



Illinois Department of Natural Resources

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<http://dnr.state.il.us>

Pat Quinn, Governor
Marc Miller, Director

September 2, 2011

Mr. Michael Reibel, Zoning Administrator
Ogle County Planning & Zoning Dept.
911 West Pines Road
Oregon, IL 61061

Dr. Dwight Mayberry, Superintendent
Eswood School District #269
304 N. Main St.
P.O. Box 7
Lindenwood, IL 61049

**RE: Eswood School District #269 Wind Turbine, Lindenwood, Ogle County
Endangered Species Consultation Program
EcoCAT Review #1202490**

Dear Officials:

The Department received this proposed action from PNE Wind USA to initiate consultation in accordance with the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

Eswood School District #269 proposes to construct and operate a small community-scale wind turbine with a capacity between 100-250 kW on the campus of its school building in the unincorporated village of Lindenwood.

This letter states the biological opinions of the Department of Natural Resources pertaining to Natural Areas and those endangered or threatened species protected by the statutes, identified above local governments and state agencies to consult with the Department.

Indiana Bat, *Myotis sodalis*. Since 2009, the potential for interactions between the federally-listed endangered Indiana Bat and wind turbines has become a major concern for the wind energy industry and federal and state wildlife agencies. As demonstrated by fatalities of Indiana Bats at an Indiana wind farm in 2009 and 2010, this species is vulnerable to collision with wind turbines, especially during migration, when all known fatalities have occurred.

While Ogle County is considered to lie within the historic range of the Indiana Bat, the nearest modern records of the Indiana Bat known to the Department are in LaSalle and Bureau Counties.

In the opinion of the Department, the project site does not lie within the current range of the Indiana Bat.

It is the biological opinion of the Department that construction of a community-scale wind turbine at the Eswood School, as proposed, is unlikely to adversely modify the essential habitat of the Indiana Bat and is unlikely to result in a prohibited “take” of this species. New information could alter this conclusion.

Other Bats. No other species of bat which is currently listed by the State of Illinois or the federal government is known to occur in Ogle County. However, the Fish & Wildlife Service is currently evaluating whether to list the **Northern Long-Eared Bat**, *Myotis septentrionalis*, sometimes called the Northern or Northeastern Myotis, as endangered under the federal *Endangered Species Act*. The State of Wisconsin recently listed the **Big-Brown Bat**, *Eptesicus fuscus*; the **Little Brown Bat**, *Myotis lucifugus*; and the **Tricolor Bat** (Eastern Pipistrelle), *Perimyotis subflavus*; in addition to the Northern Long-Eared Bat.

All of these species occur in Ogle County, and all are often found beneath wind turbines during mortality studies.

The major threat to these species, which has prompted the listing efforts, is the advent of a new fungal disease caused by the organism *Geomyces destructans*, dubbed **White-Nose Syndrome** (WNS) because infection of bats typically results in the growth of white sporing bodies around the bat’s muzzle. First observed in New York in 2006, the fungus is spreading rapidly through bat hibernation sites, where the fatality rate has approached 98% of all bats present in some cases. The Indiana Bat is also susceptible to this infection, which threatens its extinction.

To date Illinois hibernation sites have not been infected, but the fungus has already been found in Indiana, Kentucky, and Missouri, and it is approaching Wisconsin via Canada. It is expected to enter Illinois this year or next. If fatality rates are similar to those experienced in the Northeast, either state or federal listing of these species can be expected within the next decade, or sooner. Because the life of a wind turbine is generally set at 20 years, it is likely that one or more of these four species of bats will be listed as endangered or threatened within the life of the proposed turbine, an event which will impose a regulatory burden on the owners of wind turbines.

The Eswood School is only a quarter-mile from Kilbuck Creek and only a half-mile from a heron rookery situated in a large woodland. Both areas provide suitable summer habitat for bat species, as does the village of Lindenwood, itself. It is very likely that one or more of these four bats are present and forage or roost on or adjacent to school district property. Consequently, it is also likely that individual bats of these species may die through collision with the wind turbine or suffer barotrauma. The District should be aware that regulatory issues will arise if these species are listed as endangered or threatened which may entail considerable expense to bring the wind turbine into compliance with applicable laws.

Following construction of commercial wind turbines, one or two seasons of mortality studies, which entail searching for carcasses beneath the turbine, are usually undertaken in an effort to

quantify the level of lethality the turbine poses to birds and bats, and to which species. The District would be well-advised to undertake either formal or informal assessments of bat mortality following construction of the turbine to avoid being unprepared should such listings occur.

Recommendation #1. The District should anticipate and plan for additional listings of bat species by the state or federal governments. The Department recommends Eswood District #269 undertake formal or informal monitoring of bat mortality related to operation of its wind turbine to identify bat species active within the project area. This objective may be adequately achieved through monitoring by existing District staff, faculty, students, or community volunteers, with assistance from biologists qualified to accurately distinguish and identify bat species.

Beach Cemetery Prairie Nature Preserve and INAI Site. Beach Cemetery Prairie is located about five miles west-northwest of Eswood School. Most wind turbines remain easily visible at a distance of five miles. However, Beach Cemetery is located on the northwest side of a high ridge which completely screens it from any view of Lindenwood, Eswood School, or the proposed wind turbine.

Consequently, it is the Department's biological opinion the proposed action will not adversely affect Beach Cemetery Prairie Nature Preserve.

