Plant Species Evaluation Form

Ivesia paniculata T.W. Nelson & J.P. Nelson

ASH CREEK IVESIA

Family: Rosaceae (CNPS 2017)

PLANTS Symbol: IVPA (USDA 2017)

Calif. Endemic: Yes (CNPS 2017)

Synonyms/Other Names: *Ivesia paniculata* was previously included in the CNPS Inventory as *I. corymbosa* (Smith et al. 1980), an unpublished name. When *I. paniculata* was formally described in 1981, the name *I. corymbosa* was included in the CNPS Inventory as a previously used name, but was later included as a taxanomic synonym of *I. paniculata* in the Online Inventory, 8th Edition. *Ivesia corymbosa* has since been removed as a synonym and is instead included as a note in the plant detail page of *I. paniulata* (CNPS 2017).

Identification Issues: The original publication for *Ivesia paniculata* comments on its morphological distinction, and that it is unlikely to be confused with other species in its genus (Nelson and Nelson 1981). A later note indicates that *I. paniculata* is similar to *I. rhypara* (Oregon and Nevada; not in CA flora), and that attention to the depth and number of leaflet lobes is important in distinguishing these taxa from one another (Ertter 2017).

Taxonomy:

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Species In Genus: 30 species: western North America. Etymology: (Eli Ives, Yale University, Connecticut pharmacologist, participant in Pacific Railroad Survey, 1779--1861) Note: Leaf, leaflet data for basal leaves.

Genus Description Habit: Perennial herb, glandular; odor resinous. Leaf: generally basal, odd-1-pinnately compound, generally +- cylindric; cauline generally alternate, reduced; leaflets 4--80 per side, generally overlapped, generally divided +- to base. Inflorescence: cyme; pedicel bractlets 0. Flower: receptacle generally not stalked; hypanthium shallow or deep, bractlets (0)5, generally < sepals; petals generally 5, 1--5(7) mm, linear to obovate or round, acute to rounded; stamens 5--20(40), filaments generally thread-like; pistils 1--8(20), ovary superior, style attached below fruit tip, base +- rough-thickened. Fruit: achene.

Species Description Habit: Plant matted, gray-green; caudex much-branched. Stem: prostrate in fruit, generally 5--15 cm. Leaf: generally 2--5 cm; sheathing bases densely strigose; leaflets generally 8--15 per side, lobes generally > 5, < 2 mm, obovate; cauline leaf 1. Inflorescence: +- open; clusters 1--many, +- loose, 10--20 mm wide, +- 10--20-flowered; pedicels 2--6 mm, +- S-shaped in fruit. Flower: 4--6 mm wide; hypanthium length +- 1/2 width; petals +- 1 mm, < sepals, linear, white to pale +- yellow; stamens 5; pistils 1--3. Fruit: 1--1.5 mm, smooth, brown.

Status:

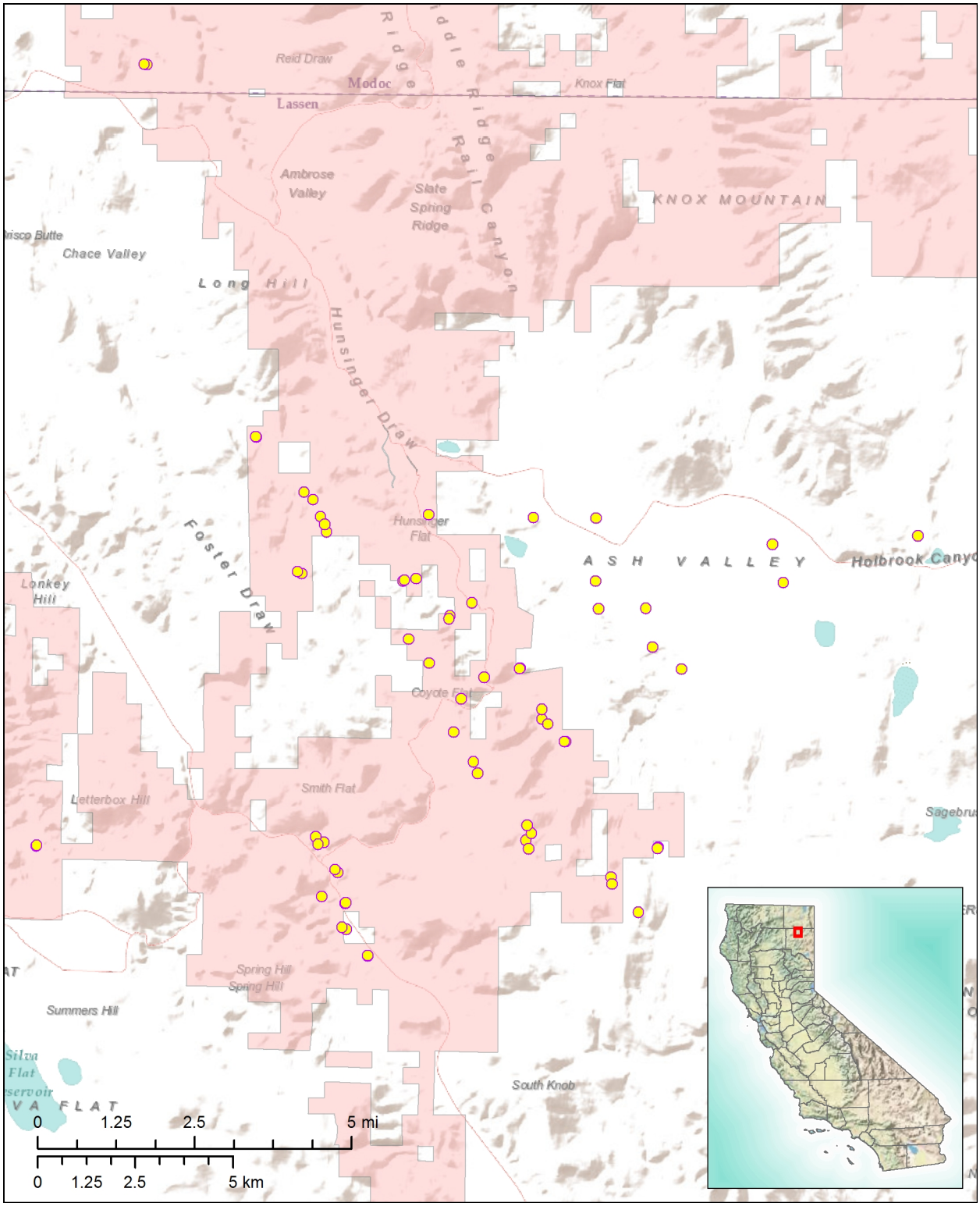
Note: Federally recognized Endangered, Threatened, Proposed, or Candidate species under the Endangered Species Act are omitted as they do not meet the definition of a Species of Conservation Concern (FSH 1909.12 § 12.52).

State Listing	G-rank	S-rank	CRPR	R5 FSS	NFP SM	CA BLM
CA: Not listed NV: Not listed OR: Not listed	G2	CA: S2 NV: Not listed OR: Not listed	1B.2	Sensitive	Not listed	Sensitive

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

Expanded abbreviations and citations: State Listing=California Endangered Species Act Listing (CDFW 2017b), 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 2017a; NatureServe 2017); S-rank=Subnational (state or province-level) Conservation Status (CDFW 2017a; NatureServe 2017; NNHP 2017; ORBIC 2016); CRPR=California Rare Plant Rank (CNPS 2017); 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: Plants are entirely restricted to northeastern California in Lassen and Modoc counties. All occurrences are in the vicinity of Ash Valley and assume distribution less than 10 miles in diameter. Just under 70% (20/29) of occurrences are found within the boundaries of the Modoc NF. The remaining occurrences (9/29) are known from within five miles of the Modoc NF (CNDDB 2017; NRIS 2017; NatureServe 2017).



Basemap Sources: Main map: Esri, DeLorme, USGS, NOAA, NPS. California inset map: ©2013 National Geographic Society, i-cubed.

Locations within California:

(Note: 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) definition of Element Occurrences in California). Official Element Occurrence (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 in meters from source were 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) column unless additional citation is given.)

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	SW SIDE OF ASH VALLEY, POPULATION EXTENDS FROM 2 AIR MILES N TO 1.8 AIR MILES ESE OF OXENDINE SPRINGS.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 1)	11-Jun-1996	THOUSANDS OF PLANTS OBSERVED IN 1982 AND 1992. 100,000+ PLANTS REPORTED IN 1996. 9 COLLECTIONS FROM THE YEARS 1950, 1977, 1980, 1985, 1990, 1994, AND 1996 ALSO ATTRIBUTED TO THIS SITE. INCLUDES FORMER OCCURRENCE #2.	GRAZING, ALTHOUGH NO SIGNIFICANT IMPACTS HAVE BEEN NOTED.	BLM, PVT	5320
1	16 miles SE of Adin on County Road 527	Lassen	Said Valley (4012087)	CCH, Jan 2017 (RSA614443)	11-Jun-1996				
1	Along dirt road from Adin 16 1/4 miles W of Madeline	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CHSC35570)	09-Aug-1977			BLM	
1	Along dirt road from Adin 16 1/4 mi W of Madeline	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (RSA293202)	09-Aug-1977			BLM	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	Along dirt road from Adin 16 1/4 miles W of Madeline.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CAS701634)	09-Aug-1977			BLM	
1	Along dirt road from Adin, 16.25 mi. W of Madeline	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (HSC77272)	09-Aug-1977			BLM	
1	Along dirt road from Adin 16 1/4 mi W of Madeline.; 0	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (SEINET3860245)	09-Aug-1977			BLM	
1	Along dirt road from Adin 16 1/4 miles W of Madeline.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (SEINET4855366)	09-Aug-1977			BLM	
1	Ash Valley	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CHSC57121)	31-Dec-1980			BLM	4600
1	16 mi e Adin (along Adin-Madeline Rd); Ash Valley; Ash Valley, Lassen Co.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (JEPS81018)	06-Jul-1980				5098
1	Ash Valley along Adin-Madeline Rd., 16 mi E of Adin.; 0	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (SEINET3860195)	06-Jul-1980				5098

