

Loudoun Wildlife Conservancy

People and Wildlife Living in Harmony

Bats of Loudoun: Our Night Flyers (Part 1)

Vol. 12 Issue 2, Spring 2007

By Nicole Hamilton

This article was compiled from a number of sources as well as with help from Leslie Sturges of Bat World Northern Virginia.

Bats are one of the most misunderstood mammals we have. Numerous myths exist about bats being blind, getting caught in your hair, or being vicious animals that carry disease. None of these myths are true, and in fact, bats are terrific wild neighbors that are amazing in their own right and play a critical role in our environment. They eat huge numbers of insects, play a key role in pollinating plants, and are integral to keeping balance in our ecosystem. In springtime, we start to see bats return to our night skies as they migrate back to Loudoun from places south or emerge from hibernation in trees and caves. During their time here, bats live in and around wetlands, fields, forests, and towns.

Appreciating their Uniqueness

Although some mammals, like the flying squirrel, are able to glide, bats are the only mammals able to fly. They belong to their own order of mammals called Chiroptera, which means “hand wing.” This refers to how the finger bones of a bat support its wings. The wings are thin membranes of skin that stretch between the fingers of the front leg and extend to the hind legs and tail. At rest, bats fold their wings alongside their bodies to protect their delicate fingers and wing membranes. As most people know, bats are nocturnal, so our best chance to see them is just after sunset as they drop from their roosts to fly through the air with the greatest of ease.

Making a Feast of Insects

Bats are the only major predator of night-flying insects. Seventy percent of all bats are insect eaters, including all bats in Loudoun. They catch their prey in flight and often like to feed in open areas where insects swarm, such as over fields, open water, and around street lights. Several species are also “clutter feeders” — that is, they forage in the canopy or in corridors through forest. They don’t, however, use degraded forests that are too closed in. Most bats use a wing to tip the insect into the tail membrane and then collect the insect into their mouths; others use their mouths to scoop insects out of the air. Insects have evolved with bats to avoid being eaten, but if an insect tries to make a last-minute evasive move, the bat can flick out its wing to catch the insect and draw it into its mouth.

Their maneuverability makes bats excellent insect hunters, and they often consume 50 percent of their body weight in a single night! A typical bat may consume well over 500 insects in just one hour, nearly 3,000 in a single evening. A colony of just 100 Little Brown Bats, one of our more common species, can consume more than a quarter of a million mosquito-sized insects in one night. That’s a lot of insects that aren’t flying around our heads on a summer evening! All of our local bats feed on the adult forms of many crop pests such as codling moths, cutworm

For more wildlife and habitat information and resources, visit us at: www.loudounwildlife.org

moths, leafhoppers, leaf bugs, and assorted beetles. In addition, the Eastern Red, Hoary, and Silver-Haired bats help to maintain forest health and feed on forest pests such as tent caterpillar moths. Because of their role in controlling insect numbers, the health of the wild bat population is important for maintaining the health of our ecosystem.

Bats and their Life Cycles

Bats rouse from hibernation in March and migrate to their summer roosts in April. Pregnant females, who mated the previous fall, seek sheltered roosts in buildings, tree cavities, and tree foliage to raise their pups. If you're going to put up a bat house, the best time is fall through early April before the females start looking for a roost. In some species, females gather together prior to giving birth in maternal colonies, and these become the nurseries. Males are generally solitary throughout the season.

Bats are mammals, meaning that they are warm-blooded, have hair, bear live young, and feed their babies milk. They have one of the lowest reproductive rates for animals their size, giving birth to only one or two pups per year. Pups are born from May through June or July. They are born hairless, blind, and helpless and cling tightly to their mothers in the roost. On summer nights, females leave the roost to hunt insects nearby but return frequently to nurse their young. By mid-July, as the pups reach about 5 weeks old, they begin to fly and hunt on their own. Because they are still learning, though, their mothers continue to nurse them until they can adequately feed themselves.

