



Illinois Department of Natural Resources

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Bruce Rauner, Governor
Wayne A. Rosenthal, Director

April 29, 2015

Mark Lawlor, Director of Development
1001 McKinney, Suite 700
Houston, TX 77002

**RE: Grain Belt Express Clean Line 345-kV Transmission Line
IDNR Project Review #1508688
ICC Docket Number 17-0277**

Dear Mr. Lawlor:

The Department has conducted an environmental review of materials received from the firm of Louis Berger and Clean Line Energy Partners LLC for the proposed Grain Belt Express (GBX) Clean Line HVDC Power Line which will traverse Illinois from Pike County on the west to Clark County on the east, passing through Scott, Greene, Macoupin, Montgomery, Christian, Shelby, and Cumberland Counties.

Identified issues and recommendations for the most recent (March 25, 2015) proposed preferred and alternate routes are discussed below, by County.

Pike County

Both the Proposed Route and the Alternate Route cross the Mississippi River west of the Town of New Canton, crossing Route 96 a few miles to the south of town. The Mississippi River at this point supports a number of aquatic endangered or threatened species of fish and mussels, but construction of the power line is unlikely to disturb the river bed. There are several nests of the **Bald Eagle** in the vicinity, and the U. S. Fish & Wildlife Service should be consulted regarding whether impermissible disturbance of these birds might occur. The power line will constitute a collision hazard for large migratory birds following the River, such as the White Pelican, but this will be true wherever the power line must cross the River. *Recommendations of the Avian Power Line Interaction Committee (APLIC) should be implemented in this sector.*

Once across Route 96, both Routes will cross areas of highly-dissected forests extending across the County to the Illinois River. These woodlands, even very narrow ones, are highly-likely to support maternity colonies of the federally-listed endangered **Indiana Bat** and the threatened **Northern Long-Eared Bat**. Necessary tree-clearing should be done prior to April 1st or after

October 31st to avoid felling trees being used as roosts by these species. *If tree clearing must be done between these dates, it should be preceded by mist-netting efforts by teams equipped with radio-telemetry equipment which can be used to track individual bats to roost trees.*

The Fish & Wildlife Service has promulgated a Section 4(d) Rule for the Northern Long-Eared Bat which exempts transmission line right-of-way maintenance activities, but which still prohibits felling trees within one-quarter mile of a roost tree or hibernaculum during the Bat's active season. Federal Section 4(d) exemptions do not apply to the Indiana Bat. Where both are present, the more stringent federal restrictions for endangered species will apply. State law has no provision for a Section 4(d) exemption; any activity which may take a Northern Long-Eared Bat must be authorized by the Department under Part 1080 of its Administrative Rules.

A number of migratory birds breed in Pike County which are listed by Illinois as endangered or threatened. These include the **Mississippi Kite**, the **Barn Owl**, the **Black-billed Cuckoo**, the **Loggerhead Shrike**, and the **Cerulean Warbler**. Other State-listed birds, such as the **Northern Harrier**, will occur as migrants. Some species return to the same vicinity year after year, some even to the same nest. Others are far more opportunistic and may nest wherever conditions may seem suitable. Further, most migratory birds, especially the smaller passerines, are short-lived. (Even the Barn Owl typically has a life-span of only three years). Some, like the Barn Owl, can be reproductively responsive to cyclic variations in prey abundance, producing their own apparently cyclic variations in population numbers. Consequently, past occurrences provide only the most general indicator of habitat suitability and potential for occurrence.

If tree-clearing occurs mainly in the winter due to concerns for the impacts to bats, most migratory birds will be absent and the potential for taking them will be slight. But areas which are unlikely to support bat populations (shrub-lands, wetlands, and grasslands) may be affected by construction work during all seasons of the year and have an increased potential for prohibited incidental taking of listed migratory bird species.

The Department recommends winter tree removal (felling) to avoid taking the nests of tree-nesting migratory birds during the breeding season.

