

Western Bat Working Group

Species Accounts

Developed For the 1998 Reno Biennial Meeting

Updated at the 2005 Portland Biennial Meeting

Tadarida brasiliensis mexicana

MEXICAN FREE-TAILED BAT

Prepared by: Bat Conservation International

I. DISTRIBUTION: *Tadarida brasiliensis*, a member of the Family Molossidae, is one of the most widely distributed mammalian species in the Western Hemisphere. There are nine recognized subspecies, two in the United States. *T. b. mexicana* is primarily western, occurring from southern Oregon to eastern Nebraska, and south through Mexico. *T. b. cynocephala* is primarily a southeastern species, from eastern Kentucky into South Carolina and south through Florida. *T. brasiliensis* ranges southward through most of Central America. In the western United States, *T. brasiliensis* is most commonly associated with dry, lower elevation habitats, yet it also occurs in a variety of other habitats, and is found up to at least 3,000 m. in some of the western mountain ranges.

II STATUS: Global Rank - G5. State Ranks: AZ - S3/S4; CA - S4/S5; CO - S1; NM - S2; NV - S?; OR - S2; TX - S5; UT - S3/S4; WY - S5. *T. brasiliensis* is widely regarded as one of the most abundant mammals in North America, and is not on any Federal lists. However, its proclivity towards roosting in large numbers in relatively few roosts makes it especially vulnerable to human disturbance and habitat destruction. Documented declines at some roosts are cause for concern. It is considered a Species of Special Concern due to declining populations and limited distribution in Utah.

III. IDENTIFYING CHARACTERISTICS AND LIFE HISTORY: Like other molossid (free-tail) species, *T. brasiliensis* has a tail which extends well beyond the back edge of the interfemoral membrane. *T. brasiliensis* can be distinguished from the other molossids occurring in the United States by the characteristic that its the ears are not joined basally at the mid-line. This species is highly colonial with maternity colonies ranging in size from a few hundred to 20 million. The most commonly used natural roosts are caves and rock crevices on cliff faces. This species also roosts in abandoned mines and tunnels, highway bridges and large culverts, buildings, and bat houses. Maternity roosts are usually warmer and larger than bachelor or non-reproductive female roosts. *T. brasiliensis* will, during spring cold snaps, take refuge in cliff swallow nests. Brazilian free-tailed bats often fly more than 50 km to reach foraging areas. Such flight is rapid, direct, and often involves gliding. Bats from one colony may cover areas as large as 400 km² and move at speeds over 40 km/hour and at altitudes of 3,000 meters or more. Foraging occurs at high elevations and also at heights of 6 to 15 meters. *T. brasiliensis* consumes a large variety of agricultural pests, mostly moths, but also flying ants, weevils, stink-bugs and ground beetles. *T. b. mexicana* is primarily migratory, with large numbers of females returning to large, warm caves in Texas, New Mexico, Arizona, and Oklahoma each spring. Few adult males return northward; mating probably occurs in lower latitudes of the winter range. Seasonal patterns elsewhere in the west are less clear. Birth usually occurs between mid-June and mid-July. Adult mass is reached in as little as three weeks, and first flight occurs 2-3 weeks later.

IV. THREATS: Besides the human disturbance and habitat destruction, or alteration of suitable caves, mines, bridges, and old buildings noted above, there are problems with pesticide poisoning and deliberate eradication attempts. Human rabies deaths attributed to *T. brasiliensis* foster attitudes for the destruction of *T. brasiliensis* roosts and colonies.

V. GAPS IN KNOWLEDGE: Although most major maternity roosts in the United States are now protected, much remains to be done with winter roosts in Mexico. More documentation of the role of *T. b.*

mexicana in agriculture, and the use of artificial roosts to attract them, is needed. Its ecology, distribution, and seasonal patterns are not well understood in some parts of its range, particularly California, Nevada, southern Oregon, and Utah).

VI. RELEVANT LITERATURE:

Loughry, W. J., and G. F. McCracken. 1991. Factors influencing female-pup scent recognition in Mexican free-tailed bats. *Journal of Mammalogy*, 72(3):624-626.

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McCracken, G. F., M. K. McCracken, and A. T. Vawter. 1994. Genetic structure in migratory populations of the bat *Tadarida brasiliensis mexicana*. *Journal of Mammalogy*, 75(2):500-514.

Schmidley, D. J. 1991. *The Bats of Texas*. Texas A&M University Press, College Station, TX. 188 pp.

Wilkins, K. T. 1989. *Tadarida brasiliensis*. *American Society of Mammalogists, Mammalian Species*, 331:1-10.

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