent Observation**	**Total Records on NFS lands**
Klamath:	3	0	3	2	1	2-May-2014	3
Mendocino:	5	0	5	4	1	1-Jun-2014	5
Shasta-Trinity:	6	0	6	3	3	21-Jul-2019	6
Six Rivers:	1	0	1	1	0	16-May-2015	1
Totals:	N/A	0	15	10	5	N/A	15

Table 4. Known Occurrences of Rydburg's spring beauty 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 red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
1	Klamath National Forest, NE of Scott Mountain Summit,	Siskiyou	Scott Mountain	CalPhotos 2019	2-May-2014			Klamath NF	5041
1	Scott Mountain. On scree near highway.	Siskiyou	Scott Mountain	CCH2 2019	31-May-1951			Klamath NF	5041
1	SCOTT MT.	Siskiyou	Scott Mountain	CalPhotos 2019	9-Jun-1981			Klamath NF	5041
2	Kangaroo Lake (E of Callahan), 5800'.	Siskiyou	Scott Mountain	CalPhotos 2019	6-Jul-2011			Klamath NF	6062
3	1/2 mi. E of Hwy. 3 on the dirt road heading E at Scott Mtn. Pass. Serpentine.T40N R7W sec32 SE. 5600 ft.	Siskiyou	Scott Mountain	CCH2 2019; Stoughton et al. 2017	30-May-1981			Klamath NF	5723
3	0.3 miles west of Carmen Lake. Wet hillside between rills from melting snow. 5600 ft.	Siskiyou	Scott Mountain	CCH2 2019; Stoughton et al. 2017	28-May-1950	Wet hillside between rills from snow melt		Klamath NF	5723

Table 4. Known Occurrences of Rydburg's spring beauty 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 red.

Rec. #	Locality	County	Quad	Ref. (Source)	Date Last Obs'd	Population Info	Threats	Land Mgr.	Elev. (ft.)
4	Shasta-Trinity National Forest, Parks Creek Trailhead adjacent to Forest Road 17, ca. 5.5 km W-NW of Mount Eddy summit, in open area below and E of parking lot. Growing in serpentine soils on an E-facing slope. Associates: Abies concolor, Elymus elymoides, Eriogonum spp., Lomatium engelmanii, L. Macrocarpum, and Pinus monticola. 6820 ft.	Siskiyou	South China Mtn.	CCH2 2019; J. Kierstead, 2020 (editorial comments)	Jun-2020			Shasta-Trinity NF	6813
4	2086 meters	Siskiyou	South China Mtn.	Calflora 2019	29-Jun-2019				6854
4	Shasta-Trinity National Forest, adjacent to the PCT just N of Parks Creek Trailhead for Mount Eddy,	Siskiyou	South China Mtn.	CalPhotos 2019	4-May-2014			Shasta-Trinity NF	6813

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Rec. #	Locality	County	Quad	Ref. (Source)	Date Last Obs'd	Population Info	Threats	Land Mgr.	Elev. (ft.)
5	0.5 mi W of Cory Peak.	Trinity	South China Mtn.	Stoughton et al. 2017	29-May-2014	Along Siskiyou / Trinity Co. border		Unknown (just outside and surrounded by Shasta-Trinity NF)	7278
6	Hills on S side of upper Deadfall Lakes.	Trinity	South China Mtn.	Stoughton et al. 2017	30-May-2014	Hills		Shasta-Trinity NF	7271
7	The Eddys, Trinity Mountains, headwaters of Eddy Creek and western tributary of Dale Creek; on ridgetop 0.2 to 0.8 east from summit of Forest Road 40N45. Elev. 7800 ft.		South China Mtn.	CCH1 2019 (as *C. umbellata*)	11-Jul-1988	Ridgetop		Shasta-Trinity NF	7827
8	N facing slopes in the Eddy Creek drainage.	Siskiyou	Weed	Stoughton et al. 2017	19-Jun-1976			Shasta-Trinity NF	4539
9	Along the Pacific Crest Trail	Siskiyou	Mount Eddy	Calflora 2019	21-Jul-2019	2-10 plants		Shasta-Trinity NF (along border)	7637
9	Along the Pacific Crest Trail	Siskiyou	Mount Eddy	Calflora 2019	21-Jul-2019	2-10 plants		Shasta-Trinity NF (along border)	7661

