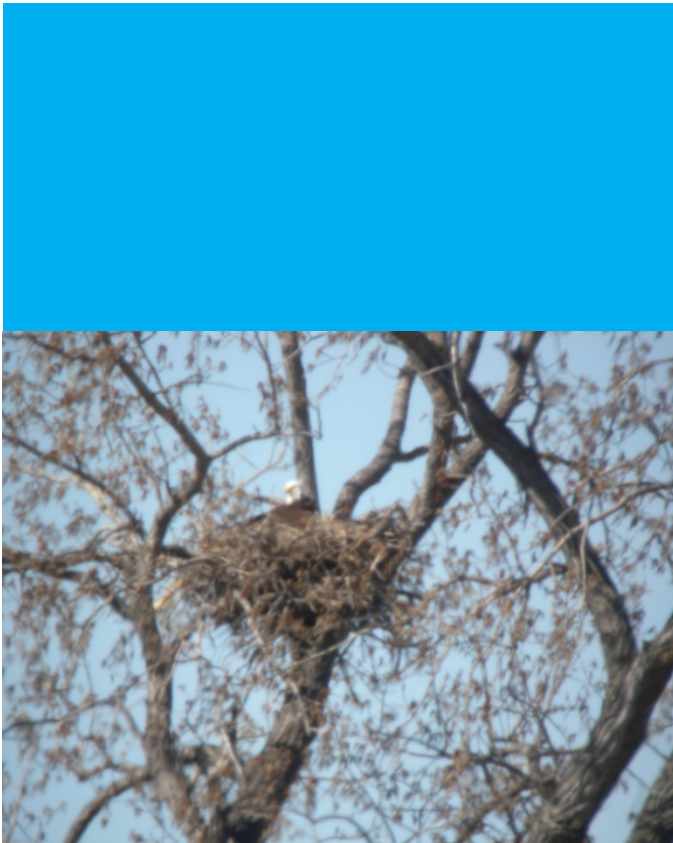


2016 Bald Eagle and Stick Nest Survey

Big Stone South to Ellendale 345 kV
Transmission Line

*Dickey County, North Dakota and Brown, Day and Grant
Counties, South Dakota*

June 7, 2016



Executive Summary

HDR Engineering, Inc. (HDR) was retained by Otter Tail Power Company and Montana-Dakota Utilities Co. (jointly, the Owners) to evaluate the presence of bald eagle nests and other stick nests along the Big Stone South to Ellendale Project (Project). The Project will be located between the expanded Ellendale 345kV Substation, near Ellendale, North Dakota and the Big Stone South Substation, which is part of a separate project, near Big Stone City, South Dakota. The survey area included previously surveyed areas with known presence of bald eagle and stick nests and previously identified potential habitat areas within a 1-mile buffer of the Project centerline. Previous surveys were conducted for the project and reports prepared to summarize the results of surveys in May 2013 and September 2015. This report is supplemental to the May 2013 and September 2015 Bald Eagle and Stick Nest Survey Reports already conducted for the Project.

Bald eagles (*Haliaeetus leucocephalus*) are protected under the Bald and Golden Eagle Protection Act (Eagle Act) of 1940. The objective of conducting stick nest survey was to confirm nest presence and bald eagle activity levels at each nest where eagle nest habitat occurs near the Project centerline.

Other species of raptors, waterbirds and songbirds may build nests with sticks, twigs and tree limbs. These nests may resemble eagle nests in material and location. These species and nests are protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits the removal of any of these nests while eggs are present.

HDR conducted ground surveys to locate eagle nests, stick nests, and identify occupancy on April 28th and 29th, 2016. An HDR biologist identified two active bald eagle stick nests within 1 mile of the Project in Brown County, South Dakota, with the nearest one being approximately 3,700 feet from the Project centerline. A third nest was also located approximately 7,900 feet north of the Project centerline at the James River. The James River North nest was a new nest as of 2016 and had adults attending the nest during the April survey. One previously active and occupied nest was observed as being inactive in Grant County, South Dakota on the Whetstone River. Observations were made of four other active bald eagle nesting areas within 1-2 miles of the Project centerline. Additionally, several stick nests were located along the Project that had not been previously recorded. HDR identified occupied new nests of a red-tailed hawk, great horned owl, and a heron rookery. Two previously observed stick nests areas were observed to be now inactive.

