Castilleja Cinerea
(Ash-gray Paintbrush)

5-Year Review:
Summary and Evaluation

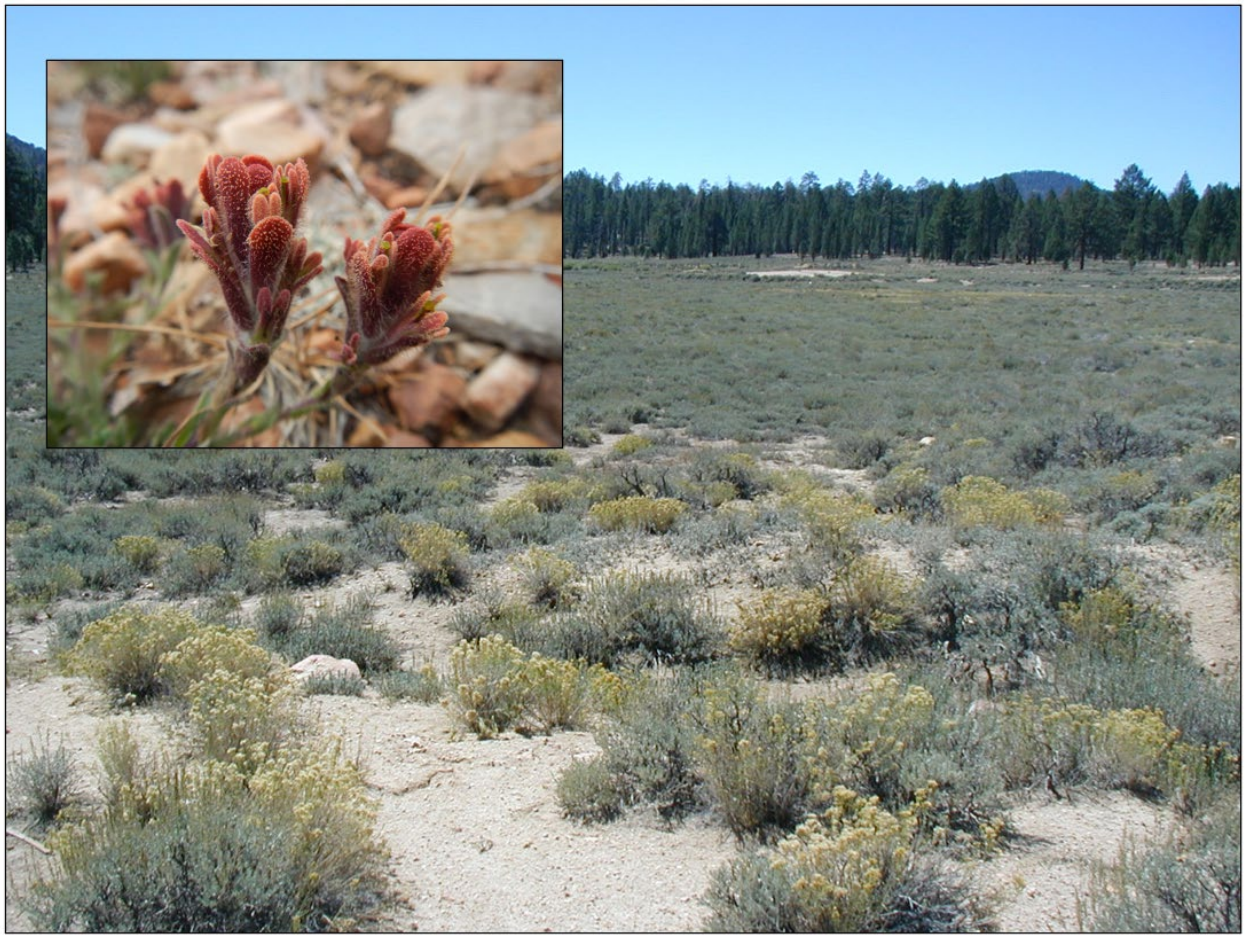

Photo: Pebble Plain Habitat (*U.S. Fish and Wildlife Service*)
Inset Photo: Castilleja cinerea (*U.S. Forest Service*)

