



GREEN HOME AND GARDEN TIP #13

BY GREEN HOME AND GARDEN COMMITTEE,
Texas Master Naturalist

This month's tip is provided by Texas Parks and Wildlife Department

What are Bats Worth - to You?

Most of us seldom notice bats, and we rarely think about them much unless we hear a story on the television or read about them in the newspaper. In most cases, bats make the news for something negative. But the real news story that often goes untold is the largely unseen and rarely considered economic and aesthetic value bats bring to our agricultural fields and our neighborhoods. While most people are aware of the pest control benefits of bats in general (i.e. more bats = fewer mosquitoes), new research has concluded that bats represent a gold mine in annual savings to Texas agriculture. In a study conducted in an eight county region in southwestern Texas, researchers concluded that the 1.5 million Mexican free-tailed bats (*Tadarida brasiliensis*) that captured insects over the area's cotton fields saved farmers up to \$1.7 million annually. The savings came primarily from a reduced need for chemical pesticides. The bats ate millions of cotton bollworm moths through the summer months, thus reducing the number of moth larvae that survived to eat the cotton crops. In addition to the economic value of the reduced pesticide purchases, the reduction in pesticide use also means a healthier land, with fewer chemicals in crops, soil, surface water, and groundwater.

The Mexican free-tailed bat is just one of 32 bat species found in Texas. Our bat diversity results from the wonderful variety of natural habitats here in the state. Bats are aerial acrobats, with extremely flexible wings and lightweight bodies, just made for capturing insect prey in dark skies. Bats are the only mammals capable of true flight. All the bats in Texas, with one exception, capture and eat huge amounts of insects. For example, the Mexican free-tailed bat colony from Bracken Cave near San Antonio consumes an estimated 250 tons of insects each night during summer months. Several bat species specialize in eating larger insects that are common pests, including roaches, centipedes, scorpions, beetles, grasshoppers, and stinkbugs. Texas is also home to an important bat plant pollinator, the Mexican long-nosed bat (*Leptonycteris nivalis*), which feeds on nectar from night-blooming agave and other cacti flowers in West and South Texas, plus Mexico.

We share our natural space with bats every day. Bats may live nearby in both urban and rural settings using a wide variety of habitat, including cliff faces, caves, tree cavities, among tree branches, bridges, and in man-made bat houses. By erecting a bat house, you're putting out the welcome mat and encouraging bats to live and consume insects on your property. Bat house designs mimic the natural roosting preferences of many bat species, with narrow sheltered spaces between $\frac{3}{4}$ inch and one inch in width, and temperatures ranging from 80 to 100 degrees F daily. To encourage bat house occupancy, choose a site where the house receives at least six hours of direct sunlight each day, from first morning light to early afternoon. Place the bat house 12 to 15 feet off the ground, on a metal pole to discourage climbing predators. Avoid shady areas or those beneath overhanging tree limbs. Locations near ponds or other water sources increase bat house success in attracting resident bats.

Bats, like any mammal, can contract the rabies virus. In wild populations, the incidence of rabies is very low (less than half of one percent), and having one bat in a colony that is rabid does not mean the entire colony will become rabid. For more information about bats, bat house plans, bat house research results, and bat exclusion information, visit the Bat Conservation International website: www.batcon.org. And the next time you spot a bat flying the evening skies, sit back and enjoy the nightly pest control in action.

If you would like to contact your local biologist, see our website at: <http://www.tpwd.state.tx.us/wildlifebiologist>.

The Texas Master Naturalists is a group of informed volunteers who are interested in learning about and educating others about the area of Texas where we live and with preserving our natural heritage. We are co-sponsored by the AgriLIFE Extension (a Texas A&M System service) and Texas Parks and Wildlife. For more information about our group, log on to <http://gcmn.tamu.edu> or www.coastalprairie.org.

The Green Home and Garden Workshop is an ongoing project co-sponsored by the Gulf Coast chapter and the Coastal Prairie chapter of Texas Master Naturalists. Our mission is to interest and inform people about safe and eco-friendly ways to garden and maintain their homes. We have a workshop event once a year. The next workshop will be held in February 28, 2009.