JUG STREET-KIRK 138 kV CIRCUIT PROJECT

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

Prepared for:

American Electric Power Service Corporation
700 Morrison Road, 2nd Floor

Gahanna, Ohio 43230

Prepared by:

URS
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 14950749

July 2012

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1.0 PROJECT DESCRIPTION

This document presents the threatened and endangered species literature review and survey conducted by URS Corporation (URS) for American Electric Power (AEP) for the proposed Jug Street-Kirk 138 kV Circuit Project (Project). AEP intends to rebuild 12.2 miles of existing transmission line to accommodate a new Jug Street-Kirk 138 kV circuit through Licking County, Ohio, as shown in Figure 1.

AEP has stated the rebuilt section of transmission line will involve approximately structure for structure replacement from existing, predominantly H-frame structures to new steel poles with concrete foundations on the existing centerline. Construction will occur within existing right-of-way.

As part of the OPSB Letter of Notification requirements, AEP is required to assess and report the presence or absence of federal and state species of concern as stated in Ohio Administrative Code (OAC) Rule 4906-11-01(E)(1). This rule states:

> *(E) Environmental data. Describe the environmental impacts of the proposed project. This description shall include the following information:*
>
> *(1) A description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.*

AEP retained URS to review areas of ecological concern, as defined above, within the proposed Project vicinity and conduct a field survey of wetlands and streams within the existing maintained right-of-way (approximately 75 feet on each side of the Project centerline or 150 feet of total width). This report will be used to assist AEP's efforts to avoid impacts to areas of ecological concern present in the study area during construction activities.

2.0 METHODS

The first phase of the survey involves a review of online lists of federal and state species of concern. In addition to the review of available literature, URS submitted a request to Ohio Department of Natural Resources (ODNR) Ohio Biodiversity Database for GIS records of species of concern that are within close proximity to the Project. These GIS records were overlain on the Project GIS maps to identify designated species and other sensitive areas as reported by ODNR in relation to the Project. URS also submitted a coordination letter to the U.S. Fish and Wildlife Service (USFWS) and ODNR (REALM) soliciting comments on the Project. The USFWS and ODNR were contacted regarding the potential for occurrence of threatened and endangered species in close proximity to the Project area. Copies of the letters provided by ODNR and USFWS are included as Appendix A.

Agency identified species and available species-specific information was reviewed to determine the various habitat types that listed species are known to frequent. This information was used during the field

survey to assess the potential for these species of concern in, or near the approximately 150-foot wide Project study corridor.

3.0 RESULTS

URS field ecologists conducted a designated species habitat survey in conjunction with the stream and wetland field surveys on July 10 through July 12, 2012.

3.1 State Species of Concern

ODNR provided a letter response dated July 18, 2012, indicating the potential ranges of several species occur within the vicinity of the proposed Project area. Table 1 lists the five species identified by the ODNR and comments regarding the Project's potential to impact the species is below.

TABLE 1
STATE LISTED SPECIES THAT COULD INHABIT
LICKING COUNTY, OHIO

Common Name	Scientific Name	State Status	County or Counties
Mammals			
Black bear	*Ursus americanus*	Endangered	Licking
Indiana bat	*Myotis sodalis*	Endangered	Licking
Reptiles			
Eastern hellbender	*Cryptobranchus alleganiensis alleganiensis*)	Endangered	Licking
Eastern massasauga	*Sistrurus catenatus*	Endangered	Licking
Birds			
Bald eagle	*Haliaeetus leucocephalus*	Threatened	Licking

Forested areas that could provide Indiana bat roosting and foraging habitat exist beyond the regularly maintained right-of-way where the Project will be constructed. As a result potential Indiana bat habitat is not expected to be impacted by the Project in most locations. ODNR indicated that if no tree removal is proposed, the Project will not likely to impact the Indiana bat.

The eastern massasauga was identified as a state endangered species within Licking County; however, the Project is not within close proximity to a known occurrence of this species. ODNR indicated that based on location, the Project was unlikely to have a negative impact on the eastern massasauga.

The range of the eastern hellbender was identified to potentially be within the vicinity of the Project. ODNR recommended that the Project be developed to minimize direct impacts to streams to avoid eastern hellbender habitat. No in-water work is currently proposed for the rebuild Project. It is expected that aerial stream crossing will be achieved by accessing structure locations from one side of a stream or the other without crossing the stream. Due to the nature of the rebuild transmission line Project and the lack of quality streams crossed by the Project, it is unlikely this Project would affect the eastern hellbender species. ODNR also indicated that impacts to the other special status species including the bald eagle and black bear were not anticipated.

