

California Wildlife Habitat Relationships System
California Department of Fish and Wildlife
California Interagency Wildlife Task Group

PALLID BAT

Antrozous pallidus

Family: VESPERTILIONIDAE
M038

Order: CHIROPTERA

Class: MAMMALIA

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The pallid bat is a locally common species of low elevations in California. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern cos., and the northwestern corner of the state from Del Norte and western Siskiyou cos. to northern Mendocino Co. A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. The species is most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Takes a wide variety of insects and arachnids, including beetles, orthopterans, homopterans, moths, spiders, scorpions, solpugids, and Jerusalem crickets. The stout skull and dentition of this species allows it to take large, hard-shelled prey. Forages over open ground, usually 0.5-2.5 m (1.6-8 ft) above ground level. Foraging flight is slow and maneuverable with frequent dips, swoops, and short glides. Many prey are taken on the ground. Gleaning is frequently used, and a few prey are taken aerially. Can maneuver well on the ground. May carry large prey to a perch or night roost for consumption. Ingestion of fruit in one study (Howell 1980) was a result of feeding on frugivorous moths. Uses echolocation for obstacle avoidance; possibly utilizes prey-produced sounds while foraging.

Cover: Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Roost must protect bats from high temperatures. Bats move deeper into cover if temperatures rise. Night roosts may be in more open sites, such as porches and open buildings. Few hibernation sites are known, but probably uses rock crevices.

Reproduction: Maternity colonies form in early April, and may have a dozen to 100 individuals. Males may roost separately or in the nursery colony.

Water: Needs water, but has a good urine-concentrating ability (Geluso 1978).

Pattern: Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.

SPECIES LIFE HISTORY

Activity Patterns: Nocturnal. Hibernates. Emerges late (30-60 min after sunset), with a major activity peak 90-190 min after sunset, and a second peak shortly before dawn. Briefer foraging periods occur in autumn, and activity is infrequent below 2°C (35°F). Undergoes shallow torpor daily. Hibernates in winter near the summer day roost (Hermanson and O'Shea 1983).

Seasonal Movements/Migration: Makes local movements to hibernation sites. There is a post-breeding season dispersal.

Home Range: Forages 0.5-2.5 km (1-3 mi) from day roost. Capable of homing from distances of a few miles, but not further.

Territory: Social. Most pallid bats (95%) roost in groups of 20, or more, ranging to 162. Group size is important for metabolic economy and growth of young. Young animals occupy the center of clusters. Individuals out of clusters experience higher rates of weight loss (Trune and Slobodchikoff 1976,1978).

Reproduction: Mates from late October-February. Fertilization is delayed, gestation is 53-71 days. Young are born from April-July, mostly from May-June. The average litter is 2, but females reproducing for the first time usually have 1 young. Litter size is 1-3. The altricial young are weaned in 7 wk, and are observed flying in July and August. Females nurse only their own young. Females and juveniles forage together after weaning. Females mate in first autumn, males in second. Maximum recorded longevity is 9 yr, 1 mo (Cockrum 1973).

Niche: This slow-flying, maneuverable species is adapted to feed on large, hard-shelled prey on the ground or in foliage. It is known to roost with a number of other bats, principally *Myotis* spp. and *Tadarida brasiliensis*. Owls and snakes are known predators.

Comments: Very sensitive to disturbance of roosting sites. Such sites are essential for metabolic economy, juvenile growth and as night roosts to consume prey.

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