



2015 Bald Eagle and Stick Nest Survey

Big Stone South to Ellendale

345 kV Transmission Line

North Dakota and South Dakota

September 15, 2015



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 (the Project). The Project will be located between the proposed 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 a 2-mile-wide buffer along the transmission line route.

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 along the transmission line route. Suitable nesting habitats for bald eagles are mature, super-canopy type trees in close proximity to open water. In the survey area, this habitat is primarily associated with the Prairie Coteau Lake District and the James River including its tributaries.

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 16, 2015. Biologists identified four active bald eagle stick nests in Grant and Brown counties, South Dakota, with the nearest nest located approximately 1,094 feet from the transmission line route. Additionally, 36 stick nests were located along the Project. HDR identified eight (8) occupied nests of American kestrel, red-tailed hawks, Swainson's hawks, and great horned owls. The remaining majority of nest structures were unoccupied.

The four bald eagle stick nests are located beyond the 660 foot activity buffer outlined in the National Bald Eagle Management Guidelines (USFWS 2007). At the Grant County nest, the USFWS 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 three additional nests lie beyond a 0.5 mile of the Project and no recommendations were provided at these sites. The Owners will maintain communication with USFWS regarding additional eagle nests and eagle activities at the Grant County nest.

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Introduction

The Owners propose to construct the Project consisting of a 162-mile 345 kilovolt (kV) transmission line in North Dakota and South Dakota and the Ellendale 345 kV Substation near Ellendale, North Dakota.

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

The 2015 survey area included a 2-mile-wide corridor, centered on the centerline of the transmission line route (Figure 1). Bald eagle surveys focused on stands of mature trees in close proximity to open water. Surveyors scanned wooded river banks and other coves, windrows, or waterbody fringes with binoculars and spotting scopes prior to leaf-out to identify eagle and other stick nest platforms on April 16, 2015.

Regulatory Framework

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the take of bald and golden eagles. The Eagle Act defines “take” to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb a bald or golden eagle including any part, nest, or egg thereof...” In 2009, two new permit rules were created for eagles – 50 CFR 22.26 and 50 CFR 22.27 (DOI, 2009). Under 50 CFR 22.26, United States Fish and Wildlife Service (USFWS) can authorize limited take of bald and golden eagles when the take is associated with, but not the purpose of an otherwise lawful activity, and cannot practicably be avoided. Under 50 CFR 22.27, USFWS can provide for the intentional take of eagle nests where necessary to alleviate a safety hazard to people or eagles, to ensure public health and safety, where nest prevents use of a human-engineered structure, and where the activity or mitigation for the activity will provide a net benefit to eagles. Only inactive nests are allowed to be taken, without the exceptions provided above. In some cases, the Eagle Act may protect roost sites if site-specific circumstances suggest a disturbance to wintering eagles. Those culpable under the Eagle Act may be prosecuted according to civil or criminal penalties (imprisonment and fines), depending on the severity of the violation.

To ensure the intent of the Eagle Act is met by USFWS policy, and nesting bald eagles receive adequate protection from human disturbance during the breeding season, the USFWS developed the National Bald Eagle Management Guidelines (2007). These guidelines call for a 660-foot buffer to be established at active eagle nests for newly established transmission lines visible from a nest. It stipulates no construction activity should take place within this buffer during the breeding season. In the Upper-Midwest and Northern Great Plains, the breeding season begins February 15th and ends August 1st.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) is a statute that protects 1,006 bird species within the United States, making it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and Russia (and several other countries of the former Soviet Union). Most birds (outside of introduced species and non-migratory game birds) within the US and the Project area are protected under the MBTA. This protection extends to most avian species, except non-migratory game birds such as pheasants, grouse, quail, or any species introduced into the U.S. such as pigeons and house sparrows. More specifically, the MBTA prohibits activities that, in effect, result in direct taking or nest destruction, and not habitat destruction. The MBTA protects from activities that “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird,” (16 USC 703), unless these activities are permitted by regulatory means.

