Plant Species Evaluation Form

Lomatium hooveri (Mathias & Constance) Constance & Ertter

HOOVER'S LOMATIUM

Family: Apiaceae (CNPS 2018) | **PLANTS Symbol:** LOHO3 (USDA 2018) | **Calif. Endemic:** Yes (CNPS 2018)

Synonyms/Other Names: *Lomatium ciliolatum* var. *hooveri* Mathias & Constance (Constance and Wetherwax 2017; Tropicos 2018).

Identification Issues: Members of Apiaceae are generally regarded as difficult to identify. Fruit characters are essential for keying within the family and to the genus *Lomatium*. Ovary and fruit characters are helpful when keying within *Lomatium* and arriving at *L. hooveri*. There is considerable morphological overlap between *Lomatium* and *Cymopterus*. Ribs on the flat surfaces of fruit in *Cymopterus* are generally winged, whereas the ribs on the flat surfaces of fruit of *Lomatium* are usually not winged (Constance and Wetherwax 2017).

Taxonomy:

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Species In Genus: +- 75 species: central and southern North America. Etymology: (Greek: bordered, from prominent marginal fruit wing). Note: Fruit wing width given as width of 1 wing, not both together. *Lomatium roseanum* Cronquist is reported from CaRH, northern SNH, MP.

Genus Description – Habit: Perennial herb, from taproot or generally deep-seated tuber, glabrous to tomentose. Stem: 0 or erect, simple or branched; base fibrous or not. Leaf: blade oblong to triangular-ovate or obovate, ternately, pinnately, or ternate-pinnately dissected or compound, segments or leaflets thread-like to wide; old basal leaf sheaths fibrous-persistent or not. Inflorescence: umbels compound, peduncled; bracts generally 0; bractlets generally present, 0 to conspicuous; rays, pedicels spreading to erect, generally webbed at base. Flower: calyx lobes generally 0; petals wide, yellow, white, or purple, tips narrowed; ovary tip projection 0. Fruit: linear to obovate, compressed front-to-back; marginal ribs widely to narrowly thin or thick-winged, others thread-like; oil tubes 1--several per rib-interval; fruit axis divided to base. Seed: face flat to concave.

Species Description – Habit: Plant +- erect to spreading, slender, 1.5--3 dm; densely puberulent. Stem: 0. Leaf: petiole 3--7 cm, sheathing throughout; blade 6--13 cm, segments linear, acute, ultimate not crowded. Inflorescence: peduncle 8--25 cm; fertile rays 3--14, 3--10 cm; bractlets scarious +- throughout; pedicels 3--8 mm. Flower: corolla purple. Fruit: wings wide. Chromosomes: 2n=22. eFlora Treatment Author: Lincoln Constance & Margriet Wetherwax.

Status:

Note: Federally recognized Endangered, Threatened, Proposed, or Candidate species under the Endangered Species Act are omitted as they do not meet the definition of a Species of Conservation Concern (FSH 1909.12 § 12.52).