The two active bald eagle stick nests within 1 mile are located beyond the 660 foot activity buffer outlined in the National Bald Eagle Management Guidelines (United States Fish and Wildlife Service (USFWS) 2007). At the 2016 unoccupied Whetstone River nest, the USFWS had previously requested that construction activities occur in late summer - end of July / early August through November or at the discretion of the USFWS via coordination with the Environmental Inspector monitoring field activities, which will further protect this nest from disturbance. The additional active nests lie beyond 1.0 miles of the Project and no recommendations were provided at these sites. The Owners will maintain communication with USFWS regarding additional eagle nests and the status of the Whetstone River nest.

Table of Contents

EXECUTIVE SUMMARY1

INTRODUCTION 1

 MAY 2013 BALD EAGLE AND STICK NEST SURVEYS 1

 SEPTEMBER 2015 BALD EAGLE AND STICK NEST SURVEYS 1

SURVEY AREA 2

METHODS 2

RESULTS..... 2

CONCLUSIONS 4

LITERATURE CITED 4

FIGURES..... 7

List of Figures

FIGURE 1: BALD EAGLE NEST LOCATIONS 7

FIGURE 2: MAPLE RIVER NEST 8

FIGURE 3: ELM RIVER NEST 8

FIGURE 4: JAMES RIVER NORTH NEST (NEW NEST SITE)..... 9

FIGURE 5: INACTIVE NORTH FORK OF THE WHETSTONE RIVER NEST 9

Introduction

Otter Tail Power Company and Montana-Dakota Utilities Co.(jointly, the Owners) will be constructing the Big Stone South to Ellendale Project (Project) which includes a 163-miles of 345 kilovolt (kV) transmission line in North Dakota and South Dakota and the expansion of the existing Ellendale 345 kV Substation near Ellendale, North Dakota. The Project terminates at the Big Stone South Substation near Big Stone, South Dakota.

HDR was retained to locate eagle nests and other stick nests sites and to evaluate activity levels at existing nest sites along the Project. Bald eagles are protected by the Bald and Golden Eagle Protection Act (BGEPA). Other avian species are protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits the removal of any of these nests while eggs are present.

The 2016 survey area included a 1-mile-wide corridor, centered on the Project centerline (Figure 1). Bald eagle surveys focused on stands of mature trees in close proximity to open water. The biologist scanned wooded river banks and other copses, windrows, or waterbody fringes with binoculars and spotting scopes prior to leaf-out to identify eagle and other stick nest platforms on April 28th and 29th, 2016.

This 2016 report is supplemental to the Bald Eagle and Stick Nest surveys and subsequent reports in May 2013 and September 2015. Reference the previously submitted reports for more information on regulatory framework, species background, survey methodology, and previously recorded sites.

May 2013 Bald Eagle and Stick Nest Surveys

HDR surveyed for bald eagle stick nests beginning April 28th, 2016 and ending on April 29, 2016. No bald eagle nests were found within 660 feet of the preferred route. Four active bald eagle nests were documented within two miles of the preferred route. Four nests were located along the James River or its tributaries (Elm River and Maple River) in Brown County, South Dakota. A fifth nest was present at the Whetstone River in Grant County, South Dakota.

September 2015 Bald Eagle and Stick Nest Surveys

HDR surveyed for bald eagle nests and stick nests on April 28th, and April 29, 2016. No bald eagle nests found within 660 feet of the preferred route. Four active bald eagle nests were documented within two miles of the preferred route. Four nests were located along the James River and its tributaries (two along the James River, one along the Elm River and one along the Maple River) in Brown County and a fifth located in Grant County, South Dakota, along the North Fork of the Whetstone River was unoccupied in 2016.

HDR located over 40 stick nests within one-mile on either side of the Project centerline. An HDR biologist identified eight (8) occupied nests that included nests of American kestrel, red-tailed hawks, Swainson's hawk, and great horned owl. The remaining majority of nest structures were unoccupied at the time of the survey.