Because the MBTA is a strict liability statute, proof of intent to harm or kill a migratory bird is not required for an action to be considered a criminal offense. Thus, the USFWS is able to exercise its jurisdiction and prosecute persons and entities that failed to adequately consult with the agency and develop reasonable measures to prevent the incidental take of migratory birds. The Project has adequately consulted, and continues to consult, with relevant wildlife agencies, thus reducing the potential risk of MBTA prosecution in the future

Species Background

Bald Eagle Biology

Bald eagles are a uniquely North American species that historically occurred throughout the contiguous United States and Alaska. The largest North American breeding populations are in Alaska and Canada. There are nesting records for 45 of the lower 48 states, with significant bald eagle nesting populations in the Great Lakes States, Florida, the Pacific Northwest, the Greater Yellowstone area, and the Chesapeake Bay region. Pesticides and habitat loss reduced the species in the lower 48 states to about 4 percent of original population by the 1960's, and many of the Midwestern states had lost their breeding populations by that time. With the development of regulations (Endangered Species Act [bald eagle de-listed in 2007], Eagle Act) and the restrictions placed on certain pesticides, the population rebounded. Healthy populations now occur throughout the bald eagle's historic range (USFWS, 2011).

The life history of bald eagles can be broadly categorized into nesting and non-nesting periods. The nesting period varies by latitude; in the Midwest, it begins with courtship and nest building in late January and early February, and ends when the young fledge by late July. In addition, many breeding pairs over-winter near their breeding site. Some studies have also found that many breeding sites become active prior to the onset of major

migratory movements in the spring (HDR, 2011). Adult and immature bald eagles migrate separately. The period between September through November is considered the non-nesting period by regulating agencies (USFWS, 2011).

Nesting Period

Bald eagles are a documented breeding species in South Dakota and North Dakota. Current South Dakota Game Fish & Parks records indicate that over 128 active nesting territories were recorded in 2012 (AP, 2013) and occur in all three South Dakota counties crossed by the preferred route. In North Dakota, State Game and Fish Conservation Biologists estimate there are about 100 nesting territories in the state (NDGFD, 2013a) and have documented nesting occurrences in Dickey County, North Dakota. Figure 1 displays the location of known bald eagle nests near the Project area.

During the nesting period, breeding bald eagles occupy and defend a territory that includes the active nest. This may also include one or more alternate nests that are not used for nesting in a given year. Established pairs are known to overwinter together and maintain pair bonds. Bald eagles tend to return to the same territory, but not necessarily the same nest, year after year. Potentially suitable habitat for nest sites in the Northern Glaciated Plains Ecoregion of North and South Dakota are typically a mature stand of cottonwood within a 1.0 mile of a large body of water (Grier and Guinn, 2003). This may include a lake, reservoir, or river that supports a suitable fish population.

Non-Nesting Period

During the winter, eagles from northern states and Canada may migrate to find food. They move with irregular progression along rivers, pushed by cold temperatures, snow cover, and the availability of food such as fish, waterfowl, or carrion. The birds begin arriving in Great Plains States during September and become more numerous through January depending on the harshness of the winter. In 2013, 458 wintering eagles were documented in South Dakota along the Lower Missouri River in central South Dakota (SDGFP, 2013a). No records of wintering bald eagles near the Project are available, which is likely due to the lack of suitable wintering habitat in this area.

An abundant, readily available food supply in conjunction with one or more suitable night roost sites is the primary characteristic of winter habitat. The majority of wintering eagles are found near open water where they feed on fish and waterfowl. Mammalian carrion, such as livestock and road kills, are an important alternate source of food at some locations. At night, wintering eagles may congregate at communal roost trees or sites. Secondary characteristics of winter night roost sites include areas that provide eagles a degree of protection from cold weather and may be associated with landforms that shelter birds from prevailing cold winds. The same roosts are used year after year and are generally stands of mature cottonwood elm or maple trees near feeding sites, such as open water supporting fish or waterfowl (Martell et. al. 1991).

