

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

California Endangered Species Act



Petition Evaluation for Abbott's Bushmallow (*Malacothamnus abbottii*)

Report to the Fish and Game Commission
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LIST OF ABBREVIATIONS, ACRONYMS, AND TERMS

CESA – California Endangered Species Act
 CNDDDB – California Natural Diversity Database
 CNPS – California Native Plant Society
 Commission – California Fish and Game Commission
 CRPR – California Rare Plant Rank
 Department – California Department of Fish and Wildlife
 ESA – Federal Endangered Species Act

EXECUTIVE SUMMARY

This petition evaluation for Abbott's bushmallow (*Malacothamnus abbottii*) has been prepared by the California Department of Fish and Wildlife (Department) in response to the petition to list Abbott's bushmallow as endangered under the California Endangered Species Act (CESA). The purpose of this petition evaluation is to provide a recommendation to the Fish and Game Commission (Commission) on whether the petition provides sufficient information to indicate the petitioned action may be warranted.

Abbott's bushmallow is a shrub in the mallow family (Malvaceae) that blooms May through October. The petition describes Abbott's bushmallow as being known from 11 occurrences in the South Coast Ranges and occurring in riparian scrub and coastal sage scrub. The petition provides an abundance estimate at seven occurrences with population sizes ranging from a single plant to "numerous" or "many" plants and provides information to suggest a declining population trend. The petition lists several threats to Abbott's bushmallow including agricultural and developed land uses, climate change, invasive species, and disruption to post-fire recovery. The petition mentions that extirpation from much of its range or extinction of the species may occur because: all known occurrences are threatened and the severity of some threats is increasing, the species has been documented at a small number of sites that are also small in area, and all sites occupied by the species are unprotected and not managed for the conservation of the species. Existing management efforts were reviewed and suggestions for future management actions were discussed in the petition. Information sources and a distribution map were also provided in the petition.

The Department has determined that the petition does not sufficiently address each of the required petition components listed in Fish and Game Code section 2072.3 and California Code of Regulations, title 14, section 670.1, subdivision (d)(1):

- Life history
- Range
- Distribution
- Detailed distribution map
- Kind of habitat necessary for survival
- Abundance
- Population trend
- Factors affecting the ability to survive and reproduce
- Degree and immediacy of threat
- Impact of existing management efforts
- Suggestions for future management

- Availability and sources of information

In completing its petition evaluation, the Department considered the information in the petition and other relevant information the Department possesses. The Department has determined that there is not sufficient scientific information to indicate that the petitioned action to list Abbott's bushmallow as endangered under CESA may be warranted. Therefore, the Department recommends that the Commission reject the petition for further consideration pursuant to CESA.

1 INTRODUCTION

1.1 Petition Evaluation Overview

This petition evaluation serves as the basis for the California Department of Fish and Wildlife's (Department) recommendation to the California Fish and Game Commission (Commission) on whether the petition to list Abbott's bushmallow (*Malacothamnus abbottii*) as endangered under the California Endangered Species Act (CESA) should be accepted and considered. The recommendation is based on the sufficiency of scientific information in the petition, as well as other relevant information that was reviewed by the Department during the evaluation period.

A petition to list a species under CESA must include "information regarding the population trend, range, distribution, abundance, and life history of a species, the factors affecting the ability of the population to survive and reproduce, the degree and immediacy of the threat, the impact of existing management efforts, suggestions for future management, and the availability and sources of information. The petition shall also include information regarding the kind of habitat necessary for species survival, a detailed distribution map, and any other factors that the petitioner deems relevant" (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)).

Once a petition is submitted to the Commission, the Department has 90 days (120 days with extension) to prepare a petition evaluation that assesses each of the petition components and makes a recommendation to the Commission as to whether there is sufficient scientific information to indicate that the petitioned action to list the species under CESA may be warranted (Fish & G. Code, § 2073.5, subds. (a)-(b)). Once completed by the Department, the petition evaluation is delivered to the Commission and placed on the agenda for receipt at the next available meeting of the Commission. At that time, the petition evaluation will be made available to the public for a 30-day public comment period prior to the Commission taking any action on the petition. The Commission then considers the petition, the Department's petition evaluation and recommendation, written comments received, and oral testimony, and will then make a finding at the next available meeting of the Commission as to whether the petition provides "sufficient information to indicate that the petitioned action may be warranted" (Fish & G. Code, § 2074.2, subd. (e)(2)). The standard for accepting a petition for consideration and assessing sufficiency of information is addressed in *Center for Biological Diversity v. California Fish and Game Commission* (2008) 166 Cal.App.4th 597.

