



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, VA 23061

September 28, 2005

Highland New Wind Development, LLC
c/o Henry T. McBride, Jr.
1583 Ridgedale Road
Harrisonburg, Virginia 22801

Re: Highland New Wind Development,
LLC, Highland County, Virginia

Dear Mr. McBride:

As you are aware, the U.S. Fish and Wildlife Service (Service) provided comments to the United States Department of Agriculture (USDA) on the referenced project in letters dated October 14, 2003 and March 31, 2004. In our letter to you dated December 9, 2003 regarding timber cutting activities on your property in Highland County, the Service advised Highland New Wind Development, LLC (HNWD) of their responsibilities under Section 9 of the Endangered Species Act. The Service also participated in a site visit on January 22, 2004. According to the recently approved Highland County conditional use permit, HNWD is currently proposing to build a substation and up to 22 wind turbines to produce up to 39 megawatts of electricity. The turbines will not exceed 400 feet in height (including the blade) and will be placed on Tamarack Ridge and Red Oak Knob on Allegheny Mountain. It is our understanding that the HNWD is no longer pursuing funding through the USDA's Rural Energy Systems and Energy Efficiency Improvements Grant Program. The purpose of this letter is to advise HNWD that regardless of whether a loan is pursued through the USDA, the HNWD must still comply with applicable Federal and State wildlife laws. The Service is providing the following comments pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (MBTA) of 1918 (40 Stat. 755; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act (BGEPA) of 1940 (54 Stat. 250, as amended; 16 U.S.C. 668-668d).

Fish and Wildlife Resources

The following federally listed species have been documented in Highland County and may occur in the project area: Virginia Northern flying squirrel (*Glaucomys sabrinus fuscus*), Indiana bat (*Myotis sodalis*), the Virginia big-eared bat (*Corynorhinus townsendii virginianus*) and the bald eagle (*Haliaeetus leucocephalus*).

The Virginia northern flying squirrel, federally listed endangered, has been documented in the vicinity of the project. The Virginia northern flying squirrel is usually associated with boreal

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habitats, especially spruce-fir and northern hardwood forests (USFWS 1990). In Virginia, all records for this species are at elevations above 3,000 feet. Habitat fragmentation, destruction, or alteration has been identified as a threat to this species (USFWS 1990). The Service continues to recommend that suitable habitat for the Virginia northern flying squirrel be surveyed and mapped in areas at or adjacent to the tower sites. This information is necessary to assess any anticipated impacts to the squirrel. As described in the Recovery Plan, suitable habitat is described as boreal conifer-hardwood forest, comprised of red spruce and Fraser fir, associated with American beech, sugar or red maple, yellow birch, hemlock and black cherry.

The Indiana bat and/or the Virginia big-eared bat, both federally listed endangered, have been documented in three caves that are approximately 14, 15, and 17 miles from the project area. Bat mortality at wind turbine sites have been documented during late summer and early fall migration and during inclement weather. The potential for adverse effects to bats at this particular location is unknown. However, data from nearby wind turbine sites indicate that there is a high likelihood that bats will be adversely affected by wind turbines. At the Mountaineer Wind Energy Center in West Virginia, the total number of bats estimated to be killed in a 6-week period in 2004 was 1,364-1,980 (Arnett 2004). Due to the potential for adverse effects to bats, we recommend that bats be monitored concurrently with migratory birds when conducting pre- and post-construction monitoring of wind power projects.

The bald eagle and the golden eagle (*Aquila chrysaetos*) are known to migrate through this area. The golden eagle is not federally listed under the ESA, however, it is protected by the MBTA and the BPEPA. The BGEPA prohibits the taking of bald and golden eagles or their nests and eggs. Under the BGEPA, taking is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Section 9 of the ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) makes it illegal for any person subject to the jurisdiction of the United States to "take" any federally listed endangered or threatened species of fish or wildlife without a special exemption. "Person" is defined under the ESA to include individuals, corporations, partnerships, trusts, associations, or any other private entity; local, state, and Federal agencies; or any other entity subject to the jurisdiction of the United States. Under the ESA, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Section 11 of the Act provides for both civil and criminal penalties for those convicted of Section 9 violations.

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species will be adversely affected, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the ESA is required. Such consultation would

result in a biological opinion addressing the anticipated effects of the project to the listed species, and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and federally listed species may be taken as a result of the project, then an incidental take permit pursuant to section 10(a)(1)(B) of the ESA may be obtained by the private landowner or corporation. The Service may issue such a permit upon completion of a satisfactory habitat conservation plan for the listed species that would be taken by the project. Please be aware that there is no mechanism for authorizing incidental take “after-the-fact.”

All native migratory birds (*e.g.*, waterfowl, shorebirds, passerines, hawks, owls, vultures, falcons) are afforded protection under the MBTA of 1918. The MBTA provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. While the MBTA has no provision for allowing unauthorized take, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented.