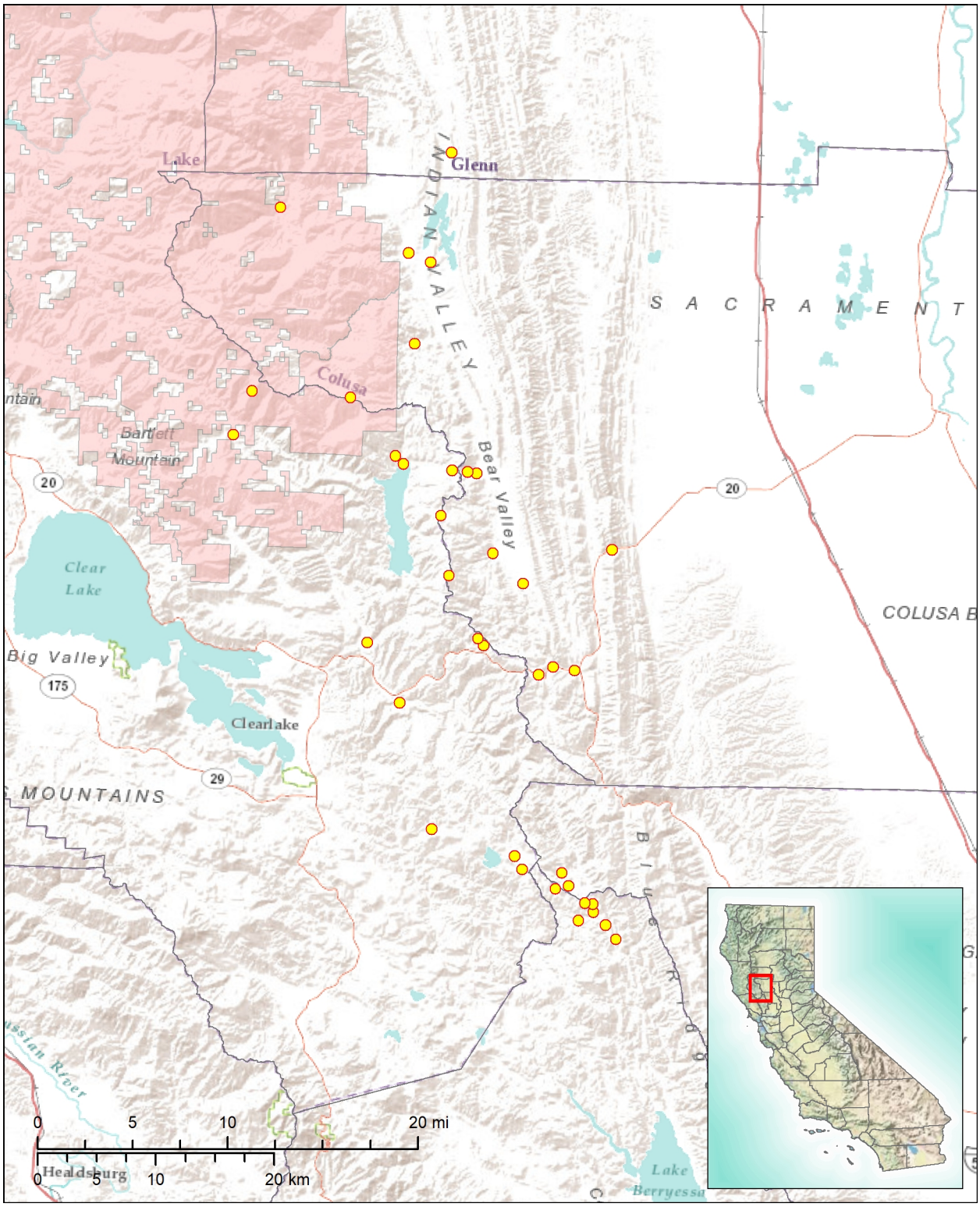
State Listing	G-rank	S-rank	CRPR	R5 FSS	NFP SM	CA BLM

CA: Not listed NV: Not listed OR: Not listed	G3	CA: S3 NV: Not listed OR: Not listed	4.3	Not listed	Not listed	Not listed

SWAP: Not listed	NNHP: Not listed	NNPS: Not listed	ORBIC: Not listed	OCS: Not listed	IUCN: Not listed

Expanded abbreviations and citations: State Listing=California Endangered Species Act Listing (CDFW 2018b), Nevada Division of Forestry Fully Protected Plant Species (NAC 527) (NDF 2012), Oregon Department of Agriculture Listed Plants (ODA 2014); G-rank=Global Conservation Status (CDFW 2018a; NatureServe 2018); S-rank=Subnational (state or province-level) Conservation Status (CDFW 2018a; NatureServe 2018; NNHP 2017; ORBIC 2016); CRPR=California Rare Plant Rank (CNPS 2018); R5 FSS=USDA Forest Service Region 5 Regional Forester Sensitive Plant Species List (USDA 2013); NFP SM=Forest Service and Bureau of Land Management Northwest Forest Plan Survey and Manage Species (USDA 2001); CA BLM=California Bureau of Land Management Designated Sensitive Species (BLM 2010); SWAP=California State Wildlife Action Plan Status (CDFW 2015); NNHP=Nevada Natural Heritage Program Status (NNHP 2017); NNPS=Nevada Native Plant Society Status (NNHP 2017); ORBIC=Oregon Biological Information Center Status (ORBIC 2016); OCS=Oregon Conservation Strategy Species (ODFW 2016); IUCN=International Union for Conservation of Nature Red List Status (IUCN 2017).

