



# Illinois Department of Natural Resources

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

Pat Quinn, Governor  
Marc Miller, Director

June 17, 2011

Mr. Chris Henkel, Zoning Officer  
Lee County Zoning Office  
112 E. 2nd St  
Dixon, IL 61021

RE: **Lee North Wind Energy Center, Lee County  
Endangered Species Consultation Program  
EcoCAT Database Review #1112950**

Dear Mr. Henkel:

The Department received this proposed action for 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.

This project footprint is located entirely within an area which was the subject of a prior review, 0901145, performed in November 2008. Since that time, the Department's approach to the evaluation of proposed wind energy projects has evolved, and species have been added and deleted from the Illinois List of Endangered and Threatened Species [Title 17 *Illinois Administrative Code* Part 1010 (Fauna) and Part 1050 (Flora)]. Additionally, the Department now offers advice and recommendations for species covered under the *Fish & Aquatic Life Code* [515 ILCS 5, *et seq.*] and the *Illinois Wildlife Code* [520 ILCS 5, *et seq.*].

The Department has no records of State-listed endangered or threatened species observed or reproducing within the footprint of this proposed action, nor do any dedicated Illinois Nature Preserves or registered Land & Water Reserves exist in this vicinity. However, locations of such records do exist within 20 miles of this footprint, and suitable habitat for several State-listed species exists within and adjacent to the project area. Important aspects of the potential to adversely affect natural resources through the construction and operation of wind energy projects in this vicinity are discussed below.

**Bats.** Since this area was last reviewed, the relationship between the federally-listed **Indiana Bat**, *Myotis sodalis*, and commercial wind energy systems has gained new prominence. In December 2009, a federal court enjoined construction of a wind energy project in West Virginia because it did not possess an Incidental Take Permit from the U.S. Fish & Wildlife Service, holding that because wind turbines pose a threat to the Indiana Bat and the Indiana Bat was

known to occur in that county, constructing a wind turbine there was a violation of the Endangered Species Act. The court eventually allowed the project to be completed, but it may operate only during daylight hours during months when Indiana Bats are active.

In September 2009, a female Indiana Bat was killed at the Fowler Ridge Wind Farm in Benton County, Indiana. A second female Indiana Bat was killed at the same facility in September 2010. These fatalities establish this species is vulnerable to mortality due to collisions with wind turbines.

Wind energy facilities in Ohio, Michigan, Indiana, Illinois, and Missouri lie within the historic range of the Indiana Bat. Some in Illinois and Missouri lie in the historic range of the Gray Bat, as well. Partly to avoid the necessity of processing dozens, even hundreds, of individual applications for Incidental Take Permits, the Midwest Region of the Fish & Wildlife Service has entered into a Memorandum of Understanding (MOU) with many members of the wind energy industry to support the development of a Regional Habitat Conservation Plan (HCP) to support the issuance of Incidental Take Permits for the Indiana Bat and other federally-listed species. However, it will likely be several years before an HCP can be completed.

Meanwhile, a new and deadly fungal disease, *White Nose Syndrome* (WNS), is ravaging bat populations across North America. This disease may drive some species, including the Indiana Bat, to extinction within a few decades. The Little Brown Bat, *Myotis lucifugus*, a species which often hibernates with Indiana Bats, appears to be most susceptible to WNS and may be a major vector spreading the disease. New York State estimates that 97% of its Little Brown Bat population has already succumbed. Should that experience be repeated in Illinois, the Little Brown Bat would quickly be listed as a State endangered species. Wisconsin has already taken the step of listing four bat species in anticipation of the appearance of WNS. WNS was not found during a cave census of Illinois *hibernaculae* in 2011; however, WNS is now established in Indiana, Kentucky, and Missouri and its appearance in Illinois is anticipated in 2012. Natural resource agencies may be forced to respond to the WNS outbreak through additional species listings and restrictive taking limits in an effort to assure species survival.

