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September 9, 2010

Ms. Laura Hill, Assistant Field Supervisor  
U.S. Fish and Wildlife Service  
West Virginia Field Office  
694 Beverly Pike  
Elkins, WV 26241

Subject: Preparation of an Environmental Impact Statement for Issuance of  
an Incidental Take Permit and Associated Habitat Conservation  
Plan for the Beech Ridge Wind Energy Project, Greenbrier and  
Nicholas Counties, WV

Dear Ms. Hill,

The list below is incorporated as part of this document and provides critical information for issues to be considered as part of the Environmental Impact Statement (EIS) for the subject project. The cumulative negative impacts resulting from this project clearly indicate that the U.S. Fish and Wildlife Service (FWS) must decide that irreparable environmental damage will result if this project is constructed. FWS must reconsider the contractor selected to conduct the EIS: Stantec Consulting Services, Inc. is an inappropriate environmental firm for conducting the EIS.

Thank you for consideration of our comments and information.

Sincerely,



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Registered Professional Geologist  
Master Naturalist, WV



Arthur W. Dodds, Jr., President  
Laurel Mountain Preservation Association  
Master Naturalist, WV

## **INDUSTRIAL SCALE WIND TURBINES SHOULD NOT BE BUILT AT THE PROPOSED BEECH RIDGE PROJECT SITE BECAUSE THE SITE IS MOSTLY WITHIN THE MONONGAHELA FOREST PROCLAMATION BOUNDARY**

The 2007 Monongahela National Forest (MNF) Map produced by the U.S. Forest Service (FS) provides clear boundaries of the Mon Forest. The map includes “proclamation boundaries”, defined in the 2006 EIS for the MNF as the boundary “within which parcels of land could be purchased to increase the size and benefits of the Forest.” Areas of privately owned land within the proclamation boundary are therefore considered to be of great ecological importance: “The affected area for cumulative effects will include private land within the Forest proclamation boundary. This expanded area will facilitate a discussion of how other activities on Forest land may affect soil erosion and sedimentation both on and off the Forest, and how activities off the Forest may have a cumulative influence on forest soils.” Applicable management prescriptions include habitat protection for the endangered Indiana Bats and Virginia Big-eared Bats, cerulean warblers, and Bald Eagles as well as protection of watersheds. Watershed protection prescriptions include “... buffers of 100 feet on perennial and large intermittent streams, 50 feet on small intermittent streams, and 25 feet on ephemeral streams. Within these buffers, all programmed timber harvest and all but essential soil disturbance (e.g., road crossings) is prohibited... Protecting the headwater streams on the Forest is important for protecting water supplies for many West Virginians.”

The 2006 MNF EIS was completed without knowledge of the Beech Ridge wind project location inside the proclamation boundary. It is critical that the FWS EIS managers coordinate with the MNF personnel regarding the available MNF data and management prescriptions. Based on the MNF management criteria, the Beech Ridge wind project should not be constructed.

## **STANTEC CONSULTING SERVICES, INC. PROVIDED INADEQUATE AND MISREPRESENTATIVE BAT DATA FOR THE AES LAUREL MOUNTAIN WIND PROJECT AND SHOULD NOT CONDUCT THE FWS EIS**

Stantec Consulting Services, Inc. (Stantec) conducted the “Avian and Bat Survey Reports and Risk Assessment” for the AES Laurel Mountain wind project. In June, 2008, Dr. Michael R. Gannon provided testimony to the West Virginia Public Service Commission (PSC) in the AES Laurel Mountain wind project (Case Number 08-0109-E-CS). Dr. Gannon is recognized as a specialist in bat ecology with over 20 years experience studying bats. He has published over 30 peer-reviewed publications on bats and bat ecology, including four book chapters, and he is the senior author on a Smithsonian book about bats. Dr. Gannon has conducted numerous monitoring studies, specifically on endangered bat species. In his testimony to the PSC concerning the Stantec reports, Dr. Gannon pointed out that the mist net surveys were reported to have “followed

USFWS Indiana bat recovery plan guidelines (USFWS, 2007); however, they deviated from this protocol in several ways. First, Indiana bat guidelines specifically require all Indiana bat surveys to be conducted between the dates of May 15 and August 15 (see Appendix 5 of the protocol– Mist net guidelines), insuring that surveys will be searching for bats while they are at their summer residence. Of the three surveys, only one, the June survey, occurred completely within the designated time frame. Only two days of the May survey and no days of the September survey were within the approved timeframe. This results in only 16 days total for all surveys being performed during the designated period for Indiana bat searches. Therefore, any conclusions about the absence of Indiana bats based on the May and September surveys are invalid. This leaves only a 14-day period in June that was surveyed during the approved period.” Additionally, “only 52 net nights of survey (June survey) were performed for the entire Laurel Mountain ridge for the purpose of detecting Indiana bats. The Indiana bat recovery protocol gives no requirements for netting effort for any surveys, but it does describe a minimal level of effort acceptable under the Federal Indiana Bat Recovery guidelines (USFWS, 2007)... For a study to be well designed, each site must be thoroughly assessed and optimal netting effort should be the level of effort utilized, rather than minimal.” Concerning the radar study: “... only one site was surveyed via radar and the results from this one location are presented as representative of the entire mountaintop study area. All 20 nights of radar work were done at the met tower during only a portion of one summer. One location sampled over and over is hardly a good design, and such sampling is hardly representative of all the bat or bird activity on the entire mountaintop.” Further, Dr. Gannon stated that, “The Stantec radar study talks about passage rates as targets per kilometer per hour. Unfortunately, radar cannot distinguish between the types of animals being tracked (bat or bird). This technology is incapable of determining whether those “targets” are a single individual or a group traveling together. Therefore, the term “target” is an unknown number of individuals or species. The data generated by this technique have severe limitations, and should be interpreted carefully and conservatively. In fact, using such data beyond a gauge of basic nocturnal vertebrate activity would be highly questionable, and insufficient if used for any other purpose.” Dr. Gannon noted problems with the spring celiometer study, as well, stating, “the authors’ claim that they can tell bats from birds, in flight, by using these celiometer observations at night, at heights of 130m (height of the turbines) or more, is highly suspect. It is not surprising that they reported observing only two bats using this method during the entire study.” The location of caves and mine openings for bat study on Laurel Mountain was limited to a 5-mile radius. However, Dr. Gannon pointed out that that this is inadequate, “There are numerous caves within a 50-mile radius of Laurel Mountain containing bats that can quite easily travel the distance, and be present on the development site. This includes both endangered Indiana bats and Virginia big-eared bats.” Additionally, even though there were substantial bat call sequences recorded during the acoustic survey, including over half of the calls being potentially those

