Bats and Windmills

"Your World" article submission for September 24, 2007

Wind Energy has been used commercially in North America since the early 1970s and is considered an environmentally-friendly energy alternative. It generates electricity without causing air or water pollution, mercury or greenhouse gas emissions. But, wind farms are also causing bats to die. Across the U.S., bat fatalities have been reported at virtually all wind energy facilities, with annual mortality varying from <2 to nearly 50 bats/turbine/year.

There are nine bat species in Michigan, eight of which inhabit Washtenaw County. Southern Michigan is part of the <u>Indiana Bat</u> range, which is on the federal endangered species list, and is the only federally endangered mammal in Michigan.

Some theories of why the bat deaths are occurring are:

- Low winds produced by slowly moving blades create more insects flying, and thus a more favorable hunting environment that attracts the bats.
- A large number of the dead bats belong to species that migrate (Red Bats, Hoary Bats), which leads scientists to believe that the bats run into the windmills in the process of traveling.
- The windmills resemble trees in terms of size and height. For bats that nest in large, dead trees, they may come into contact with the wind turbines while in the process of making their homes in them.
- Ultrasonic emissions from wind turbines attract the bats.

Currently, scientists are actively seeking answers to questions about the bat fatalities. In particular, Eastern Michigan University Biology Professor Dr. Allen Kurta, is an active participant in this area of research. He is confident that in the long run, the problems with bat fatalities due to wind turbines can be adequately minimized, assuming we devote resources to study the migration patterns of bats so that turbines can be sited where they will do the least damage.

Bats are crucial to the health of the environment and the economy, since they are primary predators of night-flying insects, including many major agricultural pests, and some are important pollinators and seed dispersers. Bats are one of the slowest reproducing mammals, producing only one offspring each year, so numerous hits from a wind farm could do significant damage to a bat population. Therefore, it is of particular importance for bats and wind energy to be able to coexist in the near future.

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