

Pre- Post-Construction Studies

We completed the first year of fatality monitoring at the Casselman Wind Project (20 April to 15 November, 2008). We delivered reports to the Pennsylvania Game Commission, per their permitting requirements, and Program Coordinator Ed Arnett is now preparing a report for review by the Scientific Advisory Committee.



BWEC Program Coordinator Ed Arnett inspects a dead bat found by his chocolate Labrador, Sage at the Casselman site. (photo by M. Schirmacher, Bat Conservation International)

Preliminary results suggest that estimated bat fatalities at Casselman are within the range of those documented at projects in the eastern U.S., and patterns of bat kills are similar to those documented previously. We found that fatalities were greatest between 12 July and 11 October in 2008, and bat fatalities were negatively related to wind speed (i.e., higher bat kills occurred at lower wind speeds). There was no difference in estimated fatalities between turbines located on the forest ridge and those on the reclaimed strip-mine ridge.

Since we have data from turbine specific locations, we will correlate pre-construction call data with the first year of fatality data to determine if predictions are possible at the turbine-scale.

We are currently analyzing 3-years of pre-construction acoustic data from the Casselman and South Chestnut sites in PA, and 2-years of data from the Hoosac site in MA and will prepare reports for review and distribution this winter/spring. We also are analyzing the first year of acoustic monitoring from our WV study area and will prepare a report for this site. Protocol recommendations for acoustic studies will be derived from analyses of these data sets and reviewed by the Scientific Advisory Committee. In 2009, we plan to continue acoustic monitoring at the West Virginia site and a new site in Pennsylvania.

Operational Mitigation and Deterrent Studies

Operational Mitigation

BWEC implemented the first U.S.-based curtailment study from 26 July to 10 October, 2008 at Iberdrola's Casselman Wind Project in south-central Pennsylvania. The objective of the study was to quantify reductions in fatalities relative to economic cost of curtailment. We tested two different changes in cut-in speed (5 m/s, 6.5 m/s; 3.5 m/s is normal cut-in for the GE turbines studied) and compared fatalities with fully operational turbines. We did not detect a difference in fatality between 5.0 and 6.5 m/s treatments, so we combined the data and compared with fully operational turbines. Our results indicated an 82% average nightly reduction in bat fatalities (range = 56-92%) at curtailed turbines compared to those that were fully operational. We have finalized all analyses, including financial implications, and have begun preparing a report for review by the Scientific Advisory Committee, which should be ready for public dissemination by the end of March.



BCI field research technicians Holly McCready and Mario DaSilva gather data at the Casselman, PA wind project. (photo by E.B. Arnett, Bat Conservation International)

Deterrent Studies

A study plan for field research in 2009 is currently under development and will be submitted to the Scientific Advisory Committee for review by 1 March 2009. Engineer Mark Jensen has proposed a new prototype and we are currently discussing its deployment on turbine nacelles with company operations staff, engineers, and turbine manufacturers. The field study in 2009 will compare fatalities between treated and un-treated turbines.

Information Exchange

BWEC Program Coordinator, Ed Arnett attended several meetings and workshops in this quarter and delivered invited presentations on research conducted by the cooperative. These include:

- Oregon Chapter of The Wildlife Society Wind Energy and Wildlife Workshop, The Dalles, OR (5-6 November 2008)
- Capitol Wind and Wildlife Forum, Texas State Legislature, Austin, TX (12 November 2008)
- Midwest Fish and Wildlife Agencies Conference, Columbus, OH (14-17 December 2008)
- AWEA Member Company Webinar (22 January 2009)
- FAC Meeting, Washington, DC (26-30 January 2009)

During the Oregon TWS Wind-Wildlife workshop, Ed delivered 3 presentations on patterns of bat fatality, pre-constructions assessments of bat activity, and operational mitigation and deterrents to reduce bat kills. BCI and the Texas Wildlife Association co-sponsored the Capitol Wind and Wildlife Forum at the Texas legislature on 12 November 2008. The objective was to provide our current state of knowledge on wind and wildlife issues to Texas lawmakers and offer recommendations for advancing science and future decision-making. Ed also participated in an expert panel to address questions from legislators and other participants. At the Midwest Fish and Wildlife Agencies Conference, he participated in a special symposium on wind energy and presented key findings from BWEC research.



BWEC Program Coordinator, Ed Arnett participates in a panel discussion on wind and wildlife issues at the Texas Legislature. (photo by R. Patterson, Bat Conservation International)

AWEA Member Webcast

Staff at Energetics and AWEA coordinated the second BWEC webcast that was held on 22 January 2009. The target audience for this webcast was AWEA member companies and potential new partners interested in supporting BWEC research. Ed Arnett presented an overview of the BWEC, program revenues and expenses, research progress to date, and research plans and budgets for 2009.

BWEC is interested in replicating its research efforts and is seeking companies willing to conduct deterrent and operational curtailment studies at their wind facilities. We also are looking for companies that are conducting similar pre- and post-construction monitoring and willing to share information needed to link pre-construction bat activity data with post-construction fatalities. We invite any of our potential industry partners to join BWEC and contribute to these critical research efforts designed to understand and minimize risk to bats. Companies interested in contributing to BWEC should contact [Laurie Jodziewicz](#) and those interested in field research efforts and potential study sites should contact [Ed Arnett](#).

Additional webcasts will be scheduled in 2009 to update partners on research findings.

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Questions or comments? E-mail us at rpatterson@batcon.org or call 512-327-9721 ext. 15