Survey Area

The preferred route from west to east starts at the Ellendale 345kV Substation in Dickey County, North Dakota and ends at the Big Stone South Substation in Grant County, South Dakota. A 1-mile buffer around the Project's centerline established the survey area (Figure 1).

Bald eagle surveys focused on stands and individual mature trees in close proximity to large bodies of open water. Habitat in the survey area, which included areas near the James River, Elm River, Maple River, Whetstone River (North and South Fork), and the lakes near Butler, South Dakota, were of particular interest because they are prominent water resources in the region.

Methods

One avian biologist conducted this survey by systematically traveling public roads to observe areas of potentially suitable habitat for large stick nests. Surveys were conducted from public rights-of-way (ROWs). Surveys were conducted on April 28th and 29th, 2016, at the end of the pre "leaf-out" period. This timeframe was selected because eagles and other raptors are actively breeding/nesting during this time and pre-leaf-out conditions allow unobstructed views of potential nest sites.

Areas of potentially suitable habitat were previously identified using HDR's Bald Eagle Breeding Habitat Model (BEBHM) (Schubbe et al. 2012) and by consulting known occurrences of previous nest sites (NDGFD 2013b, SDGFP 2013b). Previous surveys conducted in 2013 and 2015 verified habitat sites and 2016 surveys focused on these verified habitats.

Results

No bald eagle nests were found within 660 feet of the preferred route. Two active bald eagle nests were documented within one mile of the preferred route, and observations were made of four other active bald eagle nesting areas between 1 and 2 miles of the Project centerline. One previously active and occupied nest located approximately 0.2 miles from the Project centerline was observed as being unoccupied in Grant County, South Dakota along the North Fork of the Whetstone River. The two active nests within one mile of the Project are located along James River tributaries in Brown County, South Dakota (one along the Elm River and one along the Maple River). The remaining nests lie beyond one mile, two are located along the James River north and south of the Project centerline in Brown County, South Dakota. The other two nests are located north of the Project centerline near the Big Stone South substation near the Whetstone River in Grant County, South Dakota. Figure 1 displays the location of the four active bald eagle nests observed during this survey and the location of the currently inactive Whetstone River nest.

The Maple River nest is located in the northeast quarter of Section 7, Township 128 N, Range 63W in Brown County, South Dakota. This nest is located approximately 4,200 feet (0.80 miles) east of the route. An adult bald eagle was observed attending the nest and another perched in a nearby copse (Figure 2). The nest is located in a small stand of mature cottonwood trees, approximately 1,600 feet east of the Maple River. A second large stick

nest is located in this stand, which is likely an alternative nest. It appeared to be unoccupied at the time of the survey. The river channel in this location appears to be artificially widened to create a reservoir-like basin. The landscape in the vicinity of this nest is dominated by agricultural row crops; although, pastureland and USFWS grasslands have preserved some of the original character of this area. Seasonal and semi-permanent emergent wetlands are abundant to the south and east of this nest.

The Elm River Nest is located in the southeast quarter of Section 32, Township 125 N, Range 62 W in Brown County, South Dakota. This nest is located approximately 3,700 feet (0.70 miles) north of the preferred route. Two adults were observed attending the nest (Figure 3). The nest is located in a mature green ash, which is part of a stunted shelter belt. The nest is located approximately 750 feet south of the Elm River. The river channel in this location is highly sinuous with abandoned channels and oxbow lakes as prominent features in the area. Land use in the area is dominated by agricultural row crop fields, although, the nest tree appears to be located in an emergent wetland associated with the Elm River floodplain. A large semi-permanent emergent wetland is located to the southeast.

HDR discovered a new nest located north of the Project along the James River during 2016. This nest is located approximately 7,900 feet north of the preferred route and had not previously been identified by the Project. This nest is located in the northwest quarter of Section 23, Township 124, Range 62W in Brown County, South Dakota. This nest is located approximately 7,900 feet (1.5 miles) north of the preferred route. An adult bald eagle was observed attending the nest (Figure 4). The nest is located in a dead tree within the James River floodplain, 3,300 feet from the James River. The landscape in the vicinity of the nest is characterized by the uniformly flat James River Floodplain which is approximately 1.0 to 1.5 miles wide in this area. The floodplain is dominated by seasonal and semi-permanent emergent wetlands and mudflats. Outside the floodplain, the landscape is comprised primarily of agricultural row crop fields.