Evidence of spring migration may be observed in January, when eagles gather at staging areas along rivers or other water bodies. The eagles move north, pausing only for unfavorable weather conditions or where concentrations of waterfowl are available as a food source.

Stick Nest Species

Avian species utilize different material to construct nest structures for laying eggs, rearing and fledging young. These materials are generally used in proportion to their availability and the size of the structure is related to size of the species. Smaller species construct nests shortly after arriving on breeding grounds after spring migration and then abandon the structures after rearing their young. These small nest structures are constructed of grasses, twigs, plant fibers, and down and are placed on the ground, in shrubs, or on tree limbs. Other species create structures that persist from year to year and reconstruct, repair, or amend existing nest platforms to be used for several years. These persistent structures created from larger twigs, sticks, or limbs create structures referred to as stick nests in this report. These larger nest platforms are often constructed in tree crotches or where to larger limbs or main trunks come together. They are rarely constructed out on exterior limbs because the size of the nest structures is too unstable to maintain these large structures.

Species that create the larger stick nests platforms are generally larger raptors or waterbirds but also include crows, ravens, magpies, doves and pigeons. These species groups have different nesting periods but raptors generally begin nesting earlier than small migrants. Raptors such as great horned owls and red-tailed hawks generally begin pair-bonding early in the year and may begin defending territory and repairing or constructing nest structures in February. Although some of these nest structures occur near waterbodies, the proximity to water is not as vital to a nest site as it is with bald eagles. Many of the species that create stick nest platforms feed primarily on small and large rodents, snakes, or other small mammals and birds.

Survey Area

The preferred route from west to east starts at the proposed Ellendale 345kV Substation in Dickey County, North Dakota and ends at the Big Stone South Substation in Grant County, South Dakota (Figure 1 displays the preferred route and survey area). A 2-mile buffer around the route's centerline established the survey area.

The landscape of the survey area is part of the Northern Glaciated Plains Ecoregion, which occupies the transitional zone between tall grass and short grass prairies. Although historically dominated by grasslands, much of the landscape is now row crops or other forms of agricultural production.

Glaciation by the Des Moines Lobe during the most recent Ice Age is the primary geologic force, which influenced the diverse landforms of the area. Notably, the Prairie Coteau is a prominent feature in Clark, Codington, Day and Grant Counties, and rises approximately 300 feet to 600 feet above the surrounding landscape. Its fringe is marked by steep slopes, especially along the eastern edge where difficult terrain has prevented large tracts of grasslands from being tilled/converted to agricultural production. The interior of the Prairie Coteau is characterized by undulating terrain, which has no discernable drainage pattern from the ground. This has led to the formation of abundant semi-permanent and seasonal wetlands across the landscape along with a large chain of lakes. This hydrology and higher annual precipitation has allowed burr oak (*Quercus macrocarpa*), green ash (*Fraxinus*

pennsylvanica), and eastern cottonwoods (*Populus deltoides*) to establish along the shorelines of these features (Bryce, et al., 1998).

To the west of the Prairie Coteau, near Brown County, South Dakota, the landscape descends to Drift Plains and the Glacial Lake Dakota Basin, where the topography is gently undulating to flat. Temporary and seasonal wetlands are common in these landscapes (Bryce, et al., 1998). The James River is the most notable hydrologic feature in this area, which meanders through a broad floodplain in the Glacial Lake Dakota Basin. The Maple River and Elm River are also prominent drainage features in the area. Green ash and eastern cottonwoods are common along these rivers.

In all areas, farmsteads and rural residential development are widely dispersed; common crops include corn, soybean, flax, winter wheat, barley, and canola. Most roads within in the survey area are secondary highways, rural gravel roads, or section roads.