U.S. Fish and Wildlife Service

Palm Springs and Southern Nevada Fish and Wildlife Office

Las Vegas, Nevada

August 2025

5-YEAR REVIEW

Castilleja Cinerea
(Ash-gray Paintbrush)

GENERAL INFORMATION

Species: *Castilleja cinerea* (ash-gray paintbrush), a plant species
Date listed under the Endangered Species Act: September 14, 1998
Federal Register citation: Service 1998 (63 FR 49006–49022)
Classification: Threatened
Recovery Plan: There is no recovery plan for this species
Recovery Priority Number: 8 (species with moderate degree of threat and high recovery potential)
Critical Habitat Designation: Critical habitat was designated on December 26, 2007 (Service 2007)

BACKGROUND

Under the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 *et seq*.), the U.S. Fish and Wildlife Service (Service), referred to as "we" in this document, maintain lists of endangered and threatened wildlife and plant species (referred to as the List) in the Code of Federal Regulations (CFR) at 50 CFR 17.11 (for wildlife) and 17.12 (for plants). Section 4(c)(2)(A) of the Act requires us to review each listed species' status at least once every 5 years.

Most recent status review: Service 2021. *Castilleja cinerea* (Ash-gray paintbrush) 5-year review: Summary and Evaluation. Carlsbad Fish and Wildlife Office, Carlsbad, California. 21 pp.

We initiated the previous status review for *Castilleja cinerea* on January 27, 2020 (Service 2020, pp. 4692–4694). The review was finalized on August 18, 2021, and recommended no change in status. This current review is an update of the 2021 review.

Federal Register notice announcing this status review: On October 16, 2024, we published a *Federal Register* notice announcing initiation of the 5-year review of this species and the opening of a 60-day period to receive information (Service 2024, pp. 83510–83514).

Species overview and habitat: *Castilleja cinerea* is found in San Bernardino County, California, in the San Bernardino Mountains at elevations between 1,800 and 3,300 meters (5,905 to 10,827 feet) (Wetherwax *et al*. 2012, p. 960). It is usually found on pebble plain habitat, but it can be found in other areas including upper montane coniferous forest, meadows, and pinyon/juniper woodlands (USFS 2002, p. 24). Pebble plains are characteristically treeless openings within surrounding montane pinyon-juniper woodland or coniferous forest with clay soils covered with quartzite pebbles (Service 2008, p. 4). Within the San Bernardino Mountains, *C. cinerea* occurs on various benches, long and relatively narrow strip of relatively level or gently inclined land, and on all mountain slope aspects including both south-facing and north-facing slopes (CDFW 2025, entire; Service 2025, unpubl. data).

ASSESSMENT

Information Acquired since the Last Status Review

This 5-year review was conducted by the Service's Carlsbad Fish and Wildlife Office. Data for this review were solicited from the public and interested parties through a *Federal Register* notice announcing this review on October 16, 2024 (Service 2024, pp. 83510–83514). We also contacted State agencies, Federal agencies, and species experts to request any data or information we should consider in our review. Additionally, we conducted a literature search and reviewed information in our files. We did not receive any information from the public in response to our *Federal Register* notice announcing this 5-year review.

SUMMARY OF NEW INFORMATION SINCE 2021

Biology and Distribution

At the time of listing in 1998, *Castilleja cinerea* was known from 33 element occurrences (EOs) across 12 pebble plain complexes within the San Bernardino Mountains (CDFW 1997, entire). As defined by the California Natural Diversity Database (CNDDB), the State of California's natural heritage program, an *element occurrence* is the location record for a geographical site where an individual or population of a special status element (in this case, a species) has been detected. Populations or individuals located within 400 m (1/4 mile) of each other generally constitute a single occurrence, sometimes with multiple parts (CDFW 2018, p. 1). In our 1998 listing rule, we stated that *C. cinerea* was known from fewer than 20 "localities" and was generally encompassed within 9 pebble plain complexes and other habitats (Service 1998, pp. 49007–49008). Since the 2021 5-year review, two occurrences have been surveyed, and their status has been updated from *presumed extant* to *extant* (Table 1; Figure 1; Appendix A). Today, *C. cinerea* is known from 55 occurrences, with 21 being considered *extant*, 31 *presumed extant*, and 3 *possibly extirpated*.