Distribution: Western United States – endemic to northern California and found within Colusa, Glenn, Lake, and Napa counties within the Inner North Coast Ranges (NCoRI) bioregion (Calflora 2017; CCH 2017; Constance and Wetherwax 2017). Several (3/37, ~8%) occurrences are found on NFS lands within Mendocino NF. Another ten records (10/37, ~27%) are within five miles of the Mendocino NF boundary (CCH 2017).



Sources: *Distribution*: Calflora 2017, CCH 2017. *Layers*: USDA Forest Service, Pacific Southwest National Forests: CPAD 2016. California counties: CDF 2009. *Basemaps*: California inset map: © 2013 National Geographic Society, i-cubed (Esri 2017a). Main map: Esri, DeLorme, USGS, NPS (Esri 2012) and Esri, USGS, NOAA (Esri 2017b).

Locations within California:

Record numbers indicate sites that contain an individual, population, or groups of populations located within ¼ mile of each other, per the California Natural Diversity Database (CNDDB 2017) definition of Element Occurrences (EOs) in California. Official EO numbers for plants in California are determined solely by the CNDDB and are included within the Reference (Source) column for CNDDB data. Duplicate records from the same site are given the same record number and included in red. The Population Info column includes total number of individuals and total number and size of populations/sub-populations when provided. Elevations provided in meters from source have been converted to feet. If not provided in original source, Land Manager information was obtained using the California Protected Areas Database (CPAD 2016) and Quad information was obtained using 24K Quads, SDE Feature Class (CDFG 2013). All other information is directly from the Reference (Source) unless additional citation is given.

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	Napa County: On ridge west of Foley Creek, east of Knoxville Creek	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD63184)	5-May-2003			Knoxville Wildlife Area	1350
2	Ridge between Foley and Knoxville Creeks. Quad: Knoxville.	Napa	Knoxville (3812273)	CCH, Jan 2017 (JEPS122753)	3-Apr-2004			Knoxville Wildlife Area	1450
3	Napa County. McLaughlin Reserve. Along Devil Head Rd. First ridge S of Knoxville -- Berryessa Rd., east side of Devil Head Rd. Along road leading up to air quality station	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD18026)	18-Mar-2000				1790
3	Napa County. McLaughlin Reserve. Along Devil Head Rd. First ridge S of Knoxville -- Berryessa Rd., east side of Devil Head Rd. Along road leading up to air quality station	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD18027)	18-Mar-2000				1790
3	Napa County. McLaughlin Reserve. First ridge south of Knoxville -- Berryessa Rd., east side of Devil Head Rd., along road to air quality station	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD18069)	22-Apr-2000				1800
3	Napa County, McLaughlin Reserve, first ridge south of Knoxville Rd., along Devilhead Rd., west side of rd., south path	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD47860)	28-Apr-2000				1790

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
4	Napa County, California. McLaughlin reserve, North of Knoxville-Berryessa Road, South of old town of Knoxville. Collected on east side of dirt road	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD47859)	22-Apr-2000				1300
5	Napa County. McLaughlin Reserve. Ca. 0.20 - 0.50 miles as the crow flies N of site of old town of Knoxville, along road to Clover Valley	Napa	Knoxville (3812273)	CCH, Jan 2017 (UCD18047)	18-Mar-2000				1520
6	1/2 mi. n.w. Knoxville; Reiff Quad.	Napa	Knoxville (3812273)	CCH, Jan 2017 (UC1137629)	24-Apr-1938				2000
6	Knoxville Ridge above Knoxville; Knoxville Ridge	Napa	Knoxville (3812273)	CCH, Jan 2017 (UC723796)	23-May-1937				
7	Knoxville Rd	Napa	Jericho Valley (3812274)	Calflora, May 2017 (wb1194-2004)	31-May-2009	1+ individuals			2024
7	1.9 mi. SE of Napa-Lake County line on road to Knoxville	Napa	Jericho Valley (3812274)	CCH, Jan 2017 (LA202888)	23-May-1937				
7	1.9 mi se Napa-Lake County line (on road to Knoxville); ; Knoxville, Napa Co.	Napa	Jericho Valley (3812274)	CCH, Jan 2017 (UC650720)	23-May-1937				
8	near Knoxville (2 mi. s.e. of Lake Co. line on Berryessa Rd., hills s. of rd.); extreme n. Napa Co.	Napa	Knoxville (3812273)	CCH, Jan 2017 (UC1563666)	28-May-1989				2000
8	near Knoxville (2 mi. s.e. of Lake Co. line on Berryessa Rd., hills s. of rd.); extreme n. Napa Co.	Napa	Knoxville (3812273)	CCH, Jan 2017 (UC1563884)	28-May-1989				2000