The Department recommends ornithological surveys at least one week prior to construction activities during the May-August breeding season to identify any nesting listed birds which may be harassed. If such birds are identified, work on that section should be delayed past the time when young of the identified species will be fledged.

A number of State-listed endangered or threatened plants occur in Pike County, including **Blue Hearts**, **Wild Blue Larkspur**, **Arrowwood**, **Heart-leaved Plantain**, **Narrow-leaved Green Milkweed**, **Wolf's Bluegrass**, **Pale False Foxglove**, and **Prairie Spiderwort**. The Illinois statute treats plants as the private property of the land-owner. Consequently, the statute prohibits "taking" (*i.e.*, to harm in any manner) a listed plant without the expressed written permission of the land owner. [520 ILCS 10/3.] Land owners remain free to control such taking under whatever terms and conditions they choose.

The Department recommends that GBX avoid known populations of listed plants. Where it is not possible to do so, the Department recommends Grain Belt devise means to mitigate adverse effects by managing such sites so as to promote conservation of the species at issue. Moreover, any such “taking” of listed plants must be specifically authorized by the land owner.

The Alternate Route will pass between Pleasant Hill and Nebo before turning east to cross the Illinois River south of Pearl. Several populations of the State-listed threatened **Ornate Box Turtle** occupy hill prairies and other forest openings in this region. This species is very difficult to survey, spending much of its time underground. It will be vulnerable to crushing by vehicles or to capture/collection by work crews. Expansion of forest openings may improve its habitat opportunities, but this in turn may increase the chances of incidental taking during power line maintenance activities.

It is in this region workers are most likely to encounter the State-listed threatened **Timber Rattlesnake**. This venomous snake suffers from human persecution and can be injured or killed by vehicles and maintenance equipment, such as mowers. *The Department recommends Grain Belt commission a series of biological surveys for reptiles, using both Visual Encounter Survey (VES) techniques and cover board surveys, prior to conducting operations in this area. GBX may wish to consider seeking an Incidental Take Authorization from the Department pursuant to Part 1080 of the Administrative Rules.*

Scott County

The Proposed Route runs through extreme southern Scott County, passing south of Glasgow and Manchester before entering northeastern Greene County. After crossing the Illinois River, the route passes across two miles of floodplain before ascending nearly two hundred feet to uplands marked by highly-dissected forests along Little Sandy Creek, reaching extensive croplands just west of Manchester before once again entering woodlands.

The Illinois River floodplains host numerous nesting sites of the **Bald Eagle**. The U. S. Fish & Wildlife Service should be consulted regarding whether impermissible disturbance of these birds might occur. The power line will constitute a collision hazard for large migratory birds following the River, such as the White Pelican, but this will be true wherever the power line must cross the River. *Recommendations of the Avian Power Line Interaction Committee (APLIC) should be implemented in this sector.*

Populations of the State-listed **Illinois Chorus Frog** are found in Scott County mainly along the floodplains east of the Illinois River, although some groups occur in uplands above the eastern bluff line. Both cases are true near Glasgow. This Frog spends nearly its entire life underground, being found on the surface only during the breeding season, which occurs in late winter and early spring. Following the spring thaw, Frogs appear above ground and move to isolated pools of water to mate and lay eggs. Many of these pools are temporary; they need last only long enough for eggs to hatch and larvae to metamorphose into adults, a process normally completed in about 90 days. Juvenile Frogs travel away from the ponds (up to 900 meters or more) to areas of sandy soil, where they go underground. Scientists have detected cyclical fluctuations in the size and distribution of Chorus Frog populations related to cycles in annual

precipitation; several wet years in succession will produce an expansion of areas supporting this species, while several dry years will see a significant contraction of populations to the most reliable breeding areas.

