

**BEFORE THE ILLINOIS COMMERCE COMMISSION
STATE OF ILLINOIS**

**AMEREN TRANSMISSION)
COMPANY OF ILLINOIS)
)
)
Petition for a Certificate of Public)
Convenience and Necessity, pursuant)
To Section 8-406.1 of the Illinois Public)
Utilities Act, and an Order pursuant to)
Section 8-503 of the Public Utilities Act,)
To Construct, Operate and Maintain a)
New High Voltage Electric Service Line)
And Related Facilities in the Counties)
of Adams, Brown, Cass, Champaign,)
Christian, Clark, Coles, Edgar, Fulton,)
Macon, Montgomery, Morgan, Moultrie)
Pike, Sangamon, Schuyler, Scott, and)
Shelby, Illinois)**

Docket No. 12-0598

DIRECT TESTIMONY OF MICHAEL PATRICK WARD

Assistant Professor
Department of Natural Resources & Environmental Sciences
University of Illinois at Urbana-Champaign

On behalf of

THE NATURE CONSERVANCY

March 29, 2013

TABLE OF CONTENTS

I. INTRODUCTION AND OVERVIEW1

II. AMEREN'S PROPOSED PRIMARY ROUTE WOULD ADVERSELY IMPACT BIRD POPULATIONS THAT RELY UPON THE SPUNKY BOTTOMS PRESERVE.....6

III. AMEREN'S PROPOSED ALTERNATE ROUTE WOULD ADVERSELY IMPACT BIRD POPULATIONS THAT RELY UPON THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S LAGRANGE WETLAND MITIGATION BANK13

III. CONCLUSIONS.....16

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I.

INTRODUCTION AND OVERVIEW

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Q. Please state your name, business address and describe your position with the University of Illinois at Urbana-Champaign.

A. My name is Michael Patrick Ward. I am an Assistant Professor in the Department of Natural Resources & Environmental Sciences at the University of Illinois at Urbana-Champaign. My business address is W-503 Turner Hall, 1102 South Goodwin Avenue, Urbana, IL 61801. As an Assistant Professor at the University of Illinois, I teach courses on the ecology and conservation of wildlife and, I conduct research on the ecology, behavior, and conservation of birds.

13

14 **Q. What is your educational background and work history?**

15 A. I received my BS from Truman State in 1995, my MS from the University of
16 Illinois, Urbana-Champaign in 1999, and my Ph.D. from the University of
17 Illinois, Urbana-Champaign in 2004. I was a postdoctoral researcher from 2004
18 to 2006 at the Illinois Natural History Survey studying how birds amplify and
19 transmit West Nile virus. From 2006 to 2010 I was the director of the Critical
20 Trends Assessment Program at the Illinois Natural History Survey.

21

22 **Q. What is your area of research expertise?**

23 A. As an Assistant Professor at the University of Illinois, I study various aspects of
24 avian ecology and behavior with the overarching goal of improving conservation.
25 Much of my research involves understanding the habitat selection process of
26 birds. By understanding where a species will decide to breed, conservation efforts
27 can be targeted at those locations. In addition to understanding the habitat
28 selection process, I investigate the demography and population dynamics of
29 several species. I compare survival or reproductive success of individuals in
30 different landscapes or within agricultural fields under different land-use
31 practices. I have conducted research on wetland, grassland and forest birds in
32 Illinois. I have also studied the migration behavior of birds in various landscapes
33 in Illinois. I am also a member of several technical committees associated with
34 bird conservation in Illinois and throughout the Midwest (e.g., Upper Mississippi

35 River Joint Venture Science Team, Steering Committee for the Midwest
36 Coordinated Bird Monitoring Program, Partners in Flight Science Committee).

37

38 **Q. Have you published any work on your research?**

39 A. Yes. Please see TNC Exhibit 3.1 for a list of my publications.

40

41 **Q. Have you previously submitted testimony to the Illinois Commerce
42 Commission?**

43 A. No.

44

45 **Q. Are you familiar with this proceeding?**

46 A. Yes. Ameren Illinois Transmission Company is seeking permission from the
47 Illinois Commerce Commission to route a 345 kV electric transmission line
48 across the State of Illinois. Ameren refers to this project as the "Illinois Rivers
49 Transmission Project." Ameren has proposed a "Primary Route" and an
50 "Alternate Route" for the Illinois Rivers Transmission Project.

51

52 **Q. What is your relationship to The Nature Conservancy?**

53 A. I have collaborated with The Nature Conservancy on research projects, including
54 conducting avian surveys at the Spunky Bottoms Preserve. In conjunction with
55 that on-going collaboration, I am providing this testimony because of the
56 ecological significance of the areas that would be impacted by the transmission
57 lines.

