

5.3.29 Monterey Spineflower (*Chorizanthe pungens* var. *pungens*)



Monterey spineflower

Status

- Federally Threatened
- California Rare Plant Rank 1B2.

Ecological Requirements

- RCIS Regions: Monterey Bay Coastline, Inner Coast Range (CDFW 2020; USFWS 1998b)
- RCIS Natural Communities: Coastal Dune, Coastal Scrub, Mixed Chaparral (CDFW 2020; USFWS 1998b)
- Openings in sandy soils in coastal dunes or more inland within chaparral or other habitats (CDFW 2020; USFWS 1998b, 2009a)
- Fire adapted (USFWS 2009a)
- Full species account available: U.S. Fish and Wildlife Service 5-Year Review: Monterey Spineflower (*Chorizanthe pungens* var. *pungens*), Summary and Evaluation (USFWS 2009a)
- RCIS Conservation Target: Highest (Federally listed, near-endemic to the RCIS area)

Associated Non-Focal Species

- Northern California legless lizard (*Anniella pulchra*)

- Menzies’ wallflower (*Erysimum menziesii*)
- Monterey larkspur (*Delphinium hutchinsoniae*)
- Sandmat manzanita (*Arctostaphylos pumila*)
- Woolly-leaf manzanita shrubland (*Arctostaphylos tomentosa* Alliance)

Climate Change Vulnerability Assessment

Table 5-46 summarizes the climate change exposure, spatial distribution, and vulnerability of natural communities associated with the Monterey spineflower (MS). Coastal scrub and coastal dune communities statewide could experience a 25 to 75 percent reduction in habitat suitability, and some mixed chaparral communities could experience a 0 to 25 percent reduction in habitat suitability. Projected shoreline retreat and beach erosion because of increased frequency and intensity of wave action will also contribute to degradation or loss of habitat (USFWS 2009a).

Table 5-46. Monterey Spineflower Vulnerability Ranking

Natural Communities	Climate Exposure and Disruption Rank High Emissions (RCP8.5) Warm and Wet	Climate Exposure and Disruption Rank High Emissions (RCP8.5) Hot and Dry	Combined Vulnerability Rank High Emissions (RCP8.5)
Coastal Scrub	Moderate	Moderate to Mid-High	Mid-High
Coastal Dune	Moderate	Mid-High	Moderate to Mid-High
Mixed Chaparral	Low to Moderate	Moderate to Mid-High	Moderate to Mid-High

Thorne et al. 2016

The goals, objectives, and actions shown in Table 5-47 aim to protect, enhance, and restore present day suitable habitats for Monterey spineflower, as well as habitats that may become suitable in the future because of projected climate changes. Actions also address population stability, such as prescribed burns, which may allow individuals to move to newly suitable habitats in the future.

Figure 5-25 shows the range and modeled habitat for the Monterey spineflower.