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
1	Ash Valley along Adin-Madeline Rd. 16 mi E of Adin.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (SEINET4 855367)	06-Jul-1980				5098
1	Ash Valley Research Natural Area along a "road" leading south from the right-angle turn on Lassen 527 at the gravel pit, between Adin and Madeline	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CHSC63416)	26-Jun-1994			BLM	5098
1	w of Madeline; Ash Valley	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (UC1567359)	14-Jul-1980			BLM	5079
1	Ash Valley, ca. 2 miles W from junction of Spooker Road with Forest Road 39N08	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (JEPS91208)	12-Jun-1990				
1	Adin-Madeline Rd. Ash Valley (15.4 mi W of U.S. Hwy 395)	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (UC1594838)	29-Jun-1985			BLM	5098
1	Adin-Madeline Rd. Ash Valley (15.4 mi W of U.S. Hwy 395)	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (UC1594844)	29-Jun-1985			BLM	5098

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
2	SW BORDER OF ASH VALLEY, W OF SPOONER ROAD AND SW OF THE CEMETERY.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 3)	1995	MORE THAN 100 PLANTS OBSERVED IN 1980, 5000+ IN 1995. AREA LOOKS VERY FRAGILE WITH SPARSE VEGETATATION. THIS SITE IS VERY UNIQUE AND NEEDS PROTECTION.		BLM-Alturas RA, PVT	5080
3	SW BORDER OF ASH VALLEY, W OF AND ADJACENT TO SPOONER RD AT THE 90 DEGREE TURN WHICH IS 1.3 MI S OF CEMETERY.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 4)	1995	700 PLANTS OBSERVED IN SOUTHERN COLONY IN 1992, 3000+ PLANTS IN 1995.	ORV USE AND GRAZING ARE POTENTIAL THREATS.	BLM-Alturas RA, PVT	5120
4	SW BORDER OF ASH VALLEY, W OF SPOONER ROAD ALONG DIRT ROAD, 1.2 AIR MI SSW OF THE CEMETERY.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 5)	1995	5000+ PLANTS REPORTED IN 1995.	NO APPARENT THREATS.	BLM-Alturas RA, PVT	5200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
5	S OF ASH VALLEY ON DIRT ROAD, ABOUT 1.2 MILE ENE OF FULSTONE SPRING, MODOC NATIONAL FOREST.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 6)	02-Jun-1994	FEWER THAN 1000 PLANTS OBSERVED IN 1981 AND 1994.	HEAVY GRAZING IN AREA.	Modoc NF	5640
5	;	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA006_54)	02-Jun-1994	500 individuals		Modoc NF	
5	;	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA006_54)	24-Aug-1981	500 individuals		Modoc NF	
6	E OF WILLOW CREEK, ABOUT 0.6 MI E OF WILLOW CREEK CAMPGROUND BETWEEN HWY 139 & SMITH FLAT, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 7)	13-May-2003	LARGE POPULATION; 10,000 PLANTS OBSERVED BETWEEN OCCURRENCES #7 AND 8 IN 1982. 4000+ PLANTS OBSERVED IN 1994. ABUNDANT IN 1997. UNKNOWN NUMBER OF PLANTS OBSERVED IN 2003.	ROAD DIVIDES POPULATION, SOME EVIDENCE OF LIVESTOCK TRAMPLING.	Modoc NF	5200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
6	0.1 mi E of Highway 139 (N of Susanville on Forest Route 38N04, between Hwy 139 near Willow Creek Guard Station and Coyote Flat, on N side of a creek paralleling the road); Forest Route 38N04	Lassen	Lane Reservoir (4112017)	CCH, Jan 2017 (JEPS94475)	27-May-1997			Modoc NF	5075
6	N of Susanville on Forest Route 38N04 (between Hwy. 139 near Willow Creek Guard Station and Coyote Flat), 0.1 mi east of Hwy. 139. On the N side of the creek paralleling the road	Lassen	Lane Reservoir (4112017)	CCH, Jan 2017 (CHSC68763)	27-May-1997			Modoc NF	5075
6	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA007B_54)	25-Jul-1994	1000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
6	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA007A_54)	25-Jul-1994	3000 individuals		Modoc NF	
6	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA007B_54)	10-Aug-1992	1000 individuals		Modoc NF	
6	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA007A_54)	10-Aug-1992	3000 individuals		Modoc NF	
7	NE SIDE OF HWY 139 ABOUT 1 MILE SE OF WILLOW CREEK CAMPGROUND, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 8)	17-Aug-1994	LARGE POPULATION; 10,000 PLANTS OBSERVED BETWEEN OCCURRENCES #7 AND 8 IN 1982. ABOUT 2000 PLANTS OBSERVED IN 1994.	CATTLE TRAIL THROUGH POPULATION; IMPACTS MINIMAL.	Modoc NF	5200
