



Bringing back the birds

20 May 2021

Re: Heritage Wind; DMM Matter No. 21-00026

Dear Mr. Moaveni:

American Bird Conservancy (ABC) supports wind energy development as part of a multifaceted approach to reversing climate change, provided that this development includes appropriate protections for birds. ABC has had staff dedicated to promoting environmentally responsible wind energy development for more than 10 years. Our recommendations for appropriate wind facility planning and operation are outlined in our principles for Bird-Smart Wind Energy.¹

Best practices for minimizing the impacts of wind energy facilities on birds and other wildlife are anchored in appropriate siting, i.e., by avoiding high-risk locations. This is particularly important given the relatively few effective measures for minimizing the impacts of turbines once constructed. Appropriate wind facility and turbine siting is the underpinning for both the U.S. Fish and Wildlife Service's (USFWS) *Land-Based Wind Energy Guidelines*, and New York Department of Environmental Conservation's (NYDEC) *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*.

It is for this reason that we are writing to express our serious concerns about the Heritage Wind project. This project conducted inadequate studies to inform turbine siting, and proposes to place turbines in clearly inappropriate locations from a bird impact perspective (details in the following sections). This project cannot be approved as currently proposed.

To address flaws with the proposal, we urge that the following changes be made to the plan:

- Turbines T1, T2, T3, T4, T5, and T6 must be removed due to their unacceptably high-risk locations adjacent to a high-biodiversity wetland and protected area complex;
- Paired radar or thermal imaging and acoustic studies must be conducted in spring and fall migration to evaluate the likely impacts of the project to migratory birds at remaining turbines, and turbine locations relocated as needed;
- Five years of post-construction bird mortality monitoring must be conducted, given the high-risk location of the project; and
- Compensatory mitigation must be provided to offset impacts.

Below we provide the clear reasoning and need for these measures. **If these measures are not taken, we urge the Office of Renewable Energy Siting to deny the project's application.**

¹ <https://abcbirds.org/wp-content/uploads/2020/03/Bird-Smart-Wind-Energy-Fact-Sheet.pdf>

Impacts of Wind Energy Development on Birds

Renewable energy development is an essential component of the broader strategy to addressing the climate crisis. However, this comes with a cost – more than half a million birds are killed in the U.S. each year in collisions with wind turbines.² This is only accounting for the direct impacts – additional birds are killed each year in collisions and electrocutions from power lines built to connect wind facilities to the energy grid,³ though this remains unquantified. Other birds are displaced by construction of wind facilities when that development renders otherwise suitable habitat unusable.⁴ When the many threats to birds are considered cumulatively, it is clear that minimizing the impacts of wind energy on birds is imperative.

Ecological Importance of Iroquois – Oak Orchard Wetland Complex

The biodiversity value of the Iroquois National Wildlife Refuge – Tonawanda Wildlife Management Area – Oak Orchard Wildlife Management Area wetland complex cannot be overstated. This protected area complex and vicinity (hereafter “Iroquois – Oak Orchard wetland complex”) is listed as a focus area in the *Atlantic Coast Joint Venture Waterfowl Implementation Plan Revision*,⁵ indicating its importance as a migratory stopover site for waterfowl. The area is highlighted as an important breeding site for many NYDEC-designated bird Species of Greatest Conservation Need in the *Strategy for Conserving New York’s Fish and Wildlife Resources*,⁶ including Cerulean Warbler, Prothonotary Warbler, Bobolink, and state-listed species such as Bald Eagle, Henslow’s Sparrow, and Black Tern. It is also considered an Important Bird Area (IBA) by National Audubon Society.⁷

Part of the ecological value of the Iroquois – Oak Orchard wetland complex is that it provides a large block of habitat in combination with contiguous forested lands, collectively mapped in the National Audubon Society IBA. Many species of birds and other wildlife require large areas of forest interior, where conditions differ in important ways from locations near the edges between habitats. Due to widespread loss and fragmentation of eastern forests and other habitats, many such species are now present on the landscape in much-reduced numbers.