Threats

The listing rule for *Castilleja cinerea* described ongoing and future destruction and modification of habitat by urban and recreational development; possible overutilization due collection of specimens; competition from invasive, nonnative plants; off-highway vehicle (OHV) activity; grazing; alteration of hydrological regimes; fuelwood harvesting; and trampling of plants and their habitat as threats to the species (Service 1998, pp. 49012– 49018). This section summarizes new information about threats to *C. cinerea* from fire suppression and climate change; refer to Service 2013 (pp. 12–31) and Service 2021 (pp. 13–16) for our discussion of additional threats not addressed in this review.

Table 1. Summary of *Castilleja cinerea* occurrences at listing, in 2021, and in 2025, indicating whether the occurrence is extant, presumed extant, or possibly extirpated.[1]

Occurrence Status	Count of Occurrence Status at Listing	2021 Count of Occurrence Status	2025 Count of Occurrence Status
Extant	NA	19	21
Presumed extant	33	33	31
Possibly extirpated	NA	3	3
Total	**33**	**55**	**55**

[1] We considered an occurrence *extant* if it has been observed within 10 years (since 2015). We considered an occurrence *presumed extant* if it has not been observed for over 10 years, but suitable habitat is present. We considered an occurrence *possibly extirpated* if it has not been observed for over 20 years despite surveys, or if habitat has been degraded or partially developed.

Fire Suppression

Though not recognized as a threat at the time of listing, fire suppression was identified in the 2008 5-year status review (Service 2008, pp. 5–8). Since the 2021 review, one fire incidentally resulted in impacts to *Castilleja cinerea* within a pebble plain complex. In 2024, the Line Fire burned approximately 17,797 hectares (ha) [43,978 acres (ac)] in the San Bernardino Mountains (CalFire 2025, www.fire.ca.gov). The U.S. Forest Service (USFS) initiated emergency consultation with us for 14 species including *C. cinerea* (Farr 2024, pers. comm.). Fire suppression activities for the Line Fire impacted roughly 1.6 ha (3.9 ac) of *C. cinerea* critical habitat within the Snow Valley pebble plain complex (Esparza 2025, pers. comm.). Though this area was not burned, use of bulldozers in the area resulted in damage to both individuals and the habitat. Consultation between the Service and USFS for these activities is ongoing.

In February 2023, we published a biological opinion for the implementation of the Programmatic Nationwide Aerial Application of Fire Retardant on National Forest System Land project and its effects on 209 federally listed species and designated critical habitats for 77 species, including *Castilleja cinerea* (Service 2023a, entire). Retardant used in fire suppression activities may have detrimental impacts to *C. cinerea* individuals (Service 2023a, p. 63). However, we determined that the implementation of the project is not likely to jeopardize the species' continued existence and is not likely to destroy or adversely modify its designated critical habitat since the effects are extremely unlikely to occur (Service 2023a, pp. 63, 204–210). Additionally, minimization measures such as the use of avoidance mapping areas reduce the potential of physical impacts from retardant applications and the fertilizing effects of retardant (Service 2023a, p. 203).

