

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

California Endangered Species Act



Petition Evaluation for Small Pincushion Navarretia (*Navarretia myersii* subsp. *deminuta*)

Report to the Fish and Game Commission
June 2026

Suggested citation: California Department of Fish and Wildlife (CDFW). 2026. Petition evaluation for small pincushion navarretia (*Navarretia myersii* subsp. *deminuta*). A report to the Fish and Game Commission, California Natural Resources Agency, Sacramento, CA, USA.

TABLE OF CONTENTS

List of Figures	iii
List of Abbreviations, Acronyms, and Terms	iii
Executive Summary.....	iv
1 Introduction.....	1
1.1 Petition Evaluation Overview.....	1
1.2 CESA Petition History	2
1.3 Federal Status	2
1.4 Additional Species Status Designations.....	2
1.4.1 NatureServe Conservation Status Ranks	2
1.4.2 California Rare Plant Rank.....	2
2 Species Description and Taxonomy	3
3 Summary of Petition Components	4
3.1 Life History.....	4
3.1.1 Department Assessment.....	5
3.2 Range and Distribution	5
3.2.1 Department Assessment.....	7
3.3 Habitat	7
3.3.1 Department Assessment.....	8
3.4 Abundance and Population Trend	8
3.4.1 Department Assessment.....	8
3.5 Threats	9
3.5.1 Department Assessment.....	11
3.6 Existing Management.....	11
3.6.1 Department Assessment.....	12
3.7 Future Management	12
3.7.1 Department Assessment.....	13
3.8 Availability and Sources of Information	13
3.8.1 Department Assessment.....	13
4 Other Relevant Information Available to the Department.....	14
5 Sufficiency of Scientific Information and Recommendation to the Commission	14

Literature Cited	15
------------------------	----

LIST OF FIGURES

Figure 1. Map of the range and distribution of small pincushion navarretia as provided in Figure 2 of the petition.....	6
---	---

LIST OF ABBREVIATIONS, ACRONYMS, AND TERMS

CESA – California Endangered Species Act
 CNDDB – 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
 subsp. – subspecies

EXECUTIVE SUMMARY

This petition evaluation for small pincushion navarretia (*Navarretia myersii* subsp. *deminuta*) has been prepared by the California Department of Fish and Wildlife (Department) in response to the petition to list small pincushion navarretia 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.

Small pincushion navarretia is an annual plant in the phlox family (Polemoniaceae) that blooms in April and May. The petition describes small pincushion navarretia as being known from one occurrence in the Inner North Coast Ranges in Lake County and occurring in vernal pools and swales. The petition provides an abundance estimate of approximately 25,000 plants in 1992 and notes that its current population trend is uncertain and may be decreasing or stable. The petition lists several threats to small pincushion navarretia including agricultural and developed land uses, climate change, and invasive species. The petition mentions that extirpation from much of its range or extinction of the species may occur because: the only known occurrence is threatened and the severity of some threats is increasing, the species has been documented at only one site that is also small in area, and the only known site occupied by the species is 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 small pincushion navarretia 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 small pincushion navarretia (*Navarretia myersii* subsp. *deminuta*) 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 small pincushion navarretia 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

Small pincushion navarretia has no status under the Federal Endangered Species Act (16 U.S.C. § 1531 et seq.).

1.4 Additional Species Status Designations

1.4.1 NatureServe Conservation Status Ranks

NatureServe's conservation status ranks consist of three components: 1) a global conservation status rank (global rank, G rank) describing the status of a given species over its entire distribution; 2) a trinomial conservation status rank (trinomial rank, T rank) describing the status of a given subspecies or variety over its entire distribution; and 3) 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 small pincushion navarretia a global rank of G2, a trinomial rank of T1, and a subnational rank of S1, indicating that the full species, *Navarretia myersii*, is imperiled globally, whereas the subspecies *deminuta* 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 small pincushion navarretia a CRPR of 1B (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