No state species of concern, or signs of these species, and no unique habitats were observed during the field survey, and the ODNR Ohio Biodiversity Database revealed no threatened, endangered, special interest, or extirpated species within the vicinity of the Project area. Additionally, construction will be limited predominantly to pole locations within existing right-of-way. Therefore, no state species of concern are expected to be impacted by the proposed Project.

3.2 Federal Species of Concern

To address the Project's potential to impact federally protected species; URS conducted a literature review of U.S. Fish and Wildlife's (USFWS) *Federally Listed Species by Ohio Counties, April 5, 2012*, to determine what species are known to potentially occur in the counties crossed by the Project. Table 2 lists the three species identified during the USFWS literature review along with comments regarding the Project's potential to impact the species below.

TABLE 2
FEDERALLY LISTED SPECIES THAT COULD INHABIT
LICKING COUNTY, OHIO

Common Name	Scientific Name	Federal Status	County or Counties
Mammals			
Indiana bat	*Myotis sodalis*	Endangered	Licking
Reptiles			
Eastern massasauga	*Sistrurus catenatus*	Candidate	Licking
Birds			
Bald eagle	*Haliaeetus leucocephalus*	Species of Concern	Licking

Federally Listed Species by Ohio Counties, April 5, 2012.
Accessed November 22, 2011: http://www.fws.gov/midwest/endangered/lists/pdf/Ohio11cty.pdf

USFWS provided a letter response indicating that the proposed Project is within the range of Indiana bat, eastern massasauga, and bald eagle. The three species descriptions are discussed below:

Indiana Bat: The federal government lists this species as endangered in Ohio. Winter Indiana bat hibernacula include caves and mines while summer habitat typically includes tree species exhibiting

exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch size diameter classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) are utilized in live form. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey. Proximity to water is critical, because insect prey density is greater over or near open water.

Based upon the site reconnaissance, suitable Indiana bat summer habitat is potentially located adjacent to the existing right-of-way. Forested areas that could provide Indiana bat roosting and foraging habitat exist beyond the regularly maintained right-of-way where the Project will be constructed. As a result potential Indiana bat habitat is not expected to be impacted by the Project in most locations.

No signs of this species were observed during the site reconnaissance, but as this is a nocturnal species, nocturnal mist net and/or ultrasonic/infrared surveys would be needed to confirm the presence of absence the Indiana bat during summer months. USFWS indicated that if cutting of trees would need to occur, AEP is required to further coordinate further with USFWS to identify whether a mist net survey is warranted for the Project. As there are no plans for AEP to conduct any woodlot cutting outside the right-of-way, it is unlikely that the USFWS will be required for future coordination.

Eastern massasauga: The federal government considers this docile rattlesnake to be a candidate species, while the State of Ohio lists it as endangered. The eastern massasauga is often found in, or near wet areas; including wetlands, wet prairie, nearby woodland, or shrub edge habitat. This often includes goldenrod (*Solidago* spp.) meadows with a mosaic of woody species such as dogwood (*Cornus* spp.) or multifora rose (*Rosa multiflora*). Wet habitat and dry edges are utilized by the snakes, especially during the fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. Prey consists mainly of small mammals and hibernation typically occurs in crayfish burrows located in moist soil areas.

ODNR coordination did not indicate the Project is within close proximity to a known occurrence of this species. The Project crosses primarily farm land and suburban development. Wetlands and upland areas crossed by the Project appear to be frequently disturbed by farmers, landowners, and during regular maintenance of the existing right-of-way. A few delineated wetlands along the study corridor could potentially provide habitat for the eastern massasauga; however, it is worth noting no crayfish burrows were observed in the delineated wetlands, therefore reducing one major hibernacula resource for this species. Since construction activities will be limited to existing pole locations, AEP plans to avoid impacts to wetland areas to the extent possible. ODNR stated that based on location, the Project was unlikely to have a negative impact on the eastern massasauga.

