

Beyond the Road

TxDOT Environmental Affairs Division

Since 1917, the highway department has built roads shaped around the state's scenic splendor and cultural heritage. Engineers eased travelers' journeys by building beautiful bridges, paving scenic roads and creating welcoming roadside parks. Today, the Environmental Affairs Division at TxDOT helps care for the state's natural and cultural resources in tandem with this vision.

TEXAS BATS

How did it start?

Bats' use of bridges as roosts came to TxDOT's attention in 1980 when a colony of Brazilian free-tailed bats moved into the crevices beneath the newly reconstructed Congress Avenue Bridge in Austin. At the time, there were many unanswered questions about the bats' impact on the structural integrity of the bridge and potential health risks to the public.

A joint investigation led by TxDOT engineer Mark Bloshcock and Merlin Tuttle, founder of Bat Conservation International and current head of Merlin Tuttle's Bat Conservation, found that bridges and culverts are among the favored man-made roosts for a number of bat species.

Bat-viewing Tips

- Do not shine flashlights or fire camera flashes into the faces of emerging bats; after bats have flown past it is okay to fire a flash camera.
- Loud noises may cause bats to delay their emergence, spoiling the show.
- Do not throw objects at flying or roosting bats.
- Give emerging bats the right of way.
- Bats found on the ground may be sick or injured. Please do not touch them.

TxDOT's Bat Program

Equipped with information on bats' roosting preferences, TxDOT designs and retrofits bridges and culverts where it is appropriate and economical.

TxDOT's bridge engineers and biologists work together to evaluate and design bridges and culverts that can double as bat roosts. In areas where the presence of bats is not desirable, TxDOT biologists carefully and humanely exclude bats from their bridge roosts. TxDOT waits until the bats have migrated south and then makes minor changes to bridges and other structures that will make the structures unattractive to bat colonies.

Bat Facts!

- Male bats sing during courtship.
- Bats drink "on-the-fly," swooping over water for quick sips.
- Baby bats are called "pups."
- Recent research shows bats climb thousands of feet into the sky and use tail winds to reach speeds near 100 mph.
- Bats are not blind. Echolocation is a supplement to their excellent vision.
- Bat knees face backward as an adaptation to bats hanging upside down. Additionally, the tendons in their toes lock, allowing them to hang without using up energy.
- Bats from a single bridge eat tons of crop pests in a single night. In spring, bats intercept migratory pests before they can reach Texas crops, saving farmers millions annually.

Foster Road Bridge

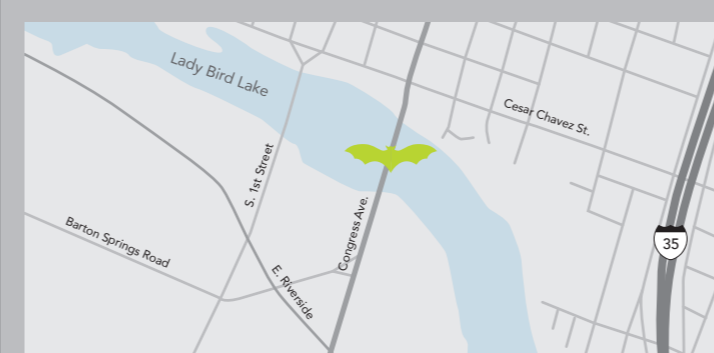
San Angelo



The Foster Road Bridge over Loop 306 in San Angelo offers viewing opportunities for Brazilian free-tailed bats. The bats roost in narrow crevices on the underside of the bridge. They first arrive in late March and are wholly absent by the end of November. During the last decade, spring and early summer populations have fluctuated between a few thousand and 150,000 bats. But from late summer through October, when maternity colonies have mostly dispersed, up to 184,000 have been recorded. The best time for viewing is at sunset.

Ann W. Richards Congress Avenue Bridge

Downtown Austin



The Ann W. Richards Congress Avenue Bridge, located in the heart of downtown Austin, hosts one of the largest urban bat colonies in the world, estimated at 1.5 million bats. It is a maternity colony, and mother Brazilian free-tailed bats (aka Mexican free-tailed bats) raise an estimated 500,000 pups each year at the bridge.