Table 4. Known Occurrences of Rydburg's spring beauty 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 red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
10	1.2 air mi. SSE of Forest Mtn. Summit. UTM 10 523315 E 4611799 N. Serpentine soil, slope 50% ±, rocky, no shrub or tree layer, north aspect. Unusual form of this species, but according to Dr. Chambers, it still belongs in C. lanceolata.	Siskiyou	Yreka	CCH2 2019	23-Apr-2004	Serpentine, rocky, north aspect slope		Unknown	4847
11	Salmon-Trinity Alps and vicinity. Along the Limestone Ridge Trail, 1/2 mile south of Rattlesnake Lake. Steep open damp slope. 5680 ft.	Trinity	Cecil Lake	CCH2 2019; Stoughton et al. 2017	29-May-1974	Steep open damp slope		Shasta-Trinity NF	5632
12	Six Rivers National Forest, Slopes of Salmon Mountain.	Humboldt	Salmon Mtn.	CalPhotos 2019	16-May-2015	Slopes		Six Rivers NF	6253
13	Nr. Hells Half Acre (F.R. M61, 1 mi N. M1).	Mendocino	Hull Mountain	CalPhotos 2019	10-Jun-2008			Mendocino NF	6350
13	Hell's Half Acre, F.R. M61, 1 mi. E. F.R.M1	Mendocino	Hull Mountain	CalPhotos 2019	9-Jun-2008			Mendocino NF	6350
13	Hells Half Acre (F.R.M61, 2 mi N M1).	Mendocino	Hull Mountain	CalPhotos 2019	10-Jun-2008			Mendocino NF	6350

Table 4. Known Occurrences of Rydburg's spring beauty 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 red.									
Rec. #	**Locality**	**County**	**Quad**	**Ref. (Source)**	**Date Last Obs'd**	**Population Info**	**Threats**	**Land Mgr.**	**Elev. (ft.)**
13	Mendocino National Forest Road 20N02 between Calamese Rock and Hells Half Acre, ca. 100' N of the road. Emerging between melting snow mounds under Abies concolor and Pinus sp. 6200 ft.	Mendocino	Hull Mountain	CCH2 2019; Stoughton et al. 2017	21-Jun-1983	Emerging between melting snow mounts.		Mendocino NF	6332
13	Near Calamese Rock.	Mendocino	Hull Mountain	Stoughton et al. 2017	26-May-2013			Mendocino NF	6132
13	High North Coast Ranges. At Bean Rock, along Road M61 9.8 road km west of Low Gap. T20N R10W S11 NE1/4 USGS Quadrangle: Hull Mountain 1:24,000. Open ridge top, rocky gravelly soil. Just over the north edge of the ridge. Flowers white to light pink; tuber round; plants at this site with unusually wide leaves.	Mendocino	Hull Mountain	CCH2 2019	4-Jul-2011			Mendocino NF	5977

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Rec. #	Locality	County	Quad	Ref. (Source)	Date Last Obs'd	Population Info	Threats	Land Mgr.	Elev. (ft.)
14	Below Hull Mt. Lookout. Rocky slope. 6873 ft.	Lake	Hull Mountain	CCH2 2019; Stoughton et al. 2017	25-Jun-1969	Rocky slope.		Mendocino NF	6493
14	Mt. Hull.	Mendocino	Hull Mountain	Stoughton et al. 2017	Jun-1894			Mendocino NF	6493
14	Ridge E of Hull Mtn.	Mendocino	Hull Mountain	Stoughton et al. 2017	26-May-2013			Mendocino NF	6493
14	Road to Hull Mtn. S of Monkey Rock	Mendocino	Hull Mountain	Stoughton et al. 2017	26-May-2013			Mendocino NF	6493
14	0.5 miles north of Hull Mountain. Dry slopes. 6500 ft.	Mendocino	Hull Mountain	CCH2 2019; Stoughton et al. 2017	22-Apr-1972	Dry slopes		Mendocino NF	6412
14	Ridge NW of Hull Mountain.	Mendocino	Hull Mountain	Stoughton et al. 2017	5-Jun-1974			Mendocino NF	6539
14	Windy Point, 0.2 rd mi north of Hull Mountain.	Mendocino	Hull Mountain	Stoughton et al. 2017	4-Jul-1967			Mendocino NF	6539
14	Windy Gap, on spur ridge to N of Hull Mountain proper.	Mendocino	Hull Mountain	Stoughton et al. 2017	24-Jun-1956			Mendocino NF	6431
15	Near Monkey Rock.	Mendocino	Hull Mountain	Stoughton et al. 2017	27-May-2012			Mendocino NF	6135
16	Leech Lake Mountain, northeast of Covelo. 6000 ft.	Mendocino	Leech Lake Mtn.	CCH2 2019; Stoughton et al. 2017	20-Jun-1952			Mendocino NF	6590