Lee County lies within the historic range of the Indiana Bat. However, it is the opinion of the Illinois Department of Natural Resources that Lee County is not within the *current* range of the Indiana Bat. The closest known *hibernaculum* hosting the Indiana Bat is just east of LaSalle, IL, at the Pecumsaugan Creek Nature Preserve's Blackball Mine, approximately 36 miles due south of the proposed project area. Although this distance is well within the migratory flight range of this species, a telemetry study of emerging female Indiana Bats in April 2011 indicated the majority of Indiana Bats from the Blackball Mine migrate down the Illinois River Valley; a very few remained within the vicinity of the Mine along the Little Vermilion River corridor just north of LaSalle. Consequently, it is unlikely that any Indiana Bats spend the summer in the vicinity of the proposed project.

Wildlife studies performed by the contractors and consultants of NextEra in 2007 and 2008 were limited to observations of migratory birds. The Department is unaware of any studies of potential or actual impacts to bats from the construction and operation of NextEra wind turbines in the Lee-DeKalb Wind Resource Area. Studies of such impacts at other Illinois wind farms

have produced highly-variable results, with some projects producing unexpected and surprisingly-high bat mortality in areas remote from nominal bat habitats, as is the case with this proposed action. If the expected ravages of WNS produce listings of additional bat species in Illinois, they are likely to include species which are currently present in the Lee-DeKalb Wind Resource Area, requiring a positive response from wind farm operators.

*Recommendation #1. The Department recommends the owner/operator of the proposed wind energy facility conduct at least one fall migration season (July 15 – November 15) of acoustic monitoring and bat mortality studies for the purpose of establishing which bat species are present in the vicinity and their relative vulnerability to operating wind turbines in this locality, and report this data to the County and the Department.*

**Birds.** NextEra consultants performed avian observation sampling in Fall 2007 and Spring 2008. A repetition of these studies will permit comparison of observations for the purpose of evaluating whether significant differences in avian use exist post-construction and whether such differences appear to be primarily due to the presence of operating wind turbines.

The previous study effort identified a number of migrating Northern Harriers, a state-listed endangered species. At several other Illinois wind energy facilities where this species was observed pre-construction, it has been missing from post-construction tallies, suggesting Northern Harriers actively avoid the vicinity of operating wind turbines during migration. Additional data, positive or negative, will be helpful in establishing whether a displacement impact for this species is associated with wind farms. It may become important to design future wind facilities which incorporate “migration corridors” to allow the migratory passage of this bird and other species which may demonstrate an aversion to wind turbines.

There are now approximately 100 Whooping Cranes in the Experimental Migratory Eastern Flock. The Fish & Wildlife Service has identified wind turbines as a threat to this species. A number of perched wetlands exist along the County Line with DeKalb County, along the ridge-top. These wetlands provide attractive “stop-over” staging habitat for Whooping Cranes. Although no observations of Whooping Cranes were reported during 2007 and 2008 that does not mean this species will not use these areas. Six turbines are tentatively sited within 1300-2600 feet of these wetlands. If the presence of these turbines does not discourage the use of these wetlands by Cranes, they pose a hazard to birds arriving or departing them.

Follow-up studies may suggest there is no wind farm impact to many migratory species; this would also be important information to share with government officials and the general public.

*Recommendation #2. The Department recommends NextEra replicate the original avian studies as nearly as possible; evaluate similarities and differences in the results; and report its opinion to County officials and the Department.*

**Blanding’s Turtle, *Emydoidea blandingii*.** In 2008, the Department expressed concern that the wetlands in this area might hold a small population of this species, which in 2009 was re-listed as “endangered” by Illinois. Similar perched wetlands in southern Lee County support both this species and the Ornate Box Turtle, also newly-listed as “threatened” in 2009. NextEra’s

response to this concern was that no direct impacts to wetlands were planned, so no effort was made to identify the presence of this species.

The Department disagrees that only direct impacts to wetlands may place this species at risk of adverse effects from wind turbine construction and operation.