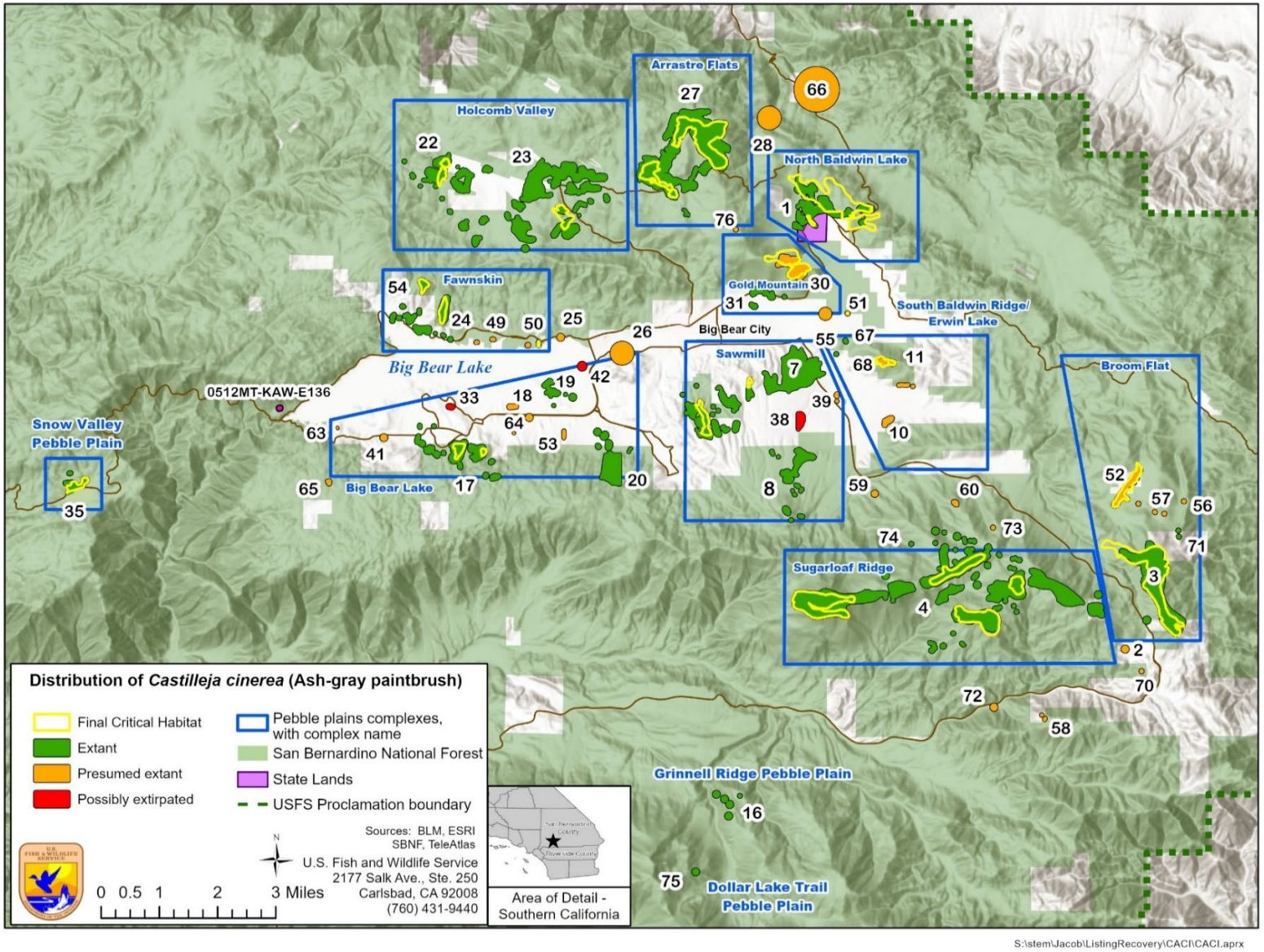

Figure 1. Map of *Castilleja cinerea* occurrences, showing occurrence status. The numerical label indicates the CNDDB EO number or USFS site ID number.

In 2023, we also issued a biological opinion for the activities associated with the North Big Bear Landscape Restoration Plan (restoration plan) affecting 10 federally listed species and critical habitat designated for 7 species within the San Bernardino National Forest, including *Castilleja cinerea* (Service 2023b, entire). The objective of the restoration plan is to increase forest health and diversity, improve hydrologic functions, and to restore vegetation communities to a more fire-resilient forest structure within the San Bernardino National Forest (Service 2023b, p.3). Conservation measures were developed to avoid and minimize potential impacts from specific restoration elements in the plan, such as fuel management, road maintenance and improvement, and trail rehabilitation actions (Service 2023b, pp. 22–29). We determined that the implementation of the restoration plan is not likely to jeopardize the continued existence of *C. cinerea,* nor is it likely to destroy or adversely modify its critical habitat, due to the anticipated overall beneficial effects the plan would provide to the species' habitat (Service 2023b, pp. 51–52). Thus, we consider implementation of the North Big Bear Landscape Restoration plan will provide a net benefit to the species by reducing the likelihood of catastrophic wildfire by implementing fuel reduction; this plan also reduced impacts from trampling from unauthorized trails by conducting trail rehabilitation, and reduced impacts from OHVs by providing road maintenance.

