5.3.15 Pallid Bat (*Antrozous pallidus*)

Pallid Bat
Photo Credit: Ivan Parr

Status

- State Species of Special Concern

Ecological Requirements

- RCIS Regions: All terrestrial regions
- RCIS Natural Communities: All terrestrial communities
- Prefers to day roost in rocky outcrops, cliffs, tree crevices, and building and other structures with access to open habitats for foraging (CDFW 1988b, Lewis 1994); these roosts must protect bats from high temperatures (CDFW 2020)
- Maternity roosts may have 12-100 individuals (CDFW 1988b)
- Hibernates in winter, in locations near summer day roost (CDFW 1988b)
- Preys on insects and is most commonly found in open, dry habitats with rocky areas for roosting (CDFW 2020)
- Urbanization has reduced roosting and foraging habitat in coastal California
- Potentially susceptible to fungal diseases (Langwig et al. 2015)
- Full species account available: *Pallid Bat Life History Account* (CDFW 1988b)

- RCIS Conservation Target: Moderate (widely distributed habitat, representative of bat species)

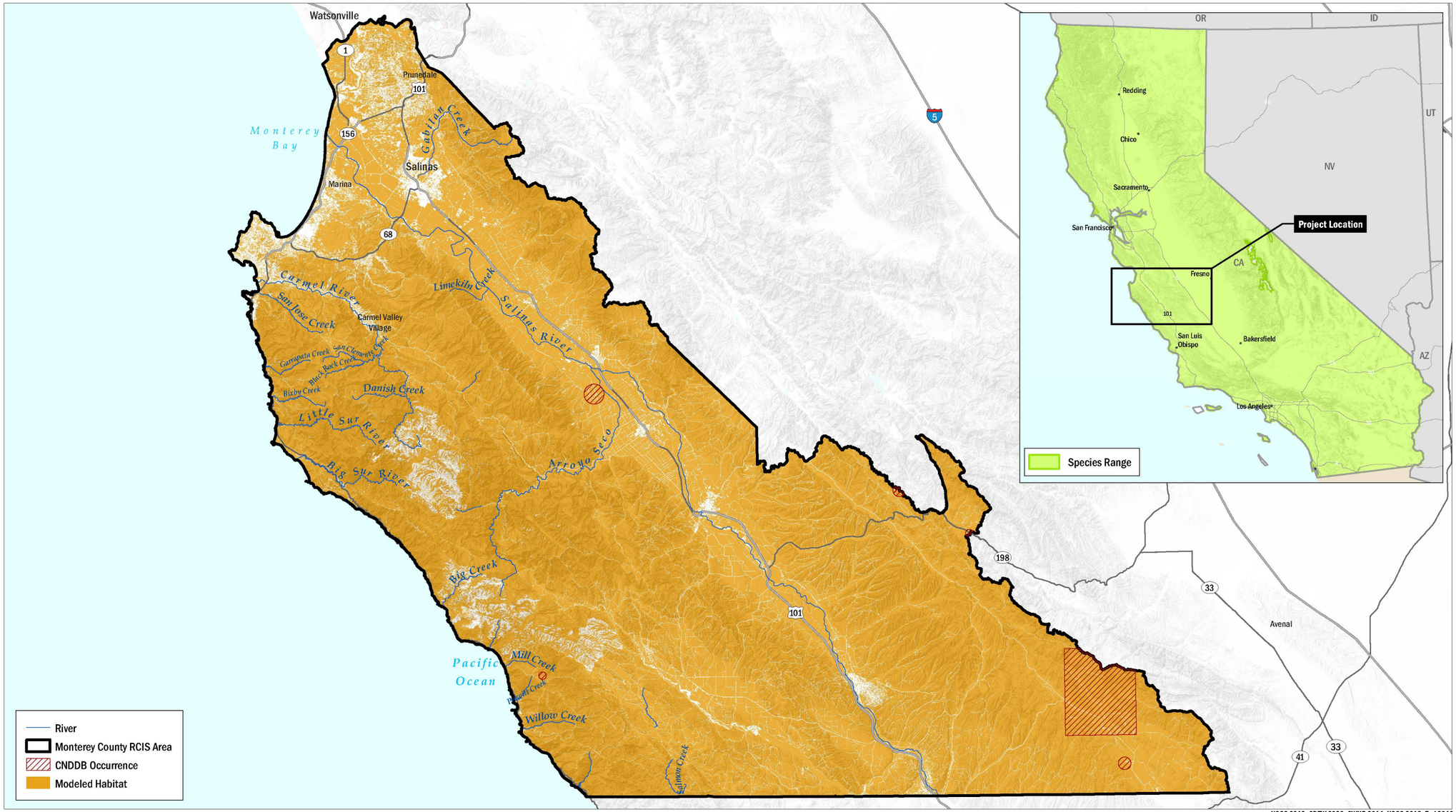
Associated Non-Focal Species

- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Western mastiff bat (*Eumops perotis californicus*)

Climate Change Vulnerability Assessment

Overall, increased climate exposure is likely to have detrimental impacts on the pallid bat (PB). An increase in the number of severe storms (Fellers and Halstead 2015) and increased periods of drought (Jones et al. 2009) may have detrimental effects on insect populations, leading to lower prey availability. An increase in overall winter temperatures could lead to negative effects during hibernation by increasing energy needs, depleting fat reserves, and making bats more susceptible to fungal infections (Jones et al. 2009). Increasing temperatures may cause some species to move farther north (Jones et al. 2009) and increasing incidences of heat waves may threaten bats with direct and mass mortality (Sherwin et al. 2013). Climate change will exacerbate all the threats listed in Table 5-23.