Importance of the Iroquois – Oak Orchard Wetland Complex and Vicinity to Migratory Birds

The Heritage Wind site is also located in an area known to be important for nocturnal migratory birds. Between 2011 – 2018, the USFWS conducted radar studies of bird migration in the vicinity of Great Lakes shorelines to inform wind energy development in the region.⁸ Radar

² <https://abcbirds.org/blog21/wind-turbine-mortality/>

³ Loss et al. 2014. Refining estimates of bird collision and electrocution mortality at power lines in the United States. PLOS One 9: e101565.

⁴ Shaffer and Buhl. 2014. Effects of wind-energy facilities on breeding grassland bird distributions. Conservation Biology 30: 59-71.

⁵ Atlantic Coast Joint Venture. 2005. Atlantic Coast Joint Venture waterfowl implementation plan revision. <https://acjv.org/planning/waterfowl-implementation-plan/>

⁶ New York Department of Environmental Conservation. 2005. A strategy for conserving New York’s fish and wildlife resources. https://www.dec.ny.gov/docs/wildlife_pdf/cwcs2005.pdf

⁷ <https://www.audubon.org/important-bird-areas/iroquois-nwroak-orchard-and-tonawanda-wmas>

⁸ USFWS. Avian radar project. <https://www.fws.gov/radar/>

studies are able to detect nocturnal migratory flights (e.g., large flocks of migratory songbirds) that daytime, ground-based studies are not. One such study⁹ included an inland location, about 6 miles southeast of Oak Orchard WMA, in addition to sites closer to the Lake Ontario shoreline. The study found that migratory activity was heavy at the Genesee County site as well as the shoreline locations. They also found that high numbers and densities of birds and bats flew in the rotor-swept zone of turbines, putting them at risk of collisions. They concluded that the areas they studied are important for migratory birds, suggesting that:

The proximity of the [Iroquois National Wildlife] refuge combined with the time periods sampled and a possible migratory pathway from the eastern end of Lake Erie to the shore of Lake Ontario could explain why our sole inland site appeared to have higher activity than our shoreline sites.

Turbines T1, T2, T3, T4, T5, and T6 Must Be Removed from the Plan

The analysis in the preceding section establishes that the Iroquois – Oak Orchard wetland complex is extremely important to many bird species of conservation concern during the breeding season, and large numbers of nocturnal migrants. As such, the placement of turbines in the vicinity of this complex poses an unacceptably high risk to birds, including state-listed species and other species of conservation concern.

Despite this, Heritage Wind proposes to place six turbines – T1, T2, T3, T4, T5, and T6 – within 0.5 miles of the Iroquois – Oak Orchard wetland complex. The USFWS radar study cited above found that nocturnal spring migratory bird movements were primarily oriented between north and east at the Genesee County site, which generally corresponds with the orientation of the proposed turbine layout from the Iroquois – Oak Orchard wetland complex. As such, turbines are likely to lie within the flight path of large numbers of nocturnal migrants. Nocturnal migrants gradually ascend for night flights at dusk, and descend to stopover sites at dawn, making nearby turbines a particular risk.

This is clearly unacceptable, and contrary to well-established best practices for wind energy facility siting. Turbines T1, T2, T3, T4, T5, and T6 must be removed from the proposed plan.

Additional Field Studies Must Be Conducted to Evaluate Risks to Birds

The previously-cited *Strategy for Conserving New York's Fish and Wildlife Resources*, as well as other sources such as Cornell Ornithology's eBird, document use of the Iroquois – Oak Orchard wetland complex by New York state-listed species including the Endangered Black Tern and Short-eared Owl, and Threatened Bald Eagle, Northern Harrier, Sedge Wren, and Henslow's Sparrow. Many more listed as NYDEC-listed Species of Greatest Conservation Need use the site as well. This points to a clear need to conduct robust studies to characterize use of the proposed project location, particularly by species of conservation need.

