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To: "midwestwindhcp@fws.gov" <midwestwindhcp@fws.gov>
cc: Mylea Bayless <mbayless@batcon.org>
Subject: FWS-R3-ES-2012-N179_Comments from Bat Conservation International

Rick Amidon,

On behalf of Bat Conservation International and our Director of Conservation Programs, Mylea Bayless, I am submitting comments regarding the Draft Midwest Wind Energy Multi-species Habitat Conservation Plan.

We appreciate the opportunity to comment during this important planning process.

Thanks you,

Cris

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Conserving the world's bats and their ecosystems to ensure a healthy planet.

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Eight-State_HCP_Region (2).jpg MSHCP_BCI Comments.pdf

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Rick Amidon
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RE: FWS-R3-ES-2012-N179, Draft Midwest Wind Energy Multi-species Habitat Conservation Plan within Eight-State Planning Area

Bat Conservation International (BCI) appreciates the opportunity to comment on the U.S. Fish and Wildlife Service's (USFWS) Draft Midwest Wind Energy Multi-species Habitat Conservation Plan (MSHCP)**.** BCI, founded in 1982 and headquartered in Austin, Texas, is a nonprofit organization dedicated to conserving the world's bats and their ecosystems to ensure a healthy planet. We achieve our mission through research, education and direct conservation action. BCI currently employs a staff of nearly 30 biologists, educators and administrators, and is supported by members from 60 countries.

BCI supports the development of alternative energy sources, but is concerned that cumulative impacts of wind energy development on bats could become unsustainable if facilities continue to operate without careful planning to minimize the adverse effects on bats. We believe that minimizing harmful impacts to wildlife is an essential element of "green energy", and that developers of wind energy must increase efforts to improve siting, document fatalities, and develop, test, and implement methods to reduce, to the greatest extent practicable, the negative impacts to bats.

BCI welcomes the programmatic approach to this planning process. We believe a regional, MSHCP will benefit the conservation community and industry by providing clear expectations for all stakeholders. However, we are uncertain of the extent of the proposed "covered land". We recommend extending the region to include the entire range for all "covered species" (see attached map). Many of the species being considered are migratory and do not spend their entire life cycle within the 8 states listed. The MSHCP should provide an opportunity for conservation measures to benefit the species as a whole, thus we recommend expanding the extent of "covered land". We encourage the USFWS to consult with species experts to determine the appropriate biological range, and not let geographic boundaries constrict the extent of the MSHCP.

For this programmatic MSHCP to be successful, strong minimization and mitigation measures need to be implemented. However, the MSHCP needs to be flexible enough to incorporate new data as it becomes available to enhance conservation measures. The MSHCP should include adaptive management strategies during the planning process.

BCI recognizes that conditions (e.g., habitat, weather, species distribution) differ from site to site, and that the potential for impact to bat populations will vary. Thus, we are supportive of evaluating and issuing Incidental Take Permits (ITP) on a facility-specific basis.

BCI urges the USFWS to include all species impacted by White-nose Syndrome (WNS). The dramatic population declines attributed to this disease may lead to additional listings under the Endangered Species Act and should therefore be considered when developing a broad programmatic MSHCP. WNS was first documented in 2006, the disease, or the fungus responsible (*Geomyces destructans*), has spread across 21 states and 4 Canadian provinces, and has impacted millions of bats (www.batcon.org). Little brown bats (*Myotis lucifugus*), once considered common, have shown the greatest mortality of all species affected by WNS, but the federally endangered Indiana bat (*M. sodalis*), northern long eared (*M. septentrionalis*), eastern small-footed (*M. leibii*), and tri-colored bats (*Perimyotis subflavus*) also have experienced severe mortality (Frick et al. 2010, Kunz and Reichard 2011). Turner et al. (2011) estimated an 88% decrease in the total number of hibernating bats across 5 northeastern states, with 98%, 91%, and 72% declines in northern long-eared, little brown, and Indiana bats, respectively. It was recently discovered that individuals of the federally endangered gray bat (*M. grisescens*) were infected with WNS and two additional species, cave myotis (*M. velifer*) and southeastern myotis (*M. austroriparius*) have been documented with the causative fungus. The full extent of the impact on hibernating bats is still unknown. Each year, we learn of new states and species affected by the fungus. Thus, all species negatively affected by WNS should be considered as "covered species", particularly those known to be impacted by wind development.

