South Dakota Bats are *Spook-tacular*!

MYSTERIOUS CREATURES—Bats have always been shrouded in mystery and superstition. Being nocturnal, most people know very little about them except what they see in the movies. But actually they are one of our most fascinating native animals and of huge importance to the ecosystem. Bats are the only flying mammals. They have fur and raise their babies on milk. Their wings are formed by soft, elastic skin stretched over very long finger bones. Bats in South Dakota eat insects which they find by using their "echolocation" or "bio-sonar". In other words, they sing out a note, usually far above our range of hearing, and their exceptionally keen ears pick up the returning echoes that tell the bat what is in front of it. This hearing ability is so refined that a bat has no trouble "seeing" a tiny insect in total darkness. There are at least 12 species that have been found in South Dakota and they are all insect eaters, a job they do very, very well! One bat will eat several hundred insects each night. This means that in one summer, it will eat tens of thousands of night-flying pests that might have bitten us or damaged crops and forests. Just one bat! Now, if that bat lives in a colony of 20 to 500 (depending on the species) they will eat literally millions of insects! And that's just one colony! No wonder bats are considered such good neighbors! In spite of all the benefits of bats, they are endangered. Forty percent of all bat species in the U.S. are endangered. For example, when one hears of the 20 million free-tailed bats living in Bracken Cave in Central Texas, it is difficult to imagine them at risk. Yet, one colony of 30 million bats in Arizona was reduced by 99% in just 6 years! While bats are at risk for many reasons, it is the loss of habitat and vandalism that most affects bat populations in the United States.

BAT WATCHING 101—Bats are fascinating to watch as they twist and turn and dash about the sky catching insects throughout the summer. Many species start hunting before dark and are clearly visible against a sky that is still light. So start before sunset and find a place that has something bats need - food or water or both. Bat viewing near lakes is usually very successful. Lights that attract insects are also a good hunting spot. Little Brown bats like to hunt over water. Big Brown bats will hunt very early in the evening along the margins of wooded areas. If you are lucky enough to know where a bat roost is, you can watch the bats emerge at dusk.

One of the best ways to observe bats is with a "bat detector". This is a small (but expensive) bit of electronic equipment that translates the bat's echolocation call into sounds you can hear. When the hunting bat locates a flying insect, it needs additional information to zero in on its prey. So the bat calls faster and faster until its voice sounds like a buzz. This "feeding buzz" is clearly audible with a bat detector. Detectors also allow you to make an educated guess as to what species you are listening to. Most species have very distinctive calls.

A YEAR IN THE LIFE OF A BAT—In winter, insects become very scarce. So our bats must either migrate or hibernate. Some fly many miles to a good hibernation roost with just the right temperature and humidity. There they will "sleep" for up to six months, living off the fat they built up during the early fall. With the onset of spring, insects will again become abundant and the bats emerge from their winter roosts and scatter across the countryside to gorge on the new food supply. In April, the females seek out maternity roosts. Some species gather in very warm sites to insure the rapid development of their unborn pups. These roosts often appear in the attics of our homes. The males, on the other hand, shun the heat and communal living. Living singly or in small groups, they roost where it is so cool, they often must drop back into torpor to save energy. The females usually give birth to a single pup sometime between late May and early July. Born hairless and helpless, the babies must mature very quickly. Their ears and eyes open within hours and they learn to fly in three to six weeks. The young have limited flying skills and no flying experience, and they can crash-land in places they can't get out of…like your front porch or front yard! Despite this difficulty, they must learn to hunt insects efficiently in order to build up enough fat reserves to survive their first winter. Though mortality is very high for young bats (2/3 may die), Little Brown bats are known to live as long as thirty years. Maternity colonies begin to break up in August allowing both females and young to forage over larger areas. By September, most bats are heading for warmer climates or hibernation roosts. There they will breed and will drop into hibernation in mid-October. Halloween is just around the corner, and people start thinking about bats! **BUT**… they are all gone for the year - the cycle has begun again!