⁹ Rathbun et al. 2016. Great Lakes avian radar technical report; Niagara, Genesee, Wayne, and Jefferson Counties, New York; Spring 2013. U.S. Department of the Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-3012-2016.

To characterize bird populations, the applicant retained consultants for a number of studies. Notably, this does not appear to include studies that would assess presence and movement patterns of nocturnal migratory birds. Given the high use of this area by migratory birds demonstrated by USFWS radar studies, and the large number of species of concern known to use the Iroquois – Oak Orchard wetland complex, that is a clearly unacceptable omission.

The NYDEC *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* cite radar studies as an appropriate methodology for evaluating nocturnal migrant bird activity. Given the documented importance of this area for migratory birds, this type of study is clearly needed during spring and fall migratory seasons. Thermal imaging could be considered as an alternative or supplement. Such a study should be conducted during multiple years to account for any interannual variation, and the relative scarcity of state-listed species.

Radar studies provide an understanding of the general nature and volume of migratory activity, but not which species are present. Pairing radar studies with acoustic monitoring can provide this additional, and equally important information. Many of the state-listed species and other species of conservation concern that have been documented using the Iroquois – Oak Orchard wetland complex breed in locations north of the site. Thus, they may use the site as a migratory stopover, putting them at risk of collisions with turbines when they depart for areas farther north during migration. Acoustic monitoring would allow an evaluation of risk to these species, provided that these species vocalize during nocturnal migratory flights.

Studies conducted to evaluate the project's risks to birds are inadequate, do not support an informed assessment of risk to state-listed species, and do not support an adequate overall assessment of impacts to wildlife. Studies must be supplemented by radar or thermal imaging studies, paired with acoustic monitoring to inform a complete risk analysis.

Five Years of Post-Construction Bird Mortality Monitoring Must be Conducted

Conducting bird and bat mortality monitoring at operational wind energy facilities is a standard practice in the industry. This entails traversing pre-designated areas below turbines searching for bird and bat carcasses to evaluate impacts and inform adaptive management.

Given the proposed project location adjacent to a high-biodiversity wetland and protected area complex and within an important bird migratory corridor, mortality monitoring is particularly important. In addition, it has not been evaluated whether state-listed species that migrate at night may be vulnerable to collisions with wind turbines, making this all the more critical.

A growing body of literature shows that trained detection dogs are significantly more effective in detecting bird and bat carcasses than human searchers. A recent study¹⁰ found that this is

¹⁰ Smallwood et al. 2020. Dogs detect larger wind energy effects on bats and birds. *The Journal of Wildlife Management* 84: 852-864.

particularly true for small birds, such as many nocturnal migrant species. Thus, post-construction mortality monitoring at Heritage Wind should be conducted using detection dogs.

Post-construction bird mortality monitoring using trained detection dogs should be required for the first five years of facility operation, given the high-risk location and relative scarcity of state-listed species that may be at risk of collisions with turbines during nocturnal migratory flights.

Compensatory Mitigation Must be Provided to Offset Impacts to Birds

Given the high-risk location of the proposed project, including its location within a migratory corridor for nocturnal migrants, and being adjacent to a high-biodiversity area used by many state-listed bird species and other species of conservation concern, compensatory conservation actions must be required to offset the impacts of this project.

Closing

The Heritage Wind project, as proposed, presents an unacceptably high risk to New York's birds with too little supporting data to evaluate these risks. However, we are confident that the measures we have provided in the preceding sections will allow this project to move forward in an environmentally-responsible manner. Barring incorporation of these measures, we find it unfortunate, but inescapably clear that the project should not be approved as proposed.

A recent study by Cornell Lab of Ornithology, American Bird Conservancy, and others shows that the United States and Canada have lost nearly 3 billion birds – almost 30% of the total population – since 1970.¹¹ We must not let our shared sense of urgency to address climate change overwhelm our responsibility to protect vulnerable bird populations.

Thank you for the opportunity to provide input on this important matter.

Sincerely,

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¹¹ Rosenberg et al. 2019. Decline of the North American avifauna. Science 366: 120-124.