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

Bald Eagle Nest and Stick Nest Surveys

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 16, 2015, 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 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). The BEBHM identifies forested areas adjacent to rivers and bodies of open water using GIS software. A map of the BEBHM and of known nesting locations was used to identify areas of potentially suitable habitat. These areas were visually observed in the field with the naked eye to locate potential nest sites, while traveling public roads or visiting public lands within 2 miles of the preferred route. When appropriate, potential nest sites (large stick nests, areas harboring suitable nest trees near water or areas identified as high quality habitat based upon the BEBHM) were observed using 10x binoculars or a vehicle mounted scope with a 20-60x magnifying capability, to verify the presence or absence of bald eagles on or in the vicinity of the nest. The location of the nest was recorded on a 1:24,000 scale aerial photo along with the number of eagles present, their age and their behavior.

Results

HDR conducted surveys for bald eagle nests and stick nests on April 16, 2015. Figure 1 displays the location of active bald eagle nests and stick nest observations.

Bald Eagle Nests and Stick Nests

Biologists searched potentially suitable habitat for nesting bald eagles or stick nests under suitable weather conditions (i.e. clear or overcast skies with no precipitation).

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. Three nests are located along the James River and its tributaries (one along the James River, one along the Elm River and one along the Maple River) in Brown County and a fourth is located in Grant County, South Dakota, along the North Fork of the Whetstone River. Figure 1 displays the location of active bald eagle nests observed during this survey.

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 east of the preferred route. An adult bald eagle was observed incubating on this nest. 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 north of the preferred route. An adult bald eagle was observed incubating on this nest. 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.

The James River Nest is located in the southeast quarter of Section 14, Township 123 N, Range 62 W in Brown County, South Dakota. This nest is located approximately 8,400 feet south of the preferred route. An adult bald eagle was observed incubating on this 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 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 Grant County 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 route. An adult bald eagle was observed incubating on this nest. 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.

Additionally, 36 stick nests were located along the Project. HDR 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. 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 16, 2015 to document the absence or presence of bald eagle stick nests within 2.0 miles of the Project's preferred route.

All major river crossings and lakeshores in the vicinity of the Project route were evaluated for bald eagle stick nests by systematically driving public roads. Four nests were located within 2.0 miles of the route. Three 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 fourth nest is located in Grant County, South Dakota associated with the North Fork of the Whetstone River approximately 1.25 miles west of the Big Stone South Substation and terminus of the Project. Each of the three Brown County nests are located at least 3,700 feet away from the Project. The Grant County nest is located approximately 1,094 feet southeast of the Project centerline; therefore, direct effects are not anticipated. In open landscapes, the USFWS typically places a 660 foot buffer around active nests, where construction activity is prohibited during the breeding season. At the Grant County nest, the USFWS recommended general work timing from approximately August 1 through November 30 for the three nearest transmission line structure locations, tree clearing is allowed from October 1 through November 30, which will further protect this nest from disturbance. Any construction (or clearing) activities outside of the August-November time window will require Project monitoring for nesting activity and prior USFWS approval absent eagle nesting activities,. All eagle nests lie beyond the 660-foot buffer distance along the Project.

HDR located 36 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. Stick nests were generally located in windrows and farm copses with a small number being located in floodplain forests or tree fringes around wetlands. There are no set-back or exclusion areas required for these species but they are all protected from destruction or removal when eggs or birds are present.

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). Bald eagle nests were located at distances between approximately 1,094 feet and 3,700 feet or further from the Project centerline, which is greater than the 660 foot buffer the USFWS typically places around these features to minimize affects and no additional restrictions will be implemented at these sites. The Owners will maintain communication with USFWS regarding additional eagle nests and eagle activities along the Project.

