

IMPROVED EFFICIENCY OF ARTIFICIAL ROOSTS AS A MANAGEMENT AND MITIGATION TOOL FOR THREATENED AND ENDANGERED BATS

PROJECT OVERVIEW

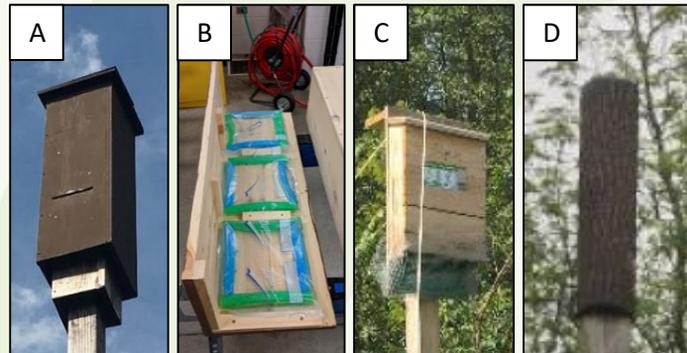
Artificial bat roosts are widely used to monitor bat populations, relocate animals away from areas of conflict, and to enhance or create habitat. However, they are at best ineffective, and at worst dangerous, if ill-designed or poorly placed on the landscape. Recent research suggests that certain endangered species prefer a particular roost design over other commonly used designs, and that acoustic lures may attract bats to roosts. Here, we demonstrate the preference of endangered bats for a particular roost design and validate the utility of acoustic lures to actively recruit bats to colonize roosts to improve the efficiency of artificial roosts as a mitigation and management tool.

BENEFITS

T&E bats cause training restrictions and limited use of property assets via regulatory drivers such as the Endangered Species Act. Improving the likelihood that bats colonize artificial roosts could expedite the necessary, but often difficult, task of relocating bats away from areas of human-bat conflict. This demonstration aims to improve the DoD's return-on-investment in artificial roosts as a mitigation tool for enhanced regulatory compliance and reduced impacts of endangered species on military operations.

PATH FORWARD

We are evaluating the performance of four artificial roost designs and two acoustic lures for two endangered species present on DoD installations. Guidance documents will provide step-by-step instructions for implementing artificial roost technology, as well as identify its limitations and specify its appropriate use.



Four types of artificial roosts evaluated in this demonstration: A) standard rocket box, B) rocket box with external water jacket chamber, C) chamber box, D) artificial bark. Recent work shows that rocket boxes are preferred by endangered Indiana bats over other designs, and that inclusion of a water jacket stabilizes temperatures inside boxes, making them safer for bats.

Acoustic lures (playback of bat calls from ultrasonic speakers) have been shown to attract some species of bat, and may be useful for accelerating the time to colonize roosts and increase roost use on DoD installations.



DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

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FOR FURTHER INFORMATION

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