HEALTH CONCERNS—Bats get more than their fair share of "bad press" when it comes to a deadly disease called Rabies. But the scientific reality is that less than 1% of wild bats are infected with the virus. However, because rabies is almost always fatal, people should exercise common sense when dealing with bats (or any other wild mammal). Rabies is spread by the saliva of the infected animal being injected through a bite or contacting wounds or mucous membranes. A bat found in or around a home should not be handled without gloves. And it is very important to prevent children and pets from coming in contact with it. Your bat may only be a lost juvenile learning to fly or a bewildered adult that has been excluded from its roost; but it may also be a sick animal. If a bat is found flying in your home, simply open the doors and windows and it will find its way out using its incredible echolocation. If the bat does not leave on its own, or if it is in a high traffic area, contain it in a shoe-box and remove it form the building. If you think you have been bitten or exposed, you should: 1) wash any wound thoroughly with soap and water, 2) capture or isolate the animal without risking further injury, and 3) call your doctor or health department. If you think your dog or cat has been bitten or exposed, call your veterinarian even if the wound seems superficial. Stay current on your pet's rabies vaccinations - even if the animal is always kept indoors. If your pet is exposed, it may have to endure a long quarantine period or even euthanasia if you don't have proof of immunization.

BATS IN YOUR BELFRY? Even though bats are a vital part of the ecosystem, there is no need for them to live in your home. Excluding them is not difficult. Just follow these recommendations:

*Perform exclusions in late August after the pups have been weaned and are able to leave the roost on their own. You do not want to seal young animals inside a structure where they would die and lead to further problems for you.

*Identify the exit(s) the bats are using. If there are many entrances to the same roost, seal all but one.

*Create a one-way flap-valve by positioning stiff mesh (1/4" holes or smaller) across the front of the entrance/exit hole. Tape or tack the top and sides of the mesh flush with the surface, but leave the bottom unattached. Bats will be able to leave, but not re-enter.

*After a few days, seal up the last of the entries to assure that the bats won't return. Any type of caulking can be used because, unlike rodents, bats do not gnaw holes, nor do they shred material for nests, nor do they cause structural damage to buildings.

*Think about providing an alternate home for these bats. Bat houses mounted close to the old exit are usually inhabited quickly. Go On-Line and learn more about bat houses! *www.batcon.org/bhra/index.html*

HELPING OUR BATS—In the Midwest, several species are rare because they are very dependent on special environments, such as caves, for both maternity roosts and hibernation sites. Some are easily disturbed by humans. Others are loosing their homes as we seal our older buildings, cut down old trees and snags, and knock-down old buildings and wooden bridges. All hibernating bats are threatened by disturbances in winter. If someone enters their roost, the bats bring themselves out of hibernation in order to face the threat. This uses up valuable fat reserves. If the bat is disturbed again, or the winter is long, it may not have enough fat to survive and will die before spring. Leave bats alone when they are hibernating!

Bats suffer from a great deal of "BAD PRESS" because many people simply do not take the time to understand the importance of bats, and more often than not, people exaggerate the danger to humans and will kill bats on sight. **Soooooo**…

WHAT CAN YOU DO?

*Educate yourself so you can educate others.

*Do not touch or disturb bats for any reason. This is best for them and is best for you.

*Provide roosting habitat when possible: Leave hollow trees & snags standing. Put up bat houses in sunny locations where old buildings have been removed.

*Support bat research by your universities, government agencies, and support conservation groups, especially those working to protect all of our native wildlife.

For more information concerning bats, why not surf the World-Wide-Web!

South Dakota Bat Research Information…
http://nat_hist.sdstate.edu/sdbwg/sdbwg.html

Basically Bats' Homepage
http://www.lads.com/basicallybats/

Bat Conservation International
http://www.batcon.org/

Info concerning Bat-Houses
http://www.batcon.org/bhra/index.html

This bat brochure is a compilation of materials written by Scott Pedersen, Jay Glover, & Margaret Gaspari, 1995-2005