If the Commission determines that the petitioned action may be warranted, the species becomes a candidate for CESA listing and proceeds to the status review stage of the CESA listing process. The Department then prepares a peer-reviewed report that advises

the Commission on whether the petitioned action is warranted, based upon the best scientific information available (Fish & G. Code, § 2074.6). Finally, the Commission determines whether the petitioned action to list the species as threatened or endangered is warranted, based on the Department's status review and other information in the administrative record (Fish & G. Code, § 2075.5).

1.2 CESA Petition History

On August 29, 2025, Dr. John C. Hunter submitted a petition to the Commission to list Abbott's bushmallow as endangered under CESA. On September 8, 2025, the Commission referred the petition to the Department for evaluation. At its meeting on October 8, 2025, the Commission officially acknowledged receipt of the petition. At its meeting on December 10, 2025, the Commission granted the Department's request for a 30-day extension of the period to review the petition and prepare this petition evaluation.

1.3 Federal Status

Abbott's bushmallow has no status under the Federal Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.). Abbott's bushmallow has been considered for ESA listing in the past. In 1993, the U.S. Fish and Wildlife Service provided notice that sufficient information on biological vulnerability and threat(s) supported listing Abbott's bushmallow as endangered or threatened and designated it as a candidate species, but other listing activity precluded listing at that time (58 Fed.Reg. 51144 (Sep. 30, 1993)). In 1996, the U.S. Fish and Wildlife Service provided notice removing candidate status for Abbott's bushmallow because the currently available information did not support issuance of a proposed listing (61 Fed.Reg. 7596 (Feb. 28, 1996)).

1.4 Additional Species Status Designations

1.4.1 NatureServe Conservation Status Ranks

NatureServe's conservation status ranks consist of a global conservation status rank (global rank, G rank) describing the status of a given species over its entire distribution, and a subnational conservation status rank (subnational rank, S rank) describing the status of a given subspecies or variety over its state distribution (Master et al. 2012). NatureServe has assigned Abbott's bushmallow a global rank of G1 and a subnational rank of S1, indicating that the species is critically imperiled both globally and within California with a very high risk of extinction due to one or more of the following: very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors (CNDDDB 2020, 2025).

1.4.2 California Rare Plant Rank

The California Native Plant Society (CNPS) works in collaboration with botanical experts throughout the state, including Department biologists, to assign rare plants a California Rare Plant Rank (CRPR) reflective of their rarity status (CNDDDB and CNPS 2020). CNPS has assigned Abbott's bushmallow a CRPR of 1B.1 (CNPS 2025). Plants with a CRPR of 1B are considered rare, threatened, or endangered throughout their range with the majority endemic to California (CNDDDB and CNPS 2020). The threat code extension of ".1" indicates that the species is seriously threatened in California with over 80% of occurrences threatened and a high degree and immediacy of threat (CNDDDB and CNPS 2020).

2 SPECIES DESCRIPTION AND TAXONOMY

2.1 Species Description

Abbott's bushmallow is a member of the mallow family (Malvaceae). It is a shrub that is up to 2 m (6.6 ft) tall and spreads by underground stems called rhizomes (Morse 2023a, b). The stems are covered in dense, stellate (star-shaped) hairs with hair branches that are 0.4 mm (0.02 in) or less (Morse 2023a). The leaves are round or ovate and are generally longer than wide (Morse 2023a, b). The leaves are unlobed to obscurely or moderately 3 to 5 lobed with lobes rounded to acute, and their bases are wedge-shaped to heart-shaped (Morse 2023a, b). The leaves are pale ashy- to light- green and are also covered in stellate hairs with hair branches that are 0.5 mm (0.02 in) or less (Morse 2023a).