58

59 **Q. What is The Nature Conservancy's interest in this proceeding?**

60 A. Ameren's proposed Primary Route would locate a portion of the transmission line
61 across land known as the Spunky Bottoms Preserve in Brown County, Illinois.
62 The Spunky Bottoms Preserve contains land owned in fee by The Nature
63 Conservancy, as well as privately owned land subject to a conservation easement
64 held by The Nature Conservancy. Both The Spunky Bottoms Preserve and the
65 surrounding land have great ecological value that would be impaired by siting
66 Ameren's transmission line on the Primary Route. The Nature Conservancy also
67 has concerns regarding portions of Ameren's Alternate Route to the extent that
68 such a route could adversely impact a wetland mitigation bank. As a result, The
69 Nature Conservancy is actively participating in this proceeding.

70

71 **Q. What is the purpose of your testimony?**

72 A. The purpose of my testimony is to explain the adverse impact that would occur
73 upon bird species that are of conservation concern if the Commission were to
74 approve either the Primary Route or the Alternative Route proposal by Ameren.
75 Instead, the Commission should approve one of the two alternative routes
76 proposed by The Nature Conservancy.

77

78 **Q. Please briefly explain why the Commission should consider whether the**
79 **siting of a transmission line will adversely impact the habitats of birds or**
80 **other species.**

81 A. Much of Illinois' landscape has been altered, resulting in a diminution in its
82 ecological value. Given the widespread loss of habitat, it is imperative that our
83 remaining high-quality habitats be preserved. These areas, including wetlands
84 and forests, provide numerous benefits ranging from ecological functions to
85 recreation. In the case of wetlands associated with the Illinois River floodplain,
86 these wetlands help remove sediment and nutrients from water and provide value
87 habitat for wildlife. These wetlands are the most important habitats in Illinois in
88 terms of global avian conservation. The Illinois River wetlands support millions
89 of migrating waterfowl, shorebirds, and songbirds. Many of these species are
90 migrating from their wintering grounds further south to areas much further north
91 (often the Arctic), which requires large amounts of energetic resources. Given
92 that more than 95% of Illinois' wetlands have been destroyed, the Illinois River
93 wetlands provide a vital role in providing stopover habitat during migration. In
94 addition, the bluffs along the Illinois River support oak-hickory forests, which are
95 known to be important for foraging songbirds as they migrate.

96 In summary, given the relative few important natural areas left in Illinois, natural
97 areas such as the Spunky Bottoms Preserve should not be disturbed if at all
98 possible.

99

II.

**AMEREN'S PROPOSED PRIMARY ROUTE
WOULD ADVERSELY IMPACT BIRD POPULATIONS
THAT RELY UPON THE SPUNKY BOTTOMS PRESERVE**

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106 **Q. Are you familiar with the Spunky Bottoms Preserve?**

107 A. Yes. I grew up in the area, and I have surveyed bird diversity and abundance in
108 the area during all seasons for over 20 years.

109 I have conducted research on the habitat selection of wetlands birds at the Spunky
110 Bottoms Preserve. I have also helped conduct a survey of nightjars and owls at
111 the property adjacent to the Spunky Bottoms Preserve over which The Nature
112 Conservancy holds a conservation easement.

113 I have been conducting and coordinating the Brown County Spring Bird count
114 since the early 1990s. In addition to the Spring Bird Count, I have participated in
115 the Meredosia Christmas Bird count for over 25 years. I conducted the Illinois
116 Breeding Bird Atlas for Brown and parts of Morgan County.

117

118 **Q. The Nature Conservancy's Petition to Intervene states that the Spunky**
119 **Bottoms Preserve and the land surrounding the Preserve have "great**
120 **ecological value." Do you agree?**

121 A. Yes. There is no doubt that the Spunky Bottoms Preserve and the land
122 surrounding the Preserve have great ecological value. Public and private
123 organizations over the last decade have been investing in the conservation and
124 restoration of habitat in this area, and every indication is that this investment

125 would continue, provided that the habitat is preserved, precisely because of the
126 unique value of these lands.

