The Nature Conservancy
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Mr. Lorry Wagner, President
Lake Erie Energy Development Corp. (LEEDCo)
1938 Euclid Avenue, Suite 200
Cleveland, OH 44115

Dear Mr. Wagner:

We appreciate the opportunity to comment on the initial results of the environmental assessment work associated with the pilot wind energy project, Project Icebreaker. Our comments will focus on the information contained in the report, *Lake Erie Energy Development Corp. Project "Icebreaker" Environmental Reports. October 2013*, and webinar hosted by LEEDCo on November 4, 2013, and particularly on birds and bats where we can best apply our expertise.

We are grateful to LEEDCo for sharing this information with us and others. We recognize the challenges associated with pioneering efforts like this especially since, to the best of our knowledge, this would be the first offshore wind energy project in the Great Lakes. Proceeding carefully with this pilot project is very sensible given the levels of uncertainty associated with environmental assessment related to bird and bat interactions with wind energy development on the Great Lakes. This is especially important if development of wind energy accelerates on the Great Lakes as the possibility of errors in early assessments could be magnified with increasing numbers of turbines and associated infrastructure.

We also recognize the importance of new wind development in the Great Lakes as a potential source of clean and renewable energy with little to no contributions to global climate change. Ohio is the fourth largest emitter of greenhouse gas emissions in the United States. Current Ohio law requires that 25 percent of Ohio's energy portfolio come from alternative energy sources by 2025. Projects like "Icebreaker" could help Ohio attain these clean energy goals. As a result, we must weigh this upside with the potential downside of impacts to migrating birds and bats.

Given the choice of placing wind power offshore or onshore, we believe that the impacts to birds and bats will be far less if the decision is made to pursue the former. Onshore wind development creates far more opportunities for collisions and other harm to these species. In that regard, the pioneering work of "Icebreaker" as an offshore pilot in the Great Lakes is noteworthy. Because it is a pilot, we believe that the project could help contribute important data to evaluate the impact of future offshore wind development in the Great Lakes.

Mortality of most bird species appears to be considerably lower due to collisions with turbines than some other sources of anthropogenic mortality, such as collisions with buildings, as noted in your environmental report. Moreover, it is unlikely that the pilot project will have a significant effect on any population of birds because of the small scale of the project and its location well away from the

shoreline. However, that assessment could be strengthened. First, it was not clear to us if the radar work captured the distribution of birds in the air column during peak migration events during adverse weather, especially foggy conditions, when more migrants may be flying lower than typical migration flights, which are normally above the elevation of the area swept by the rotor.

A second concern focuses on Kirtland's Warblers. A very recent paper (Petrucha, M.E. et al. 2013. Spring and fall migration of Kirtland's Warbler (*Setophaga kirtlandii*). North American Birds 66:382-427) suggests the possibility that a relatively high proportion of fall migrating Kirtland's Warblers might be flying over central and eastern Lake Erie. Consequently the risk of Kirtland's Warblers striking turbine rotors could be higher than that presented in the environmental assessment. It would be good to re-assess the potential risk to Kirtland's Warbler.

Far less is known about migration of bats than birds, especially offshore, as reflected in your assessment. Literature to date suggests bats may be more susceptible to wind turbine mortality than birds due to potential attraction to turbines and barotrauma. Unfortunately, so little is known about migration of bats in the Great Lakes region that it is even more difficult to assess or predict the potential impact of turbines on bats than birds. Bats also have lower reproductive potential than songbirds and populations are being reduced by white nose syndrome so additional factors that increase bat mortality need to be considered simultaneously when evaluating potential effects of wind turbines on bat mortality. As with birds, the ultimate approach to rigorously evaluate risk of bats is real time assessment of mortality.

We believe that assessing potential biological interactions through pilot studies is a prudent approach and appreciate the interest of LEEDCo to obtain input prior to construction. We also appreciate the interest in employing intermittent lighting which should minimize collisions. We encourage LEEDCo to implement appropriate monitoring programs to address some of the uncertainties and to encourage development and adoption of new techniques for those questions for which there are no or inadequate techniques to assess biological responses to offshore turbines. Results from rigorous monitoring programs could reduce uncertainty about some of the potential bird and bat (and other biological) interactions with offshore wind energy development and thus be influential in shaping the future of wind energy on Great Lakes offshore waters.

Thank you for inviting The Nature Conservancy to comment on the "Icebreaker" project. Please do not hesitate to contact us if we can answer any questions about our submission.

Best regards,

Josh Knights
Executive Director

Cc: Dave Ewert, The Nature Conservancy