Abbott's bushmallow flowers are arranged in groups (called inflorescences) that are panicle-like, meaning they have a central stem or main axis with smaller branches arranged along the stem, each ending in a flower on a stalk (pedicel). The inflorescences can also be spike-like, meaning the flowers are arranged singly along the central stem or main axis (Morse 2023a). The calyx (outermost whorl of flower parts) is 8.5 to 12 mm (0.3 to 0.5 in) long, with lobes that are 5 to 8.5 mm (0.2 to 0.3 in) long by 2 to 3.5 mm (0.08 to 0.14 in) wide and are widest at or near the base (Morse 2023a, b). The lobes are narrowly to moderately triangular or ovate with acuminate (tapering to a long point) or narrowly acute tips (Morse 2023a), and the outer surface of the calyx lobes are covered in stellate hairs with hair branches 0.1 to 0.6 mm and glandular hairs that are <0.1 to 0.6 mm long. Bractlets that subtend the calyx are oblong to awl-shaped and are 3.5 to 7.5 mm (0.14 to 0.3 in) long and 2 to 3.5 mm (0.08 to 0.14 in) wide (Morse 2023a). The corolla (collection of petals) consists of five light pink petals that are approximately 2 cm (0.8 in) long and dries in a closed position (Morse 2023a, b).

2.2 Species Taxonomy

Abbott's bushmallow was first described by Alice Eastwood in 1936 and was assigned the name *Malvastrum abbottii* (Eastwood 1936). It was reclassified to the genus *Malacothamnus* in 1951 (Kearney 1951). The currently accepted name for Abbott's bushmallow is *Malacothamnus abbottii* (Morse 2023a).

3 SUMMARY OF PETITION COMPONENTS

Pursuant to Fish and Game Code section 2072.3 and California Code of Regulations, title 14, section 670.1, subdivision (d)(1), the Department evaluated whether the petition contained information on each of the following petition components:

- Life history
- Range
- Distribution
- Detailed distribution map
- Kind of habitat necessary for survival
- Abundance
- Population trend
- Factors affecting the ability to survive and reproduce
- Degree and immediacy of threat
- Impact of existing management efforts
- Suggestions for future management
- Availability and sources of information

The Department did not receive new information from the public during the petition evaluation period (Fish & G. Code, § 2073.4). Pursuant to Fish and Game Code section 2073.5, the Department evaluated the petition to determine whether there is, or is not, sufficient information to indicate that the petitioned action may be warranted. A summary of the relevant information from the petition for each of the petition components is presented below. For each petition component, the Department has also presented an assessment of the information provided in the petition and a summary of any relevant information in the Department's possession. Overall sufficiency of the petition is determined by looking at the information in the petition as a whole and is further discussed in the "Sufficiency of Scientific Information and Recommendation to the Commission" section of this petition evaluation. In this petition evaluation, the Department has grouped similar petition components together and renamed components to create a more cohesive and readable document.

3.1 Life History

This section summarizes the information in the petition regarding the species' life history (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section E on pages 6 and 7 of the petition provides information on the life history of Abbott's bushmallow.

The petition provides a physical description of Abbott's bushmallow, with descriptions of its habit, stems, leaves, flowers, and fruits. The petition contrasts Abbott's bushmallow with the physical properties of a similar species, Jones's bushmallow (*Malacothamnus jonesii*). The petition describes Abbott's bushmallow as a rhizomatous shrub that blooms May through October, with bees appearing to be the predominant pollinators of *Malacothamnus* species. The petition also states that the seeds of *Malacothamnus* species germinate in the winter-spring following a fire, and notes that multiple (likely all) *Malacothamnus* species have long-lived seeds that may persist in the soil for decades.

3.1.1 Department Assessment

The Department considers the information provided in the petition on the life history of Abbott's bushmallow to be adequate for assessing this petition component.

3.2 Range and Distribution

This section summarizes the information in the petition regarding the species' range and distribution and provides a detailed distribution map (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). A species' range for the purposes of CESA and this petition evaluation is the species' range within California (Cal. Forestry Assn. v. Cal. Fish and Game Com. (2007) 156 Cal.App.4th 1535, 1551). Range describes the general geographical area in which a species occurs. Distribution describes the actual sites where individuals and populations of the species occur within the species' range. Sections B on page 4 of the petition provide information on the range of Abbott's bushmallow. Section C on page 4 of the petition provides information on its distribution. Section L, Figure 2 on page 20 of the petition provides a distribution map, which has been included as Figure 1 of this petition evaluation.