Bald eagle: The federal government currently considers bald eagles to be a species of concern. Bald eagles inhabit forests near rivers and lakes and prefer to nest in tall trees near the open water. They

generally feed on fish, but they also feed on small mammals and carrion if readily available. This species is unlikely to be found nesting along the length of the Project due to the lack of major open water. Bald eagle habitat is expected to exist approximately seven miles to the northwest of the western-most portion of the Project near the Hoover Reservoir and approximately eight miles to the southeast of the eastern-most portion of the Project around Buckeye Lake. Due to the location of the Project and distance from suitable habitat, the Project is not expected to impact any individuals of this species.

4.0 SUMMARY

AEP retained URS to conduct a threatened and endangered species review within the counties crossed by the Project centerline, and field survey within existing maintained right-of-way (approximately 75 feet on each side of the Project centerline or 150 feet of total width) for the entire rebuild portion of the Project length. The field survey was conducted by a URS field biologist July 10 through July 12, 2012.

No state species of concern or signs of these species, and no unique habitats were observed during the field survey. The ODNR Ohio Biodiversity Database revealed no threatened, endangered, special interest or extirpated species within the vicinity of the Project area. Construction will be limited to pole locations predominantly within existing rights-of-way, with the exception of short distance at the intersections of the lines to be rebuilt due to outage and safety requirements. It is expected that no in-stream work is proposed for the Project and aerial stream crossing will be achieved by accessing structure locations from one side of a stream or the other without crossing the stream. Therefore, no state species of concern are expected to be impacted by the Project as proposed.

ODNR coordination did not indicate the Project is within close proximity to a known occurrence of the eastern massasauga. Wetlands and upland areas crossed by the Project appear to be frequently disturbed by farmers, landowners, and regular maintenance of the existing right-of-way. A few delineated wetlands along the study corridor could potentially provide habitat for the eastern massasauga; however, it is worth noting no crayfish burrows were observed in the delineated wetlands, therefore reducing one major burrowing resource for this species. Since construction activities will be limited to existing pole locations, AEP plans to avoid impacts to wetland areas to the extent possible. No signs of this species were observed during the site reconnaissance. Based on location and frequent disturbance of the area, the Project is unlikely to have a negative impact on the eastern massasauga.

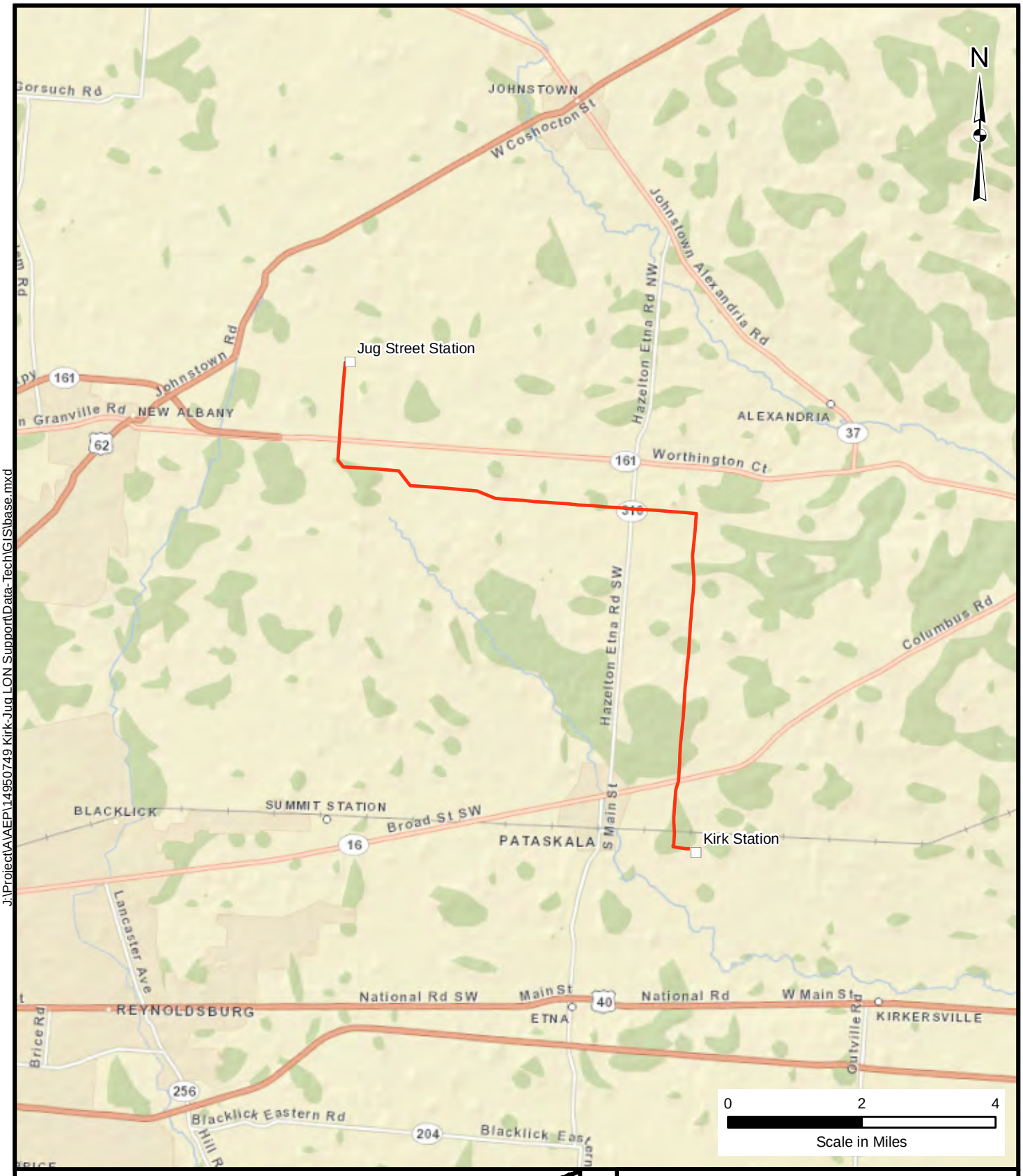
The Project is approximately seven miles from the nearest body of water that provides potential habitat for the bald eagle with limited habitat in the immediate vicinity of the Project. No signs of this species were observed during the site reconnaissance. Based on the location, the Project is not expected to impact any individuals of this species that may be nesting or foraging.