127

128 **Q. Is there data that supports the conclusion that the Spunky Bottoms Preserve**
129 **has great ecological value?**

130 A. Yes. The Critical Trends Assessment Program ("CTAP"), which I formerly
131 directed, monitors the condition of forests, wetlands, grasslands, and streams
132 throughout the state. The data compiled by CTAP provides a baseline from which
133 it is possible to compare regional and site-specific patterns and assess changes in
134 ecological conditions. Data is collected by professional scientists at the Illinois
135 Natural History Survey (INHS). CTAP professional scientists monitor 450
136 randomly-selected sites in each of the three habitats (150 of each; 30 sites per
137 habitat per year) on both public and private land. In forests, wetlands, and
138 grasslands, data on herbaceous and woody vegetation, bird, and insect data are
139 collected. They measure ecological indicators such as the presence of threatened
140 and endangered species, species richness, species diversity, and dominance of
141 native vs. non-native species. Data collected by CTAP scientists provides a
142 snapshot of the quality and quantity of our ecosystems. This information is vital
143 to protecting, preserving and enhancing Illinois forests, wetlands, and grasslands.

144

145 **Q. Based on the data and statewide perspective you have from CTAP, what**
146 **specific characteristics of the Spunky Bottoms Preserve and surrounding**
147 **lands along Ameren's proposed Primary Route are of ecological value?**

148 A. The Spunky Bottoms Preserve and its surrounding lands contain many
149 ecologically valuable locations, and the habitat in the area continues to improve.
150 The wetlands are being managed in a fashion that has resulted in a steady increase
151 in species richness and diversity. There are at least three (3) truly unique
152 characteristics of this land.

153 First, an unusually high proportion of the area is forested, relative to most of
154 Illinois. The patches of forest are larger than most within Illinois. High-quality
155 oak-hickory forests are a common occurrence in the area and many species of
156 conservation concern prefer to forage and breed in these forests.

157 Second, the wetlands in this area are among the highest-quality in Illinois. Most
158 wetlands in Illinois are dominated by invasive species and their hydrology is
159 highly altered, leading to the wetlands either being open ponds or choked with
160 vegetation. In sharp contrast, the wetlands at the Spunky Bottoms Preserve are a
161 great example of high-quality wetlands because they have a good diversity of
162 plants, the water levels are consistent, and the wetlands support many wetland-
163 dependent bird species. In our CTAP analysis of the condition of wetlands
164 throughout Illinois, the Spunky Bottoms Preserve is referred to as a “reference
165 site.” The Spunky Bottoms Preserve represents what wetlands in Illinois should
166 be, but unfortunately the vast majority of wetlands in Illinois are not near the
167 quality of the Spunky Bottoms Preserve.

168 Third, a quick survey of the statewide Spring Bird Count results over the last 30
169 years reveals that the counties along the Illinois River often have the greatest
170 abundances of shorebirds, and, in many years, the most individuals of certain

171 shorebird species are found in Brown County (i.e. the Illinois Department of
 172 Transportation's LaGrange Wetland Mitigation Bank and the Spunky Bottoms
 173 Preserve). I personally have observed tens of thousands of waterfowl and
 174 shorebirds in these locations. It is not just the large numbers of certain species;
 175 species such as the state-endangered King Rail can reliably be found nesting in
 176 these wetlands. Currently, there are less than a dozen locations in the state known
 177 to have breeding King Rails.

178

179 **Q. Have you documented bird species that are threatened, endangered, or**
 180 **otherwise of conservation concern within the forested areas along and near**
 181 **the proposed Primary Route?**

182 A. Yes, I have detected the following species of conservation concern in the area.

Breeding Species	Migratory Species	Wintering Species
Wild Turkey	Broad-winged Hawk	Bald Eagle
Yellow-billed Cuckoo	Yellow-billed Cuckoo	Red-headed Woodpecker
Whip-poor-will	Ruby-throated Hummingbird	Rusty Blackbird
Red-headed Woodpecker	Olive-sided Flycatcher	
Eastern Wood-Pewee	Least Flycatcher	
Acadian Flycatcher	Blue-headed Vireo	
Great Crested Flycatcher	Yellow-throated Vireo	
Wood Thrush	Philadelphia Vireo	
Northern Parula	Red-eyed Vireo	
Yellow-throated Warbler	Veery	
Worm-eating Warbler	Gray-cheeked Thrush	
Louisiana Waterthrush	Swainson's Thrush	

Kentucky Warbler	Wood Thrush	
Ovenbird	Blue-winged Warbler	
Summer Tanager	Golden-winged Warbler	
Scarlet Tanager	Tennessee Warbler	
Rose-breasted Grosbeak	Nashville Warbler	
Baltimore Oriole	Chestnut-sided Warbler	
	Magnolia Warbler	
	Cape May Warbler	
	Yellow-rumped Warbler	
	Black-throated Green Warbler	
	Blackburian Warbler	
	Bay-breasted Warbler	
	Blackpoll Warbler	
	Cerulean Warbler	
	Black-and-white Warbler	
	American Redstart	
	Ovenbird	
	Northern Waterthrush	
	Hooded Warbler	
	Wilson's Warbler	
	Canada Warbler	
	Scarlet Tanager	
	Rose-breasted Grosbeak	
	Baltimore Oriole	

184 **Q. Would these birds that are threatened, endangered or otherwise of**
185 **conservation concern be adversely affected by the proposed transmission**
186 **line?**

187 A. Yes. Many of the species listed above would be affected. Obviously, some
188 species are much more sensitive to forest fragmentation than others.

