

5.3.5 Burrowing Owl (*Athene cunicularia*)



Burrowing Owl

Photo Credit: Rose Bloise

Status

- State Species of Special Concern

Ecological Requirements

- RCIS Regions: All terrestrial regions
- RCIS Natural Communities: Agriculture, Annual Grassland, Coastal Scrub, Valley Oak Woodland (CDFW 2020)
- Wintering, foraging, and breeding habitat: Open, dry areas with suitable mammal burrows or cavities surrounded by sparse vegetation for nesting. Will also nest in culverts, pipes, and artificial burrow. Require nests to be surrounded by sparse, low-growing vegetation (CDFW 2020; USFWS 2003b)
- Preys on insects and small mammals (USFWS 2003b)
- Full species account available: *Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States* (USFWS 2003b)
- RCIS Conservation target: Moderate (large area of suitable habitat being converted to agriculture)

Associated Non-Focal Species

- American badger (*Taxidea taxus*)
- Contra Costa goldfields (*Lasthenia conjugens*)
- Jolon clarkia (*Clarkia jolonensis*)

Climate Change Vulnerability Assessment

Most of the burrowing owl (BUOW) summer and winter ranges in the RCIS are likely to remain stable under different warming scenarios (Wilsey et al. 2019). Gardali et al. (2012) conducted a species-specific climate change vulnerability assessment for burrowing owl (BUOW) on exposure and sensitivity factors which include:

Exposure Factors:

- Habitat suitability-Low
- Food availability-Low
- Extreme weather-Low

Sensitivity Factors:

- Habitat specialization-High
- Migratory status-Moderate
- Dispersal ability-Low
- Physiological tolerances-Low

Though burrowing owls only use specific habitat types, they do have a high dispersal ability (Gardali et al. 2012). Based on this ability to disperse to newly suitable habitats and an ability to successfully use some urbanized habitats, burrowing owls are not included on the Climate Change Vulnerability Priority list (top 25 percent of highest assessed scores) (Gardali et al. 2012). However, climate threats include increased frequency and intensity of wildfires, increases in spring heat waves, and drought (Wilsey et al. 2019).

The goals, objectives, and actions shown in Table 5-6. aim to protect, enhance, and restore present day suitable habitats for burrowing owl, as well as habitats that may become suitable in the future because of projected climate changes. Actions also address population stability, such as available nesting burrows and sustainable prey availability, which may allow burrowing owl to adapt and move to newly suitable habitats in the future. A summary of natural

communities where this species occurs is presented in Chapter 4. Figure 5-1 shows the range and modeled suitable habitat for the burrowing owl.

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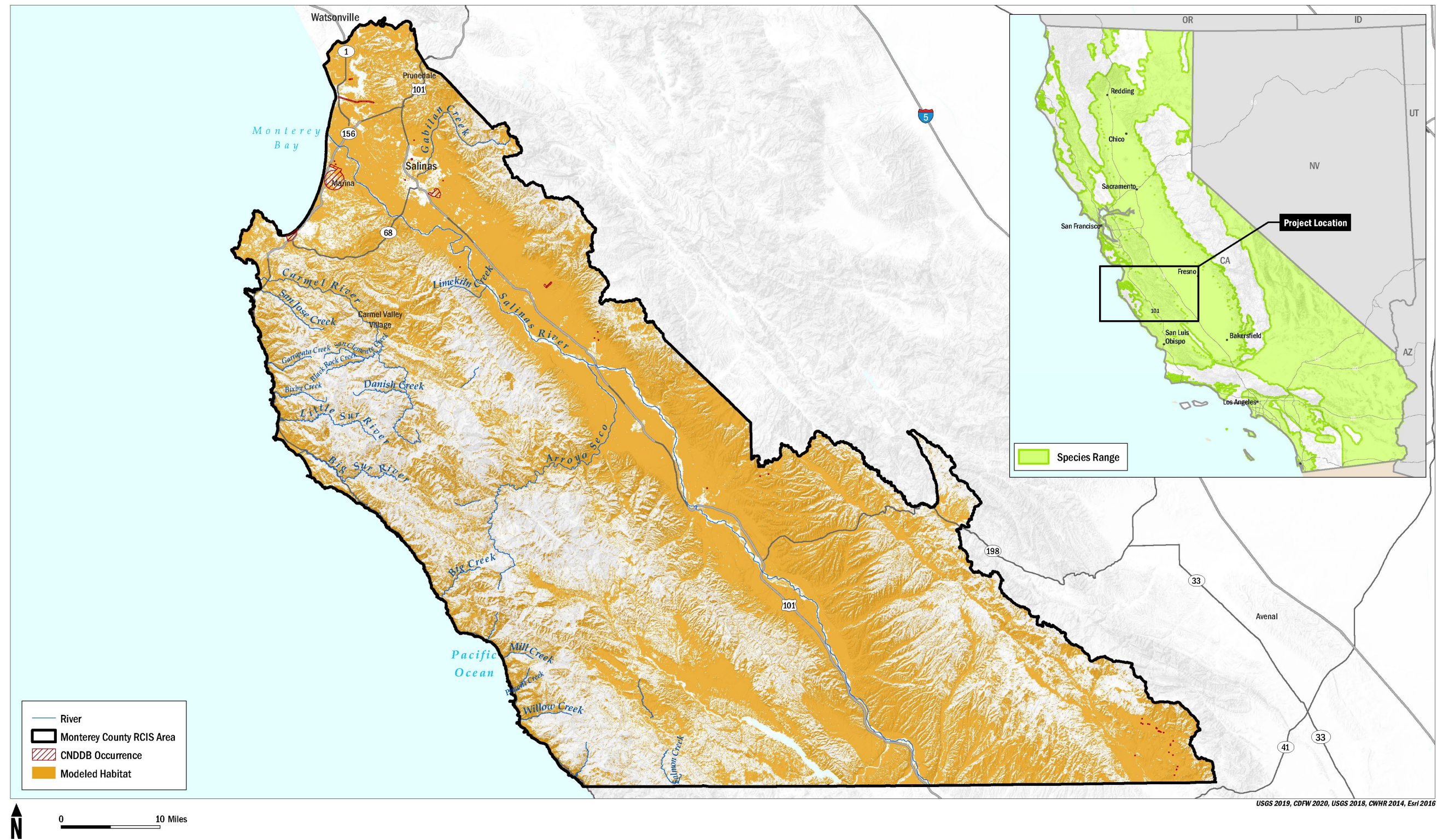