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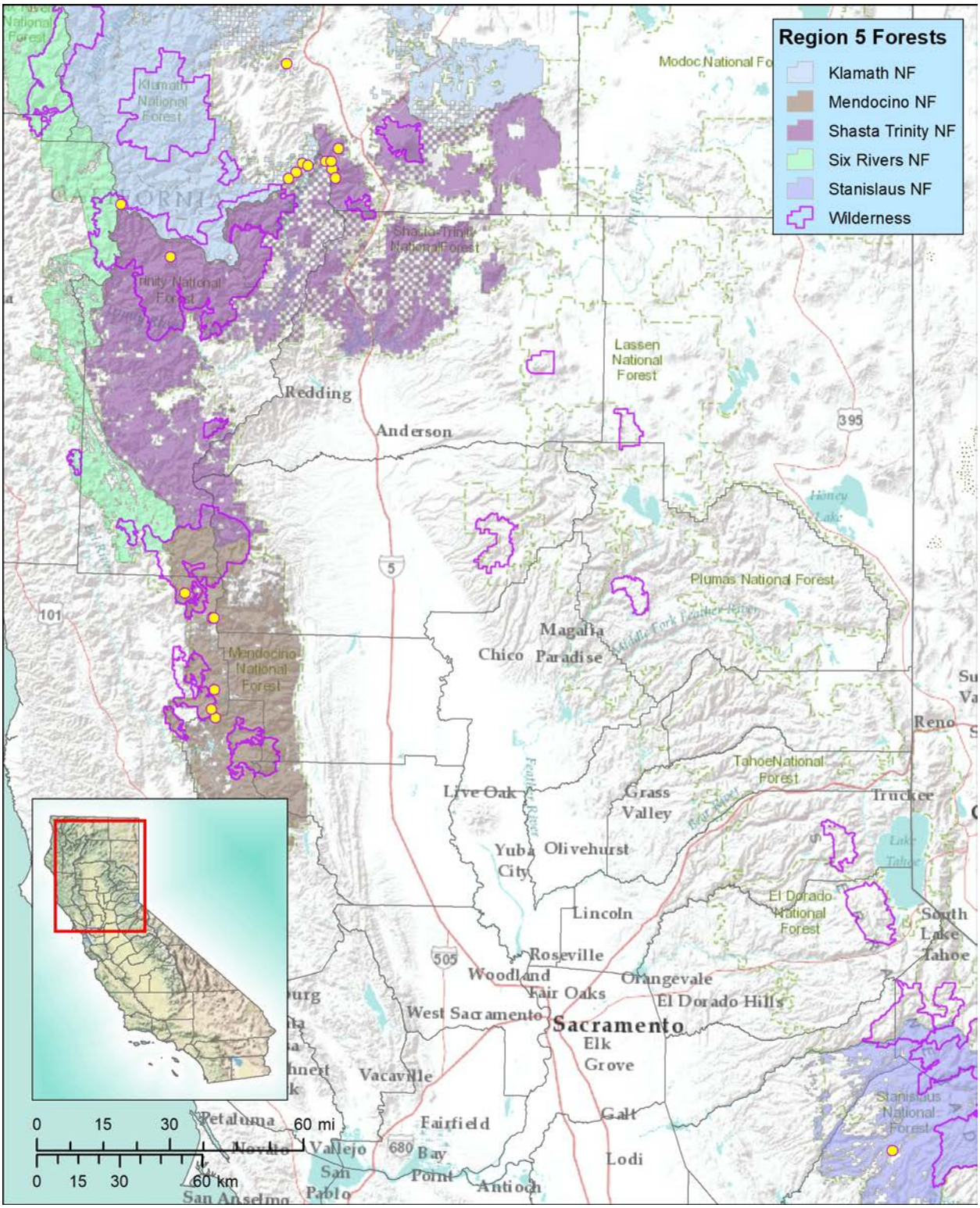
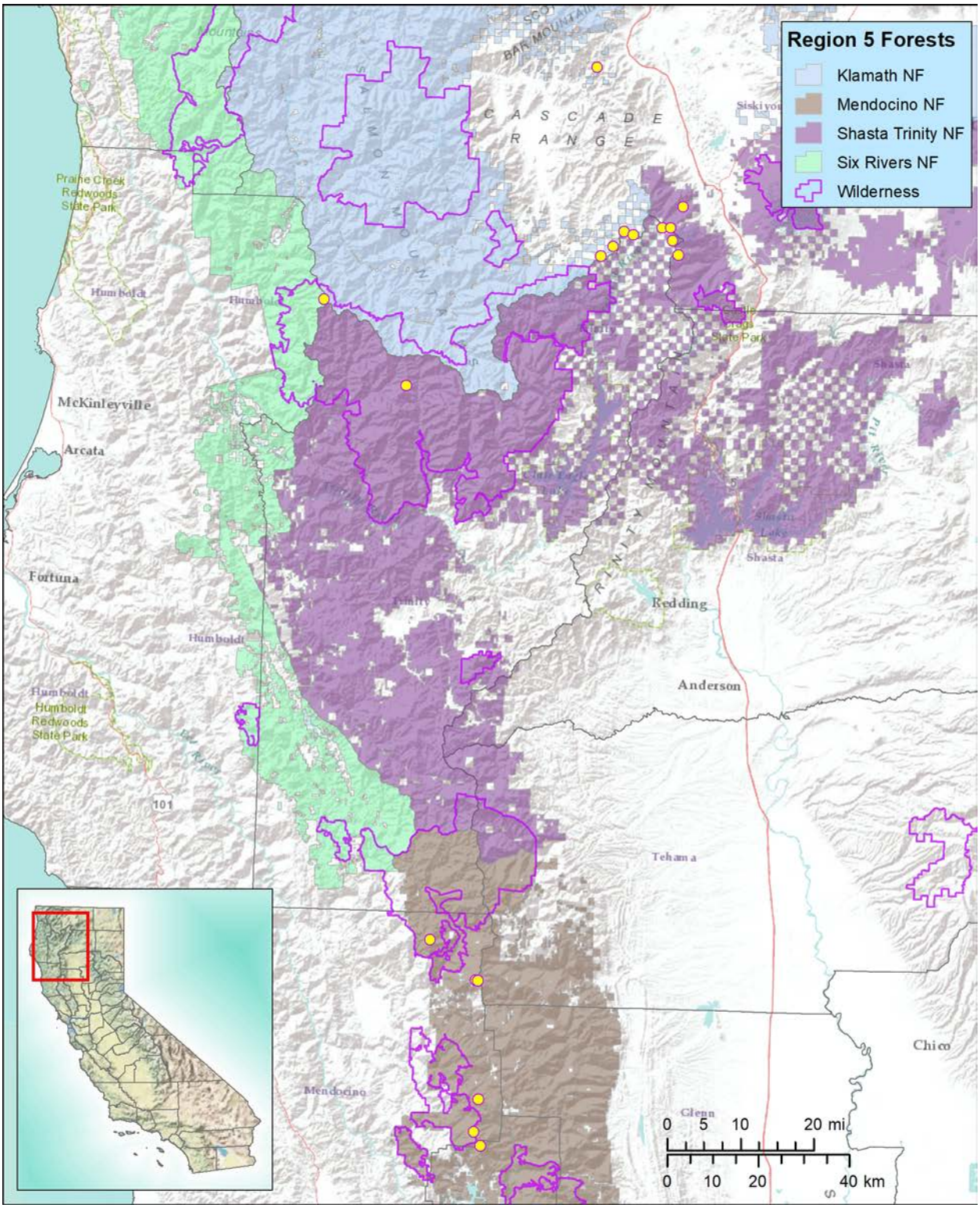
Rec. #	Locality	County	Quad	Ref. (Source)	Date Last Obs'd	Population Info	Threats	Land Mgr.	Elev. (ft.)
17	Anthony Peak, east of Lookout, near Mendocino-Tehama Co. line. 6800 ft.	Mendocino	Mendocino Pass	CCH2 2019; Stoughton et al. 2017	14-Jul-1944			Mendocino NF	6949
17	Along road to summit, Anthony Peak. In open woods. 6400 ft.	Mendocino	Mendocino Pass	CCH2 2019; Stoughton et al. 2017	17-Jun-1980			Mendocino NF	6949
17	Anthony Peak, east side	Tehama	Mendocino Pass	CCH2 2019; Stoughton et al. 2017	14-Jul-1944			Mendocino NF	6760
17	East Slope Anthony Peak, 6100'	Mendocino	Mendocino Pass	CalPhotos 2019	9-Jun-2008			Mendocino NF	6760
17	E. Slope Anthony Peak, 6100'.	Mendocino	Mendocino Pass	CalPhotos 2019	11-Jun-2008			Mendocino NF	6760
17	Ridge below and E of lookout tower on Anthony Peak.	Mendocino	Mendocino Pass	Stoughton et al. 2017	1-Jun-2014			Mendocino NF	6760
18	Bald Mt. between Long Barn and Pinecrest (on ne side of Bald Mt.). Rocky, volcanic (breccia) slopes and flats in area of Pinus. Leaves deep reddish green below, stems red to greenish-red, petals white to slightly lavender-tinged. Elev. 5600 ft.	Tuolumne	Strawberry	CCH1 2019 (as *C. lanceolata*; JEPS76794)	24-Mar-1978			Stanislaus NF	5661