7	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA008_54)	17-Aug-1994	2000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
7	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA008_54)	10-Aug-1982	2000 individuals		Modoc NF	
8	SW OF ASH VALLEY, ABOUT 2 MILES SSE OF WAYMAN SPRING, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 9)	19-Jun-2002	SOUTHERN COLONY: MORE THAN 100 PLANTS OBSERVED IN 1981; MORE THAN 500 SEEN IN 1993. 800 PLANTS OBSERVED IN NORTHERN COLONY IN 2002. 2000 PLANTS OBSERVED IN CENTRAL COLONY IN 2002.	ROAD THROUGH POPULATION. GRAZING AND LOGGING ARE ALSO POSSIBLE THREATS.	Modoc NF	6280
8	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA001_54)	05-Aug-1993	500 individuals		Modoc NF	
8	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA036_54)	19-Jun-2002	2000 individuals		Modoc NF	
8	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA037_54)	19-Jun-2002	800 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
9	W AND SW OF ASH VALLEY, FROM 0.1 TO 4.6 AIR MILES S OF MOLL RESERVOIR, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 10)	13-Jun-2003	10,000 PLANTS OBSERVED IN 1987. 7,000-22,000 PLANTS OBSEVED IN 1993. 20,000-30,000 OBSERVED IN 1994. ABOUT 40,000 OBSERVED IN 1995. 10,000 OBSERVED IN 2002. UNKNOWN NUMBER SEEN IN 2003. INCLUDES FORMER OCCURRENCES #15, 16, 17, AND 18.	CATTLE TRAILS, ROADS, WOOD CUTTING, AND LOGGING.	Modoc NF	5400
9	Modoc Plateau. Coyote Flat on Hunzinger Flat Rd. (FS 38N04) 5.6 mi S of its junction with Ash Valley Rd. (Lassen 527)	Lassen	Lane Reservoir (4112017)	CCH, Jan 2017 (CHSC64852)	26-Jun-1995			Modoc NF	5850
9	16.5 miles W of Madeline on road from Adin	Lassen	Lane Reservoir (4112017)	CCH, Jan 2017 (RSA597009)	19-May-1950			Modoc NF	5502
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA019_54)	01-Nov-1995	2000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA019_54)	14-Jun-1994	2000 individuals		Modoc NF	
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA004_54)	16-Sep-2002	15000 individuals		Modoc NF	
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA031_54)	11-Sep-2002	10000 individuals		Modoc NF	
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA003_54)	07-Aug-1991	20000 individuals		Modoc NF	
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA004_54)	24-Aug-1981	15000 individuals		Modoc NF	
9	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA027_54)	07-Jul-1994	150 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
10	E OF WALKER DRAW ON DIRT ROAD BETWEEN WALKER SPRINGS AND SHINGLE MILL SPRINGS, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 11)	06-May-2003	1000+ PLANTS IN NORTHERN AND LOWER MIDDLE COLONIES IN 1981. ~600 PLANTS IN LOWER MIDDLE COLONY IN 1994. 10,000+ IN 3 NORTHERN COLONIES IN 1995. 2003: >1,000 IN UPPER MIDDLE COLONY, >3,000 IN LOWER MIDDLE COLONY, & ~200 IN SOUTHERN COLONY.	CATTLE GRAZING & ROAD THROUGH POPULATION. MULTIPLE SLASH PILES AT SOUTHERNMOST COLONY WITH SOME PLANTS POSSIBLY COVERED.	Modoc NF	5200
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009C_54)	06-May-2003	1000 individuals		Modoc NF	
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009D_54)	10-Aug-1995	5000 individuals		Modoc NF	
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009C_54)	18-Aug-1981	1000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009B_54)	06-May-2003	200 individuals		Modoc NF	
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009D_54)	18-Aug-1981	5000 individuals		Modoc NF	
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009A_54)	06-May-2003	3000 individuals		Modoc NF	
10	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA009A_54)	18-Aug-1981	3000 individuals		Modoc NF	
11	NW OF SAID VALLEY, JUST W OF HIGHWAY 139 NEAR UPPER MCBRIDE SPRING, MODOC NATIONAL FOREST.	Lassen	Said Valley (4012087)	CNDDB, May 2017 (EO 12)	29-Aug-1983	FEWER THAN 50 PLANTS OBSERVED IN 1982. POPULATION COVERING LESS THAN ONE SQUARE FOOT IN 1983. NO PLANTS FOUND IN 1994.	HEAVY VEHICLE DISTURBANCE AND EVIDENCE OF LIVESTOCK TRAMPLING.	Modoc NF, PVT	5200