Thus, we consider fire suppression activities, including ground disturbance actions and the use of fire retardants, to be a low magnitude threat that may occur at any of the occurrences.

Climate Change

The term "climate change" refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2013, p. 1450). In 2021, we considered changes in temperature and hydrological conditions from climate change a rangewide threat to *Castilleja cinerea* (Service 2021, p. 14). Since then, further research has been conducted to evaluate the vulnerability of the species.

Wilkening *et al*. (2021, entire) evaluated climate vulnerability of 24 federally threatened species, including *Castilleja cinerea*. They used future climate projections and species natural history, current distribution, and ecological association data to predict range contraction and/or population extirpation. They ranked each species' vulnerability into five categories: (1) Extremely Vulnerable, (2) Highly Vulnerable, (3) Moderately Vulnerable, (4) Less Vulnerable, and (5) Insufficient Evidence (Wilkening *et al*. 2021, pp. 6–7). They found *C. cinerea* to be Moderately Vulnerable, suggesting its abundance and/or range extent will likely decrease by 2050 (Wilkening *et al*. 2021, p. 10). Changes in temperature, precipitation, and snowpack, as detailed in the 2021 status review could make pebble plain species more vulnerable in the future (Service 2021, pp. 14–15). Species inhabiting areas of topographical homogeneity may experience climate change effect sooner since they are unable to move up or down in elevation (Wilkening *et al*. 2021, pp. 12–13). Further research is needed to understand the species adaptive capacity to withstand these changes. We continue to consider climate change to be a moderate threat to *C. cinerea* across its entire range.

Summary of Threats

Castilleja cinerea remains subject to the threats we identified in the 2021 5-year review (Service 2021, pp. 13–16). Since the 2021 5-year review, we received new information about threats at *C. cinerea* occurrences, including effects associated with fire suppression activities and climate change. This new information does not alter the analysis or conclusions of our 2021 5-year review (Service 2021, p. 16).

CONCLUSION

In the 2021 5-year review, we considered *Castilleja cinerea* to be *extant* at 19 occurrences, *presumed extant* at 33, and *possibly extirpated* at 3. Since then, we received new survey, monitoring, and threats information for this species. Of the 55 known occurrences, 21 are *extan*t, 31 are *presumed extant*, and 3 are *possibly extirpated*. We updated the status of 2 occurrences from *presumed extant* to *extant*, but the total number of occurrences remained the same at 55 (Table 1, Table 2; Figure 1). *Castilleja cinerea* continues to be threatened by the ongoing threats of urban development, roads and trails, alteration of hydrology, trampling, invasive nonnative plants, mining, fire suppression, and climate change as we discussed in our 2021 5-year review (Service 2021, pp. 13–16). The new information we received for fire suppression and climate change since 2021 does not appreciably alter our understanding of the species' status.

After reviewing the best available scientific information, we conclude that *Castilleja cinerea* remains a threatened species. The evaluation of threats affecting the species under the factors in 4(a)(1) of the Act and analysis of the status of the species in our 2021 5-year review remains an accurate reflection of the species' current status. No change in the recovery priority number is needed at this time.

RECOMMENDATIONS FOR FUTURE ACTIONS

The recommended actions listed below are to be completed over the next 5 years. Successful implementation of these actions will reduce threats to *Castilleja cinerea* and provide information to better understand the biological and physical factors limiting the population growth and distribution. We recognize that conservation of this taxon will require cooperation and coordination with partners to minimize impacts from current threats and aid with future restoration efforts.

1. Coordinate *C. cinerea* specific surveys across the range, particularly in areas that occurrences are *presumed extant* or *possibility extirpated*. Surveys should include information on abundance and habitat conditions.

2. Continue to work with USFS land managers to reduce impacts to *C. cinerea* and its habitat from recreational and unauthorized off-highway vehicle (OHV) use. Coordinate with USFS on implementation of the Pebble Plains Habitat Management Guide (USFS 2002, entire).