189

190 **Q. Please explain how these birds would be affected.**

191 A. The species that would be most affected are the area-sensitive species. It is well
192 documented that certain species (e.g., the Ovenbird, Broad-winged Hawk) prefer
193 to breed in larger tracts of forest. In addition, the destruction of linear tracts of
194 forest for transmission lines would result in more edge habitat. Edge habitat
195 supports greater densities of nest predators, which would likely result in high nest
196 predation for certain species. Species that nest on the ground (e.g., the Whip-
197 poor-will, Kentucky Warbler, and Worm-eating Warbler) would likely decline
198 due to higher predation. Finally, the creation of linear strips could also facilitate
199 the expansion of invasive shrubs and forbs into these forests. One of the most
200 pressing issues with the forests in this part of Illinois is invasion by honeysuckle
201 and garlic mustard. The creation of linear transects would likely facilitate the
202 invasion resulting in certain bird species avoiding those forests due to a denser
203 understory (Eastern Wood-Pee-wee, Veery).

204

205 **Q. Have you documented significant concentrations of migrating birds within**
206 **the portions of the Spunky Bottoms Preserve that would be adversely**

207 **affected if the proposed transmission line is constructed on the Primary**
208 **Route?**

209 A. Yes. The proposed Primary Route runs through the southwestern corner of the
210 Spunky Bottoms Preserve, an area where I have observed several species of
211 conservation concern. This area is a shallow wetland that is dominated by
212 emergent vegetation. On several occasions, I have detected King Rails in this
213 area, and it appears that the species is nesting in the area. Also, due to the shallow
214 water, large concentrations of wading birds (e.g. Great Egret, Cattle Egret, Great
215 Blue Heron) have been observed in this area. Bald Eagles also have been
216 observed foraging in this area, because the area provides good habitat for fish.
217 Finally, this shallow area attracts many species of migratory shorebirds.

218

219 **Q. How would these species be adversely affected by Ameren's proposed**
220 **transmission line?**

221 A. There are at least two possible ways the species would be affected. First,
222 seemingly benign structures (i.e., transmission towers) can modify the hydrology
223 in an area. Therefore, the transmission structures may impact the hydrology of
224 this important wetland. Second, while species can become accustomed to
225 transmission lines, certain migratory species that breed in the Arctic and winter in
226 South America may be wary of transmission lines. In addition to the potential for
227 birds to fly into transmission lines, the mere presence of the lines may cause the
228 birds to avoid the area.

229

230 **Q. Based upon this data, what is your recommendation?**

231 A. The Spunky Bottoms Preserve and its surrounding lands contain high-quality
232 forests and wetlands and is host to documented bird species that are threatened,
233 endangered, or otherwise of conservation concern. If the Commission allows Ameren to
234 construction a transmission line along its proposed Primary Route, forest would be
235 fragmented and the natural hydrology of wetlands would be altered, thereby disrupting
236 natural habitats that The Nature Conservancy has been working to repair. Accordingly,
237 the Commission should reject Ameren's Primary Route in favor of one of the two
238 alternatives identified by The Nature Conservancy.

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III.

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**AMEREN'S PROPOSED ALTERNATE ROUTE
WOULD ADVERSELY IMPACT BIRD POPULATIONS
THAT RELY UPON THE ILLINOIS DEPARTMENT OF
TRANSPORTATION'S LAGRANGE WETLAND MITIGATION BANK**

247 **Q. The Nature Conservancy has identified the Illinois Department of**
248 **Transportation's LaGrange Wetland Mitigation Bank in Brown County as**
249 **being affected by the proposed Alternate Route. What is your familiarity**
250 **with the Illinois Department of Transportation's LaGrange Wetland**
251 **Mitigation Bank?**

252 A. I personally have conducted surveys of the Illinois Department of Transportation's
253 LaGrange Wetland Mitigation Bank for more than 20 years -- since before the site
254 was a mitigation bank. I visit the sites several times a year (most often in spring
255 and winter) in association with the Spring Bird Count and the Christmas Bird

