Bat Mortality at Wind Farms: a Summary of Recent Research Findings, and Management Implications for Montana Wind Power Development

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Bat fatalities at wind turbines have been documented worldwide, including North America. Annual mortality has been estimated to vary from < 2 to ~ 50 bats/turbine yr. Hoary, red, and silver-haired bats appear to have the highest frequency of mortality. All three species are migratory forest bats, even though mortality of these species has been observed at wind turbines located in grassland habitats. Bats seem to be most vulnerable to collisions with turbines during fall migration periods. Bats are long-lived species that have low reproductive rates, and low levels of mortality could have potentially high impacts on local populations. Pre-construction bat survey protocols for evaluating potential wind energy sites will be described, including a review of current research efforts to evaluate the effectiveness of

pre-construction bat detector surveys for predicting bat fatalities. Post-construction wind farm monitoring protocols for documentation of bat mortality will also be reviewed. Effective bat mortality monitoring may require more frequent monitoring intervals than those often used for bird mortality. This presentation also summarized on-going research efforts by Bat Conservation International and others on potential mitigation measures and deterrents for bats at wind farms. A list of web resources will be provided for those who wish to stay informed about the latest information related to wind energy and bats.