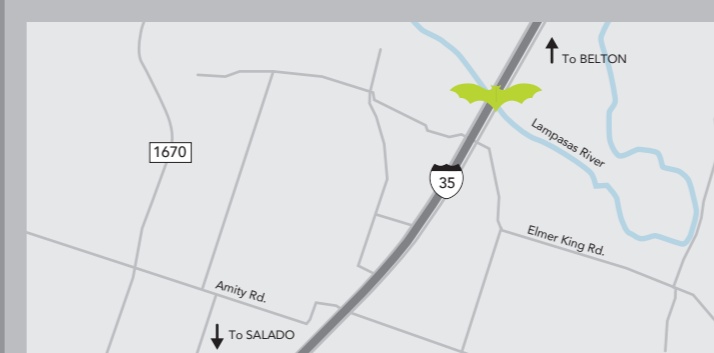
Large numbers of bats began roosting in the Congress Avenue Bridge in the early 1980s, shortly after it was renovated. Few people understood how valuable the bats were, and many feared them. Today, Austin loves its bats, and this international tourist attraction brings 140,000 people and as much as \$10 million to Austin every year.

Watch from the lawn of the Austin American-Statesman's Bat Observation Area, which offers educational kiosks year-round and volunteer bat educators on weekend evenings from May through September. You can also get nice views of the long columns of emerging bats from atop the bridge itself. Boat tours are available from Lone Star Riverboats and Capital Cruises.

I-35 Bridge

at Lampasas River

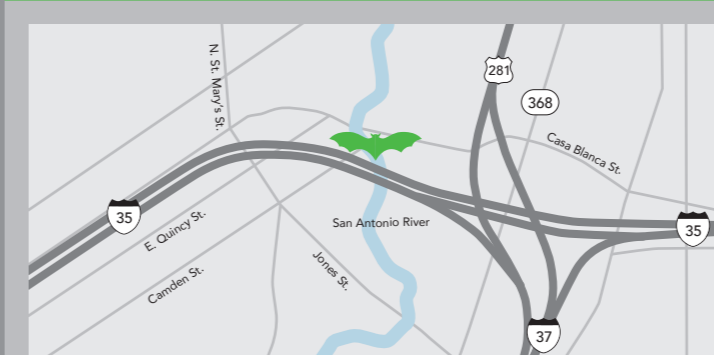
Salado



A large roosting colony of Brazilian free-tailed bats was discovered under the I-35 bridge over the Lampasas River in Bell County near Salado. When it was time to replace this bridge, TxDOT estimated the number of bats using the bridge, the amount of roosting habitat the existing bridge offered, as well as the microclimate where the bats roosted. Using this information, TxDOT placed specially designed bat boxes on the new bridge, replacing the habitat that the old bridge offered. The bats occupied the boxes shortly after they were initially placed. Viewing opportunities are available from Pace Park located off Main Street in downtown Salado; look northwest to the bridge over I-35.

Camden Street Bridge

San Antonio River Walk



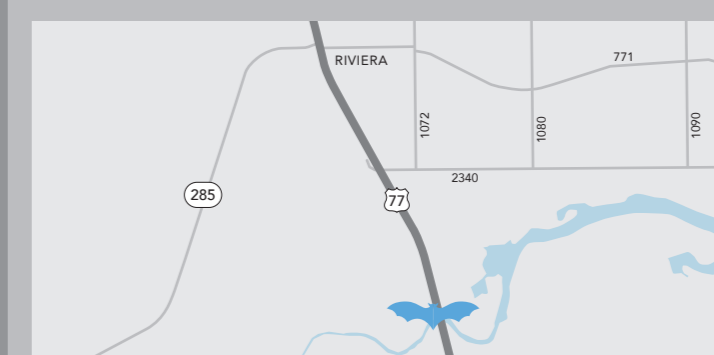
Nestled under the I-35 bridge where it crosses the San Antonio River near Camden Street, a colony of approximately 50,000 male Brazilian free-tailed bats roosts during the summer months.

Located along the Museum Reach segment of the River Walk, the expansion joint under the concrete bridge is the perfect home. The colony's close proximity to the river gives the bats an open area to glide through when they emerge for their nightly feeding of agricultural pests.

The San Antonio River Authority hosts annual Bat Loco events at the intersection of Camden and Newell streets to highlight the bat colony, educate the public about the importance of bats and spread awareness of bat conservation. The annual "Bat Loco Bash" in August concludes the event series with food trucks, educational booths, kids' activities, and, of course, the bats!