This life habit of dispersal and subterranean existence, plus the juxtaposition of essential habitats in both water-holding and well-drained soils, make this species particularly challenging to address during construction projects. The Frog is only subject to observation during the spring mating season, and surveying is usually done by listening for the male Frog's distinctive mating "chorus." Thus, it is often the case that the locations of traditional breeding ponds are known, but dispersal locations are unknown or obscure. Much of the Illinois River floodplain is in intense agricultural use, but this seems to have little effect on the ability of the Illinois Chorus Frog to persist in this environment. However, the species is not known to occupy soils with forest cover.

Construction activities entailing grading and excavation within a population dispersal area are likely to result in the incidental taking of the Illinois Chorus Frog, which may be injured or killed during soil movement. The Frog's responses to noise and vibration are not known. The Frog's diet includes soil insects and invertebrates, such as worms, so that Frogs are likely to remain within a few feet of the soil surface. The Frog likely has few predators once underground, and so is unlikely to have evolved escape strategies which would allow it to effectively avoid human activities.

The Department recommends GBX commission spring calling surveys to identify Illinois Chorus Frog breeding locations within one kilometer of the proposed power line route.

The Department recommends Grain Belt obtain or produce soil maps of areas within one kilometer of the proposed power line route in an effort to identify soils suitable as underground habitat for the Illinois Chorus Frog.

If populations, breeding ponds, or suitable soils are identified within one kilometer of the power line route, the Department recommends Grain Belt consider seeking an Incidental Take Authorization pursuant to Part 1080 of the Department's Administrative Rules for the Illinois Chorus Frog.

Both the **Ornate Box Turtle** and the **Timber Rattlesnake** may occur in the vicinity of Glasgow. *The same recommendations are made for Scott County as for Pike County for these species.*

The **Indiana Bat** is known to occur near Glasgow, and it is likely the **Northern Long-Eared Bat** is also present. *The Department recommends the same precautions for Scott County as for Pike County.*

The **Loggerhead Shrike**, a migratory bird State-listed as threatened, may occur in southern Scott County; *ornithological surveys should precede construction activities in Scott County during the nesting and rearing season, just as recommended for Pike County.*

No State-listed endangered or threatened plants are known to occur in southern Scott County, but this may reflect merely a lack of botanical survey effort.

Greene County

A short segment of the Proposed Route crosses the extreme northeastern part of Greene County, entering south of Manchester and exiting northwest of Scottville. There are no known protected resources in this area which would be adversely affected, but the lack of botanical surveys for this area does not preclude the presence of State-listed plants. Suitable habitat for the **Indiana Bat** and the **Northern Long-Eared Bat** is present along Apple Creek and its tributaries. *The Department recommends the same actions for bats in this sector as for Pike County.*

The Alternate Route crosses Greene County from the Illinois River, passing south of White Hall and entering Macoupin County northeast of Greenfield. There are no documented occurrences of State-listed endangered species or Illinois Natural Areas Inventory Sites along this route, but that does not mean listed species are absent. Rather, a lack of survey effort may be responsible for the dearth of information. Suitable habitat for the **Indiana Bat** and the **Northern Long-Eared Bat** is present among the dissected forests once the route rises from the floodplain, especially along Apple Creek and its tributaries. *The Department recommends the same actions for bats in this sector as for Pike County.*

Macoupin County

The Proposed Route runs through northern Macoupin County, from a point northwest of Scottville, proceeding eastward north of Scottville and Modesto, but passing south of Virden to exit the County. There are no known protected resources in this area which would be adversely affected, but the lack of botanical surveys for this area does not preclude the presence of State-listed plants. Suitable habitat for the **Indiana Bat** and the **Northern Long-Eared Bat** is present along creeks and drainages, but much of the landscape is dominated by agricultural fields. *The Department recommends the same actions for bats in suitable habitat in this sector as for Pike County.*

Several railroads are crossed near Virden which may provide habitat for the State-listed **Franklin's Ground Squirrel**. Numerous colonies of this species are present along the rail line west of Thayer, just north of Virden, and other colonies are known south of Nilwood along an intersecting railroad. Since juveniles of this species are well-known for their dispersals along linear landscape features, the species may be present at points crossed by the proposed route. This species is most likely to be found along roads, railways, and drainage ditches; trapping surveys should be considered in proximity to these features. It spends most of its time underground, even when active, but also has an extraordinarily long hibernation period, stretching from September into April. So long as burrows remain undisturbed, the project is unlikely to adversely affect this species. Many burrows occur within a few meters of a tree, shrub, or existing utility pole. Where project construction will fragment existing woodlands, nearby colonies may extend their populations into these openings, which could pose issues for subsequent maintenance.

