



Development of Integrated Training Aides for Acoustic Surveys of Bats

Project # 18-856

Background:

Bats are a taxa of significant conservation concern due to massive population declines of multiple species from White-nose Syndrome. Population declines have resulted in at least one additional federally listed bat with other species being evaluated, and current listed species are becoming less common on the landscape. Information on occurrence and distribution of bats is of critical importance to Department of Defense (DoD) natural resource managers. With the reduced abundance of bats on the landscape, bat surveys have become a standard survey technique for most bat survey efforts. Ultrasonic systems are easy to use, however, to conduct proper bat surveys, there is increased need to understand use of both hardware and software systems

Objective:

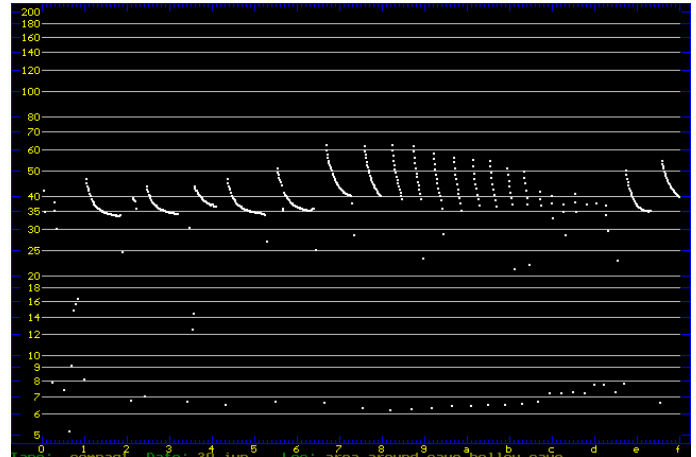
Develop webinars that provide DoD natural resource managers information on the appropriate use of ultrasonic bat detectors, the basis of echolocation and sources of variation, use of echolocation call analysis software to analyze collected calls, and notes on interpretation of call results to enable proper survey results.



Example of ultrasonic detector deployment

Summary of Approach:

To address the needs of DoD natural resource managers, we developed two, one-hour long webinars covering the entire bat acoustic sampling process. Topics discussed include selection and setup of detector hardware systems, field deployment and recording, ensuring and interpreting data quality using quantitative and qualitative procedures, conducting acoustic data analysis with echolocation call analysis software, and proper interpretation of automated analysis output.



Example of search phase, approach phase, and feeding buzz of bat echolocation call.

Benefit:

This project provides a comprehensive introduction into the use of ultrasonic detectors for bat surveys. The webinars discuss various topics that can improve survey results, as well as those that might negatively impact survey outcome. As ultrasonic detector use increases in the coming years, this effort will provide the foundation for helping to reduce the impacts of spurious results, thereby minimizing the impact to Mission.

Accomplishments and Outcomes:

Conducted two webinars for the DoD Legacy Resource Management Program (Legacy Program) that were recorded and are available on the DoD Natural Resources Webinars website

(<https://www.denix.osd.mil/nr/resources/webinars/>) and

the Legacy Program YouTube channel

(<https://www.youtube.com/@DepartmentofDefense-LegacyReso>).

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