The petition describes Abbott's bushmallow as a California endemic in the South Coast Ranges. The petition states that Abbott's bushmallow's range comprises approximately 101 square kilometers (39 square miles), and that it occurs in southern Monterey County at elevations of 135 to 490 m (445 to 1,610 ft). The petition states that Abbott's bushmallow is known from 11 sites along the Salinas River and in the Santa Lucia Range that were documented between 1930 and 2011. One occurrence is noted in the petition

as being a nonspecific occurrence in which the precise location and boundaries of the species have not been documented. The petition mentions that the species was misidentified and unintentionally introduced in a revegetation project along Highway 166 in San Luis Obispo County outside of its known range. The petition states that a range-wide survey of potential habitat was conducted in 1996 that improved documentation of the species' distribution. The petition also discusses how Abbott's bushmallow has seeds that germinate after fire and can likely remain dormant for decades, and therefore the species likely grows at additional, undocumented sites where it remains as only dormant seed in the soil.

3.2.1 Department Assessment

Range and distribution of Abbott's bushmallow are presented in the petition based primarily on data from the California Natural Diversity Database (CNDDDB); however, no discussion is provided on the completeness of the information presented including whether the information represents the complete range and distribution of the species and whether additional information on range and distribution is available for the species. The petition states that a range-wide survey of potential habitat was conducted in 1996 that improved documentation of the species' distribution and one additional occurrence has been documented in the CNDDDB since the 1996 surveys. The petition also provides information on a misidentified occurrence outside of the known range of the species. However, no discussion is provided in the petition on the status of the occurrences since those 1996 surveys. Without further discussion explaining why the information provided in the petition is a scientifically defensible assessment of the range and distribution of the species, the Department is unable to properly determine whether the petition provides a reasonable explanation of the range and distribution of the species, or whether other petition components that rely on knowing the range and distribution of the species have been properly assessed.

The Department has some additional, readily available information from the CNDDDB not presented in the petition. The CNDDDB was updated in December 2025 which resulted in one additional occurrence of Abbott's bushmallow being added to the CNDDDB for a total of 12 documented occurrences. While this additional, readily available information contributes to our current knowledge of the range and distribution of Abbott's bushmallow, this information does not compensate for deficiencies in data in the petition for these topics. The information presented in the petition, considered alongside readily available information from the Department, is not adequate for assessing the range and distribution of Abbott's bushmallow.

