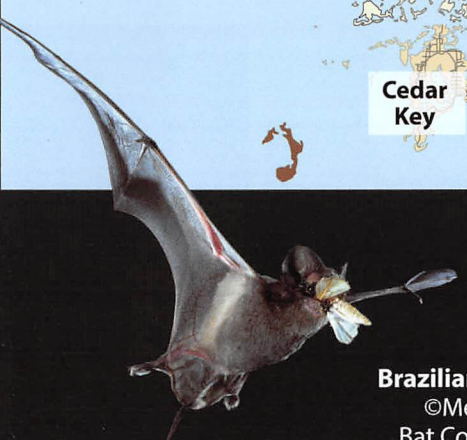


The "evening bat show" is located 18 miles from Cedar Key and 16 miles from Chiefland. The bats emerge after sunset.



Brazilian free-tailed bat
©Merlin D. Tuttle
Bat Conservation Intl.

Become a FRIEND today for —
the animals
the Suwannee
our way of LIFE



eastern bluebird
photo: Larry Woodward

WILDLIFE.
Suwannee River.
Your way of LIFE.

Your support is crucial to preserve the Refuges and protect wildlife for ourselves and for our children.

Friends of the Lower Suwannee & Cedar Keys NWRs is a voice for the wildlife. It is a voice for all nature lovers, hunters, fishermen, birders, kayakers, hikers, clammers, and oystermen whose livelihood and way of life depend on the animals and the river.

To support the Refuges, join us at FriendsOfRefuges.org. Your membership gifts may be tax-deductible. Support from caring people like you lets us champion our wildlife and wilderness.

www.FriendsofRefuges.org

As a membership organization, through voluntary action, Friends supports the Refuges and their work to conserve the region's wildlife and the places they need to thrive. We invite you to enjoy their pristine and primitive beauty with us.

© 2019 Friends LSCKNWR

BATS

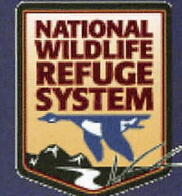
of the
**Lower Suwannee
National Wildlife
Refuge**



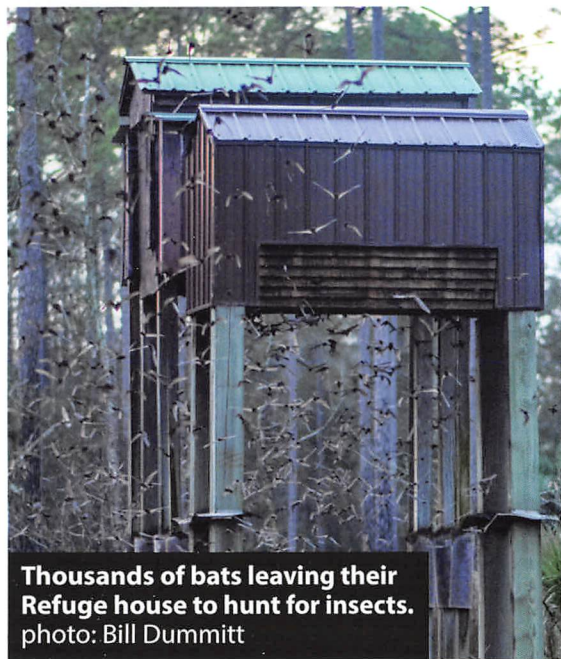
Masters of the night sky

Home to approximately 30,000 bats, the bat houses in the Lower Suwannee NWR shelter the noisy Brazilian free-tailed, small southeastern myotis, gregarious evening bats, and handsome eastern red bats. Witness their nightly emergence at dusk and watch for barred owls or red-shouldered hawks perched nearby to capture an unaware bat.

From the viewing platform at the end of the River Trail, you may also see bats darting through the night sky over the Suwannee River.



Of the 13 species of bats native to Florida, 11 have been identified on the Refuge. Bats play an essential role in a healthy ecosystem. The historical harvesting of old-growth hardwoods depleted roosting habitats and caused bat numbers to plummet. As a result, all bats are federally protected. The Lower Suwannee National Wildlife Refuge strives to restore habitat for bats and other wildlife. The first bat house was built in 2002; it was occupied within seven months. The house was so successful that a second was added a few years later.