Small pincushion navarretia is a member of the phlox family (Polemoniaceae). It is a prostrate annual plant with stems that grow to 2 cm (0.8 in) and are unbranched or have few branches (Johnson 2013a). The stems are smooth or minutely hairy with short, recurved hairs (Johnson 2013a). The leaves of small pincushion navarretia are 4 to 8 cm (1.6 to 3.1 in) long, generally spreading from beneath the base of the central flower head, and are pinnately lobed with a linear axis and few linear lobes that are generally along the lower part of the leaves (Johnson 2013a). There is generally one solitary inflorescence (group of flowers) per plant arranged in a compact head, 1 to 2 cm (0.3 to 0.8 in) wide, that is sessile (without a noticeable stalk) or on a prostrate flower stalk (Johnson 2013a). The inflorescence is subtended by leaf-like structures called bracts, with 3 to 5 outer bracts that are 1 to 2 cm (0.3 to 0.8 in) long and extend far beyond the flower head, with many lobes near the base (Day 1995; USFWS 2005; Johnson 2013a). The flower calyx (collective term for the sepals) tube and lobes are equal in length, and the lower surface is gland-dotted and covered in long hairs and the upper surface is smooth (Johnson 2013a, b). The corolla (collective term for petals) is blue, 1.2 to 1.4 cm (0.5 to 0.6 in) long, and the tube is approximately the same length or slightly longer than the length of the calyx (Johnson 2013b). The stamens and the style (stalk-like structure that connects the ovary to the stigma) are exerted (extending beyond the corolla tube), and the stigma (pollen-receiving structure) has two minute lobes (Johnson 2013a). The fruit is a capsule (dry fruit that opens to release its seeds) that contains 4 to 6 brown seeds that become gelatinous and dehisce (release from the fruit) when wet (Johnson 2013a).

Small pincushion navarretia was first collected by Linda Huntington and Margaret Rockwood in 1992, and was formally described by Alva Day in 1995 (Day 1995). The currently accepted name for small pincushion navarretia is *Navarretia myersii* subsp. *deminuta* (Johnson 2013b).

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 5 through 7 of the petition provides information on the life history of small pincushion navarretia.

The petition provides a physical description of small pincushion navarretia, with descriptions of its habit, stems, leaves, flowers, fruits, and seeds. The petition contrasts small pincushion navarretia with the physical properties of two similar species, pincushion navarretia (*N. myersii* subsp. *meyersii*) and prostrate navarretia (*N. prostrata*), and indicates that both taxa are morphologically distinct and geographically isolated from small pincushion navarretia. The petition describes small pincushion navarretia as a prostrate annual herb that blooms in April and May and its pollen-to-ovule ratio indicates that the species is a predominantly to obligately outcrossing species, though the predominant pollinators are not known. The petition also states that the dispersal mechanisms of the species are not known, but may include gravity, water, and animals.

3.1.1 Department Assessment

The Department considers the information provided in the petition on the life history of small pincushion navarretia 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. Section B on page 4 of the petition provides information on the range of small pincushion navarretia. Section C on page 4 of the petition provides information on its distribution. Section L, Figure 2 on page 17 of the petition provides a distribution map, which has been provided as Figure 1 of this petition evaluation.

The petition describes small pincushion navarretia as a California endemic with a very small range in the Inner North Coast Ranges. The petition states that small pincushion navarretia's range comprises approximately one square kilometer (less than one square mile), and that it occurs in Lake County at an elevation of 355 meters (1,165 feet). The petition states that small pincushion navarretia is known from one occurrence that was documented in 1992. This occurrence is a nonspecific occurrence in which the precise location and boundaries of the species have not been documented. The petition also mentions that small pincushion navarretia may occupy a few additional, undocumented sites.