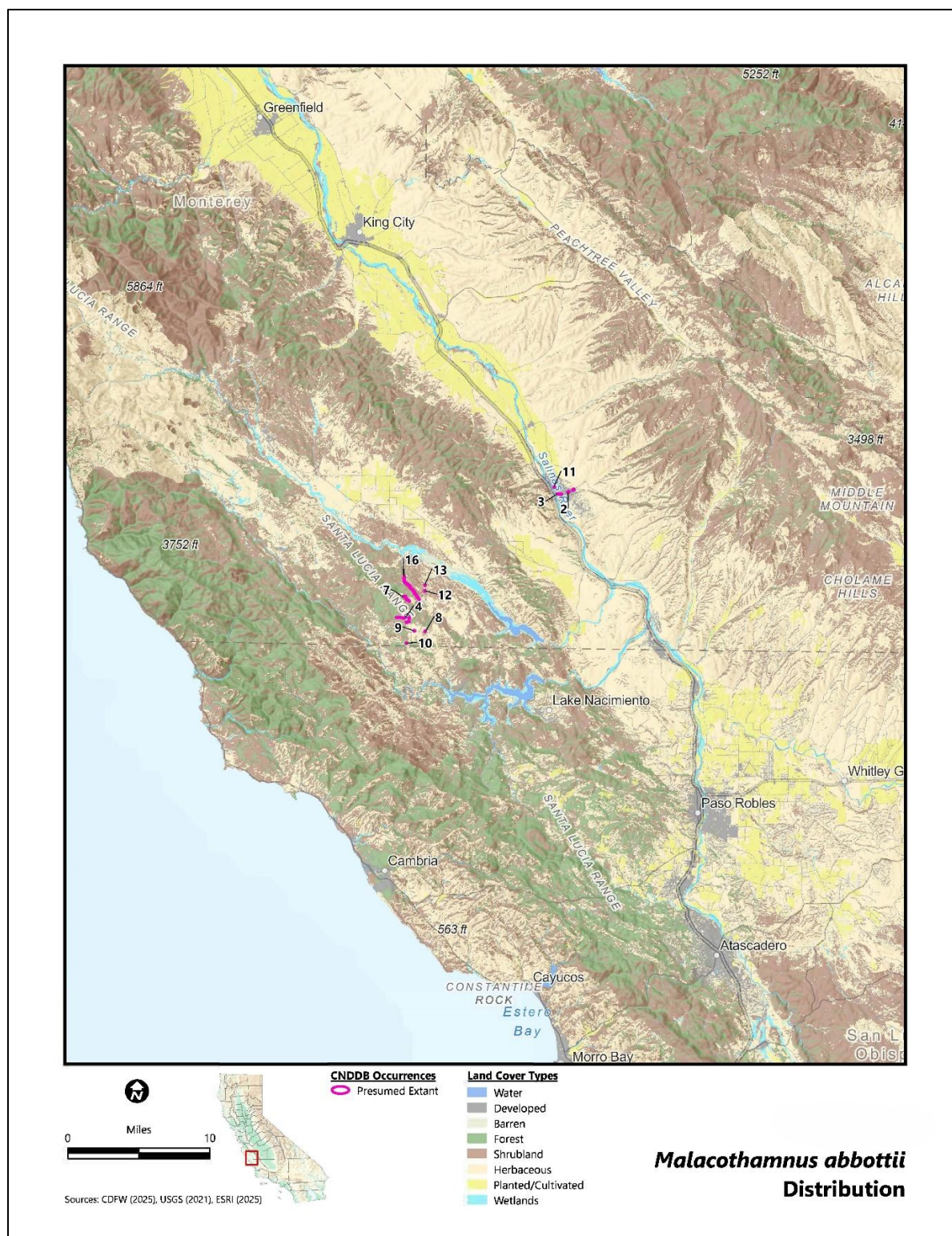


Figure 1. Map of the range and distribution of Abbott's bushmallow as provided in Figure 2 of the petition. Occurrences from the California Natural Diversity Database (CNDDDB) are labeled with occurrence numbers. Some occurrences consist of multiple polygons.

3.3 Habitat

This section summarizes the information in the petition regarding the kind of habitat necessary for species survival (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section F on page 7 of the petition provides information on the kind of habitat necessary for Abbott's bushmallow survival.

The petition states that riparian scrub and coastal sage scrub provide habitat for Abbott's bushmallow. The petition mentions that at several sites, the species' habitat has been described as at an interface of scrub and grassland dominated by nonnative grasses. The petition also includes a list of plant species that grow with Abbott's bushmallow.

3.3.1 Department Assessment

The Department considers the information provided in the petition on the kind of habitat necessary for survival of Abbott's bushmallow to be adequate for assessing this petition component.

3.4 Abundance and Population Trend

This section summarizes the information in the petition regarding the species' abundance and population trend (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section D on pages 5 and 6 of the petition provides information on the abundance of Abbott's bushmallow. Section A on pages 3 and 4 of the petition provides information on the population trend of Abbott's bushmallow.

The petition summarizes information on the abundance of Abbott's bushmallow at seven CNDDDB occurrences with population sizes ranging from a single plant to "numerous" or "many" plants at each occurrence. The petition notes that most counts are of "colonies" that likely represent a single plant with multiple above-ground stems. The petition states that recent, range-wide monitoring of Abbott's bushmallow has not been conducted and, thus, a rigorous estimate of the total number of plants cannot be made. The petition estimates the area of occupied habitat to be less than 66 ha (162 ac) based on CNDDDB polygon data.

The petition states that, based on information from the CNDDDB and land cover mapping from the U.S. Geological Survey, Abbott's bushmallow has had a decreasing population trend because of loss and degradation of occupied habitat at 9 or more of the 11 sites where the species has been observed. The petition lists eight occurrences that have a decreasing population trend or have a poor or fair population viability in the CNDDDB and reports nine occurrences that are either likely extirpated or likely experiencing degradation or loss of habitat based on land cover mapping. The petition states that the

species may have had additional, undocumented habitat losses, population reductions, or both that occurred before the distribution of Abbott's bushmallow was well-documented.

3.4.1 Department Assessment

Abundance of Abbott's bushmallow is provided in the petition based on population information reported in the CNDDDB. Rough population descriptions from the 1990s and 2011 are presented for 7 of the 11 occurrences mentioned in the petition. Population descriptions presented in the petition are primarily from 30 years ago with no additional information on the abundance of plants at those occurrences since that time. The petition also does not discuss whether the population estimates are based on complete or partial surveys of the occurrences. Area of occupied habitat is estimated in the petition as an indicator of abundance using CNDDDB polygon data which the Department considers to be an inappropriate use of CNDDDB data. CNDDDB polygons are typically mapped to include a buffer that represents the locational accuracy of the data and therefore should not be used to determine area occupied by the species.