The perilous decline in bat populations is exacerbated by the additive nature of both WNS and numerous anthropogenic activities, including wind development. Bat fatalities have been reported at wind facilities since the early 1970's, but have received little attention until 2003 when an estimated 1,400–4,000 fatalities were reported at the Mountaineer Wind Energy Center, West Virginia (Kerns and Kerlinger 2004). Relatively high fatality rates have been documented at other facilities along forest ridges across the eastern United States (Arnett et al. 2008). However, data from the Midwestern U.S. suggest moderate to high fatality events also can occur across a variety of landscapes, including agricultural landscapes, grassland prairies, and deciduous or coniferous forests. For example, two sites in Wisconsin, Blue Sky Green Field and Cedar Ridge reported estimated fatality rates of 40.5 and 50.5 bats per turbine (Gruver et al. 2009, BHE Environmental, Inc. 2010). Although wind-powered turbines primarily affect migratory tree-roosting bats, hibernating cave-roosting species (i.e., little brown bats and tri-colored bats) can compose nearly 20% of fatalities and Indiana bat fatalities have been reported in the Midwest (Arnett et al. 2008, Good et al. 2011).

A paucity of information exists regarding guidelines for proper siting of wind facilities or individual turbines. However, BCI is concerned about siting wind turbines near large or significant bat roosts, including summer maternity colonies and winter hibernacula. We also are concerned about siting facilities along migratory routes or high density flight corridors. Although our understanding of these flyways for bats is limited, we encourage the USFWS to include language that allows for additional information to be incorporated as it becomes available.

Conducting the appropriate studies during all phases of development will be essential. These data will provide critical information on the spatial and temporal patterns of bat activity and fatality. The HCP should include the USFWS Land-based Wind Energy Guidelines. Additional information on proper study design, sampling intensity and analysis can be found in the National Wind Coordinating Collaborative Methods and Metrics document.

Currently, the most effective means of minimizing bat fatalities at wind-powered turbines is through changes in turbine operations (Arnett et al. 2011). This involves both raising the turbine cut-in speed (the wind speed at which the generator is connected to the grid and producing energy) and feathering the blades (the act of adjusting turbine blades parallel to the wind to slow or stop blade rotation) prior to cut-in. This strategy appears to be successful in reducing bat fatalities because bats tend to be most active during low wind conditions (Arnett et al. 2008). Studies have shown that by altering turbine operations by 1.5–3.0 m/s during the fall, when bats are most vulnerable to wind development, fatalities are significantly reduced (Baerwald et al. 2009, Arnett et al. 2011, Good et al. 2011). A BCI-led study in Pennsylvania documented a 44–93% reduction in bat fatalities with only a 0.3 to 1% annual power loss when raising cut-in speed to 5.0 or 6.5 m/s, respectively (Arnett et al. 2011). Although we were unable to detect a significant difference between our two treatment cut-in speeds and bat fatality, a study at a facility in Indiana did show that significantly fewer bats were killed by turbines with a cut-in speed of 6.5 m/s compared to those with a cut-in speed of 5.0 m/s (Good et al. 2011). However, it is important to note that there are no available data indicating fewer fatalities will occur if cut-in speeds are greater than 6.5 m/s. Furthermore, no data are available to suggest that operational changes implemented above a certain temperature are as equally effective in reducing bat fatalities. The HCP should include actions involving altering turbine operations as a means of reducing the adverse impacts of wind development on bats. Moreover, it would be of great benefit to all stakeholders if research into optimizing operational minimization strategies were included during the planning process. Advancing our understanding of the timing and conditions bat fatalities occur will assist in developing strategies which will not only minimize bat fatalities, but maximize wind energy production.

BCI recognizes that not all bat fatalities can be avoided through proper siting and operational minimization methods and that mitigation offset measures will need to be implemented. To offset the potential take of "covered species", we recommend the purchase, restoration, and preservation of an appropriate amount of suitable habitat (at a greater than 1:1 ratio) to enhance the reproductive success and survival of bat populations. This could include areas surrounding winter hibernacula or known summer maternity colonies. The acquired land should be placed in conservation easement in perpetuity and any required enhancement or restoration should be undertaken to improve the quality for bats. The establishment of a mitigation bank may provide a more effective strategy for implementing meaningful conservation actions, where all participants contribute resources toward a set of conservation priorities.

BCI appreciates the opportunity to comment on these important documents and we wish to receive notifications for all phases of this process. BCI is happy to provide our expertise during the drafting of the EIS and HCP and we welcome the opportunity to serve as a cooperating agency during this process. Please contact me if you have any questions.

Respectfully,

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