FIGURE 5-1
Burrowing Owl

Figure 5-1. Burrowing Owl Range and Modeled Habitat

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Burrowing Owl Conservation Priorities, Goals, Objectives, and Actions

All regional goals, objectives, and actions apply to burrowing owl. Table 5-6. summarizes specific goals, objectives, and actions for the species.

Conservation Priorities

- Acquire and protect habitat surrounding known occurrences near King City, San Lucas, San Ardo, and the Monterey Peninsula near Point Pinos (RC Objective 1.1).
- Enhance suitable vegetation structure, as it is an important habitat feature for this species. Priority locations for enhancement actions should include the Salinas Valley (near known occurrences), Monterey Peninsula, and Chloame Valley (BUOW 1.2.1).

Table 5-6. Burrowing Owl Goals, Objectives, and Actions

Goal	Objective	Threats	Co-Benefits	Action
BUOW Goal 1. Promote persistence of burrowing owl populations in the RCIS area through protection, restoration, and enhancement of habitat.	BUOW Objective 1.1: Protect known occurrences and intact habitat and allow expansion of habitat by protecting 289,000 acres of suitable habitat. Measure progress toward achieving this objective by the number of breeding locations, acres of adjacent foraging habitat protected, and associated/equivalent acres.	<ul style="list-style-type: none"> • Habitat loss, degradation, fragmentation • Climate change 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity • Climate change resilience 	RC Objective 1.1 (Protection) actions

Goal	Objective	Threats	Co-Benefits	Action
BUOW Goal 1.	BUOW Objective 1.2: Enhance occupied and suitable burrowing owl breeding, wintering, and foraging habitat. Measure progress toward achieving this objective by acres of habitat and associated/equivalent acres enhanced and/or occupied by burrowing owls and/or evidence of presence (occupied burrows).	<ul style="list-style-type: none"> • Habitat loss, degradation, fragmentation • Climate change 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity • Climate change resilience 	BUOW 1.2.1: Manage suitable vegetation structure (e.g., mowing, revegetation with low-growing and less dense native plants, controlled grazing) to encourage burrowing owl wintering and breeding occupancy (Shuford and Gardali 2008; USFWS 2003b).
BUOW Goal 1.	BUOW Objective 1.2:	<ul style="list-style-type: none"> • Small mammal eradication 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity 	BUOW 1.2.2: Reduce/eliminate small mammal control efforts. Implement programs to increase small mammal populations in areas where they have been eradicated.

Goal	Objective	Threats	Co-Benefits	Action
BUOW Goal 1.	BUOW Objective 1.2:	<ul style="list-style-type: none"> • Agricultural practices (e.g., grazing, pesticides, insecticides) 		BUOW 1.2.3: Create conservation agreements with row-crop agriculturalists and ranchers to encourage management of water conveyance structures, roadsides, and field margins, to benefit burrowing owl (USFWS 2003b).
BUOW Goal 1.	BUOW Objective 1.2:	<ul style="list-style-type: none"> • Agricultural practices (e.g., grazing, pesticides, insecticides) 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity 	BUOW 1.2.4: Eliminate or reduce the use of insecticides. If insecticide use is necessary, use insecticides with the lowest toxicity to nontarget organisms. Do not spray pesticides within 400 to 600 meters of burrowing owl nest burrows during the breeding season (USFWS 2003b).

Goal	Objective	Threats	Co-Benefits	Action
BUOW Goal 1.	BUOW 1.3: Restore occupied, and suitable burrowing owl breeding, wintering, and foraging habitat and create new habitat. Measure progress toward achieving this objective by acres of habitat and adjacent/equivalent acres restored or created and/or by evidence of presence (occupied burrows).	<ul style="list-style-type: none"> • Habitat loss, degradation, fragmentation • Small mammal eradication • Climate change 	<ul style="list-style-type: none"> • Other focal/non-focal species • Biodiversity • Climate change resilience 	BUOW 1.3.1: Where potential nesting burrows are lacking, install artificial burrows or encourage the presence of California ground squirrels (USFWS 2003b).
BUOW Goal 1.	BUOW 1.3:	<ul style="list-style-type: none"> • Climate change 	<ul style="list-style-type: none"> • Climate change resilience 	BUOW 1.3.2: Use genetic data to inform captive breeding and translocation programs to support genetically diverse populations.

Sources: CDFW 2015, 2020; Shuford and Gardali 2008; USFWS 2003b