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
11	Modoc NF	Lassen	Said Valley (4012087)	NRIS, Dec 2016 (050900E_IVPA010_54)	25-Jul-1994	0 individuals		Modoc NF	
11	Modoc NF	Lassen	Said Valley (4012087)	NRIS, Dec 2016 (050900E_IVPA010_54)	29-Aug-1983	0 individuals		Modoc NF	
12	ASH VALLEY, S OF ASH VALLEY ROAD, ABOUT 2.6 AIR MILES W OF FLEMING SHEEP CAMP.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 13)	19XX	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A SUMMARY OF PREVIOUSLY KNOWN LOCATIONS WHICH WAS PUT TOGETHER IN 1982. OBSERVATION DATE AND POPULATION SIZE ARE UNKNOWN.		PVT	5060

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
13	S OF ASH VALLEY NEAR INTERSECTION OF USFS ROADS 37N11 AND 37N31, E OF FULSTONE SPRING, MODOC NATIONAL FOREST.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 14)	18-Jun-2002	2000+ PLANTS OBSERVED IN 1992, FEWER THAN 2000 IN 1994. 10,000+ OVER LARGER AREA IN 1995. 50,000 PLANTS OBSERVED IN 2002. SITE COULD BE PROTECTED BY RESTRICTING ORV ACCESS, MOVING THE SALT LICK, AND AVOIDING TIMBER SKIDDING IN THE AREA.	ROAD MAINTENANCE, ORV USE, AND PAST LOGGING ACTIVITY. SALT LICK APPARENTLY ATTRACTS CATTLE TO AREA.	Modoc NF, PVT	6000
13	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA015_54)	18-Jun-2002	50000 individuals		Modoc NF	
13	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA015_54)	02-Jun-1994	50000 individuals		Modoc NF	
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA002_54)	19-Aug-2002	20000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA020_54)	11-Sep-2002	5000 individuals		Modoc NF	
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA029_54)	15-Aug-2002	3000 individuals		Modoc NF	
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA002_54)	05-Aug-1993	20000 individuals		Modoc NF	
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA029_54)	25-Jul-1994	3000 individuals		Modoc NF	
13	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA020_54)	14-Jun-1994	5000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
14	ABOUT 1.2 MILES SW OF LETTERBOX HILL ALONG EITHER SIDE OF TRIBUTARY TO PRESTON CANYON, MODOC NATIONAL FOREST.	Lassen	Letterbox Hill (4112018)	CNDDB, May 2017 (EO 19)	29-May-2003	4,000 PLANTS OBSERVED IN 1989. ABOUT 5,000 PLANTS OBSERVED IN 1995 AND 2003. SITE IS NEAR THE PROPOSED HAYDEN HILL GOLD MINE.	ROAD ALONG EDGE OF SITE, HEAVY LIVESTOCK UTILIZATION ON ADJACENT UPLANDS. EVIDENCE OF MINING CLAIMS NOTED IN 2003.	Modoc NF	5500
14	Modoc NF	Lassen	Letterbox Hill (4112018)	NRIS, Dec 2016 (050900E_IVPA012_54)	29-May-2003	5000 individuals		Modoc NF	
14	Modoc NF	Lassen	Letterbox Hill (4112018)	NRIS, Dec 2016 (050900E_IVPA012_54)	24-Jul-1989	5000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
15	N SIDE OF DIRT ROAD ABOUT 0.7 AIR MI NNW OF BATH SPRING, NW OF WHITINGER MOUNTAIN AND N OF GRASSHOPPER VALLEY.	Lassen	Whitinger Mtn. (4012086)	CNDDB, May 2017 (EO 20)	09-Jul-1992	600 PLANTS OBSERVED IN 1992.	GRAZING, VEHICLE TRAFFIC.	BLM	6000
16	SW OF ASH VALLEY, ABOUT 1 AIR MILE S OF OXENDINE SPRING, MODOC NATIONAL FOREST.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 21)	26-Jun-2002	800 PLANTS OBSERVED IN SOUTHERN COLONY IN 1995. 200+ PLANTS OBSERVED IN NORTHERN COLONY IN 2002.	MINOR PAST LOGGING IMPACTS AND LIGHT LIVESTOCK GRAZING.	Modoc NF	5600
16	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA023_54)	15-Aug-1995	800 individuals		Modoc NF	
16	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA039_54)	26-Jun-2002	200 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
