

BATS AND OUR ENVIRONMENT

Bats play a key role in ecosystems around the globe, from rain forests to deserts. They feed on insects, pollinate plants, and scatter seed.

Bats are known to carry diseases that can affect humans and their pets, so it is important to learn how you can stay safe when bats are near. If a solitary bat is found on the ground and is easily approached, it may be sick and should be avoided.

Unfortunately, many bat species are now endangered. Because of bats' ability to help control insect populations, it is important to learn more about their habits and recognize the value of living safely with them.

Stay alert in areas where bats are found, usually safe areas shielded from predators and temperature fluctuations. Bats are usually seen at dawn and dusk, leaving and returning to their roosts for feeding. They are rarely seen in daytime and even more rarely seen around human dwellings.

In the spring, some species of bats choose warm moist piles of leaves or garden mulch to give birth to their offspring. As these bats may be endangered, it is best to leave the female and her young alone and prevent children or pets from approaching. The young bats will be gone as soon as their wings have strengthened enough to fly.

If you encounter a bat on campus, call 979.845.4311 for assistance. NEVER TOUCH OR ATTEMPT TO TRAP A BAT.



BATS AND HUMAN DISEASE

Bats are known to carry several potentially serious diseases:

Rabies

Rabies can be a fatal disease. However, people cannot get rabies from just seeing a bat or even from having contact with bat guano (feces), blood, or urine.

Rabies is primarily transmitted by a bite, lick, or scratch from an infected animal. The most common way for people to get rabies in the United States is by handling an infected bat.

Histoplasmosis

Histoplasmosis is another potentially serious disease associated with bats. It is caused by a fungus that grows in soil. Infectious spores can be released when the soil or guano is disturbed.

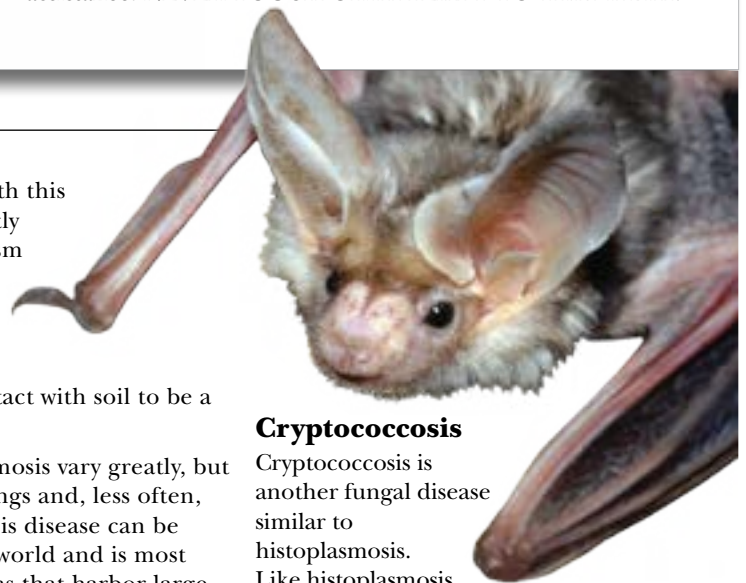
Bats can be infected with this fungus and consequently can excrete the organism in their droppings. Fresh bat droppings (unlike fresh bird droppings) do not need to come into contact with soil to be a source of the disease.

Symptoms of histoplasmosis vary greatly, but primarily affects the lungs and, less often, the internal organs. This disease can be found throughout the world and is most often a problem in areas that harbor large populations of bats.

Many people do not get sick, but if infection occurs, the symptoms are similar to pneumonia and include fever, chest pain, and a dry cough. Infection can be serious if not treated.

Cryptococcosis

Cryptococcosis is another fungal disease similar to histoplasmosis. Like histoplasmosis, this disease is associated with inhaling infectious fungal spores which may be present in bat guano. Lung infection causes pneumonia-like disease; cough is the most common symptom. Cryptococcosis mostly affects people with weakened immune systems, particularly people with HIV.



EMPLOYEE HAZARD CONTROL

To reduce health risks associated with the removal of droppings, various clean-up preparations and methods have been developed. When an accumulation of bat or bird droppings is discovered in a building, removing the material is not always the next step.

Simply leaving the material alone, if it is in a location without human activity, may be the best course of action.

This is not always possible, of course, and, if the potential for human exposure exists, methods of safely controlling the risks during removal must be undertaken.

Any employee tasked with cleaning bat guano must participate in the Biosafety Occupational Health Program.

All enrolled employees will be provided with educational materials explaining the risk of exposure to bat guano.

Employees must also attend annual training provided by the Texas A&M Environmental Health and Safety Department to ensure they understand the potential hazards of exposure to guano.

DUST CONTROL

The best way to prevent exposure to fungal spores is to avoid situations where dust from guano can become aerosolized and inhaled.

A brief inhalation exposure to highly contaminated dust may be all that is needed to cause infection with a fungal disease.

Therefore, work practices and dust control measures that eliminate or reduce dust generation will also reduce risks of infection and subsequent development of disease.

