

**BEAVER-BROWNHELM JUNCTION-
BLACK RIVER 138 KV TRANSMISSION
LINE REBUILD PROJECT**

**KIRTLAND'S WARBLER, SANDHILL CRANE, UPLAND
SANDPIPER, AND NORTHERN HARRIER (BIRD)
HABITAT ASSESSMENT REPORT**

Prepared for:

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1.0 INTRODUCTION

American Transmission Systems, Incorporated (ATSI), a FirstEnergy company, is proposing to rebuild two transmission lines in Lorain County, Ohio. These two lines are the Beaver-Brownhelm Junction 138 kV Transmission Line and the Brownhelm Junction-Black River 138 kV Transmission Line. The Beaver-Brownhelm Junction rebuild project is approximately 2.7 miles in length from the Beaver Substation near Lake Erie continuing southward to the junction with Beaver-Black River junction point approximately 300 feet south of North Ridge Road in Brownhelm Township. The Brownhelm Junction-Black River rebuild project is approximately 6.4 miles in length originating from the junction point with Beaver-Brownhelm and terminating in the City of Lorain, east of Broadway Avenue. Collectively, these two projects are referred to as Beaver Brownhelm Junction – Black River 138 kV Transmission Line Rebuild Project (the Project). See Appendix A for an overview map (Figure 1).

Initial coordination with the Ohio Department of Natural Resources (ODNR) indicated that the Project is within the range of five state-listed endangered birds. Coordination with the United States Fish and Wildlife Services (USFWS) identified potential habitat for one federally listed bird (Kirtland's Warbler). Due to the nature of the construction work to be completed and potential construction timing constraints based on nesting ecology of these species, ATSI retained AECOM Technical Services, Inc. (AECOM) to conduct an assessment of habitat suitability for these species within the Project limits. This report provides background information for each species considered and an assessment of the existing right of way as habitat based on literature review and field reconnaissance.

2.0 METHODOLOGY

2.1 Desktop Review

Prior to conducting the field portion of the habitat assessment, AECOM coordinated with the ODNR and USFWS for information regarding rare, threatened, and endangered species and their habitats within the vicinity of the Project area (see Appendix B). A literature review of each species was conducted regarding their natural history. A brief description of species habitat and nesting status in Ohio is provided in Section 3.1.

AECOM also completed a desktop analysis of habitat using Google Earth aerial photography, National Land Cover Classification data, eBird database review, and the proposed limits of disturbance for the project. Based on the desktop review, target areas of habitat were identified for detailed assessment in the field. While the entire Project was visited, the areas identified as potential habitat during the desktop review were given greater concentration. These areas were used to identify if large areas of suitable habitat were available that could be used by the species in question. Where applicable, the adjacent habitats were considered when evaluating potential habitat.

2.2 Field Review

To assess potential impacts to identified species, AECOM ecologists conducted a pedestrian reconnaissance of the Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by these species.

The Project right of way consists of varying sizes and extents of open old fields, agricultural fields, wetlands, and fields planted for upland game hunting. These areas were reviewed and assessed for potential breeding habitat. Adjacent land uses were considered when evaluating potential habitat for each species.

3.0 RESULTS

3.1 Desktop Review

Coordination with ODNR and USFWS indicated the project was within the range of the following birds: Kirtland's Warbler, Piping Plover, Sandhill Crane, Upland Sandpiper, and Northern Harrier. However, based on technical assistance from USFWS, the Piping Plover was eliminated from impact concerns based on habitat within the Project right of way and, therefore, is not considered further. For each of the four remaining species, a literature review was conducted of their natural history including suitable habitat conditions, breeding status in Ohio, and breeding records in Ohio.

Table 1. Federal and state listed birds with ranges that occur within the Project area.

Common Name	Scientific Name	Federal Status	State Status
Kirtland's Warbler	<i>Setophaga kirtlandii</i>	Endangered	Endangered
Sandhill Crane	<i>Grus Canadensis</i>	Not Listed	Endangered
Upland Sandpiper	<i>Bartramia longicauda</i>	Not Listed	Endangered
Northern Harrier	<i>Circus cyaneus</i>	Not Listed	Endangered

A brief description of each species' natural history and habitat and nesting records is provided below.