Population trend of Abbott's bushmallow is determined in the petition to be declining based on: 1) the number of CNDDDB occurrences that are designated with a decreasing population trend or have a poor or fair population viability, 2) the use of CNDDDB polygon data overlaid on land cover mapping to report the extent of any overlap between the CNDDDB polygon data with development or agriculture, and 3) the historical and ongoing changes to riparian and coastal sage scrub vegetation. No discussion is provided in the petition on the completeness of the information, including whether any recent efforts have been made to update information on the presence and condition of Abbott's bushmallow occurrences since the 1996 surveys or whether population declines at some occurrences have resulted in a population decline throughout the species' range. The petition uses CNDDDB polygon data overlaid on land cover mapping to report on the extent of overlap between CNDDDB polygons with development or agriculture to determine additional occurrences that may be experiencing a declining population trend. CNDDDB polygons are typically mapped to include a buffer that represents the locational accuracy of the data, and the petition does not indicate if development or agriculture shown on aerial imagery overlapped with the portion of the CNDDDB polygon that was previously occupied by the species or within areas that were once appropriate habitat for the species. In addition, the statements in the petition about changes to the riparian and coastal sage scrub vegetation likely causing additional, undocumented habitat losses, population reductions, or both to Abbott's bushmallow are too general and do not specifically identify impacts to habitat likely to have contained Abbott's bushmallow.

The Department has some additional, readily available information from the CNDDDB not presented in the petition. The CNDDDB was updated in December 2025 which resulted in one additional occurrence of Abbott's bushmallow being added to the CNDDDB and several existing occurrences being updated; the new occurrence and updated occurrences include abundance data. While this additional, readily available information contributes to our current knowledge on the abundance of Abbott's bushmallow, this information does not compensate for deficiencies in data in the petition for these topics. The information presented in the petition, considered alongside readily available information from the Department, is not adequate for assessing the abundance and population trend of Abbott's bushmallow.

3.5 Threats

This section summarizes the information in the petition regarding the factors affecting the ability of the species to survive and reproduce, and the degree and immediacy of threats (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section G on pages 7 through 11 of the petition provides information on factors affecting the ability of Abbott's bushmallow to survive and reproduce (threats). Section H on pages 11 through 13 of the petition provides information on the degree and immediacy of threats to Abbott's bushmallow.

The petition lists several prominent range-wide threats to Abbott's bushmallow: agricultural or developed uses, climate change, invasive species, and disruptions to post-fire recovery. The petition also mentions that erosion/runoff, grazing, mining, road/trail construction/maintenance, and other threats (herbivory, seed predation, and disease) have been observed by botanists as additional threats affecting occurrences based on CNDDDB data.

The petition describes agricultural and developed land uses as major threats to Abbott's bushmallow because these land uses have been directly eliminating, fragmenting, and increasing threats to the remaining habitat. The petition notes that according to the CNDDDB and the interpretation of land cover mapping in the petition showing agriculture and development in relation to CNDDDB occurrences of Abbott's bushmallow, all specifically mapped occurrences have experienced loss or degradation of habitat due to agriculture and development, and one nonspecifically mapped occurrence is likely being impacted by agriculture and development.

The petition states that climate change directly and indirectly threatens Abbott's bushmallow by altering growing conditions, water availability, and frequency and intensity of disturbances. The petition also notes that climate change can alter interactions of the plant with pollinators, dispersers, fungal symbionts, seed predators, herbivores, and competitors. The petition states that the magnitude of climate change

impacts on Abbott's bushmallow is uncertain but may be substantial, particularly because of the species' limited range, rarity, habitat specificity, and distribution in relatively small and isolated areas that will be exposed to dramatic changes.

While invasive species are not identified as a threat in the CNDDDB, the petition states that invasive species are likely a significant, range-wide threat to Abbott's bushmallow occurrences in riparian scrub. The petition states that several highly invasive species that severely impact riparian scrub are spreading in the range of Abbott's bushmallow. The petition notes that infestations of invasive species can directly affect the conditions or resources Abbott's bushmallow relies on, thereby reducing abundance and making the species more vulnerable to extirpation from other causes.