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
9	Yolo Co., McLaughlin UC Reserve, W side of Davis Creek Reservoir, along road that goes from Soda Spring area to Rayhouse Rd. 0.5 airline mile due N of Soda Springs and 1.0 airline mile WNW of UC Davis Aquatic Lab facility	Yolo	Knoxville (3812273)	CCH, Jan 2017 (UCD47858)	13-Apr-2002			BLM	1526
9	Yolo Co: McLaughlin UC Reserve. W side of Davis Creek Reservoir, 20 m S of Road that goes from Soda Spring area to Rayhouse Rd. Ca. 0.5 airline mile due N of Soda Springs and Ca. 1.0 airline mile WNW of UC Davis Aquatic Lab facility. Along edges of runni	Yolo	Knoxville (3812273)	CCH, Jan 2017 (UCD47861)	13-Apr-2002			BLM	1600
10	Napa County; McLaughlin Reserve, Southwest side of Hunting creek, on east-facing slope of "Research Hill"	Napa	Jericho Valley (3812274)	CCH, Jan 2017 (UCD47850)	29-Apr-2000				2150
11	Lake County: McLaughlin Reserve. Research Hill. West side of Hunting Creek	Lake	Jericho Valley (3812274)	CCH, Jan 2017 (UCD57995)	31-May-2007				2300
11	Lake Co.: McLaughlin Reserve. Research Hill. West side of Hunting Creek	Lake	Jericho Valley (3812274)	CCH, Jan 2017 (UCD58007)	31-May-2007				2300
11	Lake Co.: McLaughlin Reserve. Research Hill. West side of Hunting Creek	Lake	Jericho Valley (3812274)	CCH, Jan 2017 (UCD58747)	1-May-2007				
12	Along Morgan Valley Road	Lake	Wilson Valley (3812284)	CCH, Jan 2017 (RSA273377)	12-Apr-1976			BLM	2402

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
13	Redbud Tr -- S of Rte 20 at N Fork Cache Ck	Lake	Lower Lake (3812285)	Calflora, May 2017 (wb1194-2005)	20-May-2012	1+ individuals		Cache Creek Wildlife Area	1001
14	Between Clear Lake Oaks and Williams, Highway 20, 2.7 mi. W of Highway 16	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (LA90233)	13-Apr-1965				1800
14	0.5 mi E of Lake Co. line on Williams-Lower Lake Highway western Colusa Co.	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UC1178993)	30-Mar-1947			BLM	
14	between Clear Lake Oaks and Williams (Hwy. 20 2.7 mi. w. of Hwy. 16)	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UC1312855)	13-Apr-1965			BLM	1800
14	near Hwy. 20 ca. 1 mi. e. Lake-Colusa Co. line	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UC903739)	6-Apr-1947				
14	Colusa County: BLM Payne Ranch. Destinella Flat area, just E of the Lake County border, ca. 3.4 road miles along Hwy 20 from the junction of Hwy 16 and Hwy 20. South side of Hwy 20	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UCD56662)	25-Mar-2007			BLM	1840
14	Colusa Co.: Payne Ranch. Along Hwy. 20, just E of Lake Co. border. Ca. 3 road miles west of juncture with Hwy. 16, ca. 0.4 road mile east of Destanella Flat. South side of road	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UCD58105)	16-Mar-2007			BLM	1827
15	Colusa Co.: Bear Creek Botanical Management Area. CalTrans right-of-way along Hwy 20 (south side), about 1 mile west of Hwy 20/16 intersection	Colusa	Salt Canyon (3912213)	CCH, Jan 2017 (UCD163231)	12-Apr-2001				1132