3.1.1 Kirtland's Warbler

The Kirtland's Warbler is currently identified as a federally endangered species. A proposed rule to remove the species from the Federal List of Endangered and Threatened Wildlife was published in the Federal Register in April 12, 2018, however, only a final published rule can officially remove this species from the list (USFWS 2018). The state status of the Kirtland's Warbler is administered by the ODNR and is not currently proposed for delisting status of state endangered.

The Kirtland's Warbler has a limited nesting range in Michigan, Wisconsin, and Ontario, Canada where it nests exclusively in jack pine (*Pinus banksiana*) forests (USFWS 2008). Arrival at nesting locations occurs approximately 10 to 15 days after beginning its spring migration in late

April to early May from wintering grounds in the Bahamas (USFWS 2018; Bent 1953; and Terres 1991). This species does not return to its wintering grounds until in mid-October to early November. The Kirtland's Warbler migrates through Ohio in spring and fall as it travels between its nesting and wintering habitats.

In Ohio, the Kirtland's Warbler migrates across the entire state; however, the majority of records for this warbler occur in the western basin of Lake Erie (USFWS 2018; eBird 2018; ODNR 2018; ODNR 2018a, and Peterjohn 2001). The ODNR stated in its Environmental Review that approximately half of all records in Ohio occur within three miles of the Lake Erie shoreline (ODNR 2018 and ODNR 2018a). Further, ODNR (2018 and 2018a) indicate that foraging primarily occurs in forested or shrub/scrub habitat and may be present at a location for several days. Migrating Kirtland's Warblers use a variety of habitats including shrub/scrub, residential, park, orchard, woodland, and open habitats. Some evidence is present that dense vegetation less than five feet in height may be preferred and possibly important to migratory Kirtland's Warblers. This type of short, dense habitat is similar in structure to that occurring on breeding and wintering grounds (USFWS 2018).

3.1.2 Sandhill Crane

The Sandhill Crane breeds primarily throughout Canada and Alaska with some limited populations from Oregon to Colorado in the western United States and Michigan in the Midwest (Rodewald et al 2016). Ohio lies at the southeastern periphery of its breeding range. Sandhill Cranes observed in Ohio are primarily migrating as they travel from breeding grounds in the north to wintering grounds in Florida (Rodewald et al. 2016 and Terres 1991). Spring migration occurs from late February through March while fall migration occurs from mid-October through the first half of December (Peterjohn 2001).

In the late 1800's the Sandhill Crane once bred in northern Ohio regularly (Peterjohn 2001 and Bent 1953). The draining of large swamps, marshes, and bogs eliminated habitat for this species breeding habitat. The Sandhill Crane is primarily a wetland-dependent species. During migration and on wintering grounds the species will utilize agricultural fields; however, they will generally roost in shallow water marshes with standing water (ODNR 2018 and 2018a). Nesting habitat generally consists of large tracts of wet meadow or shallow water marshes. An average of 20 breeding pair of Sandhill Cranes was recorded in Ohio between 2006 and 2011 (Rodewald et al. 2016). The nesting period for the Sandhill Crane in Ohio is April 1 – September 1 (ODNR 2018 and 2018a). A steady increase in protected marsh habitat has provided adequate nesting opportunity for this species to once again nest in Ohio.

3.1.3 Upland Sandpiper

The Upland Sandpiper breeds throughout North American grasslands. The species' core breeding range includes the central United States and is sparsely distributed west to Alaska and Oregon and east to the New England states and southeastern Canada (Rodewald et al. 2016 and Terres 1991). This species winters from southern Brazil to Argentina and Chile, South America

(Terres 1991). Spring migration occurs during late March through April while fall migration occurs between late July to late August (Swanson 1996).

In Ohio, the Upland Sandpiper has continued to decline with the decline of grassland habitats. Rodewald et al. (2016) reported that the majority of breeding pairs in Ohio were associated with grassy fields at smaller airports. This species requires large tracts of habitat approximately 20 acres in size (ODNR 2015). While Swanson (1996) reported that the United States trend of breeding Upland Sandpipers was increasing (+142, probability (p) = ≤ 0.01), the Ohio trend was decreasing (-81, p = ≤ 0.01). No nesting pairs were recorded by Rodewald et al. (2016) in Lorain County where Peterjohn and Rice (1991) previously reported several confirmed breeding populations.