The Alternate Route crosses the County from a point northwest of Hettick, running between Hettick and Palmyra east between Nilwood and Standard City to exit at a point southwest of Waggoner. This route avoids known protected resources in this sector by at least one-half mile in all cases and is unlikely to adversely affect them. However, this route crosses many tributaries of Otter and Macoupin Creeks lined by dense forests which provide suitable habitat for the **Indiana Bat** and the **Northern Long-Eared Bat**. The Indiana Bat is known to occur along Macoupin Creek south of Carlinville and habitat is continuous along the stream. *The Department recommends the same actions for bats in this sector as for Pike County.*

More than a mile south of the Alternate Route where it crosses the railway between Carlinville and Nilwood, colonies of the **Franklin's Ground Squirrel** exist in the **Carlinville Railroad Prairie Illinois Natural Areas Inventory (INAI) Site**. While these colonies will not be directly affected, the population may extend up the railway toward Nilwood. Trapping surveys near the crossing point may be advisable to establish whether the species is present there, so that precautions to avoid prohibited taking can be implemented.

Montgomery County

The Proposed Route enters the County at a point east of Virden, skirting Farmersville and exiting the County just north of Harvel. This landscape is nearly completely in cultivation, and there are no records of protected resources which may be adversely affected.

The Alternate Route enters the County southeast of Waggoner, skirts Raymond, then runs east through Wenonah, entering Shelby County just north of Oconee. Most of this route segment passes through cultivated land, but east of Wenonah, the route intersects headwaters of Ramsey Creek lined with woodlands. These woodlands have not been surveyed for bat populations. *The Department recommends the same actions for bats in this sector as for Pike County.*

Christian County

The Proposed Route enters Christian County north of Harvel, passing eastward, then south of Rosamond, where it enters Shelby County after turning due south. Virtually the entire traversed landscape is in cultivation, with the exception of the South Fork of the Sangamon River, which is lined with a narrow band of riparian woodlands. These woodlands have not been surveyed for bats. Although this location may seem unpromising, Indiana Bats and Northern Long-Eared Bats have been found in similar environments. *The Department recommends the same actions for bats in this sector as for Pike County.*

The only segment of the Alternate Route in Christian County continues eastward from a junction with the Proposed Route southeast of Rosamond, just north of the County Line, crossing US Highway 51 and entering Shelby County from the extreme southeast corner of Christian County. This route crosses Coal Creek and tributaries of Beck's Creek with riparian woodlands which have not been surveyed for bats. *The Department recommends the same actions for bats in this sector as for Pike County.*

This Alternate Route also passes just south of the **Anderson Prairie Land & Water Reserve**, which runs along a former railway just east of Paragon Lake. This protected area is unlikely to be adversely modified by the proposed power line.

Shelby County

The Proposed Route enters Shelby County from Christian County southeast of Rosamond, running south past Oconee, then turning eastward again, running north of Herrick over to Cowden. In doing so it crosses Beck's Creek, Polecat Creek, and Mitchell Creek, each of which has riparian woodlands. The Route crosses the Kaskaskia River east of Cowden, proceeding eastward to exit the County just north of Sigel, crossing the Little Wabash River and a number of other streams.

Nearly all streams crossed by this route in Shelby County possess extensive riparian woodlands which have not been surveyed for bats. *The Department recommends the same actions for bats in this sector as for Pike County.*

The Kaskaskia River supports a large population of the State-listed endangered **Softshell Turtle**. This species is almost exclusively aquatic, however, so there is little chance construction workers will encounter this species.

