

Faxed 04/23/2010



## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

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Cortland, NY 13045

April 23, 2010

Susan May, Supervisor  
Town of Orangeville  
87 North Main Street  
PO Box 190  
Warsaw, NY 14569-0190

Dear Supervisor May:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Stony Creek Wind Energy Project in the Town of Orangeville, Wyoming County, New York. Our review and comments are being provided as part of the State Environmental Quality Review Act process. Comments are also provided pursuant to the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712).

We may provide future comments under the BGEPA, ESA, and MBTA, as well as the Clean Water Act (33 U.S.C. 1344) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), as applicable.

The Stony Creek Wind Energy Project involves the construction of either 59 1.5 megawatt (MW) wind turbines which would generate up to 88.5 MW of electricity or 59 1.6 MW turbines which would generate approximately 94.4 MW of electricity, if the turbines were to run at maximum output. In addition, an underground electrical collection system, access roads, a meteorological tower, and substation would be installed; however, an overhead transmission line is not required. It is estimated that 15 miles of access roads and 28 miles of buried electrical collection system would be required.

**Section 1 Project Purpose, Needs and Benefits** – Electricity generated from the project will be carried on the Stolle-Meyer 230kV line found within the project area. Transmission capacity is discussed in terms of existing wind energy projects that connect to this line. However, Table 1 and the text do not discuss other generating sources that use this line or may potentially use it in the future. Additional information should be provided on this issue.

Project benefits such as fossil fuel emission offsets are reported based on a 30 percent capacity factor. Likewise, life-cycle emission impacts are based on this capacity factor. It would be more appropriate to base the expected benefits and life cycle impacts on the actual capacity factor of nearby wind energy projects such as the Wethersfield and High Sheldon projects. Using capacity factors from these projects should more accurately predict benefits and impacts. We note that the Danish study of life cycle emission impacts used a smaller turbine (0.60 MW) than what is proposed for this project. It is not clear if the payback estimates were adjusted to account for the difference in turbine sizes. Additionally, it is not clear if accurate data exist for wind turbine manufacturing, transportation, and installation for this project. The text should clarify the applicability of the analysis to the Stony Creek project.

The DEIS indicates that the project will reduce sulfur dioxide, nitrogen oxide, carbon dioxide, pollutants, and displace the use of fossil fuels. A recent report by the National Research Council (NRC 2007) found that wind energy projects do not deliver the environmental benefits typically described by project sponsors. For example, turbines generally produce at 30 percent of the rated capacity due to lack of wind (EIA 2004). The amount of electricity produced during hot summer months, and peak demand, will probably be less because of lower wind speeds. The intermittent nature of wind results in electricity being generated only periodically and, therefore, other types of generating facilities must be operating to meet demand. Therefore, it seems inaccurate to state that this project will displace the use of fossil fuels at existing power plants.

The NRC also found that almost no sulfur dioxide or nitrogen oxide would be eliminated from the operation of wind energy projects. A portion of carbon dioxide emissions is expected to be reduced. In their report, the NRC noted that the maximum wind energy could contribute to the reduction of this "greenhouse gas" is only 4 percent. Interestingly, electric generating facilities only produce about 39 percent of all carbon dioxide emissions in the United States (EIA 2006).

A general description of the project area indicates that agriculture and forest dominate the 14,500-acre study area. It is mentioned that construction of the project will result in temporary and permanent disturbance to approximately 380 acres of land. Centrally located in Wyoming County, the project area contains some of the largest remaining blocks of forest habitat – 7,438 acres in total. It is expected that 134 acres of forest will be temporarily impacted by construction and 16 acres permanently lost to project construction. We note, however, that these numbers do not reflect the indirect effects of habitat fragmentation. Approximately 41 percent of the turbines would be built in forest habitat. Road, buried electric cable, and turbine pad installation within forests can result in reduced habitat quality, smaller forest patch size, and changes in vegetation structure. Fragmentation can also lead to increased predation, lower productivity, and the spread of invasive species.

Page 14 indicates that access road width will be reduced from construction widths of 32 feet down to 16 feet during site restoration except where the landowners prefer the wider road. We note that this exception should not apply when roads cross streams and wetlands, in order to comply with State and Federal laws. A description on Page 15 of the underground electrical

collection system does not provide a width of trenches needed to install cables. This should be added in this section.

We support a lighting design that uses motion detectors at buildings and turbine doors to reduce the amount of excess stray lights that may attract night migrating birds during inclement weather. We also support the use of a monopole meteorological tower instead of a structure that uses guy wires.