The James River Nest to the south of the Project is located in the southeast quarter of Section 14, Township 123 N, Range 62W in Brown County, South Dakota. This nest is located approximately 8,400 feet (1.6 miles) south of the Project centerline. An adult bald eagle was observed attending the nest. The nest is located in a mature green ash located in the floodplain, immediately adjacent the current James River Channel. The landscape in the vicinity is described in the paragraph above.

The previously active Whetstone River Nest is located in the southeast quarter of Section 22, Township 121 N, Range 47 W in Grant County, South Dakota. This nest is located approximately 1,094 feet south of the Project centerline. Two hours were spent observing the nest site and driving the river to observe eagle activity. There was no activity observed during the time and no fresh ornamentation or white wash was present at the site. Additionally, the nest was appearing to droop from inactivity (Figure 5). Other Project staff had noted while in the vicinity of the nest for other survey work in April and May 2016 a lack of activity as well. The nest is located in a mature cottonwood located in the floodplain, immediately adjacent the North Fork of the Whetstone River. The landscape in the vicinity of the nest is characterized by rolling topography that drains to the Big Stone River. The floodplain is a narrow channel dominated by numerous oxbows and wooded banks. Outside the floodplain, the landscape is comprised primarily of agricultural row crop fields.

The two nests located to the north of the Big Stone South Substation are located in the SW 1/4 of section 6, township 121, range 6 in Grant County, South Dakota. The nests are located approximately 2.0 miles north of the Substation and terminus of the Project. Two adult bald eagles were observed in the vicinity of the nests but they were not attending either of the nests and no young were observed in either nests.

Additionally, HDR identified the following observational changes to stick nests since the 2015 survey report: a previously active stick nest that is now inactive, a new great horned owl stick nest, a likely abandoned red tailed hawk stick nest, a previously inactive nest now likely active, and a heron rookery where no herons were observed but appeared active . Stick nests were generally located in windrows and farm copses with a small number being located in floodplain forests or tree fringes around wetlands.

Conclusions

Surveys were conducted from public ROWs on April 28th and 29th, 2016 to document the absence or presence of bald eagle stick nests within known active and potential habitats within 2.0 miles of the Project's centerline.

Major river crossings and lakeshores in the vicinity of the Project were evaluated for bald eagle stick nests by systematically driving public roads. Six active nests were located within 2.0 miles of the route (Figure 1). Four of these nests are associated with the James River and its tributaries the Elm River, and Maple River on the western half of the Project in Brown County, South Dakota. A nest previously observed as active in Grant County, South Dakota associated with the North Fork of the Whetstone River was determined to be unoccupied. The other two active nests are associated with the Whetstone River approximately 2.0 miles north of the Big Stone South Substation and terminus of the Project. Each of the four Brown County nests are located at least 3,700 feet away from the Project. The Grant County nests are located approximately 2 miles to the north of the Project centerline. In open landscapes, the USFWS typically places a 660 foot buffer around active nests, where construction activity is prohibited during the breeding season. Previously, at the now inactive Grant County nest, USFWS recommended general work timing from approximately August 1 through November 30 for the three nearest structure locations to further protect the nest from disturbance with any construction activities outside of the August-November time window requiring Project monitoring for nesting activity and prior USFWS approval absent eagle nesting activities. The Owners will continue to communicate and work with USFWS on the North Fork of the Whetstone River nest on the findings of this report and potential modifications to the construction schedule limitations.

While occupied bald eagle nests were observed during this survey, all of the nest sites are located beyond the 660-foot activity buffer outlined in the *National Bald Eagle Management Guidelines* (USFWS 2007). Active bald eagle nests were located at distances between approximately 3,700 feet or further from the Project centerline. The Owners will maintain communication with USFWS regarding additional eagle nests and eagle activities along the Project.

