

ABSTRACT*

A COMPREHENSIVE LANDSCAPE APPROACH FOR MONITORING BATS ON THE NEVADA TEST SITE IN SOUTH-CENTRAL NEVADA

The Nevada Test Site (NTS) is located in south-central Nevada and encompasses approximately 3,497 square kilometers (1,350 square miles). It straddles both the Mojave and Great Basin Deserts and includes a distinct transition region between these two deserts. Because of its geographical location, a great level of vegetative and physiographic diversity exists on the NTS. Also, numerous mines and tunnels are found on the NTS which are potential roost sites for bats. Multiple techniques are being used to inventory and monitor the bat fauna on the NTS. These techniques include mistnetting at water sources with concurrent use of the Anabat II bat detection system, conducting road surveys with the Anabat II system, and conducting exit surveys at mine and tunnel entrances using the Anabat II system. To date, a total of 13 species of bats has been documented on the NTS, of which six are considered species of concern by the U.S. Fish and Wildlife Service. These include Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), and long-legged myotis (*M. volans*). Results from mistnet and Anabat surveys reveal that all bat species of concern except for the long-legged myotis are found exclusively in the Great Basin Desert portion of the NTS. The long-legged myotis is found throughout the NTS. The Anabat II system has greatly facilitated the monitoring of bats on the NTS, and allowed biologists to cost effectively survey large areas for bat activity. Information obtained from bat monitoring will be used to develop and update guidelines for managing bats on the NTS.

Derek Hall (M/S NV-081), Scientist; Bechtel Nevada; P.O. Box 98521; Las Vegas, NV 89193-8521.

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