REMOTE BAT ACOUSTIC TECHNOLOGY (ReBAT®) SYSTEM

Core Values

Results-oriented environmental services

Respect for stakeholders, the public and our natural environment

Ethical work conduct and scientific integrity at all times

Safe and positive work environment

Pride, investment, and accountability through employee ownership

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Bat acoustic monitoring is more than deploying a detector and collecting bat echolocation calls. The calls must also be stored, filtered, analyzed, and classified to provide information on the spatial and temporal activity patterns at the species level. The higher quality the data set, the more useful and reliable the pattern analysis results will be. The optimum data set is collected using a full-spectrum ultrasonic microphone and analyzed using the most reliable software available.

ReBAT upper detector installed on a meteorological tower.

How ReBAT® Works

The ReBAT® system uses a full-spectrum AR125 microphone (Binary Acoustic Technology, LLC) and classifies bat calls using a combination of manual expert analysis and SonoBat™ software (SonoBat, Arcata, CA) automated analysis. It is suited for long term deployments of many months to a few years with minimal hands-on maintenance and high reliability. The cellular communication interface and automated system health monitoring allow for remote management of systems and diagnosis and repair from our Operations Center.

The data is transferred to the Operations Center nightly via the cellular system and the data is automatically ingested into a database that stores and manages it during the multistep call analysis process. Call analysis includes a filter to remove files that do not contain bats, manual analysis that may be aided by call parameterization via SonoBat, and/or SonoBat automated classification.

The resulting indices are useful indicators of bat activity. They can also be combined with other data sets (e.g., weather) to assess correlations (e.g., more activity with lower wind speeds) and/or be used in models to predict bat activity based on weather conditions.