The goals, objectives, and actions shown in Table 5-23. aim to protect, enhance, and restore present day suitable habitats for pallid bat, as well as habitats that may become suitable in the future because of projected climate changes. Actions also address threats to population stability, such as monitoring for pathogens, which may assist in identifying disease risks and allow populations to move to newly suitable habitats in the future. Figure 5-11 shows the range and modeled habitat for the pallid bat.



Transportation Agency for Monterey County
Monterey County Regional Conservation Investment Strategy

FIGURE 5-11
Pallid Bat

Figure 5-11. Pallid Bat Range and Modeled Habitat

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Pallid Bat Conservation Priorities, Goals, Objectives, and Actions

RC Goal 1, and RC 2.1.1 applies to pallid bat. Table 5-23. summarizes specific goals, objectives, and actions for the species.

Conservation Priorities

- Acquire and protect habitat surrounding known occurrences in the Cholame Hills area and the Salinas Valley (RC Objective 1.1). Enhance habitats to provide a stable prey base in areas that may become suitable in the future because of projected climate changes.

Table 5-23. Pallid Bat Goals, Objectives, and Actions

Goal	Objective	Threats	Co-Benefits	Action
PB Goal 1: Promote persistence of pallid bat populations in the RCIS area through protection, restoration, and enhancement of habitat.	PB Objective 1.1: Protect known occurrences, maternity, night, and hibernation roosts, and allow expansion by protecting 376,000 acres of suitable habitat. Measure progress toward achieving this objective by acres of habitat and adjacent/equivalent acres protected, and by the number of maternity roosts and hibernation sites protected, compared to present day.	• Habitat loss, degradation, fragmentation • Climate change	• Working lands • Other focal/ non-focal species • Biodiversity • Climate change resilience	RC Objective 1.1 (Protection) actions

Goal	Objective	Threats	Co-Benefits	Action
PB Goal 1:	PB Objective 1.2: Create, restore, and enhance occupied and suitable habitat for pallid bat in the RCIS area. Measure progress toward achieving this objective in the number of roosts and hibernation sites created, restored, enhanced, and occupied by pallid bat.	• Habitat loss, degradation, fragmentation • Climate change	• Working lands • Other focal/ non-focal species • Biodiversity • Climate change resilience	PB 1.2.1: Install artificial roost boxes in suitable habitat with nearby suitable foraging habitat, where roost site availability is unnaturally limiting the population.
PB Goal 1:	PB Objective 1.2:	• Disturbance and/or destruction of roosting sites	• Other focal/ non-focal species • Biodiversity	PB 1.2.2: Design infrastructure projects, including culverts and bridges, to encourage roosting, and ensure that they are compatible with pallid bats.

Goal	Objective	Threats	Co-Benefits	Action
PB Goal 1:	PB Objective 1.2:	• Disturbance and/or destruction of roosting sites	• Working lands • Other focal/ non-focal species • Biodiversity	PB 1.2.3: Limit recreational activities near caves and other roosting sites, including culverts and other transportation infrastructure.
PB Goal 1:	PB Objective 1.2:	• Habitat loss, degradation, fragmentation • Disturbance and/or destruction of roosting sites	• Working lands • Other focal/ non-focal species • Biodiversity	PB 1.2.4: Conduct acoustic studies, to determine distribution and identify different types of roosts.
PB Goal 2: Support stability and recovery of pallid bat populations in the RCIS area through measures to reduce direct mortality.	PB Objective 2.1: Reduce pathogen-related, such as white-nosed syndrome, mortality. Measure progress toward achieving this objective by the reduction of pathogen-related pallid bat deaths detected, compared to present day.	• Disease (e.g., future fungal pathogen introductions)	• Working lands • Other focal/ non-focal species • Biodiversity	PB 2.1.1: Sanitize all equipment before entering transportation infrastructure, including culverts, occupied by roosting bats, to prevent the spread of fungal diseases (such as white-nosed syndrome_.

Goal	Objective	Threats	Co-Benefits	Action
PB Goal 2:	PB Objective 2.1:	• Disease (e.g., future fungal pathogen introductions)	• Working lands • Other focal/ non-focal species • Biodiversity	PB 2.1.2: Fund disease monitoring, surveillance, and testing of pallid bat carcasses.
PB Goal 2:	PB Objective 2.2: Reduce renewable energy project-related mortality. Measure progress toward achieving this objective by the reduction of renewable energy project-related pallid bat deaths detected, compared to present day.	• Renewable energy projects	• Working lands • Other focal/ non-focal species • Biodiversity	PB 2.2.1: Conduct monitoring studies across all seasons to clarify activity patterns and locate roosts near proposed renewable energy facilities. Use monitoring data to inform construction, operation, and maintenance activities and reduce bat fatalities.

Sources: CDFW 1988, 2015, 2019