White-nose syndrome is a fungal infection in bats that has spread across the East, starting in New York in the winter of 2006-2007, killing millions of hibernating bats. This bat infection is caused by the psychrophilic (cold-loving) fungus *Pseudogymnoascus destructans*. Fungal and bacterial surveys have been conducted to explore bats’ natural microbial communities as the first line of defense against pathogens. Actinobacteria, one of the major groups found on the bats, are a group of bacteria commonly found in the soil and in caves. Many within the actinobacterial genus *Streptomyces* are of great importance because they are known to produce enzymes that can degrade fungal cell walls or produce secondary metabolites with antifungal activity. The objective of this project was to identify potential bacterial biocontrol agents to control *P. destructans*. Bacteria colonizing bat fur and membranes were isolated from eleven species of healthy bats from New Mexico and Arizona providing approximately 1000 isolates. We have tested approximately 400 bacterial isolates using a bi-layer media method and at least 10 isolates show antifungal activity against *P. destructans*. Five of the isolates with antifungal activity against *P. destructans* were sequenced and identified as *Streptomyces* spp. Additional tests will be conducted to optimize and characterize antifungal production against *P. destructans*. 