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Figures

Figure 1: Bald Eagle Nest Locations

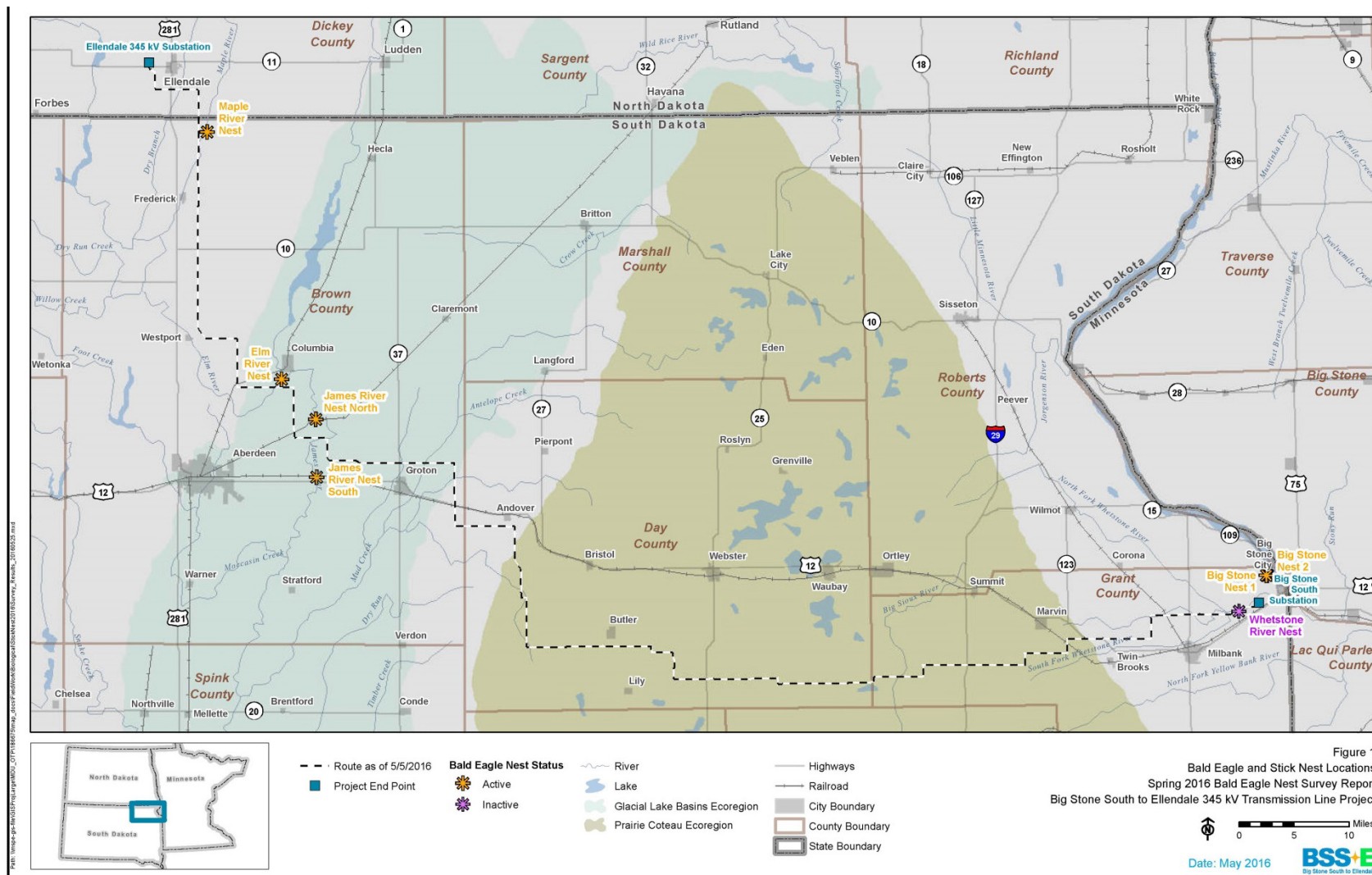


Figure 2: Maple River Nest



Figure 3: Elm River Nest



Figure 4: James River North Nest (new nest site)



Figure 5: Inactive North Fork of the Whetstone River Nest

