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Extinction Countdown

News and research about endangered species from around the world

As white-nose syndrome wipes out little brown bats, groups petition for emergency protection

By John Platt

More than one million bats have been killed by the deadly fungal infection known as white-nose syndrome (WNS) since the condition first turned up in 2006. One of the hardest hit species, the once-common little brown bat (Myotis lucifugus), might now face extinction as a result of the disease. As a result, scientists and conservation groups filed an emergency request on December 16 with the U.S. Fish and Wildlife Service (FWS) to protect the little brown bat under the Endangered Species Act.

"The little brown bat is in imminent danger of extinction in its northeastern core range due to white-nose syndrome, and the species is likely in danger of extinction throughout North America," Boston University biologist Thomas H. Kunz said in a prepared statement. Earlier this year, Kunz published a study that predicted the little brown bat's extinction within 16 to 20 years. Kunz and fellow BU bat scientist Jonathan D. Reichard have now submitted their own independent little white bat status review (PDF) to the FWS showing just how badly the species is at risk. In some bat caves where WNS is present, mortality nears 100 percent, according to their report.

Emergency listing for a species does happen, but not very often, says Ann Froschauer, national white-nose syndrome communications leader for FWS. "Given the urgency of white-nose syndrome and recent information about predicted declines in little brown bat populations, the Service is committed to quickly reviewing scientific information, both published and provided by organizations such as these, in assessing the status of little brown bats and other bat species affected by WNS," she said in a prepared statement.

Photo: Little brown bat with white-nose syndrome. By Al Hicks, New York Dept. of Environmental Conservation, courtesy of U.S. Fish & Wildlife Service

So what would adding the little brown bat to the endangered species list actually do for the species? I asked Mollie Matteson, conservation advocate at the Center for Biological Diversity, one of the conservation groups behind the emergency request. Her answer is long, but worth reproducing in full:

First of all, listing means that the federal government is required to

take conservation measures to prevent harm, and support recovery. Without listing, there are few regulatory mechanisms to compel the government to pro-actively protect and restore particular species. It is especially important to have this tool for species conservation when the species is controversial, obscure, or underappreciated, or when protecting the species could inconvenience someone or cost money. The law provides a means of protecting those (in this case, imperiled species) that would otherwise have no "voice" in our political and legal system.

Second, this accountability means that the government must show what it is doing to protect the species, and in order to take action, usually some amount of resources must be devoted to the effort. Listing usually brings funding for conservation measures. In the case of the little brown bat, one of the most pressing needs is research on white-nose syndrome, and to date, this has been inadequately funded, at best.

Third, critical habitat for the species is usually designated. Species need places to forage, reproduce, and carry out other vital aspects of their life cycle. In the case of the little brown bat and other bat species affected by white-nose syndrome, they need safe places to hibernate. Designation of critical habitat for the little brown bat would protect crucial sites for its survival and recovery. As the attached paper describes, critical habitat is a great aid to species' recovery.

Fourth, listing of a species is often followed by the development of a recovery plan. This is a "map" for how the species will be protected and nurtured back to a stable, healthy population level. The attached paper also addresses how species with recovery plans fare better than those without.

Fifth, species listing simply puts more of a spotlight on the plight of a particular species, and in this way, helps to garner more concern about its survival, and more attention to its needs. Increased public awareness is an important benefit of species' listing.

Meanwhile, a new study published this month in the journal BMC Biology reveals more about why WNS is so deadly. It found that the WNS fungus is disrupting the skin membranes on bats' wings, and with it many bodily functions critical to the animals' survival during hibernation. "A bat's wings are obviously critical for flying, but they also play a vital part in essential functions such as body temperature, blood pressure, water balance and blood and gas circulation and exchange," lead author Carol Meteyer with the U.S. Geological Service National Wildlife Health Center told the Albany Times Union. The study found that WNS has many similarities to the deadly chytrid fungus that is devastating amphibian populations around the world.

Can the little brown bat be saved from this killer fungus and eventual extinction? Only time will tell.