



THE BATS OF THE HARDWOOD ECOSYSTEM EXPERIMENT

Article and photos submitted by Scott Bergeson, Ball State University

Over the summer, Scott Bergeson (PhD student from Indiana State University), Holly Badin (Masters student from Ball State University), and Marissa Thalken (research technician employed by Ball State University) surveyed the bat community within the Hardwood Ecosystem Experiment (HEE) project area. We set up mist nets throughout the landscape in order to capture bats as they foraged for insects during the night. The objective of this survey was to measure abundance and diversity of bat species within the HEE project area. We attached small (1/2 gram!) radio-transmitters to the backs of female bats in order to follow them to their roosts, where they sleep during the day and tend to their pups. We were specifically interested in the roosting habits of the northern long-eared bat (*Myotis septentrionalis*) and the endangered



Holly Badin, Ball State University grad student, conducting radio-telemetry in order to locate a northern long-eared bat maternity roost.



Northern long-eared bat roosting within the crevice of a broken tree.

Indiana bat (*Myotis sodalis*). By following radio-telemetry signals, we were able to locate the 6-9 gram, 2-3 inch bats roosting in trees located within the middle of Yellowwood and Morgan-Monroe State Forests. Radio telemetry gave us insights into roosting behavior within the HEE project area and a better understanding of how bats respond to timber harvests.

Over the course of 3 months (mid May- mid August), we netted for 28 nights and captured a total of 205 bats! A total of 6 species were captured during the survey. The most frequently captured species included: the big brown bat (*Eptesicus fuscus*), the eastern red bat (*Lasiurus borealis*), and the northern long-eared bat. Only 2 male Indiana bats were captured during this year's survey. Thankfully, we did not find any



An endangered male Indiana bat captured in the HEE project area.

obvious signs of major white-nose syndrome damage in the bat community. While the deadly fungus *Geomyces destructans*, which causes the disease, has been found within the state of Indiana it does not appear to have impacted the bat community in the HEE study area.

Bats continued

We affixed radio transmitters to 19 bats (17 female northern long-eared bats and 2 male Indiana bats). Female northern long-eared bats were tracked to 40 roosts throughout the HEE project area (20 in Yellowwood State Forest and 20 in Morgan-Monroe State Forest). Four male Indiana bat roosts were also found within the HEE project area. Interestingly, a lot of the roosts found were in harvest areas, including 4 roosts in the clearcuts. We'll need another season of data to draw any conclusions about the effects of the harvest treatments on the roosting ecology of northern long-eared bats and Indiana bats.

The following is a photo summary of the steps we take when we capture a bat (in this case a northern long-eared bat).



Step 1:
Take the bat out of the mist-net.



Step 2:
Measure and record the physical characteristics of the bat (this bat is having its forearm measured).

Please address any questions or comments to Scott Bergeson (smbergeson@gmail.com).



Example of a northern long-eared bat maternity roost tree. Bats were found roosting under the piece of exfoliating bark seen in this picture.



Step 3:
Glue a radio-transmitter onto the back of the bat, above the shoulder blades (which Ball State graduate student Holly Badin is doing above) and let the bat go unharmed.

Executive Committee Update

The Executive Committee met in Indianapolis on October 1, 2012.

- The Executive Committee decided to postpone the Fall Research Committee Meeting to June 2013. It will be held in conjunction with the North American Forest Ecology Workshop (NAFEW). This event will include several field trip options, including the HEE. Details on this event can be found at <http://nafew.org/>.
- The pre-treatment General Technical Report (GTR) is currently in press. It includes 21 chapters and will be published online by the U.S. Forest Service, Northern Research Station. Publication is expected in early 2013.

HEE Executive Committee Members:

John Seifert, IN DNR - DoF, Co-Chair

Rob Swihart, Purdue FNR, Co-Chair

Scott Haulton, IN DNR - DoF

Rebecca Kalb, Purdue FNR

Duane McCoy, IN DNR - DoF

Mike Saunders, Purdue FNR

HAVE A STORY TO SHARE?