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
16	on Route 20 w. edge Colusa Co.	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UC1073298)	9-Apr-1955				1850
17	Lake County: Walker Ridge. 0.4 miles N of Hwy. 20 on Walker Ridge Rd. Ridge top on E side of road	Lake	Benmore Canyon (3912215)	CCH, Jan 2017 (UCD110405)	11-Jun-2011				2149
18	Walker Ridge. 0.4 miles N of Hwy. 20 on Walker Ridge Rd. Ridge top on E side of road	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (CAS1131262)	11-Jun-2011			BLM	2149
18	Walker Ridge, along road 0.5 mi n of jct with Hwy 20 near Colusa County line	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (CHSC25562)	8-Apr-1977			BLM	
18	Near Colusa County line in E side Lake County, 0.5 mi N of Hwy 20 on Wlaker Ridge Road	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (CHSC27626)	13-May-1978			BLM	
18	Near Walker Ridge Road, 0.5 mile north of jct with Hwy 20	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (RSA256610)	4-May-1974			BLM	2201
18	0.4 mile north of State Route 20 on Walker Ridge Road.	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (RSA452570)	23-Apr-1977			BLM	2100
18	Lake County: Walker Ridge. Along Walker Ridge Road, ca. 0.6 road mi N of intersection with Hwy 20. E side of road	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (UCD81911)	3-May-2009			BLM	2144
19	Walker Ridge	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (CHSC79438)	3-Apr-1999			BLM	2300
20	Bear Valley	Colusa	Wilbur Springs (3912214)	Calflora, May 2017 (jgr11404)	2-May-1998	1+ individuals			1316

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
21	Lake County: Walker Ridge, north of Clyde Mine	Lake	Wilbur Springs (3912214)	CCH, Jan 2017 (UCD74305)	6-Jun-1971				3000
22	Colusa County: Bear Valley. About 6 miles north of Hwy 20. Vicinity of Trout Creek, north of Deadshot Canyon	Colusa	Wilbur Springs (3912214)	CCH, Jan 2017 (UCD163312)	18-Apr-1997				
23	just e. Lake Co. line (on Williams-Clear Lake hwy.)	Colusa	Salt Canyon (3912213)	CCH, Jan 2017 (UC765513)	2-May-1941				
24	summit of grade from Bear Valley (Colusa Co.) to Indian Valley (Lake Co.); Inner N. Coast Ranges, Lake-Colusa Co. Line	Lake	Leesville (3912224)	CCH, Jan 2017 (JEPS15381)	16-Apr-1950			BLM	2176
24	Buck Flat on Walker Ridge Road	Colusa	Leesville (3912224)	CCH, Jan 2017 (RSA396711)	14-Apr-1979			BLM	2900
25	Brim Rd. (Bartlett Springs Rd.) 1.5 mi w of Bear Valley Rd	Colusa	Leesville (3912224)	CCH, Jan 2017 (CHSC42602)	12-May-1986				1450
25	Bartlett Mt. Road, base of grade just W of Bear Valley, near Colusa-Lake County line	Colusa	Leesville (3912224)	CCH, Jan 2017 (UC1049547)	16-Apr-1950				1400
26	Brim Road west of Bear Valley	Colusa	Leesville (3912224)	Calflora, May 2017 (po30071)	29-Mar-2017	11 - 50 individuals			1755
26	Bartlett Springs road 4.5 mi. SW of Leesville	Lake	Leesville (3912224)	CCH, Jan 2017 (LA202889)	2-Jun-1946				1800
26	4.5 mi. s.w. Leesville (Barglett Springs rd.)	Lake	Leesville (3912224)	CCH, Jan 2017 (UC735129)	2-Jun-1946				1800