17	SW OF ASH VALLEY, ABOUT 1.6 MILES SSE OF OXENDINE SPRING, MODOC NATIONAL FOREST.	Lassen	Ash Valley (4112016)	CNDDB, May 2017 (EO 22)	26-Jun-2002	ABOUT 1000 PLANTS OBSERVED IN 1995. 3000 PLANTS OBSERVED IN 2002.	NO THREATS OBSERVED AT THIS SITE, BUT LIVESTOCK GRAZING NEARBY.	Modoc NF	5600
17	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA024_54)	26-Jun-2002	3000 individuals		Modoc NF	
17	Modoc NF	Lassen	Ash Valley (4112016)	NRIS, Dec 2016 (050900E_IVPA024_54)	15-Aug-1995	3000 individuals		Modoc NF	
18	ABOUT 0.2 MILE NE OF BERT BATH SPRING, EAST OF WALKER DRAW, MODOC NATIONAL FOREST.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 23)	25-Sep-1995	1000 PLANTS OBSERVED IN 1995.	MINOR CATTLE TRAMPLING.	Modoc NF	5900
18	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA014_54)	25-Sep-1995	1000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
19	SE OF HUNSIGER FLAT ALONG BOTH SIDES OF USFS ROAD 38N37, FROM 0.9 TO 1.4 AIR MILES NE OF JOHNSON MILL SPRING.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 24)	23-Sep-2004	~800 PLANTS OBSERVED IN EASTERN COLONY 1994. 5000+ PLANTS OBSERVED IN NORTHWESTERN COLONY IN 2002. 1000 PLANTS OBSERVED IN SOUTHWESTERN COLONY IN 2004. SW COLONY HAS FLAGGING AROUND SITE TO KEEP TIMBER HARVEST EQUIPMENT AWAY FROM PLANTS.	CATTLE TRAMPLING. ROAD DIVIDES POPULATION. SURROUNDING LAND USE IS TIMBER HARVEST.	Modoc NF, PVT	5500
19	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA026_54)	07-Jul-1994	800 individuals		Modoc NF	
19	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA032_54)	16-Sep-2002	5000 individuals		Modoc NF	
20	ABOUT 1.3 AIR MILES SE OF WILLOW CREEK CAMPGROUND ON N SIDE OF A TRIBUTARY TO WILLOW CREEK.	Lassen	Said Valley (4012087)	CNDDB, May 2017 (EO 25)	15-May-2003	<1000 PLANTS OBSERVED IN 2003.	CATTLE GRAZING IN SURROUNDING AREA.	Modoc NF	5300

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
20	Modoc NF	Lassen	Said Valley (4012087)	NRIS, Dec 2016 (050900E_IVPA040_54)	15-May-2003	1000 individuals		Modoc NF	
21	ABOUT 1.6 AIR MILES SE OF WILLOW CREEK CAMPGROUND ON THE E SIDE OF HIGHWAY 139.	Lassen	Said Valley (4012087)	CNDDB, May 2017 (EO 26)	19-Jul-2002	5000 PLANTS OBSERVED IN 2002.	SOME CATTLE TRAMPLING.	Modoc NF	5203
21	Modoc NF	Lassen	Said Valley (4012087)	NRIS, Dec 2016 (050900E_IVPA030_54)	19-Jul-2002	5000 individuals		Modoc NF	
22	S OF UPPER MCBRIDE SPRING, ABOUT 1.7 AIR MILES ENE OF SPRING HILL.	Lassen	Said Valley (4012087)	CNDDB, May 2017 (EO 27)	14-May-2003	>5000 PLANTS OBSERVED IN 2003.	ROAD RUNS THROUGH POPULATION. SURROUNDING LAND IS USED FOR GRAZING.	Modoc NF	5254
22	Modoc NF	Lassen	Said Valley (4012087)	NRIS, Dec 2016 (050900E_IVPA041_54)	14-May-2003	5000 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
23	APPROXIMATELY 0.8 AIR MILE NW OF WALKER SPRING AND 2.4 AIR MILES S OF LONG HILL.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 28)	27-Aug-2002	650+ PLANTS OBSERVED IN 2002.	GRAZING. LOGGING ACTIVITY ON RIDGE.	Modoc NF	5110
23	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA035_54)	27-Aug-2002	650 individuals		Modoc NF	
24	N OF OXEDINE DRAW, APPROXIMATE-LY 1.2 AIR MILES ENE OF COYOTE FLAT.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 29)	01-Jul-2002	1000 PLANTS OBSERVED IN 2002.	GRAZING IS A POSSIBLE THREAT.	Modoc NF	5474
24		Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA038_54)	01-Jul-2002	1000 individuals		Modoc NF	
25	ABOUT 0.8 AIR MILE S OF WAYMAN SPRING AND 1 AIR MILE NE OF WILLIAMS RESERVOIR.	Lassen	Lane Reservoir (4112017)	CNDDB, May 2017 (EO 30)	19-Aug-2002	400+ PLANTS OBSERVED IN 2002.	TRAMPLING BY CATTLE.	Modoc NF	6174