Please send your news, findings, tid-bits, publications, funding opportunities, and committee reports to Rebecca at rkalb@purdue.edu to be included in “The HEE Update.”

“The HEE Update” is distributed to anyone interested in receiving quarterly updates on the HEE Project—you need not be actively involved in the project. If you know of someone that would like periodic updates on HEE, we can add them to the list!

Previous issues of “The HEE Update” are available on our website:
www.HEEForestStudy.org.



Do you have pictures from any HEE related event or activity?

If so, you can submit them to the HEE Project Coordinator for archiving. Please include any information about the pictures.

What’s happening this fall/winter?

- Fall salamander sampling has just been completed
- Oak mast production and exclosure sampling will be completed in mid-December (it’s been another quiet year for acorns)
- Winter Barred Owl surveys begin Dec. 1
- Eastern Screech-Owl surveys begin Jan. 1
- If you are interested in volunteering for winter owl surveys, contact Jeff Riegel (jriegel@purdue.edu).

Check us out on the web!
www.HEEForestStudy.org

Landowner Field Tour

Article and photo submitted by Patrick Barnhart, HEE Field Assistant

On Friday, November 2, 2012, the Indiana Forestry and Woodland Owners Association (IFWOA) gathered in Nashville, IN for their annual landowner conference and a trip to a HEE site in Yellowwood State Forest. In the midst of a 10-acre clearcut, Scott Haulton (Indiana DNR) led off with a discussion of the basics of the project and the different types of treatments being used. He discussed the positive benefits of creating openings in a forest. Many landowners were surprised to find out that even species that are thought to only use old growth habitat have been found utilizing these cuts. Several landowners were interested in Ruffed Grouse repopulation. Will they be able to utilize these openings and repopulate the area? Are there plans for another reintroduction project? These were just a couple questions put forth by the group. Scott explained that in the past there was a reintroduction, but over time the numbers have dwindled again. He believes that the birds will be able to utilize these smaller openings (they are thought to need at least 20 acres), but we are waiting for them to find the areas and for the data to support this thought.



Mike Saunders (Purdue FNR) discussed a study on epicormic branching and the future of fire as a treatment method as part of the HEE.

Dr. Joy O’Keefe and Scott Bergeson (Indiana State University) led an interesting discussion about bats. They described the use of mist nets and radio telemetry to track individual bats to their roosts and determine their use of the harvest areas. Scott has noticed that they like the shelterwood areas because of the open understory and plentiful snags. They went on to discuss ways that landowners can girdle trees to create roosts or build artificial roosts for bats on their property. The group voiced concerns over strict harvesting restrictions. Joy explained that due to white-nose syndrome affecting bats in their winter hibernacula, the only place we can help the bats is in their summer habitats. Some bats will routinely use live trees with exfoliating bark to roost in small numbers and also use snags as large maternity roosts. Many in the group commented on their desire to be able to sit down and talk with the people making the restrictions so their opinions could be heard. Joy gladly acknowledged their opinions and is planning on taking them with her to meetings she is involved in. All in all, it was decided by landowners and biologists alike that communicating between the different factions involved with the process is the biggest problem that needs to be addressed. “We need more people discussing things like this group,” commented Jeff Riegel on a closing note.

Other presenters included Jeff Riegel and Dr. Mike Saunders (Purdue FNR).



After more than 3 years as the HEE Project Coordinator, I will be leaving the project at the end of this year. I have truly enjoyed the time I have spent as a part of this extraordinary project. It has been a pleasure to work with such a great group of people. Please join me in welcoming Andy Meier as he assumes the role of Project Coordinator. I wish Andy, the HEE, and every current and future researcher all the best as this amazing project continues to grow and move forward.

Sincerely,

Rebecca Kalb