For example, saturate dry or dusty material before shoveling or sweeping with a solution made of one cup liquid dish detergent to five gallons of water to reduce the amount of dust generated during the activity.

Alternatively, carefully mist the material with plain water using very low pressure so as to not create a dust cloud.

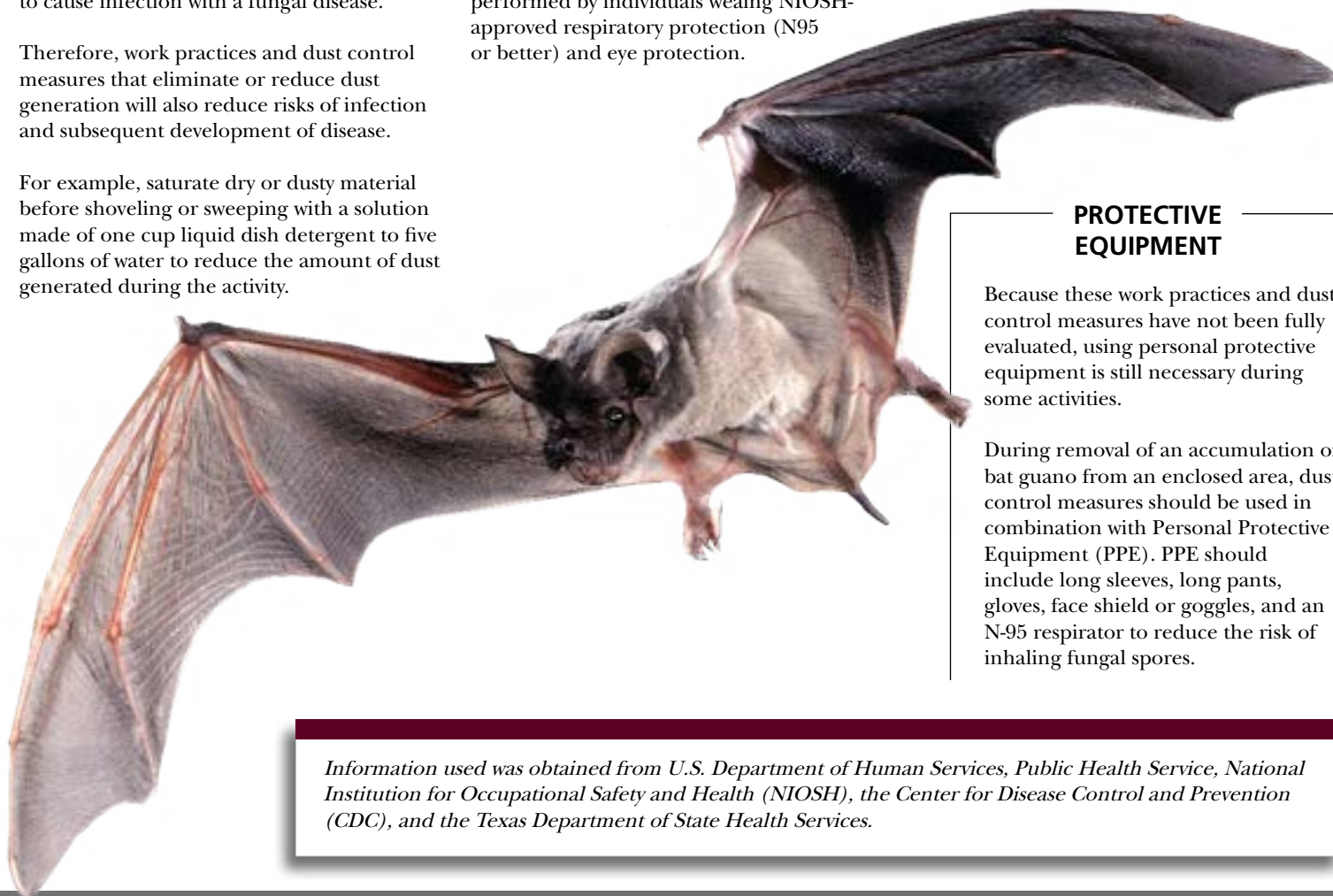
Dry work procedures, which involve sweeping or blowing dry guano, should only be performed by individuals wearing NIOSH-approved respiratory protection (N95 or better) and eye protection.

Respirators **MUST** be properly fit tested before use. Supervisors will be responsible for acquiring the proper protective equipment to be worn during cleanup.

PROTECTIVE EQUIPMENT

Because these work practices and dust control measures have not been fully evaluated, using personal protective equipment is still necessary during some activities.

During removal of an accumulation of bat guano from an enclosed area, dust control measures should be used in combination with Personal Protective Equipment (PPE). PPE should include long sleeves, long pants, gloves, face shield or goggles, and an N-95 respirator to reduce the risk of inhaling fungal spores.



Information used was obtained from U.S. Department of Human Services, Public Health Service, National Institution for Occupational Safety and Health (NIOSH), the Center for Disease Control and Prevention (CDC), and the Texas Department of State Health Services.

TEXAS A&M UNIVERSITY BIOSAFETY OCCUPATIONAL HEALTH PROGRAM

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Produced by the Division of Research
8/2015