



Bats—Nature’s Bug Zappers

There are over 1,100 species of bats in the world making up a quarter of the world mammals.

Bats have lived on the earth for over 50 million years. They live on all continents except the Arctic and Antarctica. Bats are primarily insect eaters, but also eat nectar, fish, reptiles, and amphibians. Sizes range from a bumblebee-sized bat in Thailand, which weighs as much as a dime, to the flying foxes in India that have a wingspan of six feet. Bats belong to the Order *Chiroptera* which translates to “flying hand” or “hand wing.” There are two types of bats. Megas: big eyes, small ears, fruit eaters, in Africa, Asia, Australia, and Indonesia. Micros: smaller with large ears, small eyes, found worldwide.

BATS ARE BENEFICIAL

Bats are responsible for eating incredible numbers of insects, some of which eat food crops or transmit diseases. Most of the bats in the U.S. eat insects, some 600-1,000 bugs an hour! Where healthy bat colonies exist, fewer pesticides are used creating a healthier overall environment. A colony of big brown bats can protect local farmers from up to 18 million rootworms each summer. Others perform pollination duties, like the long-nosed bat in Arizona, who is the sole pollinator of the organ pipe cactus. Still other bats pollinate fruits such as bananas, avocados, dates, figs, mangoes and peaches. Over 300 plants in the tropics rely exclusively on bats for pollination. In other parts of the world they eat overripe fruit and are



the chief seed dispersal method for many crops, resulting in reforestation. Other local bats eat fish, beetles, and frogs. Vampire bats, found only in Central and South America, eat blood from other vertebrates, but not humans.

Many bats mate in the fall, hibernate in the winter, and become pregnant in early spring (otherwise known as delayed implantation). Most female bats have one, sometimes two babies (pups) each year. Since the mother must eat enough for herself and her pups, she consumes many more insects than non-lactating females. When born, babies can weigh up to 25% of the mother’s body weight. Can you imagine a 100-pound woman having a 25-pound baby?

MYTH #1: BATS ARE BLIND

Our local insect-eating bats have relatively small eyes, but they still have good vision. They have a sonar device (echolocation) to detect flying insects at night. This ultrasound scanning produces impulses at a rate of 200-500 beats per second, but the bats have to shut their ears off so that they don’t deafen themselves with their own calls. They must then turn their ears back on from 200-500

times a second in order to hear the incoming echo.

MYTH #2: BATS ATTACK YOUR HAIR

Bats can detect an object as thin as a human hair. Therefore, there is no worry about bats getting stuck in your hair. Bats may fly close to your face while catching insects which are attracted to your breath, but bats are not interested in your hair and will not become entangled while pursuing their prey. Bats are gentle, passive creatures and only bite in self-defense if they are picked up and handled.

MYTH #3: ALL BATS HAVE RABIES.

Like any mammal, bats can contract rabies, but only about 1 in 1,000 bats will become infected with this disease. Bats who develop rabies will fall to the ground where they’re found by people who are at risk ONLY if they handle the bat. A bat that allows itself to be touched is very likely sick. If you find an injured bat, DO NOT pick up or handle the bat. Put a cardboard box over the bat, slide a piece of cardboard underneath and close the box. Or, gently scoop the bat into a shoebox using a piece of paper and close the box. Place the box out of the way of pets or children while you call Santa Clara County Animal Control (408) 794-7297 or your nearest wildlife

SAFETY TIP:

Never touch a bat with your bare hands. Bats are wild animals and should be treated with great care. Never attempt to feed, treat, or wash an injured bat.

center. If the bat is just hanging from a wall or tree, wait until evening to see if the bat leaves on its own.

BATS ARE VULNERABLE

Bats are disappearing at alarming rates. Disturbance of roosting sites due to development and vandalism is the greatest threat. Most bats prefer to roost in mature and dead trees; however, bats may be forced to take up residence in human dwellings when trees are cut down due to development. Many people evict or sometimes eradicate bats found in their house. A colony of bats evicted from a roost site has a poor chance of survival, unless a bat house is placed near the roost.

During winter hibernation, bats go into a state called “torpor” where both their breathing and heart rate slows down allowing them to survive for long periods on their own fat reserves. It is important not to disturb bats during hibernation.

White-nose syndrome is also causing many colonies to die off. It is a disease caused by the fungus *Pseudogymnoascus destructans*, estimated to have killed over six million bats in eastern North America since 2006, and can kill up to 100% of bats in a colony during hibernation.

BENEFITS OF BAT HOUSES

Bats are frequently evicted from trees and human houses. Bat houses provide safe places to live, helping local bat populations find suitable roosting sites. By putting up a bat house that is successfully inhabited, you’ll benefit from fewer yard and garden pests. Insect-eating bats roost during daylight hours in many natural or man-made cavities such as dead trees, old buildings, behind shutters, inside patio umbrellas or bat houses. Bat houses have narrow crevices at

the bottom for bats to enter and rough surfaces inside for them to cling to.



Attracting Bats to Roost: If bats are known to be in your area, they are more likely to inhabit your bat house.

BAT HOUSE PLACEMENT

Mount your bat house at least 15 feet above the ground, sheltered from the wind, and unobstructed by power lines or foliage. Allow approximately four hours of direct sun per day, especially during the morning. A box attached to a house will help radiate warmth to the roosting box, especially under an eave. Do not place the box directly above a deck or anywhere falling guano (droppings) poses a problem. Locate the box near a water source to attract bats since this habitat provides the insect life needed for their food. A year and a half is not an uncommon period to wait for bats to move into a new house. Hang your bat house in the fall or winter to increase chances of it being occupied in the first active season. If it is not occupied within two years, change the location. Make your yard “Bat Friendly” by not using pesticides. Bat guano makes excellent fertilizer.

HOW TO GET A BAT OUT OF A BUILDING

1. Close all doors to other rooms in the building.
2. Open all windows and doors to the outside.
3. Turn off any lights.
4. Leave the room.
5. Leave the windows and doors open to the outside through dusk when the bat would normally fly out to go hunting.
6. Once the bats are out of the building make sure all holes even as small as 1/2" are sealed. Netting is also available to prevent reentry.

RESOURCES

Bat Conservancy of Coastal California (BCCC): Bat Hotline 408-647-7228 or www.batccc.org

The Organization for Bat Conservation: www.batconservation.org

Bat Conservation International: www.batcon.org

Northern California Bats (Sacramento area): www.norcalbats.org

Sulphur Creek Nature Center (Hayward, Ca): www.haywardrec.org

INJURED BATS: Wildlife Center of Silicon Valley (Santa Clara County rehabilitation and release) 3027 Penetia Creek Rd, San Jose, CA 95132. 408-929-9453 www.wcsv.org. Call Animal Control at 408-794-7297 if you have an injured bat. They will transport to WCSV.

PUBLICATIONS

Understanding Bats, by Kim Williams & Rob Mies, Bird Watcher’s Digest. (This flyer is sourced from *Understanding Bats*.)

Beginner’s Guide to Bats by Donald and Lillian Stokes.



LOS GATOS BIRDWATCHER

King’s Court Shopping Center | 792 Blossom Hill Road, Los Gatos, CA 95032
408-358-9453 | FAX: 408-358-4673 | info@losgatosbirdwatcher.com
losgatosbirdwatcher.com |  

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