Los Olmos Bridge

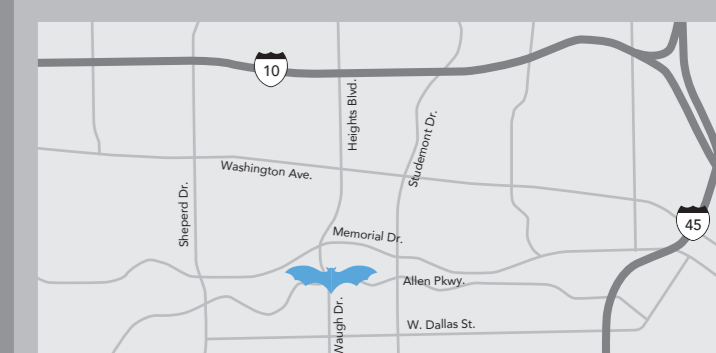
Riviera



A large colony of Brazilian free-tailed bats is present year-round at the bridge over Los Olmos Creek on US 77 near Riviera, 19 miles south of Kingsville. To access from the north heading south, watch for a gravel pull-off area on the west side of the road about 0.1 mile north of the actual bridge. To access from the south, cross over the bridge and watch for a gravel pull-off area on the east side of the road.

Waugh Drive Bridge

Downtown Houston



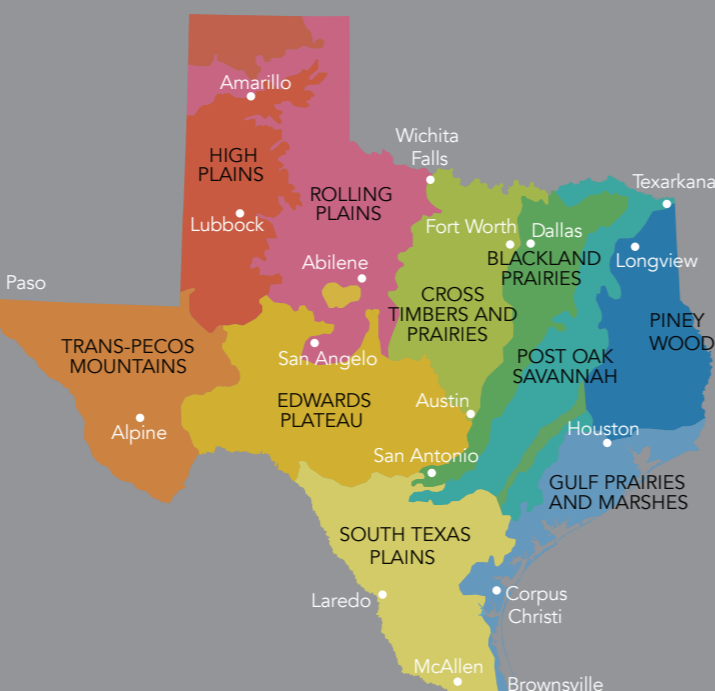
Waugh Drive Bridge spans Buffalo Bayou, less than two miles west of downtown Houston. An estimated 250,000 Brazilian free-tailed bats call the bridge home. Upon emerging at sunset, the bats usually fly east along the bayou before dispersing.

While the majority of bats at other bridges and caves migrate to Mexico each winter, many of the Waugh Drive Bridge bats do not. Experts think these bats may make up the largest colony of Brazilian free-tailed bats that resides in Texas all year-round.

In 2006, a bat observation deck was installed in Buffalo Bayou Park, with free parking at Spotts Park. The park gives free bat presentations Thursday through Saturday during summer.

"Bat Chats" occur at the bridge on Friday nights from March through October. Plan to arrive 30 minutes before sunset to hear the presentation. Houston Area Bat Team members are on hand to answer general questions about bats as well as questions about the Waugh Drive Bridge colony.

Buffalo Bayou Partnership offers boat trips on the bayou.



- TRANS-PECOS MOUNTAINS
- HIGH PLAINS
- ROLLING PLAINS
- EDWARDS PLATEAU
- SOUTH TEXAS PLAINS
- CROSS TIMBERS AND PRAIRIES
- BLACKLAND PRAIRIES
- POST OAK SAVANNAH
- PINEY WOODS
- GULF PRAIRIES AND MARSHES

32 Bat Species in Texas

Arranged regionally. Color codes correspond to map.