of endangered bat species, Stantec did not conduct additional studies to provide more conclusive data.

Stantec has demonstrated in its bat study for AES Laurel Mountain the same type of inadequate and misrepresentative data as provided by BHE in the Beech Ridge case. Therefore, Stantec is an inappropriate consulting firm to prepare an EIS for FWS, especially concerning bat data. If Stantec is still allowed to prepare the EIS, it is essential that all their work must be peer reviewed by reputable scientists.

### **WATERSHEDS IMPACTED BY THE PROPOSED BEECH RIDGE PROJECT ARE NOT PROTECTED BY WEST VIRGINIA NPDES PERMITS**

The EPA incorporated requirements for delineating watersheds and calculating stormwater discharge from construction sites as part of the NPDES permitting process. However, there are basic deficiencies in the requirements considered by the West Virginia Department of Environmental Protection (DEP), authorized by the EPA to issue NPDES permits. Specifically, DEP personnel are misinterpreting the definition of a watershed for purposes of evaluating stormwater discharge calculations. All hydrology textbooks, as well as hydrology calculation manuals provided by the EPA, the NRDC, the USFWS, the USFS, and the various state Departments of Transportation identify the watershed to include the area which drains into a receiving stream, including the areas downgradient of the project site. Stormwater calculations are supposed to incorporate representative runoff coefficients based on the variable soils groups present within the watershed. A project may have several stormwater culverts draining toward a receiving stream within a watershed which will greatly increase the amount and velocity of stormwater entering the receiving stream. Even if there is no sediment at the discharge point (that is, the stormwater culvert), the greater amount and velocity of stormwater will cause streambank erosion and, consequently, sedimentation downstream. Rather than using this approach to understand the impacts of the stormwater discharge from construction sites, the DEP is only requiring delineation of the “watershed” area that drains to a stormwater discharge culvert. By doing this, they ignore the overall impact of stormwater issuing toward a stream from more than one stormwater discharge culvert and they ignore the additional downgradient construction stormwater runoff from areas between the discharge culvert locations.

Numerous EPA documents and hydrologic studies refer to the article written by T. Schueler for the Center for Watershed Protection, entitled “The Importance of Imperviousness” (Watershed Protection Techniques, 1(3): 100-111). The basic premise documented in the article is that stream degradation occurs at relatively low (approximately 10%) levels of imperviousness. The conclusions presented in the article also address the negative impacts to aquatic headwater organisms where stormwater is great enough to cause streambank erosion. Greater streambank erosion causes increased sedimentation in headwater streams,

resulting in the loss of good-water-quality species (stoneflies, mayflies, and caddisflies) that shred leaf litter, graze rock surfaces, and filter organic matter. These aquatic species form the base of the food chain. If NPDES permits do not require evaluation of the receiving stream watershed, especially headwater streams, the permit is useless for protecting our water resources.

In addition to the negative impacts of greater sedimentation due to streambank erosion caused by greater stormwater discharge, a rise in water temperature also results from increased stormwater discharge into headwater streams. Deforestation in headwater areas causes an even greater rise in temperature because the amount of shade required by the aquatic headwater organisms is reduced. Trout are particularly sensitive to sedimentation and temperature changes. Deforestation also obviously results in decreased groundwater recharge, causing reduced base flows to supplement stream water in times of drought.

Construction of the wind turbines designated as “B”, “E”, “J”, and most of the “G” series will direct construction stormwater toward tributaries of South Fork and Laurel Creek, both within the MNF proclamation boundary. These streams are tributaries to Cherry River, which is within the MNF boundary and which flows into the Gauley River where it is within the MNF boundary. The Cherry River (within the Gauley watershed) is listed as a trout stream on the 2010 Draft West Virginia 303(d) List, impacted by iron exceedences. Iron is a typical contaminant associated with construction stormwater runoff.

### **CUMULATIVE BAT MORTALITY CONSIDERATIONS MUST INCLUDE BAT MORTALITY DUE TO WHITE-NOSE SYNDROME**

Cumulative impacts to unlisted bats are also occurring with the continuation of White-Nose Syndrome, which has killed over one million bats (<http://www.fws.gov/WhiteNoseSyndrome/>). Paul Cryan (USGS) has reported that male bats are predominantly killed by industrial scale wind turbines. The mating behavior of male bats includes seeking the highest tree. The bats perceive the wind turbine as the highest tree and are slaughtered on their ascent to the top. The cumulative impacts of mortality by wind turbines, combined with the mortality by White-Nose Syndrome causes concern that entire species may become extinct, including those not currently listed as endangered.