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
26	Colusa County: West of Bear Valley on Bartlett Springs road. (Exact location unknown. Coordinates estimated by label maker.)	Colusa	Leesville (3912224)	CCH, Jan 2017 (UCD162978)	4-May-1963			BLM	2000
27	Brim Rd. (Bartlett Springs Rd.) at the jct. of the road to Barrel Spring	Lake	Leesville (3912224)	CCH, Jan 2017 (CHSC42601)	12-May-1986				2100
28	1st. ridge w. Indian Valley (on Bartlett Springs Rd.)	Lake	Hough Springs (3912225)	CCH, Jan 2017 (UC1094591)	22-Mar-1953			Indian Valley Wildlife Area	
29	Lake County: Northwest of Indian Valley Reservoir on BLM land north of Bartlett Springs Rd. E- facing slope	Lake	Hough Springs (3912225)	CCH, Jan 2017 (UCD97124)	10-Apr-2011			BLM	1855
30	Bartlett Springs Rd.	Lake	Bartlett Springs (3912226)	Calflora, May 2017 (jgr11273)	10-Jun-1995	1+ individuals			2139
31	Colusa County: Pacific Ridge. Border of Colusa and Lake Counties	Colusa	Hough Springs (3912225)	CCH, Jan 2017 (UCD110811)	Unknown			Mendocino NF	3612
32	Lake County: Southeast of Goat Mountain peak. Pacific Point along Goat Rock Ridge, east of Goat Rock. (Exact location unknown; coordinates estimated by label maker. Note, Pacific Point at 3700 ft does not quite fall into Section 25.)	Lake	Bartlett Springs (3912226)	CCH, Jan 2017 (UCD148573)	19-May-1985			Mendocino NF	3700
33	Inner North Coast Range, Devils Ridge, Cooks Springs	Colusa	Gilmore Peak (3912235)	CCH, Jan 2017 (UC1613425)	25-Apr-1937				

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
34	Inner Coast Ranges: Indian Valley, East Park Reservoir, Catholic Point peninsula, near Coppermine Road, c. 0.3 miles northwest of intersection with East Ruby King Road	Colusa	Gilmore Peak (3912235)	CCH, Jan 2017 (CAS1203110)	26-Mar-2003			East Park Reservoir	1375
34	Inner North Coast Ranges Indian Valley, East Park Reservoir, Catholic Point peninsula, near Coppermine Road, c. 0.3 mi northwest of intersection with East Ruby King Rd.	Colusa	Gilmore Peak (3912235)	CCH, Jan 2017 (UCR261643)	26-Mar-2003				1375
35	Stonyford-Logoda Rd. 3.7 mi south of Stonyford	Colusa	Gilmore Peak (3912235)	CCH, Jan 2017 (CHSC70858)	21-Apr-1998				1260
36	Mendocino National Forest--North Coast Ranges. Middle Fork Stony Creek Watershed. N of Chlorinator bldg., Rd. to Bath House Trail	Colusa	Fouts Springs (3912236)	CCH, Jan 2017 (CHSC91017)	18-Apr-2002			Mendocino NF	1800
37	along rd. from Indian Valley (Stonyford Rd.) to Black Diamond Mt. (Black Diamond Glades); Inner N. Coast Ranges, St. John Mt. 7 1/2 USGS map, Black Di	Glenn	Rail Canyon (3912244)	CCH, Jan 2017 (JEPS89912)	16-Apr-1992				2550

Distribution on National Forest System (NFS) Lands:

(Please see Reference column of Locations table above for references pertaining to Record Numbers indicated on NFS lands.)

National Forest System (NFS) lands	Record #s (from Locations table above)	CNDDB EOs	Non-CNDDB Records	Recent (seen in past 20 yrs.)	Historic (not seen in past 20 yrs.)	Most Recent Obs.	EOs/ Recs. (5 mile buffer)	Total Records on NFS lands
Angeles:	-	-	-	-	-	-	-	0
Cleveland:	-	-	-	-	-	-	-	0
Eldorado:	-	-	-	-	-	-	-	0
Inyo:	-	-	-	-	-	-	-	0
Klamath:	-	-	-	-	-	-	-	0
Lake Tahoe Basin MU:	-	-	-	-	-	-	-	0
Lassen:	-	-	-	-	-	-	-	0
Los Padres:	-	-	-	-	-	-	-	0
Mendocino:	31, 32, 36	-	3	1	2	18-Apr-2002	10	3
Modoc:	-	-	-	-	-	-	-	0
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	-	-	-	-	-	-	-	0
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	-	-	-	-	-	-	-	0
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	0	3	1	2	N/A	10	3

Demographic and Population Trends: *Lomatium hooveri* is known from approximately 37 occurrences. Total number of occurrences for this taxon were estimated using GIS tools and methods described by Green and Sims (2018). Population count and size estimate data are lacking for this taxon. A single record (Rec.#26) was estimated to have between 10 and 50 plants. Some records were observed to have one to several plants. Remaining occurrences lack demographic information altogether. Over half (19/37, ~51%) of all occurrences are historic and have not been documented in over 20 years (CCH 2017).