Project siting is discussed in Section 1.3 and states that land owner support, electric grid connection, and sufficient wind resources are needed for proper turbine placement. However, the text does not include any data that identifies the wind resources of the project area. Including this information in the DEIS would help the reader understand the turbine siting process and also alternate locations within the project area.

The discussion of road and buried cable crossings of streams and wetlands indicate that the project has been designed to avoid these resources to the greatest extent possible. However, it is our understanding that a field delineation of aquatic habitat has not yet been completed. Preliminary estimates anticipate 27 crossings of streams and wetlands. Temporary impacts could total almost 17 acres, while it is expected that less than 1 acre would be permanently disturbed. We recommend that the Town of Orangeville not approve the project until the sponsor has provided an accurate accounting of stream and wetland impacts and has avoided and minimized impacts to the greatest extent practical. Proposed mitigation for unavoidable stream and wetland impacts should also be included. The DEIS should include more information on the specific construction method to be used at each stream and wetland crossing. Further, more specific information should be provided on wetland restoration techniques.

Table 6 lists the permits and approvals required for the project. We recommend that the Service's Migratory Bird Permit (Title 50, Part 21) be added as a required permit. A permit is required by anyone collecting dead migratory birds as part of the post-construction monitoring plan. Most consultants working on wind energy projects already have this permit.

**Section 3 Resource Characterization, Impact Assessment, and Mitigation** – Three major watersheds are found in the project area including Tonawanda Creek, Stony Creek, and East Koy Creek. Several streams protected by New York State Article 15 regulations are found in the project area. However, the DEIS does not adequately describe these resources. There is no mention of water quality data or the biota that may inhabit surface waters in the project area. We recommend this section be revised to include baseline data on surface water resources so that an appropriate impact assessment can be completed.

Likewise, the results of field wetland delineations should be included in the report. The discussion of indirect impacts to wetlands fails to mention potential changes or loss of hydrology due to construction activities. Further, compaction of soils and channeling of water away from wetlands can result in changes to vegetation structure and function. We find the wetland mitigation section lacking in sufficient detail to determine if proposed compensation will

adequately replace wetland functions and services. More detail should be provided that includes specific mitigation site details and design.

Section 3.5 discusses wildlife and habitat in the project area. A statement is made here that agriculture is the dominate land use type. However, several sections in the DEIS contradict that statement including the acreage provided on Table 10, Land Cover in the Project Area. The text indicates that no substantial tracts of contiguously forested habitat are found in the project area, but there is no definition as to what constitutes substantial. Further, it should be recognized that in a mosaic landscape pattern, forest size as well as location are important. Many tracts of forest pieced together can collectively be vital to providing access to habitat, such as breeding areas (for salamanders and turtles, for example), and form larger corridors for movement. Although the text mentions forest fragmentation, no meaningful analysis was provided on the potential impacts. A map indicating the location of cables and roads, longer than 500 feet long, shows that approximately half of the roads and less than half of the cables are within forested areas. It is not clear why 500 feet was selected as the criteria for this review. In addition, the analysis does not factor in the impact to interior forest species where habitat quality may be reduced due to increased predation, introduction of invasive species, and reduced patch size.

Section 3.5.2 discusses animals (other than birds and bats) that may be found in the project area, including Jefferson salamander, a State species of concern. Mapping from the New York State Department of Environmental Conservation (NYSDEC) indicates that this species' habitat may be found near at least three turbines. We recommend surveys be conducted to identify all habitat as well as individual use in the project area.

Birds are discussed in Section 3.5.3. Several studies were completed in the project area including a breeding bird survey and raptor surveys conducted in the spring, fall, and winter. In addition, a one day survey was completed near the Attica Reservoir to locate any bald eagle nests due to regular sighting of this species. Similarly, a one day playback survey was conducted in March 2008 to locate short-eared owls. Both of these species are State-listed species and protected by State law. In addition, the bald eagle is protected under the BGEPA. Data from Audubon Christmas Bird Counts reveal the presence of both species as well as 16 other raptors that were identified in the project area, but not identified during surveys conducted by Stony Creek consultants. We have strong concerns about the adequacy of the winter surveys for these species. We also have reservations about the sufficiency of one survey on the Attica Reservoir for bald eagle nests. We believe that one day surveys are typically insufficient to determine the presence of a species and its use patterns of the project area. Without this information, it is difficult to adequately determine the potential project impact on these species. Therefore, we recommend additional surveys be completed to adequately document species presence and use.