<p>Mexican Long-nosed Bat ● (endangered) (<i>Leptonycteris nivalis</i>) A medium-size bat with short ears and no tail. This Mexican species enters Texas in the Big Bend Region. This bat is listed as endangered by the Texas Parks and Wildlife Department, although the species is vibrant throughout much of Mexico.</p>	<p>California Myotis ● (<i>Myotis californicus</i>) A small bat with short limbs and a relatively long tail and ears. This is a western species, found in the Trans-Pecos region of Texas.</p>	<p>Fringed Myotis ● (<i>Myotis thysanodes</i>) A large bat with large ears featuring short stiff hairs. The species is migratory and can be found in the Trans-Pecos region of Texas during the summertime.</p>	<p>Long-legged Myotis ● (<i>Myotis volans</i>) A large bat with a relatively long tail, short ears, and large feet. This species occurs in the central range of the Trans-Pecos region of Texas.</p>	<p>Western Red Bat ● (<i>Lasiurus blossevillei</i>) A medium-size bat with a rusty red to brown coloration. Although this species is found throughout the far western areas of the United States and south into Mexico, only one specimen has been found in Texas in Presidio County.</p>	<p>Townsend's Big-eared Bat ●●●● (<i>Corynorhinus townsendii</i>) A medium-size bat with extremely large, flexible ears and a noticeable outgrowth on each side of its snout. This bat's coloration is a nearly uniform brown with slightly paler underparts. The bat can be found in the western half of the state.</p>	<p>Southern Yellow Bat ● (threatened) (<i>Dasypterus ega</i>) A small bat with a yellowish brown coloration. This species can be found from south Texas all the way down to Argentina. Texas Parks and Wildlife has listed this bat as threatened only because of its limited distribution in the southern part of the state.</p>	<p>Northern Long-eared Myotis ● (<i>Myotis septentrionalis</i>) A small bat with long ears and a dull, gray-brown coloration. While widely distributed over eastern and northern North America, only one specimen has been collected in south Texas in 1942 from Dimmit County.</p>	<p>American Parastrelle ●●●● (<i>Parastrellus hesperus</i>) A small gray bat with a distinct black-leathery face. This species can be found throughout the western portion of the state.</p>	<p>Ghost-faced Bat ●●●● (<i>Mormoops megalophylla</i>) A medium-size, reddish-brown or dark brown bat with leaf-like appendages on its chin. In Texas, this bat resides along the southern edge of the Edwards Plateau and in the South Texas Plains and Trans-Pecos regions.</p>	<p>Eastern Red Bat ●●●●●●●● (<i>Lasiurus borealis</i>) A medium-size, distinctly rounded, reddish bat with short ears. This species is one of the few North American species that roosts in open trees rather than caves or tunnels. The Eastern Red Bat travels across the entire state, moving northward in the spring and southward in the fall.</p>	<p>Hoary Bat ●●●●●●●● (<i>Aeorestes cinereus</i>) A large bat with short round ears. The coloration is gray to brown with heavily frosted-white tips. This species, like the Eastern Red Bat, roosts in the open and flies across the entire state, moving northward in the spring and southward in the winter.</p>	<p>American Perimyotis ●●●●●●●● (<i>Perimyotis subflavus</i>) A small bat with large ears and pale yellowish-brown underparts. This species can be found in the eastern half of the state, including the Rolling Plains west to Armstrong County and central Texas as far west as Val Verde County.</p>	<p>Northern Yellow Bat ●●●●● (<i>Dasypterus intermedius</i>) A large, yellow-brown bat with short ears and long, silky fur. The distribution of this bat is restricted to the eastern portion of the state, extending from Lamar County southward to Cameron County and westward to Bexar County.</p>	<p>Seminole Bat ●●●●● (<i>Lasiurus seminolus</i>) A medium-size bat with a rich mahogany brown coloration. The distribution of this species is closely related to the pine forests of the eastern regions of Texas, extending westward to Hunt, Dallas, Coryell and Williamson counties.</p>	<p>Rafinesque's Big-eared Bat ● (threatened) (<i>Corynorhinus rafinesquii</i>) A medium-size bat with extremely large ears, featuring a dark coloration with white-tipped fur. This species is restricted to a small portion of the pine forests of East Texas.</p>