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
25	Modoc NF	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA033_54)	19-Aug-2002	400 individuals		Modoc NF	
25	MDF-IVPA-033;	Lassen	Lane Reservoir (4112017)	NRIS, Dec 2016 (050900E_IVPA033_54)	10-May-2016	500 individuals		Modoc NF	
26	ABOUT 4 AIR MILES E OF ADIN, ON S SIDE OF USFS ROAD 39N72 ~0.8 ROAD MILE NE OF JUNCTION WITH ROAD 39N08.	Modoc	Ambrose Valley (4112027)	CNDDB, May 2017 (EO 31)	05-Aug-2002	APPROXIMATELY 500+ PLANTS OBSERVED IN 2002. PLANTS FOUND ONLY ON THIS HILLSIDE EVEN THOUGH GOOD HABITAT (GRAVELLY BARREN) OCCURRS IN SURROUNDING AREA.	SITE IS APPROXIMATELY 100 FEET FROM A WELL USED CATTLE TRAIL.	Modoc NF	4702
26	Modoc NF	Modoc	Ambrose Valley (4112027)	NRIS, Dec 2016 (050900E_IVPA034_54)	06-Aug-2002	500 individuals		Modoc NF	

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
27	Ash Valley BLM Research Natural Area. Along Ash Valley Road about 16 miles W of Madeline and U.S. highway 395 - Modoc Plateau	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CAS1101840)	20-Jul-1986			BLM	5085
28	Ash Valley along Adin-Madeline Rd. 16 miles E of Adin.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (CAS654337)	06-Jul-1980				5098
28	Ash Valley along Adin madeline Road 16 miles E of Adin, T38N, R11W, S. 31 & 32, 5100 feet	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (GH26543)	06-Jul-1980				
28	Ash Valley along Adin-Madeline Rd., 16 mi. E of Adin	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (HSC75599)	06-Jul-1980				5102
28	Ash Valley along Adin-Madeline Rd., 16 miles E of Adin.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (NY436061)	06-Jul-1980				5098
28	Ash Valley along Adin-Madeline Rd. 16 miles E of Adin.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (RSA318712)	06-Jul-1980				5102

Rec. #	Locality	County	Quad	Reference (Source)	Date Last Observed	Population Info	Threats	Land Manager	Elev. (ft.)
28	16 mi E Adin (along Adin-Madeline Rd); Ash Valley; Ash Valley, Lassen Co.	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (UC1502548)	06-Jul-1980				5098
29	Ash Valley, along Ash Valley Rd., 15 mi. W of Madeline	Lassen	Ash Valley (4112016)	CCH, Jan 2017 (HSC77273)	14-Jul-1980				5082

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:	-	-	-	-	-	-	-	0
Modoc:	5,6,7,8,9, 10,11,13, 14,16,17, 18,19,20, 21,22,23, 24,25,26	20	0	17	3	10-May-2016	9	20
Plumas:	-	-	-	-	-	-	-	0
San Bernardino:	-	-	-	-	-	-	-	0
Sequoia:	-	-	-	-	-	-	-	0
Shasta-Trinity:	-	-	-	-	-	-	-	0
Sierra:	-	-	-	-	-	-	-	0
Six Rivers:	-	-	-	-	-	-	-	0
Stanislaus:	-	-	-	-	-	-	-	0
Tahoe:	-	-	-	-	-	-	-	0
Totals:	N/A	20	0	17	3	N/A	9	20

Demographic and Population Trends: Over 250,000 plants have been observed between 29 occurrences since this taxon was first documented in 1950 (EO 1). This equates to just over 8,600 plants/occurrence record. Thousands of plants were observed in 1982 and 1992 at element occurrence one (EO 1). More than 100 plants were observed at another occurrence (EO 3) in