3. Coordinate with private landowners to identify opportunities for conservation on private lands. Work with private landowners, local governments, and conservation organizations to conserve and manage pebble plain areas and *C. cinerea* habitat.

4. Study *C. cinerea* population genetics, including levels of genetic diversity and differentiation among and within occurrences. Determine levels of inbreeding, relatedness, and ploidy. This information will help us assess current levels of genetic diversity and gene flow; as well as identify potential adaptive capacity. This will determine if genetic management is needed and assess appropriate seed sources for potential future reintroduction or augmentation activities in areas of possible extirpation.

5. Collect *C. cinerea* seed and conserve seed in an ex-situ (off-site) conservation seed bank, to preserve the genetic diversity in the species.

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FIELD OFFICE APPROVAL

Lead Field Supervisor, Fish and Wildlife Service

☒ Approved

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Brian Croft
Field Supervisor

Appendix

APPENDIX

At time of listing *Castilleja cinerea* was known at fewer than 20 "localities" and was generally encompassed within 9 pebble plain complexes. Since then, occurrence data for the species has grown and this appendix details the current known occurrence data. The following table outlines all known occurrences of the species with the corresponding status details.

Table A-1. Occurrence Information for *Castilleja cinerea*.[1]

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Arrastre Flats (including Cactus Flats)	27	Yes	Presumed extant	Presumed extant	Presumed extant	2000 (100), 2008 (unknown)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants; Mining E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 10
Big Bear Lake	17	No	Presumed extant	Extant	Extant	2016 (>13,400)	A: Urban Development; Roads and Trails; Trampling; Nonnative plants; Alteration of hydrology E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 5
Big Bear Lake	18	No	Presumed extant	Presumed extant	Presumed extant	2003 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 6

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Big Bear Lake	19	No	Presumed extant	Extant	Extant	2014 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative plants E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 6
Big Bear Lake	20	No	Presumed extant	Extant	Extant	2016 (217)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Recreational activity E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 7
Big Bear Lake	26	No	Presumed extant	Extant	Extant	1979 (unknown), 2016 (21)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p.6
Big Bear Lake	33	No	Presumed extant	Possibly extirpated	Possibly extirpated	1990s (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 12

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Big Bear Lake	41	No	Presumed extant	Presumed extant	Presumed extant	1979 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 13
Big Bear Lake	42	No	NA	Possibly extirpated	Possibly extirpated	1980 (unknown)	A: Urban Development; Roads and Trails	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 14
Big Bear Lake	53	No	Presumed extant	Presumed extant	Presumed extant	2001 (common in patches)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 16
Big Bear Lake	63	No	Presumed extant	Presumed extant	Presumed extant	2003 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	Service 2025, data; CDFW 2025, p. 20
Big Bear Lake	64	No	NA	Presumed extant	Presumed extant	NA	A: Urban Development	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 21
Big Bear Lake	65	No	Presumed extant	Presumed extant	Presumed extant	2004 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology E: Climate change	USFS	No change in EO or conservation status since 2021.	CDFW 2025, p. 21

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Big Bear Lake (south of Cameron Drive)	NA	No	NA	Extant	Extant	2020 (900)	A: Development	Private	It was reported by Jacobs Engineering Group (2020) in a Biological Resources Assessment for a 1.32-acre Big Bear Lake development.	Jacobs Engineering Group 2020, pp. 13–14
Broom Flat (including Onyx Peak)	3	Yes	Presumed extant	Extant	Extant	2003 (uncommon), 2010 (23), 2015 (unknown)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 2
Broom Flat (including Onyx Peak)	52	Yes	Presumed extant	Presumed extant	Presumed extant	2000 (unknown), 2001 (unknown), 2010 (20)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 16
Broom Flat (including Onyx Peak)	56	No	Presumed extant	Presumed extant	Presumed extant	2010 (7)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 18
Broom Flat (including Onyx Peak)	57	No	Presumed extant	Presumed extant	Presumed extant	2010 (10)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 18
Broom Flat (including Onyx Peak)	71	No	NA	Extant	Extant	2014 (~50), 2015 (6)	NA	USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 23

