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

CAVE MYOTIS *Myotis velifer*
Family: VESPERTILIONIDAE Order: CHIROPTERA Class: MAMMALIA
M024

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Restricted, in California, to lowlands of Colorado River and adjacent mountain ranges, in San Bernardino, Riverside, and Imperial cos., although more common farther east. This species was once common, with several colonies of 1000 individuals in Riverside Mts. However, these colonies have experienced significant declines, and status in California is uncertain. Habitats occupied in California include desert scrub, desert succulent shrub, desert wash, and desert riparian.

SPECIFIC HABITAT REQUIREMENTS

Feeding: This opportunistic species (Vaughan 1980) takes a variety of flying insects. Studies report large proportions of moths (Ross 1967, Hayward 1970) and beetles (Ross 1967, Kunz 1974). Takes more hardshelled prey than do most myotis species. A strong flier with low maneuverability. It follows a regular path, often close to vegetation. Vaughan (1959) reported that it foraged close to riparian vegetation, 2-4 m (6-15 ft) away. Other studies report that forages from 4-12 m (12-50 ft) above ground early in evening, and 2-4 m (6-15 ft) above ground just before dawn. Juveniles forage closer to ground or vegetation than adults (Kunz 1974). Lactating females have the highest food consumption.

Cover: A colonial cave-dweller, occurring in colonies of several thousand individuals in most of its range. Mines and buildings also may be used. Hibernation caves have high humidity, often with standing or running water and little air movement. Hibernating cave myotis may form clusters. Uses temporary night roosts.

Reproduction: Nursery colonies are in the hibernation cave or another cave. Occasionally other sites, such as bridges, are used. Males may be found in the maternity colony. Optimal sites are relatively warm, with little human disturbance.

Water: Probably required. Although the cave myotis can produce a concentrated urine (Geluso 1978), individuals usually drink soon after nightly emergence.

Pattern: Feeds along riparian vegetation, over water, between patches of riparian vegetation, and to a lesser extent over open areas.

SPECIES LIFE HISTORY

Activity Patterns: Nocturnal. Hibernates. Emerges soon after sunset, earlier if sky is overcast. Consumes 80% of nightly diet in first 2 hr of activity. A second peak of activity occurs shortly before sunrise. Juveniles and lactating females emerge later, and juveniles may have unimodal activity patterns. Prefers high temperatures (18-26°C) (64-78° F). In Arizona, hibernation begins in September or October, females before males. Nearly 1/4 of body weight lost during hibernation.

Seasonal Movements/Migration: Appears to be absent from California in winter and early spring (Stager 1939), suggesting migration to hibernacula further south, probably in Mexico. In Arizona, females leave in September and return in May; males leave in October and return in March.

Home Range: The cave myotis may fly a considerable distance to and from feeding areas. Home ranges of several hundred km² have been suggested (Fitch et al. 1981). Individuals return to roost sites year after year, but have poor homing ability if displaced.

Territory: None reported. Occurs in large colonies.

Reproduction: The cave myotis copulates in fall and winter. After a gestation period of 60-70 days, the young are born in June and July. There is a single litter of 1 individual. The young are capable of flight at 3 wk, begin foraging at 4 wk, wean at 6 wk, and reach adult weight at 9-10 wk. The maternity colony breaks up in August. Females can reproduce in their first yr; males usually reproduce beginning in their second yr. The maximum recorded longevity is 11.3 yr.

Niche: This swift, aerial insectivore takes a variety of soft and hard-shelled prey; it may be seen foraging with other bats. It often roosts with other species, especially Tadarida brasiliensis.

Comments: California populations have declined significantly from human disturbance of roosts, loss of riparian vegetation, and pesticides. A California Species of Special Concern (Williams 1986).

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