The petition states that Abbott's bushmallow depends on post-fire recruitment of new individuals from seed stored in the soil for its long-term persistence and establishment at new sites. The petition describes how after a fire, the germination of seed depletes the soil seed bank, and it is not replenished until seedlings have established new individuals that have grown and matured, producing seed from multiple years. The petition notes that competition from other plants, weather, herbivory, recurrent fire, and human activities could all impact this post-fire establishment and growth that replenishes the seed bank.

The petition states that without additional management actions, there is a moderate to high likelihood that Abbott's bushmallow will be extirpated from much of its range or become extinct. The petition mentions that this may occur because: all known occurrences are threatened and the severity of some threats is increasing, the species has been documented at a small number of sites that are also small in area, and all sites occupied by the species are unprotected and not managed for the conservation of the species.

3.5.1 Department Assessment

Factors affecting the ability of Abbott's bushmallow to survive and reproduce, and the degree and immediacy of threats, are presented in the petition based mainly on threat data reported in the CNDDDB. Threats listed in the CNDDDB can be representative of various types of threat data, including current threats, future threats, past threats, threats affecting a small portion of the site, threats in one year but not another, etc. The petition also presents climate change and invasive plants as threats to Abbott's bushmallow that are not listed in the CNDDDB. None of these threats are described in adequate detail in relation to Abbott's bushmallow and the petition does not provide information on the degree and immediacy of these threats for the species.

The petition uses CNDDDB polygon data overlaid on land cover mapping to see if there is any overlap between the CNDDDB polygon data with development or agriculture to

determine additional occurrences that may be experiencing threats. CNDDDB polygons are typically mapped to include a buffer that represents the locational accuracy of the data, and the petition does not indicate if development or agriculture shown on aerial imagery overlapped with the portion of the CNDDDB polygon that was previously occupied by the species or within areas that were once appropriate habitat for the species. Further discussion is needed on the use of aerial imagery to provide an accurate reflection of the degree of threat that development and agriculture are currently having on Abbott's bushmallow.

The petition also mentions small number and size of occupied sites, and lack of protection and management, as additional reasons why Abbott's bushmallow is likely to be extirpated from much of its range or become extinct. The petition provides information to support a small number of occupied sites; however, the petition does not discuss what the unprotected lands with Abbott's bushmallow are being used for and how that land use is threatening, or potentially threatening, the species.

While there are issues with some of the threat information presented in the petition for Abbott's bushmallow, the petition also provides information on the effect of fire on Abbott's bushmallow and how post-fire recovery is essential for the species to recruit new individuals from seed stored in the soil. The petition describes how competition from other plants, weather, herbivory, recurrent fire, and human activities could all impact Abbott's bushmallow post-fire establishment, growth, and replenishment of the soil seedbank.

The Department considers the discussion of the specific threat to Abbott's bushmallow from disruptions to post-fire recovery as adequate information for the factors affecting the ability of Abbott's bushmallow to survive and reproduce (threats). However, the discussion of the degree and immediacy of these threats to Abbott's bushmallow in the petition is not adequate and the Department does not have additional, readily available information to compensate for deficiencies in data for this topic.

3.6 Existing Management

This section summarizes the information in the petition regarding the impact of existing management efforts on the species (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section I on pages 13 through 14 of the petition provides information on the impact of existing management efforts on Abbott's bushmallow.

The petition states that management of Abbott's bushmallow has been very limited, has not sufficiently addressed the threats to the species, and consequently has not resulted in significant conservation of the species. The petition describes the impact of several management categories including legal protection, preservation and seed banking, management and monitoring, restoration, and surveys and research.

The petition describes Abbott's bushmallow as having no legal protections but notes that the species has a CRPR of 1B.1 and should be treated as a special-status species during environmental review under the California Environmental Quality Act.

The petition states that no occurrences of Abbott's bushmallow are on land that has been preserved or managed for biodiversity. The petition mentions that seeds of Abbott's bushmallow have been collected and placed in long-term storage at the University of Santa Cruz. The petition also mentions that none of the Abbott's bushmallow occurrences are the subject of systematic, formal monitoring.

The petition states that no efforts have been made to restore or create habitat occupied by Abbott's bushmallow. The petition describes that in 1996, a range-wide survey of potential habitat was conducted for Abbott's bushmallow, but most documented sites have not been visited since 1996. The petition also states that research has not been conducted on the species' genetic diversity, pollination, dispersal, establishment, growth, mortality, interactions with other species, population dynamics, habitat requirements, or other aspects of its ecology, and therefore understanding of the species' ecology is based primarily on observations by botanists and understanding of the ecology of related and similar species.