Thousands of bats leaving their Refuge house to hunt for insects.
photo: Bill Dummitt

Each bat house is inhabited primarily by Brazilian free-tailed bats (*Tadarida brasiliensis*) that are about the size of a man's thumb. Their tail protrudes beyond the tail membrane giving them the name "free-tailed." They are the most colonial of all mammals, forming larger colonies than any other bat species. The 30,000-member Refuge colony is only medium-sized. Easily adapting to roosts in man-made structures, they are the most likely species to move in. Brazilian free-tails tolerate other bat species in the house—southeastern myotis (*Myotis austroriparius*), evening bats (*Nycticeius humeralis*) and eastern red bats (*Lasiurus borealis*) have been observed in the Refuge bat house. Some individuals migrate south in the winter but many

remain here, huddled together near the top to maintain around 90 degree ambient temperatures.

Bats are not rodents, and are more closely related to primates than to mice. Scientists place bats in the order Chiroptera; the name derived from Greek, means "hand-wing" because their wing bone structure is the same as a human hand. Bats date back 65 million years. Their earliest fossil remains look much like the skeletons of modern bats.



Bats suspend themselves from their feet, with head pointed down to sleep. Once clamped onto their roost, there is no muscle tension and their metabolic rate lowers to conserve energy. Bats are fastidious animals and keep their roost clean by crawling to the bottom of the house to defecate. Guano, the pile of nitrogen-rich excrement, is not the strongest odor you notice near the bat house, it is musk. Bats, like many animals, use musk to mark their territory and each other. When a mother returns to the roost she finds her pup by scent.

If you look closely you might notice parts of the bat house in need of repair. Bats will not abandon a bat house if a few pieces at a time are repaired. Never disturb a bat house during maternity season—April to August. It is illegal to exclude bats from your home at that time since the pups are helpless.

The only mammals capable of true flight, bats have been known to travel more than 30 miles in one night. Brazilian free-tails have been clocked flying 60 miles per hour. Their speed and agility help them outrace owls and hawks who are often seen near the Refuge bat house hoping to pick off an unlucky bat.

Metal or concrete culvert structures can be used to provide roosting habitat similar to the large hollow trees that Rafinesque's big-eared bats (*Corynorhinus rafinesquii*) prefer. Raf's are a threatened bat species so, to help, the Refuge placed several of these habitats in the woods.



photo: ©Merlin D. Tuttle
Bat Conservation Intl.

Eastern red bats often sleep alone in Refuge trees. Their handsome fur is brick red or rusty red and frosted with white which helps it blend with foliage. When roosting, they resemble dead leaves or pine cones. They will also nestle into the thick, scaly bark of longleaf pines which the Refuge plants as it works to restore the native Florida habitat.

Many bat species must drop to launch into flight while other species, such as eastern red bats, have powerful hind legs that allow them to forage on the ground and take off like a bird. If you see a bat on the ground and it appears unable to fly, do not pick it up because it will likely bite. Unless it is injured, it will crawl up a tree and drop into flight. If you find an injured bat please contact a wildlife officer.

Bats are not blind, but when hunting their sight is secondary to their highly accurate echolocation sense. Echolocation is vocally generated high-pitched sounds—50 times per second! We do not detect these sounds, but bats determine distance, size, shape, and texture by its echo. By eating insect pests, bats provide farmers billions of dollars' worth of crop protection and they also help protect human health. Reportedly, one bat can eat over 1,000 mosquitoes in an hour! The chirping you hear coming from the bat house is not echolocation, bats communicate in their house in a decibel range humans can hear.



Life in the Refuge bat house.
photo: Larry Woodward

For more information visit:

- Florida Bat Conservancy at floridabats.org
- UF/IFAS at https://edis.ifas.ufl.edu/topic_bats
- Florida Fish and Wildlife Commission at myfwc.com