Literature Cited

- AP. 2013, February 11. Bald Eagles Thriving in South Dakota Habitat. *Rapid City Journal*.
- Baker, R., & Monstad, Y. 2005. *2005 Minnesota Bald Eagle Surveys*. Nongame Wildlife Program. St. Paul, Minnesota: Minnesota Department of Natural Resources.
- Bryce, S. A., Omernik, J. M., Pater, D. E., Ulmer, M., Schaar, J., Freeouf, J., et al. 1998. *Ecoregions of North Dakota and South Dakota*. Reston, Virginia: U.S. Geological Survey.
- Bureau of Land Management. 2011, January. *Wildlife Survey Protocols*. Newcastle, WY.
- Connelly, J. W., Gratson, M. W., & Reese, K. P. 1998. Sharp-tailed Grouse (*Tympanuchus phasianellus*). *The Birds of North America Online*. (A. Poole, Ed.) Ithaca: Cornell Lab of Ornithology. Retrieved from <http://bna.birds.cornell.edu/bna/species/354/>
- Department of Interior (DOI). 2009, September 11. 50 CFR Parts 13 and 22. *Eagle Permits; Take Necessary to Protect Interests in Particular Localities; Final Rules* Retrieved from USFWS: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/Final%20Disturbance%20Rule%209%20Sept%202009.pdf>
- eBird. 2013. *eBird: An Online Database of Bird Distribution and Abundance [web application]*. (I. N. eBird, Producer) Retrieved from <http://www.ebird.org>
- Grier, J. W., & Guinn, J. E. 2003. *Bald eagle habitats and responses to human disturbances in Minnesota*. . Minnesota Department of Natural Resources, Final report submitted to the Natural Heritage and Nongame Reserach Program.
- Martell, M. C., Gieck, J., Nibe, D., Erickson, B., Mandernack, B., & Redig, P. T. 1991. *Bald Eagle Winder Roosts on the Mississippi and Wisconsin Rivers*. Minnesota Department of Natural Resources.
- Minnesota Department of Natural Resources (MN DNR). 2012, July. Natural Heritage Information System. *License Agreement 647*. Natural Heritage & Nongame Research Program, Division of Ecological Services.
- North Dakota Game & Fish Department (NDGFD). 2013a, March 18. *Report Bald Eagle Nest Sightings*. Retrieved May 24, 2013, from <http://gf.nd.gov/news/report-bald-eagle-nest-sightings>
- NDGFD. 2013b. Natural Heritage Information.
- Schubbe, J., Krych, S., Moreira, B., & Touhey, S. 2012. Bald Eagle Breeding Habitat Model. *Wind Wildlife Reserach Meeting IX*. Broomfield, CO: Online Edition.