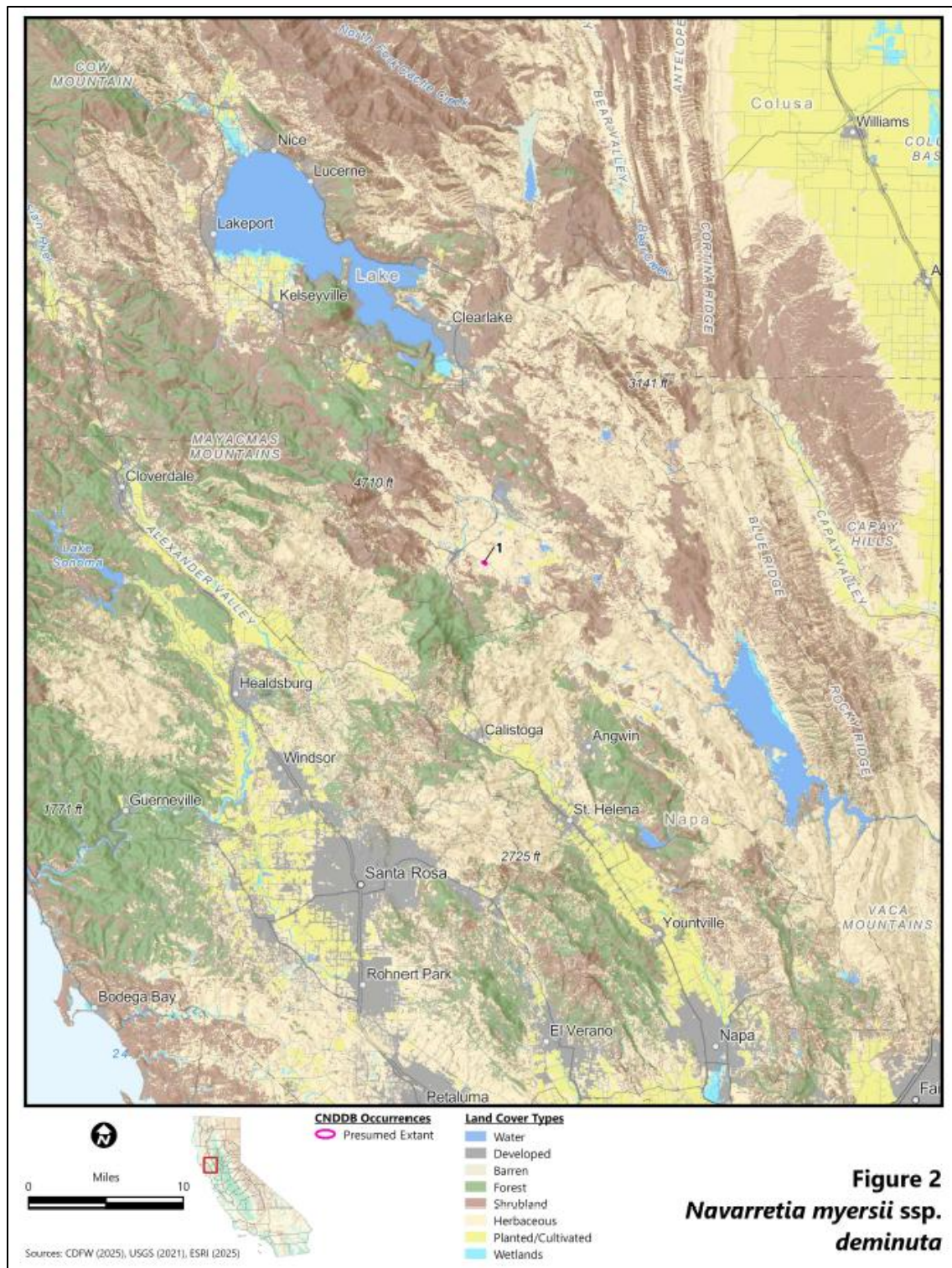


Figure 1. Map of the range and distribution of small pincushion navarretia as provided in Figure 2 of the petition. Occurrence is from the California Natural Diversity Database (CNDDDB) and is labeled with the CNDDDB occurrence number.

3.2.1 Department Assessment

Range and distribution of small pincushion navarretia 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 CNDDDB data represents the complete range and distribution of the species, whether additional information on range and distribution is available for the species that is not reflected in the CNDDDB data, or whether any survey efforts have been made to confirm or ascertain the full range and distribution of the species. 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 updated its information on small pincushion navarretia in September 2025 and now has the single occurrence mapped as a specific occurrence (it was previously a nonspecific occurrence) but notes that the population likely extends outside of the mapped area. While this additional, readily available information contributes to our current knowledge on the range and distribution of small pincushion navarretia, 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 small pincushion navarretia.

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 small pincushion navarretia survival.

The petition states that small pincushion navarretia occurs in vernal pools and swales. The petition also includes a list of several plant species that grow with small pincushion navarretia.

3.3.1 Department Assessment

The Department considers the information provided in the petition on the kind of habitat necessary for survival of small pincushion navarretia 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 page 5 of the petition provides information on the abundance of small pincushion navarretia. Section A on page 3 of the petition provides information on the population trend of small pincushion navarretia.

The petition summarizes information on the abundance of small pincushion navarretia, noting that approximately 25,000 plants were observed in 1992, with no other estimates of its abundance reported in the CNDDDB. The petition states that recent monitoring of small pincushion navarretia has not been conducted as the occurrence is on private property. The petition estimates the area of occupied habitat to be approximately 7 hectares (18 acres) based on CNDDDB polygon data.

The petition states that small pincushion navarretia has likely had a historically decreasing population trend because of loss and degradation of vernal pool landscapes including at the one site it is known to occupy. However, the petition notes that its current population trend is uncertain and may be decreasing or stable. The petition also states that the vernal pool landscape within Long Valley in Lake County, where the species has been observed, has been substantially altered by human caused changes based on imagery from Google Earth.