It is important to note that citizens living in the project area (i.e. Clear Skies over Orangeville) have monitored wildlife activity over the past few years. We have been provided data that highlights avian, mammalian, reptile, and amphibian occurrence in various areas in the Town of Orangeville and believe that this information should be considered alongside any data collected by consultants for this project. Of particular note is the high level of waterfowl activity in the

northern portion of the Town at certain times of the year. Observations have shown patterns of movement between various water bodies and agricultural fields where feeding occurs. We did not see mention of this pattern in the DEIS nor did we see an analysis of potential impact to birds from turbines that may be sighted between or among these areas. This information should be added to the report. It has been reported that some areas of the project area were not surveyed and, therefore, field study may be warranted.

We note that although no radar survey was conducted for this site, two studies at adjacent projects reveal that a high percentage of biological targets flew within and below the turbine rotor swept zone height at the Wethersfield project, located south of Stony Creek. Approximately 19 percent of the targets flew below turbine height during the spring. Additionally, spring and fall visual surveys for migrating raptors in the project area revealed a high percentage flying below turbine height with 94 percent in spring and 81 percent in fall flying below 426 feet above ground level. This information indicates that higher than typical turbine-induced mortality to raptors may occur at this site. We recommend the Town condition project approval with provisions for modifying turbine operation if post-construction monitoring indicates mortality higher than other projects in the region.

A brief section on grassland birds is found in the DEIS. This section lists species observed in the project area, but does not provide information on potential impacts to breeding grassland birds. Yet the most abundant birds detected during the breeding bird surveys were those found in open areas such as bobolink, red-winged blackbird, and song sparrow, but also high counts of savannah sparrow and eastern meadowlark were noted. Despite some areas in the region being used for agriculture, which can impact nesting grassland birds, it appears that the project area provides important habitat for the suite of open area species. Placement of tall structures, such as wind turbines, can displace some of these species for fear of perching raptors. This information should be included in the DEIS.

Bats are discussed in Section 3.5.4. Bat activity was recorded by acoustic detectors placed on trees and the meteorological tower in the project area. However, the data indicate a bias in the number of calls detected at one or more site due to location. Recorded species composition may also have been affected by this placement and, therefore, may not necessarily represent the species using the project site or those that may be impacted by the project. It appears that migratory tree bats may have been under represented in the sample, but we would expect a large proportion of bats killed by turbines at this site to be tree bats.

Threatened, endangered, or protected bats are discussed on Page 95. The Federally- and State-listed endangered Indiana bat (*Myotis sodalis*) does not belong to the "*Myotis* species". It belongs to the *Myotis* genera and is a distinct species from all other *Myotids* in New York State. The closest known Indiana bat hibernaculum is not within 40 miles as stated in the document, but is greater than 100 miles from the project area. The New York Natural Heritage Program letter referenced addresses the closest known *Myotis leibii* hibernaculum.

The Indiana bat is not known or anticipated to occur in Wyoming County based on our current understanding of Indiana bat movements within New York. However, the discussion of forest fragmentation and suitability should be removed as Indiana bats are found in fragmented forests in New York. In addition, we consider the potential for roosting, foraging, and commuting habitat when reviewing projects and the discussion appears to be focused on optimal maternity colony roosting habitat. Again, we recommend removing much of this paragraph.

Construction impacts to bats are discussed on Page 96, but the DEIS does not address the potential for direct effects to bats from construction activities (loss of occupied roosts, noise, dust, lighting, etc.). At a minimum, we recommend minimizing forest impacts and conducting all tree clearing activities during winter months (November to March) when bats would not be roosting in any of the forest areas.

The discussion of operational impacts to bats begins on Page 96. The second sentence reads, "There could be some summer roosting habitat and limited maternity roost habitat for Indiana bat, but overall the Project Area does not contain preferred habitat for this species."

We recommend striking the sentence for several reasons. There is currently no information to suggest that Indiana bats are likely to be within the project area based on documented movements of Indiana bats in New York State. Mist-netting or more detailed acoustic analyses than conducted (to species level) would provide further information on whether Indiana bats may be present. There is nothing to substantiate the claim that the project area does not contain preferred habitat for this species.