256 Count. I also surveyed the site for breeding wetlands species on several
257 occasions.

258

259 **Q. Have you or other professional scientists from the Illinois Natural History**
260 **Survey documented bird species that are threatened, endangered, or**
261 **otherwise of conservation concern, or significant concentrations of migrating**
262 **birds, within the portions of the Wetland Mitigation Bank?**

263 A. Yes. Over 150 species have been detected at the site, and nearly every wetland-
264 dependent threatened or endangered species in Illinois has been found at the site.
265 The species include: Bald Eagles (that nest on the site), King Rails, Virginia
266 Rails, Black-crowned Night-herons, Hooded Mergansers (that breed on the site),
267 Black Terns, Forster's Terns, Least Terns (a federally threatened species), and
268 nearly every shorebird species recorded in Illinois.

269

270 **Q. Would these species be adversely affected if the proposed transmission line is**
271 **constructed on the Alternate Route?**

272 A. Yes. This site is one of the top locations in the state for migrating shorebirds. In
273 years when conditions are favorable, high concentrations of shorebirds are often
274 found at the site. The presence of transmission lines likely would cause
275 individual birds to avoid the area. In addition, if they did not avoid the area, the
276 transmission lines would provide the ideal perch for avian predators. On several
277 occasions, Peregrine Falcons have been observed at the site. Currently, Peregrine
278 Falcons often perch on dead trees along the river, the addition of transmission

279 lines would provide the ideal location for the falcon to hunt shorebirds. While the
280 transmission lines may be good for a falcon, it would reduce the overall value of
281 the site for shorebirds.

282

283 **Q. If the proposed transmission line is constructed on Ameren's Alternate**
284 **Route, how would construction and maintenance of the line affect the birds**
285 **utilizing the Illinois Department of Transportation's LaGrange Wetland**
286 **Mitigation Bank?**

287 A. The transmission lines would likely reduce the value of the site because birds may
288 want to avoid the area with the transmission lines. The proposed route would
289 bisect the wetland essentially fragmenting this valuable wetland. With any tower
290 there is also the additional risk of collision. Finally, the Illinois Department of
291 Transportation has done a great job restoring the ecological value of the
292 mitigation bank. The entire purpose of a mitigation bank is to replace the
293 ecological function of an area that has been destroyed. To impact the ecological
294 value of a mitigation bank would critically undermine the intended purpose of the
295 bank. There are mitigation banks in Illinois that are relatively small and not of
296 great ecological value, but the Illinois Department of Transportation's LaGrange
297 Wetland Mitigation Bank is a great example of what a mitigation bank should be,
298 and the site should receive the utmost protection.

299

300 **Q. Given this background, what is your recommendation?**

301 A. Over 150 bird species, including Bald Eagles and other threatened and
302 endangered species, have been detected at the Illinois Department of
303 Transportations' LaGrange Wetland Mitigation Bank. Siting a transmission line
304 along Ameren's proposed Alternate Route would fragment this valuable wetland,
305 and potentially reverse the significant restoration work that the Illinois
306 Department of Transportation has performed there. Accordingly, the Commission
307 should reject Ameren's proposed Alternate Route and endorse one of the two
308 alternative identified by The Nature Conservancy.

309
310 **IV.**

311 **CONCLUSIONS**

312
313
314 **Q. Please summarize your conclusions.**

315 A. The Spunky Bottoms Preserve and the land surrounding the Preserve represent
316 some of the highest quality habitats that remain in Illinois. These habitats provide
317 valuable ecological functions for wildlife, fish, and nutrient cycling, but also have
318 recreational and cultural value. In summary:

- 319
- 320 • The Primary Route would impact wetland habitat that support numerous
321 species of conservation concern, including breeding state threatened and
322 endangered species.
 - 323 • The Primary Route would further fragment one of the last forested landscapes
324 in Illinois, impacting many species of conservation concern
 - 325 • The Alternate Route would impact a regionally important wetland that
supports tens of thousands of migrating birds.

- 326 • The Alternate Route would impact a wetland mitigation site that was created
327 to replace wetlands that were either destroyed or harmed by development.
- 328 • There are numerous areas in the region where the construction of transmission
329 lines would have little ecological impact, highlighting the need to not use the
330 proposed Primary or Alternate routes.

331 As a result, the Commission should reject Ameren's proposed Primary and
332 Alternate routes, and instead should endorse one of the alternative routes
333 proposed by The Nature Conservancy.

334

335 **Q. Does this conclude your direct testimony?**

336 A. Yes.