3.4.1 Department Assessment

Abundance of small pincushion navarretia is provided in the petition based on a single population estimate reported in the CNDDDB of 25,000 plants in 1992; however, no discussion is provided on the completeness of the information including whether the abundance estimate was based on a complete or partial survey of the occurrence. Area of occupied habitat is estimated in the petition as an indicator of abundance using CNDDDB polygon data which is an inappropriate use of CNDDDB data. CNDDDB polygons are typically mapped to include a buffer that represents the locational accuracy of the data and should not be used to determine area occupied by the species.

Population trend of small pincushion navarretia is determined in the petition to be historically decreasing but currently uncertain based on Google Earth imagery. The petition discusses how Google Earth imagery shows conversion of natural lands to

agriculture and development in the area and notes that a road which bounds the CNDDDB occurrence of small pincushion navarretia to the southeast appears to have been improved which may have reduced or removed overland and swale flows to the vernal pool complex that contains the species. The petition does not follow up these Google Earth imagery observations with a discussion of whether small pincushion navarretia was impacted by the activities leading to a decreasing population. In addition, the statements in the petition about changes to vernal pool landscapes likely causing additional, undocumented habitat losses, population declines, or both to small pincushion navarretia are too general and do not specifically identify impacts to habitat likely to have contained small pincushion navarretia.

The Department has some additional, readily available information from the CNDDDB not presented in the petition. The CNDDDB updated its information on small pincushion navarretia in September 2025. This updated information includes updates to observation dates and abundance data at the one existing occurrence. The Department also has supplemental information on small pincushion navarretia provided by the petitioner via email stating that a graduate student has started work on this section of the genus *Navarretia*. The petitioner mentions that this graduate student has probably been to the site in 2025 but does not provide additional information on what was found during the fieldwork.

While this additional, readily available information contributes to our current knowledge on the abundance of small pincushion navarretia, 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 small pincushion navarretia.

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 9 of the petition provides information on factors affecting the ability of small pincushion navarretia to survive and reproduce (threats). Section H on page 10 of the petition provides information on the degree and immediacy of threats to small pincushion navarretia.

The petition lists several prominent range-wide threats to small pincushion navarretia: agricultural and developed land uses, climate change, and invasive species. The petition describes agricultural and developed land uses as major threats to small pincushion navarretia because these land uses have been directly eliminating, fragmenting, and

increasing threats to the remaining habitat. The petition notes that agricultural and developed land uses have impacted a considerable portion of the vernal pool landscape of Long Valley, where small pincushion navarretia has been observed growing in one small area. The petition also states that the valley is crossed by several roads and subdivided into several dozen parcels, most of which are zoned rural residential. The petition describes how the improvement of Callayomi Road has likely affected vernal pools at the site by reducing or removing overland and swale flows downgradient to the occupied vernal pools. The petition notes that construction of the Guenoc Valley Mixed-Use Planned Development Project approximately 3.2 km (2 mi) from the small pincushion navarretia occurrence could increase the rate of land use changes from agriculture and development.

The petition states that climate change directly and indirectly threatens small pincushion navarretia 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 small pincushion navarretia 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.

The petition states that invasive species have not been identified as a threat to small pincushion navarretia in the CNDDB, but invasive species are likely a significant threat to the species. The petition notes that invasive grasses already co-occur with small pincushion navarretia and that dozens of invasive species that substantially impact ecosystem processes and vegetation are spreading in the range of small pincushion navarretia within the vegetation types that provide its habitat. The petition states that infestations of invasive species can directly affect the conditions or resources small pincushion navarretia relies on, thereby reducing abundance and making the species more vulnerable to extirpation from other causes.

The petition states that without additional management actions, there is a moderate to high likelihood that small pincushion navarretia will be extirpated from much of its range or become extinct. The petition mentions that this may occur because: the only known occurrence is threatened and the severity of some threats is increasing, the species has been documented at only one site that is also small in area, and the only known site occupied by the species is unprotected and not managed for the conservation of the species.

3.5.1 Department Assessment

Factors affecting the ability of small pincushion navarretia to survive and reproduce, and the degree and immediacy of threats, are presented in the petition based mainly on observations made using Google Earth imagery showing the presence of agricultural and developed land uses in Long Valley and improvements to the road that borders the southeast end of the CNDDDB occurrence. The petition also discusses climate change and invasive species as general threats to small pincushion navarretia that are not listed in the CNDDDB. None of these threats are described in adequate detail in the petition in relation to the effect they are having on small pincushion navarretia plants and/or habitat, and the petition does not provide information on the degree and immediacy of these threats for the species.

