



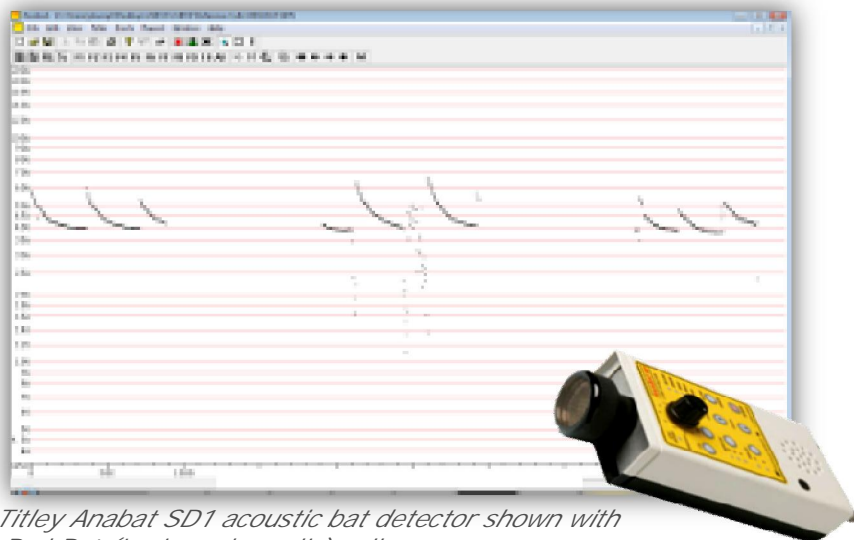
*Solar-powered Anabat acoustic monitor enclosed in a weather resistant pelican case and mounted on a meteorological tower.*

Recent research has found unexpectedly high numbers of bat fatalities at numerous wind energy development sites. Wind farms are thus coming under increasing scrutiny for their impacts to bat populations worldwide. To better understand and possibly mitigate the impacts of new and future wind farms, rigorous scientific evaluations of site-specific species composition, activity, and mortality are required.



*Hamer Environmental* offers a full range of environmental services necessary to address these concerns, including:

- State-of-the-art **acoustic sampling** techniques allowing low-cost species identification without mist-netting
- **Long-term monitoring** using solar-powered acoustic data loggers to assess species composition and indices of abundance during both spring and fall migration
- Site-specific **habitat evaluations** to assess the potential impacts of construction to local threatened and endangered species
- **Post-construction mortality monitoring** to support predictions made during pre-construction acoustic surveys



*Titled Anabat SD1 acoustic bat detector shown with Red Bat (*Lasiurus borealis*) calls.*





In areas where threatened and endangered bat species could be present (e.g., forested areas in much of the Midwestern U.S. provide habitat for the endangered Indiana bat), local and federal agencies often require in-depth studies to minimize impacts. Hamer Environmental is equipped to meet a broad range of research needs, including:



**Habitat assessment and modeling:** Hamer Environmental staff are experienced at the identification of habitats used by threatened and endangered bat species, as well as using the most up-to-date statistical techniques to predict occupancy.

**Mist Netting:** Many state and local agencies require mist-netting within the proposed project area to establish presence or non-detection of species. Hamer Environmental staff have hundreds of hours of mist-netting experience, as well as experience handling and identifying threatened and endangered species.

**Radio-telemetry:** Hamer Environmental has experience tracking bats using radio-telemetry, for both diurnal and nocturnal studies. Many states require radio-telemetry studies to map patterns of habitat usage as part of the impact assessment process.

*Hamer Environmental* performs bat studies for:

- Wind energy development
- Forestry
- Transportation
- Transmission lines
- Restoration
- Mitigation
- Urban development
- Dam relicensing



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