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Dollar Lake	75	No	NA	Extant	Extant	2012 (50)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 24
Fawnskin	24	No	Presumed extant	Extant	Extant	2018 (unknown)	A: Urban Development; Roads and Trails; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 8
Fawnskin	25	No	Presumed extant	Presumed extant	Presumed extant	1979 (unknown)	A: Urban Development; Roads and Trails; Nonnative Plants E: Climate change	Big Bear Municipal Water District, USFS	No change in EO or conservation status since 2021.	CDFW 2025, p. 9
Fawnskin	49	No	Presumed extant	Presumed extant	Presumed extant	2000 (hundreds), 2008 (unknown)	A: Urban Development; Roads and Trails; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	CDFW 2025, p. 14
Fawnskin	50	No	Presumed extant	Presumed extant	Presumed extant	2000 (0), 2008 (154)	A: Urban Development; Roads and Trails; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 15

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Fawnskin	54	No	Presumed extant	Extant	Extant	2012 (40)	A: Urban Development; Roads and Trails; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 17
Gold Mountain	30	Yes	Presumed extant	Presumed extant	Presumed extant	1979 (unknown), 1988 (unknown), 2008 (unknown)	A: Urban Development; Roads and Trails, Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 11
Gold Mountain	31	No	Presumed extant	Extant	Extant	2000 (24), 2005 (32), 2006 (22), 2016 (2) (all plant counts are partial surveys)	A: Urban Development; Roads and Trails, Alteration of Hydrology; Nonnative Plants E: Climate change	Big Bear Community Services District, USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 11
Gold Mountain	51	No	Presumed extant	Presumed extant	Presumed extant	2000 (20)	A: Urban Development; Roads and Trails, Alteration of Hydrology; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 15

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Gold Mountain	55	No	Presumed extant	Presumed extant	Presumed extant	1999 (locally common)	A: Urban Development; Roads and Trails, Alteration of Hydrology; Nonnative Plants E: Climate change	Big Bear Area Regional Wastewater Agency, Big Bear City Community Services District, USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 17
Gold Mountain	76	No	NA	Presumed extant	Presumed extant	2009 (5)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 25
Grinnell Ridge	16	No	Presumed extant	Extant	Extant	1989 (50–100), 1994 (50–75), 2008 (50), 2009 (unknown), 2016 (30)	E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 5
Holcomb Valley	22	Yes	Presumed extant	Extant	Extant	2012 (2,000)	A: Roads and Trails; Alteration of Hydrology; Mining; Trampling; Recreation E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 7

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Holcomb Valley	23	Yes	Presumed extant	Presumed extant	Extant	2012 (3,380), 2023 (9)	A: Roads and Trails; Alteration of Hydrology; Mining; Recreational activities E: Climate change	USFS, Private	Because the EO was observed in 2021, it is extant rather than presumed extant. Recent plant counts are for partial surveys.	Service 2025, unpubl. data; CDFW 2025, p. 8
NA (West Big Bear Lake)	NA	No	NA	Presumed extant	Presumed extant	2008 (250)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data;
Near Highway 38	58	No	Presumed extant	Presumed extant	Presumed extant	2008 (5), 2010 (35)	A: Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 19
Near Highway 38	72	No	NA	Presumed extant	Presumed extant	2010 (5)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 23
Near Sugarloaf Ridge (including Wildhorse Meadow)	2	No	Presumed extant	Presumed extant	Presumed extant	1983 (less than 50)	A: Roads and Trails; Alteration of Hydrology E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 1
Near Sugarloaf Ridge (including Wildhorse Meadow)	70	No	NA	Presumed extant	Presumed extant	2009 (6)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 23