<p>Pocketed Free-tailed Bat ● (<i>Myotis myotis</i>) A medium-size bat similar in appearance to the Brazilian free-tailed, although with narrower features. This bat is only known from specimens retrieved from Big Bend National Park.</p>	<p>Spotted Bat (threatened) ● (<i>Eumops maculatum</i>) A large bat with extremely large ears, featuring a black coloration and three large white spots (one on each shoulder and one on the rump). This species is uncommon but widespread in semi-arid regions of the western United States, and is only known in Texas from specimens found in Big Bend National Park. The restricted range in Texas has landed this bat a spot in Texas Parks and Wildlife's threatened species list.</p>	<p>Yuma Myotis ● (<i>Myotis yumanensis</i>) A small bat with relatively large feet. Their coloration is dull and pinkish, although it becomes darker with age, and features a nearly white underbelly. In Texas, this species is found in the southern Trans-Pecos region eastward to Val Verde County.</p>	<p>Western Bonneted Bat ● (<i>Eumops perotis</i>) A free-tailed bat similar to the Brazilian free-tailed species but nearly seven times as large. This species features a brown or gray brown coloration and is restricted to just Presidio, Brewster and Val Verde counties.</p>	<p>Pallid Bat ●●●● (<i>Aristotis pallidus</i>) A large yellowish-brown bat with large ears and feet. This species of bat is a common resident across the western half of the state.</p>	<p>Western Small-footed Myotis ● (<i>Myotis cillaburum</i>) ●● A small bat with small feet, short ears, and a relatively long tail. This species is primarily found in the Trans-Pecos region of Texas, although multiple records indicate a small population occurring in the High Plains of the Panhandle in Armstrong and Randall counties.</p>	<p>Southwestern Little Brown Myotis ● (<i>Myotis occultus</i>) A small bat with long glossy-black hairs. Only one specimen of this bat has been collected in Texas in the early 1900s near Fort Hancock in Hudspeth County.</p>	<p>Western Yellow Bat ● (<i>Dasypterus saxatilis</i>) Easily confused with the Southern Yellow Bat, this species features a brighter yellow underbelly and lacks the dark face coloration. The distribution of this species is restricted to a small region of southwest Texas from Jeff Davis County westward to Val Verde County.</p>	<p>Mexican Long-tongued Bat ● (<i>Chiroonycteris mexicana</i>) A medium-size bat with a long, slender muzzle, featuring a gray to brown coloration. This Mexican species can be found in the extreme southern regions of Texas as well as in New Mexico and Arizona.</p>	<p>Cave Myotis ●●●●● (<i>Myotis velifer</i>) A large bat with large feet, short ears, and dull-brown coloration. This species can be found across most of the Trans-Pecos region, south Texas, eastern portions of the Panhandle, north-central Texas, and the Edwards Plateau.</p>	<p>Brazilian Free-tailed Bat (aka Mexican Free-tailed Bat) ●●●●●●●●●● (<i>Tadarida brasiliensis</i>) A medium-size bat with broad ears, large feet, short tail, and a coloration varying from reddish to black. This species can be found statewide, although some populations migrate southward to Mexico during the fall. The Brazilian free-tailed colony under Austin's Congress Avenue Bridge is the largest urban bat colony in North America. Additionally, the 10 to 20 million Brazilian free-tailed bats at Bracken Cave near New Braunfels is the largest bat colony in the world.</p>	<p>Silver-haired Bat ●●●●●●●●●● (<i>Lasiurus noctivagans</i>) A medium-size nearly black bat with brown ears and dense fur with white tips, creating a frosted appearance. The distribution of this species is statewide except for coastal areas, from Matagorda southward to Cameron counties.</p>	<p>Evening Bat ●●●●●●●● (<i>Eptesicus humeralis</i>) A small black or brown bat featuring small leathery black ears. This species' distribution is throughout the eastern portion of the state west to Clay County in the north and Val Verde County in the south.</p>	<p>Big Brown Bat ●●●●● (<i>Eptesicus fuscus</i>) A medium-size bat with short wings and rich chestnut-brown underparts; ears are small but thick and leathery-black. This species is widely distributed over most of the eastern and western parts of Texas but is curiously absent from the central regions.</p>	<p>Big Free-tailed Bat ●●●●●●●● (<i>Myotis austroriparius</i>) A bat very similar in appearance to the Brazilian free-tailed, although much larger. The coloration ranges from light reddish-brown to dark brown, with paler underparts. The distribution of this species is scattered in the Trans-Pecos region, the Panhandle, and the south-eastern portions of the state.</p>	<p>Southeastern Myotis ●● (<i>Myotis austroriparius</i>) A small bat with woolly fur, featuring a brown upper body and white-tipped hairs on its underparts. This bat resides in the Piney Woods region of eastern Texas and most of the southeastern United States.</p>

Bat images courtesy of Merlin Tuttle's Bat Conservation; additional images at MerlinTuttle.org



To learn more about TxDOT's Environmental Division, go to www.txdot.gov, keyword "Beyond The Road"