3.6.1 Department Assessment

The Department considers the information provided in the petition on impact of existing management efforts on Abbott's bushmallow to be adequate for assessing this petition component.

3.7 Future Management

This section summarizes the information in the petition regarding suggestions for future management (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section J on pages 14 through 16 of the petition provides suggestions for future management of Abbott's bushmallow.

The petition provides a list of suggestions for future management including:

- list the species under CESA and prepare a recovery plan for it,
- include the species as a focal species in regional conservation investment strategies and as a covered species in natural community conservation plans,
- preserve occupied sites in perpetuity,
- develop and implement site-specific monitoring and management plans,
- manage extant populations to prevent the spread of invasive species and eradicate existing infestations,

- implement compatible grazing practices,
- implement compatible fuel reduction treatments,
- coordinate and share information among organizations working to conserve the species,
- coordinate with and support private landowners implementing conservation practices in occupied habitat,
- establish additional populations,
- conduct surveys to improve data on distribution and abundance,
- document genetic diversity,
- investigate the species' population ecology to inform conservation and management, and
- investigate whether hybridization is a threat.

3.7.1 Department Assessment

The Department considers the information provided in the petition on suggestions for future management of Abbott's bushmallow to be adequate for assessing this petition component.

3.8 Availability and Sources of Information

This section summarizes the information in the petition regarding availability and sources of information (Fish & G. Code, § 2072.3; Cal. Code Regs., tit. 14, § 670.1, subd. (d)(1)). Section K on pages 16 through 19 of the petition provides the sources of information used in the Abbott's bushmallow petition. Digital copies of references cited were also provided to the Commission and Department.

3.8.1 Department Assessment

The Department received digital copies of references cited in the petition and considers this to be adequate to address the availability and sources of information mentioned in the petition for Abbott's bushmallow.

4 OTHER RELEVANT INFORMATION AVAILABLE TO THE DEPARTMENT

Pursuant to Fish and Game Code section 2073.5, the Department also evaluates petitions in relation to other relevant information the Department possesses or receives. The Department evaluated readily available information relating to Abbott's bushmallow that is available from the Department's document library and the CNDDDB, including data housed in the CNDDDB's unprocessed data layer. Regional Department staff were contacted to determine if additional information on the species was readily available and in the possession of Department staff. In addition, the petitioner submitted supplemental information for the species via email on September 7, 2025. Any relevant information from these sources is mentioned within the "Department Assessment" section for each petition component.

To the extent the Department was able to review other relevant information in its possession as it relates to the petition, the Department concluded that none of the additional information compensates for data deficiencies in the petition. If the Commission accepts the petition for consideration, regardless of the Department's recommendation, all reasonable attempts will be made by the Department to notify affected and interested parties and to solicit data and comments on the petitioned action (Fish & G. Code, § 2074.4). At that time, the Department will commence a review of the status of the species and produce a written peer-reviewed report, based upon the best scientific information available to the Department, which indicates whether the petitioned action is warranted (Fish & G. Code, § 2074.6).

5 SUFFICIENCY OF SCIENTIFIC INFORMATION AND RECOMMENDATION TO THE COMMISSION

The Department evaluated the petition components set forth in Fish and Game Code section 2072.3 and California Code of Regulations, title 14, section 670.1, subdivision (d)(1) for sufficiency of information pursuant to Fish and Game Code section 2073.5. Based upon the information contained in the petition and other relevant information, the Department determined there is not sufficient information to indicate that the petitioned action may be warranted (Fish & G. Code § 2073.5).

In this petition evaluation, the Department has assessed the information in the petition for each petition component individually; however, sufficiency of the petition as a whole is ultimately determined by looking at all petition components taken together. The Department considers scientifically defensible information on range and distribution to be critical for determining sufficiency of the petition. For Abbott's bushmallow, the Department has determined that information is lacking for the following petition components: range, distribution, abundance, population trend, and the degree and

immediacy of threats. Due to the lack of adequate information on these petition components, the Department does not consider the information in the petition to be sufficient as a whole for assessing whether listing Abbott's bushmallow under CESA may be warranted and recommends the Commission reject the petition, and not consider it further under CESA.

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