All bats seem to be at risk of barotrauma, the condition where air pressure changes on the down-gradient side of turbine blades causes bat lungs to explode. However, this condition was not mentioned in the DEIS nor was there an estimate of potential impact to bat populations. Likewise, there was no discussion of white-nose syndrome. This serious ailment has killed over a million bats in the northeast and there are no signs of it diminishing. Instead, it is expanding to new areas every year. This situation, combined with high levels of mortality at wind energy projects, may devastate bat populations. We, therefore, recommend the DEIS be revised to include a discussion on both barotrauma and white-nose syndrome and how this project may contribute to the cumulative decline of bats.

On Page 98, the project sponsor commits to operational restrictions on turbines to limit bat fatalities. Recent research has indicated that minor operational adjustments in cut-in speeds can greatly reduce fatalities (Arnett et al. 2009). We recommend that the Lead Agency require the project sponsor to use a cut-in speed that reduces bat mortality as a mitigation measure. In addition, as we are continuing to learn more about possible ways to avoid or minimize impacts to bats from turbine operation, the mitigation should include a strong adaptive management component with clear triggers to implement various strategies. This program should be developed prior to completion of the FEIS.

Impacts to threatened and endangered species and mitigation measures are discussed on Page 100. If no impacts are anticipated to threatened or endangered species, no mitigation should be included unless it is part of an adaptive management program that includes future monitoring of changes in species occurrences within the project area.

**Section 4 Alternatives** – This section describes the various alternatives explored by the project sponsor. In total, seven alternatives were reviewed, but only one alternative (Alternative 3) involved fewer turbines and that was developed to reduce potential forest impacts. Alternative 3 would involve constructing 31 turbines as opposed to 59 turbines in the preferred alternative. However, this alternative is dismissed because of reduced economic benefits. We note that the analysis does not indicate that the project would not be viable if Alternative 3 is selected. We suggest that the project sponsor review a project design with 2 MW wind turbines siting in non-forested areas.

**Section 6 Cumulative Impacts** – The cumulative impact section is slightly more than one page and does not provide a full analysis of the potential adverse affects of multiple wind energy projects. Particularly troubling is the lack of data provided, such as avian and bat mortality data, even though this information is readily available for other projects in western New York. We recommend this section of the report be revised to include all pertinent information relevant to this analysis. In addition, the scope of the analysis should be expanded to greater than 7 miles from the project area. As mentioned, all constructed and proposed projects in western New York should be included in the analysis.

## **Summary**

In summary, we find that the DEIS does not contain adequate information regarding potential impacts of the project on wildlife, and additional environmental review is necessary. We find that there is insufficient or missing data regarding wind resource data, and project alternatives should be reviewed to limit impacts. It appears that additional information on streams and wetlands is needed, including mitigation design options.

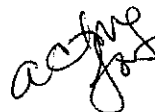
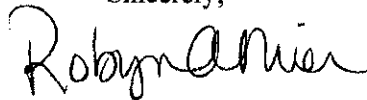
Our recommendation for wildlife studies at wind projects generally specifies that data be collected over multiple seasons and years to determine average annual conditions. Because of variability in migration and weather, collecting data for one year likely does not reflect typical wildlife use in the project area. Therefore, we find that insufficient data currently exist to adequately conduct a risk assessment and predict wildlife mortality for this project.

We are concerned with the proposal to construct the project in an area known to be used by many types of wildlife, including species of conservation concern. We recommend the project sponsor alter the project design to move turbines out of forest habitat. We believe the DEIS understates the potential impacts to aquatic habitat during construction, as well as mortality to birds and bats from project operation.

If the project proceeds, the Service recommends that the site be monitored for impacts to wildlife following construction and during turbine operation. Post-construction bat and bird mortality monitoring should occur for a minimum of 3 years. Proposals for conducting monitoring should be coordinated with both the Service and the NYSDEC to ensure they are comprehensive, accurate, and correctly timed. Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about potential impacts, or lack thereof, to wildlife in the project area. Monitoring should also be part of a strong adaptive management program for the project. We recommend that project approval not be given until after the details of the post-construction monitoring plan and adaptive management program have been reviewed and approved by the Service and the NYSDEC.

We appreciate the opportunity to provide comments on the DEIS. We look forward to working with the project sponsor and the Lead Agency on reviewing additional project information so that potential impacts to wildlife can be adequately evaluated. If you have any questions regarding this letter, please contact Timothy Sullivan at 607-753-9334.

Sincerely,



David A. Stilwell  
Field Supervisor

References:

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cc: NYSDEC, Albany, NY (Attn: B. Gary, P. Nye)  
NYSDEC, Buffalo & Allegany, NY (Env. Permits)  
COE, Auburn, NY (Attn: M. Crawford)

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