The Blanding's Turtle spends significant time in upland environments: females may nest as far as half a mile from the nearest wetlands, while males often travel significant distances from one wetland to another, sometimes using ditches and small streams as corridors, but they are reluctant to pass through culverts, mounting road embankments to cross them. Consequently, this species is often a victim of road-kill mortality, casual collecting, or intentional poaching as it moves across the landscape.

Basking to increase body temperature is a key reproductive activity for females in the spring. Blanding's Turtles are notoriously skittish when basking; it is possible that flicker shadows from wind turbines may significantly reduce basking opportunities if such shadows fall on wetlands occupied by this species, thus delaying egg-ripening and nesting; in turn, reducing reproductive success. If this is the response of this species to flicker shadows, it would meet the definition of a "take" prohibited by law. Flicker shadows from a 1.5 MW turbine have the potential to extend considerably farther than the setbacks currently set for wind turbines in the Lee County ordinance.

Modern tillage practices are consistent with the nesting habits of this species, so that farmed fields may provide nesting sites. This species is thought to demonstrate strong fidelity to natal hatching areas when laying their own eggs, so there is some potential for the construction of wind turbines to unknowingly disturb or destroy traditional nesting sites. Should such an event occur when turtles or eggs are present, a prohibited "take" would result. Consequently, it is important to know whether these wetlands are occupied by this species and, if so, estimate their numbers and study their movements.

*Recommendation #3. The Department recommends Next Era conduct trapping surveys of those non-farmed wetlands holding a foot or more of water during the spring season (though this species also uses sedge meadows) as well as of local drainages and water bodies, of sufficient intensity to identify the turtle species in the area, and report the results to the Department and the County. Should such an effort produce a Blanding's Turtle, telemetry should be employed to track the animal's movements to identify the habitats it occupies, where additional animals may be found. This information should be used to evaluate siting options for wind turbines and their potential adverse impacts on the Blanding's Turtle.*

**Other Species.** Most of the project footprint is drained by the headwaters of Steward Creek, a tributary of the Kyte River (which below the City of Rochelle is designated as an Illinois Natural Areas Inventory Site for its high biological diversity). Many aquatic species are themselves quasi-migratory, moving upstream to spawn then descending again.

While much of Steward Creek below the village is channelized, this does not preclude its use as habitat by unusual species. Among the species newly-listed by Illinois in 2009 is the **Mudpuppy**

**Salamander**, *Necturus maculosus*, Illinois' largest amphibian. The Mudpuppy is wholly aquatic, dependent throughout its life on external gills, and thus cannot leave the water. Largely nocturnal, it migrates upstream to spawn in headwater riffles during November, thriving in waters as cold as forty degrees Fahrenheit. Consequently, headwater channels which maintain some flow may support this species for at least the early winter.

In 2007, two dead specimens recovered from Franklin Creek, a stream which enters the Rock River a few miles below the mouth of the Kyte River, were conclusively identified as **Northern Brook Lampreys**, *Ichthyomyzon fossor*, an endangered fish, which expires after spawning in the spring. These are the only known collections of this species in Illinois outside the Kankakee River basin and serve to illustrate how little is known of the actual distribution of species rarely sampled through standard methods.

Consequently, disturbances to stream ecosystems during construction should not be taken lightly. Moreover, other potential impacts to stream fauna related to ground vibrations and noise from operating turbines have yet to be evaluated, but are entirely plausible.

*Recommendation #4. NextEra should avoid any disturbances to streams associated with road improvements or power lines unless a survey of stream fauna is completed beforehand.*

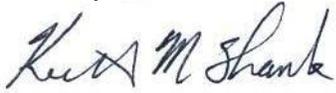
Consultation on the part of the Department is terminated, unless the County desires additional information or advice related to this proposal. In accordance with 17 Ill. Adm. Code 1075.40(h), Lee County must notify the Department of its decision regarding these recommendations, whether it will:

- Allow the action to proceed 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 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: Kevin Smolenyak, NextEra Energy Resources, Inc.