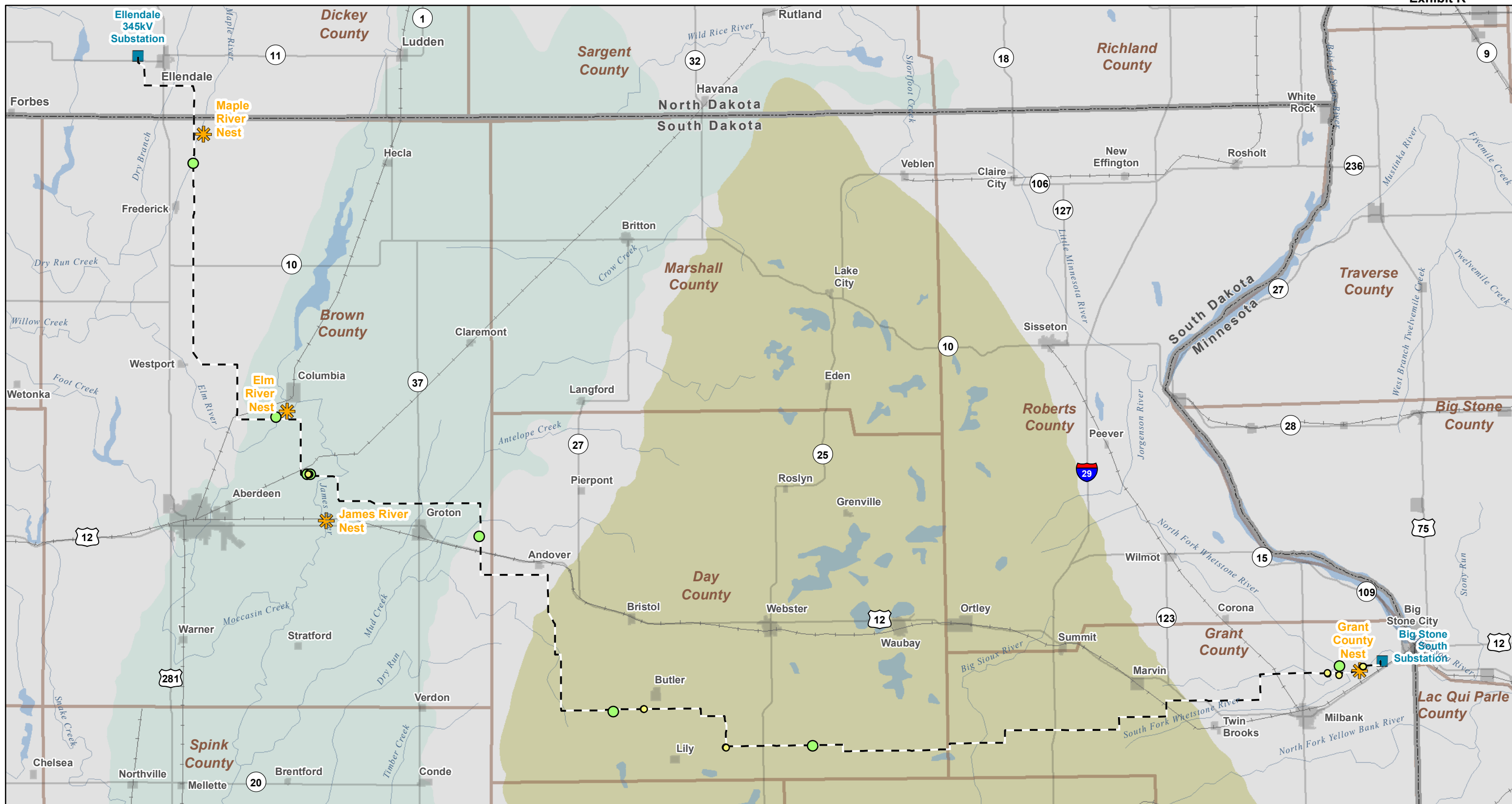
South Dakota Game Fish & Parks (SDGFP). 2013a. *Midwinter Bald Eagle Survey Results: South Dakota Standardized Routes*. Retrieved May 24, 2013, from <http://gfp.sd.gov/outdoor-learning/bald-eagle-awareness-days/midwinter.aspx>

SDGFP. 2013b. Natural Heritage Information.

United States Fish & Wildlife Service (USFWS). 2007, May. National Bald Eagle Management Guidelines. Retrieved from USFWS: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>

USFWS: South Dakota Field Office. 2011. *Bald Eagle (Haliaeetus leucocephalus)*. Retrieved from <http://www.fws.gov/southdakotafieldoffice/EAGLE.HTM>

Figure 1 - Bald Eagle Nest Locations



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- Preferred Route as of 8/28/2015
- Project End Point
- ★ Bald Eagle Nest
- Stick Nest 2015
 - Occupied
 - Unoccupied
- ~ River
- ~ Lake
- ~ Glacial Lake Basins Ecoregion
- ~ Prairie Coteau Ecoregion
- Highways
- Railroad
- City Boundary
- County Boundary
- State Boundary

Figure 1
Bald Eagle and Stick Nest Locations
September 2015 Bald Eagle Nest Survey Report
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