Overall Distribution of Rydberg's spring beauty in California

Sources: *Distribution*: Calflora 2020, CalPhotos 2020, CCH 2020, CCH2 2020, Stoughton et al. 2017. *Baselayers*: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.



Distribution of Rydberg's spring beauty in northern California
Sources: *Distribution*: Calflora 2020, CalPhotos 2020, CCH 2020, CCH2 2020, Stoughton et al. 2017. *Baselayers*: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.

Claytonia obovata is found in the North Coast and Klamath Ranges (NCoR, KR) of the Klamath-Siskiyou region (Lake, Mendocino, Siskiyou, Tehama, and Trinity counties), north to southwestern Oregon (Jackson and Curry counties). Of the 18 known occurrences, the majority fall within USFS lands; six are within Shasta-Trinity, five in Mendocino, three in Klamath, and one in Six Rivers, with only 2 occurrences falling outside of managed lands. The land manager for these two occurrences is unknown, but each of them is located near the boundary of Klamath National Forest and Shasta-Trinity NF, respectively. The majority of known occurrences fall outside of designated wilderness areas, with only four of the eighteen occurrence locations inside of wilderness areas. There is also one disjunct occurrence in the Stanislaus National Forest (Tuolumne County) that would represent a significant increase in the range area, and as such, it may be indicative of another, as-of-yet undescribed, pedunculate subspecies of either *C. obovata* or *C. peirsonii* (Sims and Lazar 2020; Stoughton et al. 2017).

5. Brief description of natural history and key ecological functions [basis for other 12.53 components]:

"Within its range, *C. obovata* is found on talus or stony slopes comprised of siliciclastic or carbonate-dominated (meta)sedimentary rocks (e.g. greywacke, limestone, shale), or mafic substrates (e.g. gabbro, peridotite, serpentinite). It is most often found in openings of cismontane, subalpine coniferous forest at an elevation of approximately 1,200 to 2,200 meters" (Sims and Lazar 2020). Populations of *Claytonia obovata* have variable phenology, with most evidence suggesting that the flowering period ranges from May to July. However, there are two records that document earlier blooming in April and March, respectively. This variation is likely related to the time frame of snow melt in a given locality; as Julie Kierstead pointed out in a personal communication in 2020, *Claytonia obovata* blooms while the rocky soil is still damp from snowmelt, and quickly disappears when the soil dries out. The record that supports an early blooming period in March is from Tuolumne County which represents a large range increase (CCH1 2020, CCH2 2020); this record was attributed to Rydberg's spring beauty by Stoughton et al. (2017), however, Stoughton acknowledges that with more research, it may prove to constitute a novel taxon (Stoughton et al. 2017).