The nesting period for Ohio is April 15 – July 31 (ODNR 2018 and 2018a). The grassland habitats used by Upland Sandpipers vary widely, and can include both exotic and native grasses. The Upland Sandpiper can be associated with, and at times, even prefer shorter grass/forb structures, therefore, areas that are grazed, hayed, or mowed are used by Upland Sandpipers (ODNR 2015). The Upland Sandpiper generally occupies large tracts of habitat with a minimum of 20 acres and vegetation between 6 to 14 inches in height and forage in areas less than 4 inches in height (Swanson 1996).

3.1.4 Northern Harrier

The Northern Harrier occurs throughout North America either as a breeding or nonbreeding resident (Terres 1991). This species breeds throughout Canada and Alaska as well as California eastward including northern Texas into Ohio and the New England states (Rodewald et al. 2016). The Northern Harrier occupies its breeding grounds between March and April and migrates in a southerly direction in late August into September (Terres 1991 and Bent 1953a). Northern Harriers are generally considered permanent residents throughout the upper half of the United States.

In Ohio, the Northern Harrier has continued to decline in breeding population with the decline of wetland areas and grassland habitats (Peterjohn 2001). The nesting period in Ohio is May 15 – August 1 (ODNR 2018 and 2018a). Northern Harriers often nest in loose colonies where the female builds a nest on the ground. Rodewald et al. (2016) reported that research in Illinois indicated that Northern Harriers required at least 136 acres of habitat to breed. However, in Ohio the ODNR has provided guidance that grasslands and wet meadow marshes of approximately 19 acres should be considered potential breeding habitat. This species also hunts over these habitats as well as agricultural fields by gliding over the vegetation between 5 to 8 feet (ODNR 2018, 2018a and Bent 1953).

3.2 Field Review

AECOM completed field surveys within the Project area on July 9 and 10, 2018 for potential habitat for the Kirtland's Warbler, Sandhill Crane, Upland Sandpiper, and Northern Harrier. Habitat identified, including delineated streams and wetlands are shown on Figures 2-1 – 2-23

(Appendix A). Representative photographs of potential habitat within the Project area are included in Appendix C (Photographic Log). A summary of the vegetative community and land cover types (habitat) identified within the Project area are provided below in Table 2. The acreages shown in Table 2 include the entire right of way, although some of these areas that may not be impacted by the Project construction activities.

Table 2. Vegetative communities and land cover types (habitat) within the Project area.

Vegetative Community and Land Cover Types (Habitat) within the Project Area	Acreage Within Project Area	Percentage Within Project Area
Landscaped Areas	37.03	20.91%
Pasture/Hay fields	4.65	2.60%
Successional Hardwood Woodlands	5.84	3.27%
Old Field	54.45	31.57%
Scrub/Shrub	1.14	0.64%
Streams/Wetlands	19.80	10.99%
Urban	65.89	30.02%
	188.79	100%

4.0 CONCLUSIONS

The majority (approximately 51%) of the Project area consisted of urban and landscaped land uses (Table 2). The majority of the old field land use was found in the eastern part of the Project area (Beaver-Brownhelm portion of the Project). The eastern portion of the Project (Brownhelm-Black River) was primarily urban and landscaped land use (Figures 2-1 – 2-23). Conclusions based on species natural history are provided below.

4.1 Kirtland's Warbler

Both the ODNR and USFWS stated that scrub/shrub and forested habitat within 3 miles of the Lake Erie shoreline are important stopover habitat for this species. The existing right of way is bordered by habitat that may be suitable for stopover. However, there is an abundance of stopover habitat available within 3 miles of the Lake Erie shoreline in Lorain, Cuyahoga, and Huron counties. Based on eBird (2018) records and other literature sources, this species is not known from the Project area. However, based on field observations, suitable habitat is located adjacent to the Project area, particularly the western part of the Project area. During stopover events, this species will forage for several hours to several days before departing. During that time, an individual may move several miles while foraging. Because of the mobility of this species, it is not likely to be adversely affected by construction activities adjacent to forested areas or scrub/shrub areas.

Both the ODNR and USFWS state that clearing habitat should not occur from April 22 - June 1 and August 15 - October 15 (see Appendix B). Clearing of any scrub/shrub or forested area should be conducted outside these dates. If this is not possible then coordination with the USFWS may be sought to determine the best practice to avoid adversely affecting this species.