Impact Assessment Recommendations

Recognizing the potential impacts to wildlife due to the development of wind power, the Service developed *Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* (<http://www.fws.gov/habitatconservation/wind.pdf>). These guidelines include recommendations for 1) proper evaluation of wind resource areas; 2) proper siting and design of turbines within development areas; and 3) pre- and post-construction research and monitoring to identify and/or assess impacts to wildlife. We encourage you to review these guidelines. If you are not able to access this document online, we would be glad to send you a copy. Based on the limited information currently available to us, this project has the potential to adversely affect federally listed species and other resident and migratory wildlife. The Service has recommended and continues to recommend that the project sponsor evaluate the potential effects to federally listed species and to resident and migratory bird and bat species for this project.

To evaluate the potential effect to federally listed species and other resident and migratory wildlife, the HNWD should include a review of all available data and literature relevant to this site. In addition, the assessment should identify potential impacts as a result of collisions with turbines, including the potential effects on, but not limited to, raptors, passerines, and bats, as well as cumulative effects of collision mortality from the proposed turbines. The physical disturbance, direct loss, and fragmentation of grassland and forest habitat should also be included in the evaluation.

In order to determine the potential collision-hazard for a particular site, the spatial and temporal uses of the airspace by birds and bats needs to be defined during a multi-year period. This can best be accomplished by using remote sensing technology (radar, acoustic, and infrared) to collect data in various spatial (ridgetops and side slopes) and temporal scales (day and night, season to season, and year to year). Traditional sampling protocols (*e.g.*, visual observation and/or mist netting) are also appropriate to supplement the remote sensing work and would likely

be necessary to ground truth the data for individual species. Survey techniques are currently evolving and the applicant should work closely with this office to develop a draft study design prior to conducting any studies. Pre-construction monitoring methods and study designs should be coordinated with the Service, appropriate State agencies, and researchers. Survey results should be submitted to us for review and comment, along with proposed project-specific avoidance and minimization methods to reduce the risk of bat and bird mortality. Pre-construction surveys may allow for the project to be designed in such a way to avoid or minimize the impacts to federally protected species or migratory birds.

The Service recommends that all wind power projects that proceed to construction 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 three years. Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about the potential impacts, or lack thereof, to wildlife in the project area. In 2004, The Bats and Wind Energy Cooperative (BWEC) conducted studies at Mountaineer Wind Energy Center in Tucker County, West Virginia and Meyersdale Wind Energy Center in Somerset County, Pennsylvania to investigate interactions between bats and wind turbines (Arnett 2005). BWEC is a partnership between representatives of government agencies, private industry, academic institutions, and non-governmental organizations. The goal of this research is to establish a basis for developing means of preventing or minimizing bat mortality at wind turbine sites. We encourage you to reference this report and incorporate design and operational recommendations into your project to avoid or minimize bat mortality. Post-construction monitoring methods and study designs should be coordinated with the Service, appropriate State non-game agencies, and researchers. The monitoring reports should be submitted to us within 30 days of the end of monitoring period. This office and the Region 5 Division of Law Enforcement are to be notified within 48 hours should any birds protected under the MBTA or species protected under the ESA be found dead or injured as a direct or indirect result of the implementation of this project. Notification should include the date, time, and location of the carcass, and any other pertinent information, to the following offices:

- ▶ Region 5 Division of Law Enforcement; 300 Westgate Center Drive, Hadley, MA 01035-9589 (telephone: 413-253-8343).
- ▶ Virginia Field Office, 6669 Short Lane, Gloucester, VA, 23061, (telephone: 804-693-6694).

In summary, we are concerned about the potential risk that construction and operation of the Highland New Wind Development facility may pose to bat and bird species residing and migrating through western Virginia, and the resultant cumulative impacts that could occur following operation of this and any additional wind power facilities on ridge tops in the Eastern United States. Again we strongly recommend that a multi-year pre-construction study be conducted at the proposed project site in order to identify any risks to federally-protected species and migratory bird species that may be associated with operation of the Highland New Wind

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Development facility and to investigate means of avoiding potential impacts. The Service looks forward to working with you to evaluate these issues.

If you have any questions, please contact Kim Marbain of this office at (804) 693-6694, extension 126.

Sincerely,

A handwritten signature in black ink that reads "Karen L. Mayne". The signature is written in a cursive style with a large initial 'K'.

Karen L. Mayne
Supervisor
Virginia Field Office

cc: USFWS, Law Enforcement, Richmond, VA (Rick Perry)
Highland County, Monterey, VA
Woods Rogers, Roanoke, VA (James Jennings)

Literature Cited

Arnett, E.B., technical editor. 2005. Relationships between bats and wind turbines in Pennsylvania and West Virginia: an assessment of bat fatality search protocols, patterns of fatality, and behavioral interactions with wind turbines. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.

U.S. Fish and Wildlife Service. 1990. Appalachian Northern Flying Squirrels (*Glaucomys sabrinus fuscus* and *Glaucomys sabrinus coloratus*) Recovery Plan. Newton Corner, Massachusetts. 53 pp.