As a newly accepted/re-recognized taxon, the pollination biology of *C. obovata* is not well characterized. However, the pollinators of the broader *C. lanceolata* complex, are more well documented. These plants have been observed to attract leaf cutting bees, flower beetles, skippers, and bee-flies (genera *Osmia, Melyridae, Erynnis,* and *Bombylius,* respectively) (Stoughton, 2015). The genus *Claytonia* is known for supporting a diverse group of pollinating insects, and due to the early blooming habit of *Claytonia obovata,* it may provide an important source of nectar for early-emerging insects (Claytonia.org).

According to Stoughton et al. (2017), natural interspecific hybridization between *C. obovata* and *C. serpenticola* appears to be happening at one sympatric location near Mount Shasta in northern California. The precise location was not reported by Stoughton et al., but Julie Kierstead (pers. comm. 2020) believes this is on Mt. Eddy where the two grow together, and where T. Stoughton had found both species and intermediates on May 28, 2014. There also appears to be hybridization between *C. obovata* and *C. lanceolata* at Abbott Butte in southern Oregon. However, Stoughton et al. (2017) do not believe that a low frequency of hybridization with close

relatives is grounds for not recognizing *C. obovata*, which maintains genetic and morphological coherence across a broad range" (Sims and Lazar 2020).

Species associate information for *C. obovata* is limited, but two collection records indicate it growing under *Pinus* sp. (*Wheeler 3429, Heckard et al. 4741*; CCH1 2020), with the *Wheeler 3429* collection label also indicating it was growing under *Abies concolor*. On Mt. Eddy, it occurs under *Pinus contorta* (Kierstead 2020 editorial comments). Only one other voucher label of *C. obovata* includes co-occurring plants, indicating the following species associates: *Abies concolor, Elymus elymoides, Eriogonum* sp., *Lomatium engelmannii, L. macrocarpum,* and *Pinus monticola* (*York 3209,* CAS:BOT-BC:619981; CCH2 2020).

6. Overview of ecological conditions for recovery, conservation, and viability [12.53 7, 9, 10, 11, 12] including Threats and Risk Factors:

According to Thomas Stoughton (pers. comm. 2019), the limited number of occurrences of *C. obovata* does not reflect upon its actual abundance and distribution in California. Furthermore, Dana York (pers. comm. 2019) reports that *C. obovata* is under-collected due to its very early blooming, but quite common locally. York also states that within the Klamath Mountains "there are thousands of plants from the Mt. Eddy parking lot past upper Deadfall Lakes" and "the Scott Mountains are also covered with it." A survey in this area on 20 August 2018 by David Magney and Sam Young and again by David Magney and Annie Zell on 20 August 2019 did not observed any *Claytonia* taxa, indicating that this species dissolves rapidly after completing its life cycle. Although poorly documented, and rarely collected, it seems that *C. obovata* has a stable established population over its fairly wide range, and in taking its preferred habitat into account, there do not appear to be any direct threats to the continued stability of the taxon due to human use of the areas. The location of the majority of its occurrences in National Forest Service lands offers some protection from development and other threats in California. *Claytonia obovata* is reported to be "happy across its distribution" by T. Stoughton, who subsequently recommended it to be added to California Rare Plant Rank 4 (CRPR), watchlist category, and it was also recommended to be added to CRPR 4 by Dana York (pers. comm. 2019) (Sims and Lazar 2020).

While there are no known direct threats to *C. obovata* populations, due to the subalpine location of the taxon, and its dependence on early-season snowmelt, there may be reason to expect upward elevation shift of optimal habitat elevation due to climate change, and potential reduction of suitable habitat if this phenomenon does occur (Lenoir et al. 2008).

7. Key literature:

Sims, A. E. and K. Lazar. 2020. Rare Plant Status Review: *Claytonia obovata* – Proposed Addition to California Rare Plant Rank 4.3, G4 / S3. Rare Plant Program report, California Native Plant Society, Sacramento. 9 pp.

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