4.2 Sandhill Crane

The ODNR states that this species nests primarily in wetland areas. However, Downs (2004) found that the preferred habitat for breeding Sandhill Cranes in Ohio consists of large areas of shallow marshes, typically less than 12 inches deep and a minimum of 5 acres in size, which are dominated by cattail, sedge, and reed canary grasses. Equally important, the shallow marshes are commonly located adjacent to open areas of grassland or hay fields, and typically located within 0.5 miles of row crop fields. While there are emergent wetlands located throughout the Project area, a survey of these features found them lacking these characteristics. Thus, the right of way is not suitable for Sandhill Crane nesting. Additionally, the multiple transmission lines within the large right of way pose a barrier for this species that may preclude it from using this habitat. Mortality of Sandhill Cranes has been documented throughout its range from collision with transmission lines (Murphy et al. 2016). Murphy et al. (2016) found that during daylight hours Sandhill Cranes often reacted to avoid transmission lines during flight. Furthermore, the adjacent forested areas provide habitat for predators of the Sandhill Crane, such as coyotes and feral cats. Lastly, a portion of the right of way is maintained as a pheasant release area and dog training area for both the Beaver Creek Hunt Club and the Lorain Rifle and Pistol Club. Active shooting occurs in these controlled environments year round (Personal Communication, Tim Keller – Property Manager for Beaver Creek Hunt Club). These areas are not considered nesting habitat for the Sandhill Crane based on lack of habitat observed and on-going human activity.

4.3 Upland Sandpiper

The ODNR states that the Upland Sandpiper nests in dry grasslands, pastures, hayfields, and airport infields. This species is known to occupy habitats with shorter vegetative height. While the areas observed within the Project area did possess grassland areas, most were greater than 36 inches in height and possessed a very dense thatch layer. During the desktop review, no areas east of the southernmost junction point of the Project area were identified as potential nesting habitat. Field observations of the western most portion of the Project area did not show signs of suitable vegetation structure to support this species. The vegetative community was primarily comprised of Reed canary grass (*Phalaris arundinacea*), crown vetch (*Securigera varia*), common milkweed (*Asclepias syriaca*), Canada goldenrod (*Solidago canadensis*), and dewberry (*Rubus flagellaris*). Patches of common reed (*Phragmites australis*) were also present in low lying areas. Additionally, the forested edges of the right of way added to the habitat being unsuitable. Based on habitat context and vegetative community these areas are not considered nesting habitat for the Upland Sandpiper.

4.4 Northern Harrier

The Northern Harrier generally nests in large marshes and grasslands. No areas east of the southernmost junction point of the Project area were identified as potential nesting habitat. During the field observation, the western most portion of the Project area did have some vegetative structure that may be suitable for nesting. However, the areas are maintained right of ways managed by the gun clubs. The right of way is maintained as a pheasant release and a dog training area for both the Beaver Creek Hunt Club and the Lorain Rifle and Pistol Club. Active

shooting occurs in these controlled environments year round and the right of way is mowed annually for planting game food plots. Additionally, the area is used to train hunting dogs year round (Personal Communication, Tim Keller – Property Manager for Beaver Creek Hunt Club). These areas are not considered nesting habitat for the Northern Harrier due to the extensive presence of hunters and their dogs as well as the annual maintenance and cutting of the fields.

4.5 Summary

In summary, target nesting species were not found to have appropriate nesting habitat present within the Project area. The Kirtland's Warbler may have some limited stopover habitat present based on its historical broad use of habitat within 3 miles of the Lake Erie shoreline in the spring and fall months, however, it is not likely that this species is present in the Project area given its location along the midpoint of Lake Erie's shoreline and the abundance of stopover habitat near the Lake Erie shoreline in Lorain County and neighboring counties. eBird (2018) occurrence records for this species identify sighting locations further to the west (near Port Clinton, OH) and east of the Project area (near Rocky River, OH). Many of the eastern records are historic records prior to 1945 (eBird 2018). Migrants generally will follow the shoreline west or east to a point where they can cross Lake Erie with minimal risk of impact from the over water flight. Further coordination with the USFWS may be sought if scrub/shrub and forested areas are to be cleared from April 22 to June 1 and August 15 to October 15 within the 3 miles of the shore line.

Due to the absence of potentially suitable nesting habitat for the Sandhill Crane, Upland Sandpiper, and Northern Harrier, it is our opinion that seasonal construction restrictions are not necessary for construction to occur within the right of way. In areas where scrub/shrub and forested areas will need clearing to facilitate construction, it is our opinion that the Project is not likely to adversely affect the Kirtland's Warbler and that no clearing restrictions should be placed on the Project.

Disclaimer: Please note the field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

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