In crossing the Little Wabash River, the route runs through the watershed of Rattlesnake Creek, named for the historic presence of the State-listed threatened **Timber Rattlesnake**. No population of this species is known to be extant along the route, but this cryptic species has been reported a few miles to the south, nearer Effingham, within the last 25 years. Construction crews should be alerted to the potential presence of this animal in this vicinity.

The Alternate Route enters Shelby County at the southeast corner of Christian County, proceeding east across Beck's Creek, running north of Lakewood, crossing the Kaskaskia River and several tributaries to reach Richland Creek in Hidden Springs State Forest, then moving on to exit the County north of Sigel.

Nearly all streams crossed by the Alternate Route in Shelby County possess riparian woodlands which have not been surveyed for bats. *The Department recommends the same actions for bats in this sector as for Pike County.*

Hidden Springs State Forest is a public property administered by the Illinois Department of Natural Resources. The Alternate Route would run parallel to an existing power line which already fragments the State Forest. However, much of that route runs along the valley of Richland Creek. The route proposed by Grain Belt would necessarily be placed high on steep slopes falling to the Creek, which would require permanent removal of forest cover on those slopes and significant mass grading to enable placement and maintenance of the new power line. Construction in this terrain would be difficult, and the Department believes this would result in significant on-going challenges to control erosion into Richland Creek, causing degraded water quality. *The Department believes the choice of this route would be detrimental to the State's interests in managing these important public forest and aquatic resources.*

The State-listed **Franklin's Ground Squirrel** was observed as recently as 2007 along the railway south of Sigel. The dispersal range of the young of this species is up to six miles, and colonies are noted for a tendency to follow linear manmade features, such as roads and railways. This creates some potential for this species to be present north of Sigel in the areas where both the Proposed and Alternate Routes run. Crews should be alert to the possible presence of this animal along highways, roads, and railways in this region.

Cumberland County

With minor adjustments to the north and south, both the Proposed and Alternate Route cross Cumberland County from west to east, with the Alternate Route passing north of Greenup and the Proposed Route passing south of Greenup. Both routes cross numerous streams with riparian woodlands which have not been surveyed for bats. *The Department recommends the same actions for bats in this sector as for Pike County.*

Clark County

Both the Proposed and Alternate Routes enter Clark County south of Casey, running parallel eastward until crossing each other about six miles west of State Route 1, when the Proposed Route once again becomes the northern route. The Routes run close together until merging just before reaching the Wabash River and crossing into Sullivan County, Indiana. Both routes cross a number of streams with extensive riparian woodlands which have not been surveyed for bats. *The Department recommends the same actions for bats in this sector as for Pike County.*

The Proposed Route runs just south of Craig Lake, at the intersection of East Angling Road and East Wilderness Road. In 2000, a Timber Rattlesnake was encountered at the Craig Lake campground. This individual was thought to be an outlier of a population centered in Rattlesnake Hollow about a mile north of that location, but it is possible its territory was associated with the North Fork Raccoon Creek. Despite extensive searches in subsequent years north of Craig Lake, no other Rattlesnakes have been found; it is possible this local population is now extirpated. Nevertheless, crews working in this area should be apprised of the potential to encounter this reptile.

The Department appreciates the opportunity to review the route proposals. The natural resource review primarily reflects the information existing in the Illinois Natural Heritage Database at the time of this review, and should not be regarded as a substitute for detailed site surveys or field surveys required for environmental assessments.

If protected resources are encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations. Also, note this review does not imply IDNR's authorization or endorsement of the proposed action.

If significant changes are made when a final route is selected, the Department will welcome an opportunity to review the altered sectors. 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, stylized "K" and "S".

Keith M. Shank
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cc: John Kuba, Clean Line Energy Partners
Tim Gaul, Louis Berger