The petition also mentions small number of sites and lack of protection and management as additional reasons why small pincushion navarretia is likely to be extirpated from much of its range or become extinct. The petition has not shown that small pincushion navarretia's distribution and number of sites have been fully assessed. The petition also does not discuss what the unprotected land with small pincushion navarretia is being used for and how that land use is threatening, or potentially threatening, the species.

The Department does not have additional, readily available information in its possession that compensates for deficiencies in data for these topics. The information presented in the petition is not adequate for evaluating the factors affecting the ability of small pincushion navarretia to survive and reproduce, or the degree and immediacy of threats to small pincushion navarretia.

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 11 and 12 of the petition provides information on the impact of existing management efforts on small pincushion navarretia.

The petition states that management of small pincushion navarretia has been very limited, has not sufficiently addressed 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 small pincushion navarretia 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 the single occurrence of small pincushion navarretia is on unprotected lands. The petition mentions that seeds of small pincushion navarretia have not been collected and placed in long-term storage at a seed-banking facility.

The petition notes that no efforts have been made to restore or create habitat occupied by small pincushion navarretia. The petition discusses how no formal monitoring of small pincushion navarretia is currently being conducted. The petition states that surveys of the one known occurrence of small pincushion navarretia have not been reported to the CNDDDB since 1998 and range-wide surveys of potential habitat have not been conducted to determine if small pincushion navarretia occupies any additional, undocumented sites. The petition 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 most 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 small pincushion navarretia 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 12 and 13 of the petition provides suggestions for future management of small pincushion navarretia.

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 the known occupied site in perpetuity,
- collect seed and place it in long-term storage at a seed-banking facility,
- develop and implement a site-specific monitoring and management plan,
- manage the known population to prevent the spread of invasive species and eradicate existing infestations,
- implement compatible grazing practices,

- establish a memorandum of understanding with Lake County Department of Public Works regarding road maintenance activities potentially affecting occupied habitat,
- coordinate and share information among organizations working to conserve the species,
- restore degraded, occupied habitat,
- establish additional populations,
- conduct surveys to improve data on abundance and search for additional occurrences, and
- investigate the species' reproduction, population ecology, and habitat requirements to inform conservation and management.

3.7.1 Department Assessment

The Department considers the information provided in the petition on suggestions for future management of small pincushion navarretia 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 13 through 16 of the petition provides the sources of information used in the small pincushion navarretia 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 small pincushion navarretia.

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 small pincushion navarretia 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 small pincushion navarretia, the Department has determined that information is lacking for the following petition components: range, distribution, abundance, population trend, factors affecting the

ability of the species to survive and reproduce (threats), 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 small pincushion navarretia under CESA may be warranted and recommends the Commission reject the petition and not consider it further under CESA.

LITERATURE CITED

- CNDDDB (California Natural Diversity Database). 2020. California Natural Diversity Database (CNDDDB) Management Framework. California Department of Fish and Wildlife, Sacramento, CA, USA.
- CNDDDB (California Natural Diversity Database). 2025. RareFind 5 [internet]: *Navarretia myersii* subsp. *deminuta*. Government version- dated August 2025. Available from: (Accessed:
- CNDDDB (California Natural Diversity Database), and CNPS (California Native Plant Society). 2020. The California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Cooperative Relationship and Rare Plant Status Review Process. Sacramento, CA. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=175695&inline> (Accessed: 8 October 2025)
- CNPS (California Native Plant Society). 2025. Rare plant inventory (online edition, v9.5.1): *Navarretia myersii* subsp. *deminuta*. Available from: <https://rareplants.cnps.org/Plants/Details/1982> (Accessed: 21 November 2025)
- Day, A. G. 1995. Sessile-flowered species in the *Navarretia leucocephala* group (Polemoniaceae). *Madroño* 42:34–39.
- Johnson, L. A. 2013a. *Navarretia myersii* in Jepson Flora Project, editor. Jepson eFlora, Revision 1. Available from: https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=34466 (Accessed: 25 November 2025)
- Johnson, L. A. 2013b. *Navarretia myersii* subsp. *deminuta* in Jepson Flora Project, editor. Jepson eFlora, Revision 1. Available from: https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=80208 (Accessed: 25 November 2025)
- Master, L., D. Faber-Langendoen, R. Bittman, G. Hammerson, B. Heidel, L. Ramsay, K. Snow, A. Teucher, and A. Tomaino. 2012. NatureServe conservation status assessments: factors for evaluating species and ecosystem risk. NatureServe, Arlington, VA, USA.
- USFWS (United States Fish and Wildlife Service). 2005. Recovery plan for vernal pool ecosystems of California and southern Oregon. U.S. Fish and Wildlife Service, Portland, OR, USA.