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Near Sugarloaf Ridge (including Wildhorse Meadow)	73	No	NA	Presumed extant	Presumed extant	2010 (33)	NA	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 24
North Baldwin	1	Yes	Presumed extant	Extant	Extant	1985 (20,000, partial survey), 2005 (315), 2009 (205), 2016 (unknown), 2017 (unknown), 2018 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants; Mining E: Climate change	CDFW, USFS	No change in EO or conservation status since 2021.	Eliason 2020, pers. comm; Service 2025, unpubl. data; CDFW 2025, p. 1
North Baldwin	28	No	Presumed extant	Presumed extant	Presumed extant	1979 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants; Mining E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 10
North Baldwin	66	No	Presumed extant	Presumed extant	Presumed extant	NA	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants; Mining E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 22

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Sawmill	7	Yes	Presumed extant	Extant	Extant	1987 (thousands), 2005 (1,200), 2007 (100 plus), 2012 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	San Bernardino Mountains Land Trust, USFS, Private	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 3
Sawmill	8	No	Presumed extant	Extant	Extant	2005 (1,200), 2006 (205), 2007 (100 plus), 2010 (1,024), 2012 (unknown), 2016 (478)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 3
Sawmill	38	No	Presumed extant	Possibly extirpated	Possibly extirpated	1979 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 13
Sawmill	39	No	Presumed extant	Presumed extant	Presumed extant	2007 (12)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 13

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Snow Valley	35	Yes	Presumed extant	Presumed extant	Extant	1975 (7 patches), 1999 (10,500), 2000 (unknown), 2023 (60)	E: Climate change	USFS	Because the EO was observed in 2018, it is extant rather than presumed extant. Recent plant counts are for partial surveys. Individual plants and pebble plain habitat were affected by fire suppression activities during the 2024 Line Fire (Esparza 2024, pers. comm.).	Service 2025, unpubl. data; CDFW 2025, p. 12
South Baldwin Ridge/Erwin Lake	10	No	Presumed extant	Presumed extant	Presumed extant	1970s (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 4
South Baldwin Ridge/Erwin Lake	11	No	Presumed extant	Presumed extant	Presumed extant	2005 (350)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS, Private	No change in EO or conservation status since 2021.	CDFW 2025, p. 4
South Baldwin Ridge/Erwin Lake	67	No	Presumed extant	Extant	Extant	2005 (8), 2013 (unknown)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	Big Bear Community Services District, USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 22

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
South Baldwin Ridge/Erwin Lake	68	Yes	Presumed extant	Presumed extant	Presumed extant	2000 (unknown), 2005 (1,400), 2008 (72)	A: Urban Development; Roads and Trails; Alteration of Hydrology; Nonnative Plants E: Climate change	USFS	No change in EO or conservation status since 2021.	CDFW 2025, p. 22
Sugarloaf Ridge (including Wildhorse Meadow)	4	Yes	Presumed extant	Extant	Extant	1983 (unknown), 2008 (3,000), 2009 (2,100 plus), 2010 (1,570 plus), 2014 (2,261)	A: Roads and Trails; Alteration of Hydrology E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 2
Sugarloaf Ridge (including Wildhorse Meadow)	59	No	Presumed extant	Presumed extant	Presumed extant	2010 (6)	A: Roads and Trails; Alteration of Hydrology E: Climate change	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 19
Sugarloaf Ridge (including Wildhorse Meadow)	60	No	Presumed extant	Presumed extant	Presumed extant	NA	A: Roads and Trails; Alteration of Hydrology E: Climate change	USFS	No change in EO or conservation status since 2021.	CDFW 2025, p. 20

Pebble Plain Complex	CNDDB EO	Critical Habitat	Status at Listing	2021 Status	2025 Status*	Plant counts (Year, Count)	2025 Threats**	2025 Ownership	2021–2025 Change Summary	References
Sugarloaf Ridge (including Wildhorse Meadow)	74	No	NA	Extant	Extant	2014 (15)	Horse, bike, and foot traffic is a threat per the CNDDB. The occurrences are along the Sugarloaf Trail. Some trampled plants were observed.	USFS	No change in EO or conservation status since 2021.	Service 2025, unpubl. data; CDFW 2025, p. 24

*Though some occurrence has not been observed for over 10 years, the habitat remains intact, so the occurrence is presumed extant.

**The five factors are given in Section 4 (a)(1) of the ESA as the following: (A) the present or threatened destruction, modification, or curtailment of a species habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

[1] Prepared for the 2025 5-year review