Resolution Concerning Bats and Wind-Energy Development

Adopted July 2008, Amended October 2014

WHEREAS, bat fatalities have been documented at wind turbines on multiple continents (Rydell et al. 2010, Arnett and Baerwald 2013, Parsons and Battley 2013); and,

WHEREAS, over 300,000 megawatts (MW) of installed wind-energy capacity existed as of December 2013 across 100 countries, with Asia (29%), Europe (28%) and North America (19%) accounting for the largest share of development (Global Wind Energy Council 2014); and

WHEREAS, global capacity of wind energy is projected to increase substantially, with estimates in excess of 500,000 MW by 2017 (Global Wind Energy Council 2014); and,

WHEREAS, although we recognize issues concerning climate change, the long-term environmental impacts from past and continued use of fossil fuels, and the need to develop clean sources of renewable energy, the fact that large numbers of bats are dying at wind turbines cannot be ignored; and,

WHEREAS, it is estimated that hundreds of thousands of bats are dying each year at wind turbines in the United States and Canada, with fatality rates increasing along with the increasing rate of turbine development (Arnett and Baerwald 2013, Hayes 2013, Smallwood 2013); and,

WHEREAS, because bats are long lived and have exceptionally low reproductive rates that make them susceptible to population declines and extinctions (Barclay and Harder 2003), bat fatalities at wind facilities are likely to pose biologically significant cumulative impacts for some species, unless solutions are developed and implemented (Arnett and Baerwald 2013); and,

WHEREAS, biologically significant cumulative impacts are likely to occur for those species most vulnerable to wind turbines (e.g., migratory tree-roosting bats) and those species also impacted by white-nose syndrome (e.g., *Perimyotis subflavus* and *Myotis lucifugus*), unless scientifically proven strategies to reduce bat fatalities at wind turbines are implemented; and,

WHEREAS, the state of our knowledge regarding factors associated with bat fatalities at wind-energy facilities is limited, and there is a dearth of reliable information upon which to base policy and management decisions; and,

WHEREAS, multi-year pre- and post-construction monitoring studies to elucidate patterns and causes of bat fatality are infrequently published; many hypotheses of attraction remain untested, and there is need to develop solutions and assess the efficacy of strategies to minimize impacts (Baerwald et al. 2009, Cryan and Barclay 2009, Rydell et al. 2010, Arnett et al. 2011, 2013); and,

WHEREAS, standardized protocols that ensure consistency of data collection and comparability among pre- and post-construction studies are lacking; and,

WHEREAS, the seriousness of the effects of turbines on populations of certain bats may not be fully appreciated by decision makers (e.g., government officials), wind-facility operators, and the public.

THEREFORE BE IT RESOLVED that the North American Society for Bat Research at the 44th Annual North American Symposium on Bat Research, Albany, New York, 22–25 October 2014, voices grave concern about fatalities of bats at utility-scale wind-energy facilities in North America and elsewhere. We as members of NASBR commit to:

a) Conducting multi-year monitoring and hypothesis-based research at wind facilities,
b) Developing methods to assess the relationship between bat activity and fatality risks at local and regional levels,
c) Implementing standards for conducting site-specific, scientifically sound pre- and post-construction evaluations, using comparable methods as much as is feasible,
d) Quantifying the cumulative impacts of wind-energy development on species occurring across national boundaries to assess the effects of site-specific fatalities on the entire bat population being affected,
e) Developing and implementing consistent guidelines for siting, assessing risk, monitoring and minimization strategies (e.g., operational mitigation) among states, provinces, and agencies that would assist developers with compliance with relevant laws and regulations,
f) Conducting experiments at wind facilities in different regions to test minimization strategies (e.g., ultrasonic acoustic deterrents), evaluating their effect on reducing bat fatalities, and determining the economic costs of implementing such strategies,
g) Advocating for the implementation of minimization strategies (e.g., operational mitigation) that have proven effective at reducing bat fatalities at wind-energy facilities,
h) Establishing criteria and standards for identifying high-risk sites that are critically important to the conservation of bats on a state, provincial, or regional basis,
i) Discouraging wind-energy development at sites identified as high-risk by bat experts using the best science available,
j) Educating the public and decision-makers regarding the trade-offs and benefits of all forms of energy, including wind,
k) Coordinating efforts to integrate scientific understanding about bats and wind turbines into decision-making processes, and ensure transparency and data sharing among scientists, resource managers, non-governmental organizations, and industry.

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