No signs of the Indiana bat were observed during the site reconnaissance. As there are no plans for AEP to conduct any vegetation clearing outside the right-of-way, it is unlikely that the USFWS coordination will be required in the future. It should be noted that species of concern typically inhabit unique habitats that are also threatened or endangered, most often by human development. No threatened and endangered habitats, e.g. bottomland hardwood forests, bogs, or native prairie meadows, are located along the route

of the Project. Therefore, it is not expected that any species of concern will be impacted by the Project as proposed.

5.0 CONCLUSION

Based upon the nature of the Project, review of available current literature, review of federal and state records of species of concern, contact with the USFWS and the ODNR, and the field survey conducted on July 10 through July 12, 2012, it is not expected that federal or state species of concern will be impacted by the Jug Street-Kirk 138 kV Circuit Project as currently planned.



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LEGEND:

Proposed Jug Street-Kirk 138 kV Circuit

Overview Map

BASE MAP SOURCE:
ArcGIS Map Service, World_Street_Map
http://services.arcgisonline.com/arcgis/services

Jug Street-Kirk
138 kV Circuit

FIGURE 1
PROJECT OVERVIEW

JOB NO. 14950749

URS

APPENDIX A

AGENCY RESPONSES

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

July 18, 2012

Aaron Geckle
Allan Hale
URS Corporation
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

TAILS: 03E15000-2012-TA-1017

Re: Technical Assistance
Jug Street-Kirk 138 kV Circuit Project
Licking County, Ohio

Dear Mr. Geckle and Mr. Hale:

This is in response to the June 21, 2012 correspondence requesting information about threatened and endangered species for the proposed Jug Street-Kirk Circuit Project in Licking County, Ohio. The proposed project includes a rebuild of approximately 12 miles of existing transmission lines. The project as proposed includes replacement of H-frame structures to new steel poles with concrete foundations. The current land use in the project area is maintained right of way.

There are no Federal wilderness areas, wildlife refuges, or designated Critical Habitat within the vicinity of the proposed site.

We recommend that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat, such as forests, streams, and wetlands. Best construction techniques should be used to minimize erosion, particularly on slopes. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. In addition, we support and recommend mitigation activities that reduce the likelihood of invasive plant spread and encourage native plant colonization. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats. All disturbed areas in the project vicinity should be mulched and revegetated with native plant species. Staging areas should be kept well away from streams and wetlands, and construction areas should be quickly replanted with native vegetation following construction.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a federally listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of

forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. During winter, Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

(1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;

(2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;

(3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should the proposed site contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. If the trees must be cut, further coordination with this office is requested to determine if surveys are warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid Federal permit. Please note that summer surveys must be conducted between May 15 and August 15.