1980. Fifteen years later, in 1995, over 5,000 plants were reported from this site. In 1992, 700 plants were observed at element occurrence four (EO 4). Three years after, in 1995, over 3,000 plants were documented here. Over 5,000 plants were seen at the site of element occurrence five (EO 5) in 1995. Fewer than 1,000 individuals were seen in 1981 and 1994 at another occurrence (EO 6). Element occurrences seven and eight (EO 7 and EO 8) had a combined total of 10,000 plants in 1982. Over 6,000 plants were observed here in 1994. The site of element occurrence 10 (EO 10) had 10,000 plants in 1987, 7,000-22,000 plants in 1993, 20,000-30,000 in 1994, roughly 40,000 in 1995, 10,000 in 2002, and an unknown number of plants in 2003. The site of element occurrence 24 (EO 24) had over 800 plants in 1994, over 5,000 in 2002, and 1,000 plants in 2004. The remaining occurrences have single reports of between 200 and 5,000 plants at the time of their last observations (CNDDB 2017; NRIS 2017; CCH 2017).

Life History: *Ivesia paniculata* is known to bloom from May until August (CNPS 2017). It is an herbaceous perennial that is among a group of aromatic species that are restricted to arid regions of western North America. *Ivesia* taxa exhibit a number of adaptations that avoid the impacts of drought and discourage water loss. *Ivesia paniculata* has a prominent and nectariferous hypanthium that serves as the primary attractor to pollinators (Ertter and Reveal 2017).

Diversity: The genus *Ivesia* Torr. & A. Gray contains many species with localized distributions and are considered narrow endemics. An assortment of these narrowly endemic taxa are distributed across western North America. Rare and restricted species like *I. paniculata* are considered to have evolved in the late tertiary (Raven and Axelrod 1978), during the development of progressively arid conditions in western North America. Ivesioid genera (*Ivesia, Horkelia*, and *Horkeliella*) underwent a reduction in size and number of petal parts during this time, resulting in a prominent and nectariferous hypanthium observed in contemporary taxa. *Ivesia* and its relatives are distributed across a spectrum of arid habitats, occurring in desert like conditions to regions of alpine mountaintops with seasonal snowpack. Many of these habitats are island-like and represent isolated conditions that result in limited gene flow from adjacent populations of related species. These restricted conditions are conducive to the formation of distinct species with novel genetic constitution (Ertter and Reveal 2017).

The genus *Potentilla* is not monophyletic. A handful of *Potentilla* taxa are sister to the Ivesioid genera (*Ivesia, Horkelia*, and *Horkeliella*). The taxonomic authority does not consider paraphyly grounds to constitute a name change (senior author: Ertter and Reveal 2017). Empiricists and field biologists should note that the genus *Ivesia* is nested within a single clade that is occupied by the genera *Potentilla, Horkelia*, and *Horkeliella* (Dobes and Paule 2010, Eriksson et al. 2003, Ertter and Reveal 2017).

Habitat: *Ivesia paniculata* occupies habitat with volcanic, rocky, or gravelly soil. It is known to occur in regions of great basin scrub, upper montane conifer forest, and pinyon and juniper woodland (CNPS 2017). It has been observed to be associated with *Juniperus* sp., *Eriogonum prociduum, Cusickiella douglasii, Astragalus anxius, Astragalus tegetarioides, Artemisia tridentata, Lewisia rediviva, Pinus* sp., *Arenaria congesta, Poa secunda, Festuca idahoensis, Eriophyllum lanatum, Calyptridium umbellatum, Purshia tridentata, Cercocarpus ledifolius*,

Phlox hoodii, Blepharipappus scaber, Epilobium sp., *Wyethia* sp., *Eleocharis elegans*, and *Carex rossii* (CNDDB 2017).

Habitat Status or Trend: *Ivesia paniculata* is isolated to the Ash Valley region, and is protected in part by the Ash Valley RNA (BLM) (CNPS 2017). Additional habitat status and trends are unknown for *Ivesia paniculata*.

Capacity for the Species to Disperse: Restricted dispersal distances have been observed in the closely related taxon *Ivesia webberi* (USFWS 2014).

Threats: Threats include road maintenance, logging, trampling, and grazing (CNPS 2017, NatureServe 2017, CNDDB 2017). A closely related taxon, *I. webberi*, occurs in similar habitat, and is under increasing threat of human activity and regular disturbance events. Rare local endemics, like *I. webberi* and *I. paniculata*, often have a limited dispersal distance and rely on long term establishment to reach reproductive age. Rare plants like these are under increasing threat of events that may cause physiological stress, thus reducing reproductive output and recruitment success (USFWS 2014).

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January 10, 2018

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.