

Investigating the Relationships Between Bats, Insects, & Fire at Mammoth Cave National Park

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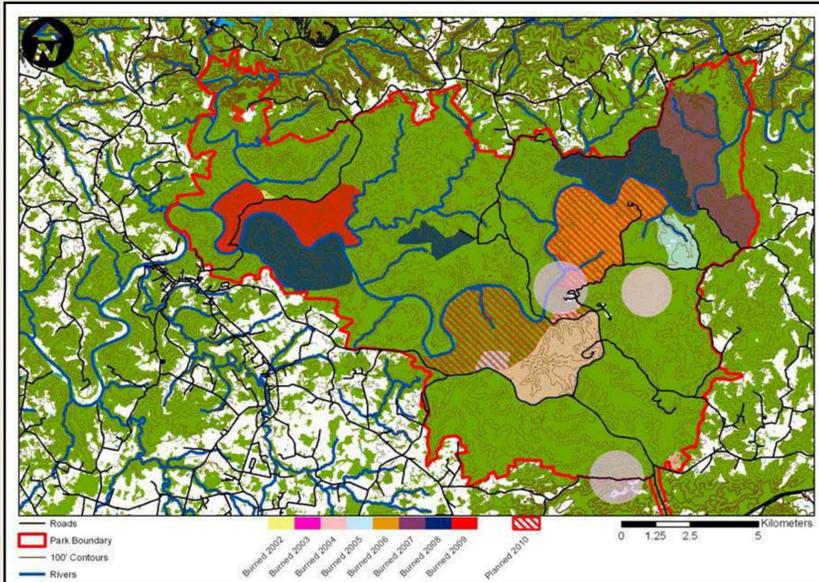


What Are We Doing?

Fire is a common tool used by land managers throughout North America. Even so, the effects that fire may have on forest animals such as bats & insects are not entirely clear. Fire can create places for bats to roost & can also clear out vegetation so that bats can forage more easily. However, the changes in vegetation due to fire can also impact the abundance and types of insects found in burned areas. We are investigating these relationships here at Mammoth Cave National Park during the Autumn & Spring since these are the seasons when many forest bats are entering & leaving hibernation sites.

What Methods Are We Using?

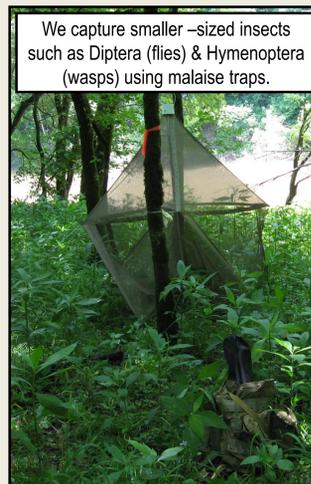
•We assess bat & insect activity at the same time across the park. In this way we can look at relative differences in bat & insect activity across the landscape.



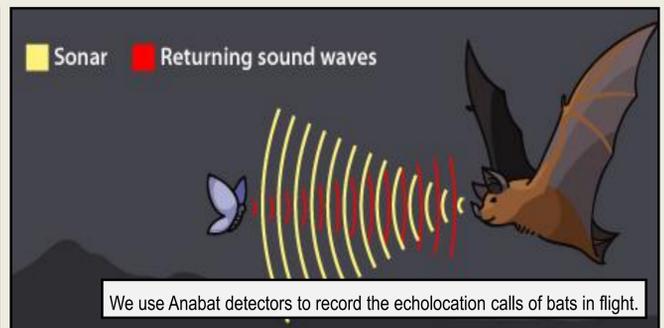
We use light traps to attract and collect insects such as Coleoptera (beetles), Lepidoptera (moths), & Trichoptera (caddis flies).



Funnel traps baited with alcohol are useful for capturing insects that feed on dead wood.



We capture smaller-sized insects such as Diptera (flies) & Hymenoptera (wasps) using malaise traps.



We use Anabat detectors to record the echolocation calls of bats in flight.

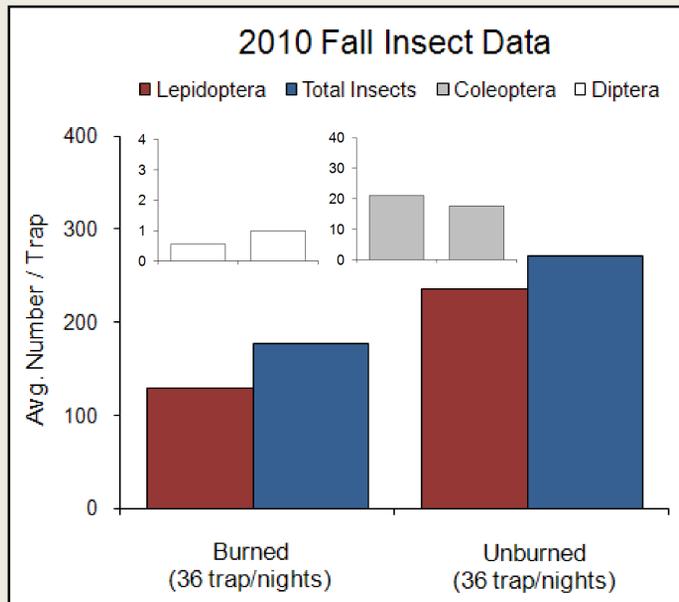
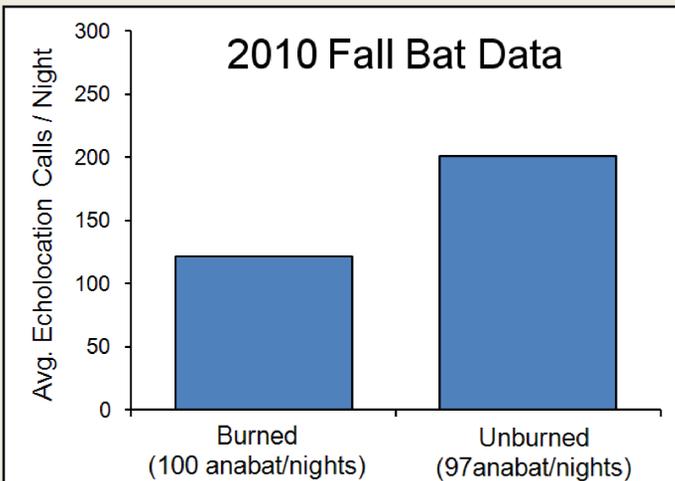


An Anabat detector. The arrow is pointing to the ultrasonic microphone.



A waterproof system for recording passing bats in the forest.

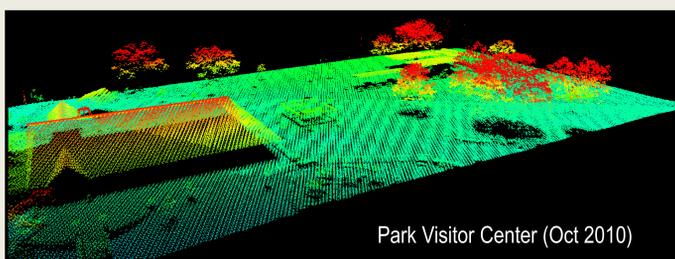
What Kinds of Results are We Generating?



•LIDAR mapping of forest vegetation is being integrated with predator & prey data.

•This is an ongoing study. We're currently collecting data through October.

•Field work will last into 2013.



Park Visitor Center (Oct 2010)

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