The project lies within the range of the **eastern massasauga** (*Sistrurus catenatus*), a small, docile rattlesnake that is currently a Federal candidate species. Since designated as a candidate species in 1999, it has declined significantly throughout its range and populations in Ohio that were once throughout glaciated portions of the state, are now small and isolated. The species has been listed by the State of Ohio as endangered since 1996. Several factors have contributed to the decline of the species including habitat loss and fragmentation, indiscriminate killing, collection, gene pool contamination and incompatible land use practices.

Eastern massasaugas use both upland and wetland habitat and these habitats differ by season. During the winter, massasaugas hibernate in low wet areas, primarily in crayfish burrows, but may use other structures. Presence of a water table near the surface is important for a suitable hibernaculum. In the summer, massasaugas use drier, open areas that contain a mix of grasses and forbs such as goldenrods and other prairie plants that may be intermixed with trees or shrubs. Adjoining lowland and upland habitat with variable elevations between are critical for the species to travel back and forth seasonally. Should the proposed project area contain any of the habitat types or features described above, we recommend that a habitat assessment be conducted to determine if suitable habitat for the species exists within the vicinity of the proposed site. Please note that habitat assessments should only be conducted by approved eastern massasauga surveyors due to variable habitat types and cryptic nature of the species. Any habitat assessments or surveys should be coordinated with this office.

BALD EAGLE COMMENTS: The project lies within the range of the **bald eagle** (*Haliaeetus leucocephalus*), a species protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Due to the project type, location, and onsite habitat, this species would not be expected within the project area, and no impact to this species is expected. Relative to this species, this precludes the need for further action on this project as required by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Should additional information on listed or proposed species or their critical habitat become available or if new information reveals effects of the action that were not previously considered, our comments and recommendations may be reconsidered. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Sarah Bowman at extension 18 in this office, or through email at sarah_bowman@fws.gov.

Sincerely,

Mary Knapp

Mary Knapp, Ph.D.
Field Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH

Geckle, Aaron

From: Kessler, John <John.Kessler@dnr.state.oh.us>
Sent: Monday, July 23, 2012 12:29 PM
To: Geckle, Aaron
Subject: FW: 12-417 comments Jug Street-kirk 138 Rebuild circuit project

ODNR COMMENTS TO: AARON GECKLE, URS CORP; AARON.GECKLE@URS.COM

PROJECT: URS JUG STREET-KIRK 138 REBUILD PROJECT

LOCATION: LICKING CO. JUG STREET-KIRK 138 KV CIRCUIT

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

FISH AND WILDLIFE: ODNR, Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (***Myotis sodalis***), a state and federally endangered species. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the bald eagle (***Haliaeetus leucocephalus***), a state threatened species. However, the Ohio Biodiversity Database currently has no records of this species near the project area.

The project is within a county where current records exist for the Eastern massasauga (***Sistrurus catenatus***), a state endangered and a Federal candidate snake species. Due to the project's location the project is not likely to have a negative impact to the species. If an Eastern massasauga is encountered during construction, please notify the Division of Wildlife at (614) 265-6329.

The project is within the range of the black bear (***Ursus americanus***), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The project is within the range of the Eastern hellbender (***Cryptobranchus alleganiensis alleganiensis***), a state endangered amphibian currently being evaluated for Federal Candidate status. We recommend that the proposed project be developed to minimize indirect stream impacts (e.g., preserve wide riparian buffers, maximize erosion control, maximize permeable surfaces and storm-water retention).

The ODNR, Ohio Biodiversity Database has no records for rare or endangered species at this project site. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges or other protected natural areas within the project area. Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

Please note that wetlands known to contain an individual of or documented occurrences of federal or state-listed threatened or endangered plant or animal species are most likely considered high quality, Category 3 wetlands by the Ohio Environmental Protection Agency.

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler, P.E.
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Rd., Columbus, OH 43229-6605
phone: 614-265-6621
email: john.kessler@dnr.state.oh.us

Summary: Letter of Notification and Attachments for Kirk-Jug 138 kV Circuit Project (Part 5 of 12) electronically filed by Erin C Miller on behalf of AEP Ohio Transmission Company, Inc.