Because insects are few during the winter months, the bats of Loudoun either migrate or hibernate. For Little Brown Bats, Big Brown Bats, and Northern Myotis, maternity colonies disband in late summer and early fall and the bats take flight to travel to the hibernation places. This is the time when males and females join together, sometimes in very large groups. This rendezvous brings adults together for mating but is also thought to serve as a time to teach young bats the locations of hibernation caves. For our bats that migrate, the Silver-Haired, Eastern Red, and Hoary bats, autumn prompts them to begin their migration to warmer climates.

Echolocation

Bats can see quite well but rely on their hearing at night. Echolocation enables bats to use their large and well-developed ears to navigate and catch moving prey in total darkness. A bat's echolocation system makes use of ultrasonic sound pulses and echoes to locate objects. Bats echolocate either through their noses or through opening their mouths in flight and emit a series of ultrasonic pulses that bounce off objects such as fences, bushes, branches, and insects. Using the information gained from these echoes, the bat can maneuver to catch an insect while avoiding flying into objects.

For humans interested in observing bats at night, there are "bat detectors" available. These devices detect the ultrasonic pulses emitted by bats and make audible ticks that we can hear as the bat flies by.

Bats and Rabies

The incidence of rabies in wild bats is low. According to Bat Conservation International, worldwide, more than 30,000 humans die from rabies each year, and 99 percent of these deaths are due to contact with rabid dogs. In modern countries, where most dogs and cats are now vaccinated against rabies, the disease is rare in humans. The North American bat species most fre-

quently found in our homes or bat houses are the Big and Little Brown bats, and they have not been known to cause a single case of human rabies in the past 15 years. In fact, only four cases are believed to have come from common house-dwelling species in all of our American history. Furthermore, contrary to occasional speculation, there is no evidence that bats living in buildings ever transmit rabies through parasites, the air, or fecal material.

If you find a bat on the ground, you should take caution however. Sometimes a young pup will fall from its nursery roost, or you may find a grounded bat that is sick, injured, dehydrated, exhausted, or malnourished. As with all wild animals, you should not handle bats. For instructions on how to safely rescue a bat, visit: http://www.batworld.org/batworld_centers/novarescue.html. When conducting a rescue, be sure to wear leather work or garden gloves. If no one has had contact with the bat and it appears to be uninjured, it can be placed in a coffee can or cardboard box, using gloved hands, and released outside away from any open windows or doors. If it appears to be an orphan, injured, or unable to fly, contact Bat World NOVA (see Resources). As with all animals, if a bat feels threatened, it may try to bite, but this is only in self-defense.

Enjoy Watching Our Night Flyers

You could be lucky enough to watch bats flying around your own neighborhood. On a warm spring or summer night, take some time outside to watch the skies shortly after dusk for their fluttery, erratic flight. Watch over ponds and large streams as bats sweep low over the water for a drink before they begin foraging. As the birds go to sleep, you may catch a glimpse of these night fliers. As you watch them, think of where they may have roosted. What habitat is nearby that they would favor for raising their young or resting during the day? As you watch, look at your habitat — what is drawing them in? Is there water nearby? If you don't find bats in your neighborhood, try visiting some of the local parks, especially ones with areas left wild and weedy, with dead trees left standing.

To be continued . . . Look for Part II of the "Bats of Loudoun" in the next issue of the Habitat Herald.

Sources and Resources Used to Compile This Article

A Homeowners Guide to Northeastern Bats and Bat Problems, Penn State College of Agricultural Sciences.

Bat Conservation International Educational Materials, www.batcon.org.

Bats, West Virginia Extension Service, West Virginia University, Norma Venable, 1999.

Species Accounts, Virginia Department of Game and Inland Fisheries website: <http://vafwis.org/wis/asp/default.asp>.

Bat World NOVA, www.batworld.org/batworld_centers/nova.html.