Bald Eagle, *Haliaeetus leucocephalus*; Golden Eagle, *Aquila chrysaetos*. The Bald Eagle is no longer listed as endangered or threatened under either the federal or state endangered species statutes. But the Bald Eagle remains protected under both the federal *Migratory Bird Treaty Act* and the federal *Bald and Golden Eagle Protection Act*. Draft federal siting guidelines for wind turbines call for consideration of an incidental take permit for either Eagle if an important Eagle activity area exists within ten miles of a proposed turbine location.

Active Bald Eagle nests exist on the Rock River at the Rockford Airport and near Byron. Each of these locations is just beyond ten miles from Lindenwood. However, Bald Eagles do migrate overland and Kilbuck Creek may offer an attractive route for overland movements. It is also true that the Illinois population of breeding Bald Eagles is rapidly expanding, so that new nests within ten miles of this turbine are a possibility during its lifetime. The Bald Eagle is rarely involved in wind turbine collisions.

The Golden Eagle does not breed in Illinois, but this species does overwinter in Northern Illinois; they are often observed as far south as Lee County. Hundreds of Golden Eagles have died through contact with wind turbines. This susceptibility is likely due to distinct differences in prey species and hunting behavior from those of the Bald Eagle. Because wintering Golden Eagles may range widely, it is more difficult to evaluate the level of threat posed by individual wind turbines.

Recommendation #2. The Department recommends Eswood School District consult with the Fish & Wildlife Service, Rock Island Field Office, concerning potential impacts to the Bald and Golden Eagle.

Migratory Birds. Wind turbines in Illinois do kill birds, but not very many. In Illinois, the average loss is between 1 and 2 birds per turbine per year for commercial-scale machines, and losses are seldom from the same species. While some bird losses can be expected, a machine in this proposed location may have the potential for higher-than-average losses due to its lower height and its proximity to fence-rows and residential trees.

Song birds (passerines) comprise more than 80% of birds killed at wind turbines. Many of these species migrate at night, although at altitudes well-above the typical wind turbine. However, fatalities correlate with inclement weather, which may force flocks closer to the ground and into the rotor sweep of the turbines. Passerines tend to follow river valleys, too, but their interest is more in the riparian forests, which offer food and shelter between migratory stages. While this turbine will be sited outside the riparian forests which exist west of Metamora, it may still be close enough to pose a hazard to migrating passerines as they approach or depart.

Within 20 miles of Lindenwood there are breeding records for the **Loggerhead Shrike**, listed by the State of Illinois as “threatened.” The risk of collision for this species is not necessarily high once they have established a breeding territory, but they may be in jeopardy during migratory movements.

The **Osprey** is a State-listed migratory raptor which may be pre-disposed to interactions with wind turbines. This species is now nesting along the Kishwaukee River near Rockford. However, significant numbers of Osprey breed in Wisconsin, which may be the origin and destination of many of the birds observed migrating through Illinois.

Ospreys eat fish, but many Ospreys nest significant distances from their primary hunting areas. In Cook County, some pairs make a thirty-mile round trip to Lake Michigan to bring prey to their chicks. It might be expected that Ospreys would follow major river systems during migration, but this appears not to be the case: one migrating bird was observed five miles west of the Middle Fork of the Vermilion River (Wabash Drainage) in an agricultural landscape; two have been observed (spring and fall) passing through the White Oak Wind Farm project area in McLean County, and in September 2007 a juvenile Osprey was injured by a turbine east of Bloomington, far from the nearest stream.

Most Ospreys bred in Illinois are reared in nests on man-made platforms: utility poles, communications towers, stadium lights, etc. Consequently, this species may seek out similar man-made structures on which to rest during migration. The Osprey struck in McLean County suffered only a dislocated wing and was able to fly within 24 hours of treatment of its injury. This implies a “near-miss” or an encounter with the innermost limb of a rotor blade, which, in turn, suggests the bird attempted to find a perch on the turbine nacelle.

Because Lindenwood is near the Kilbuck Creek, whose mouth is near that of the Kishwaukee River, a known Osprey breeding area, it is possible a turbine in this location may be at greater risk of an Osprey interaction than many others.

It is the biological opinion of the Department the proposed action is unlikely to adversely affect the habitat of State-listed endangered or threatened migratory birds, but the possibility of prohibited taking cannot be ruled out.

Recommendation #3. The Department recommends that Eswood School perform periodic post-construction avian mortality monitoring, during migration seasons, to evaluate the hazard this machine poses to migratory birds. Periodically, Eswood School should perform breeding bird surveys in the vicinity of the turbine to assess the hazard potential to State-listed migratory birds residing in the area. Eswood School may partner with or sponsor local volunteers, students, scouting organizations, or bird-watching groups to compile observations of migratory birds and their locations near Lindenwood. While rarely attaining scientific/statistical validity, such data is still useful in assessing collision risk. Seeking an Incidental Take Authorization from the Department for State-listed animals should be considered if the risk of prohibited taking is deemed significant.

Consultation on the part of the Department is terminated, unless Ogle County or the Eswood School District desires additional information or advice related to this proposal. In accordance with 17 Ill. Adm. Code 1075.40(h), you must notify the Department of your decision regarding these recommendations, whether you will:

- Proceed with the action as originally proposed;
- Require the action to be modified per Department recommendations (please specify which measures if not all will be required); or
- Forgo the action.

This consultation is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected wildlife resources are encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action. Please contact me if you have questions regarding this review.

Sincerely,

A handwritten signature in black ink that reads "Keith M. Shank". The signature is written in a cursive style with a large initial "K" and "M".

Keith M. Shank
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cc: Jenny Skufca, Illinois Nature Preserves Commission
Jody Millar, USFWS Rockford Field Office
Wesley Slaymaker, WES Engineering, Inc.