Life History: Herbaceous perennial that blooms from April through July (CNPS 2018). Mass of endospermous seeds can vary as much as 15-fold between plants. Oligolectic pollinators are suggested to play a considerable role in pollination of flowers in the Apiaceae. In addition, many floral visitations among Apiaceae in temperate regions are from insects that strictly visit members of this family (Stevens 2001). Both *Lomatium* and *Cymopterus* are well known food

sources for insects, gophers, sage grouse, and brown bears. A ten-year study on *Lomatium dissectum* found that at least 43% of plant mortality was attributable to root consumption by gophers. At the end of the ten-year period, each plant had been attacked by at least two different consumers (Thompson 1998). Tuberous organs and fruits were also important food sources for indigenous peoples of North America (George et al. 2014).

Diversity: The genus *Lomatium* (Apiaceae) is a group of ± 75 herbaceous perennials within Apioideae that are restricted to North America (Constance and Wetherwax 2017; Stevens 2001; Sun and Downie 2010). Systematic literature on this group refer to these plants as members of the PENA clade (perennial, endemic North American clade of the Apioideae). The PENA clade has roughly 200 species and 20 notable genera (incl. *Aletes, Cymopterus, Neoparrya, Oreonana, Orogenia, Pteryxia, Tauschia, Thaspium, Zizia*). The PENA clade also represents a western North American radiation comparable in magnitude to *Lupinus* or *Castilleja*. The PENA clade radiation has also yielded a number of rare and restricted taxa that are of conservation concern (George et al. 2014). Over half of the species in the PENA clade are members of the genera *Lomatium* and *Cymopterus*. Phylogenetic studies employing molecular (cpDNA and nrDNA) and morphological data resolve a single clade with substantial polyphyly in both *Lomatium* and *Cymopterus* (Sun et al. 2004; Sun and Downie 2010; George et al. 2014). The considerable morphological overlap, absence of genetic resolution, putative incomplete lineage sorting, and widespread homoplasy could all warrant the recognition of a single polymorphic genus (Sun and Downie 2010). Considering these insights, *Lomatium* and *Cymopterus* are recognized as separate genera despite the paucity of distinct synapomorphies that would ideally define the respective groups. They remain artificial assemblages of taxa that reflect a challenging taxonomic scenario. Field biologists should remain aware that, in many cases, *Lomatium* lacks winged ribs on the faces of its fruit, whereas winged ribs are present in many *Cymopterus* taxa (George et al. 2014; Constance and Wetherwax 2017). *Lomatium hooveri* is a member of the *L. ciliolatum* group; a species complex that includes *L. ciliolatum, L. observatorium, L. peckianum*, and *L. tracyi*. All members of this complex are low-growing, stemless, and taprooted perennials (Constance and Ertter 1996).

Habitat: Serpentine (rarely volcanic) substrates in cismontane woodland or chaparral (CNPS 2018). *Lomatium hooveri* is a member of a complex of five species that all have a preference for open to lightly shaded and rocky conditions on ridges, slopes, or flats (Constance and Ertter 1996).

Habitat Status or Trend: Suppression of fire impacts the open to lightly shaded conditions preferred by species like *L. hooveri*. Diversity and cover of herbaceous vegetation is significantly impacted by stand density and its impact on the understory light environment (Perry et al. 2011). Severity and degree to which these trends directly impact *L. hooveri* remain unknown. The distribution of *L. hooveri* overlaps with regions of California (notably the Mendocino Complex Fire, July 2018 – 459,123 acres) that have experienced substantial wildfire activity in recent years (CDF 2018).

Capacity for the Species to Disperse: Gravity and possibly wind are considered the primary vectors for dispersal among *Lomatium* taxa (Marsico and Hellmann 2009). Localized species of *Lomatium* are possibly dispersal limited, as experimental transplant results from three western North American *Lomatium* spp. demonstrated that survivorship was greater outside of their respective ranges, and that potential habitat exists beyond their normal distribution (Marsico and Hellmann 2009). Variation in wing size is seen among species in the group (Constance and Wetherwax 2017). Wind may have an influence on dispersal of such taxa with large wing to fruit-body ratios.

Threats: Potentially threatened by wind energy development (CNPS 2018).

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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.

Additional Considerations at the Forest Level: Habitat amount and juxtaposition of both the species and habitat locations.