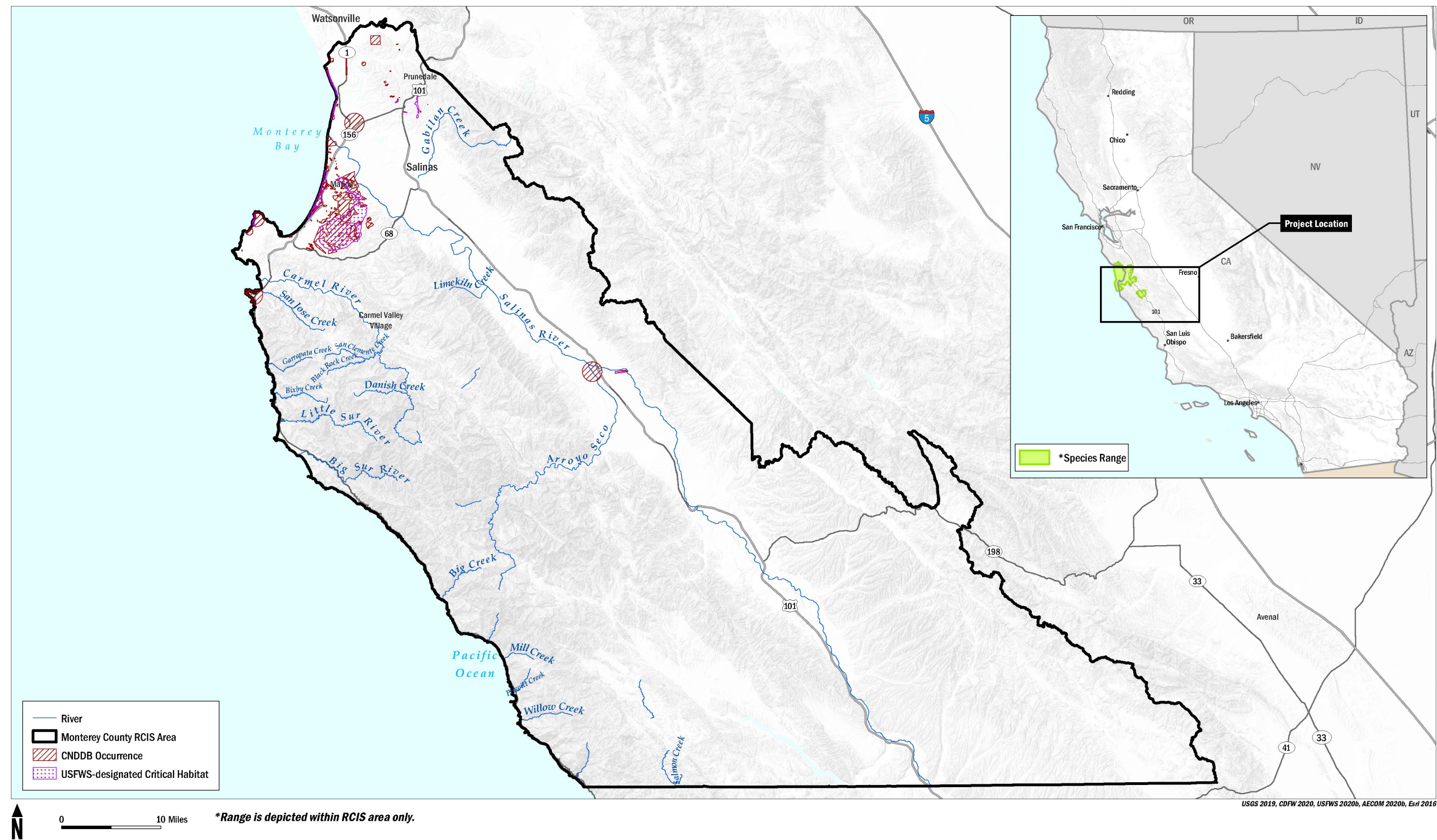


Figure 5-25. Monterey Spineflower Range and Modeled Habitat

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Monterey Spineflower Conservation Priorities, Goals, Objectives, and Actions

RC Goal 1 and all Plant goals, objectives, and actions apply to Monterey spineflower. Table 5-47 summarizes specific goals, objectives, and actions for the species.

Conservation Priorities

- Acquire and protect suitable habitat surrounding known occurrences in the Monterey Bay–Fort Ord region, Prunedale Hills, and known occurrences along the Salinas River near Soledad (USFWS 2009a) (RC Objective 1.1).
- Enhance suitable or potentially suitable habitat in Monterey County through non-native species control or seed germination pilot studies (Plant Goal 1).

Table 5-47. Monterey Spineflower Goals, Objectives, and Actions

Goal	Objective	Threats	Co-Benefits	Action
MS Goal 1. Promote persistence of Monterey spineflower populations in the RCIS area through protection, restoration, and enhancement of habitat.	MS Objective 1.1: Protect known occurrences and allow expansion by protecting 2,000 acres of suitable habitat. Measure progress toward achieving this objective by the number of known occurrences, acres of suitable or potentially suitable habitat, and adjacent/equivalent acres protected, focusing on Caltrans-managed lands in the Prunedale Hills area (USFWS 2009a).	<ul style="list-style-type: none"> • Habitat loss, degradation, fragmentation • Climate change 	<ul style="list-style-type: none"> • Biodiversity • Other focal species/non-focal species • Climate change resilience 	RC Objective 1.1 (Protection) actions

Goal	Objective	Threats	Co-Benefits	Action
MS Goal 1.	MS Objective 1.2: Enhance occupied and suitable Monterey spineflower habitat. Measure progress toward achieving this objective by acres of habitat and adjacent/equivalent acres enhanced and occupied by Monterey spineflower.	<ul style="list-style-type: none"> • Fire suppression activities • Climate change 	<ul style="list-style-type: none"> • Fire management • Biodiversity • Other focal/non-focal species • Climate change resilience 	MS 1.2.1: Use prescribed burns to create suitable vegetation densities to promote plant establishment, in coordination with scientific advisors, land managers, universities, and/or regulatory agencies to inform the location and frequency of potential burn areas.
MS Goal 1.	MS Objective 1.2:	<ul style="list-style-type: none"> • Habitat loss, degradation, fragmentation • Climate change 	<ul style="list-style-type: none"> • Climate change resilience 	MS 1.2.2: Conduct surveys and research on inland populations to determine ecological information, such as distribution, range, and climate change vulnerability.

Goal	Objective	Threats	Co-Benefits	Action
MS Goal 1.	MS Objective 1.2:	<ul style="list-style-type: none"> • RC Objective 1.2 (Enhancement) threats 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity • Climate change resilience 	RC Objective (Enhancement) 1.2 actions
MS Goal 1.	MS Objective 1.3: Restore Monterey spineflower habitat. Measure progress toward achieving this objective by acres of habitat and adjacent/equivalent acres enhanced.	<ul style="list-style-type: none"> • Plant Objective (Restoration) 1.1 threats 	<ul style="list-style-type: none"> • Fire management • Biodiversity • Other focal/non-focal species 	Plant Objective (Restoration) 1.1 actions
MS Goal 2: Promote resiliency to the impacts of climate-change-induced coastal retreat, to maintain habitat.	MS Objective 2.1: Create and protect new coastal dune and beach systems as Monterey spineflower habitat. Measure progress toward achieving this objective by acres of coastal habitat and adjacent/equivalent acres created and protected.	<ul style="list-style-type: none"> • Sand mining • Climate change 	<ul style="list-style-type: none"> • Other focal species/non-focal species • Climate change resilience 	MS 2.1.1: Conduct beach nourishment to create additional coastal dune systems where feasible and informed by modeled sea-level rise projections.

Goal	Objective	Threats	Co-Benefits	Action
MS Goal 2:	MS Objective 2.1:	<ul style="list-style-type: none"> • Climate change 	<ul style="list-style-type: none"> • Other focal species/non-focal species • Climate change resilience 	MS 2.1.2: Install living shorelines using shoreline stabilization techniques informed by modeled sea-level rise projections.

Sources: CDFW 2015, 2020; CNPS 2019b; USFWS 1998a, 1998b, 2009a